XPression

XPression Maps User Guide

VERSION 3.4

ROSS

Thank You for Choosing Ross

You've made a great choice. We expect you will be very happy with your purchase of Ross Technology.

Our mission is to:

1. Provide a Superior Customer Experience
   - offer the best product quality and support
2. Make Cool Practical Technology
   - develop great products that customers love

Ross has become well known for the Ross Video Code of Ethics. It guides our interactions and empowers our employees. I hope you enjoy reading it below.

If anything at all with your Ross experience does not live up to your expectations be sure to reach out to us at solutions@rossvideo.com.

David Ross

CEO, Ross Video

dross@rossvideo.com

Ross Video Code of Ethics

Any company is the sum total of the people that make things happen. At Ross, our employees are a special group. Our employees truly care about doing a great job and delivering a high quality customer experience every day. This code of ethics hangs on the wall of all Ross Video locations to guide our behavior:

1. We will always act in our customers' best interest.
2. We will do our best to understand our customers' requirements.
3. We will not ship crap.
4. We will be great to work with.
5. We will do something extra for our customers, as an apology, when something big goes wrong and it's our fault.
6. We will keep our promises.
7. We will treat the competition with respect.
8. We will cooperate with and help other friendly companies.
9. We will go above and beyond in times of crisis. *If there's no one to authorize the required action in times of company or customer crisis - do what you know in your heart is right. (You may rent helicopters if necessary.)*

XPression Maps User Guide

- Ross Part Number: 3500DR-021-3.4
- Version: 3.4

The information contained in this guide is subject to change without notice or obligation.

Copyright

Patents

Patent numbers US 7,034,886; US 7,508,455; US 7,602,446; US 7,802,802 B2; US 7,834,886; US 7,914,332; US 8,307,284; US 8,407,374 B2; US 8,499,019 B2; US 8,519,949 B2; US 8,743,292 B2; GB 2,419,119 B; GB 2,447,380 B; and other patents pending.

Notice

The material in this manual is furnished for informational use only. It is subject to change without notice and should not be construed as commitment by Ross Video Limited. Ross Video Limited assumes no responsibility or liability for errors or inaccuracies that may appear in this manual.

End User Software License Agreement

This End User Software License Agreement is a legal agreement between you (the "**Licensee**") and Ross Video Limited ("**Ross Video**") specifying the terms and conditions of your installation and use of the Software and all Documentation (as those terms are defined herein).

IMPORTANT:

BY DOWNLOADING, ACCESSING, INSTALLING OR USING THE SOFTWARE AND/OR DOCUMENTATION LICENSEE AGREES TO THE TERMS OF THIS AGREEMENT AND THE LICENSE GRANTED HEREUNDER SHALL BE EFFECTIVE AS OF AND FROM SUCH DATE. IF YOU DO NOT WISH TO ACCEPT THE TERMS AND CONDITIONS OF THIS AGREEMENT, DO NOT DOWNLOAD, ACCESS, INSTALL, REFER TO OR OTHERWISE USE THE SOFTWARE AND/OR DOCUMENTATION.

1. **INTERPRETATION.** In this Agreement, (a) words signifying the singular number include the plural and vice versa, and words signifying gender include all genders; (b) every use of the words "herein", "hereof", "hereto" "hereunder" and similar words shall be construed to refer to this Agreement in its entirety and not to any particular provision hereof; (c) reference to any agreement or other document herein will be construed as referring to such agreement or other document as from time to time amended, modified or supplemented (subject to any restrictions on such amendment, modification or supplement set forth therein); (d) every use of the words "including" or "includes" is to be construed as meaning "including, without limitation" or "includes, without limitation", respectively; and (e) references to an Article or a Section are to be construed as references to an Article or Section of or to this Agreement unless otherwise specified.

2. **DEFINITIONS**. In this Agreement, in addition to the terms defined elsewhere in this Agreement, the following terms have the meanings set out below:

   "**Affiliate**" means, with respect to any Person, any other Person who directly or indirectly controls, is controlled by, or is under direct or indirect common control with, such Person. A Person shall be deemed to control a Person if such Person possesses, directly or indirectly, the power to direct or cause the direction of the management and policies of such Person, whether through the ownership of voting securities, by contract or otherwise; and the term "controlled" and "controlling" shall have a similar meaning.

   "**Agreement**" means this End User Software License Agreement including the recitals hereto, as the same may be amended from time to time in accordance with the provisions hereof.

   "**Backup System**" means the secondary piece of Designated Equipment upon which the Software is installed and mirrored for the sole purpose of replacing a Primary System in the event such Primary System is not available or functioning properly for any reason.

   "**Change of Control**" means (a) the direct or indirect sale, transfer or exchange by the shareholders of a Party of more than fifty percent (50%) of the voting securities of such Party, (b) a merger or amalgamation or reorganization or other transaction to which a Party is party after which the shareholders of such Party immediately prior to such transaction hold less than fifty percent (50%) of the voting securities of the surviving entity, (c) the sale, exchange, or transfer of all or substantially all of the assets of a Party.

"Confidential Information" means all data and information relating to the business and management of either Party, including the Software, trade secrets and other technology to which access is obtained or granted hereunder by the other Party, and any materials provided by Ross Video to Licensee; provided, however, that Confidential Information shall not include any data or information which:

(i) is or becomes publicly available through no fault of the other Party;

(ii) is already in the rightful possession of the other Party prior to its receipt from the other Party;

(iii) is already known to the receiving Party at the time of its disclosure to the receiving Party by the disclosing Party and is not the subject of an obligation of confidence of any kind;

(iv) is independently developed by the other Party;

(v) is rightfully obtained by the other Party from a third party; or

(vi) is disclosed with the written consent of the Party whose information it is.

"Designated Equipment" shall mean (a) the hardware products sold by Ross Video to Licensee on which the Software is installed and licensed for use, as the same may be replaced from time to time by Ross Video; or (b) in the case of Software licensed on a stand-alone basis, the equipment of Licensee on which the Software is to be installed and meets the minimum specifications set out in the Documentation.

"Documentation" shall mean manuals, instruction guides, user documentation and other related materials of any kind pertaining to the Software (whether in electronic, hard-copy or other media format) that are furnished to Licensee by or on behalf of Ross Video in relation to the Software.

"Freeware" means Software that is available free of charge from Ross Video, and includes, without limitation the master control system software known as "DashBoard".

"Governmental Authority" means (a) any federal, provincial, state, local, municipal, regional, territorial, aboriginal, or other government, governmental or public department, branch, ministry, or court, domestic or foreign, including any district, agency, commission, board, arbitration panel or authority and any subdivision of any of them exercising or entitled to exercise any administrative, executive, judicial, ministerial, prerogative, legislative, regulatory, or taxing authority or power of any nature; and (b) any quasi-governmental or private body exercising any regulatory, expropriation or taxing authority under or for the account of any of them, and any subdivision of any of them.

"Improvements" means all inventions, works, discoveries, improvements and innovations of or in connection with the Software, including error corrections, bug fixes, patches and other updates in Object Code form to the extent made available to Licensee in accordance with Ross Video's release schedule.

"License Fee" means the fee(s), if any, payable in respect of the Software in accordance with the relevant invoice(s) or other purchase documents delivered in connection with this Agreement.

"License Period" means the period of time that Licensee will have the rights granted under this Agreement, as may be specified in an Order.

"**Modifications**" means any enhancements, changes, corrections, translations, adaptations, revisions, developments, upgrades or updates thereto; and "Modify" shall mean the creation of any of the foregoing.

"**Object Code**" means the machine readable executable form of a computer software program.

"Open Source Components" means third party Open Source software, libraries or other components.

"Open Source License" means the license that governs each Open Source Component.

"Order" means the documents provided by Ross Video to Licensee detailing the Ross Video products contemplated for purchase, the corresponding fees and License Period that may apply to the Software, including any and all quotations, purchase orders, acknowledgments, pro formas, invoices and other purchase documentation.

"**Parties**" means both Ross Video and Licensee and "Party" means either one of them as the context requires.

"**Person**" will be broadly interpreted and includes (a) a natural person, whether acting in his or her own capacity, or in his or her capacity as executor, administrator, estate trustee, trustee or personal or legal representative; (b) a corporation or a company of any kind, a partnership of any kind, a sole proprietorship, a trust, a joint venture, an association, an unincorporated association, an unincorporated syndicate, an unincorporated organization or any other association, organization or entity of any kind; and (c) a Governmental Authority.

"**Primary System**" means the Designated Equipment upon which the Software is installed and executed to deliver its intended functionality.

"Released Claims" has the meaning ascribed to it in Section 9(b).

"Released Parties" has the meaning ascribed to it in Section 9(b).

"Ross Video" means Ross Video Limited and its Affiliates.

"Software" means the version of the Object Code licensed and delivered to Licensee by Ross Video concurrently with delivery of this Agreement, including without limitation the Freeware, and any subsequent error corrections, updates, Modifications or Improvements provided to Licensee by Ross Video pursuant to this Agreement, but specifically excluding any features or plug-ins that may be purchased by you directly from third parties as upgrades or enhancements to the Software.

"**Source Code**" means the human readable form of a computer software program, and all tools and documentation necessary for a reasonably competent computer programmer to understand, maintain and Modify the Software.

"**Third Party Software**" means those portions of the Software, if any, which are owned or controlled by third parties and licensed to Ross Video pursuant to certain license agreements or arrangements with such third parties, including the Open Source Components and NDI® software (http://NDI.video); and

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3. **LICENSE.** Subject to the terms and conditions of this Agreement, upon payment of the applicable License Fee by Licensee, or, in the case of Freeware only, upon download of the Software by Licensee onto its Designated Equipment, Ross Video hereby grants to Licensee a non-transferable and non-exclusive right to Use the Software and Documentation solely for the internal use of Licensee (the "License"), during the License Period. In the event that a License Period is not identified on the Order, such License Period shall be deemed to be perpetual, subject to paragraph 10(c) of this Agreement. The Software shall only be used in connection with or installed on the Designated Equipment and, where applicable, shall only be used on the Primary System, provided such Primary System is operating properly."

   If the Primary System is not operating properly for any reason, the Software may be used on the designated Backup System for that Primary System until such time that the Primary System begins operating properly. The Software and Documentation are provided to Licensee for the exclusive use by Licensee's organization for its ordinary business purposes and shall not be used by any third party for any purposes. Licensee may make copies of the Software as required for internal backup and archival purposes. To the extent permitted hereunder, Licensee may distribute copies of the Software and/or Documentation to members of its organization, provided (a) this Agreement is included with each copy, (b) any member of its organization who uses the Software and/or Documentation accepts and agrees to be bound by the terms of this Agreement and by any other license agreements or other agreement incorporated by reference into this Agreement, and (c) Licensee has paid any applicable additional License Fees in respect of copying and redistributing of the Software. To the extent Licensee is permitted to make copies of the Software under this Agreement, Licensee agrees to reproduce and include on any copy made or portion merged into another work, all Ross Video proprietary notices, including any notices with respect to copyrights, trademarks and this License. With the exception of copying the Software for backup or archival purposes, Licensee agrees to keep a record of the number and location of all such copies and will make such record available at Ross Video's request. The Software may include mechanisms to limit or inhibit copying.

4. **LICENSE RESTRICTIONS.** Except as otherwise provided in section 3 above, Licensee shall not: (1) copy any Software or Documentation, or part thereof, which is provided to Licensee by Ross Video pursuant to this Agreement, in Object Code form, Source Code form or other human or machine readable form, including written or printed documents, without the prior written consent of Ross Video; (2) in any way market, distribute, export, translate, transmit, merge, Modify, transfer, adapt, loan, rent, lease, assign, share, sub-license, sell, make available for download on any website or make available to another Person, the Software and/or Documentation, in whole or in part, provided that Licensee shall not be prohibited from renting or leasing the Software if Ross Video has consented, in writing, to Licensee engaging in such activities in respect of the Software; (3) reverse engineer, decompile or disassemble the Software or electronically transfer it into another computer language; or (4) use the Software or Documentation in a manner that is inconsistent with the License granted hereunder or that will result in a breach of this Agreement. Licensee agrees to take all reasonable precautions to prevent third parties from using the Software and/or Documentation in any way that would constitute a breach of this Agreement, including such precautions Licensee would ordinarily take to protect its own proprietary software, hardware or information.

5. **DELIVERY.** Ross Video shall deliver to Licensee one (1) master copy of the Software in compiled binary (executable) form suitable for reproduction in electronic files only and Ross Video shall deliver to Licensee a minimum of one copy of the Documentation.

6. **IMPROVEMENTS.** Licensee may from time to time request Ross Video to incorporate certain Improvements into the Software. Ross Video may, in its sole discretion, undertake to incorporate and provide such Improvements to Licensee with or without payment of a fee to be negotiated at the time of such request. All Improvements, whether recommended and developed by Ross Video or Licensee, shall be considered the sole property of Ross Video and shall be used by Licensee pursuant to the terms of the License granted under this Agreement.

7. **FREEWARE.** Other than the obligation to pay a License Fee, which does not apply to the Freeware, all other provisions of this End User Software License Agreement apply to the Freeware in the same way as they apply to all other Software that is the subject of this Agreement. In addition, in connection with the Freeware, the following provisions apply:

   a. Licensee will not Use the Freeware to engage in or allow others to engage in any illegal activity.

   b. Licensee will not Use the Freeware in any way that will interfere with or damage the operation of the services of any third parties by overburdening/disabling network resources through automated queries, excessive usage or similar conduct.

   c. Licensee will not Use the Freeware to engage in any activity that will violate the rights of others, including, without limitation, by using it for operations that involve child labour, suppressing the right of freedom of expression or endangering the security of person.

8. **OWNERSHIP.** The Parties acknowledge and agree that, as between the Parties, Ross Video shall be the owner of all intellectual property rights in the Software, Documentation and all related Modifications and Improvements, written materials, logos, trademarks, trade names, copyright, patents, trade secrets and moral rights, registered or unregistered. No proprietary interest or title in or to the intellectual property in the Software, Documentation or any Improvements or Modifications is transferred to Licensee by this Agreement. Ross Video reserves all rights not expressly licensed to Licensee under section 3.

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   a. Software may use and/or be provided with Open Source Components, including those detailed in the Third Party section below. To the extent stipulated by its Open Source License, each such Open Source Component is licensed directly to Licensee from its respective licensors and not sublicensed to Licensee by Ross Video, and such Open Source Component is subject to its respective Open Source License, and not to this Agreement. If, and to the extent, an Open Source Component requires that this Agreement effectively impose, or incorporate by reference, certain disclaimers, permissions, provisions, prohibitions or restrictions, then such disclaimers, permissions, provisions, prohibitions or restrictions shall be deemed to be imposed, or incorporated by reference into this Agreement, as required, and shall supersede any conflicting provision of this Agreement, solely with respect to the corresponding Open Source Component which is governed by such Open Source License.

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b. FFmpeg Notice. The Software may utilize FFmpeg video components and their included libraries. FFmpeg is a trademark of Fabrice Bellard (originator of the FFmpeg project). Ross Video disclaims any ownership claim to FFmpeg. Please refer to http://ffmpeg.org (copyright is in the FFmpeg developers). FFmpeg is licensed under the Lesser GNU Lesser General Public License v2.1 or Lesser General Public License v3.0. GNU Lesser General Public, Free Software Foundation, Inc., 51 Franklin Street, Fifth Floor, Boston, MA 02110-1301 USA. Licensee can distribute it and/or modify it under the terms of such licenses."

11. **INTELLECTUAL PROPERTY INDEMNITY.**

a. Ross Video agrees to defend, indemnify and hold harmless Licensee from final damages awarded by a court of competent jurisdiction (hereinafter referred to as the "**Losses**"), which Licensee, or any of its officers or directors, may incur, suffer or become liable for as a result of, or in connection with, any third party claim asserted against Licensee to the extent such claim is based on a contention that the Software, Documentation or any portion thereof, infringes any valid, registered, enforceable patents, copyrights, trade secrets, trademarks or other intellectual property rights of any third party, provided that (a) the allegedly infringing Software or Documentation has been used within the scope of and in accordance with the terms of this Agreement, and (b) Licensee notifies Ross Video in writing of such claim within ten (10) days of a responsible officer of Licensee becoming aware of such claim. If the Software, Documentation or any portion thereof is held to constitute an infringement of a third party's intellectual property rights, and use thereof is enjoined, Ross Video shall, at its election and expense, either (i) procure the right to use the infringing element of the Software or Documentation; or (ii) replace or modify the element of the Software or Documentation so that the infringing portion is no longer infringing and still performs the same function without any material loss of functionality. Ross Video shall make every reasonable effort to correct the situation with minimal effect upon the operations of Licensee.

b. Notwithstanding the above, Ross Video reserves the right to terminate this Agreement and the License granted hereunder on immediate notice to Licensee, and without liability to Licensee, in the event that the Software or Documentation constitutes or may, in Ross Video's determination, constitute, an infringement of the rights of a third party that Ross Video, in its sole discretion, does not consider to be affordably remediable.

c. Either party may terminate this Agreement immediately should any Software become, or in either party's opinion be likely to become, the subject of a claim of infringement of any intellectual property right and, in such event, there shall be no claim by either Licensee or Ross Video against the other arising out of such termination, provided that the foregoing shall not apply to a claim for infringement by Ross Video against Licensee in the event that Licensee is alleged to have infringed Ross Video's intellectual property rights, in which case Licensee shall remain liable for all outstanding License Fees and other amounts owing to Ross Video.

d. Notwithstanding the foregoing, Ross Video shall have no liability for any claim of infringement based on use of other than a current, unaltered release of the Software and/or Documentation available from Ross Video if such infringement would have been avoided by the use of a current, unaltered release of the Software and/or Documentation provided that such current, unaltered release performs substantially in conformity with the specifications set out in the Documentation and was provided, at no additional cost by Ross Video, to those subscribing for maintenance services for the Software or Documentation.

12. **CONFIDENTIALITY.** Each Party shall maintain in confidence all Confidential Information of the other Party, shall use such Confidential Information only for the purpose of exercising its rights and fulfilling its obligations under this Agreement, and shall not disclose any Confidential Information of the disclosing Party to any third party except as expressly permitted hereunder or make any unauthorized use thereof. Each Party shall disclose the Confidential Information only to those of its employees, consultants, advisors, and/or subcontractors who have a need to know the Confidential Information. Each Party shall, prior to disclosing the Confidential Information to such employees, consultants, advisors and/or subcontractors, obtain their agreement to receive and use the Confidential Information on a confidential basis on the same terms and conditions contained in this Agreement. The receiving Party shall treat the Confidential Information of the disclosing Party with the same degree of care against disclosure and/or unauthorized use as it affords to its own information of a similar nature, or a reasonable degree of care, whichever is greater. The receiving Party further agrees not to remove or destroy any proprietary or confidential legends or markings placed upon any documents or other materials of the disclosing Party. The obligations of confidence set forth in this Agreement shall extend to any Affiliates that have received Confidential Information of the disclosing Party and shall also cover Confidential Information disclosed by any Affiliate. The receiving Party shall be responsible for any actions or omissions of its Affiliates as if such actions or omissions were its own.

    Either party may disclose certain Confidential Information if it is expressly required to do so pursuant to legal, judicial, or administrative proceedings, or otherwise required by law, provided that (i) such Party provides the other Party with reasonable written notice prior to such disclosure; (ii) such Party seeks confidential treatment for such Confidential Information; (iii) the extent of such disclosure is only to the extent expressly required by law or under the applicable court order; and (iv) such Party complies with any applicable protective or equivalent order.

    Each of Ross Video and Licensee (the **"Indemnifying Party**", as applicable) agree to indemnify the other (the "**Indemnified Party**", as applicable) for all Losses incurred by the Indemnified Party as a result of a failure of the Indemnifying Party to comply with its obligations under this Section 12 provided that the Indemnified Party has given prompt notice of any such claim and, to the extent that a claim may lie against a third party for the unauthorized disclosure of such Confidential Information, the right to control and direct the investigation, preparation, action and settlement of each such claim and, further, provided that the Indemnified Party reasonably co-operates with the Indemnifying Party in connection with the foregoing and provides the Indemnifying Party with all information in the Indemnified Party's possession related to such claim and such further assistance as reasonably requested by the Indemnifying Party.

    The Parties acknowledge and agree that any breach of the confidentiality provisions of this Agreement by one Party may cause significant and irreparable injury to the other Party that is not compensable monetarily, as well as damages that may be difficult to ascertain, and agrees that, in addition to such other remedies that may be available at law or in equity, the other Party shall be entitled to seek injunctive relief (including temporary restraining orders, interim injunctions and permanent injunctions) in a court of competent jurisdiction in the event of the breach or threatened breach by such party of any of the confidentiality provisions of this Agreement. The relief contemplated in this Section shall be available to each Party without the necessity of having to prove actual damages and without the necessity of having to post any bond or other security. Each Party further agrees to notify the other Party in the event that it learns of or has reason to believe that any Person has breached the confidentiality provisions of this Agreement.

13. **LIMITATION OF LIABILITY.** The limitation of liability provisions of this Agreement reflect an informed voluntary allocation of the risks (known and unknown) that may exist in connection with the licensing of the Software or Documentation hereunder by Ross Video, and that voluntary risk allocation represents a material part of the Agreement reached between Ross Video and Licensee. Should Ross Video be in breach of any obligation, Licensee agrees that Licensee's remedies will be limited to those set forth in this Agreement. No action, regardless of form, arising out of this Agreement may be brought by Licensee more than twelve (12) months after the facts giving rise to the cause of action have occurred, regardless of whether those facts by that time are known to, or reasonably ought to have been discovered by, Licensee.

    (A) EXCEPT AS EXPRESSLY PROVIDED IN THIS AGREEMENT, THE SOFTWARE AND DOCUMENTATION ARE PROVIDED "AS IS" AND ROSS VIDEO (I) MAKES NO OTHER REPRESENTATIONS, AND PROVIDES NO WARRANTIES OR CONDITIONS OF ANY KIND, EXPRESS OR IMPLIED, STATUTORY, BY USAGE OF TRADE CUSTOM OF DEALING, OR OTHERWISE, AND (II) SPECIFICALLY DISCLAIMS ALL IMPLIED WARRANTIES INCLUDING ANY IMPLIED WARRANTY OF UNINTERRUPTED OR ERROR FREE OPERATION, MERCHANTABILITY, QUALITY OR FITNESS FOR A PARTICULAR PURPOSE. ROSS VIDEO DOES NOT REPRESENT OR WARRANT THAT THE SOFTWARE WILL MEET ANY OR ALL OF LICENSEE'S PARTICULAR REQUIREMENTS, THAT THE USE AND OPERATION OF THE SOFTWARE WILL OPERATE ERROR-FREE OR UNINTERRUPTED, THAT ALL PROGRAMMING ERRORS IN THE SOFTWARE CAN BE FOUND IN ORDER TO BE CORRECTED, OR THAT THE SOFTWARE WILL BE COMPATIBLE WITH OTHER PROGRAMS, SYSTEMS, AND HARDWARE.

    (B) IN NO EVENT SHALL ROSS VIDEO, ITS AFFILIATES AND LICENSORS, AND THEIR RESPECTIVE DIRECTORS, OFFICERS, EMPLOYEES AND AGENTS, BE LIABLE FOR ANY CLAIM FOR INDIRECT, CONSEQUENTIAL, SPECIAL, INCIDENTAL, PUNITIVE, EXEMPLARY, AGGRAVATED DAMAGES; LOST PROFITS, OR LOST REVENUE ARISING FROM OR IN CONNECTION WITH THIS AGREEMENT, REGARDLESS OF THE FORM OF ACTION, WHETHER IN CONTRACT, OR IN TORT, EVEN IF THE PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

    (C) IN ANY EVENT THE AGGREGATE LIABILITY OF ROSS VIDEO, ITS AFFILIATES AND LICENSORS, AND THEIR RESPECTIVE DIRECTORS, OFFICERS, EMPLOYEES AND AGENTS, FOR ANY CLAIM FOR DIRECT DAMAGES WITH RESPECT TO THE SUBJECT MATTER OF THIS AGREEMENT SHALL NOT EXCEED THE AMOUNT OF THE PURCHASE PRICE PAID TO ROSS VIDEO UNDER THIS AGREEMENT.

14. **TERM AND TERMINATION**.

    (1) Unless terminated earlier in accordance with the terms of this Agreement, the term of this Agreement shall commence upon Licensee's first download, access, installation, or other use of the Software or Documentation and continues until, in the case of Software licensed with Designated Equipment provided by Ross Video, the earliest of (a) the end of the License Period, or (b) if the Designated Equipment is assigned or transferred in accordance with this Agreement, the date on which the Designated Equipment is no longer owned by Licensee;

    (2) Either Party shall have the right to terminate this Agreement on notice to the other Party if:

        (a) the other Party fails to pay any fees or other amounts when due hereunder or under any other agreement between the Parties (or any Affiliates of the Parties, as applicable) in connection with the Software and/or Designated Equipment and such breach is not cured within thirty (30) days after written notice of such failure to pay is given to the defaulting Party by the non-defaulting Party;

        (b) the other Party shall file a voluntary petition in bankruptcy or insolvency or shall petition for reorganization under any bankruptcy law, consent to an involuntary petition in bankruptcy, or if a receiving order is given against it under the Bankruptcy and Insolvency Act (Canada) or the comparable law of any other jurisdiction (and such is not dismissed within ten (10) days);

(c) there shall be entered an order, judgment or decree by a court of competent jurisdiction, upon the application of a creditor, approving a petition seeking reorganization or appointing a receiver, trustee or liquidator of all or a substantial part of the other Party's assets and such order, judgment or decree continues in effect for a period of thirty (30) consecutive days; or

(d) the other Party shall fail to perform any of the other material obligations set forth in this Agreement and such default, in the case of a default which is remediable, continues for a period of thirty (30) days after written notice of such failure has been given by the non-defaulting Party or, in the case of a non-remediable default, immediately upon notice.

(3) Notwithstanding anything to the contrary contained in this Agreement:

(a) Ross Video may forthwith terminate this Agreement if Licensee is in breach of any of sections 3, 4 or 12 of this Agreement. For greater certainty, in such instances Ross Video shall provide written notice of such termination as soon as practicable but written notice shall not be a necessary prerequisite to such termination; and

(b) in the event of a Change of Control of Licensee, Ross Video shall have the right to terminate this Agreement and the License granted hereunder upon thirty (30) days' prior written notice to Licensee. For greater certainty, Ross Video's right to terminate in the event of a Change of Control of Licensee shall continue for a period of six (6) months from the date Licensee delivers notice of such Change of Control to Ross Video.

(c) Ross Video may terminate the License immediately on the date on which it provides notice to Licensee, if its agreements for Third Party Software are terminated.

(4) Upon the termination or expiry of this Agreement:

(a) Licensee shall immediately cease and desist all use of the Software and Documentation;

(b) Licensee shall immediately deliver to Ross Video any of Ross Video's Confidential Information provided hereunder (including the Software and Documentation) then in its possession or control, if any, and shall deliver a certificate of an officer of Licensee certifying the completeness of same;

(c) Licensee shall refrain from further use of such Confidential Information; and

(d) Licensee shall forthwith pay all amounts owing to Ross Video or any of its Affiliates hereunder.

15. **SURVIVAL.** The provisions of sections 1, 2, 6, 8, 9, 10, 11, 12, 13, 14, 18, 22, 23, and 24 herein shall survive the expiry or termination of this Agreement.

16. **FORCE MAJEURE.** Dates and times by which Ross Video is required to render performance under this Agreement shall be automatically postponed to the extent and for the period that Ross Video is prevented from meeting them by reason of events of force majeure or any cause beyond its reasonable control provided Ross Video notifies Licensee of the commencement and nature of such cause and uses its reasonable efforts to render performance in a timely manner.

17. **ASSIGNMENT.** Ross Video may assign this Agreement, or any of its rights or obligations hereunder, in whole or in part, upon notice to Licensee. Licensee shall not assign this Agreement, or any of its rights or obligations hereunder, in whole or in part, without the prior written consent of Ross Video, which consent may not be unreasonably withheld. This Agreement enures to the benefit of and is binding upon each of the Parties and their respective successors and permitted assigns.

18. **GOVERNING LAW.** If Customer acquired the Ross Product(s) in the United States or Canada, the laws of the state or province where Customer's principal place of business is located govern the interpretation of this Agreement, claims for its breach, and all other claims regardless of conflict of laws principles. If Customer acquired the Ross Product(s) in the European Union or the United Kingdom, then the laws of England and Wales apply. If Customer acquired the Ross Product(s) in any other country, then the laws of the Province of Ontario, Canada shall apply.

19. **LANGUAGE.** The Parties have expressly required that this Agreement and all documents relating thereto be prepared in English. Les parties ont expressément exigé que cette convention ainsi que tous les documents qui s'y rattachent soient rédigés en anglais.

20. **GOVERNMENT CONTRACTS.** If the Software and/or Documentation to be furnished to Licensee hereunder are to be used in the performance of a government contract or subcontract, the Software and/or Documentation shall be provided on a "restricted rights" basis only and Licensee shall place a legend, in addition to applicable copyright notices, in the form provided under the applicable governmental regulations. For greater certainty, Ross Video shall not be subject to any flowdown provisions required by any customer of Licensee that is a Governmental Authority unless Ross Video expressly agrees to be bound by such flowdown provisions in writing.

21. **EXPORT AND IMPORT LAWS.** Licensee acknowledges and agrees that the Software (including any technical data and related technology) may be subject to the export control laws, rules, regulations, restrictions and national security controls of the United States and other applicable countries (the "**Export Controls**") and agrees not to export, re-export, import or allow the export, re-export or import of such export-controlled Software (including any technical data and related technology) or any copy, portion or direct product of the foregoing in violation of the Export Controls. Licensee hereby represents that it is not an entity or person to whom provision of the Software (including any technical data and related technology) is restricted or prohibited by the Export Controls. Licensee agrees that it has the sole responsibility to obtain any authorization to export, re-export, or import the Software (including any technical data and related technology), as may be required. Licensee will defend, indemnify and hold Ross Video harmless from any and all claims, losses, liabilities, damages, fines, penalties, costs and expenses (including attorney's fees) arising from or relating to any breach by Licensee of its obligations under this Section.

22. **AMENDMENT AND WAIVER.** No amendment, discharge, modification, restatement, supplement, termination or waiver of this Agreement or any Section of this Agreement is binding unless it is in writing and executed by the Party to be bound. No waiver of, failure to exercise or delay in exercising, any Section of this Agreement constitutes a waiver of any other Section (whether or not similar) nor does any waiver constitute a continuing waiver unless otherwise expressly provided.

23. **SEVERABILITY.** Each Section of this Agreement is distinct and severable. If any Section of this Agreement, in whole or in part, is or becomes illegal, invalid, void, voidable or unenforceable in any jurisdiction by any court of competent jurisdiction, the illegality, invalidity or unenforceability of that Section, in whole or in part, will not affect (a) the legality, validity or enforceability of the remaining Sections of this Agreement, in whole or in part; or (b) the legality, validity or enforceability of that Section, in whole or in part, in any other jurisdiction.

24. **ENTIRE AGREEMENT.** This Agreement, and any other documents referred to herein, constitutes the entire agreement between the Parties relating to the subject matter of this Agreement and supersedes all prior written or oral agreements, representations and other communications between the Parties.

Warranty and Repair Policy

Ross Video Limited (Ross) warrants its XPression Maps systems to be free from defects under normal use and service for the following time periods from the date of shipment:

- XPression Maps Server — 12 months
- XPression Maps Software Upgrades — 12 months free of charge
- System and Media hard drives — 12 months

If an item becomes defective within the warranty period Ross will repair or replace the defective item, as determined solely by Ross.

Warranty repairs will be conducted at Ross, with all shipping FOB Ross dock. If repairs are conducted at the customer site, reasonable out-of-pocket charges will apply. At the discretion of Ross, and on a temporary loan basis, plug in circuit boards or other replacement parts may be supplied free of charge while defective items undergo repair. Return packing, shipping, and special handling costs are the responsibility of the customer.

This warranty is void if products are subjected to misuse, neglect, accident, improper installation or application, or unauthorized modification.

In no event shall Ross Video Limited be liable for direct, indirect, special, incidental, or consequential damages (including loss of profit). Implied warranties, including that of merchantability and fitness for a particular purpose, are expressly limited to the duration of this warranty.

This warranty is TRANSFERABLE to subsequent owners, subject to Ross' notification of change of ownership.

Extended Warranty

For customers that require a longer warranty period, Ross offers an extended warranty plan to extend the standard warranty period by one year increments. For more information about an extended warranty for your XPression Maps system, contact your regional sales manager.

Environmental Information

The equipment that you purchased required the extraction and use of natural resources for its production. It may contain hazardous substances that could impact health and the environment.

To avoid the potential release of those substances into the environment and to diminish the need for the extraction of natural resources, Ross Video encourages you to use the appropriate take-back systems. These systems will reuse or recycle most of the materials from your end-of-life equipment in an environmentally friendly and health conscious manner.

The crossed-out wheeled bin symbol invites you to use these systems.

If you need more information on the collection, reuse, and recycling systems, please contact your local or regional waste administration.

You can also contact Ross Video for more information on the environmental performances of our products.

Company Address

Ross Video Limited	Ross Video Incorporated
8 John Street Iroquois, Ontario Canada, K0E 1K0	P.O. Box 880 Ogdensburg, New York USA 13669-0880

General Business Office:	(+1) 613 · 652 · 4886
Fax:	(+1) 613 · 652 · 4425
Toll Free Technical Support:	1-844-652-0645 (North America) +800 1005 0100 (International)
Alternately, you can contact:	
Technical Support:	(+1) 613 · 652 · 4886
After Hours Emergency:	(+1) 613 · 349 · 0006
E-mail for Technical Support:	techsupport@rossvideo.com
E-mail for General Information:	solutions@rossvideo.com
Website:	http://www.rossvideo.com

Contents

Introduction

XPression Maps is an application that allows the user to design animations such as virtual flights over maps and create video files from the animations. XPression Maps allows you to select different map styles, like the maps from Microsoft Bing, and switch between them on the fly. You can also build customized maps with colorization of regions, countries, and cities, animated world maps, and maps showing animated routes.

XPression Maps is sold in three configurations:

- XPression Maps Design Workstation

Create still and animated maps for use as is or as templates for use with XPression Maps Server MOS workflow tools.

- XPression Maps Server

Provides access to map templates to XPression News MOS users, while maintaining control over the look of maps and increasing the number of maps and the number of designers creating maps.

- XPression Maps Touch

Create interactive scenes and projects that can be controlled in the XPression Maps Touch Client and interacted with on a remote touch screen.

About This Guide

This user guide describes XPression Maps, its configuration, and operation.

If at any time you have questions pertaining to the installation or operation of XPression Maps, please contact us at the numbers listed in the section Contacting Technical Support 3. Our technical staff are always available for consultations, training, or service.

Documentation Conventions

Special text formats are used in this guide to identify parts of the user interface, text that a user must enter, or a sequence of menus and sub-menus that must be followed to reach a particular command.

Bold text	Bold text identifies a user interface element such as a dialog box, menu item, or button. For example: In the **Slug** column, type a slug name for the story.
Bold Italic text	Italic text is used to identify the titles of referenced guides, manuals, or documents. For example: For more information, refer to the ***DashBoard User Guide***.
`Courier text`	Courier text identifies text that a user must type. For example: In the **Username** box, type `postgres`.
Hypertext	Identifies a hyperlink to a related topic.

Getting Help

XPression Maps documentation is available online at Product Documentation and is also accessible on the product USB key and by clicking on the **Help** icon in the user interface.

Contacting Technical Support

At Ross Video, we take pride in the quality of our products, but if problems occur, help is as close as the nearest telephone.

Our 24-hour Hot Line service ensures you have access to technical expertise around the clock. After-sales service and technical support is provided directly by Ross Video personnel. During business hours (Eastern Time), technical support personnel are available by telephone. After hours and on weekends, a direct emergency technical support phone line is available. If the technical support person who is on call does not answer this line immediately, a voice message can be left and the call will be returned shortly. This team of highly trained staff is available to react to any problem and to do whatever is necessary to ensure customer satisfaction.

Technical Support:

- 1-844-652-0645 (North America)
- +800 1005 0100 (International)
- After Hours Emergency: (+1) 613-349-0006
- E-mail: techsupport@rossvideo.com
- Website: http://www.rossvideo.com

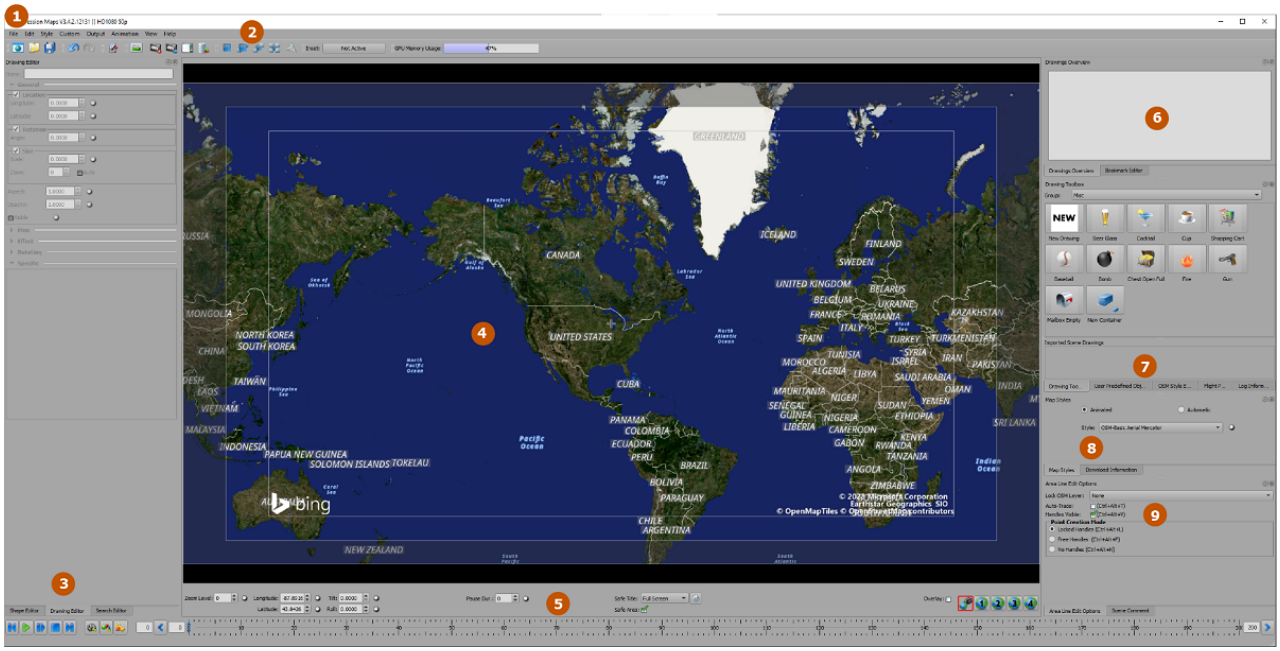
User Interface Overview

The XPression Maps User Interface is used to configure and edit drawings, such as icons, lines, areas, and text, in order to highlight and describe situations on the map in an animated way.

XPression Maps User Interface

The following screen capture displays the main elements of the XPression Maps User Interface. Descriptions of individual elements are contained in the table below the diagram.

With XPression Maps you can create layouts in the user interface by dragging and dropping elements into the preferred placements. The XPression Maps User Interface can be reset to the default setting at any time.



XPression Maps User Interface

1. **Menu Bar**: Use to access the File, Edit, Style, Custom, Output, Animation, View and Help menus.	2. **Tool Bar**: Use to access XPression Maps tools.
3. **Editors**: Use to create shapes, edit drawings, and search for maps.	4. **Output Window**: Displays the map/scene for output.
5. **Animation Control**: Use to control the animation playback of a map.	6. **Drawings Overview Panel**, **RossTalk**, **Bookmark Editor**: Use to organize, and edit drawings in a map, use the RossTalk interface and create bookmarks.
7. **Drawing Toolbox**, **User Predefined Objects**, **OSM (OpenStreetMap) Style Editor**, **Flight Points** and **Log Information**: Use to customize OpenStreetMaps, create, edit and add drawings and flight points and to view log information.	8. **Map Styles and Download Information**: Use to select map styles and view map download information.
9. **Area Line Edit Options**: Use to lock OSM Layers to OSM Map Styles.	

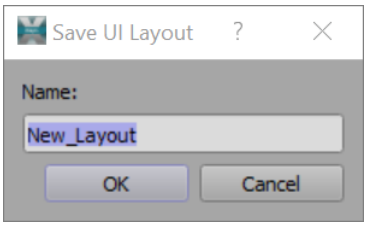
Managing User Interface Layouts

The various components of the **XPression Maps** User Interface can be rearranged to suit your preference and saved as a layout. You can have several layouts if necessary. Then you can load the layout you want. By default, the last loaded layout will load when you launch **XPression Maps**.

To save a configured layout in the XPression Maps User Interface:

1. From the menu bar, select **View > UI Setup** and select **Save UI Layout**.

   The **Save UI Layout** window opens.



   Save UI Layout Window

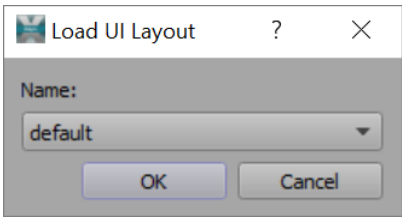
2. Enter a name for the new layout and select **OK**.

   The new layout has been saved.

To load a configured layout into the XPression Maps User Interface:

1. From the menu bar, select **View > UI Setup** and select **Load UI Layout**.

   The **Load UI Layout** window opens.



   Load UI Layout Window

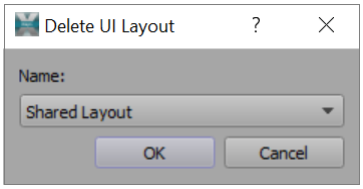
2. From the **Name** drop-down select the name of the layout you want to load and select **OK**.

   The layout is loaded into the XPression Maps User Interface.

To delete a configured layout from the XPression Maps User Interface:

1. From the menu bar, select **View > UI Setup** and select **Delete Saved UI Layout.**

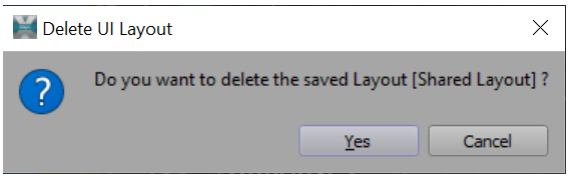
   The **Delete UI Layout** window opens.



Delete UI Layout Window

2. From the **Name** drop-down select the workspace you want to delete and select **OK**.

   The **Delete UI Layout** confirmation window opens.



Delete UI Layout Confirmation Window

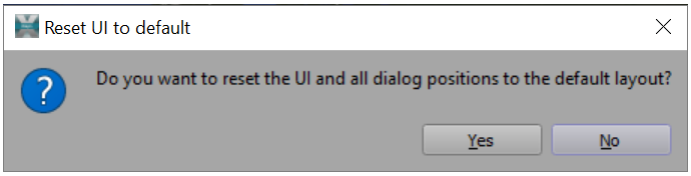
3. Select **Yes**.

   The layout has been deleted.

To reset the XPression Maps User Interface to the default setting:

1. From the menu bar, select **View > UI Setup** and select **Reset UI to Default**.

   The **Reset UI to default window** opens.



Reset UI to Default Window

2. Select **Yes** to reset the layout.

   The **XPression Maps User Interface** resets.

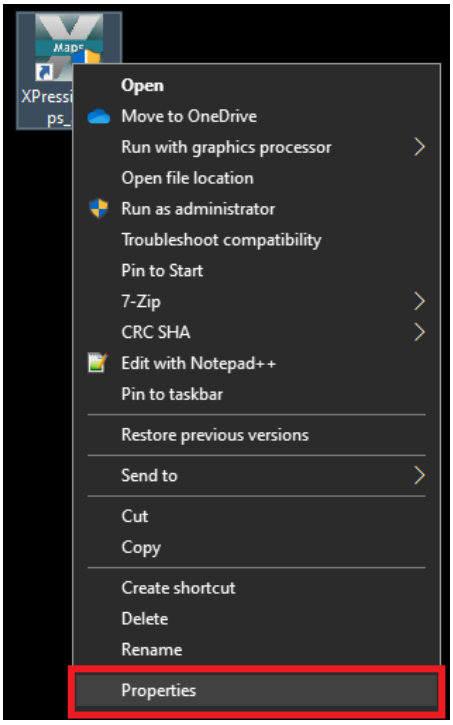
Launching XPression Maps

To launch XPression Maps, right-click on the XPression Maps desktop icon and select **Run as administrator** from the shortcut menu to run the software as a local administrator.

Configure the program properties to have XPression Maps always run as administrator.

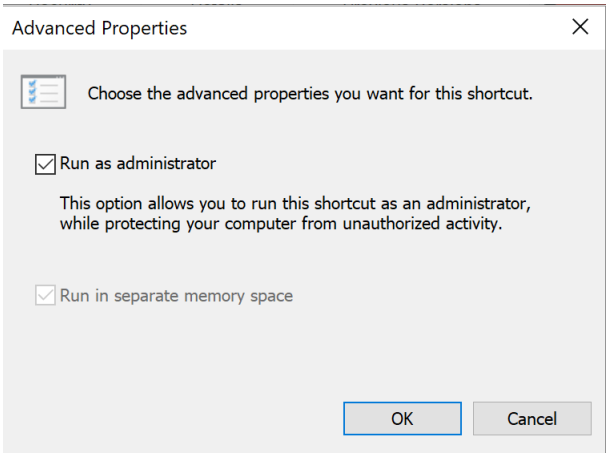
To always run as administrator:

1. Right-click on the XPression Maps desktop icon and select **Properties**.



XPression Maps Properties

2. In the **Shortcut** tab, click the **Advanced** button.
3. In the **Advanced Properties** screen, select the **Run as administrator** checkbox.



XPression Maps Advanced Properties

Configuring Preferences

Before beginning to use the application to create map-based video files, you can configure the XPression Maps environment to suit your own needs. The **Preferences** dialog contains multiple tabs with different sets of parameters.

To configure your preferences:

1. From the menu bar, select **File > Preferences**.
2. Click on the tabs to edit the parameters, as described in the following sections:

   Output 9

   Map 11

   Web Interface 13

   Connection 16

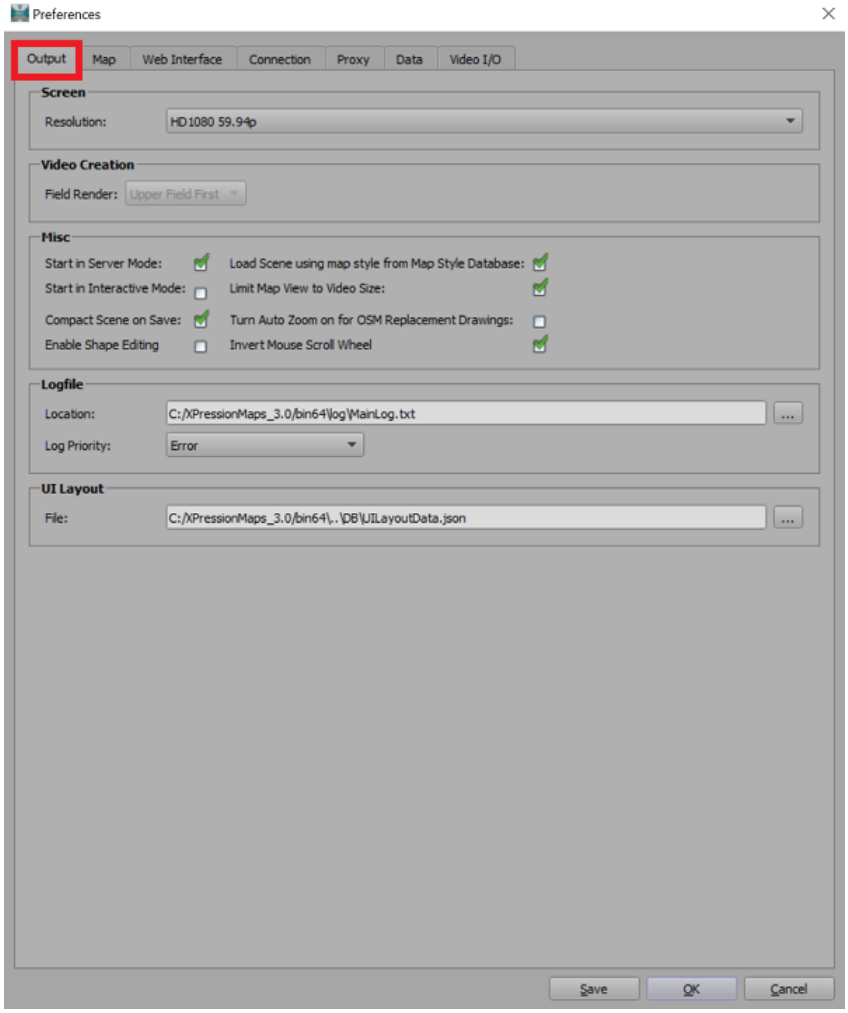
   Proxy 18

   Data (Optional) 19

   Video I/O (Optional) 23
3. Select **Save** to save changes you've made to the parameters.
4. When you are finished editing your preferences, select **OK** to apply the changes and close the **Preferences** dialog.

Output

In the **Output** tab you can select the screen resolution and recording format, enable or disable various settings, and define the location and level of detail to be included in the logfile.



Preferences - Output Tab

To edit the Output parameters:

1. In the **Screen** section, from the **Resolution** drop-down, select the video resolution and frame rate used by your facility.
2. In the **Video Creation** section, from the **Field Render** drop-down, select whether to render the **Upper Field First** or **Lower Field First**. The drop-down is available only when the selected screen resolution is an interlaced format.
3. In the **Misc** section, select one of the following options:
4. Also in the **Misc** section, enable the following default behaviors if desired:
   - Select the **Compact Scene on Save** checkbox to remove unused map styles from the **Map Styles** list and unused shape styles from the **Shape** style list when the scene is saved or exported.

     This is useful for scenes that are exported to the XPression Maps HTML5 Client plugin for XPression MOS workflows.

- Select the **Load scene using map style from Map Style Database** checkbox to enable the **Use Scene Styles From Database** parameter in the **Scene Templates** editor.

  The **Use Scene Styles From Database** parameter allows you to apply the map style that has been saved in the database in place of the map style in the selected scene.

- Select the **Limit Map View to Video Size** checkbox to match the map view to the video size.

  If unchecked, the map view will be as large as possible.

- Select the **Turn Auto Zoom On for OSM Replacement Drawings** checkbox if you generally prefer to have your replacement labels stay the same size, regardless of the zoom level of the map.

  You can still disable **Auto Zoom** in the **Drawing Editor** if necessary in individual cases.

- Select the **Enable Shape Editing** checkbox to enable shape editing.

- Select the **Invert Mouse Scroll Wheel** checkbox to zoom into the map by scrolling forward on the mouse scroll wheel, and to zoom out of the map by scrolling back on the mouse scroll wheel.

  If unchecked, to zoom into the map you must scroll backward on the mouse scroll wheel, and to zoom out of the map you must scroll forward.

★ If you invert the mouse scroll wheel you will need to restart the XPression Maps application for the change to take effect.

5. In the **Logfile** section, select the **Browse** (…) button beside the **Location** field to navigate to the location where you want to store the logfile.

   The default location is **C:\XPressionMaps_3.0\bin64\log.**

6. From the **Log Priority** drop-down, select the level of detail to be stored to the logfile.

   Always - Logs a small set of specific information, such as the start time and version number of the application.

   Critical - Logs activity that could result in unpredictable behavior.

   Error - Logs errors only.

   Warning - Logs unsuccessful operations.

   Information - For internal use only, for technical support.

   Debug - For internal use only, for technical support.

   Debug2 - For internal use only, for technical support.

7. In the **UI Layout** section, select the **Browse** (…) button beside the **File** field to select the **UI Layout Data** file.

   The **UI Layout Data** file contains saved layout configurations, see Managing Layouts 5 for instructions on configuring layouts.

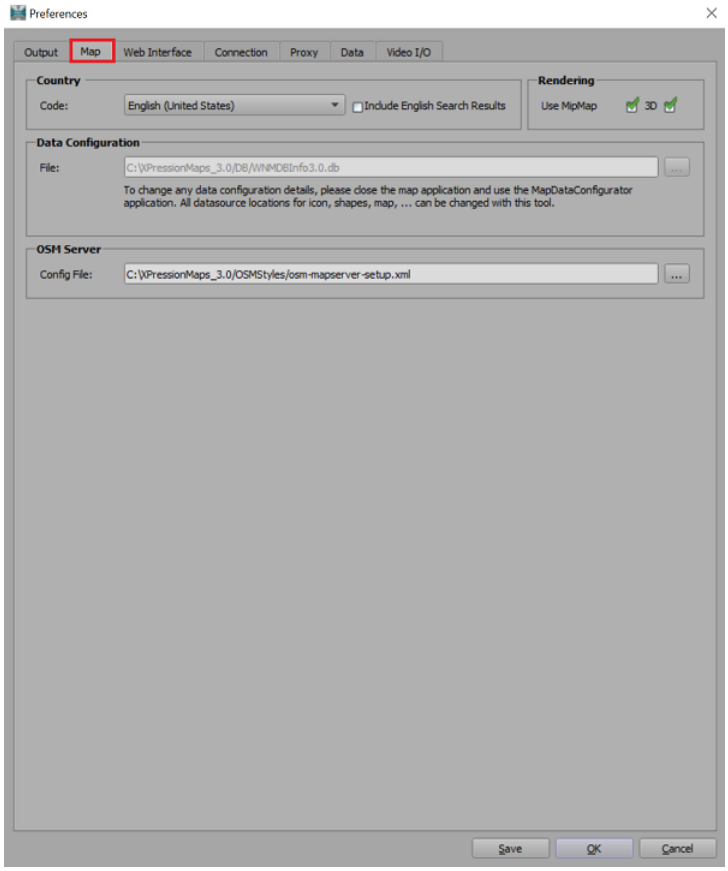
   By default, the **File** name field will be populated with **UILayoutData.json**.

To save your configuration:

- At the bottom of the **Output** tab, select **Save** and then select **OK**.

Map

In the **Map** tab you can edit the parameters related to the map data.



Preferences - Map Tab

To edit the Map parameters:

1. In the **Country** section, from the **Code** drop-down, select the language/country to be used for the system.

   The Bing Road maps will be downloaded in the selected language. The Bing search results will be displayed in the selected language and the shape labels will take the translation table of the selected language.

2. Select the **Include English Search Results** checkbox when using a language other than English, to get the best results. The English search results are displayed in magenta in the **Search Editor**.

3. In the **Rendering** section, select the **Use MipMap** checkbox to render the map tiles with **MipMapping** and select the **3D** checkbox to enable rendering of maps with the 3D height model.

   - MipMapping reduces aliasing artifacts but decreases rendering speed.
   - The 3D height model renders maps that visually indicate elevation.

4. In the **Data Configuration** section, click the **Browse** button (…) beside the **File** field, to navigate to the location in which the information database file (**WNMDBInfo.db**) will be stored.

   The default location is **C:\XPressionMaps\DB\WNMDBInfo.db**.

   The information database file is used to resolve all database connections and is configured with the Map Data Configurator 298 in the subfolder **C:\XPressionMaps\MapDataConfigurator**.

5. In the **OSM Server** section, click the **Browse** button (…) beside the **Config File** field to navigate to the location of the external **OpenStreetMap** tile server configuration file (**osm-mapserver-setup.xml**).

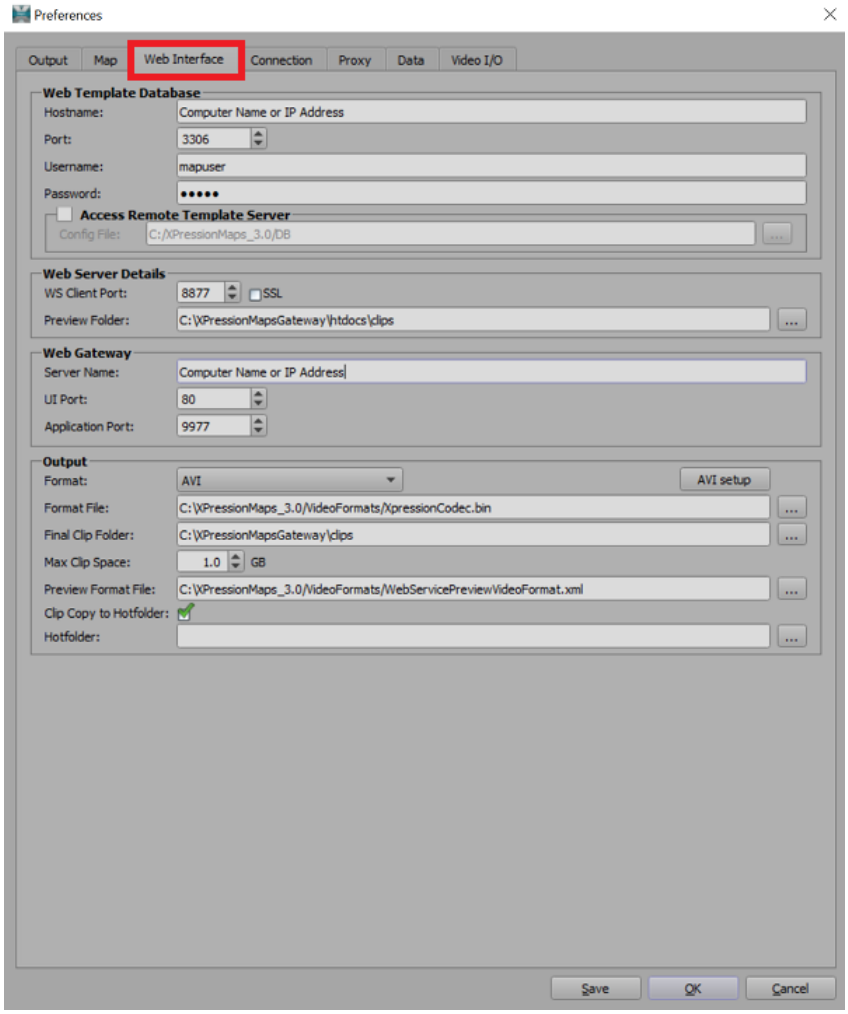
   The default location is **C:\XPressionMaps\OSMStyles/osm-mapserver-setup.xml**.

To save your configuration:

- At the bottom of the **Map** tab, select **Save** and then select **OK**.

Web Interface

In the **Web Interface** tab you can configure the XPression Maps Server details and handshake with the XPression Maps Database and the XPression Maps Gateway.



Preferences - Web Interface Tab

To edit the Web Interface parameters:

1. In the **Web Template Database** section enter the parameters for connecting to the database server.

   Hostname: The IP address or host name of the computer on which the database is stored.

   Port: The port used to connect to the database server. The default for **MySQL/mariaDB** is **3306**.

   Username: Leave the default username as is.

   Password: Leave the default password as is.

   The **Username** and **Password** are used to access the database.

2. If you are using a remote template server, select the **Access Remote Template Server** checkbox and then select the **Browse** button to navigate to the location of the **Config File** that identifies the server.

3. In the **Web Server Details** section enter the parameters for communicating with the **Apache** web server.
   - The **WS Client Port** is the port on which the web server and client communicate.

     The default **Client Port** is **8877**.
   - Select the **SSL** checkbox to enable the **Secure Socket Layer** protocol (optional).

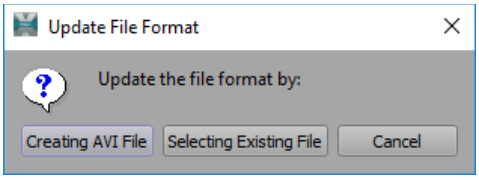
     If you select the SSL checkbox, you will also need to change the **Application Port** in the **Web Gateway** section to **443**.

     See Appendix B: Managing Network Security 343 for more information.
   - Select the **Browse** button beside the **Preview Folder** field to navigate to the location where XPression Maps will create the preview video clips and from which the web server will stream the clips to the clients.
4. In the **Web Gateway** section, enter the parameters for communicating with the gateway.
   - The **Server Name** field is the same as the **Hostname** in the **Web Template Database** section.
   - The **Application Port** field is the port on which the server and gateway communicate.

     The default **Application Port** is **9977**.
5. In the **Output** section enter the parameters for the final clip generation.

   a. From the **Format** drop-down, select the **AVI** format (if it is not already selected).

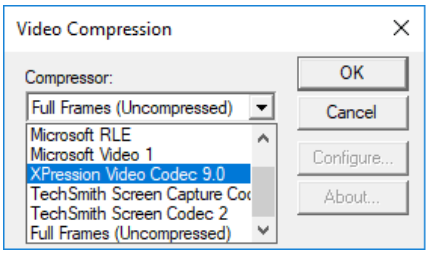
   If you are changing the format from **ffmpeg** to **AVI**, a dialog box opens asking you to update the file format.



Update Format File to AVI Dialog

   b. Select **Creating AVI File** to create the file.

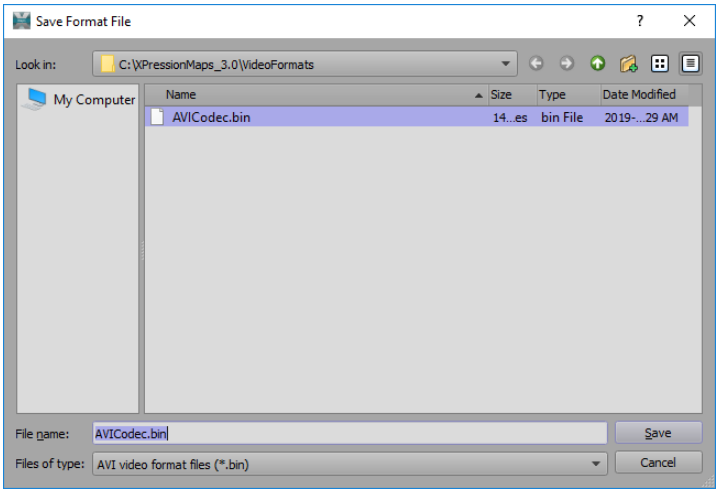
   The **Video Compression** dialog opens.



Video Compression Dialog

c. Select the **XPression Video Codec** and select **OK**.

The **Save Format File** window opens.



Save Format File

By default, the **File** name field will be populated with **XpressionCodec.bin**.

d. Select **Save** to save this format file.

   In the **Web Interface** tab, the **Format File** field will be automatically populated with the path to the codec file.

e. Select the **Browse** button bebside the **Final Clip Folder** field to navigate to the folder where the video clips will be stored.

f. In the **Max Clip Space** field, enter or use the arrows to select the amount of system disk space, in GBs, which can be used before the automatic cleanup mechanism starts to free up disk space by erasing the loaded clips.

g. Select the **Browse** button (...) beside the **Preview Format File** field to navigate to the **Web Service Video Format File** folder to select the type of video format file you want.

h. Select the **Clip Copy to Hotfolder** checkbox, if you want to store your clips in a separate folder.

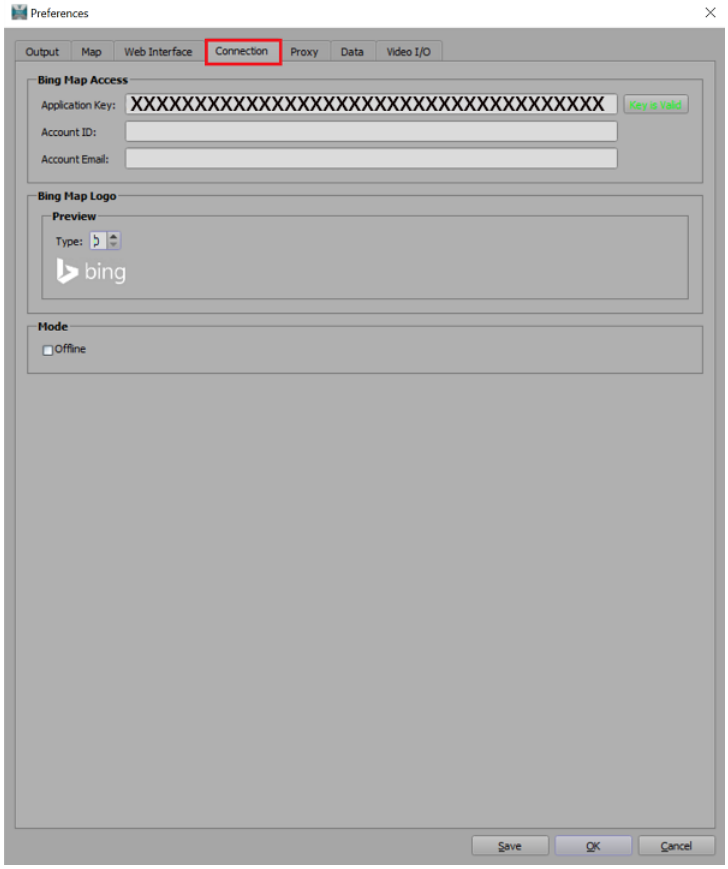
i. In the **Hotfolder** field, select the **Browse** button (...) to navigate to the folder in which to store your clips.

To save your configuration:

- At the bottom of the **Web Interface** tab, select **Save** and then select **OK**.

Connection

In the **Connection** tab you can define the map tile download and change the position and style of the **Bing Map Logo** in the **Output Window**.



Preferences - Connection Tab

To define the map tile download:

1. In the **Bing Map Access** section, enter the **Application Key** to define the Bing Maps download account.

   All customers need a **Bing Maps** application key. This may have been set up already by your commissioning team. If not, see the document **Using Bing Maps in XPression Maps** in the in **C:\Archives** folder on your desktop for instructions on setting up a Bing Maps account and getting an application key.

   The **Account ID** and **Account Email** fields are optional and are provided for you to keep track of the Bing Maps account and email address under which the application key is running.

2. Select the **Validate Key** button.

3. If the key is valid, the text on the button turns green and says **Key is Valid**.

   - If the key is invalid, the **Bing Map Application Key Validation** dialog opens requesting that a valid key be entered.
   - To remove the key, select and delete it.
   - Editing the field will invalidate the key.

- In the case of an invalid or non-existent key, the integrated **XPression Maps Bing** account will be used. This account is suitable for set up, testing, training, etc. but not for broadcast.

4. In the **Bing Map Logo** section, enter or use the arrows to select a value to determine whether to use the **Bing Logo** or an English or German credit string.

   The options are:

   0 = Bing logo

   1 = Source: Bing™

   2 = Quelle: Bing™

5. In the **Mode** section, select the **Offline** checkbox to use the application without downloading new map tiles from the server.

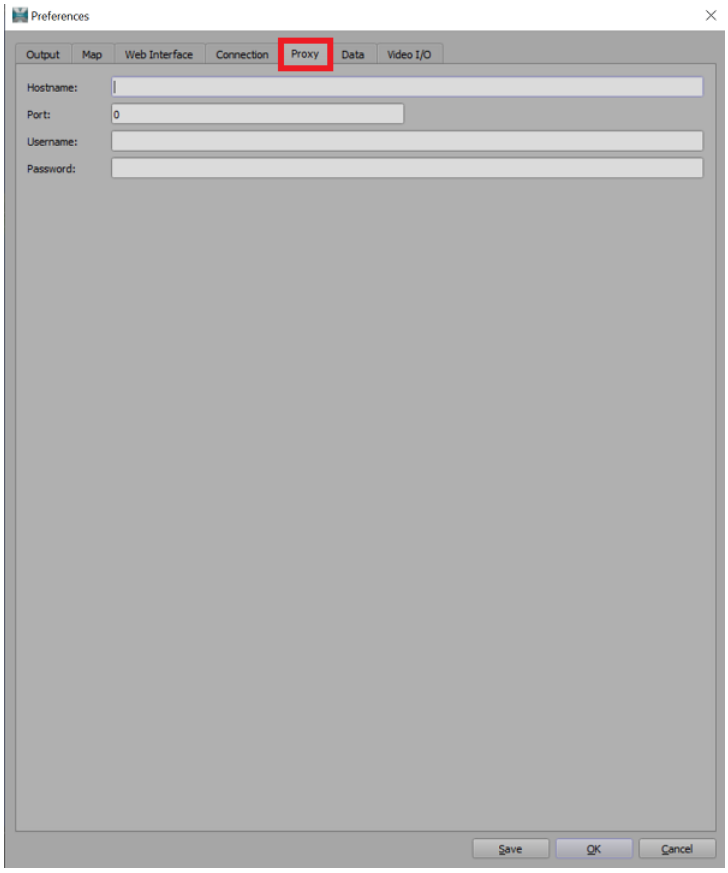
To save your configuration:

- At the bottom of the **Connection** tab, select **Save** and then select **OK**.

Proxy

The **XPression Maps** software requires access to the Internet to function properly. If your organization uses an Internet proxy server, enter information about your organization's proxy server in this tab.

Consult your local IT administrator for the proxy server access information.



Preferences - Proxy Tab

To connect the XPression Maps application to the internet through a proxy server:

1. In the **Hostname** field, enter the IP address of the proxy server.
2. In the **Port** field, enter the port number over which the application and server will communicate.
3. In the **Username** field, enter a user name for the proxy server.
4. In the **Password** field, enter a password for the proxy server.

To save your configuration:

- At the bottom of the **Proxy** tab, select **Save** and then select **OK**.

Data (Optional)

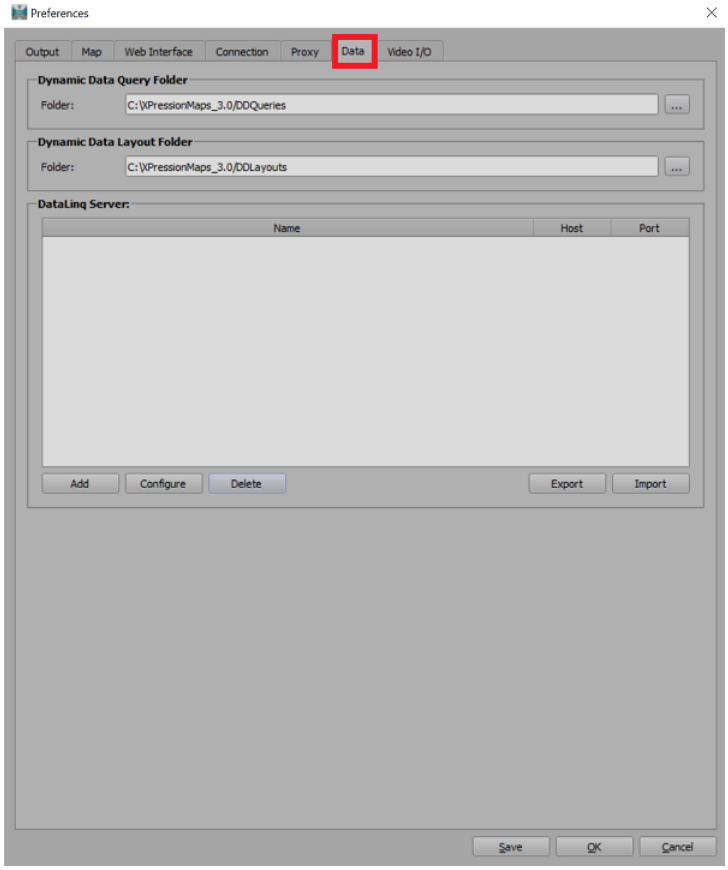
If you purchased the **Data** feature, this tab will appear in **Preferences**.

To properly use the **Data** feature, you must also install the **DataLinq Server Software** from the USB drive found within the purchase package. The **DataLinq Server Software** is what brings in the data to be used in XPression Maps. Without this connection you will not be able to import external data.

Information on installing the **DataLinq Server Software** can be found in the XPression User Guide.

In the **Data** tab you can specify the location of the folder where the the following information is stored:

- **Dynamic Data Query Folder**: contains files with the data that will be generated when you add an external **Data** drawing to your scene.
- **Dynamic Data Layout Folder**: contains files that specify the layout of the data that is generated.



Preferences - Data Tab

To specify which query and layout files to use:

1. In the **Query Folder** section, select the **Browse** button(...) beside the **Folder** field and navigate to the folder from which you want to get the external data information.

   The default location is **C:\XPressionMaps_3.0\DDQueries**.

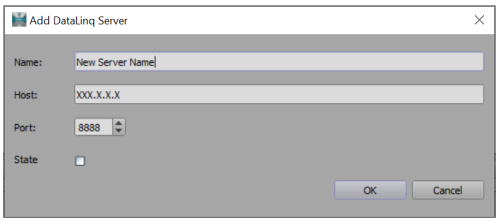
2. In the **Layout Folder** section, select the **Browse** button (...) beside the **Folder** field and navigate to the folder from which you want to get the external data layouts.

   The default location is **C:\XPressionMaps_3.0\DDLayouts**.

To add a DataLinq Server:

1. Select the **Add** button.

   The **Add DataLinq Server** window opens.



Add DataLinq Server Window

2. In the **Name** field, enter a name for the new **DataLinq Server**.
3. In the **Host** field, enter the host IP address.
4. In the **Port** field, enter the port that connects to the **DataLinq Server**.

   The default port number is 8888.

5. Select the **State** checkbox to view the status of the **DataLinq Server Connection**.

   If the connection passes the DataLinq Server will be highlighted in green. If the connection fails the DataLinq Server will be highlighted in red.

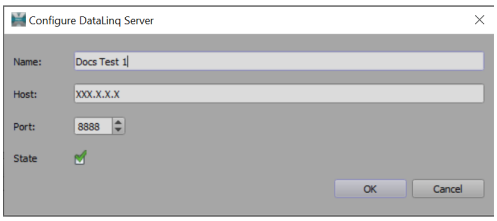
6. Select **OK**.

   The **DataLinq Server** has been added.

To configure a DataLinq Server:

1. Select the **DataLinq Server** you want to edit from the list of servers and select **Configure**.

   The **Configure DataLinq Server** window opens.



Configure DataLinq Server Window

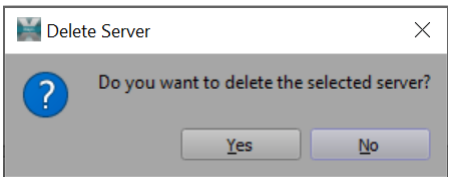
2. Edit the fields that require a change and select **OK**.

   The **DataLinq Server** has been configured.

To delete a DataLinq Server:

1. Select the DataLinq Server you want to delete from the list of servers.
2. Select **Delete**.

   The **Delete Server** confirmation dialog opens.



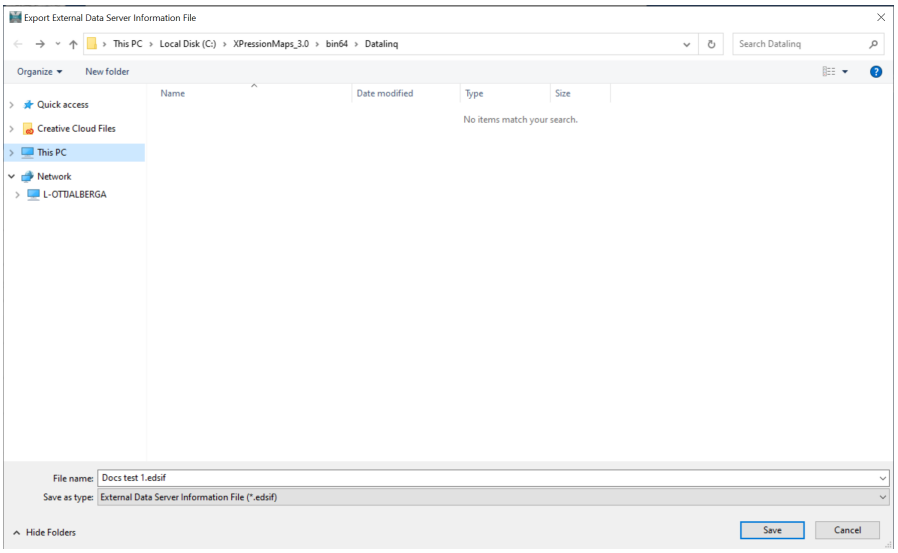
Delete DataLinq Server Window

3. Select **Yes** to delete the server.

To export DataLinq Server Data:

1. Select the DataLinq Server data you want to export and select **Export**.

   The **Export External Data Server Information File** folder opens.



Export External Data Server Data

2. In the **File** name field, enter a name for the exported data file.

   The default location for saving these files is **C:\XPressionMaps_3.0\bin64.**

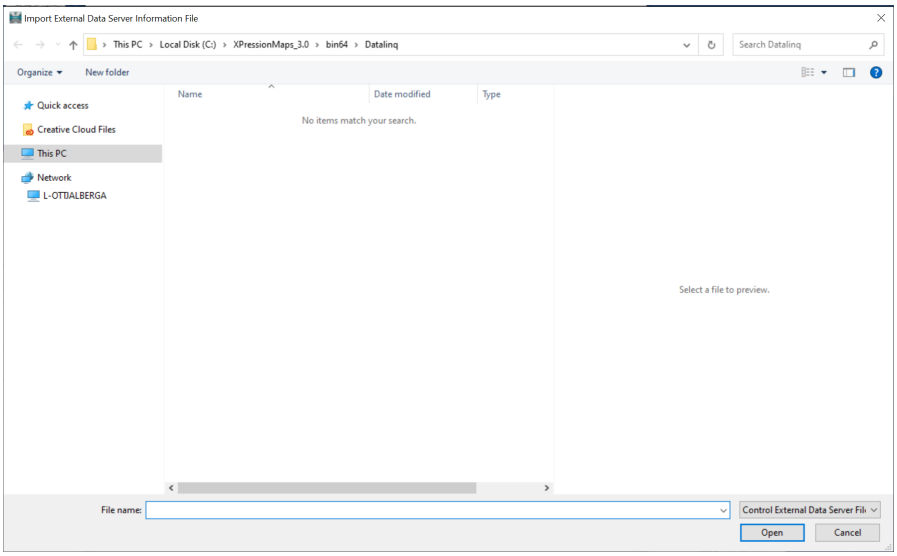
3. Save the file in your local **XPressionMaps_3.0** files or create a **DataLinq** folder and save the **External Data Server Information File (*edsif)**.

   The external data server information file is saved in the selected folder.

To import External Data Server Information Files:

1. Select the **Import** button.

   The **Import External Data Server Information File** window opens.



   Import External Data Server Data

2. Select the **External Data Server Information File (*edsif)** or select the **DataLinq** folder you created and then select the file and select **Open**.

   The **External Data Server Information File** is added to the list.

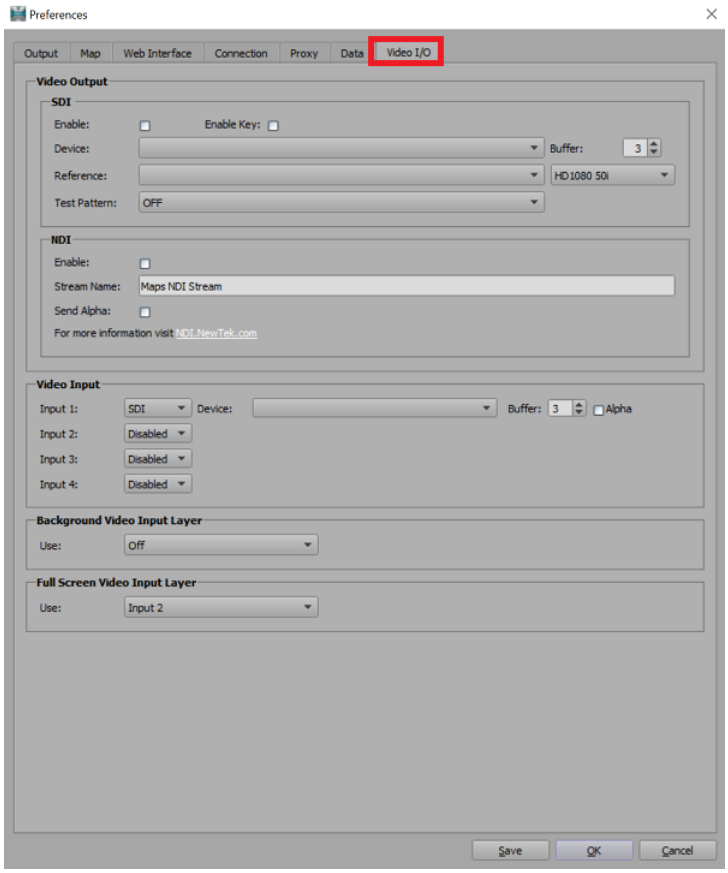
To save your configurations:

- At the bottom of the **Data** tab, select **Save** and then select **OK**.

Video I/O (Optional)

Video Inputs and **Outputs** are functions enabled by a variety of licensing options and may not be present in your configuration.

If you do have this feature, you can configure the video inputs and outputs as either **SDI** or **NDI**. The number of **Inputs** will be limited to a total of four and can be mixed between **HD-SDI** or **NDI™** sources. The number of **Outputs** is limited to two, and can be configured as a **Video** and **Alpha** pair.



Preferences - Video I/O Tab

To configure an SDI Video Output:

1. In the **Video Output - SDI** section, select the **Enable** checkbox, if you are using an **SDI** output.
2. Select the **Enable Key** checkbox if you want to see the **Key** image in the output.

   The **Key** image is automatically put on the next frame buffer above the one used for the output (ie on frame buffer 4 if the output is on frame buffer 3).
3. From the **Device** drop-down, select the video card in your XPression Maps hardware.
4. From the **Reference** drop-down, select one of the following options:
   - The FREERUN reference (used for testing).
   - An external reference (REF).
   - Sync with the corresponding video input.
5. From the **Test Pattern** drop-down, select from a number of different patterns if you want to see a test pattern in the output (for testing purposes) or select **OFF** for on-air viewing.

To configure an NDI Video Uutput:

1. In the **Video Output - NDI** section, select the **Enable** checkbox, if you are using an **NDI** output.
2. In the **Stream Name** field, enter the streaming service being used.

   The default service is **Maps NDI Stream**.
3. Select the **Send Alpha** checkbox, if you want to see the **Alpha** image in the output.

To configure video inputs:

1. In the **Video Input** section, for each input, use the drop-down to select whether that input is **Disabled** or is an **SDI** or **NDI** input.

   If you select either **SDI** or **NDI**, you will see additional parameters for each input.
2. For an **SDI** input:
   - From the **Device** drop-down, select the video source for the input.
   - In the **Buffer** field, enter a value or use the arrows to select which frame buffer to use.
3. For an **NDI** input, use the drop-down to select the **Name** of the input source.

Full Screen Video Input Layer:

- From the **Use** drop-down, select an **Input Layer.**

  The options are:

  - **Off**
  - **Input 1**
  - **Input 2**
  - **Input 3**
  - **Input 4**

  The **Full Screen Video Input Layer** is set to **Off** by default.

To save your configuration:

- At the bottom of the **Video I/O** tab, select **Save** and then select **OK**.

Tools

XPression Maps contains a number of operational and informational tools, as described in the following sections:

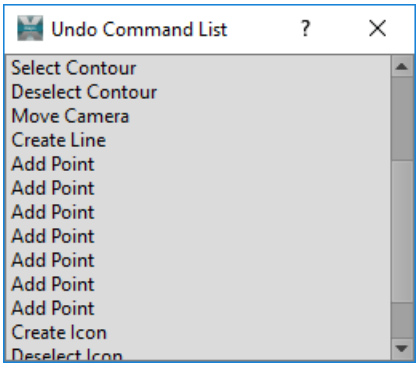
Undoing a Stack

XPression Maps keeps a list of the commands that have been performed in a scene, called a **Stack**. At any point, you can go back to a previous command and effectively undo the commands that followed it. This is useful if you want to undo many moves, as it is faster than using the **Undo** menu command or icon to remove each individual step.

To undo a stack:

1. From the menu bar select **Edit > Undo Stack**.

   The **Undo Command List** dialog opens. The first command is at the top of the list. The most recent command is at the bottom of the list.

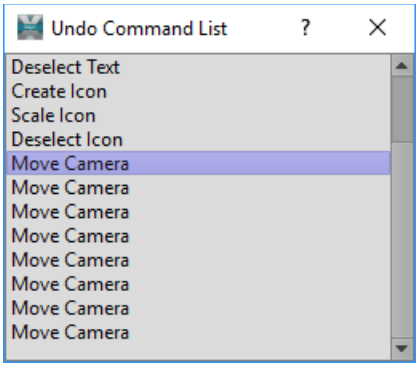


   Undo Stack Command List

2. Select the last command you want to keep to select it.

   You may need to use the scroll bar on the right, to find the command you want, if the stack is long.

   The commands following the selected command will be removed from the scene, but will remain in the stack.



   Undo Stack Command List

3. Select a command further down in the list to restore commands that you have undone, if necessary.
4. Select the **X** in the top-right corner of the dialog to close it.

Measuring Distances

The **Measurement Tool** allows you to calculate the distance between two points on the map and add a text drawing to display the result.

You can also use the tool to display an area of interest of a specific circumference, for example, the extent of shock waves of an earthquake.

The distance can be calculated in either the **Metric** or **Imperial** measurement system

To use the Measurement Tool:

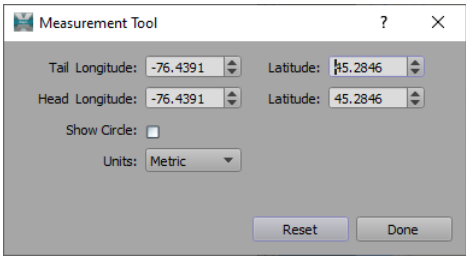
1. From the menu bar select **Edit > Measurement Tool**.

   Alternatively, you can click the **Measurement Tool** button in the toolbar.

   XPression Maps Toolbar - Measurement Tool

   The **Measurement Tool** opens.

   Measurement Tool

2. Select the **Show Circle** checkbox to display a circle whose radius is determined by the distance between two locations or by the size of the area of interest (optional).
3. From the **Units** drop-down, select whether to display the distance using the **Metric** or **Imperial** system.
4. Left-click on the starting location (represented in the **Measurement Tool** by the **Tail** coordinates) and drag the cursor to the destination (represented by the **Head** coordinates).

   A white circle is drawn on the map and the measurement is calculated and indicated along the straight line.

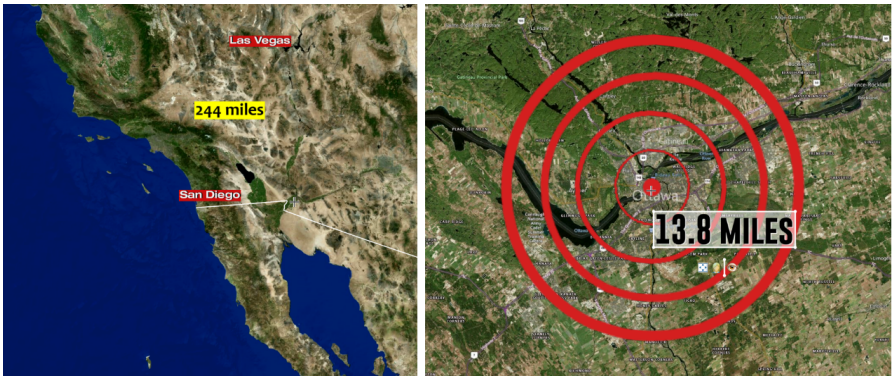
   

   Measurement Tool Illustration - Calculation

To display measurement units:

1. In the **Drawing Toolbox**, in the **Text** group, select a text drawing.
2. Then click on the white measurement text on the map.

   The measurement is automatically displayed in the text drawing, provided the **Zoom Level** of the map is within the drawing **Visibility In** and **Out** parameters.



Measurement Tool Illustrations

3. Adjust the location of the text drawing, if necessary.
4. To finish, select **Done**.

   The white circle, line and original measurement text are removed, leaving just the text drawing with the measurement.

   The **Measurement Tool** closes.

5. Add an area or custom drawing to illustrate an area if desired.
6. To start over, before selecting **Done**, select **Reset**.

Reloading the Active Map

This feature is used to refresh the current map. This is useful if your scene is missing map tiles or displaying map tiles remaining from a previous map.

To reload the active map:

- From the menu bar select **Edit > Reload Active Map**.

Selecting the Edit Mode

The **Edit** option allows you to select one of the following modes:

Standard - default mode for creating scenes

Presentation - mode that allows one-touch zoom in and out, useful in full-screen presentations

The selected mode will be indicated with a checkmark.

To select an Edit Mode:

1. From the menu bar select **Edit > Edit Mode**.
2. From the menu, select **Standard** or **Presentation**.

Selecting Disputed Borders

The **Disputed Border** option allows you to view disputed borders on any map style selected in the output window and add OpenStreetMap data to the scene.

When activated, the disputed border option displays the disputed borders of regions with two colors; green and red.

To activate Disputed Borders:

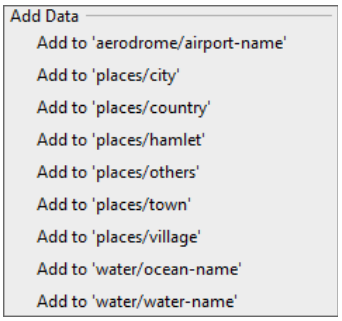
- From the menu bar select **Edit > Select Disputed Borders**.

  The output window will display green and red borders in areas of the map that have disputed border lines.

Disputed Borders

To add data:

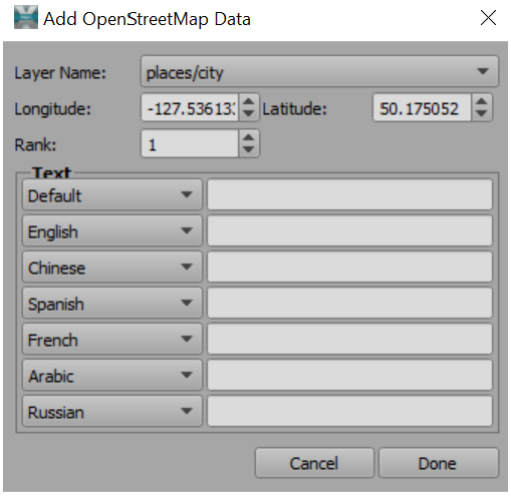
1. Determine the longitude and latitude coordinates of the airport, place or body of water you want to add to the map.
2. In the area of the map to which you want to add data, press **Shift + Right click** to open the **Add Data window**.



Disputed Borders - Add Data Window

3. Select the data label you would like to add to the map

   The **Add OpenStreetMap Data Window** opens.



Disputed Border - Add OpenStreetMap Data Window

4. In the **Layer/Name** drop-down select the layer name you want to add to the map.
5. In the **Longitude** and **Latitude** fields, enter the longitude and latitude of the airport, place or body of water.
6. In the **Rank** field, use the arrows to determine which ranking the new layer name will take.

   The default **Rank** is **1**.
7. In the **Default Text** field, enter the new layer name for the selected region.
8. Use the **Text** drop-downs to select the languages in which to display the text.

   The default languages are: English, Chinese, Spanish, French, Arabic and Russian.
9. Select **Done** to save the new layer name.

   The new layer name of the selected region will be displayed on the map.
10. Select **Edit** and clear the **Select Disputed Borders** checkbox to turn off disputed borders.

Undoing/Redoing Operations

You can undo an operation(s) or redo an operation that was undone, from the **Edit** menu or the toolbar.

To undo the last operation:

- From the menu bar, select **Edit > Undo** or select the **Undo** button in the toolbar or press **Ctrl+Z**.

XPression Maps Toolbar - Undo

To redo the last operation:

- From the menu bar, select **Edit > Redo** or select the **Redo** button in the toolbar or press **Ctrl+Y**.

XPression Maps Toolbar - Redo

Taking Snapshots

The **Snapshot** tool saves the content of the **Output Window** as a still image.

To take a snapshot:

1. From the menu bar select **Output > Snapshot** or select the **Snapshot** button in the toolbar.

   XPression Maps Toolbar - Snapshot
2. In the **Save** dialog, navigate to the folder in which you want to save the image file.
3. In the **File** name field, enter a name for the image file.
4. From the **File Type** drop-down, select the file format for your image.

   The options are **.jpg**, **.png** and **.tga**.
5. Select **Save**.

Exporting Maps

The **Export Map** feature allows you to write an **.hdr** file of a selected portion of the output. An **.hdr** file is a header file that stores the georeferencing information of an associated raster file.

Four files are created:

- a .**png** image containing the RGB information.
- an .**igb** file containing the elevation data.
- an .**hdr** file containing information about the boundaries of the exported map (minimum and maximum longitude and latitude coordinates), as well as information about the **.igb** file.
- an **_N.png** image that shows the normals that are calculated out of the elevation data.

You can export a newly created map or an existing one that has previously been exported.

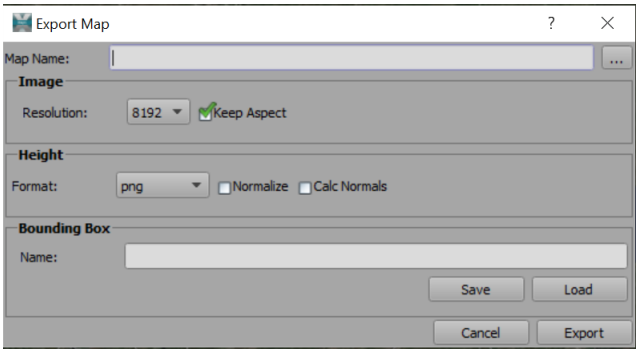
To export a new map:

1. With a map displayed in the output window, from the menu bar select **Output > Export Map**.

   The **Export Map** dialog opens.

   The camera projection type is set to **Linear** (a map with variables that change proportionally), the **Tilt** value of the camera is set to **0** and a bounding box marks the portion of the map that will be exported.

   When the **Export Map** dialog is closed, the camera projection type and tilt are reset and the bounding box is removed.



Export Map

2. Click and drag the corner points of the bounding box to expand or decrease the portion of the map to be exported.

   You can also right-click inside the bounding box and drag it to change the position of the box as a whole.

3. In the **Export Map** dialog, select the **Browse** button (…) beside the **Map Name** field to navigate to the location to which you want to export the map file.

4. In the **Export Map** File file browser, enter a **File** name for the map and select **Save**.

5. In the **Image** section, select the **Resolution** in pixels.

   The options are:

   - 512
   - 1024
   - 2048
   - 3072
   - 4096
   - 8192

   Keep Aspect is selected by default so that the height of the exported image has the selected resolution, and the width is calculated so that the aspect ratio is preserved.

6. In the **Height** section select the **Format** from the drop-down.

   The options are:

   - png
   - raw (igb)

7. Navigate to the folder where you want to save the Bounding Box file (the .xml file), enter a name in the File name field and select Save.

   The path to the **Bounding Box** file is entered into the **Name** field.

8. Select Save to save the scene name, resolution and bounding box to disk.

   The **Save File** dialog opens.

9. Select **Export** to export the files.

   This creates the export files and a bounding box file with the extension **.xml**.

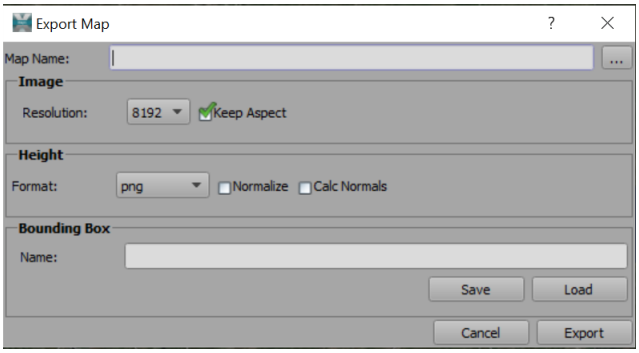
   This might take some time. When the export is finished, the **Export Map** dialog closes.

   Selecting **Cancel** closes the **Export Map** dialog without creating the files.

To export an existing map:

1. From the menu bar select **Output > Export Map** in the menu bar.

   The **Export Map** dialog opens.



Export Map

2. Select **Load** and in the **Bounding File** file explorer, select the file to load and select **Open**.

   The associated **.hdr** file name appears in the **Map Name** field and the **.xml** file appears in the **Name** field of the **Bounding Box** section.

3. Then select **Export**.

View Menu

The **View** menu contains options for changing the **Output Window** to fullscreen mode and for showing or hiding the various editors, controls and toolbars.

You can also reset the XPression Maps User Interface to its default screen.

To change to fullscreen mode:

- From the menu bar select **View > FullScreen**.

To change to windowed mode:

- Press the **Esc** key.

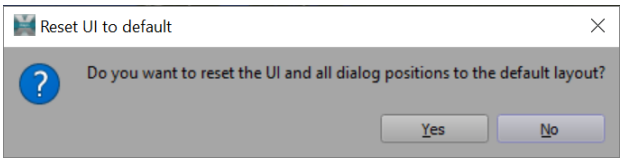
To show or hide an editor, control or toolbar:

1. From the menu bar select **View**.
2. In the menu, check the options you want to show and clear the options you don't require.

To reset the XPression Maps User Interface to the default setting:

1. From the menu bar select **View > UI Setup** and select **Reset UI to Default**.

   The **Reset UI to default window** opens.



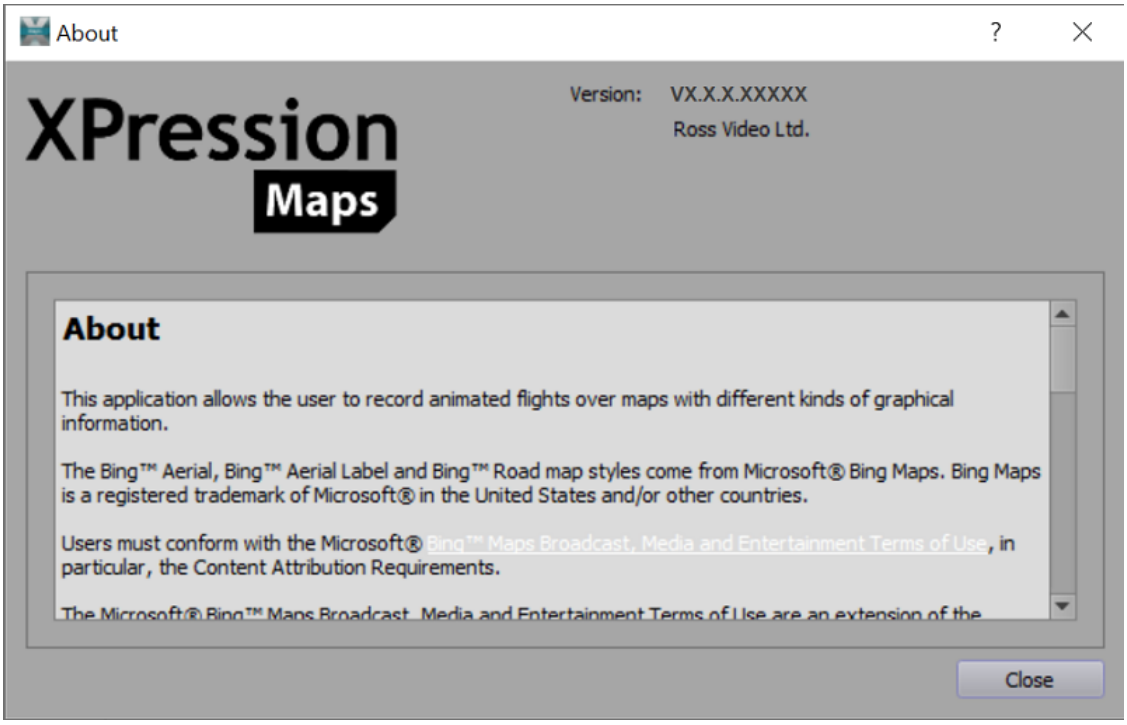
Reset UI to Default Window

2. Select **Yes** to reset the layout.

   The XPression Maps User Interface resets.

Help Menu

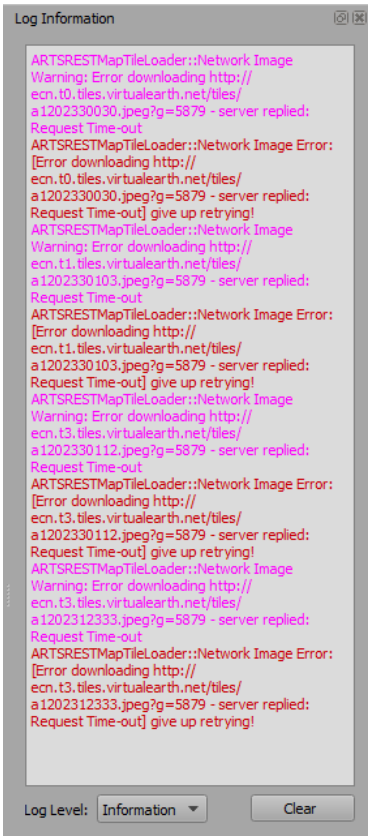
The **Help** menu contains the **About** screen which provides version, copyright and licensing information for the XPression Maps application.



Help Menu About Screen

Log Information

The Log Information window displays information based on the **Log Level** selected in Preferences > Output 9. You can also clear the display when the information is no longer needed.



Log Information Window

To select the level of information you want displayed:

- In the **Log Information** section, from the **Log Level** drop-down, select the level of information you want to see generated.

  The options are:

  Critical - Logs activity that could result in unpredictable behavior.

  Error - Logs errors only.

  Warning - Logs unsuccessful operations.

  Information - For internal use only, for technical support.

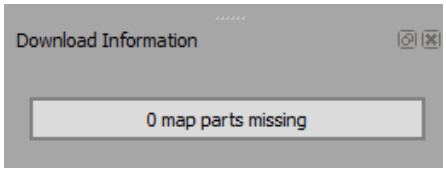
  Debug - For internal use only, for technical support.

To clear the log information:

- Select the **Clear** button.

Download Information

The **Download Information** window displays the map download activity.



Download Information Window

Map requests are scheduled for download and up to 30 map downloads can be active at the same time. The progress bar in the window displays how many map parts remain to be downloaded. The progress bar can display the following colors:

Green — low load

Orange — all download links in use

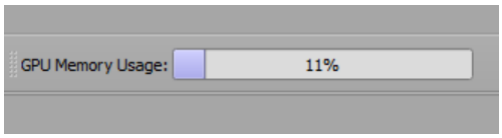
Red — high load

Values higher than 100 on the progress bar can result when you play a camera animation for the first time, when the quality of the map has a value greater than 0, or when the globe is tilted to a small viewing angle.

★ Zooming in from the satellite view to the street level view of a city will go through many map zoom levels and all visible map parts need to be downloaded first.

GPU Memory Usage

Use the **GPU Memory Usage** progress bar to track how much memory your graphics processing unit (GPU) is using at any given moment.



GPU Memory Usage Progress Bar

Map Styles

In XPression Maps, the handling of the maps is based on the structure delivered by Bing maps. Maps in Bing are images with seamless tiles with a size of 256 x 256 pixels each. The tiles are available in 21 quality/zoom levels. The first level shows the full map of the earth on 1 tile. Each next level will divide the content of a tile into four sections of 256 x 256 pixels, so the quality of the content is doubled in the X and Y coordinates for each level. Depending on the map quality in the Bing database, this process stops in higher quality levels and the best possible quality image is used.

XPression Maps uses Bing maps, the Blue Marble map from NASA and OpenStreetMaps. You can select a map style from the default styles provided or create your own.

You can select different map styles in the **Map Styles** tab and edit map styles in the **Map Style Manager**. The properties are described in the **Map Style Properties** section.

The following topics are discussed in this section:

Using Map Styles

A different map style can be selected without changing any of the other elements of a scene. You can select map styles that will change during animation in one of two ways:

Animated 41: Predefined map styles appear as specified by key frames.

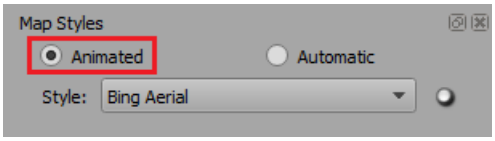
Automatic 43: Specified map styles appear at different zoom levels.

Animated Map Style

Use the **Animated Map** style to create a scene in which the map style changes at set points in the timeline, specified by key frames.

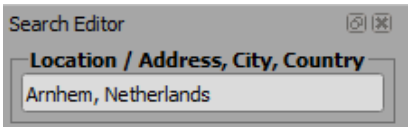
To use an animated map style:

1. In the **Map Styles** section to the right of the output window, select the **Animated Radio** button, if it's not already selected.



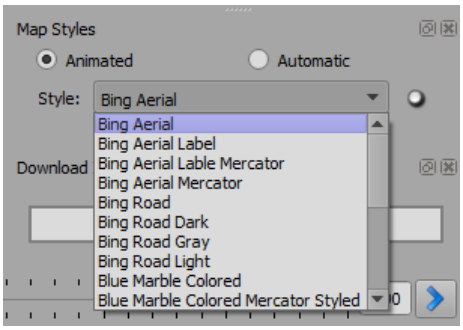
Map Styles - Animated Option

2. In the **Search Editor**, enter the location at which you want to animate the map and select **Search** or press the **Enter** key.



Enter Location

3. In the **Map Styles** section, from the **Style** drop-down, select the map style for the beginning of the animation.

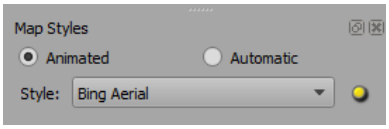


Map Styles - Select Style

4. From the camera parameters below the output window, select a starting **Zoom Level**.

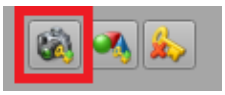
Camera Parameters - Zoom Level

5. With the timeline slider at the beginning of the timeline, select the **Radio** button to the right of the **Style** drop-down to key frame the starting map style.



Map Style Key Frame

6. Then select the **Add Camera Key Frame** button to key frame the starting zoom level.



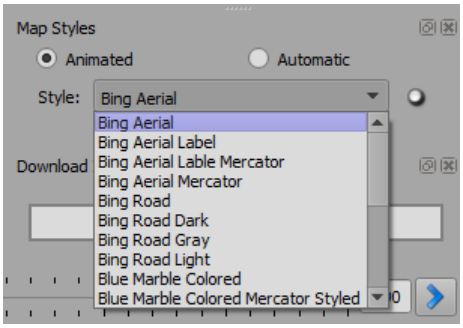
Add Camera Key Frame

To add to an animated map style:

1. Move the timeline slider to the point in the timeline at which you want to change the map style.
2. Alternatively, click on any point in the timeline to move the slider to that point or enter the position in the frame counter to the left of the timeline.

Frame Counter

3. From the **Style** drop-down, select the next map style you want to apply to your scene.

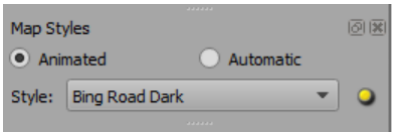


Map Styles - Select Style

4. From the camera parameters below the output window, select a **Zoom Level** for the new map style.

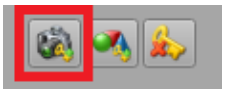
Map Style Key Frame

5. In the **Map Styles** section, select the **Radio** button to the right of the **Style** drop-down to key frame the new map style.



Map Style Key Frame

6. Select the **Add Camera Key Frame** to key frame the new zoom level.



Add Camera Key Frame

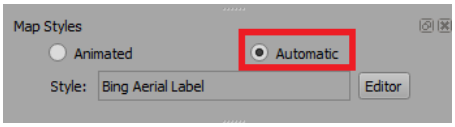
7. Select the green **Play** button in the animation toolbar to play the animation.

Automatic Map Style

Use the **Automatic Map** style to create a scene in which the map style changes at specified zoom levels.

To use an automatic map style:

1. In the **Map Styles** section to the right of the output window, select the **Automatic Radio** button.



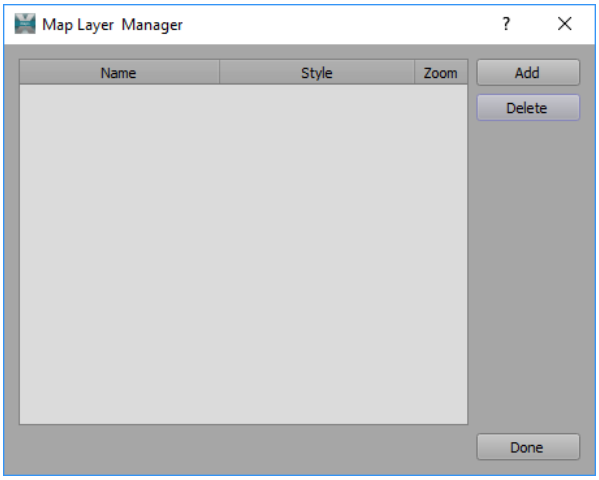
Map Styles Tab - Automatic Option

2. Move the map in the **Output Window** to the location that you want to show.

   Alternatively, in the **Search Editor**, enter a location in the **Location / Address, City, Country** field and select **Search**.

3. Select the **Editor** button that appears beside the **Style** selector.

   The **Map Layer Manager** opens.

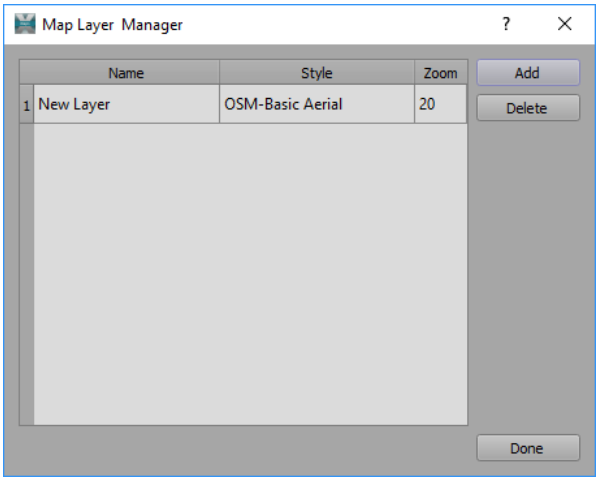


Map Layer Manager

4. Select **Add** to add a new layer.

   Each layer represents a point at which the map style will change.

   By default, the current map style will be entered for the new layer along with a default zoom level of 20.



Map Layer Manager - Add New Layer

5. In the **Name** column, double-click **New Layer** and give the layer a meaningful name.

   This could be the name of the country or the area of the map that you want to display at the selected **Zoom Level**.

6. In the **Style** column, double-click the map style and from the drop-down, select the style of map you want to apply to the layer. See Editing Map Styles for more information.

7. In the **Zoom** column, double-click the default **Zoom Level** and enter a value or click the arrows to select the **Zoom Level** to apply to the layer.

   ★ The table is ordered by ascending **Zoom** levels, so a change in the **Zoom** value can result in a reordering of the layers.

8. Repeat steps 2 to 6 to add additional layers and then select **Done** to close the **Map Layer Manager**.

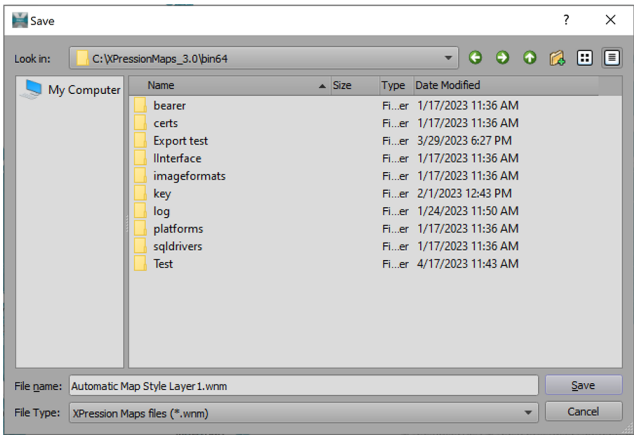
   During animation, as each **Zoom Level** is reached, the map style will change according to the table.

To save an automatic map style layer:

1. In the menu bar select **File > Save** or select the **Save** button in the toolbar.

XPression Maps Toolbar - Save

The file browser opens.



Save File

2. Select a folder or destination where the scene is to be saved.

   The default location is **C:\XPressionMaps_3.0\bin64**.

3. In the file name field, enter a name for the scene.
4. Select **Save**.

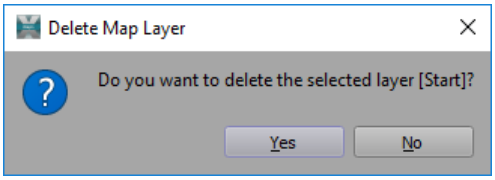
To create an automatic map style animation:

1. Create an animation that uses the zoom levels added to the **Map Layer Manager**.
2. Select the green **Play** button in the animation toolbar to play the animation.

To delete a map layer:

1. Select the **Editor** button that appears beside the **Style** selector to open the **Map Layer Manager**.
2. In the **Map Layer Manager**, select the layer you want to delete and select **Delete**.

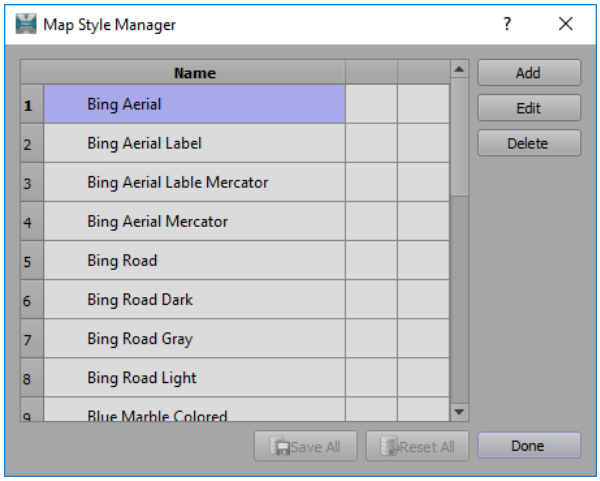
   The **Delete Map Layer** confirmation dialog opens.



3. In the **Delete Map Layer** confirmation dialog, select **Yes**.
4. When you have finished deleting layers, select **Done** to close the **Map Layer Manager**.

Editing Map Styles

In the **Map Style Manager** as shown below**,** you can add, delete and edit existing map styles.



Map Style Manager

There are system map styles available that can be used as they are, or they can be modified to create a new map style.

The system map styles are:

Bing Aerial

Bing Aerial Label

Bing Aerial Label Mercator

Bing Aerial Mercator

Bing Road

Bing Road Dark

Bing Road Gray

Bing Road Light

Blue Marble Colored

Blue Marble Colored Mercator Styled

Blue Marble Satellite

BM Colored Mercator Styled

None

OSM-Basic Aerial

OSM-Basic Shadow

OSM-Custom Example

OSM-Style-A

OSM-Style-A Aerial

OSM-Style-B

OSM-Style-B 3D Building

OSM-Style-B Aerial

OSM-Style-D

★ If **Compact Scene** on **Save** is selected in the **Output** tab **in File > Preferences**, all unused styles in the map style list and in the shape style list are removed.

To add a new map style:

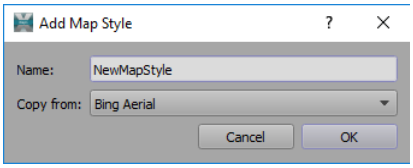
1. From the menu bar select **Style > Map Styles** to open the **Map Style Manager**.

   Alternatively, you can select the **Map Styles** button in the toolbar.

XPression Maps Toolbar - Map Styles

2. Select **Add**.

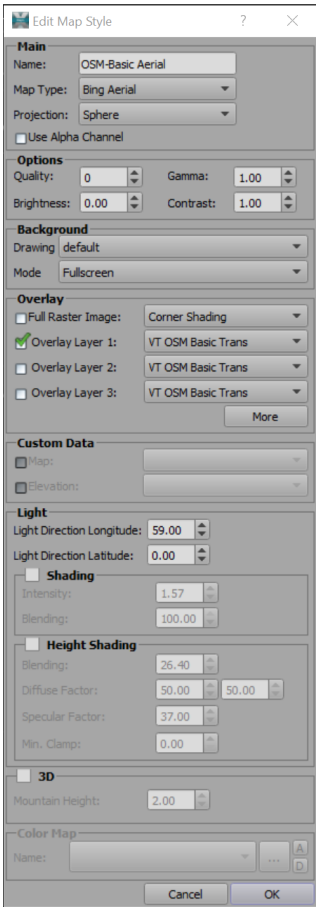
   The **Add Map Style** dialog opens.



Map Style Manager - Add Map Style

3. In the **Name** field, enter a name for the new map style.
4. From the **Copy** from drop-down, select one of the existing map styles to use as a base for the new map style and select **OK**.

   The **Edit Map Style** editor opens.



Edit May Style Editor

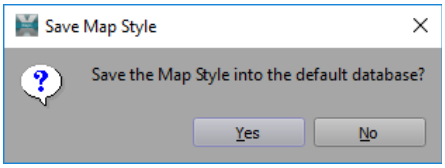
5. Modify the properties of the new map style and select **OK**.

   See Map Style Properties 50 for information about modifying the properties.

   The new map style appears in the **Map Style Manager** with the **Save Style** icon beside it.

6. Select the **Save Style** icon.

   The **Save Map Style** confirmation dialog opens.



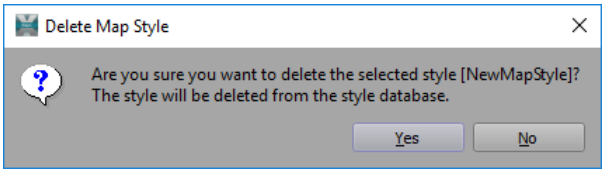
Save Map Style Confirmation Dialog

7. Select **Yes** to save your new map style into the database.

To delete a map style:

1. From the menu bar select **Style > Map Styles** to open the **Map Style Manager**.
2. Select the map style you want to delete and select **Delete**.

   The **Delete Map Style** confirmation dialog opens.



Delete Map Style Confirmation Dialog

3. In the **Delete Map Style** confirmation dialog, select **Yes** to delete the map style.

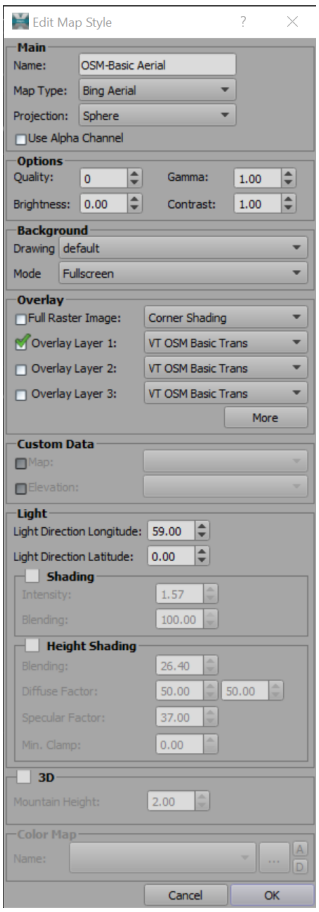
   The map style has been deleted.

   ★ System map styles cannot be deleted. Only custom map styles can be deleted.

To edit an existing map style:

1. From the menu bar select **Style > Map Styles** to open the **Map Style Manager**.
2. Select the map style you want to modify and select **Edit** or double-click the selected map style.

   The **Edit Map Style** editor opens.



Edit Map Style Editor

3. Modify the properties of the map style and select **OK**.

   See Map Style Properties 50 for more information.

   The **Edit Map Style** dialog box closes and the **Map Style Manager** reopens. The edited style is highlighted and the **Save** icon and **Reset** icon are displayed beside it.

4. Select the **Save** icon if you want to save your changes into the default database or select the **Reset** icon to discard your changes and revert to the last saved version of the style. Then select **Done** to close the **Map Style Manager**.

   An exclamation mark at the left of the map style indicates that the style is saved in the scene but not in the database. That style will not be available to be used in other scenes.

   The **Save All** button Save All at the bottom of the dialog box saves all changes made to all styles in the database.

   The **Reset All** button Reset All at the bottom of the dialog box resets all styles in the database to their last saved version.

Map Style Properties

Many of the properties of map styles can be customized for a different look. Properties such as map type, brightness, country borders, light direction and mountain height can be edited in the **Edit Map Style** dialog. These properties and others are described in the sections below:

Main

Use the **Main** section to change the **Map Type** and **Projection**. The **Name** is derived from the style selected in the **Map Styles > Style** drop-down.

Parameter	Description
Name	The name assigned to the map style. System style names cannot be edited. If you've created your own map style, you'll be able to change the name if you want.
Map Type	The style type of the map. System style types cannot be edited. The available map types are as follows: **None** — this style removes the map from the output. It can be used to show free-standing colored country shapes and drawings on a background image. **Bing Aerial** — this style displays satellite maps from **Bing**. You can zoom into street level. The **Bing** logo appears in the output. **Bing Aerial with Label** — this style displays satellite or structural maps from **Bing** with country, city, and road information on top of the maps. You can zoom into street level. The **Bing** logo appears in the output. **Bing Road** — this style displays road maps from **Bing** in color. You can zoom into street level. The **Bing** logo appears in the output. **Blue Marble Satellite** — this style shows the topographic world image from the NASA **Blue Marble** image gallery. The resolution of this map is reduced to 500m/px. No logo will be shown in the output. **Blue Marble Colored** — this style displays a colored map generated from the **Blue Marble** height model and a color table. It displays selected elevations in different colors. See Color Map 57 for more information. **Bing Road Dark** — this style displays road maps from **Bing** on a dark canvas, useful for highlighting data. You can zoom into street level. The **Bing** logo appears in the output. **Bing Road Gray** — this style displays road maps from **Bing** on a grayscale canvas, useful for highlighting data. You can zoom into street level. The **Bing** logo appears in the output. **Bing Road Light** — this style displays road maps from **Bing** on a light canvas, useful for highlighting data. You can zoom into street level. The **Bing** logo appears in the output. **VT (Vector Tiles) OSM Basic** — this style is based on **Open Street Map** data. **VT (Vector Tiles) OSM Style A** — this style is based on **Open Street Map** data. **VT (Vector Tiles) OSM Style B** — this style is based on **Open Street Map** data. **VT (Vector Tiles) OSM Style C** — this style is based on **Open Street Map** data. **VT (Vector Tiles) OSM Style D** — this style is based on **Open Street Map** data.
Projection	Defines the projection type of the map. Select one of the following options: **Sphere** — uses a round shape like a globe **Mercator** — uses a cylindrical map projection **Linear** — uses a map with variables that change proportionally
Alpha Channel	Select the **Alpha Channel** checkbox if you want to use the Alpha Channel in the final output and see a checkerboard pattern in the preview.

★Once the external map tile server is configured (**OpenStreetMap** server), new map types that correspond to the configuration will be displayed.

Options

Use the **Options** section to adjust the general appearance of a map style.

Parameter	Description
Quality	Increases or decreases the amount of image content and **Zoom Level** for a map style. **0:** Normal **1**: Increases the **Zoom Level** by **1** and downloads **3** times more image content than normal. Labels on **Bing Aerial** and **Bing Road** maps will be smaller. The available quality range is -3 to 3. **-1:** Decreases the **Zoom Level** by **1** and downloads **3** times less image content than normal. Labels on **Bing Aerial** and **Bing Road** maps will be larger. The available quality range is -3 to 3.
Brightness	Increases or decreases the brightness level for the map style.
Gamma	Increases or decreases the gamma level for the map style.
Contrast	Increases or decreases the contrast level for the map style.

Background

Use the **Background** section to adjust the parameters of the background elements in a map/scene.

Parameter	Description
Drawing	From the **Drawing** drop-down, select a drawing to be displayed as the map/scene background.
Mode	From the **Mode** drop-down, select the scaling of the drawing. **Fullscreen** — shows the background over the whole output window. This may distort the drawing. **Letterbox** — makes the width fit into the output window, while preserving the aspect ratio. **Pillarbox** — makes the height fit into the output window, while preserving the aspect ratio.

Overlay

These parameters control the appearance of geographical elements such as country borders, country names, state borders, roads, rivers, lakes, and oceans. Also, a full raster image (a fullscreen image that lies on top of the globe and has some transparent part) can be defined. The location and spelling of the country names can be set through the **Shape Database Viewer**.

See the Shape Database Viewer 239 for more information.

To configure the overlay parameters:

1. If you want to use a raster image to create a border around the map, select the checkbox for **Full Raster Image** and then select a background image from the drop-down.

   The background image needs to have a transparent section in the middle for the map to show through.

2. Select the **Overlay Layer(s)** you want to use from the drop-down.

   A preset overlay of the layers (each using different colors, icons, etc.) is superimposed on the selected map style.

   The options are:

   VT OSM Basic Trans

   VT OSM Style A Trans

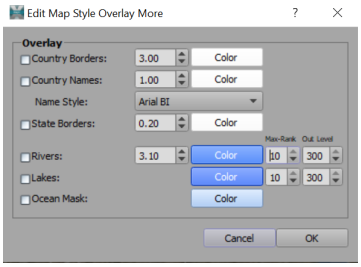
   VT OSM Style B Trans

   VT OSM Style C Trans

   VT OSM Style D Trans

3. Select **More** to open further configurations.

   The **Edit Map Style Overlay More** window opens.



Edit Map Style Overlay More Window

To configure more overlay parameters:

1. Select the checkbox of the geographical element(s) you want to include in the map.
2. For **Country Borders**, **Country Names** and **State Borders** enter or select a value for the line width or font size using the field next to the selected element.

   Valid values are 0.10 to 10.00.

3. Select the **Color** button to select a color for the element.
4. From the **Name Style** drop-down, select the style in which you want the names of countries, states and regions to appear.

5. For **Rivers** enter or select a value for the line width or font size using the field next to **Rivers**.

   Valid values are 0.10 to 10.00.

6. Select the **Color** button to select a color for the element.

7. For **Rivers** and **Lakes** enter or select a **Max-Rank** and **Out Level** to change the density of the waterways.

   Valid values are 10 to 300.

8. For **Ocean Mask**, select the **Color** button to select a color for the element.

   If you want to use the **Apply Ocean Mask** feature to hide the parts of a shape that extend into the ocean, the **Ocean Mask** checkbox needs to be selected.

Custom Data

In the **Custom Data** section, satellite and elevation maps that have been imported in the **Custom > Custom Maps** editor can be selected. If enabled, they are drawn on top of the regular (Bing or Blue Marble) maps, ensuring that there are no missing areas. The parameters in the **Custom Data** section are only available when a custom map has been selected.

To configure the custom data parameters:

1. From the menu bar select **Style > Map Styles**, and in the **Map Style Manager**, select the map style for which you want to add a custom map.

   OR

   Create a new map style with your custom map. See To add a new map style 54 for more information.

2. Select **Edit**.

3. In the **Custom Data** section:

   - To use a custom map, select the **Map** checkbox and from the corresponding drop-down, select the custom satellite map you want to use.
   - To use an elevation map, select the **Elevation** checkbox and from the corresponding drop-down, select the elevation map you want to use.

     Elevation maps provide crisper, better-defined illustrations of height data.

Light

Use this section to edit the parameters for the lighting on the map.

Parameter	Description
Light Direction Longitude	Enter or select the longitudinal direction for the light on the map. This parameter only takes effect if **Shading** or **Height Shading** are selected.
Light Direction Latitude	Enter or select the latitudinal direction for the light on the map. This parameter only takes effect if **Shading** or **Height Shading** are selected.
Shading	Select this checkbox to enable shading on the map. The **Shading** function activates a rendering mode that lights the globe with a spotlight from the light direction to simulate the look of sunlight. The **Intensity** and **Blending** parameters work together to define the spotlight: **Intensity** — increases or decreases the intensity of the spotlight. With **Blending** set to 100, a value of 0.05 will create a small intense spotlight, while a value of 1 or more will create a large, more diffuse spotlight. As you lower the **Blending** value, the spotlight becomes less noticeable. Range is 0 to 10. **Blending** — increases or decreases the amount of shading around the spotlight. A value of 0 displays no shading and the globe looks the same as if **Shading** was disabled. A value of 100 will provide a large amount of shade, making the spotlight more noticeable.
Height Shading	Select this checkbox to enable **Height Shading** on the map. **Height Shading** makes the elevated areas of the map more noticeable. The following parameters adjust the height shading appearance: **Blending** — increases or decreases the amount of relief that is displayed. A value of 0 shows no relief and a value of 100 shows complete relief. **Diffuse Factor** — enter or select an amount to define how the light will affect the parts of the relief away from the sun. A value of 0 will result in a black color for the affected areas of the map and a value of 100 will result in a shiny white color for the affected areas of the map. The second parameter for the **Diffuse Factor** defines an offset to the relief as whole. For a value of 0, some parts of the relief will be totally black. A value of 100 makes the relief totally white. **Specular Factor** — determines how the light will affect the parts of the relief on which the sun shines directly. A value of 0 will result in a black color for the affected areas of the map and a value of 100 will result in a shiny white color for the affected areas of the map. **Min. Clamp** — enter or select an amount of shading relief used at locations where the height is equal to or greater than the value of **Min. Clamp**. The value 0 corresponds to sea level. This parameter only applies to the **Blue Marble Colored** map type.

3D

The **3D** section allows you to create a real three dimensional surface of the world generated from the **Blue Marble** map type height data.

Parameter	Description
Mountain Height	Enter or select a scale factor for the height data to make mountains appear higher or lower than normal. A value of 1 corresponds to the correct height. For street level views, the height is interpolated to 0 because the resolution of **Blue Marble** height data is not sufficient.

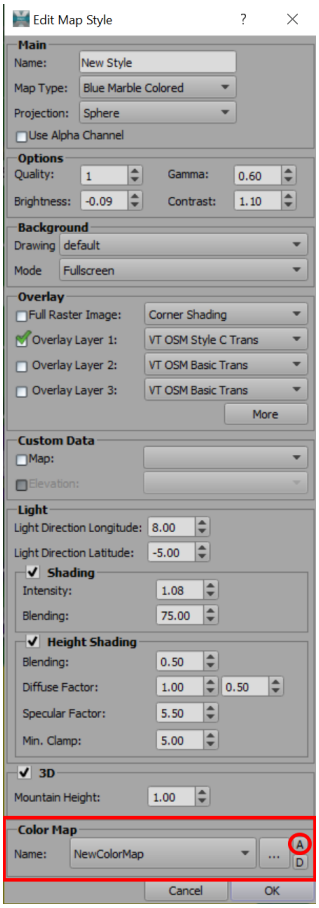
Color Map

This section applies to **Blue Marble Colored** map types only.

Use this section to add, edit, and delete color maps for a style. A color map is a table of height values and colors that will graphically show elevation data in a map.

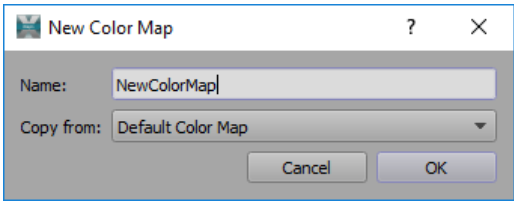
To add a new color map:

1. In the menu bar select **Style > Map Styles** to open the **Map Style Manager**.
2. Select the map style you want to edit (must be a **Blue Marble Colored** map style) and select **Edit**.
3. Then, in the **Edit Map Style** editor, in the **Color Map** section, select the **A** button.



Edit Map Style Editor

The **New Color Map** dialog opens.



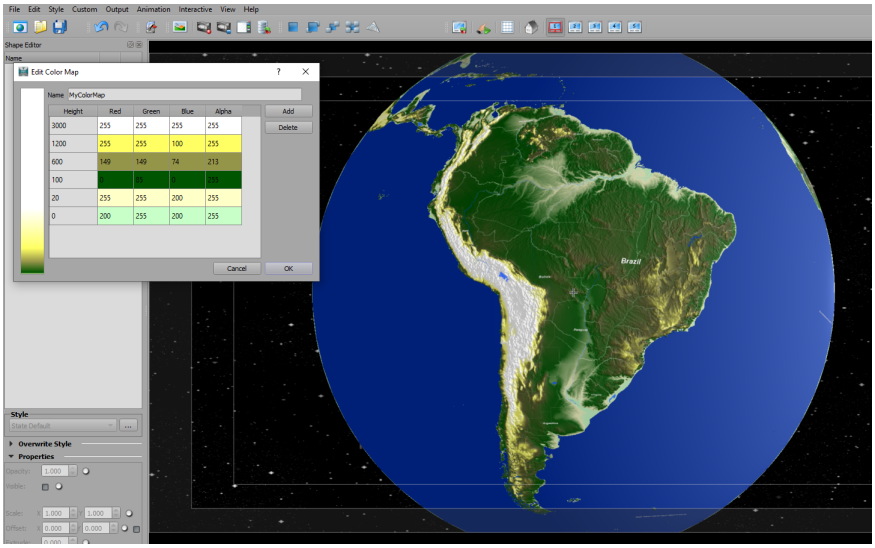
Add Color Map

4. In the **New Color Map** dialog, enter a name for your new color map.

5. If you want to copy an existing color map to use as a template, from the **Copy** from drop-down, select the color map you want to copy.

   There are several default color maps from which to choose from. As you create new color maps, they will appear in the drop-down.

   The **Edit Color Map** dialog box opens.



Edit Color Map

6. In the **Edit Color Map** dialog, select a row and do any of the following:

   - Double-click a value in the **Height** column to change the elevation.
   - Click in any of the color columns to open the **Select Color** window and change the color of that elevation.
   - Select **Add** to duplicate the row and then edit the duplicate row.
   - Select **Delete** to remove the row.

   Any changes will cause a reordering of the table so that the height values are sorted in descending order.

7. When you are satisfied with how your color map looks, select **OK** to close the dialog.

To save a new color map:

1. In the **Edit Map Style** dialog, adjust the properties of the map style as described in Map Style Properties 50.
2. Then select **OK** to close the dialog.
3. In the **Map Style Manager**, select the **Save** button beside the map style you edited to save the new color map to the database.

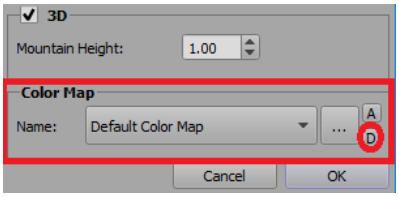
   An exclamation mark indicates a color map that hasn't been saved.
4. In the **Save Map Style** confirmation dialog, select **Yes** and then select **Done** to close the **Map Style Manager**.

To edit the color map parameters:

1. From the menu bar select **Style > Map Styles** to open the **Map Style Manager**.
2. Select the map style you want to edit (must be a **Blue Marble Colored** map style) and select **Edit**.
3. In the **Edit Map Style** dialog, in the **Color Map** section, from the **Name** drop-down, select the color map you want to edit.
4. Select the **Edit** ... button beside the **Name** drop-down to open the **Edit Color Map** editor and edit the selected color map as described in To add a new color map 50.
5. When you have finished editing the color map, select **OK**.
6. In the **Edit Map Style** dialog, select **OK** to close the dialog.
7. In the **Map Style Manager**, select the **Save** button beside the edited map style to save the new color map to the database.
8. In the **Save Style** confirmation dialog, select **Yes** and then select **Done** to close the **Map Style Manager**.

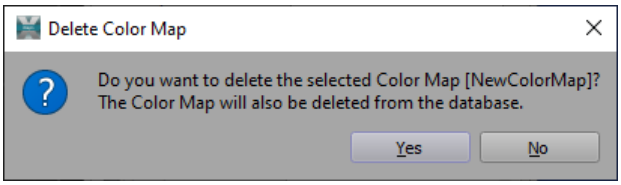
To delete a color map:

1. From the menu bar select **Style > Map Styles** to open the **Map Style Manager**.
2. Select any **Blue Marble Colored** map style and select **Edit**.
3. In the **Edit Map Style** dialog, in the **Color Map** section, from the **Name** drop-down, select the color map you want to delete.
4. Select the **D** button.



Delete Color Map

The **Delete Color Map** confirmation dialog appears.



Delete Color Map

5. Select **Yes** to delete the selected color map.
6. In the **Edit Map Style** dialog, select **OK** to close the dialog.
7. In the **Map Style Manager**, select the **Save All** button to save your change.
8. Then select **Done** to close the **Map Style Manager**.

   The **Color Map** has been deleted.

Managing Templates

You can configure scene templates with location labels, drawings and shape styles to be available for use with the **XPression Maps HTML5 Client**, which is used in **XPression NRCS MOS** workflows and the XPression graphics designer. You can also organize the scene templates into groups to make them easier to find.

The templates are managed in the **Scene Templates** editor.

You must be running in **Server Mode** to use scene templates. See Launching the HTML5 Client 304 for instructions on changing the startup mode.

The following topics are discussed in this section:

Managing Scene Template Groups

In the **Scene Templates** editor, you can add, edit and delete groups.

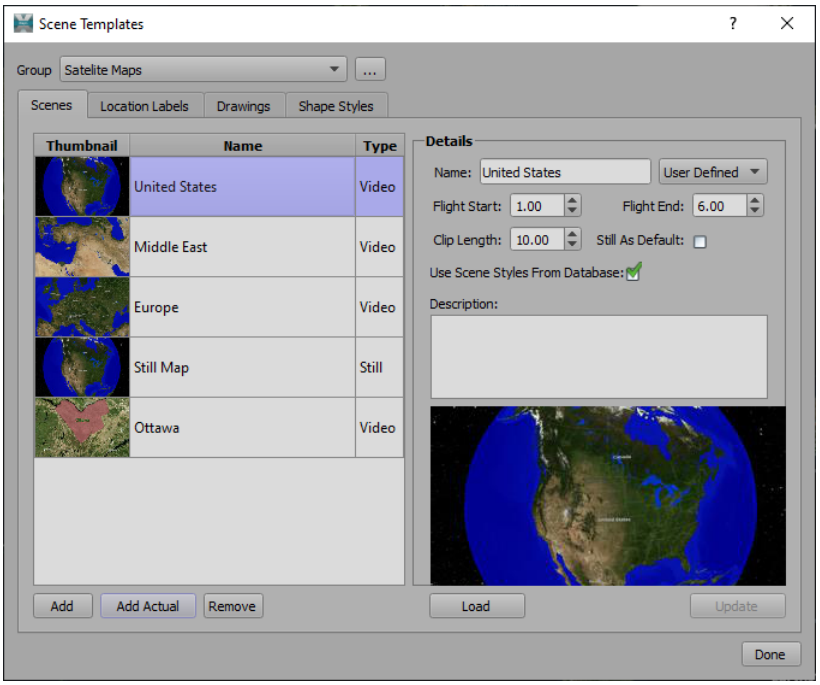
For information about adding, editing and deleting scene templates, see Managing Scene Templates 64.

To add a scene template group:

1. From the menu bar select **Output > Manage Templates** or select the **Manage Templates** button in the toolbar.

XPression Maps Toolbar - Manage Templates

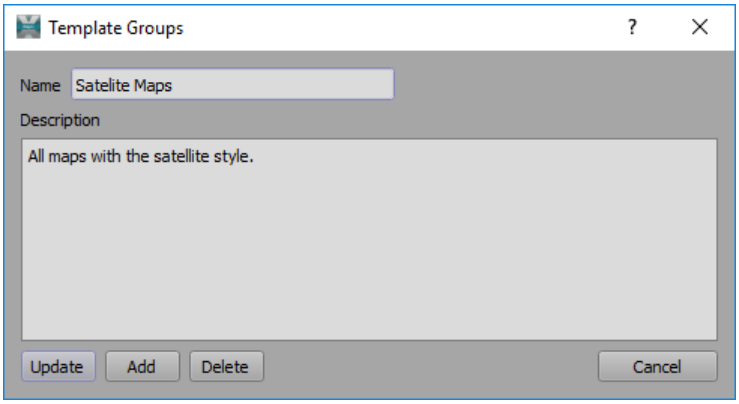
The **Scene Templates** editor opens.



Scene Templates Editor

2. In the **Scene Templates** editor, select the **Browse** button (...) beside the **Group** drop-down.

The **Template Groups** dialog opens.



Template Groups Dialog

3. In the **Template Groups** dialog, in the **Name** field, enter a name for the new template group.
4. In the **Description** field, enter a description of the type of maps that will be saved in this group.

   Then select **Add**.
5. Add scenes, location labels, drawings and shape styles to the new group.
6. Select **Done** to close the dialog.

To edit a scene template group:

1. From the menu bar select **Output > Manage Templates** or select the **Manage Templates** button in the toolbar.

   XPression Maps Toolbar - Manage Templates

   The **Scene Templates** editor opens.
2. In the **Scene Templates** editor, from the **Group** drop-down, select the scene template group you want to edit.
3. Select the **Browse** button (…) beside the **Group** drop-down to open the **Template Groups** dialog.
4. In the **Template Groups** dialog, enter a new name for the group or edit the description.
5. Select **Update**.
6. Select **Done** to close the **Scene Templates** editor.

To delete a scene template group:

1. From the menu bar select **Output > Manage Templates** or select the **Manage Templates** button in the toolbar.

   XPression Maps Toolbar - Manage Templates

   The **Scene Templates** editor opens.
2. In the **Scene Templates** editor, from the **Group** drop-down, select the scene template group you want to delete.
3. Select the **Browse** button (…) beside the **Group** drop-down to open the **Template Groups** dialog.
4. In the **Template Groups** dialog, select **Delete**.
5. In the **Delete Group** confirmation dialog, select **Yes** to delete the group and all templates in it.
6. Select **Done** to close the **Scene Templates** editor.

   The **Scene Template** has been deleted.

Managing Scene Templates

The **Scene Templates** editor lists the elements that are associated with each group and that will be available in the **HTML5 Client** editor. In the editor, you can add and delete scene templates or their associated elements and edit their details. You can also load templates, preparing them for use in **HTML5 Client** editor.

The associated scene elements are described in the sections below:

Scenes 64

Adding Location Labels 68

Adding Drawings 71

Adding Shape Styles 73

For information about loading templates, see Loading Scene Templates 78.

For information about adding, editing and deleting groups, see Managing Scene Template Groups 62.

Scenes

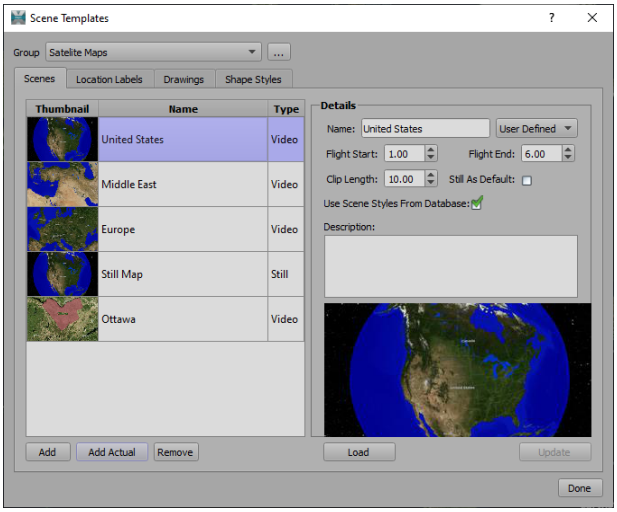
In the **Scenes** tab, the available scene templates are listed by thumbnail, name and type. The **Name** and **Description** and a few other parameters can be edited in the **Details** side of the editor.

To add a new scene template:

1. From the menu bar select **Output > Manage Templates** or select the **Manage Templates** button in the toolbar.

XPression Maps Toolbar - Manage Templates

The **Scene Templates** editor opens.



Scene Templates Editor

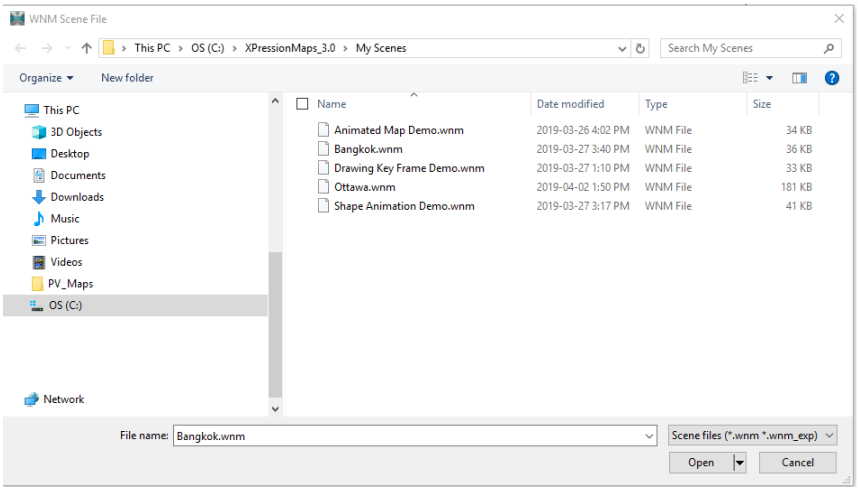
2. In the **Scene Templates** editor, from the **Group** drop-down, select the group to which you want to add a new scene template.

3. Select the **Add Actual** button to add the currently displayed scene.

   OR

   Select the **Add** button to navigate to a saved scene.

   The **WNM Scene File** browser opens.



Scene File Selection

4. In the **WNM Scene File** browser, navigate to the folder where you have saved your scenes.

   By default, the **WNM Scene File** window opens to the **C:\XPression Maps\Scene** folder, where scenes are saved. If you are saving your scenes to a different folder, navigate to that location.

5. Select the scene from which you want to create a template and select **Open**.

   The scene is added to the top of the list in the **Scenes** tab and a thumbnail is displayed, along with the name and the **Type**.

   By default, the scene is added as a **Video** type. To switch to a **Still** type, in the **Details** section to the right of the **Scenes** list, select the **Still As Default** checkbox and select **Update**.

   You can reorder the list by clicking and dragging an item to another spot in the list.

6. Now you can edit the scene template details, add location labels, drawings or shapes styles to the template or select **Done** to close the **Scene Templates** editor.

To edit the scene template details:

1. From the menu bar, select **Output > Manage Templates** in the menu bar or select the **Manage Templates** button in the toolbar.

XPression Maps Toolbar - Manage Templates

The **Scene Templates** editor opens.

2. In the **Scene Templates** editor, in the **Scenes** tab, select the scene template you want to edit.
3. In the **Details** section, edit the information as necessary:
   - Enter a new name for the scene in the **Name** field.
   - From the drop-down beside the **Name** field, select one of the following flight types:
     - **User Defined** - The template is animated. It must have a starting flight point. A flight point is automatically created if one does not exist. The duration of the flight is determined by the **Flight End** parameter and played out accordingly in the **HTML5 Client** application, when this template is used.
     - **Automatic** - The template is animated. It must have a starting flight point. A flight point is automatically created if one does not exist. The duration of the flight is the shortest possible time that the application can reasonably complete the flight during playout. The **Flight Start** and **Clip Length** parameters are respected, allowing for a set time for a static image to be displayed before and after the flight.
   - In the **Flight Start** field, enter a value or use the arrows to select a time, in seconds that the clip will wait before the flight starts. By default this value is set to 1.00.
   - In the **Max Flight End** field, enter a value or use the arrows to select the point in the clip by which the flight needs to end.
   - In the **Clip Length** field, enter a value or use the arrows to select the length of the clip, in seconds.

     The Clip Length value needs to be the same as or greater than the Flight End value.
   - Select the **Still As Default** checkbox to create a still image in the **XPression Maps Client** application.

     OR

     Deselect the **Still As Default** checkbox, to create a video (clip) In the XPression Maps Client application.

     In **Automatic** videos, the animation will have the duration set in the **Clip Length** parameter. The flight to the location defined in the **Client** app will start after the number of seconds set in the **Flight Start** parameter and will end at latest after the number of seconds set in the **Max. Flight End** parameter. If the distance between the start and end flight points is short, the flight may finish earlier. The flight end location will be displayed for the duration set in the **Clip Length** parameter.

     In **User Defined** videos, the animation will have the duration set in the **Clip Length** parameter. The flight to the location defined in the **Client** app will start after the number of seconds set in the **Flight Start** parameter and will end after the number of seconds set in the **Flight End** parameter. The flight end location will be displayed for the duration set in the **Clip Length** parameter.

4. Select the **Use Scene Styles from Database** checkbox, if you want the map style that's currently saved in the database to be used, instead of the map style in the selected scene.

   This parameter is only available if you have selected the **Load Scene** using map style from **Map Style Database** checkbox in **File > Preferences > Output**.

5. In the **Description** field, enter a description of the template.
6. Select **Update** to save the changes.
7. Select **Done** to close the **Scene Templates** editor.

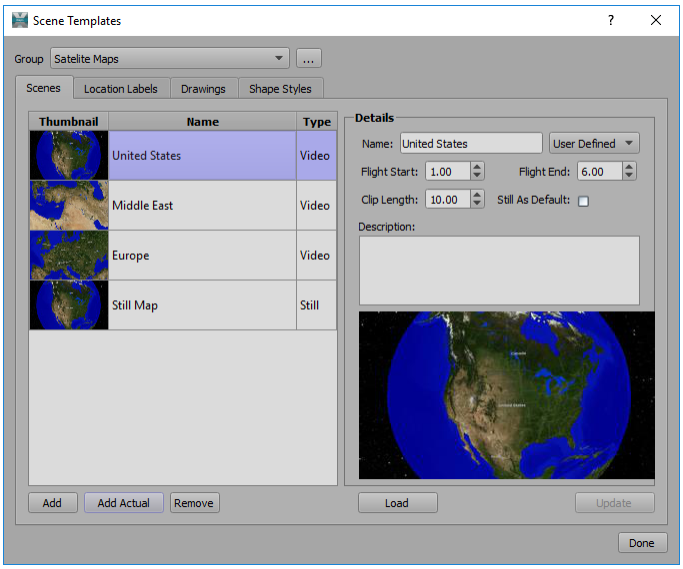
To delete a scene:

1. From the menu bar select **Output > Manage Templates** or select the **Manage Templates** button in the toolbar.

XPression Maps Toolbar - Manage Templates

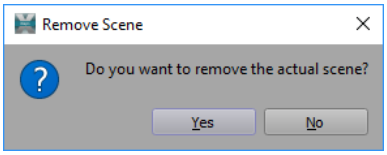
   The **Scene Templates** editor opens.

2. In the **Scene Templates** editor, from the **Group** drop-down, select the group that contains the scene template you want to delete.
3. In the **Scenes** tab of the selected group, select the scene template you want to delete.



Scene Templates - Scenes Tab

4. Select **Remove** and in the **Remove Scene** confirmation dialog, select **Yes**.



Remove Scene Confirmation Dialog

5. Select **Done** to close the **Scene Templates** editor.

   The **Scene** has been deleted.

Adding Location Labels

In the **Location Labels** tab, the available location labels for the selected group are listed by thumbnail, name, and type. A **Location Label** is a text drawing with or without a defined marker image. This drawing will be used after a location search is made in the client and the text of the drawing will be populated with the location text.

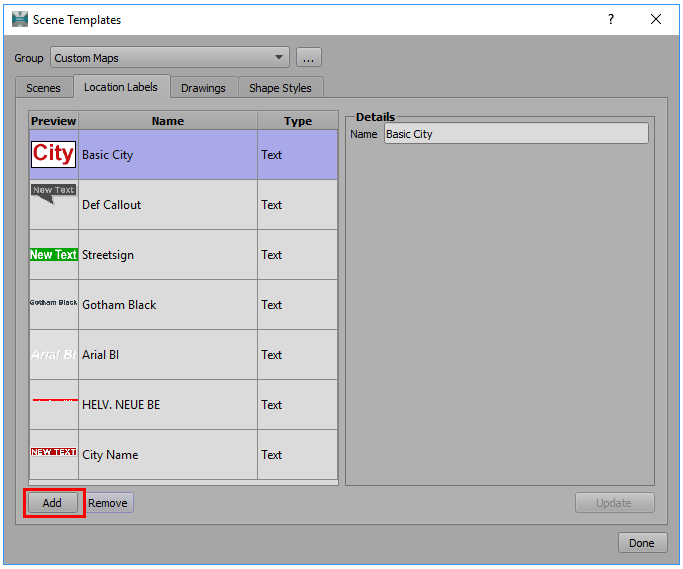
To add a new location label:

1. From the menu bar select **Output > Manage Templates** or select the **Manage Templates** button in the toolbar.

XPression Maps Toolbar - Manage Templates

The **Scene Templates** editor opens.

2. In the **Scene Templates** editor, from the **Group** drop-down, select the group to which you want to add a location label.
3. In the **Location Labels** tab, select the **Add** button.



Scene Templates - Location Labels Tab

The **Add Location Label** editor opens.

Add Location Label Editor

4. In the **Add Location Label** editor, click the **Toolbox** drop-down and select the group that contains the drawing you want to use as a location label.

   Typically, text, icon and dynamic data drawings are used for location labels.

5. From the **Location Label** list, select the drawing that you want to add to the group and select **Add**.

   The new location label drawing is added to the list in the **Location Labels** tab and a thumbnail is displayed, along with the name and **Type**. This label will now be available for all scene templates in the current group.

   You can reorder the list by clicking and dragging an item to another spot in the list.

To edit the location label details:

1. From the menu bar select **Output > Manage Templates** or select the **Manage Templates** button in the toolbar.

XPression Maps Toolbar - Manage Templates

   The **Scene Templates** editor opens.

2. In the **Scene Templates** editor, from the **Group** drop-down, select the group that contains the location label you want to edit.
3. In the **Location Labels** tab, select the location label you want to edit.
4. In the **Details** section, edit the name or enter a new name for the location label.
5. Select **Update** to save the changes.
6. Select **Done** to close the **Scene Templates** editor.

To delete a location label:

1. From the menu bar select **Output > Manage Templates** or select the **Manage Templates** button in the toolbar.

XPression Maps Toolbar - Manage Templates

The **Scene Templates** editor opens.

2. In the **Scene Templates** editor, from the **Group** drop-down, select the group that contains the location label you want to delete.
3. In the **Location Labels** tab, select the location label you want to delete.
4. Select **Remove** and in the **Remove Location Label** confirmation dialog, select **Yes**.
5. Select **Done** to close the **Scene Templates** editor.

The location label has been deleted.

Adding Drawings

In the **Drawings** tab, the available drawings for the selected group are listed.

To add a new drawing:

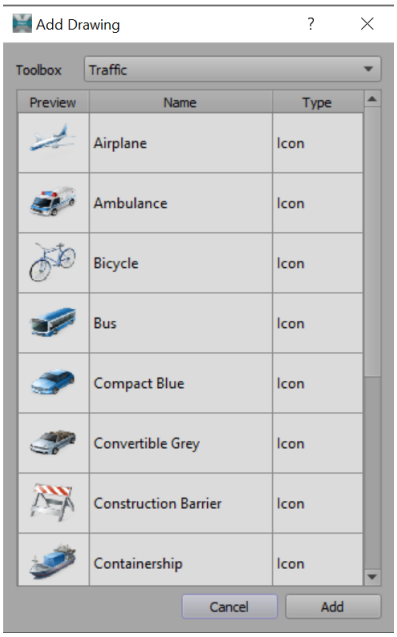
1. From the menu bar select **Output > Manage Templates** or select the **Manage Templates** button in the toolbar.

XPression Maps Toolbar - Manage Templates

The **Scene Templates** editor opens.

2. In the **Scene Templates** editor, from the **Group** drop-down, select the group to which you want to add a drawing.
3. Select the **Add** button.

The **Add Drawing** editor opens.



Add Drawing Editor

4. In the **Add Drawing** editor, select the **Toolbox** drop-down and select a drawing group.
5. From the **Drawing** list, select the drawing that you want to add to the group and select **Add**.

The new drawing is added to the list in the **Drawings** tab and a thumbnail is displayed, along with the name and **Type**. This drawing will now be available for all scene templates in the current group.

You can reorder the list by clicking and dragging an item to another spot in the list.

To edit the drawing details:

1. From the menu bar select **Output > Manage Templates** or select the **Manage Templates** button in the toolbar.

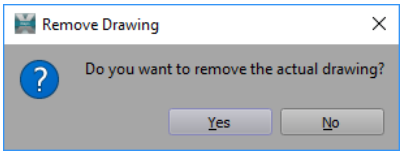
XPression Maps Toolbar - Manage Templates

The **Scene Templates** editor opens.

2. In the **Scene Templates** editor, from the **Group** drop-down, select the group that contains the drawing you want to edit.
3. In the **Drawings** tab, select the drawing you want to edit.
4. In the **Details** section, in the **Name** field, edit the name or enter a new name for the drawing.
5. Select **Update** to save the changes.
6. Select **Done** to close the **Scene Templates** editor.

To delete a drawing:

1. From the menu bar select **Output > Manage Templates** to open the **Scene Templates** editor.
2. In the **Scene Templates** editor, from the **Group** drop-down, select the group that contains the drawing you want to delete.
3. In the **Drawings** tab, select the drawing you want to delete.
4. Select **Remove** and in the **Remove Drawing** confirmation dialog, select **Yes**.



Remove Drawing Confirmation Dialog

5. Select **Done** to close the **Scene Templates** editor.

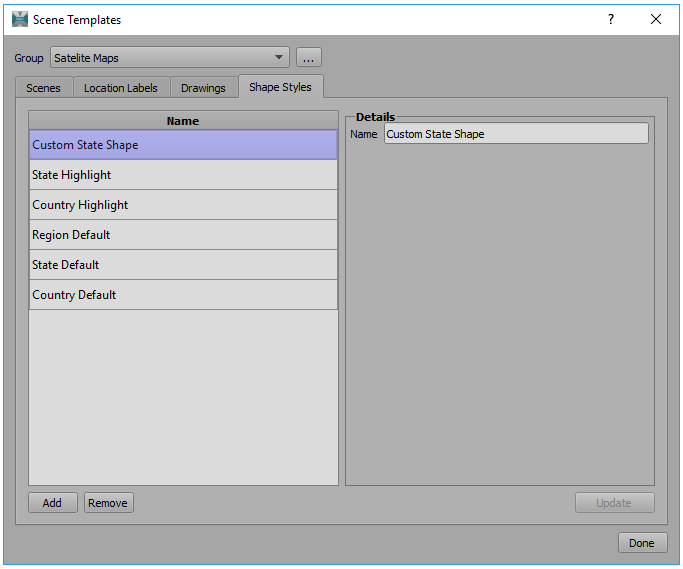
The **Drawing** has been deleted.

Adding Shape Styles

In the **Shape Styles** tab, the available shape styles for the selected group can be associated with the scene template group.

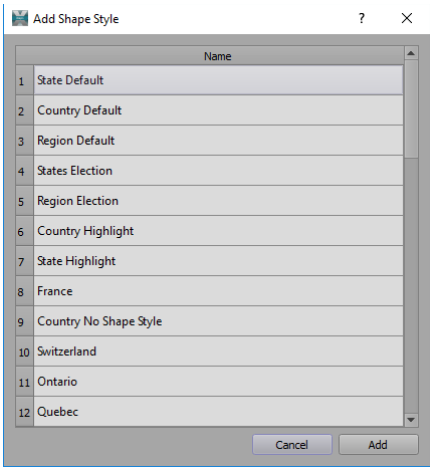
To add a new shape style:

1. From the menu bar select **Output > Manage Templates** to open the **Scene Templates** editor.
2. In the **Scene Templates** editor, from the **Group** drop-down, select the group to which you want to add a shape style.
3. In the **Shape Styles** tab, select the **Add** button.



Scene Templates - Shape Styles Tab

The **Add Shape Style** editor opens.



Add Shape Style Editor

4. In the **Add Shape Style** editor, select the shape style you want to add and select **Add**.

   The new shape style is added to the list in the **Shape Styles** tab. This shape will now be available for all scene templates in the current group.

   You can reorder the list by clicking and dragging an item to another spot in the list.

5. Select **Update** to save the changes.
6. Select **Done** to close the **Scene Templates** editor.

To edit the shape style details:

1. From the menu bar select **Output > Manage Templates** or select the **Manage Templates** button in the toolbar.

XPression Maps Toolbar - Manage Templates

The **Scene Templates** editor opens.

2. In the **Scene Templates** editor, from the **Group** drop-down, select the group that contains the shape style you want to edit.
3. In the **Shape Styles** tab, select the shape style you want to edit.
4. In the **Details** section, in the **Name** field, edit the name or enter a new name for the shape style.
5. Select **Update** to save the changes.
6. Select **Done** to close the **Scene Templates** editor.

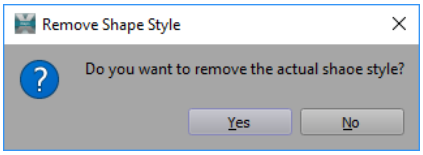
To delete a shape style:

1. From the menu bar select **Output > Manage Templates** or select the **Manage Templates** button in the toolbar.

XPression Maps Toolbar - Manage Templates

The **Scene Templates** editor opens.

2. In the **Scene Templates** editor, from the **Group** drop-down, select the group that contains the shape style you want to delete.
3. In the **Scene Templates** editor, in the **Shape Styles** tab, select the shape style you want to delete.
4. Select **Remove** and in the **Remove Shape Style** confirmation dialog, select **Yes**.



Remove Shape Style Confirmation Dialog

5. Select **Done** to close the **Scene Templates** editor.

The **Shape Style** has been deleted.

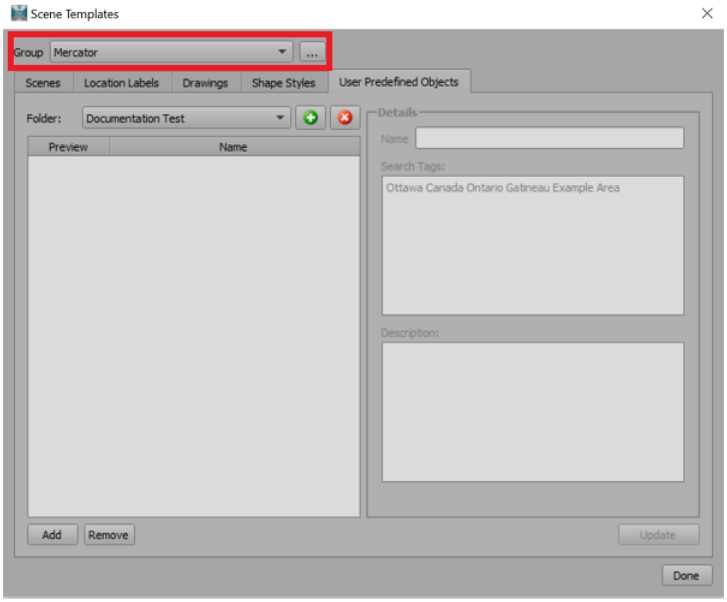
Adding User Predefined Objects

Add existing User Predefined Objects with containing folders to scene templates in the **User Predefined Objects** tab.

For information on creating **User Predefined Object Groups** and **Folders** see User Predefined Objects 131.

To add folders to Scene Templates:

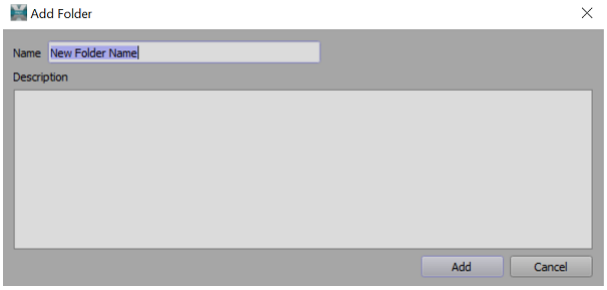
1. From the **Group** drop-down, select the **Template Group** that you want to add the **User Predefined Objects** to.



Scene Templates - User Predefined Objects Tab

2. Select the **Browse** button (...) to open the **Template Groups** window where you can update or delete **Template Group** information.
3. Select the **Green (+)** button to add a folder to the selected Scene Template.

   The **Add Folder** window opens.



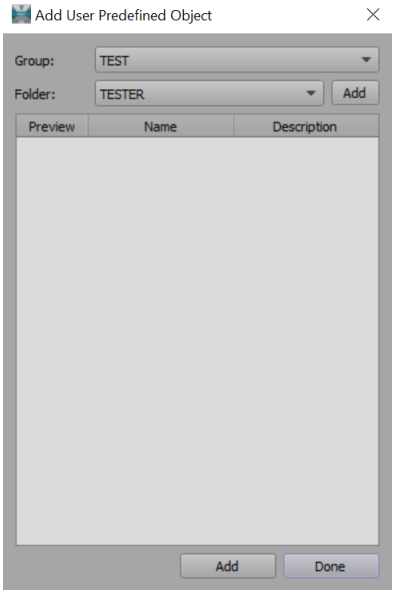
Scene Templates - User Predefined Objects - Add Folder

4. In the **Name** field, enter a name for the **User Predefined Object** folder.
5. In the **Description** field, enter a description for the **User Predefined Object** folder.
6. Select **Add** to add the folder to the Scene Template.

   The folder has been added to the Scene Template.

Adding User Predefined Objects to Scene Template folders:

1. Select the **Add** button to open the **Add User Predefined Object** window.



Scene Templates - User Predefined Objects - Add Window

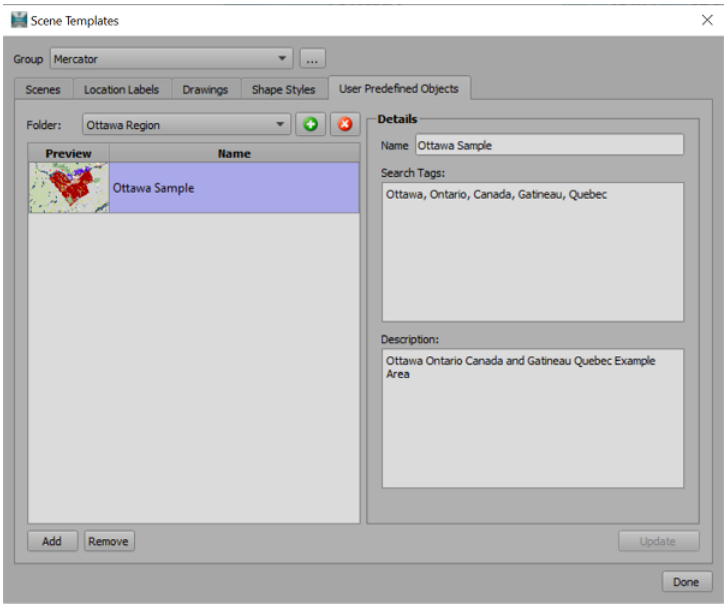
2. From the **Group** drop-down select the **User Predefined Objects** group you want to add.

   For information on creating **User Predefined Object** groups see User Predefined Objects 131.

3. If the group has multiple folders with containing elements, select the folder you want to add and select the **Add** button to the right of the **Folder** drop-down.

   ★ Multiple selections can be made and duplicates of folders can get added at once. Continue adding as many folders as necessary.

   The folders have been added.



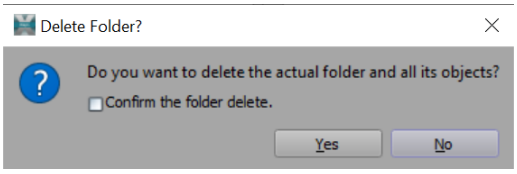
Scene Templates - User Predefined Objects - Folder Added

4. Use the **Details** section to view, edit or update the **Name**, **Search Tags** and **Description** for each folder.
5. When finished, select **Done** to close the **Scene Templates** window.

To delete folders from the Scene Templates:

1. From the **Group** drop-down, select the Template Group with the containing folder you want to delete.
2. From the **Folder** drop-down select the folder you want to remove and select the **Red (X)** button.

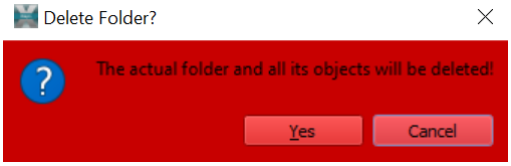
   The **Delete Folder** window dialog opens.



Scene Templates - User Predefined Objects - Delete Folder Dialog

3. Check the **Confirm the folder delete** checkbox and select **Yes** to delete the folder and its objects.

   The final red **Delete Folder** dialog opens.



Scene Templates - User Predefined Objects - Final Delete Folder Dialog

4. Select **Yes** to delete the folder and its objects.

   The folder and its objects has been deleted from the Scene Template.
5. Select **Done** to close the Scene Templates window.

Loading Scene Templates

When a scene is loaded to the database, it is prepared for use in the **HTML5 Client**. All camera key frames are deleted and if there are no flight points in the scene, **Start** and **Stop** flight points are added.

To load a template:

1. From the menu bar select **Output > Manage Templates** or select the **Manage Templates** button in the toolbar.

XPression Maps Toolbar - Manage Templates

   The **Scene Templates** editor opens.

2. In the **Scene Templates** editor, from the **Group** drop-down, select the group that contains the scene template you want to load.
3. In the **Scenes** tab of the selected group, select the scene template you want to load.
4. Select **Load**.

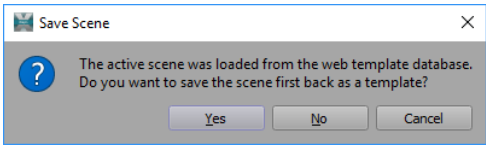
   The template is loaded into the database, the editor closes and the scene is visible in the output window. The icon in the menu bar is highlighted, indicating that the template can be edited.

Manage Templates Icon Highlighted

To save a loaded template after editing (Method 1):

1. In the menu bar, select the **Save** icon.

   A confirmation dialog opens asking if you want to save the edited scene back into the database as a template.



Save Scene Back as Template Confirmation Dialog

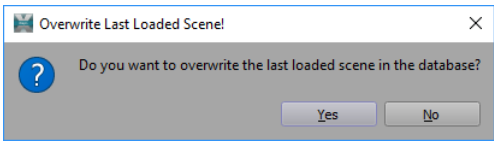
2. Select **Yes** to save it.
3. In the **Save** window, navigate to the folder where you want to save the template and enter a name for the scene.
   - Entering the original name will automatically overwrite the template in the **Scene Editor**.
   - Entering a different name will save it as a new scene, but you will then have to add it to the **Scene Editor** if you want it available for use in the **HTML5 Client**. See To add a new scene template 64 for more information.
4. Then select **Save**.

   The scene is added to the database as a template. The icon in the menu bar is no longer highlighted, as the scene can no longer be edited.

To save a loaded template after editing (Method 2):

1. In the menu bar, select the **Manage Templates** button in the menu bar.

   A confirmation dialog opens asking if you want to overwrite the last loaded scene in the database.



   Overwrite Last Loaded Scene Confirmation Dialog

2. Select **Yes** to save it.

   The original template is overwritten and the edited template is available for use in the **HTML5 Client**.

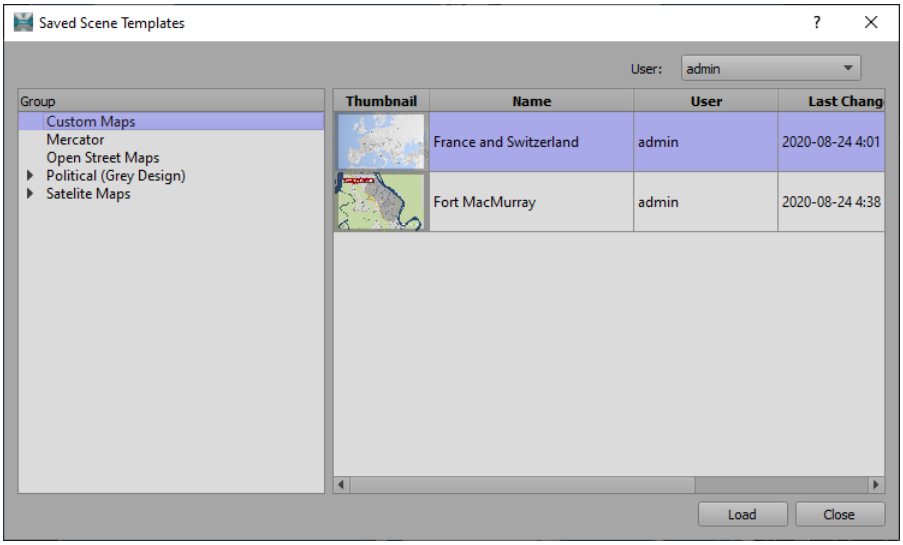
Editing Saved Templates

Templates that have been saved in the **XPression Maps HTML5 Client** appear in the **Saved Scene Templates** editor. From the editor, you can load a saved template, make any necessary changes and then save

1. From the menu bar select **Output > Edit Saved Templates** or select the **Edit Saved Templates** button in the toolbar.

XPression Maps Toolbar - Edit Saved Templates

The **Saved Scene Templates** editor opens.



Saved Scene Templates Editor

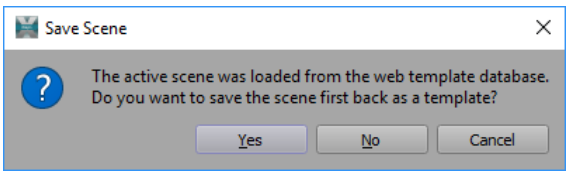
2. Select the group containing the template you want to edit, then select the template and select **Load**.

   When the template is loaded, the **Edit Saved Templates** button turns red, indicating that it can be edited.

XPression Maps Toolbar - Edit Saved Templates Active

3. Make any necessary changes to the template.
4. Then select the **Save** button in the menu bar.

   A confirmation dialog opens asking if you want to save the scene back to the **HTML5 Client**.



Save Scene in HTML5 Client

5. If you want to make the edited template available in the the **Web Client**, select **Yes**.

   OR

   Select **No** to only save the template into your **Scenes** folder.

Drawing Management

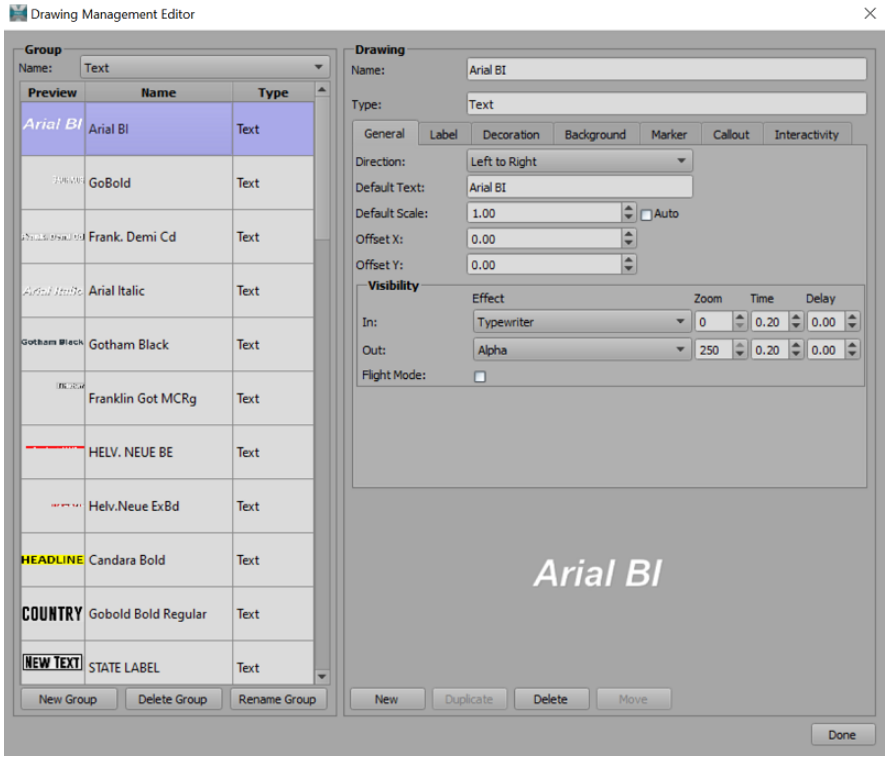
XPression Maps provides the ability to select drawings from a library, modify their properties and assign them to a group, using the **Drawing Management Editor**. These drawings can then be accessed from the **Drawing Toolbox** and added to a scene.

The **Drawings Overview Panel** lists the different drawings from within a scene.

The following topics are discussed in this section:

Drawing Management Editor

The **Drawing Management Editor** shown below, is used to select, modify and manage drawings. You can also organize the drawings into groups.



Drawing Management Editor

Managing Groups

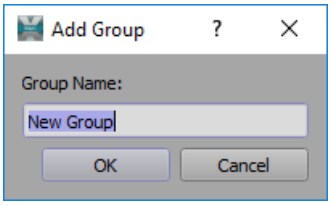
The **Drawing Management Editor** comes with a predefined set of groups to which you can add drawings.

You can also add a new group, rename a group, or delete groups you don't need.

To add a new group:

1. From the menu bar select **Edit > Manage Drawings** to open the **Drawing Management Editor**.
2. At the bottom of the **Group** section on the left side, select **New Group**.

   The **Add Group** dialog opens.

   Add Group
3. In the **Group Name** field, enter a name for the new group and select **OK**.

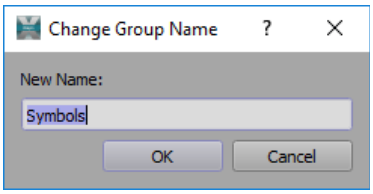
   The new group appears in the **Name** drop-down at the top of the **Group** section.

   Because it's a new group there are no drawings in it yet.

To rename a group:

1. From the menu bar select **Edit > Manage Drawings** to open the **Drawing Management Editor**.
2. In the **Group** section on the left side, from the **Name** drop-down, select the group you want to rename.
3. At the bottom of the **Group** section, select **Rename Group**.

   The **Change Group Name** dialog opens.

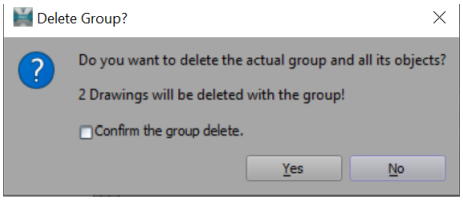
   Change Group Name
4. Enter a new name for the **Group** and select **OK**.

   The new group name appears in the **Name** drop-down.

   The new group will contain any drawings that were in the old group.

To delete a group:

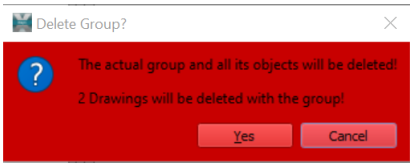
1. From the menu bar select **Edit > Manage Drawings** to open the **Drawing Management Editor**.
2. In the **Group** section on the left side, from the **Name** drop-down, select the group you want to delete.
3. At the bottom of the **Group** section, select **Delete Group**.
4. The **Delete Group** confirmation dialog opens.



Delete Group Confirmation

5. Select the **Confirm the group delete** checkbox and select **Yes**.

   The final **Delete Group** dialog opens.



Final Delete Group Dialog

6. Select **Yes** to delete the group.

   The **Group** and its **Drawings** are deleted.

Managing Drawings

In the **Drawing** section of the **Drawing Management Editor**, you can add a new drawing, view and modify the properties of an existing drawing, copy a drawing and delete a drawing. The following types of drawings are available in the library:

Text and OSM Replacement Drawings 89

Area Drawings 104

Line Drawings 106

Icon Drawings 108

Magnifier Drawings 111

Locator Drawings 114

Dynamic Data Drawings 117

Background Drawings 120

Video Input Drawings 123

Inset Drawings 126

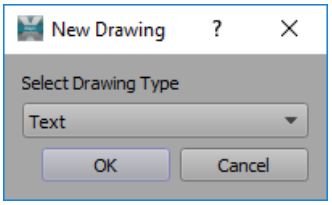
Container Drawings 129

To add a drawing:

1. From the menu bar select **Edit > Manage Drawings** to open the **Drawing Management Editor**.
2. In the **Group** section on the left side, from the **Name** drop-down, select the group to which you want to add your drawing.

   If an appropriate group doesn't already exist, you can add a new group. See To add a group 83 for instructions.
3. In the **Drawing** section on the right side, select **New**.

   The **New Drawing** dialog opens.



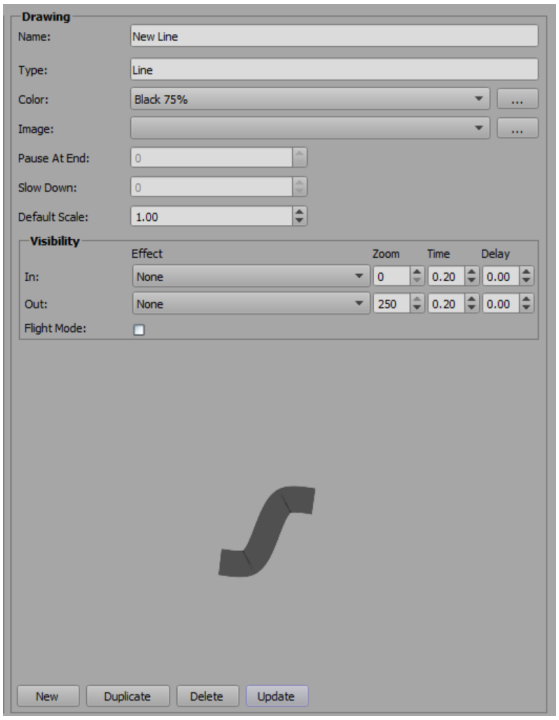
New Drawing

4. From the **Select Drawing Type** drop-down, select the type of drawing you want to add and select **OK**.

   The options are:

Text	**Line**	**Magnifier**	**Dynamic Data**	**Video Input**	**Container**
Area	**Icon**	**Locator**	**Background**	**Inset**	

   The **Drawing** properties are displayed and a preview of the drawing with its default properties appears below the property fields.



New Drawing Window

5. If you change your mind about creating this drawing type, select **New** again and in the **Save Drawing** dialog, select **Discard**.

   The **New Drawing** dialog will open again and you can select a new drawing type.

6. In the **Name** field, enter a descriptive name for the drawing.

   The **Type** field is automatically populated and is not editable.

7. Modify the default properties as described in To modify a drawing. 87

   After editing the drawing name and/or properties, the **Update** button at the bottom of the **Drawing** section is enabled.

8. Select **Update**.

   The **Drawing** section is cleared and the new drawing is added to the selected group, but is not yet available in the **Drawing Toolbox**.

9. Select **Done** to close the editor and make your drawing available in the **Drawing Toolbox**.

To modify a drawing:

1. From the menu bar select **Edit > Manage Drawings** to open the **Drawing Management Editor**.
2. In the **Group** section on the left side, from the **Name** drop-down, select the **Group** that contains the drawing you want to modify.
3. From the **Group** list, select the drawing you want to modify.

   The properties of the selected drawing are displayed in the **Drawing** section on the right side.
4. Modify the properties of the drawings as described in the section corresponding to your drawing.

   Text and OSM Replacement Drawings 89

   Area Drawings 104

   Line Drawings 106

   Icon Drawings 108

   Magnifier Drawings 111

   Locator Drawings 114

   Dynamic Data Drawings 117

   Video Input Drawings 123

   Inset Drawings 126

   Container Drawings 129
5. Select **Update** at the bottom of the **Drawing** section to save your changes.
6. Select **Done** to close the editor and make your drawing available in the **Drawing Toolbox**.

To copy a drawing:

1. From the menu bar select **Edit > Manage Drawings** to open the **Drawing Management Editor**.
2. On the **Group** side of the editor, from the **Name** drop-down, select the **Group** that contains the drawing you want to copy and then select the drawing.
3. From the **Group** drop-down, select the folder into which you want to copy the selected drawing.
4. On the **Drawing** side, change the name of the drawing and then select **Duplicate**.

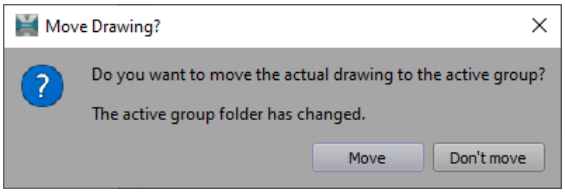
   The drawing will appear in the list for the selected group.
5. Select **Done** to close the **Drawing Management Editor**.

To move a drawing:

1. From the menu bar select **Edit > Manage Drawings** to open the **Drawing Management Editor**.
2. On the **Group** side of the editor, from the **Name** drop-down, select the **Group** that contains the drawing you want to move and then select the drawing.
3. From the **Group** drop-down, select the folder into which you want to move the selected drawing.

4. On the **Drawing** side, select **Move**.

   A confirmation dialog opens.



Move Drawing Confirmation Dialog

5. Select **Move**.

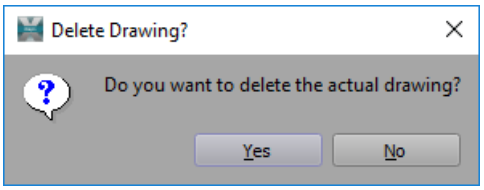
   The drawing is removed from the original folder and moved to the selected folder.

6. Select **Done** to close the **Drawing Management Editor**.

To delete a drawing:

1. From the menu bar select **Edit > Manage Drawings** to open the **Drawing Management Editor**.
2. On the **Group** side of the editor, from the **Name** drop-down, select the **Group** that contains the drawing you want to delete
3. Select the drawing you want to delete.
4. On the **Drawing** side of the editor, select **Delete**.

   The **Delete Drawing** confirmation dialog opens.



Delete Drawing Confirmation Dialog

5. Select **Yes** to delete the drawing.
6. Select **Done** to close the **Drawing Management Editor**.

Text and OSM Replacement Drawings

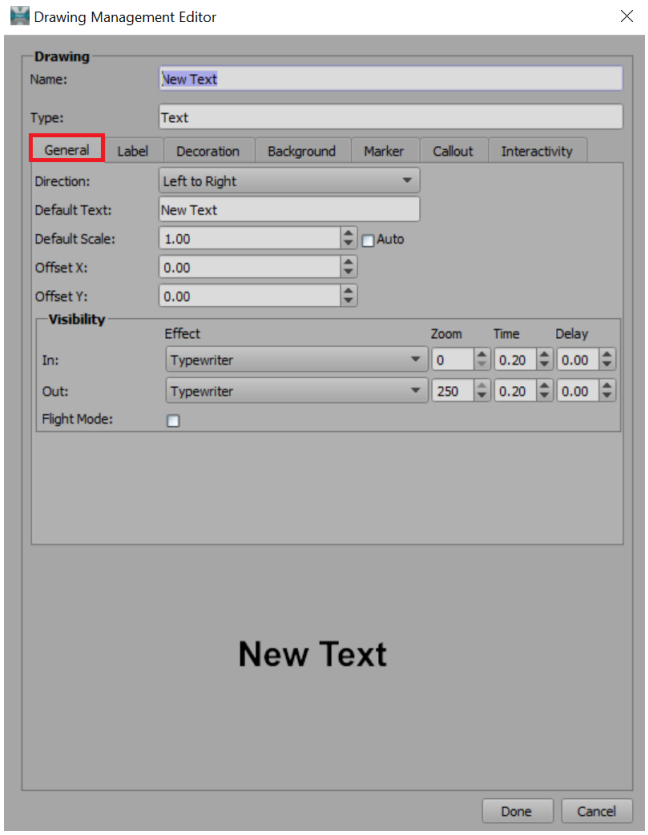
Use **Text** drawings to add your own labels to a map, as shown in the example below. The labels can be key framed to appear and/or disappear at specific points in the timeline during animation.

OSM Replacement drawings are text drawings that can be used to replace existing labels on a map. They have all the same properties as text drawings but are used only in OSM maps. With replacement drawings, you can insert labels for only those locations that are of interest and all other labels will be hidden in the production output. For details, see OSM Replacement Drawings. 263

Example - Text Drawing

Text and **OSM Replacement Drawings** have many editable properties. The properties are divided into tabs and are described below.

General Tab



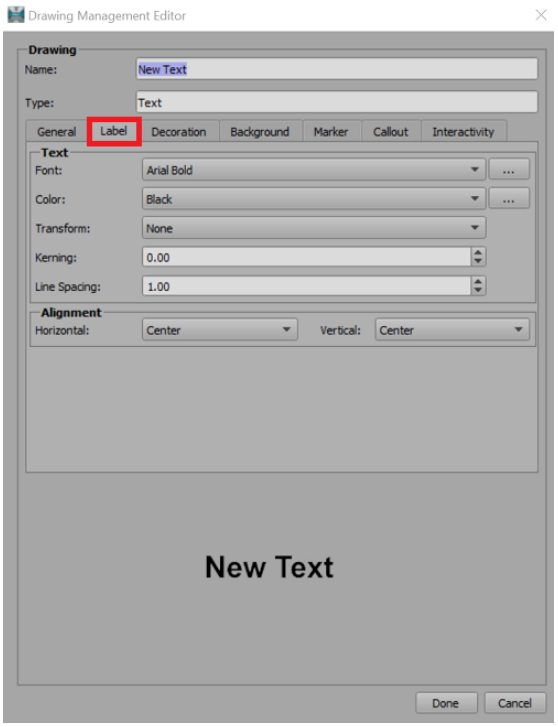
Properties - Text Drawings - General Tab

The properties found in the **General** tab are described in the following table.

Property	Description
Direction	Sets the writing direction for the text that is used in the drawing. Options are **Left to Right** or **Right to Left**.
Default Text	The example text that appears in the preview. This text also appears as the preview icon in the group of drawings in which it is located.
Default Scale	The default size of the text. Select the **Auto** checkbox to make the text size scale automatically as the map zooms in and out. This effect can be changed in the **Drawing Editor**, when the drawing is selected in the output window. See Size 224 for more information.
Offset X	The distance that the text drawing is offset from the center of the text along the X-axis of the map. Set to something other than 0.0 to make the callout arrow or line visible.
Offset Y	The distance that the text drawing is offset from the center of the text along the Y-axis of the map. Set to something other than 0.0 to make the callout arrow or line visible.
Visibility (In and Out)	How a text and OSM replacement drawing appears (**In**) and disappears (**Out**) during animation. Options are: **None** — the drawing appears/disappears instantly at the frame to which the key frame is set. Use the **Delay** field to input the number of seconds that the drawing will delay its animation. **Dissolve** — the drawing animates in and out at the level set in the corresponding **Zoom** fields. The drawing blends in/out over the number of seconds selected in the **Time** field. Use the **Delay** field to input the number of seconds that the drawing will delay its animation. **Typewriter** — the drawing animates in and out at the level set in the corresponding **Zoom** fields. The appears/disappears one character at a time over the number of seconds selected in the **Time** field. Use the **Delay** field to input the number of seconds that the drawing will delay its animation. **Alpha** — the drawing animates in and out at the level set in the corresponding **Zoom** fields. The drawing blends in/out one character at a time over the number of seconds selected in the **Time** field. Use the **Delay** field to input the number of seconds that the drawing will delay its animation. **Wipe** — The drawing animates in and out at the level set in the corresponding **Zoom** fields. The drawing appears from the right over the number of seconds selected in the **Time** field. Use the **Delay** field to input the number of seconds that the drawing will delay its animation. **Wipe Reverse** — the drawing animates in and out at the level set in the corresponding **Zoom** fields. The drawing appears from the left over the number of seconds selected in the **Time** field. Use the **Delay** field to input the number of seconds that the drawing will delay its animation. **Wipe Left** — the drawing animates in and out at the level set in the corresponding **Zoom** fields. The drawing appears/disappears from the left over the number of seconds selected in the **Time** field. Use the **Delay** field to input the number of

Property	Description
	seconds that the drawing will delay its animation. **Wipe Right** — the drawing animates in and out at the level set in the corresponding **Zoom** fields. The drawing appears/disappears from the left over the number of seconds selected in the **Time** field. Use the **Delay** field to input the number of seconds that the drawing will delay its animation. **Wipe Bottom** — the drawing animates in and out at the level set in the corresponding **Zoom** fields. The drawing appears/disappears from the bottom over the number of seconds selected in the **Time** field. Use the **Delay** field to input the number of seconds that the drawing will delay its animation. **Wipe Top** — The drawing animates in and out at the level set in the corresponding **Zoom** fields. The drawing appears/disappears from the top over the number of seconds selected in the **Time** field. Use the **Delay** field to input the number of seconds that the drawing will delay its animation. **Flight Mode** — Select the flight mode checkbox to enable the drawing to visualize the data as its clicked and dragged along the map. The effect can be changed in the **Drawing Editor** in the **Effect** section, when the drawing is selected in the output window. See Effect 226 for more information.

Label Tab



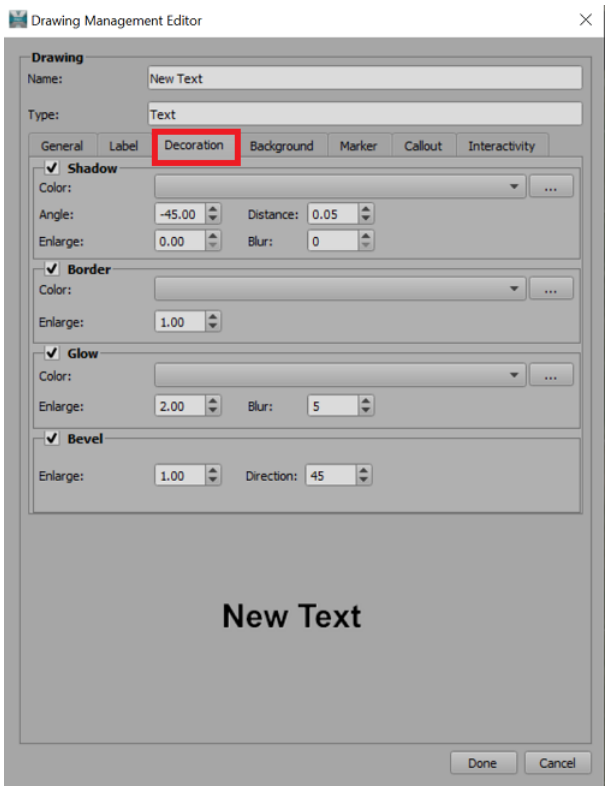
Properties - Text Drawings - Label Tab

The properties found in the **Label** tab are described in the following table.

Property	Description
Text	**Font** — Select an existing font using the drop-down or click the **Browse** button (...) to add a new font to be applied to the text. **Color** — Select an existing color using the drop-down or click the **Browse** button (...) to add a new color. If no color is selected, the text drawing will not be visible. **Transform** — Select either **None**, **UPPERCASE** or **lowercase**. **None**: The text will be displayed exactly as entered. **UPPERCASE**: The text will be displayed as all uppercase, regardless of how it is entered. **lowercase**: The text will be displayed as all lowercase, regardless of how it is entered. **Kerning** — Enter a value or use the arrows to set the amount of space between letters. This effect can be changed in the **Drawing Editor** in the **Text** section, when the drawing is selected in the output window. **Line Spacing** — Enter a value or use the arrows to set the amount of space between multiple lines of text. This effect can be changed in the **Drawing Editor** in the **Text** section, when the drawing is selected in the output window.

Property	Description
Alignment	**Horizontal** — The longitude coordinate of the text drawing corresponds to the left side of the text if this property is set to **Left**, to the right side of the text if this property is set to **Right** and to the center of the text if this property is set to **Center**. **Vertical** — If this property is set to **Top**, the latitude coordinate of the text drawing will correspond to the highest theoretical possible character in the first line. This is to have static baselines. If the latitude coordinate actually corresponded to the top of the text, the baselines (and so the whole text) would change position whenever the text changes. Accordingly, for **Center**, the latitude coordinate is not really in the center of the text but at a position close to the center where baselines only change when the number of lines changes. For **Bottom**, the baseline of the last line in the text will correspond to the latitude coordinate. For **Baseline**, the baseline of the first line of the text will correspond to the latitude coordinate.

Decoration Tab



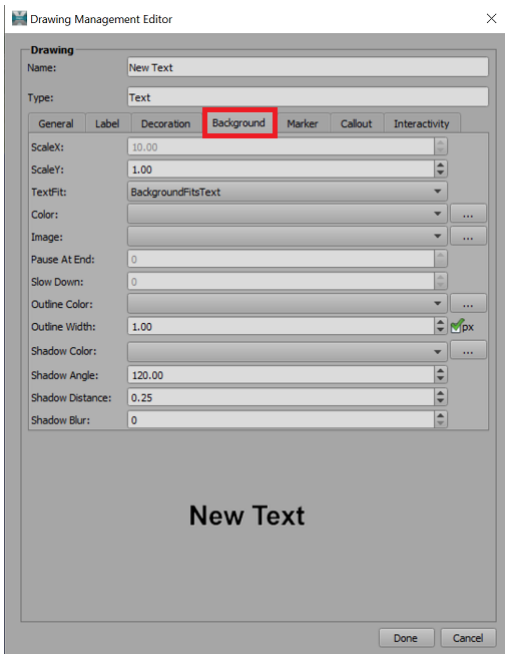
Properties - Text Drawings - Decoration Tab

The properties found in the **Decoration** tab are described in the following table.

Property	Description
Shadow	Select the **Shadow** checkbox to add a shadow to each text character. When enabled, the shadow will have the properties configured in this section. **Color** — Select an existing color using the drop-down or click the **Browse** button (...) to add a new color. **Angle** — The angle of the shadow in degrees. **0** = The shadow falls to the right of the text. **90** = The shadow falls above the text. **180** = The shadow falls to the left of the text. **-90** = The shadow falls below the text. **Distance** — The distance that the shadow falls from the text. A larger value moves the shadow further away from the text. **Enlarge** — Enter a value or use the arrows to set an amount by which to enlarge the shadow. **Blur** — Enter a value or use the arrows to set the degree by which the shadow appears out-of-focus.
Border	Select the **Border** checkbox to add a border around the outside of the text characters. **Color** — Select an existing color using the drop-down or select the **Browse** button (...) to add a new color.

Property	Description
	Enlarge — Enter a value or use the arrows to set an amount by which to enlarge the border.
Glow	Select the **Glow** checkbox to add a glow effect around the outside of the text characters. **Enlarge** — Enter a value or use the arrows to set an amount by which to enlarge the glow. **Blur** — Enter a value or use the arrows to set the degree by which the glow appears out-of-focus.
Bevel	Select the **Bevel** checkbox to add a bevel effect around the outside of the text characters, giving them a 3D appearance. **Enlarge** — Enter a value or use the arrows to set an amount by which to enlarge the bevel. **Direction** — Enter a value or use the arrows to set the degree at which the bevel will appear on the text characters.

Background Tab



Properties - Text Drawings - Background Tab

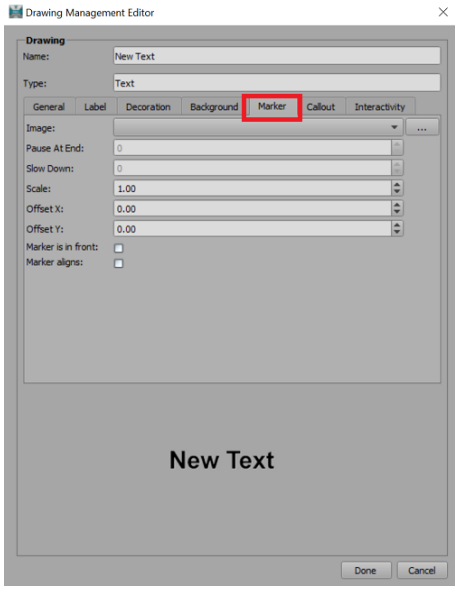
The properties found in the **Background** tab are described in the following table.

Property	Description
Scale X	Enter a value or use the arrows to set the default size of the rectangle that forms the background for the text drawing. 1.00 is the minimum size. 2.0 makes the background double the size of the text box.
Scale Y	Enter a value or use the arrows to set the default size of the rectangle that forms the background for the text drawing. 1.00 is the minimum size. 2.0 makes the background double the size of the text box.
TextFit	From the drop-down, select the option that looks best when you are changing the text within an object. **Unlinked** — the size of the background image remains the same regardless of how much text is entered. **BackgroundFitsText** — only the width of the background image will increase or decrease to fit the amount of text. **BackgroundFitsTextKeepAspect** — the size of the background image will increase or decrease to fit the amount of text and maintain the aspect ratio.

Property	Description
Color	Select an existing color using the drop-down or select the **Browse** button (…) to add a new color. If only a background color is selected, a rectangle in this color will be drawn behind the text. If both a background color and an image are selected, they will be combined. If no background color, image or outline color are selected, there will be no background. The size of the rectangle is relative to the text size, so the background rectangle grows as the text grows.
Image	Select an existing image using the drop-down or select the **Browse** button (…) to add a new image. The image will be drawn behind the text. If both a background color and an image are selected, they will be combined. If no background color, image or outline color are selected, there will be no background. The size of the image is relative to the text size, so the background image grows as the text grows.
Pause At End	Enter or use the arrows to set the number of frames for which an image sequence will pause at the last image before looping.
Slowdown	When an animated image is selected, this is the number of frames, expressed as a percentage, by which the movement of the animated image will be slowed. Accordingly, a negative value will speed up the movement.
Outline Color	Adds the selected color to the outline of the background. Select an existing color using the drop-down or select the **Browse** button (…) to add a new color. If no background color is selected, only an outline in the color selected will be displayed.
Outline Width	Enter a value or use the arrows to set a width for the outline (border) of the background. If the px checkbox is selected, the width of the outline will remain the same regardless of the zoom level of the map. If the px checkbox is cleared, the width of the outline will scale relative to the background as the zoom level of the map changes.
Shadow Color	Select an existing color using the drop-down or select the **Browse** button (…) to add a new color to apply to the shadow of the background.
Shadow Angle	**Angle** — The angle of the shadow in degrees. **0** — The shadow falls to the right of the background. **90** — The shadow falls above the background. **180** — The shadow falls to the left of the background. **-90** — The shadow falls below the background.
Shadow Distance	The distance that the shadow falls from the background. A larger value moves the shadow further away from the background.

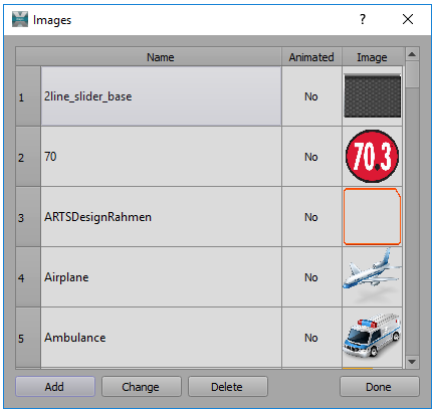
Property	Description
Shadow Blur	Enter a value or use the arrows to set the degree by which the shadow appears out-of-focus.

Marker Tab



Properties - Text Drawings - Marker Tab

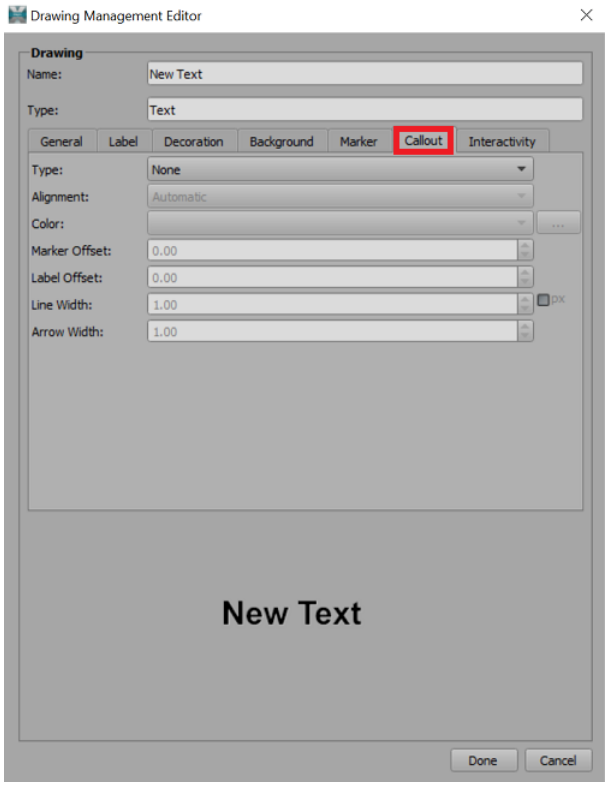
The properties found in the **Marker** tab are described in the following table.

Property	Description
Image	Select an existing image using the drop-down or select the **Browse** button (…) to add a new image from the Images folder. By default, the image will be drawn behind the text. The size of the image is relative to the text size, so the image grows as the text grows. To remove the image from the drawing, click the drop-down arrow and select the blank area at the top of the drop-down list. To delete an image, select the **Browse** button (…) beside the image field and in the Images folder, select **Delete**. You cannot delete an image that is currently being used in a drawing.  The **Animated** column indicates whether or not the image is part of a sequence, creating an animated drawing.
Pause At End	Enter or use the arrows to the number of frames for which an image sequence will pause at the last image before looping.

Property	Description
	★This function only applies to Markers that have animation.
Slowdown	When an animated image is selected, this is the number of frames, expressed as a percentage, by which the movement of the animated image will be slowed. Accordingly, a negative value will speed up the movement. ★This function only applies to Markers that have animation.
Scale	Enter a value or use the arrows to increase or decrease the size of the marker image Default is **1.00**. Selecting **2.00** will make the image twice as large.
Offset X	The distance that the marker image is offset from the center of the text along the X-axis of the map. **0.0** = Center **A value higher than 0.00** = Right of center **A value lower than 0.00** = Left of center
Offset Y	The distance that the marker image is offset from the center of the text along the Y-axis of the map. **0.0** = Center **A value higher than 0.00** = Above the center **A value lower than 0.00** = Below the center
Marker is in front	Select this checkbox to place the marker in front of the text.
Marker aligns	Select this checkbox to align the marker to the text.

★ In order to see the marker, the **Offset X** and **Offset Y** values in the general tab need to be something other than **0.00**. Otherwise, the marker will be hidden behind the text or background. Changing the offset defines the default offset between the text and the point of interest.

Callout Tab



Text Properties - Callout Tab

The properties found in the **Callout** tab are described in the following table.

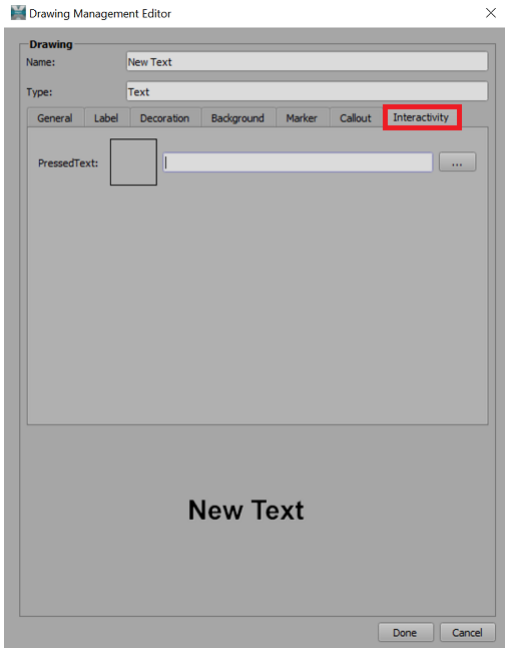
Property	Description
Type	Select the type of callout used to draw the connection between the text-background panel and the location of the point of interest. A background color or an outline color must be defined in the **Background** tab in order to use a callout. Callout options are **Arrow** and **Line**. **Arrow** draws a triangle from the panel to the location on the map in the same style as the background. The **Color**, **Offset**, and **Width** properties are not used in this type. **Line** draws a line between the text-panel and the location on the map. If **Line** is chosen, the **Color**, **Offset** and **Width** properties become available. For both arrows and lines, the starting point near the panel is calculated automatically for optimal appearance of the callout.
Alignment	Select whether the arrow or line should be aligned at center or automatically.
Color	Select an existing color using the drop-down or select the **Browse** button (...) to add a new color for the callout line. Applies only to the **Line** type.
Marker Offset	Enter a value or use the arrows to change the position of the arrow or line in relationship to the marker.

Property	Description
Label Offset	Enter a value or use the arrows to set an offset that creates a gap between the label and the beginning of the marker. Change the **Offset X** and **Offset Y** parameter in the **General** tab beyond the 0,0 location to see the callout in the example image below the properties.
Line Width	Enter a value or use the arrows to set the width of the callout line. If the px checkbox is selected, the width of the line will remain the same regardless of the zoom level of the map. If the px checkbox is cleared, the width of the line will scale relative to the background as the zoom level of the map changes. ★This function only applies when the **Line Type** has been selected.
Arrow Width	Enter a value or use the arrows to set the width of the callout arrow. ★This function only applies when the **Arrow Type** has been selected.

To add callout text to a scene:

1. In the **Drawing Toolbox**, select the **Callout** text drawing, then click in the scene at the exact position to which you want the arrow or line of the **Callout** to point.
2. Double-click in the bounding box and enter the new text.
3. Place the cursor inside the bounding box, then left-click and drag the bounding box to adjust the position of the **Callout** arrow or line.
4. To reposition the **Callout**, left-click and drag the white point at the top of the handle of the bounding box.

Interactivity Tab



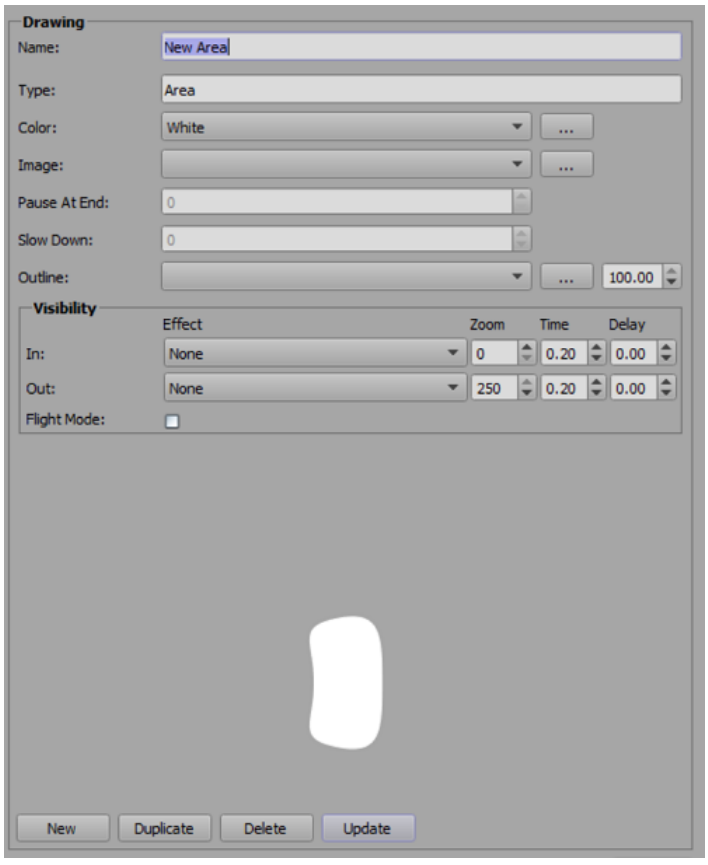
Text Properties - Interactivity Tab

★ This function is only accessible if XPression Maps is running in **Interactive Mode.**

Area Drawings

Use **Area** drawings to call out an area of the map to which you want to draw attention, as shown in the example below. **Area** drawings can be still or animated.

Example - Area Drawing



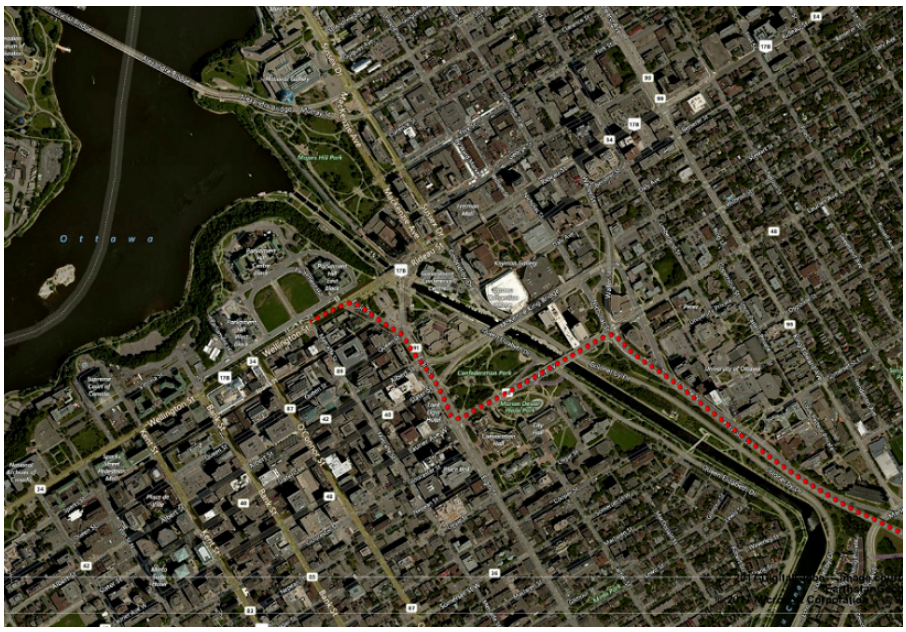
Properties - Area Drawings

The **Area** drawing properties are described in the following table.

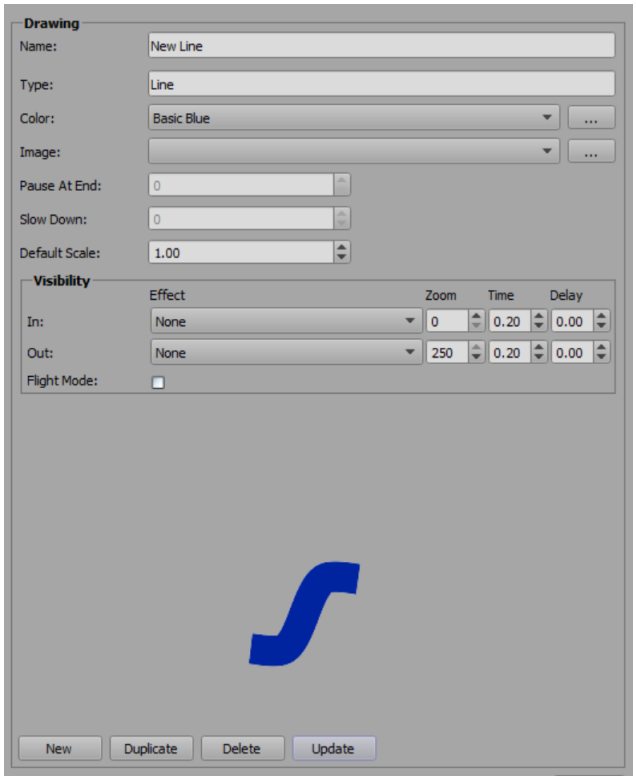
Property	Description
Color	Select an existing color using the drop-down or select the **Browse** button (…) to add a new color for the drawing. The selected color will be applied to the image, if an image is selected.
Image	Select an existing image from the drop-down or click the **Browse** button (…) to add a new image. If an image is selected, the area will be textured with this image.
Pause At End	Enter a value or use the arrows to set the number of frames for which an image sequence will pause at the last image before looping.
Slowdown	When an animated image is selected, this is the number of frames, expressed as a percentage, by which the movement of the animated image will be slowed. Accordingly, a negative value will speed up the movement.
Outline	Select an existing color using the drop-down or click **Browse** to add a new color for the outline. Enter a value or use the arrows to increase or decrease the thickness of the outline. The default is no outline.
Visibility **(In and Out)**	How an area drawing appears (**In**) and disappears (**Out**) during animation. Options are: **None** — the drawing appears/disappears instantly at the frame to which the key frame is set. Use the **Delay** field to input the number of seconds that the drawing will delay its animation. **Dissolve** — the drawing blends in and out over the number of seconds selected in the **Time** field. The drawing animates in and out at the level set in the corresponding **Zoom** field. Use the **Delay** field to input the number of seconds that the drawing will delay its animation. **Flight Mode** — Select the flight mode checkbox to enable the drawing to visualize the data as its clicked and dragged along the map. The effect can be changed in the **Drawing Editor** in the **Effect** section, when the drawing is selected in the output window. See Effect 226 for more information.
Flight Mode	When selected, clicking on the visible eye icon removes the drawing from the flight point (makes invisible); clicking on invisible eye icon adds the drawing to the flight point (makes visible).

Line Drawings

Use **Line** drawings to show a route on the map, as shown in the example below. **Line** drawings can be still or animated.



Example - Line Drawing



Properties - Line Drawings

The **Line** drawing properties are described in the following table.

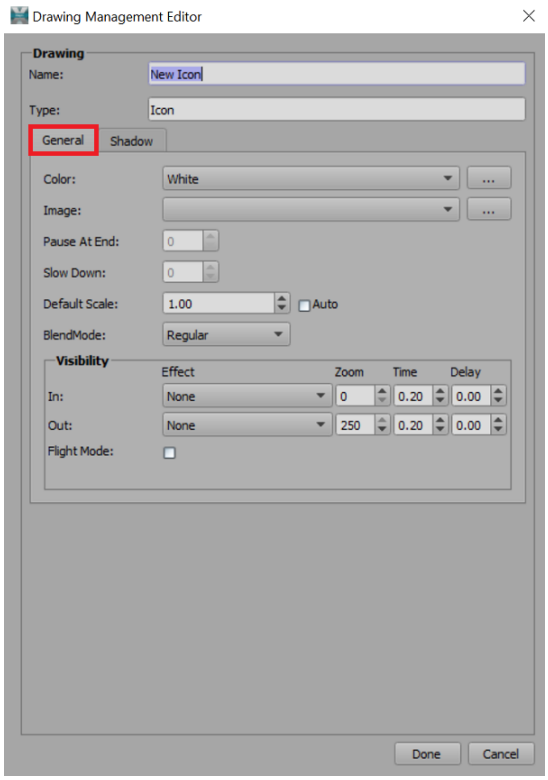
Property	Description
Color	Select an existing color using the drop-down or select the **Browse** button (…) to add a new color for the drawing. The selected color will be applied to the image, if an image is selected. If no color is selected, the drawing will not be visible.
Image	Select an existing image from the drop-down or select the **Browse** button (…) to add a new image. If an image is selected, the line will be textured with this image.
Pause At End	Enter a value or use the arrows to set the number of frames for which an image sequence will pause at the last image before looping.
Slowdown	When an animated image is selected, this is the number of frames, expressed as a percentage, by which the movement of the animated image will be slowed. Accordingly, a negative value will speed up the movement.
Default Scale	The default value of the **Scale** property for the drawing. The default scale can be changed in the **Drawing Editor**. See Size 224 for more information.
Visibility (In and Out)	How a line drawing appears (**In**) and disappears (**Out**) during animation. Options are: **None** — the drawing appears/disappears instantly at the frame to which the key frame is set. Use the **Delay** field to input the number of seconds that the drawing will delay its animation. **Dissolve** — the drawing blends in and out over the number of seconds selected in the **Time** field. The drawing animates in and out at the level set in the corresponding **Zoom** field. Use the **Delay** field to input the number of seconds that the drawing will delay its animation. **Flight Mode** — Select the flight mode checkbox to enable the drawing to visualize the data as its clicked and dragged along the map. The effect can be changed in the **Drawing Editor** in the **Effect** section, when the drawing is selected in the output window. See Effect 226 for more information.

Icon Drawings

Use **Icon** drawings to mark a specific location, as shown in the example below. **Icon** drawings can be still or animated.

Example - Icon Drawing

General Tab



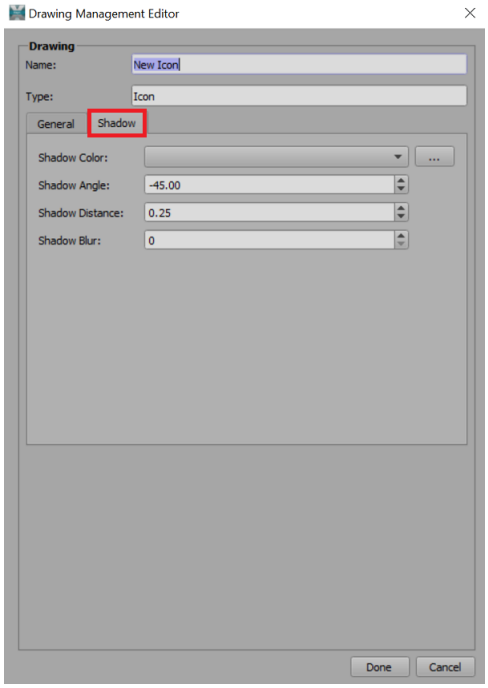
Properties - Icon Drawings - General Tab

The properties in the **General** tab are described in the table below

Property	Description
Color	Select an existing color using the drop-down or click the **Browse** button (...) to add a new color for the icon drawing. The selected color will be applied to the image, if an image is selected. If no color is selected, the drawing will not be visible.
Image	Select an existing image from the drop-down or select the **Browse** button (...) to add a new image. If an image is selected, the drawing will be textured with this image. If no image is selected, the drawing will be a rectangle of the selected color.
Pause At End	Enter a value or use the arrows to set the number of frames for which an image sequence will pause at the last image before looping.
Slowdown	When an animated image is selected, this is the number of frames, expressed as a percentage, by which the movement of the animated image will be slowed. Accordingly, a negative value will speed up the movement.
Default Scale	The default value of the **Scale** property for the drawing. The effect can be changed in the **Drawing Editor**, when the drawing is selected in the output window. See Size 224 for more information.
Blend Mode	The default mode is **Regular**. Options are: **Regular** — the area color is combined with the underlying map color. This is the most common blend method. **Multiply** — the area color is multiplied with the underlying map color. **Add** — the area color is added to the underlying map color.
Visibility (In and Out)	How an icon drawing appears (**In**) and disappears (**Out**) during animation. Options are: **None** — the drawing appears/disappears instantly at the frame to which the key frame is set. Use the **Delay** field to input the number of seconds that the drawing will delay its animation. **Dissolve** — the drawing animates in and out at the level set in the corresponding **Zoom** fields. The drawing blends in/out over the number of seconds selected in the **Time** field. Use the **Delay** field to input the number of seconds that the drawing will delay its animation. **Wipe Left** — the drawing animates in and out at the level set in the corresponding **Zoom** fields. The drawing appears/disappears from the left over the number of seconds selected in the **Time** field. Use the **Delay** field to input the number of seconds that the drawing will delay its animation. **Wipe Right** — the drawing animates in and out at the level set in the corresponding **Zoom** fields. The drawing appears/disappears from the left over the number of seconds selected in the **Time** field. Use the **Delay** field to input the number of seconds that the drawing will delay its animation. **Wipe Bottom** — the drawing animates in and out at the level set in the corresponding **Zoom** fields. The drawing appears/disappears from the bottom over

Property	Description
	the number of seconds selected in the **Time** field. Use the **Delay** field to input the number of seconds that the drawing will delay its animation. **Wipe Top** — The drawing animates in and out at the level set in the corresponding **Zoom** fields. The drawing appears/disappears from the top over the number of seconds selected in the **Time** field. Use the **Delay** field to input the number of seconds that the drawing will delay its animation. **Flight Mode** — Select the flight mode checkbox to enable the drawing to visualize the data as its clicked and dragged along the map. The effect can be changed in the **Drawing Editor** in the **Effect** section, when the drawing is selected in the output window. See Effect 226 for more information.

Shadow Tab



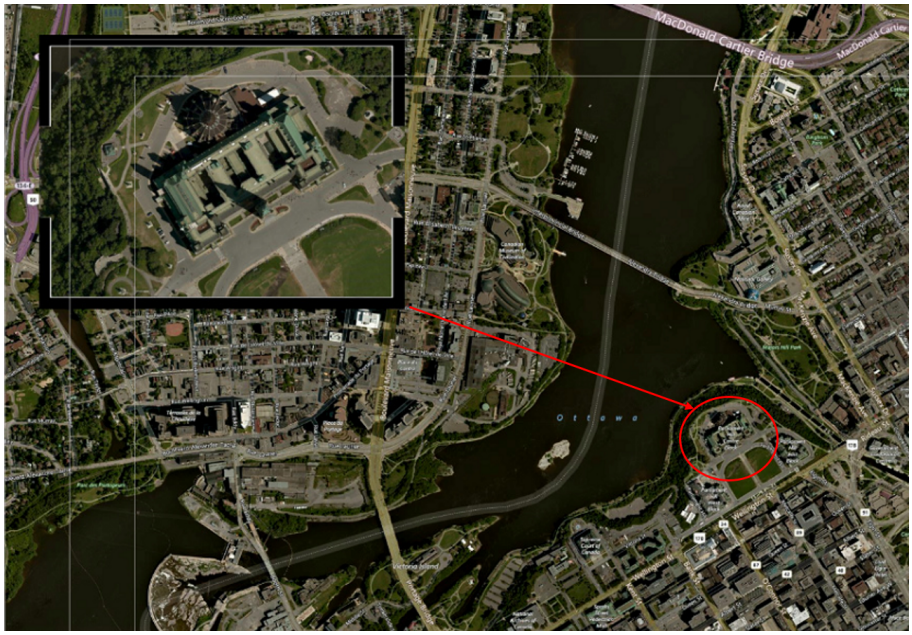
Properties - Icon Drawings - Shadow Tab

The properties in the **Shadow** tab are described in the following table.

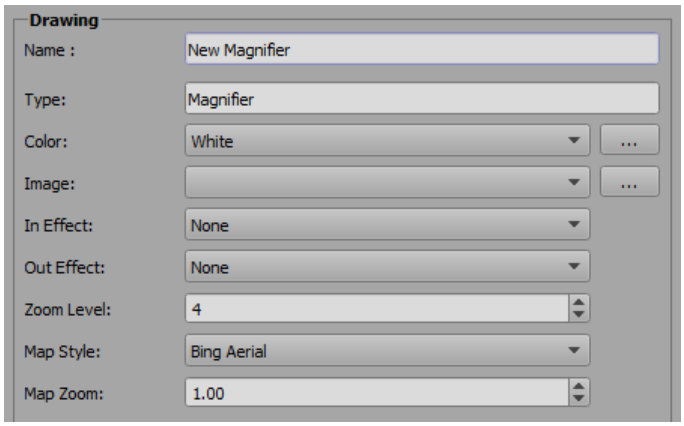
Property	Description
Shadow Color	Select an existing color using the drop-down or select the **Browse** button (...) to add a new color to apply to the shadow of the background.
Shadow Angle	Enter a value or use the arrows to adjust the angle of the shadows in degrees. The maximum value is 360, the minimum value is -360.
Shadow Distance	The distance that the shadow falls from the background. A larger value moves the shadow further away from the background.
Shadow Blur	Enter a value or use the arrows set to the degree by which the shadow appears out-of-focus. The maximum value is 20. The minimum value is 0.

Magnifier Drawings

Use **Magnifier** drawings to zoom in on a section of the map to get a closer look, as shown in the example below.



Example - Magnifier Drawing



Properties - Magnifier Drawings

The **Magnifier** drawing properties are described in the following table.

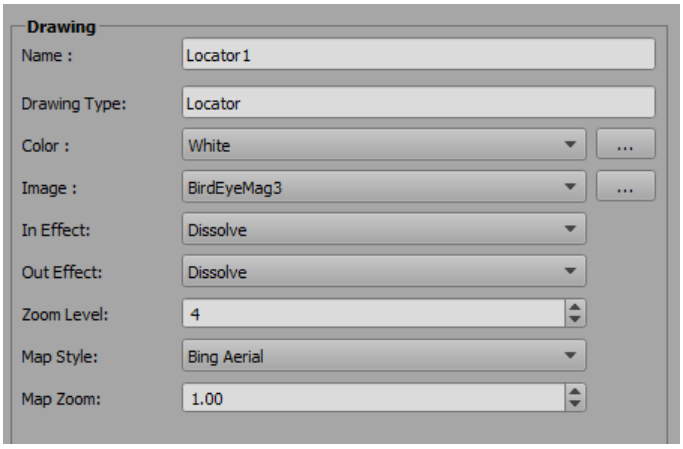
Property	Description
Color	Defines the color of the image selected in the **Image** property. Select an existing color using the drop-down or select the **Browse** button to add a new color for the locator drawing. The selected color will be applied to the image, if one is selected. If no color is selected, the selected border image will be invisible.
Image	Select an existing image from the drop-down or select the **Browse** button (...) to add a new image. The image provides a border for the map that is highlighted in the drawing. For the **Magnifier** drawing to work properly, there must be a transparent area in the center of the image that is completely surrounded by graphics. Towards the edges of the image, transparent areas are possible. The image defines the area where the maps (Bing Aerial, Bing Aerial Label, or any of the Bing Road maps) are shown. The drawing will be textured with this image. An image must be selected for a **Magnifier** drawing.
In Effect	The default effect that plays as the drawing appears during animation. The effect can only be seen when the animation is played. Options are: **None** — the drawing appears instantly at the frame to which the key frame is set. **Dissolve** — the drawing animates in at the level set in the corresponding **Zoom Level** field**.** **Wipe Left** — the drawing animates from the left at the level set in the corresponding **Zoom Level** field. **Wipe Right** — the drawing animates from the right at the level set in the corresponding **Zoom Level** field. **Wipe Bottom** — the drawing animates from the bottom at the level set in the corresponding **Zoom Level** field. **Wipe Top** — the drawing animates from the top at the level set in the corresponding **Zoom Level** field. The effect can be changed in the **Drawing Editor** in the **Effect** section, when the drawing is selected in the output window. See Effect 224 for more information.

Property	Description
Out Effect	The default effect that plays as the drawing disappears during animation. The effect can only be seen when the animation is played. Options are: **None** — the drawing disappears instantly at the frame to which the key frame is set. **Dissolve** — the drawing blends out at the level set in the corresponding **Zoom Level** field. **Wipe Left** — the drawing animates out from the left at the level set in the corresponding **Zoom Level** field. **Wipe Right** — the drawing animates out from the right at the level set in the corresponding **Zoom Level** field. **Wipe Bottom** — the drawing animates out from the bottom at the level set in the corresponding **Zoom Level** field. **Wipe Top** — the drawing animates out from the top at the level set in the corresponding **Zoom Level** field. The effect can be changed in the **Drawing Editor** in the **Effect** section, when the drawing is selected in the output window. See Effect 224 for more information.
Zoom Level	The default value of the **Zoom Level** for this drawing. Valid values are 1 to 21. The effect can be changed in the **Drawing Editor**, when the drawing is selected in the output window. See Magnifier Drawing Parameters 231 for more information.
Map Style	Defines the default map style for this drawing. Options are: **Bing Aerial** **Bing Aerial Label** **Bing Road** **Bing Road Dark** **Bing Road Gray** **Bing Road Light** The effect can be changed in the **Drawing Editor**, when the drawing is selected in the output window. See Magnifier Drawing Parameters 231 for more information.
Map Zoom	The zoom value for the highlighted area of a map. The effect can be changed in the **Drawing Editor**, when the drawing is selected in the output window. See Magnifier Drawing Parameters 231 for more information.

Locator Drawings

Use **Locator** drawings to show where the location you're looking at is found in the context of a larger map. For example, if you place a locator drawing on a city and enlarge it, as shown in the example below, you'll see in what part of the country that city is found. Locator drawings are typically used in the **Overlay Layer**. See Overlay Layer for more information.

Example - Locator Drawing



Properties - Locator Drawings

The **Locator** drawing properties are described in the following table.

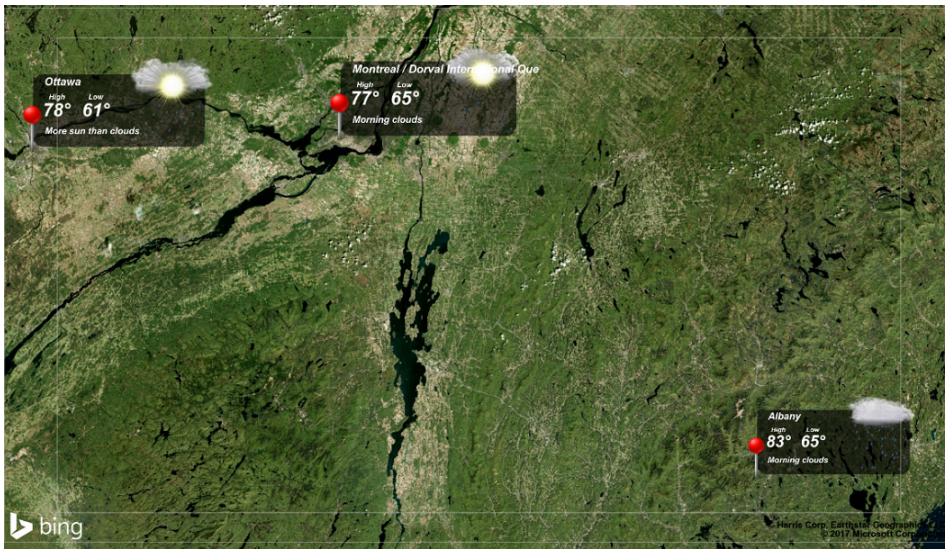
Property	Description
Color	Defines the color of the image selected in the Image property. Select an existing color using the drop-down or select the **Browse** button (...) to add a new color for the locator drawing. The selected color will be applied to the image, if one is selected. If no color is selected, the selected border image will be invisible.
Image	Select an existing image from the drop-down or select the **Browse** button (...) to add a new image. The image provides a border for the map that is highlighted in the drawing. For the locator drawing to work properly, there must be a transparent area in the center of the image that is completely surrounded by graphics. Towards the edges of the image, transparent areas are possible. The image defines the area where the maps (Bing Aerial, Bing Aerial Label, or Bing Road) are shown. The drawing will be textured with this image. An image must be selected for a **Locator** drawing.
In Effect	The default effect that plays as the drawing appears during animation. The effect can only be seen when the animation is played. Options are: **None** — the drawing appears instantly at the frame to which the key frame is set. **Dissolve** — the drawing animates in at the level set in the corresponding **Zoom Level** field**.** **Wipe Left** — the drawing animates from the left at the level set in the corresponding **Zoom Level** field. **Wipe Right** — the drawing animates from the right at the level set in the corresponding **Zoom Level** field. **Wipe Bottom** — the drawing animates from the bottom at the level set in the corresponding **Zoom Level** field. **Wipe Top** — the drawing animates from the top at the level set in the corresponding **Zoom Level** field. The effect can be changed in the **Drawing Editor** in the **Effect** section, when the drawing is selected in the output window. See Effect 224 for more information.
Out Effect	The default effect that plays as the drawing disappears during animation. The effect can only be seen when the animation is played. Options are: **None** — the drawing disappears instantly at the frame to which the key frame is set. **Dissolve** — the drawing blends out at the level set in the corresponding **Zoom Level** field. **Wipe Left** — the drawing animates out from the left at the level set in the corresponding **Zoom Level** field. **Wipe Right** — the drawing animates out from the right at the level set in the corresponding **Zoom Level** field. **Wipe Bottom** — the drawing animates out from the bottom at the level set in the

Property	Description
	corresponding **Zoom Level** field. **Wipe Top** — the drawing animates out from the top at the level set in the corresponding **Zoom Level** field. The effect can be changed in the **Drawing Editor** in the **Effect** section, when the drawing is selected in the output window. See Effect 224 for more information.
Zoom Level	The default value of the **Zoom** Level for this drawing. The effect can be changed in the **Drawing Editor**, when the drawing is selected in the output window. See Locator Drawing Parameters 232 for more information.
Map Style	Defines the default map style for this drawing. Options are: **Bing Aerial** **Bing Aerial Label** **Bing Road** **Bing Road Dark** **Bing Road Gray** **Bing Road Light** The effect can be changed in the **Drawing Editor**, when the drawing is selected in the output window. See Locator Drawing Parameters 232 for more information.
Map Zoom	Defines the default map zoom value for this drawing. The effect can be changed in the **Drawing Editor**, when the drawing is selected in the output window. See Locator Drawing Parameters 232 for more information.

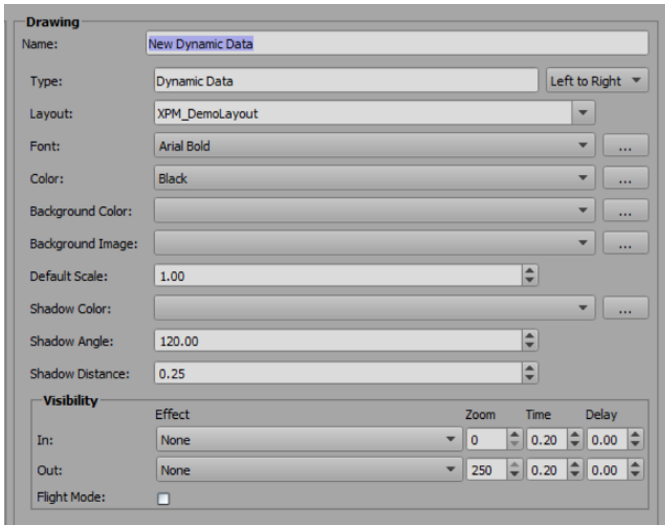
Dynamic Data Drawings

Use **Dynamic Data** drawings to show information about a particular location, such as weather, population, etc., as shown in the example below. This feature is an option that needs to be selected when ordering your system. It is not included in all systems.

For more information on options available for XPression Maps, please reach out to your Ross Video sales professional.



Example - Dynamic Data Drawings



Properties - Dynamic Data Drawings

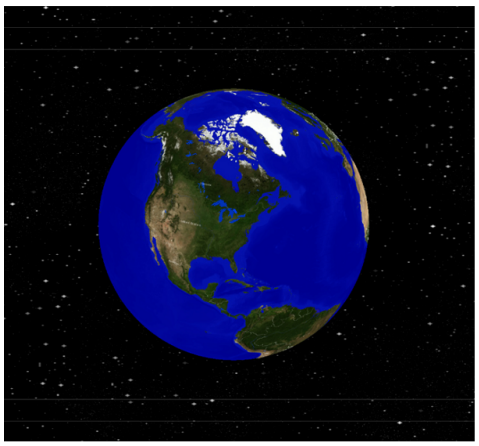
The **Dynamic Data** drawing properties are described in the following table.

Property	Description
Writing Direction	Select the writing direction for the text that is used in the dynamic data drawing. Options are **Left to Right** or **Right to Left**.
Layout	Select the layout file that defines the look of the dynamic data drawing.
Font	Select an existing font using the drop-down or select the **Browse** button (…) to add a new font to apply to the text of the dynamic data drawing.
Color	Select an existing color using the drop-down or select the **Browse** button (…) to add a new color to apply to the text of the dynamic data drawing. If no color is selected, the text will be invisible.
Background Color	This property only takes effect if there is no background image selected. If a background color is selected, a rectangle in this color will be drawn behind the text. The size of the rectangle corresponds to the text size with a small offset.
Background Image	Select an existing image using the drop-down or select the **Browse** button (…) to add a new image. If a background image is selected, the background color (if set) will not be applied. A rectangle textured with the image will be drawn behind the text. The size of the rectangle corresponds to the actual text size with a small offset, so the background image grows as the text grows.
Default Scale	The default value of the **Scale** property for the drawing.
Shadow Color	Select an existing color using the drop-down or select the **Browse** button (…) to add a new color to apply to the shadow of the text.
Shadow Angle	**Angle** — The angle of the shadow in degrees. **0** — The shadow falls to the right of the text. **90** — The shadow falls above the text. **180** — The shadow falls to the left of the text. **-90** — The shadow falls below the text.
Shadow Distance	The distance that the shadow falls from the text. A larger value moves the shadow further away from the text.

Property	Description
Visibility (In and Out)	How a dynamic data drawing appears (**In**) and disappears (**Out**) during animation. The default effect that plays as the drawing appears during animation. The effect can only be seen when the animation is played. Options are: **None** — the drawing appears instantly at the frame to which the key frame is set. **Dissolve** — the drawing animates in and out at the level set in the corresponding **Zoom** fields. The drawing blends in over the number of seconds selected in the **Time** field. Use the **Delay** field to input the number of seconds that the drawing will delay its animation. **Wipe Left** — the drawing animates in and out at the level set in the corresponding **Zoom** field. The drawing enters from the left over the number of seconds selected in the **Time** field. Use the **Delay** field to input the number of seconds that the drawing will delay its animation. **Wipe Right** — the drawing animates in at the level set in the corresponding **Zoom** field. The drawing enters from the right over the number of seconds selected in the **Time** field. Use the **Delay** field to input the number of seconds that the drawing will delay its animation. **Wipe Bottom** — the drawing animates in and out at the level set in the corresponding **Zoom** field. The drawing enters from the bottom over the number of seconds selected in the **Time** field. Use the **Delay** field to input the number of seconds that the drawing will delay its animation. **Wipe Top** — the drawing animates in and out at the level set in the corresponding **Zoom** field. The drawing enters from the top over the number of seconds selected in the **Time** field. Use the **Delay** field to input the number of seconds that the drawing will delay its animation. **Flight Mode** — Select the flight mode checkbox to enable the drawing to visualize the data as its clicked and dragged along the map. The effect can be changed in the **Drawing Editor** in the **Effect** section, when the drawing is selected in the output window. See Effect 224 for more information.

Background Drawings

Use a **Background** drawing to change the background of a map, as shown in the example below.

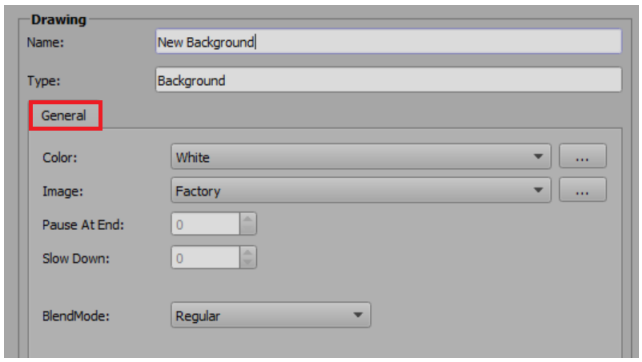


Default background

New background

Example - Background Drawing

General Tab



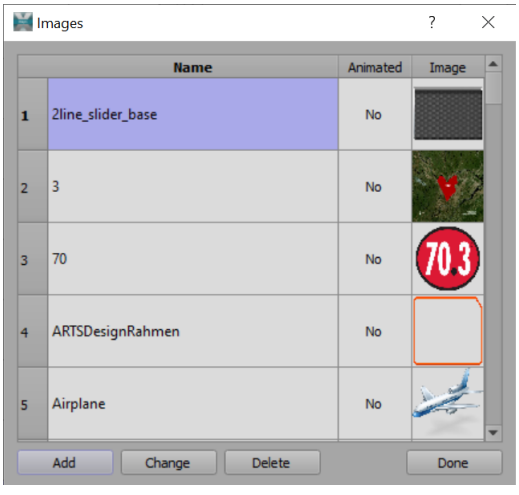
Properties - Background Drawings - General Tab

The properties in the **General** tab are described in the following table.

Property	Description
Color	Defines the fullscreen background color, independent of Background Mode. See Editing the Background Drawing 156 for more information. Select an existing color using the drop-down or select the **Browse** button (…) to add a new color to apply to the background drawing. If no color is selected, the background will be transparent.
Image	Select an existing image using the drop-down or select the **Browse** button (…) to add a new image. If selected, the image is used as the background when this drawing is selected in the **Scene Properties** editor or from the **Drawing Toolbox**. See Editing the Background Drawing 156 for instructions on replacing the background drawing from either the **Scene Properties** editor or the **Drawing Toolbox**.
Pause At End	Enter a value or use the arrows to set the number of frames for which an image sequence will pause at the last image before looping.
Slowdown	When an animated image is selected, this is the number of frames, expressed as a percentage, by which the movement of the animated image will be slowed. Accordingly, a negative value will speed up the movement.
Blend Mode	The default mode is **Regular**. Options are: **Regular** — the area is color combined with the underlying map color. This is the most common blend method. **Multiply** — the area color is multiplied with the underlying map color. **Add** — the area color is added to the underlying map color.

To add a new background drawing:

1. Select the **Browse** button (…) to open the **Images** window.



Images Window

2. Select **Add**.

   The local file folder window opens.

3. Choose a local image and select **Open**.

   Acceptable image file formats: **.png, .jpg, .gif, tif and .tga.**

4. Select **Done** to close the images window.

To change an existing background drawing:

1. Select the background image you want to change and select **Change**.

   The local file folder window opens.

2. Choose a local image and select **Open**.

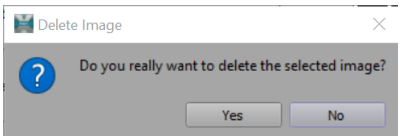
   Acceptable image file formats: **.png, .jpg, .gif, tif and .tga.**

3. Select **Done** to close the images window.

To delete a background drawing:

1. Select an image from the images window that you want to delete and select **Delete**.

   The **Delete Image** window opens.



Delete Image Window

2. Select **Yes** to delete the image.

   The image is deleted.

3. Select **Done** to close the images window.

Video Input Drawings

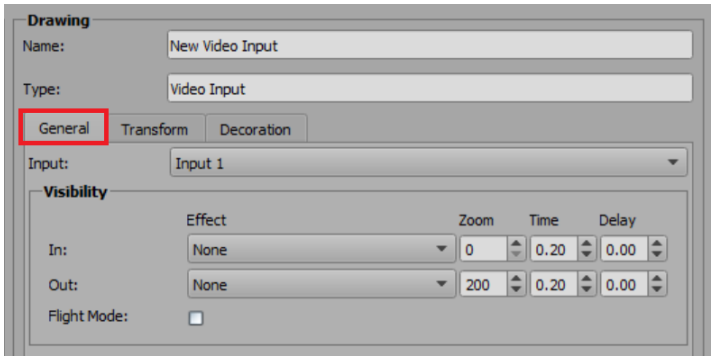
Use **Video Input** drawings to define the look and behaviour of video inputs in the scene. You can add a frame around the video input and attach a label, if desired.

You can have up to 8 video inputs in a scene.

The **Video Input** drawing properties are divided into 3 tabs and are described below.

Example - Video Input Drawing

General Tab

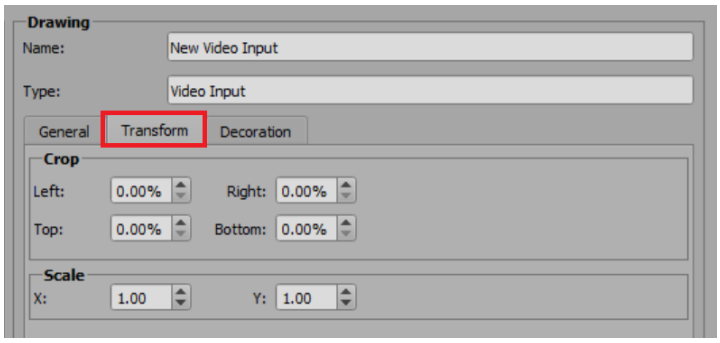


Properties - Video Input Drawings - General Tab

The properties found in the **General** tab are described in the following table.

Property	Description
Input	Select the input source to be displayed in the drawing. There are 8 possible inputs.
Visibility **(In and Out)**	How a video input drawing appears (**In**) and disappears (**Out**) during animation. Options are: **None** — the drawing appears/disappears instantly at the frame to which the key frame is set. **Dissolve** — the drawing animates in and out at the level set in the corresponding **Zoom** fields. The drawing blends in/out over the number of seconds selected in the **Time** field. Use the **Delay** field to input the number of seconds that the drawing will delay its animation. **Wipe Left** — the drawing animates in and out at the level set in the corresponding **Zoom** fields. The drawing appears/disappears from the left over the number of seconds selected in the **Time** field. Use the **Delay** field to input the number of seconds that the drawing will delay its animation. **Wipe Right** — the drawing animates in and out at the level set in the corresponding **Zoom** fields. The drawing appears/disappears from the left over the number of seconds selected in the **Time** field. Use the **Delay** field to input the number of seconds that the drawing will delay its animation. **Wipe Bottom** — the drawing animates in and out at the level set in the corresponding **Zoom** fields. The drawing appears/disappears from the bottom over the number of seconds selected in the **Time** field. Use the **Delay** field to input the number of seconds that the drawing will delay its animation. **Wipe Top** — the drawing animates in and out at the level set in the corresponding **Zoom** fields. The drawing appears/disappears from the top over the number of seconds selected in the **Time** field. Use the **Delay** field to input the number of seconds that the drawing will delay its animation. **Flight Mode** — Select the flight mode checkbox to enable the drawing to visualize the data as its clicked and dragged along The effect can be changed in the **Drawing Editor** in the **Effect** section, when the drawing is selected in the output window. See Effect 224 for more information.

Transform Tab

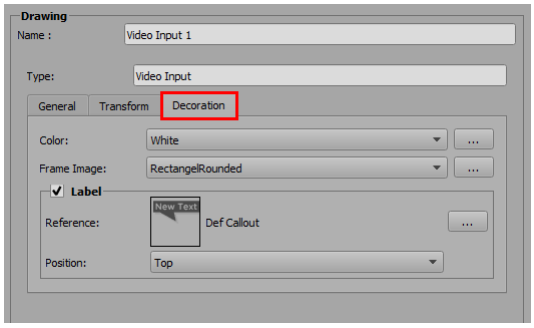


Properties - Video Input Drawings - Transform Tab

The properties found in the **Transform** tab are described in the table below.

Property	Description
Crop	Enter a value or use the arrows to select a percentage by which to crop the video input.
Scale	In the **X** and **Y** fields, enter a value or use the arrows to increase or decrease the size of the video input.

Decoration Tab



Properties - Video Input Drawings - Decoration Tab

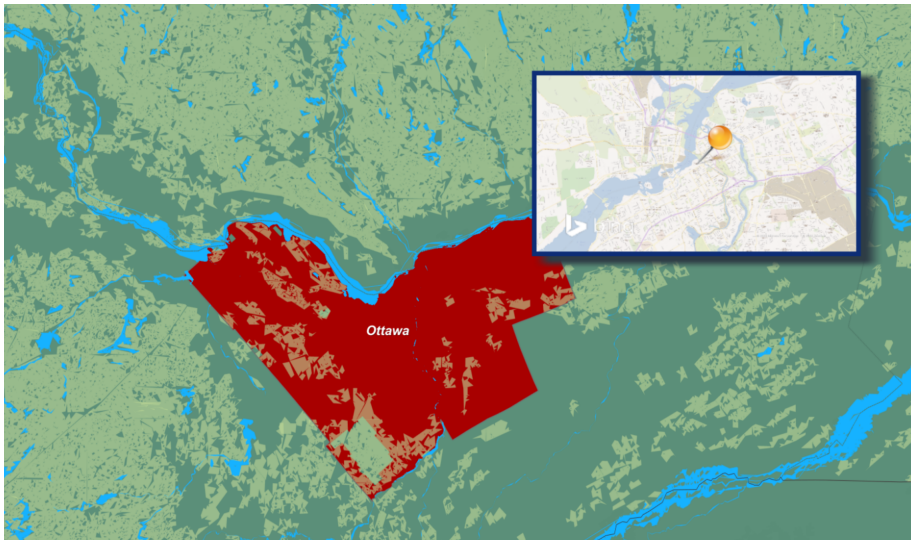
The properties found in the **Decoration** tab are described in the table below.

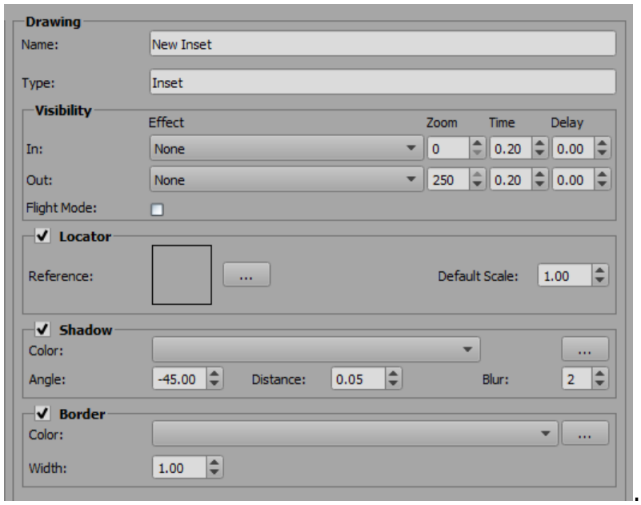
Property	Description
Color	Select an existing color using the drop-down or select the **Browse** button (…) to add a new color to apply to the frame image for the video input.
Frame Image	Select an existing image using the drop-down or select the **Browse** button (…) to add a new image to apply to the frame for the video input.
Label	Select the **Label** checkbox if you want to add a label to the video input drawing. Use the **Reference** drop-down to select a text drawing for the label. Use the **Position** drop-down to select the location of the label: **Top**, **Left**, **Right** or **Bottom**.

Inset Drawings

Inset drawings are used to highlight specific regions while also displaying the larger geographical location.

You can place **Inset** drawings on the **Overlay Layer** or directly onto the map.





Properties - Inset Drawings

The properties found in the **Inset** editor are described in the following table.

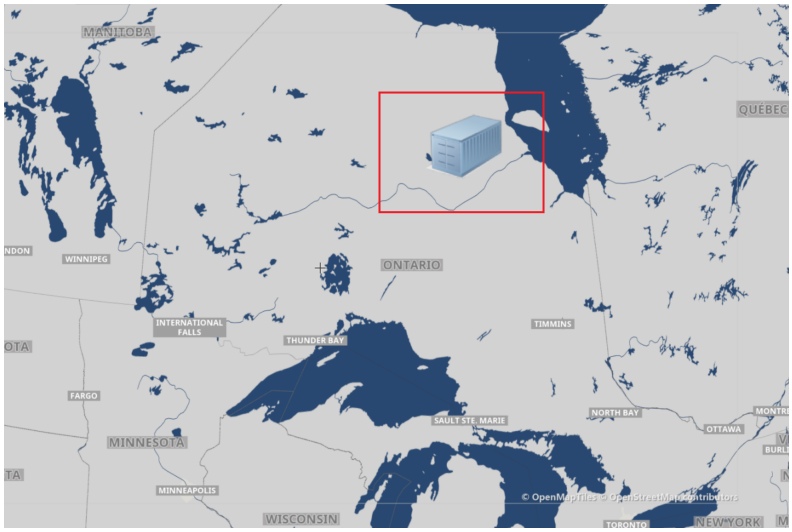
Property	Description
Visibility **(In and Out)**	How an inset drawing appears (**In**) and disappears (**Out**) during animation. Options are: **None** — the drawing appears/disappears instantly at the frame to which the key frame is set. **Dissolve** — the drawing animates in and out at the level set in the corresponding **Zoom** fields. The drawing blends in/out over the number of seconds selected in the **Time** field. Use the **Delay** field to input the number of seconds that the drawing will delay its animation. **Wipe Left** — the drawing animates in and out at the level set in the corresponding **Zoom** fields. The drawing appears/disappears from the left over the number of seconds selected in the **Time** field. Use the **Delay** field to input the number of seconds that the drawing will delay its animation. **Wipe Right** — the drawing animates in and out at the level set in the corresponding **Zoom** fields. The drawing appears/disappears from the left over the number of seconds selected in the **Time** field. Use the **Delay** field to input the number of seconds that the drawing will delay its animation. **Wipe Bottom** — the drawing animates in and out at the level set in the corresponding **Zoom** fields. The drawing appears/disappears from the bottom over the number of seconds selected in the **Time** field. Use the **Delay** field to input the number of seconds that the drawing will delay its animation. **Wipe Top** — the drawing animates in and out at the level set in the corresponding **Zoom** fields. The drawing appears/disappears from the top over the number of seconds selected in the **Time** field. Use the **Delay** field to input the number of seconds that the drawing will delay its animation. **Flight Mode** — Select the flight mode checkbox to enable the drawing to visualize the data as its clicked and dragged along The effect can be changed in the **Drawing Editor** in the **Effect** section, when the drawing is selected in the output window. See Effect 224 for more information.
Locator	Select a **Locator Reference** to display a reference point on the map in the output window. Click the browse button to open the **Select Locator Reference** window and select a tool from the drop-down. Select the icon you want to use, double-click to select it or press **Select**. Adjust the **Default Scale** to increase or decrease the size of the reference icon you selected. The **Default Scale** value is 1.00.
Shadow	**Color** — Select an existing color using the drop-down or click the **Browse** button (...) to add a new color to apply to the shadow of the text. **Angle** — The angle of the shadow in degrees. **0** — the shadow falls to the right of the text. **90** — the shadow falls above the text. **180** — the shadow falls to the left of the text. **-90** — the shadow falls below the text.

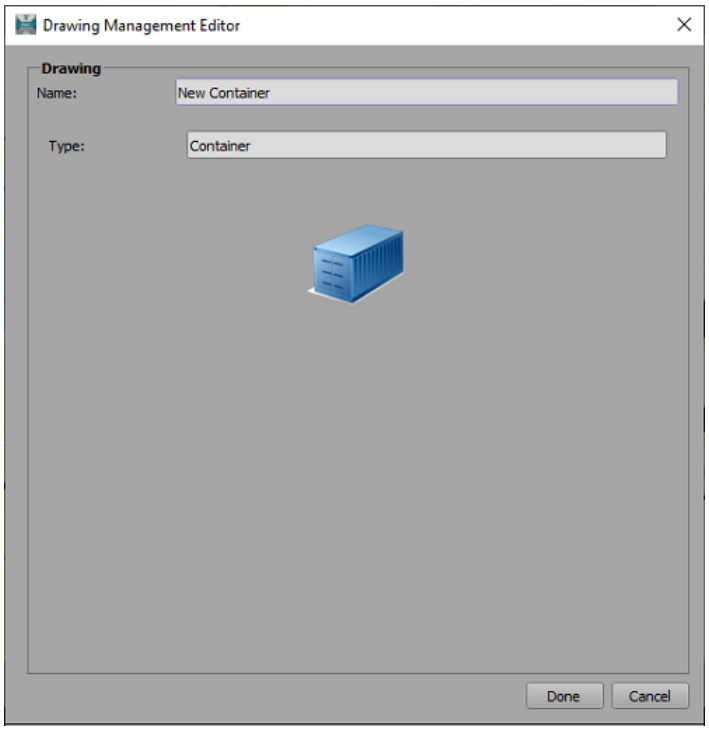
Property	Description
	Distance — The distance that the shadow falls from the text. A larger value moves the shadow further away from the text. **Blur** — Enter a value or use the arrows to set the degree by which the shadow appears out-of-focus.
Border	**Color** — Select an existing color using the drop-down or click the **Browse** button (...) to add a new color to apply to the border. **Width** — Enter a value or use the arrows to set the thickness of the border.

Container Drawings

Container drawings are used to contain and display **DataLinq** layers on the map.

Container drawings can be placed anywhere on the map, they will not register on final renderings and act only as a placeholder for external DataLinq information.





Properties - Container Drawings

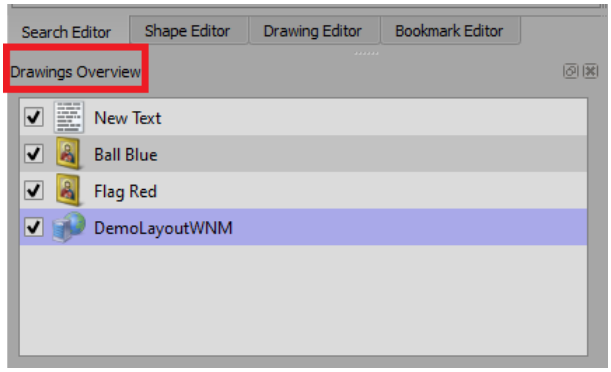
The properties found in the **Container** editor are described in the following table.

Property	Description
Name	Enter a name for the container drawing that relates to the data source.
Type	The type is populated by default and is not editable.

Drawings Overview Panel

The **Drawings Overview Panel** contains any drawings that have been added to a scene. Each drawing is listed with an icon that identifies which group it belongs to, see below.

You can organize, rename and delete drawings in the scene from the **Drawings Overview Panel**.



Drawings Overview Panel with Drawing Icons

To rename a drawing in the Drawings Overview Panel:

1. Double-click to select the drawing you want to rename.
2. Delete the drawing name and enter a new descriptive name for the drawing.

   The drawing is renamed.

To delete a drawing in the Drawings Overview Panel:

1. Right-click the drawing you want to delete.
2. Select **Delete Drawing**.

   OR

   Press **Ctrl+x.**

   OR

   Press the **Delete** key on the keyboard.

   The drawing is deleted.

To hide drawings from the scene:

- Use the checkboxes beside the drawings in the **Drawings Overview Panel** to make a drawing visible or invisible in the scene.

  If the boxes are unchecked the drawings will still appear in the drawings overview panel.

User Predefined Objects

The **User Predefined Objects** panel allows users to manage different groups and folders containing globally used objects, such as current war zones, pandemic stats, or wildfire locations from a scene. These groups merge the drawing tools into one object that can be accessed and shared in the database.

You can add, edit and delete groups and folders from within the **User Predefined Objects** panel.

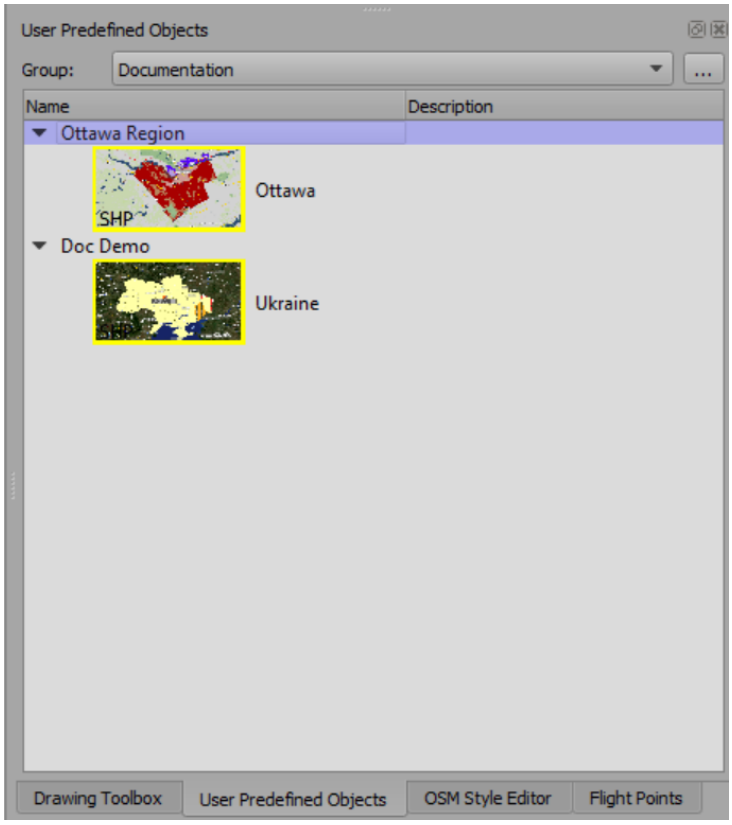
The following topics are discussed in this section:

Adding and Deleting Groups 132

Adding and Deleting Folders 134

Creating User Predefined Objects 136

Deleting User Predefined Objects 140



User Predefined Objects Panel

Adding and Deleting Groups

The **User Predefined Objects** panel allows users to create multiple groups containing as many folders with collections of drawing tools saved as one object.

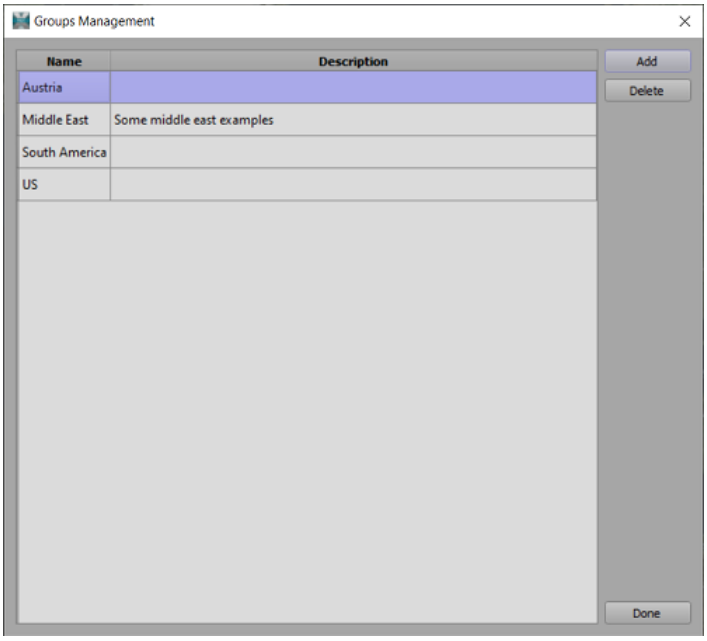
In order to merge predefined objects to the User Predefined Objects panel you must first create a group, and continue to add a folder for each desired scene.

For information on how to create folders see Adding and Deleting Folders 134.

To add a new group:

1. In the **User Predefined Objects** panel select the **Browse** button (...) beside the **Group** drop-down.

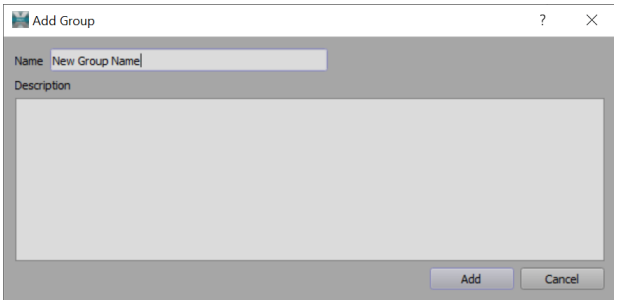
   The **Groups Management** window opens.



Groups Management Window

2. Select **Add**.

   The **Add Group** window opens.



Add Group Window

3. In the **Name** field, enter a name for the new group.
4. In the **Description** field, enter a description for the new group.

5. Select **Add**.

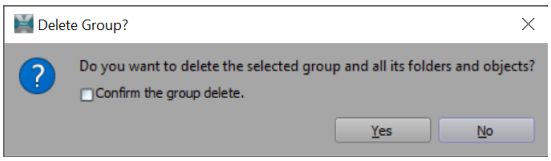
   The group has been added to the list.

   ★ You can rearrange groups in the **Groups Management** window by dragging and dropping them into position.

To delete a group:

1. From the **User Predefined Objects** panel, select the **Browse** button (…) beside the **Group** drop-down.
2. Select the group you want to delete and select **Delete**.

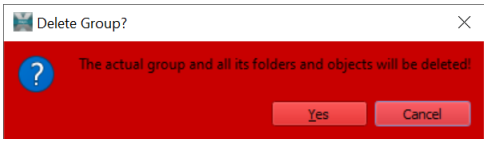
   The **Delete Group** window opens.



Delete Group Window

3. Select the checkbox to confirm the group delete and select **Yes**.

   The red highlighted **Delete Group** confirmation dialog opens.



Highlighted Delete Group Window

4. Select **Yes** to delete the group.

   The group and its containing folders are now deleted.

Adding and Deleting Folders

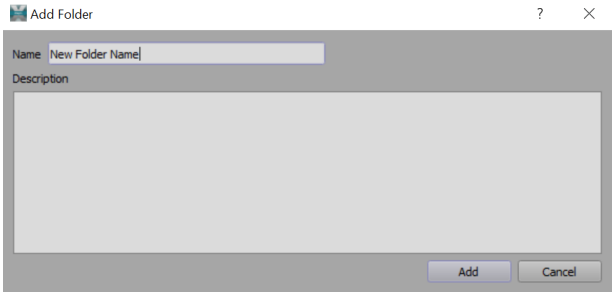
Folders created in the **User Predefined Objects** window are used to contain the collection of drawing tools created as one object. In order to save a predefined object you must first create a group and then add a folder to that group.

For information on creating groups see Adding and Deleting Groups 132.

To add a folder to a group:

1. In the **User Predefined Objects** panel, from the **Group** drop-down, select the group to which you want to add a folder.
2. Right-click in a blank area of the **Name** box and select **Add Folder**.

   The **Add Folder** window opens.



Add Folder Window

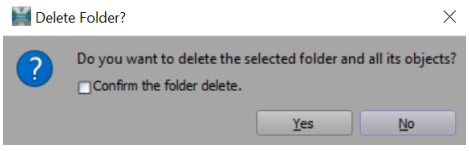
3. In the **Name** field, enter a name for the folder.
4. In the **Description** field, enter a description for the folder.
5. Select **Add.**

   The folder is added to the group.

To delete a folder from a group:

1. From the **User Predefined Objects** panel select the group containing the folder you want to delete from the **Group** drop-down.
2. Right-click on the folder and select **Delete**.

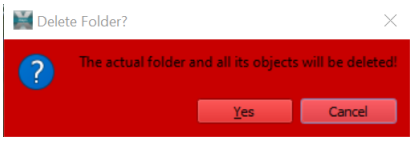
   The **Delete Folder** window opens.



Delete Folder Window

3. Select the checkbox to confirm the folder delete and select **Yes**.

   The red highlighted **Delete Folder** window opens.



Highlighted Delete Folder Window

4. Select **Yes** to delete the folder.

   The folder is deleted.

   ★ Deleting a folder will delete the objects as well.

Creating User Predefined Objects

Combine a collection of drawing tools on the map as one predefined object by creating **User Predefined Objects**.

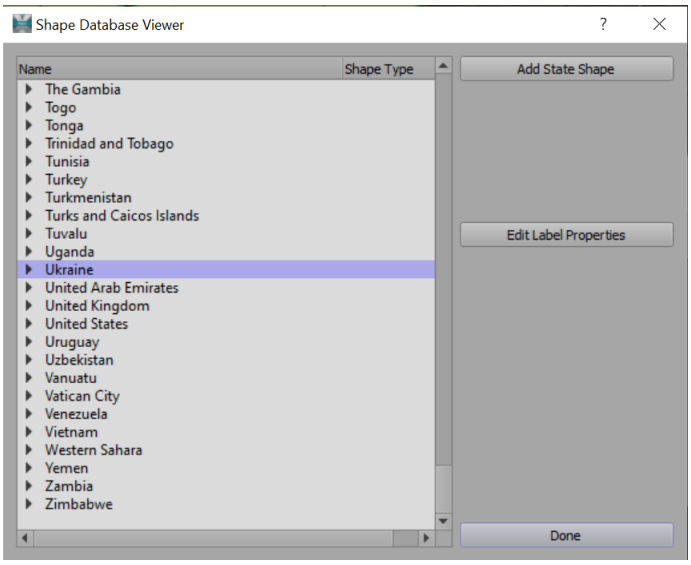
Creating User Predefined Objects:

1. In the **Search Editor**, type in a geographical location to be displayed on the map in the output window.

   For information on using the **Search Editor** see Search Editor 235.

2. Select the **Shape Database Viewer** button on the bottom of the **Search Editor** window to open the **Shape Database Viewer**.

   The **Shape Database Viewer** opens.



Shape Database Viewer

3. Expand the country and select the state you wish to add to the map and select **Add State Shape**.

   The **State Shape** is added to the **Shape Editor**.

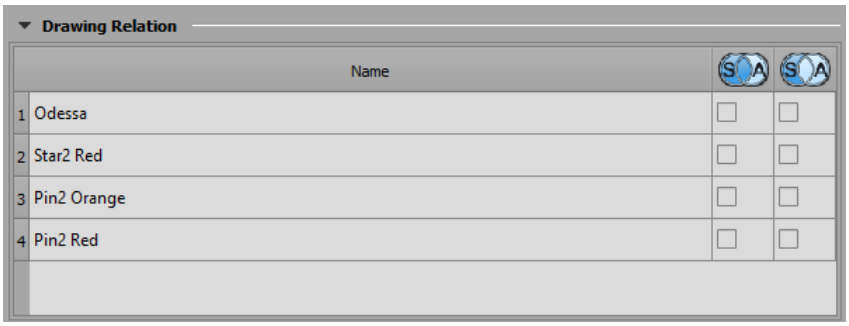
4. Select **Done** to close the **Shape Database Viewer**.

5. Add drawings to the map, as needed.

   The drawings are added to the **Drawings Overview** panel.

6. In the **Shape Editor**, with the shape selected, expand the **Drawing Relation** section.

7. Drag and drop drawings from the **Drawings Overview** panel into the **Drawing Relation** panel.



Shape Editor - Drawing Relation

The two columns to the right of the numbered list contain checkboxes that allow you to select if you want the drawing to be masked by the drawing area or not, as described in the following procedures.

To mask an area with a shape:

1. Add an **Area** drawing to the map.
2. Drag and drop the **Area** drawing from the **Drawings Overview** panel to the **Drawing Relation** panel.
3. In the **Drawing Relation** panel, select the checkbox in the **Mask** column to the right of the **Area** drawing to apply a mask to the part of the **Area** drawing that falls outside of the shape.

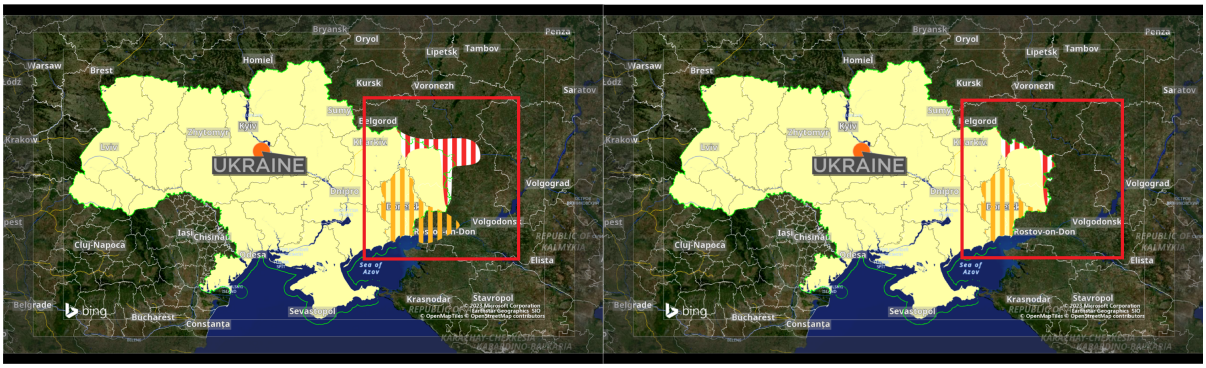


Image Displays The Difference Between Drawing Tools Unmasked And Masking By An Area

To mask a shape by the area:

- Select the checkbox under this icon  beside the shape that you want to have the area masked by.

  Notice the background and borders of the area showing through the drawing tools.

  The shape is masked by the area.

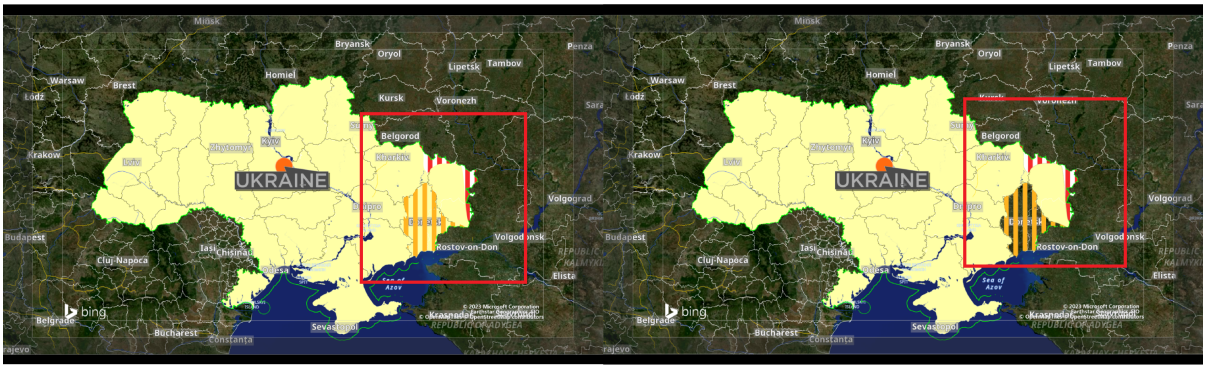
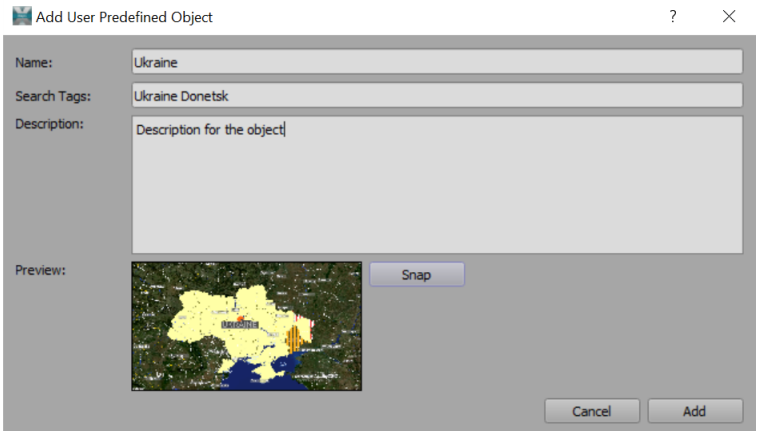


Image Displays The Difference Between Drawing Tools Being Masked And Unmasked By An Area

To add a completed scene to the User Predefined Objects panel:

1. Select the state shape from the top of the **Shape Editor** panel and drag it into the selected group folder created in the **User Predefined Objects** panel.

   The **Add User Predefined Objects** window opens.



Add User Predefined Objects Window

★ In order to merge the the collection of drawing tools to the user predefined objects panel you must first create a group and folder within the group.

For information on how to create groups see Adding and Deleting Groups 132.

For information on how to create folders see Adding and Deleting Folders 134.

2. In the **Name** field, enter a name for the object.
3. In the **Search Tags** field, enter any identifying terms for the object.

   For example, you can identify any masked areas within the scene.

4. In the **Description** field, enter a description of the scene and its intended purposes.
5. Select the **Snap** button beside the **Preview** image to snap thumbnail of the **User Predefined Object**.

   To adjust the thumbnail image, close the **Edit User Predefined Object** window and move the map or zoom in or out to your preferred position. Double-click the **User Predefined Object** to open the **Edit User Predefined Object** window and select **Snap** to preview a new thumbnail image.
6. Select **Add** to add the **User Predefined Object** to your folder.

   The user predefined object is added to the folder.
7. From the menu bar select **File > Save** to save your project.

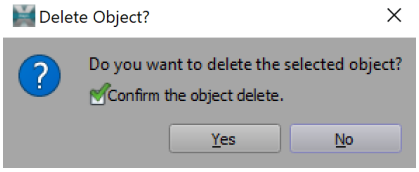
Deleting User Predefined Objects

Users can delete objects from the **User Predefined Object** folders.

To delete user predefined objects:

1. In the **User Predefined Objects** panel, select the group containing the object(s) you want to delete from the **Group** drop-down.
2. Locate the object you want to delete, right-click and select **Delete**.

   The **Delete Object** window opens.



Delete Object Window

3. Click the checkbox to confirm and select **Yes** to delete the object.

   The **User Predefined Object** is deleted.

Creating Scenes

XPression Maps is an application that allows the user to design virtual animations over maps and create video files out of these animations. Drawings such as icons, lines, areas, and text, can be used to highlight and describe situations on the map in an animated way. You can create a story out of the virtual animation. During the creation of a scene the application downloads all necessary map information from the Bing web service.

An integrated library of country and state boundaries can be used to highlight countries and regions of interest.

★ The application must be connected to the Internet because all new map tiles are downloaded from the web map service.

The following topics are discussed in this section:

Output Window

The first time you launch the application, the **Output Window** displays the world globe at a random location. Subsequently, when you launch the application, the map opens to where it was positioned when the application was last closed.

In the output window, you can:

- Move and zoom into any location of the world using the mouse or enter a location in the **Search Editor**.
- Add shapes and drawings to the scene.
- Create animated scenes.

Manipulating the Globe

The **Globe** in the output window can be rotated and zoomed in or out to a specific location.

To rotate the globe:

- **Left-click** on the mouse and drag to rotate the globe in the desired direction.
- Press **Ctrl +** left-click on the mouse to spin the globe clockwise and counterclockwise and position the globe into the desired direction
- Press **Ctrl +** right-click on the mouse to tilt the globe vertically and position the globe into the desired direction.

To zoom in or out:

- Use the scroll wheel of the mouse or right-click and draw a rectangle around the area of interest.

Camera Focus

In the center of the output window, there is a crosshairs. When you search for a specific location, it will be positioned on the crosshairs. This is also a useful tool for centering the area of interest in the scene.

Opening a Scene

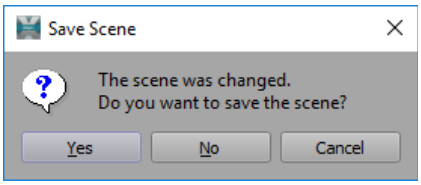
A scene consists of a map and a number of drawings you add to create an animated sequence. By default, the application launches with a new scene displayed, but you can also choose to open an existing scene or a recently opened scene.

To open a new scene:

1. From the menu bar select **File > New** or select the **New** icon in the toolbar.

XPression Maps Toolbar - New

If the current scene has unsaved changes, a confirmation dialog opens asking if you want to save it.



Save Scene Confirmation

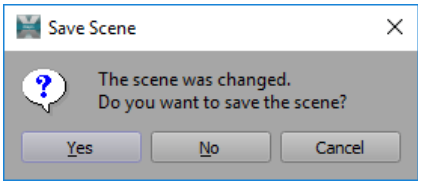
2. Select **Yes** to save the current scene or **No** to discard it.

To open an existing scene:

1. From the menu bar select **File > Open** or select the **Open Scene** button in the toolbar.

XPression Maps Toolbar - Open Scene

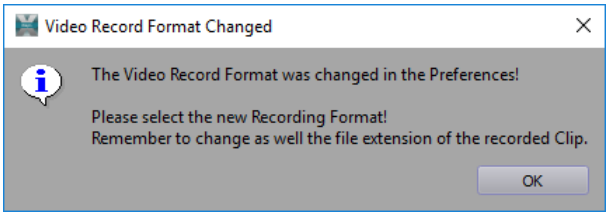
If the current scene has unsaved changes, a confirmation dialog opens asking if you want to save it.



Save Scene Confirmation

2. Select **Yes** to save the current scene or **No** to discard it.
3. Then select an existing scene from the **XPression Maps Scenes** folder (or whichever folder you've stored your scenes in) and select **Open**.

   If the selected scene has a different video format, a confirmation dialog opens, asking if you want to set the new format.



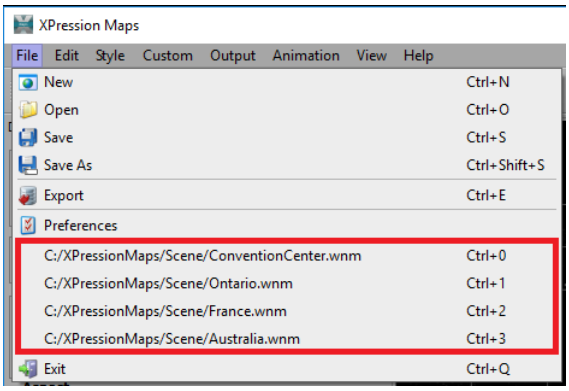
Video Format Confirmation

4. Select **Yes** to set the new format or **No** to keep the current format.

   Clicking the **X** in the top-right corner gives the same result as clicking **No**.

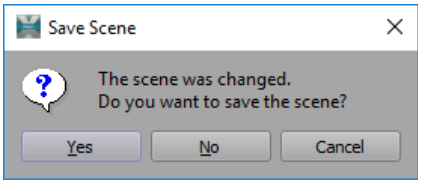
To open a recently opened scene:

1. Select **File** and select a scene from the list of recently opened scenes.



Recently Opened Scenes

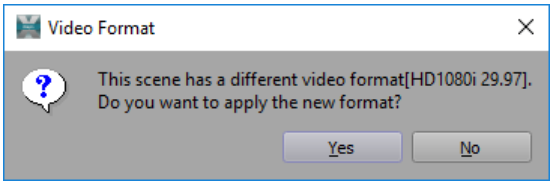
   If the current scene has unsaved changes, a confirmation dialog opens asking if you want to save it.



Save Scene Confirmation

2. Select **Yes** to save the current scene or **No** to discard it.

   If the selected scene has a different video format, a confirmation dialog opens asking if you want to set the new format.



Video Format Confirmation

3. Select **Yes** to set the new format or **No** to keep the current format.

Adding and Editing Drawings

Drawings in the **Drawing Toolbox** are added to a scene in the output window. They become part of the scene and as such will be saved and loaded with the scene.

For information about creating drawings, see Managing Drawings 85.

To add a drawing to the scene:

1. In the **Drawing Toolbox**, from the **Group** drop-down, select the group that contains the drawing you want to add to your scene.
2. Then do one of the following:
   a. Select a thumbnail in the preview pane and then click in the scene where you want the drawing to appear.

      Left-clicking multiple times in the scene will add additional instances of the drawing.

      OR

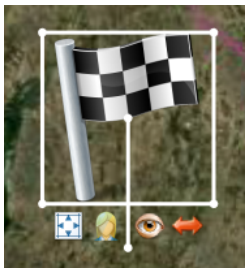
   b. Left-click and drag a thumbnail from the preview pane into the scene.
3. After adding a drawing, right-click on the mouse to add just one instance of the drawing or continue clicking to add multiple instances.

This method applies to text, icon, magnifier, locator, dynamic data, background, video input and inset drawings. For information about adding and editing area and line drawings, see the following sections:

Adding and Editing Area Drawings. 149

Adding and Editing Line Drawings. 152

When you add a drawing to a scene, it is displayed within a white bounding box with a handle attached to the middle, as shown below:



Selected Drawing in the Output Window

The bounding box, the handle and the various icons attached to the bounding box are used to manipulate the drawing. You can move the drawing and modify the size, visibility, orientation, and rotation using these tools. Not all tools apply to every drawing type. Drawings display only those tools that apply to them.

To copy and paste a drawing:

1. In the output window, select a drawing in the scene.
2. From the menu bar select **Edit > Copy Drawing** or press **Ctrl+C**.

   The drawing and its parameter values are stored internally.
3. From the menu bar select **Edit > Paste Drawing** or press **Ctrl+V**.

   A copy of the stored drawing is placed in the middle of the output window.

To cut a drawing:

1. In the output window, select a drawing in the scene.
2. From the menu bar select **Edit > Cut Drawing** or press **Ctrl+X** or press the **Delete** key.

   This copies the drawing while simultaneously deleting it, so if you change your mind, you can paste it back in.

To edit a drawing:

1. Click on a drawing in the output window to select the drawing.

   The selected drawing will display the bounding box and its tools.
2. Use the tools to change the size, position and appearance of the drawing as described in the table below:

Tool		How to Use the Tool
Center Point		Click and hold, then drag to move the drawing around the scene. You can also click and hold anywhere inside the bounding box to move the drawing.
Corner Points		Click and hold, then drag to scale the drawing.
Handle		Click and hold the end of the handle, then drag to rotate the drawing. For line and area drawings, the handles can also be used to adjust the path of the line or the shape of the area.
Scale		Click to enable **Auto Scaling**. In the **Drawing Editor**, you'll see that in the **Size** section, the Auto checkbox is selected. When selected, the drawing remains the same size as you zoom in and out on the map. When the Auto checkbox is cleared, the drawing will scale larger when you zoom in and smaller when you zoom out on the map.

Tool		How to Use the Tool
Eye Icon		Click to toggle the visibility of the drawing.
Face Icon		Click to toggle the placement of a drawing, either angled to match the map surface or perpendicular to the map surface and facing the camera. For drawings that are created on the **Overlay Layer**, this icon does not appear.
Double-Ended Arrow		Click the double-ended arrow to flip the drawing horizontally.

In addition to the tools described above, some types of drawings have additional ways to manipulate them, that are specific to the drawing type.

These additional methods are described in the following sections.

Editing Text Drawings 148

Adding and Editing Area Drawings 149

Adding and Editing Line Drawings 152

Editing Locator Drawings 155

Editing the Background Drawing 156

Editing Text Drawings

Text drawings display a predefined text in a predefined font that has been created in the **Drawing Management Editor**.

See Drawing Management Editor 82 more information.

To edit a text drawing:

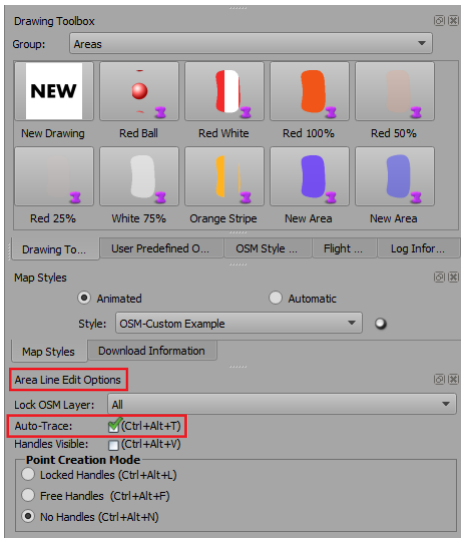
- Double-click the text drawing and enter the new text directly in the output window or in the **Drawing Editor**, in the **Text** pane, edit the default text.
- When the text drawing has a **Callout** marker:
  - Click and hold inside the bounding box to move the label and its background without moving the marker.
  - Click and hold the white point at the top of the handle inside the bounding box to move the label, background and marker together.

Adding and Editing Area Drawings

Area drawings display a closed area filled with color and texture. The fill is defined in the **Drawing Management Editor**. In the **Drawing Toolbox** preview pane, area drawings are identified with the area drawing icon, shown below.

Area Drawing Icon

Area drawings can be added with or without **Auto-Trace** mode enabled. Enabling the **Auto-Trace** mode makes it possible to draw an area on the screen by dragging the drawing without the need to click at different points. The **Auto-Trace** parameter is located below the **Drawing Toolbox** in the **Area Line Edit Options** window. Once added to the scene, the area drawings can be manipulated to change their appearance, location, size, etc.



Auto-Trace Mode

To add an area drawing with Auto-Trace mode enabled:

1. Below the **Drawing Toolbox** in the **Area Line Edit Options** window select an option from the **Lock OSM Layer** drop-down if you want to have the area drawing locked on to a particular section of the map so that it doesn't waiver off to other points. Select **None** to keep the OSM Layer unlocked.
2. Select the **Auto-Trace** checkbox to enable it.
3. In the **Drawing Toolbox**, left-click on the thumbnail of the area drawing you want to add to your scene.
4. In the output window, left-click on the map where you want the area to start, then drag through the area you want to display, left-clicking each time you change direction.

   Drag and click as if you're creating the outline of the area, ending up at the same point where you started, to get roughly the shape of the area you intend.
5. Release the mouse button when you reach the end of the area, to stop drawing.

To add an area drawing with Auto-Trace mode disabled:

1. Below the **Drawing Toolbox** in the **Area Line Edit Options** window select an option from the **Lock OSM Layer** drop-down if you want to have the area drawing locked on to a particular section of the map so that it doesn't waiver off to other points. Select **None** to keep the OSM Layer unlocked.
2. Clear the **Auto-Trace** checkbox to disable it.
3. In the **Drawing Toolbox** preview pane, left-click on the area drawing thumbnail you want to add to your scene.
4. In the output window, left-click on the map where you want the area to start.
5. Move the mouse and left-click at individual points along the area you want to display.

   Click as if you're creating the outline of the area, and end up at the same point where you started, to get roughly the shape of the area you intend.
6. Right-click when you reach the end of the area, to stop drawing.

To delete an area drawing:

1. Select the area drawing but don't click on a location point.
2. Then press the **Delete** key to remove the drawing.

To edit an area drawing:

- Select the area drawing and do any of the following:
  - Double-click positions along the border of the area drawing to create new location points.
  - Click and hold on a location point and then drag it to a new position to adjust the shape of the area drawing.
  - Press the **CTRL** key and click on a location point to toggle between a sharp corner and a smooth path at the location point.

    The location point turns blue.

    By default the location points are linked and the line forms a smooth round path through the points. Unlinking a location point makes a sharp corner at this position.
  - Click the end of a handle and drag to adjust the shape of the area drawing.
  - Click a location point (turning it red) and press the **Delete** key to remove the point.
  - Click a location point to toggle between a sharp corner and a smooth path.

    By default the location points are linked and the line forms a smooth round path through the points. Unlinking a location point makes a sharp corner at this position.
  - Click the end of a handle and drag to adjust the shape of the area drawing.
  - Click a location point (turning it red) and press the **Delete** key to remove the point.

Point Creation Mode

Use the **Point Creation Mode** section to select and modify which style of drawing handles you want to use when creating line and area drawings.

The styles are:

- **Locked Handles**

  Select the **Locked Handles** checkbox or press **Ctrl+Alt+L** to enable a 180 degree connection with locked handle points when creating a line or area drawing.

- **Free Handles**

  Select the **Free Handles** checkbox or press **Ctrl+Alt+F** to enable an unlimited and unlinked connection of points when creating a line or area drawing.

- **No Handles**

  Select the **No Handles** checkbox or press **Ctrl+Alt+N** to enable zero lengths of linear connection points when creating a line or area drawing.

Adding and Editing Line Drawings

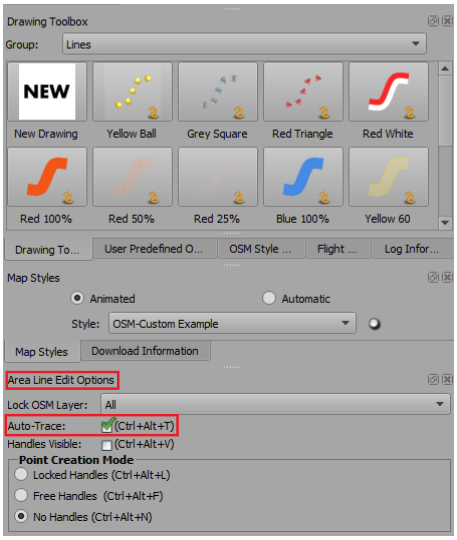
Line drawings display a predefined textured line that is created in the **Drawing Management Editor**.

See Drawing Management Editor 82 for more information.

In the **Drawing Toolbox** preview pane, line drawings are identified with the line drawing icon, shown below.

Line Drawing Icon

Line drawings can be added with or without **Auto-Trace** mode enabled. Enabling the **Auto-Trace** mode makes it possible to draw a line on the screen by dragging the line without the need to click at different points. The **Auto-Trace** parameter is located below the **Drawing Toolbox** in the **Area Line Edit Options** window. Once added to the scene, the line drawings can be manipulated to change their appearance, location, size, etc.



Auto-Trace Mode

To add a line drawing with Auto-Trace mode enabled:

1. Below the **Drawing Toolbox** in the **Area Line Edit Options** window select an option from the **Lock OSM Layer** drop-down if you want the line drawing locked on to a particular section of the map so that it doesn't waiver off to other points. Select **None** to keep the OSM Layer unlocked.
2. Select the **Auto-Trace** checkbox to enable it.
3. In the **Drawing Toolbox**, left-click on the line drawing thumbnail you want to add to your scene.
4. In the output window, left-click and hold down the mouse button on the map where you want the line to start, then drag the line along the route you want to display.
5. Release the mouse button when you reach the end of the route, to stop drawing.

To add a line drawing with Auto-Trace mode disabled:

1. Below the **Drawing Toolbox** in the **Area Line Edit Options** window clear the **Auto-Trace** checkbox to disable it.
2. In the **Drawing Toolbox**, left-click on the line drawing thumbnail you want to add to your scene.
3. In the output window, left-click on the map where you want the line to start.
4. Move the mouse and left-click at individual points along the route you want to display.
5. Right-click when you reach the end of the route, to stop drawing.

To delete a line drawing:

1. Select the line drawing but don't click on a location point.
2. Then press the **Delete** key to remove the drawing.

To edit a line drawing:

1. Add a location point to a selected line by double-clicking on or in front of the head of the line.
2. Double-click after the last location point to add a new line segment to the line. Continue adding line segments and then right-click to stop adding location points.
3. Select a line to see the location points that define the line.
4. Click and hold the left mouse button on a location point and drag the point to move it to a new location.
5. Click a location point (turning it red) and press the **Delete** key (or click **Ctrl+X**) to remove the point.
6. De-select all location points by clicking on the line between the location points or on an area away from the line drawing.
7. Click a location point to toggle between a sharp corner and a smooth path at the location point.

   By default the location points are linked and the line forms a smooth round path through the points. Unlinking a location point makes a sharp corner at this position.
8. Click and drag the white points at either end of the line to change the line width.
9. Click and hold the blue point on the handle at the head of the line, while moving it horizontally to reverse the progress of the line and retrace the original path.

   You can also accomplish the same task by clicking the white point at the top corner of the bounding box and moving it to the right or left.

   Use the longitude and latitude parameters in the **Location** section of the **Drawing Editor** to relocate the line on the map.

To connect an icon or text drawing to a line drawing:

1. Place an icon or text drawing into the scene.
2. Move the icon or text drawing onto the head of the line, until a glowing yellow box indicates that the drawing is in the right position to connect.

   The head of the line is the end farthest from the bounding box.

   A connected drawing will be positioned together with the head of the line when the progress property of the line is changed.

   The rotation angle of a connected drawing will be adjusted automatically as it moves along the line, if the **Use Spline Rotation** parameter is enabled for the connected drawing.

To disconnect an icon or text drawing from a line drawing:

- Click and then drag a connected drawing away from the head of the line to disconnect the drawing.

Point Creation Mode

Use the **Point Creation Mode** section to select and modify which style of drawing handles you want to use when creating line and area drawings.

The styles are:

- **Locked Handles**

  Select the **Locked Handles** checkbox or press **Ctrl+Alt+L** to enable a 180 degree connection with locked handle points when creating a line or area drawing.

- **Free Handles**

  Select the **Free Handles** checkbox or press **Ctrl+Alt+F** to enable an unlimited and unlinked connection of points when creating a line or area drawing.

- **No Handles**

  Select the **No Handles** checkbox or press **Ctrl+Alt+N** to enable zero lengths of linear connection points when creating a line or area drawing.

Editing Locator Drawings

Locator drawings display a "map within a map" showing the position of the searched location within the world. Typically, it is placed on the **Overlay Layer**, though it can also be put into the normal layer. The center of the locator drawing points to the actual position of the camera if a **Map Offset** is not set in the **Drawing Editor**.

The appearance of the locator drawing is defined in the **Drawing Management Editor**.

The area within the locator drawing can be presented by Bing Aerial, Bing Aerial Label or Bing Road maps, as selected in the **Locator** section of the **Drawing Editor**.

To edit a locator drawing:

- Click the yellow point in the middle of the bounding box and move the mouse.

  This changes the **Map Offset** parameters in the **Drawing Editor** accordingly.

  For information about **Map Offset** parameters in locator drawings, see Locator Drawings. 114

Editing the Background Drawing

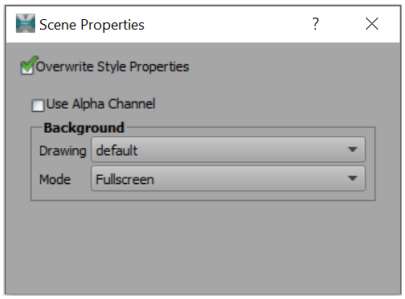
Background drawings are images that can be used to replace the background behind the globe. XPression Maps comes with a default background drawing behind the globe. This background is black with stars to give the impression of outer space.

Background images are by default scaled to be fully visible inside the selected video format. Use the same size as the video format to get a fullscreen background image. The background image will only be visible when the **Zoom Level** camera parameter is such that the edges of the globe are visible.

The default background drawing can be replaced with another drawing of your choosing from the **Scene Properties** menu or from the **Drawing Toolbox**.

To replace the background drawing from the Scene Properties dialog:

1. Select **Style > Scene Properties** in the menu bar.



Scene Properties

2. Select the **Overwrite Style Properties** to adjust the parameters.
3. Select the **Use Alpha Channel** checkbox, if you want to use the alpha channel in the final output and see a checkerboard pattern in the preview.
4. In the **Scene Properties** dialog, from the **Drawing** drop-down, select the background drawing you want to use.
5. From the **Mode** drop-down, select the scaling of the drawing.
   - **Fullscreen** — shows the background over the whole output window. This may distort the drawing.
   - **Letterbox** — makes the width fit into the output window, while preserving the aspect ratio.
   - **Pillarbox**— makes the height fit into the output window, while preserving the aspect ratio.
6. Close the dialog.

To replace the background drawing from the Drawing Toolbox:

1. In the **Drawing Toolbox**, from the **Group** drop-down, select the group that contains the background drawing you want to use.
2. Left-click and drag the background drawing into the output window or select the drawing and click in the background of the scene.
3. Release the mouse button to replace the current background.

Editing Inset Drawings

Inset drawings like **Locator** drawings display a "map within a map" showing the position of the selected location within the world. Inset drawings can be placed on the **Overlay Layer** or directly onto the normal layer.

The appearance of the inset drawing is defined in the **Drawing Management Editor**. For information about inset drawing properties, see Inset Drawings 126.

To edit an inset drawing:

1. With an inset drawing added to the scene, select the green **Enter Fullscreen** button above the output window.

   Inset Drawing Fullscreen

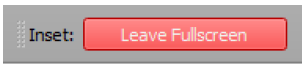
   The inset drawing is now shown in full view in the output window.

   If an inset drawing has not been added to the scene the button will show as **Not Active**.

2. Right-click on the mouse button to drag and select a location you want to display with the inset drawing, or open the **Search Editor** and type in a location.

   In fullscreen mode you can add drawings, shapes and change the **Map Style** that is displayed with the inset drawing.

3. After creating the inset drawing select the red **Leave Fullscreen** button above the output window to return back to your main map.

   Inset Drawing Leave Fullscreen

   The inset drawing will be displayed just as you created it in fullscreen.

To delete an inset drawing:

- With the main map in the output window, select the inset drawing and press the **Delete** key to delete it.

  You can also use the keyboard shortcut **Ctrl+X** to delete an inset drawing.

Ordering Drawings

You may have several drawings that you want to place one on top of the other, in a scene. For example, you could have an area drawing with a line drawing and icon drawing on top of it and a text drawing to accompany the icon. In such a case, you would want all of the other drawings to appear on top of the area drawing and you might want the text drawing to appear on top of the line drawing. You can use the drawing order commands to move each drawing to the layer in which you want it to appear.

To order a drawing:

1. Select the drawing in the output window.
2. Select **Edit** in the menu bar and select one of the following options:
   a. **Move Drawing To Top** - moves the selected drawing to the top-most position in the scene so that it will appear on top of all other drawings.

      You can also use the keyboard shortcut **Ctrl+PgUp** or click the **Move Drawing To Top** button in the toolbar.

XPression Maps Toolbar - Move Drawing To Top

   b. **Move Drawing Up** - moves the selected drawing up one layer in the scene.

      You can also use the keyboard shortcut **Ctrl+Up** or click the **Move Drawing Up** button in the toolbar.

XPression Maps Toolbar - Move Drawing Up

   c. **Move Drawing Down** - moves the selected drawing down one layer in the scene.

      You can also use the keyboard shortcut **Ctrl+Down** or click the **Move Drawing Down** button in the toolbar.

XPression Maps Toolbar - Move Drawing Down

   d. **Move Drawing to Bottom** - moves the selected drawing to the bottom-most layer in the scene, so that it will appear beneath all other drawings.

      You can also use the keyboard shortcut **Ctrl+PgDown** or click the **Move Drawing To Bottom** button in the toolbar.

XPression Maps Toolbar - Move Drawing To Bottom

3. Select **Save** to store your changes to the scene.

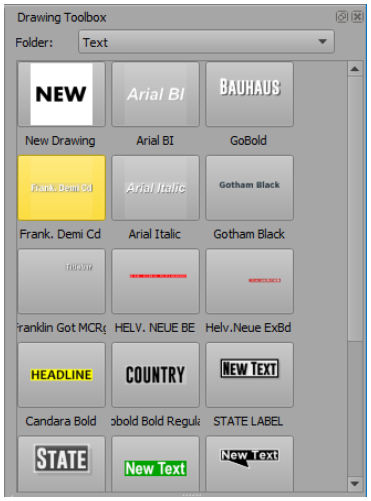
Drawing Toolbox

Use the **Drawing Toolbox** located to the right of the output window, to add drawings from the database to a scene, to create a new drawing or to edit an existing drawing.

You can also designate a default drawing, which is used whenever drawings are generated automatically. For example, you can automatically create a text drawing with the name of a country or a state when the corresponding shape is created. In this case, the settings of the default text drawing are used for the label text drawing. You can designate a default drawing for text, icon and dynamic data drawings.

In addition, you can specify that a text or dynamic data drawing be created exactly at the search location.

See Drawing Management 81 for information on the setup and management of drawings.



Drawing Toolbox

To add a drawing to the scene:

1. In the **Drawing Toolbox**, from the **Group** drop-down, select the folder containing the drawing you want to add to a scene.

   Thumbnails of the drawings contained in that group are displayed in the preview pane.

2. Left-click the thumbnail and then left-click the place in the scene where you want the drawing to appear.

   OR

   Left-click and hold down the mouse button on the thumbnail and drag it to the place in the scene where you want the drawing to appear.

3. Keep clicking in the scene to add more instances of the same drawing to the scene.

   Each click adds another drawing, or in the case of a line or area drawing, another point.

4. Right-click in the scene to end the generation process.

To replace a drawing:

1. In the **Drawing Toolbox**, from the **Group** drop-down, select the folder containing the drawing you want to add to a scene.

   Thumbnails of the drawings contained in that folder are displayed in the preview pane.

2. Left-click and hold down the mouse button on the thumbnail and drag it on top of the drawing you want to replace.

   The position, scale and entered text (if applicable) will remain the same.

To create a new drawing:

1. In the **Drawing Toolbox**, from the **Group** drop-down, select the folder to which you want to add a new drawing.
2. Select the **New Drawing** thumbnail to open the **Drawing Management Editor**.

   New Drawing Thumbnail

3. In the **Drawing Managment Editor**, in the **New Drawing** dialog, select the drawing type from the drop-down and select **OK**.

   When you select the icon or background drawing type, you will be taken to the **Open Image File** dialog, from which you can select an image. If you prefer to use one of the default images, close this dialog and select the image from the Image drop-down in the **Drawing Management Editor**.

4. Define the properties of the drawing as described in Managing Drawings. 85
5. When you've finished defining the properties, select **Done**.

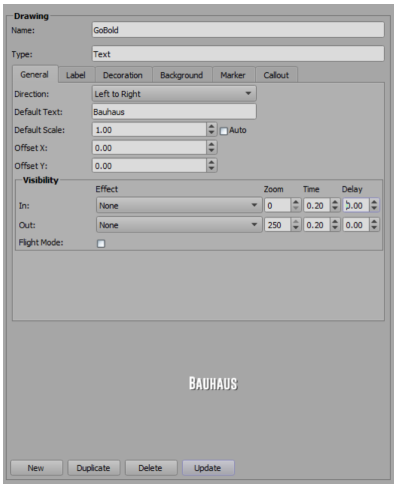
   The new drawing is added to the list of drawings in the preview pane of the **Drawing Toolbox**.

To edit a drawing:

1. In the **Drawing Toolbox**, from the **Folder** drop-down, select the folder that contains the drawing you want to edit.
2. In the preview pane, right-click on the thumbnail of the drawing you want to edit and select **Edit Drawing**.

   You can also access the **Drawing Management Editor** by clicking **Edit > Manage Drawings** and then selecting the drawing from the group.

The **Drawing Management Editor** opens.



Drawing Management Editor

3. Define the properties of the drawing as described in Managing Drawings. 85
4. When you've finished defining the properties, select **Done**.

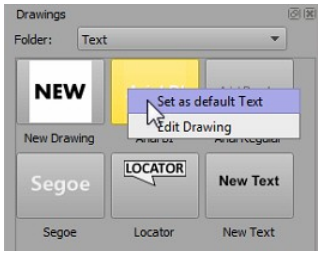
   Changing the properties of a drawing will affect all scenes using this drawing, except for those scenes that have been exported (have a *.wnm_exp extension).

To designate a default drawing:

1. In the **Drawing Toolbox**, in the preview pane, right-click the thumbnail of the drawing that you want to designate as the default drawing.

   You can designate a default drawing for **Text**, **Icon** and **Dynamic Data** drawings.
2. From the context menu, select **Set as Default [name of drawing]**.

   The background of the default drawing will turn yellow.

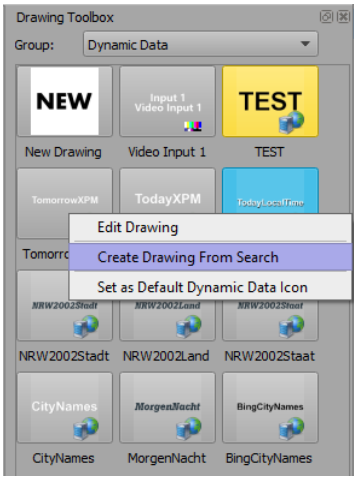


Default Drawing

To create a drawing from the Search location:

1. In the **Search Editor**, enter a location and select the **Search** button.
2. In the **Drawing Toolbox**, in the preview pane, right-click the thumbnail of the drawing that you want to create at the **Search** location.

   This feature is only available in **Text** and **Dynamic Data** drawings.
3. From the context menu, select **Create Drawing From Search**.



Create Drawing From Search

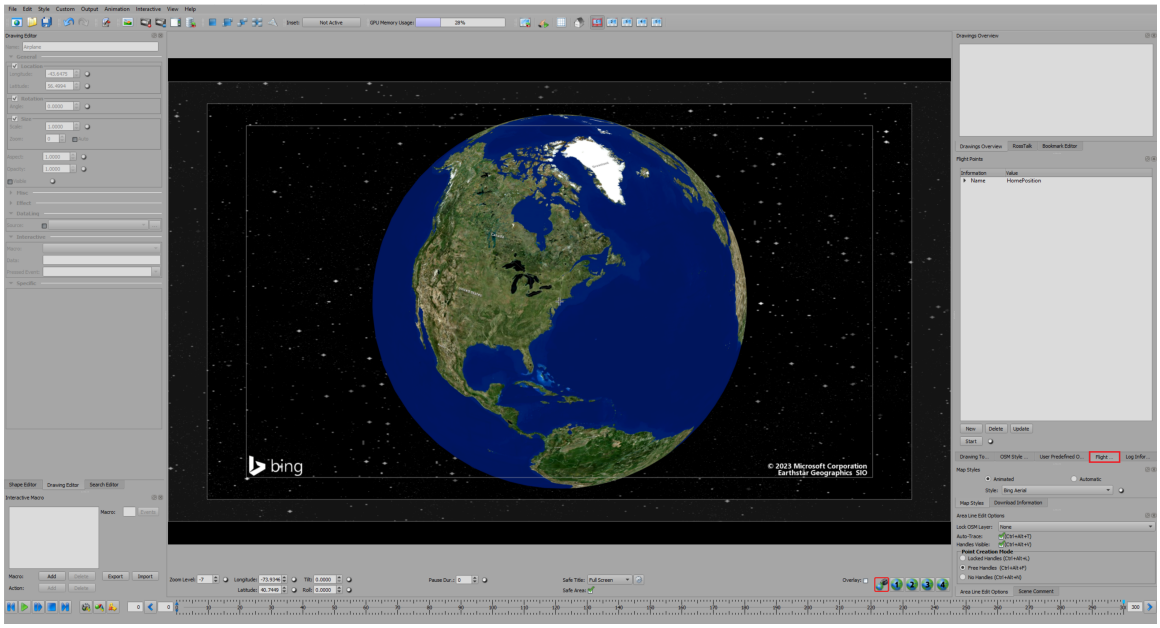
The selected drawing appears at the exact coordinates of the searched location, with the corresponding content already displayed (location name or weather data, for example).

Flight Points

You can create a flight animation in a scene template in which the map moves from one location to another, by adding flight points in the **Flight Points** editor. You can have multiple flight points in one animation. These flight animations are not recorded in a regular scene animation.

See Adding a Flight Point 320 for more information on creating a flight animation in the HTML5 Client application.

The **Flight Points** editor can be found in the editor stack next to the output window, as shown in the image below.

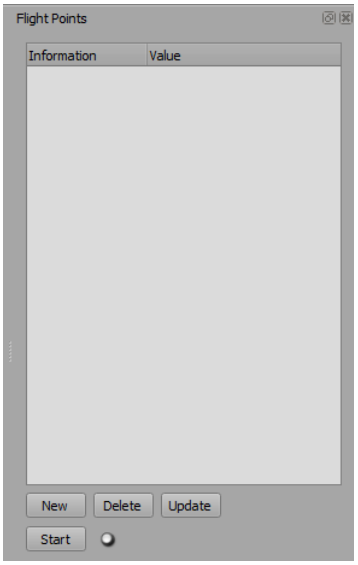


Flight Points Editor Tab Location

To create a flight animation:

1. Select the **Flight Points** editor tab.

   The **Flight Points** editor opens.



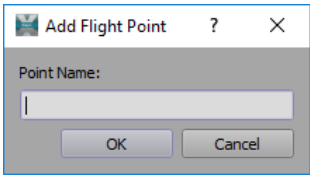
Flight Points Editor

2. With your map open in the output window, navigate to the location where you want the flight to begin.

   - If you want the flight point to just be in the general area, position the map so that the location is in the center of the output window.
   - If you want the flight point to be an exact location, enter the Longitude and Latitude coordinates in the **Camera Parameters** fields.

Camera Parameters - Longitude and Latitude

3. Adjust the **Zoom Level**, **Tilt** and **Roll** parameters, if necessary.
4. In the **Flight Points** pane, press **New** to create a flight point with the displayed camera values.



Add Flight Point

5. Enter the name of the flight point and select **OK**.

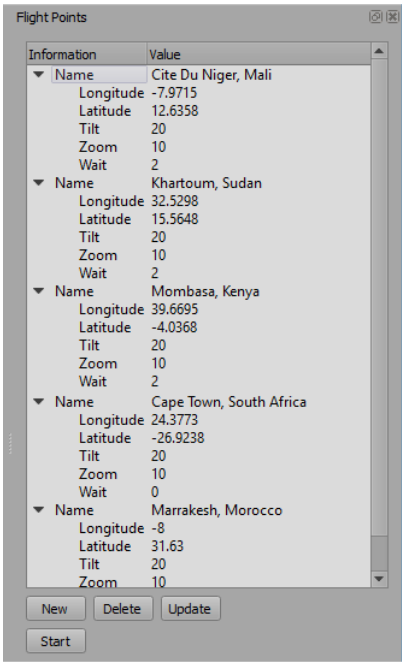
   The flight point is entered into the **Flight Points** pane, along with the camera parameters for the point.

6. Navigate to the location of the next flight point and repeat steps 2 to 5.

   For a scene template only, the first flight point in the list is integral. The second and any other points will be overwritten in the web interface.

7. Continue entering new flight points until the flight is complete.

   The **Flight Points** editor will look something like the following image:



   Flight Points Editor - Populated

8. Click the key frame button beside the **Start** button to add a camera key frame at each flight point.

To view a flight simulation:

- Select **Start** to view the flight in the output window.

To delete a flight point:

1. In the **Flight Points** pane, select a flight point.
2. Press **Delete**.

To edit a flight point:

1. In the **Flight Points** pane, select the flight point you want to edit.
2. Edit the **Camera Parameters**, as necessary.
3. Press **Update** to save the new camera parameter values into the flight point.
4. Click the **Wait** value and enter a new time in seconds that the animation will pause at the flight point.

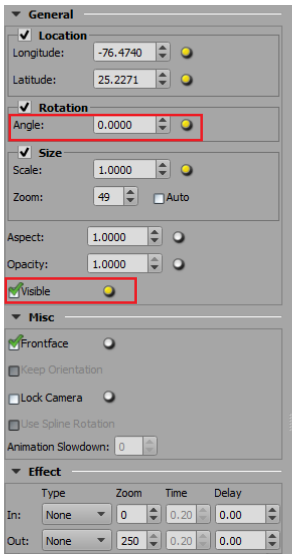
   You can also add a pause at a flight point by inserting a bookmark at that position. See Adding a Pause to a Flight 248 in **Editors > Bookmark Editor** for instructions.

Animation Control

In XPression Maps, select drawing parameters can be animated in the **Drawing Editor**. The parameters that can be animated have a key frame button to the right of the input field.

To create or delete a key frame:

- Select the key frame button beside the parameter.

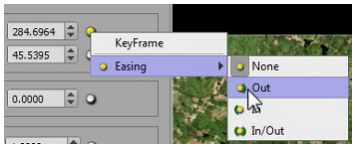


Drawing Editor with Parameters Key Framed

- When the key frame button is yellow, it indicates that a key frame exists in the timeline for this parameter.
- When the key frame button is cleared, no key frame exists in the timeline for this parameter.

To set the easing method:

1. Right-click the key frame radio button beside the parameter.
2. From the context menu, select **Easing**.



Key Frame Easing Selection

3. Then select one of the following easing methods:
   - When easing is set to **None** ( ) the animation from one key frame to the next is linear, the animation maintains the same speed from beginning to end.
   - When easing is set to **Out** ( ) the animation from the previous key frame is linear but the animation from this key frame to the next key frame is accelerated.
   - When easing is set to **In** ( ) the animation from the previous key frame to this one is decelerated, but the animation to the next key frame is linear.
   - When easing is set to **In/Out** ( ) the animation from the previous key frame to this one is

decelerated and the starting animation of this key frame is accelerated.

Timeline

The timeline is the large horizontal slider at the bottom of the application.

Timeline

To manipulate the timeline:

- Click and drag the handle of the slider to move the position of the animation within the displayed range.

  The full video animation can be viewed by playing the animation.

- Enter the frame range in the minimum and maximum value fields to the left and right of the slider.

  The minimum position can not go below zero. The scale of the timeline is adjusted whenever one of these two values is changed.

- Select the blue left and right arrow buttons (,) next to the minimum and maximum fields to move the current animation position one frame in the direction of the respective arrow.

- The field at the left end of the timeline displays the current position of the animation.

- Camera key frames are shown as blue rectangles ( ) on the scale above and below the groove of the timeline slider.

- Interactive Event key frames are shown as white circles ( ) on the scale above the groove of the timeline slider.

  The key frames on top correspond to camera, map style, and lock camera key frames. The key frames below correspond to all other key frames. If a drawing is selected, only the key frames of the drawing are shown. All key frames corresponding to the lower scale are shown if there is no drawing selected.

- Press the **Ctrl** key while clicking the **Left Arrow** button ( ) to move the current animation position to the previous key frame position.

- Press the **Ctrl** key while clicking the **Right Arrow** button ( ) to move the current position to the next key frame position.

- Click on a key frame to select it.

  Selected camera key frames are red. Selected drawing key frames are green.

- Press the **Ctrl** key and click to select multiple key frames or left-click in the timeline and drag a selection box around multiple key frames.

  The selected key frames change from blue to green (drawing key frames) or red (camera key frames).

- Click and hold the cursor on a key frame and move the mouse to move the key frame to a new location on the timeline.

Camera Control

This section describes the parameters and control functions of the camera views.

The following topics are discussed:

Camera Selection

In the camera selection area you can switch between five different camera views: **View Camera**, **Work Camera 1**, **Work Camera 2**, **Work Camera 3** and **Work Camera 4**. The selected camera view is indicated by a red outline.

Camera Selection

View Camera displays what will be recorded. You can enable the **Overlay Layer** only when this camera is selected.

The other four camera views are the working cameras. These camera views can be used to store other views during editing. For example, if you want to extend an animation to cover a wider area than can be seen in the **View Camera**, you can do that in a **Work Camera**. Key frames used to animate the scene are added in the **View Camera**. The **Camera Key Frame** button is disabled when a **Work Camera** is selected. Only the view in the working camera is copied to the **View Camera**, not objects added in the **Work Camera**.

To set a specific camera view:

1. Select one of the **Work Cameras**.
2. Move the map to the location you want to display in that camera view.
3. Add drawings to the scene if required or extend a line animation.

   The scene will be saved in the selected **Work Camera** and can be copied to the **View Camera** when needed.

   When you save the scene, any **Work Camera** views are saved as well.

To switch to a different camera view:

- Select the corresponding button.

To copy a camera view:

- Drag and drop one camera view button to another camera.

  The destination camera becomes the active camera and has the same view as the source camera. This is useful if you want to save the current camera view before making changes.

To extend an animation using a Work Camera:

1. With the **View Camera** selected, navigate manually to the starting location you want to display on the map or use the **Search Editor** to set the starting location.
2. Adjust the **Zoom Level** to get the view you want.
3. Add a line animation.

   See Line Animation 274 for instructions.
4. In the **Drawing Editor**, in the **Misc** section, select the **Lock Camera** checkbox.

   This locks the camera to the line drawing, so it will follow the path of the line.
5. Select **Work Camera 1**.
6. Move the map to a location that is outside of the current scene, to add this location to the scene.
7. Extend the line animation to a point in the new part of the scene.
8. Select **View Camera**.
9. Now click the green arrow to run the animation.

   You can continue adding new views for **Work Cameras 2**, **3**, and **4** as needed.

Camera Parameters

There are five parameters that show the actual values for the camera: **Zoom Level**, **Longitude**, **Latitude**, **Tilt**, and **Roll**.

Camera Parameters

Zoom Level

The **Zoom Level** parameter displays the camera distance to the earth landscape.

A new scene starts with a **Zoom Level** value of 0.

A higher value zooms into the map.

- >30 country level
- >70 region level
- >130 city level
- >180 street level
- 250 is the maximum zoom level. However, satellite maps tend to only appear up to a zoom level of 200.

To adjust the Zoom Level value:

- Enter a value in the **Zoom** field.

  OR

- Click and drag the up and down arrows beside the **Zoom** field.

  OR

- Click in the output window and move the scroll button on the mouse.

Longitude

Along with the **Latitude** parameter, the **Longitude** parameter displays the global position, in degrees, of the location at the center of the output window.

When no drawing is selected, rotating the globe changes this parameter.

To adjust the Longitude value:

- Enter a value in the Longitude field.

  OR

- Click and drag the up and down arrows beside the Longitude field.

★ Animating the **Longitude** and **Latitude** parameters with easing will provide the best results when both parameters have the same settings.

Latitude

Along with the **Longitude** parameter, the **Latitude** parameter displays the global position, in degrees, of the location at the center of the output window.

To adjust the Latitude value:

- Enter a value in the **Latitude** field.

  OR

- Click and drag the up and down arrows beside the **Latitude** field.

★ Animating the Longitude and Latitude parameters with easing will provide the best results when both parameters have the same easing settings.

Tilt

The **Tilt** parameter of the camera rotates the globe around the point of the world that is closest to the camera. The range is 0 to 85 degrees.

- At **0**, the camera looks down vertically onto the map.
- **>0**, the camera faces the direction of the horizon, giving the map a perspective angle.

To adjust the Tilt value:

- Enter a value in the **Tilt** field.

  OR

- Click and drag the up and down arrows beside the **Tilt** field.

  OR

- Press and hold the **Ctrl** key, then right-click in the output window and move the mouse up or down.

Roll

The **Roll** parameter spins the globe clockwise and counter-clockwise along the axis visible in the output window. For example, turning the globe upside down so that the north pole is at the bottom. The range is 0 to 360 degrees.

To adjust the Roll value:

- Enter a value in the **Roll** field.

  OR

- Click and drag the up and down arrows beside the **Roll** field.

  OR

- Press and hold the **Ctrl** key, then left-click in the output window and move the mouse left or right.

Pause Dur.

The **Pause Dur.** parameter pauses the animation for the number of frames entered.

To add a pause:

1. Move the timeline slider to the point in the animation where you want to pause.
2. In the **Pause Dur**. field, enter the number of frames for which you want the pause to last (applies to an animation recordings or to touch projects).

   OR

   Enter **0** if you want to continue the animation by touching an interactive button on the screen (applies to **Touch Projects** only).
3. Then click the key frame button beside the field to add a camera key frame at this point.

Camera Parameter Key Frames

You can select an easing method to control how the animation behaves as it approaches and leaves the key frame.

To create or delete a key frame:

- Click the key frame button beside the parameter.

Camera Parameters with Zoom Level Key Framed

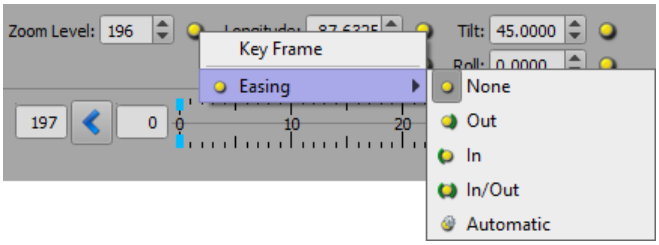
- When the key frame button is yellow, it indicates that a key frame exists in the timeline for this parameter.
- When the key frame button is cleared, no key frame exists in the timeline for this parameter.

Easing Methods

You can select an **Easing Method** to control how the animation behaves as it approaches and leaves the key frame.

To set the easing method:

1. Right-click the key frame radio button beside the parameter.
2. From the context menu, select **Easing**.



Camera Parameters Key Frame Easing Selection

3. Then select one of the following easing methods:

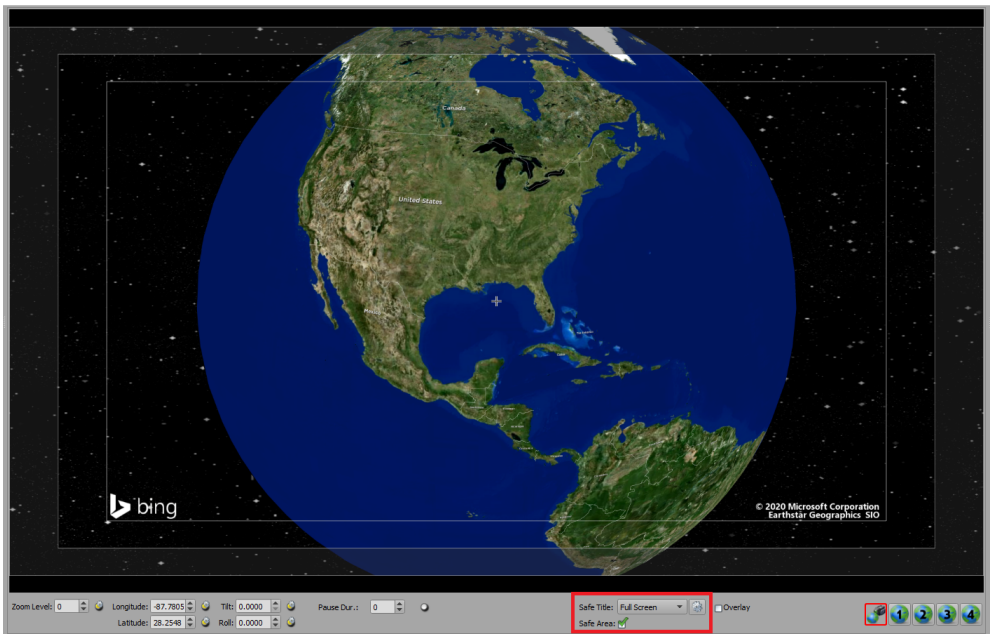
- When easing is set to **None** ( ) the animation from one key frame to the next is linear, the animation maintains the same speed from beginning to end.
- When easing is set to **Out** ( ) the animation from the previous key frame is linear but the animation from this key frame to the next key frame is accelerated.
- When easing is set to **In** ( ) the animation from the previous key frame to this one is decelerated, but the animation to the next key frame is linear.
- When easing is set to **In/Out** ( ) the animation from the previous key frame to this one is decelerated and the starting animation of this key frame is accelerated.
- When easing is set to **Automatic** ( ) the default setting and simulates a **flight** between key frames. The animation zooms out from the starting key frame, moves to the next key frame and zooms back in. When using this method, it is best to set key frames for each of the 5 camera parameters at the same timeline positions. It is necessary to at least have key frames on the **Zoom** level.

★All parameters must have the same easing method. When you select an easing method for one parameter, the rest will automatically change to the same one.

Safe Title / Safe Area

The **Safe Title** settings allow you to configure the position of the safe area, map attribution and logo in the output window.

The **Safe Area** is the area inside the output window defined by the white rectangles. Keep all your drawings and information inside this area for full visibility on air.

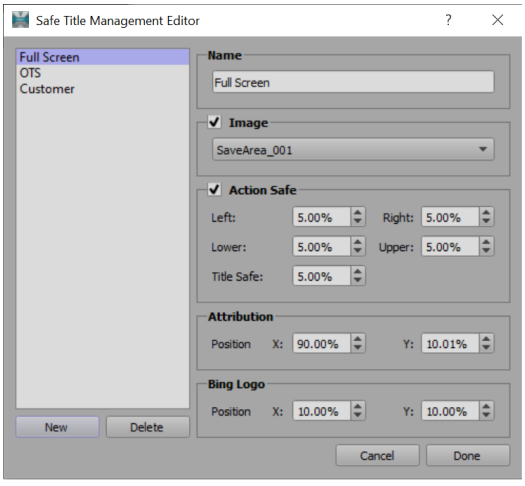


Safe Title / Safe Area

To configure the Safe Title / Safe Area:

1. Select the **Settings** icon beside the **Safe Title** drop-down.

   The **Safe Title Management Editor** opens.

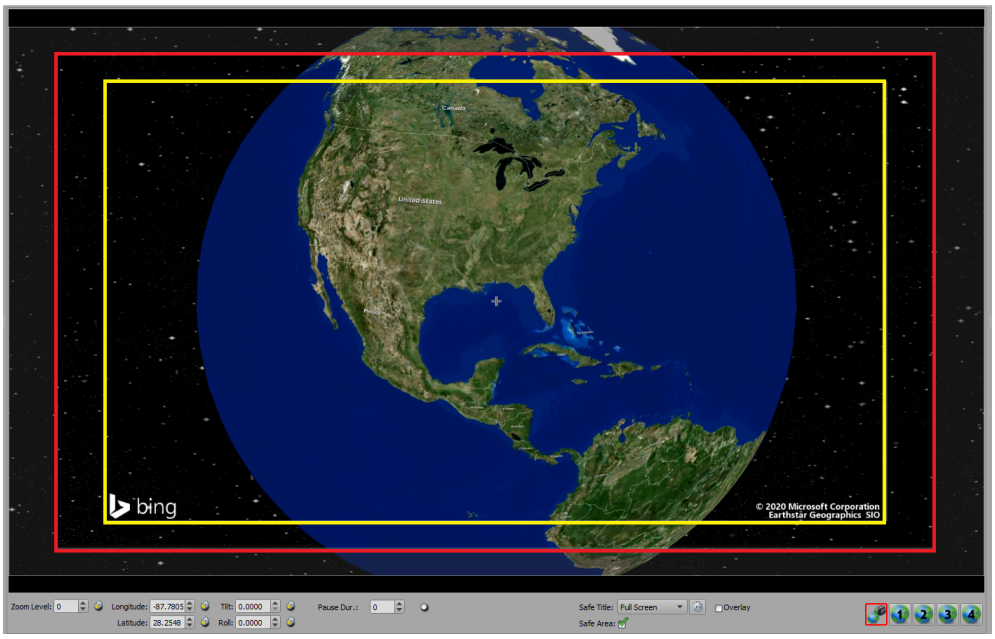


Safe Title Management Editor

2. Select **New** to set up a new configuration.

   The default configuration is called **Full Screen**.

3. In the **Name** field, enter a name for the new configuration.
4. Select the **Image** checkbox to choose a saved background image from the **Image** drop down.
5. In the **Action Safe** section, use the arrows or enter a value in the **Left**, **Right**, **Lower** and **Upper** fields to adjust the size of the outer rectangle (the red rectangle in the image below).



Safe Title / Safe Area Outer and Inner Rectangles

Entering values of 0.00 in all these fields will make the entire output window a safe area.

5. In the **Title Safe** field, use the arrows or enter a value to adjust the size of the inner rectangle (the yellow rectangle in the image above).

   The Bing logo and attribution text can only be positioned within the inner rectangle (the **Title Safe** area).

6. In the **Attribution** section, use the arrows or enter values in the **Position X** and **Y** fields to adjust the location of the attribution text within the inner rectangle.

   You can also left-click and drag the attribution in the **Output Window** (while the **Safe Title Management Editor** is open) to position it.

7. In the Bing Logo section, use the arrows or enter values in the **Position X** and **Y** fields to adjust the location of the Bing logo within the the inner rectangle.

   You can also left-click and drag the Bing logo in the **Output Window** (while the **Safe Title Management Editor** is open) to position it.

8. When you have the configuration you want, click **Done** to save it.

   You can create as many different **Safe Title / Safe Area** configurations as you need.

Overlay Layer

The overlay layer is an editing area independent of the camera view. Drawings placed in the overlay layer will not move together with the underlying map; they will stay on an invisible layer front of the camera. Drawings on the overlay layer can be animated the same way as all other drawings. The overlay layer is useful for placing logos or text that you want to keep in the same spot regardless of the movement of the map or drawings.

To use the Overlay layer:

1. Select the **Overlay** checkbox next to the camera view buttons.

   A transparent gray overlay indicates that the overlay layer is activated.

2. Place your drawings on the map.

   Drawings placed on the **Overlay Layer** are fixed in place and can only be selected and edited or deleted when the **Overlay Layer** is activated.

   In the example below, the title text **U.S. ELECTION 2020** is placed on the **Overlay Layer** and remains stationary while the scene animation is played.

Overlay Layer

3. Deselect the **Overlay** checkbox to return to your main layer and play your animation.

Saving a Scene

Saving a scene will store all information about the scene including camera flights and drawings with references to the drawings in the database. Saved files have the extension ***.wnm**.

Scenes can be opened in XPression Maps where they were created. Saved scenes use the references to the drawing database to create the drawings. Changes made to the drawings in the database will affect any scene that uses those drawings, unless the scene has been exported.

See Exporting a Scene 179 for more information.

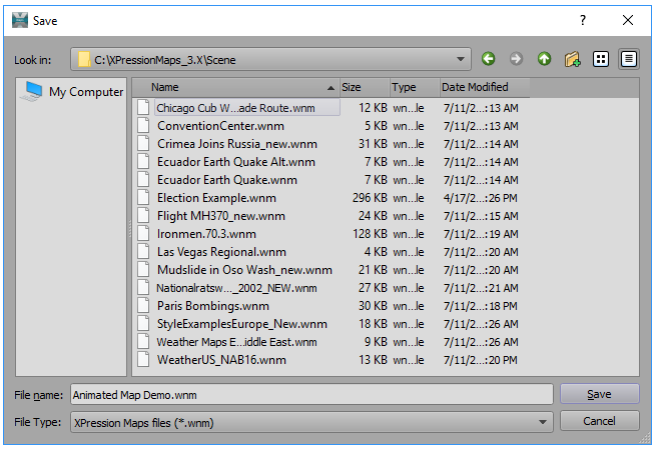
If **Compact Scene on Save** is selected in **Preferences > Output**, all unused styles in the map style list and in the shape style list are removed.

To save a new scene:

1. Select **File > Save** in the menu bar or click the **Save** button in the toolbar.

XPression Maps Toolbar - Save

The file browser opens.



Save File

2. Select a folder or destination where the scene is to be saved.

   The default location is **C:\XPressionMaps_3.0\Scene**.

3. In the **File** name field, enter a name for the scene.
4. Select **Save**.

To save an existing scene with a new name:

1. Select **File > Save As** in the menu bar or click the **Save** button in the toolbar.

XPression Maps Toolbar - Save

2. In the **Save As** window, in the **File** name field, enter a new name for the scene and select **Save**.

Exporting a Scene

Exporting a scene saves a scene along with all of the drawings used in the scene. This way a scene can be opened in any XPression Maps application and changes to drawings in the database do not affect the exported scene.

After opening an exported scene, drawings saved in the scene are shown in the **Drawing Toolbox**, in the **Imported Scene Drawings** section, from where they can be used again in the scene. Exported files have the extension **.wnm_exp**. When the scene is edited and saved again it is automatically saved as an exported file.

★ **Compact Scene** on save is selected in Preferences > Output 9. All unused styles in the map style list and in the shape style list are removed.

To export a scene:

1. Select **File > Export** in the menu bar.

   The file browser opens.

2. Select a folder or destination where the scene is to be exported.

3. Select **Save**.

   The file browser closes and the scene is exported to the selected location, with the extension **.wnm_exp**.

★ Export the scene for use in different XPression Maps applications and for archiving a scene. This ensures that changes in the drawing database will not affect the scene.

To open an exported scene:

1. Select **File > Open**.

2. In the file browser, from the **File Type** drop-down, select **XPression Maps export files (*.wnm_exp)**.

   The browser will be populated with a list of exported files.

3. From the list of files, select the exported file you want and select **Open**.

To use imported scene drawings:

1. Open an exported scene.

2. In the **Drawing Toolbox** in the **Imported Scene Drawings** section, click on a drawing and then click on the scene in the **o**utput window to add the drawing to the scene.

   The **Imported Scene Drawings** section is hidden, unless there is an exported scene open in the output window.

Using DataLinq

After adding DataLinq Servers in File >Preferences > Output 9, you can add data sources and configure how data is displayed in the **DataLinq Setup** screen.

★To use DataLinq for Access data sources, you will need to download and install the Microsoft Access Database Engine Redistributable (**AccessDatabaseEngine.exe**) from the Microsoft website.

To add a new data source:

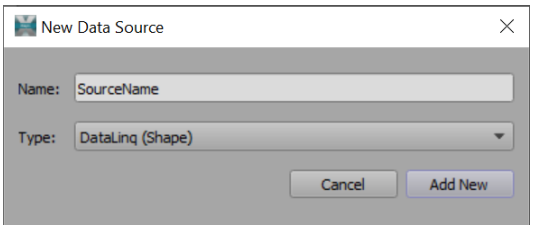
1. Select **Edit > DataLinq Setup**.

   The **DataLinq Setup** window opens.

DataLinq Setup Window

2. Select **Add New**.

   The **New Data Source** window opens.



New Data Source

3. In the **Name** field, enter a source name for the new data source.
4. From the **Type** drop-down, select a **DataLinq Type**.

   The types are:

   DataLinq Shape

   DataLinq Drawing

   DataLing Container Drawing

   The data source is added to the **Datalinq Setup** window.

   For information on linking data sources and data servers, see Linking Data Sources 181.

Linking Data Sources

For information on linking the correct data source with the DataLinq Server select the data type below:

DataLinq Shape 181

DataLinq Drawing 183

DataLinq Container Drawing 185

DataLinq Shape

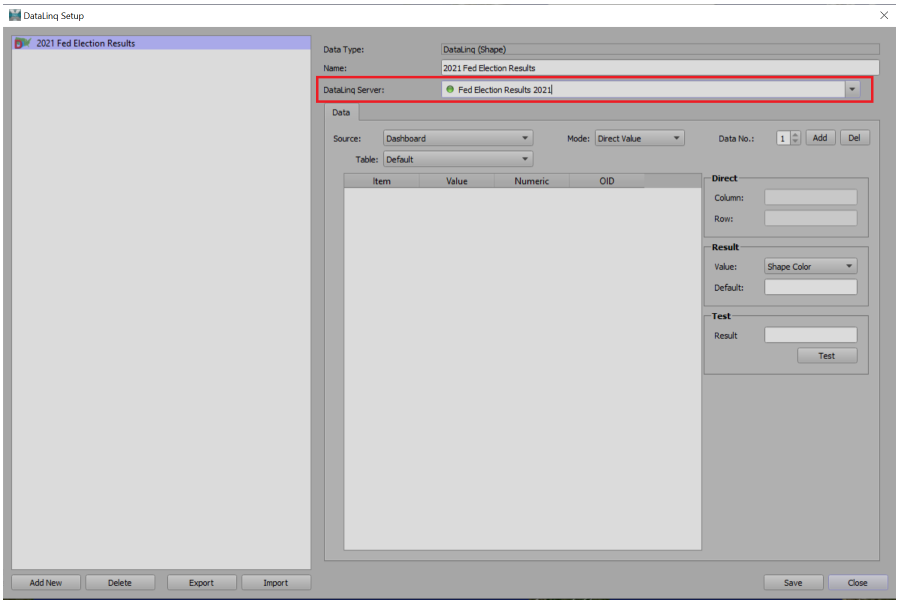
The following procedure details how to link the DataLinq Source to the DataLinq Server for the **DataLinq Shape** type.

See Data (Optional) 19 for information on adding **DataLinq Servers.**

To link the data source with the DataLinq Server:

1. From the menu bar select **Edit > DataLinq Setup**.
2. From the left panel of the **DataLinq Setup** window, select the data source you want to use.
3. Select the **DataLinq Server** from the drop-down menu connected to the data source.

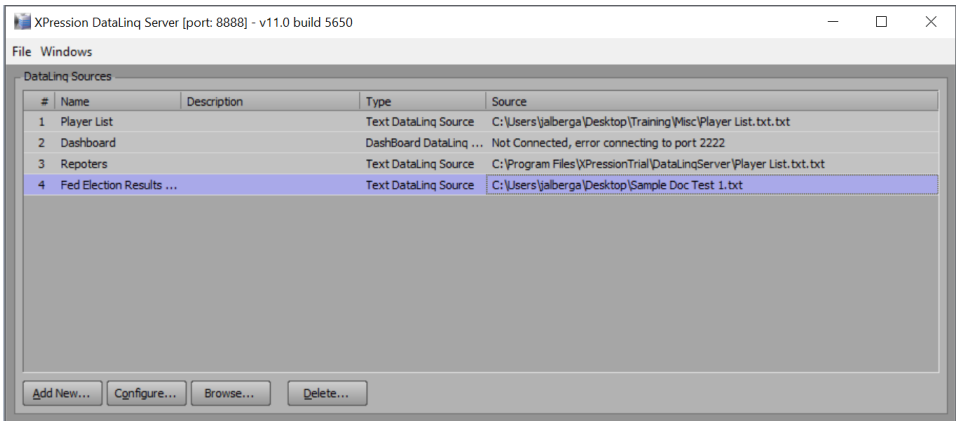
   A green icon indicates the DataLinq Server connection has been established. A red icon indicates the DataLinq Server is not connected or is unavailable.



DataLinq Setup Window - DataLinq Server

4. In the **Data** tab, select the **Source** from the drop-down.

★ These sources are brought in directly from the **DataLinq Server**. See the *XPression User Guide* for information on installing and using the **DataLinq Server**.

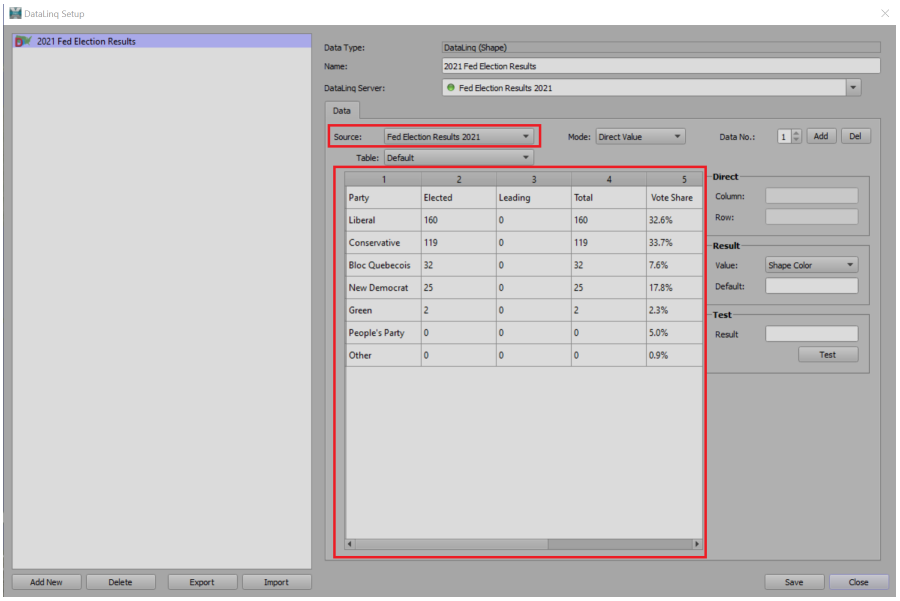


XPression DataLinq Server

5. In the **Data** tab, select the correct table of data to be shown in the **Table** drop-down. In instances where there is more than one sheet of data being imported there will be multiple tables to view.

   If only one sheet of data is imported the **Table** field will read **Default**.

   The data imported from the **DataLinq Server Source** will populate in the preview screen.



Imported Data from the DataLinq Server Source

★ For information on configuring the DataLinq **Shape Parameters** for both **Direct Value** and **Value Lookup** modes see Configuring DataLinq Shapes 192.

DataLinq Drawing

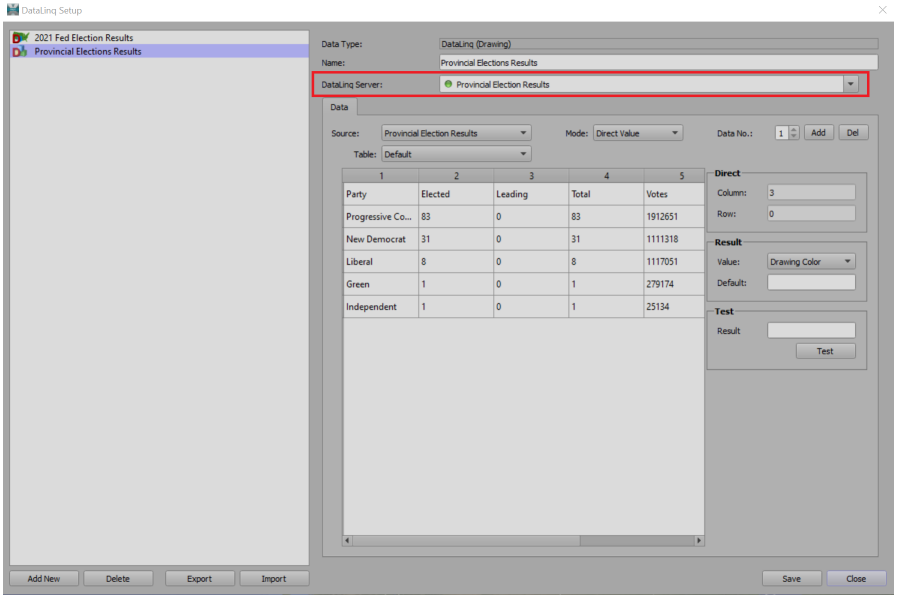
The following procedure details how to link the DataLinq Source to the DataLinq Server for the **DataLinq Drawing** type.

See Data (Optional) 19 for information on adding **DataLinq Servers.**

To link the data source with the DataLinq Server:

1. From the menu bar select **Edit > DataLinq Setup**.
2. From the left panel of the **DataLinq Setup** window, select the data source you want to use.
3. Select the **DataLinq Server** from the drop-down menu connected to the data source.

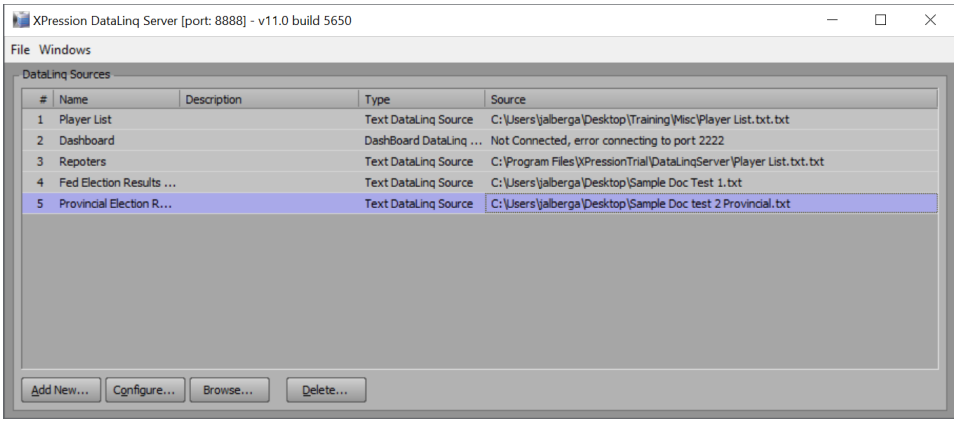
   A green icon indicates the DataLinq Server connection has been established. A red icon indicates the DataLinq Server is not connected or is unavailable.



DataLinq Setup Window - DataLinq Server

4. In the **Data** tab, from the **Source** drop-down, select the name of your DataLinq source.

   ★ These sources are brought in directly from the **DataLinq Server**. See the *XPression User Guide* for information on installing and using the **DataLinq Server**.

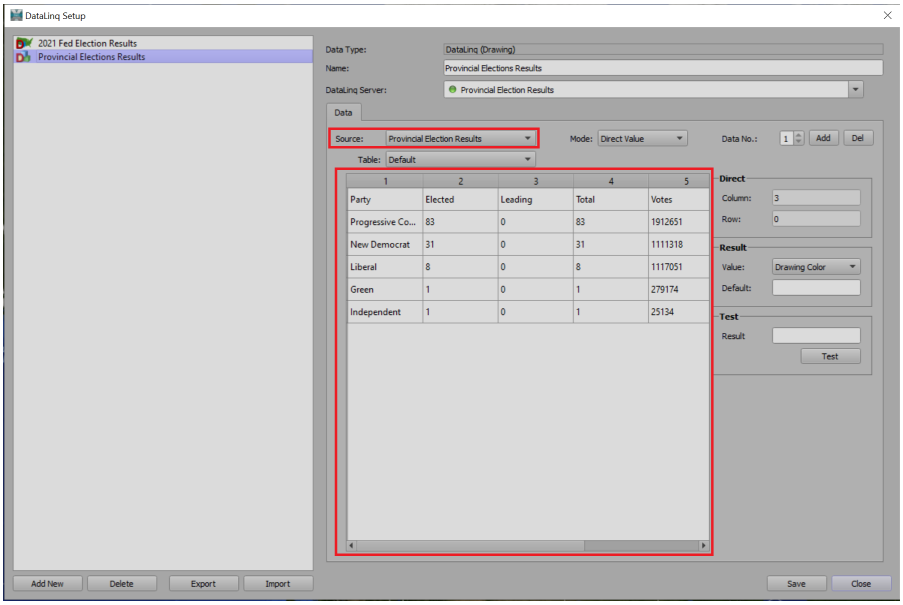


XPression DataLinq Server

5. In the **Data** tab, select the correct table of data to be shown in the **Table** drop-down. In instances where there is more than one sheet of data being imported there will be multiple tables to view.

   If only one sheet of data is imported the **Table** field will read **Default**.

   The data imported from the **DataLinq Server Source** will populate in the preview screen.



Imported Data from the DataLinq Server Source

★ For information on configuring the DataLinq **Drawing Parameters** for both **Direct Value** and **Value Lookup** modes see DataLinq Drawing Parameters.

DataLinq Container Drawing

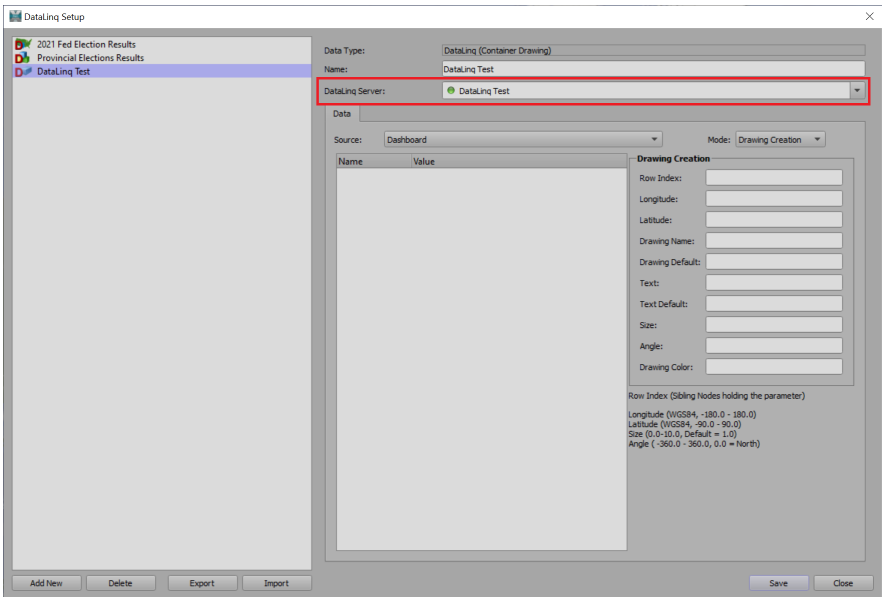
The following procedure describes how to link the DataLinq Source to the DataLinq Server for the **DataLinq Container Drawing** type.

See Data (Optional) 19 for information on adding **DataLinq Servers.**

To connect the data source with the DataLinq Server:

1. From the menu bar select **Edit > DataLinq Setup**.
2. From the left panel of the **DataLinq Setup** window, select the data source you want to use.
3. From the **DataLinq Server** drop-down select the name of the server connected to the data source.

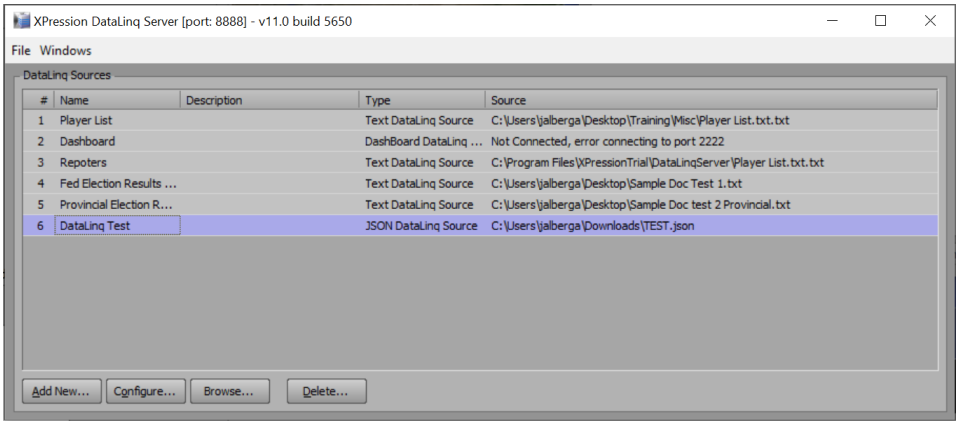
   A green icon indicates the DataLinq Server connection has been established. A red icon indicates the DataLinq Server is not connected or is unavailable.



DataLinq Setup Window - DataLinq Server

4. In the **Data** tab, from the **Source** drop-down, select the source.

   ★ These sources are brought in directly from the **DataLinq Server**. See the *XPression User Guide* for information on installing and using the **DataLinq Server**.



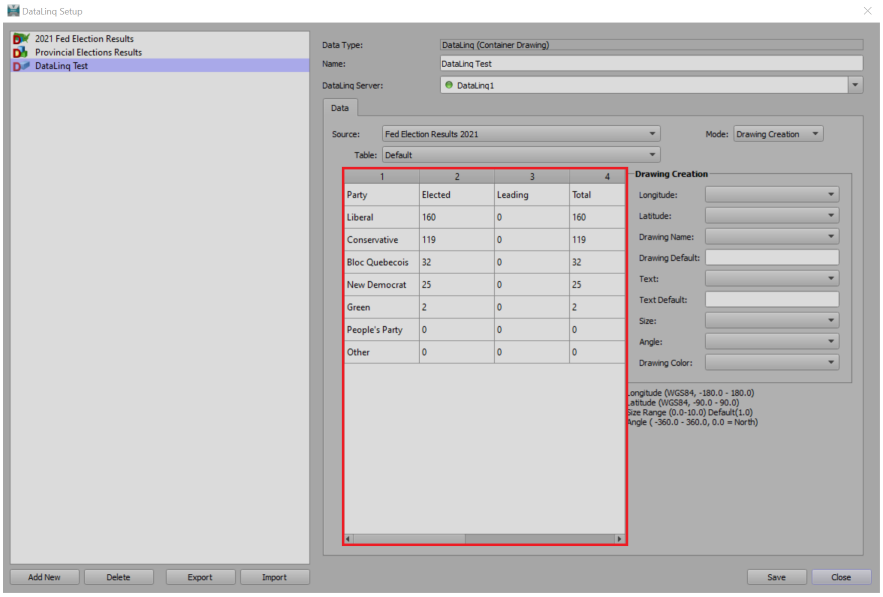
XPression DataLinq Server

5. In the **Data** tab, select the correct table of data to be shown in the **Table** drop-down. In instances where there is more than one sheet of data in the source there will be multiple tables to view.

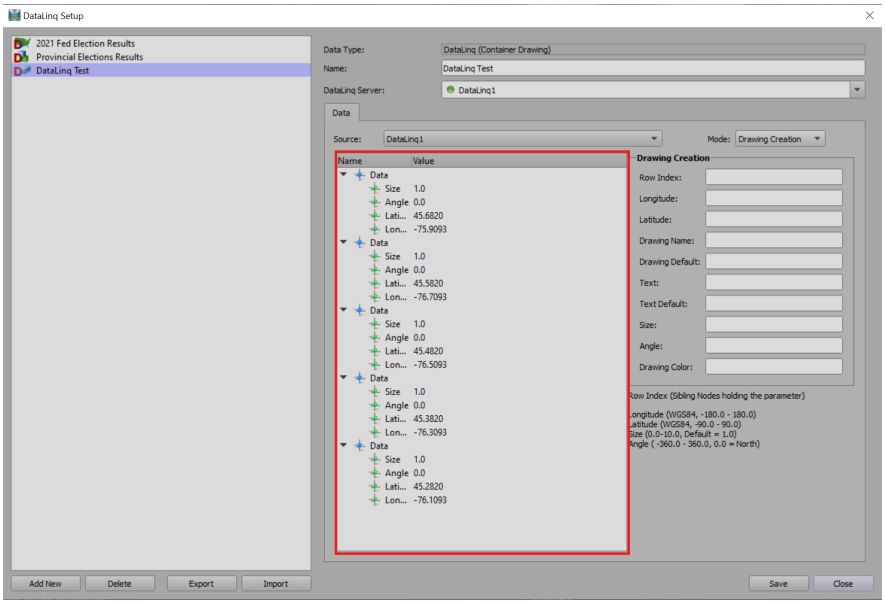
   If only one sheet of data exists in the source, the **Table** field will read **Default**.

   The data imported from the **DataLinq Server Source** will populate in the preview screen.

   The preview screen will generate either a table as shown in both **DataLinq Shape** and **DataLinq Drawings**, or a tree sheet which will list collapsible rows. This will depend on the style of data being imported from the DataLing Server.



DataLinq Setup Container Drawing - Table View



DataLinq Setup Container Drawing - Tree View

★For information on configuring the DataLinq parameters for both tree and table views see Configuring Configuring DataLinq Container Drawings 198.

DataLinq Drawing Parameters

In the DataLinq Setup window there are different configuration options for DataLinq Drawings, DataLinq Shapes and DataLinq Container Drawings.

For information on adding **DataLinq Servers** and **Sources** see DataLinq Setup 180.

The following topics are discussed in this section:

Configuring DataLinq Drawings 187

Configuring DataLinq Shapes 192

Configuring DataLinq Container Drawings 198

Configuring DataLinq Drawings

In the **DataLinq Setup** window there are two modes that can be used to configure **DataLinq Drawings**:

- **Direct Value –** Direct Value refers to information directly selected from within the DataLinq Data and they are used as Direct Parameters for displaying that data in the output window.
- **Value Lookup —** Value Lookup refers to a range of different parameters that can be selected from within the DataLinq Source data and displayed in the output window.

★If you reconfigure your data source after adding it to the **DataLinq Setup** window, you may have to quit and relaunch XPression Maps in order to see the updated table.

To configure the DataLinq Data with Direct Value Mode:

1. From the menu bar select **Edit > DataLinq Setup** and from the left column, select your DataLinq source.
2. In the **Data** tab, from the **Mode** drop-down select **Direct Value**.

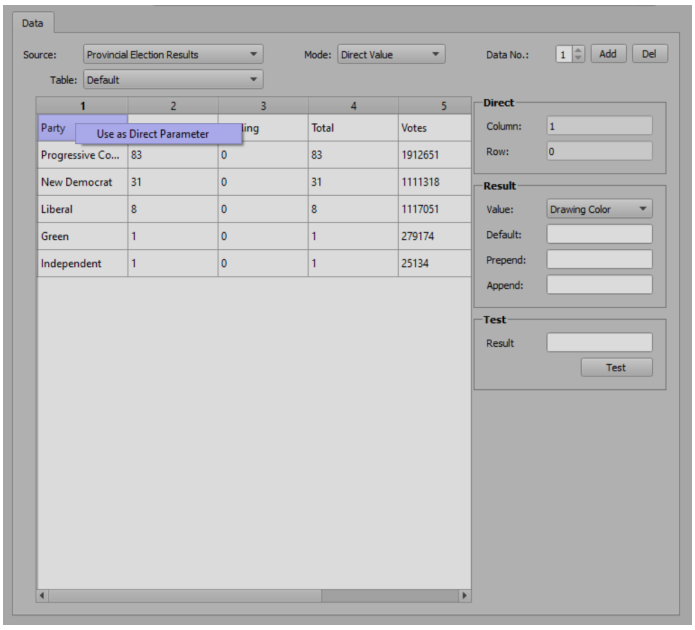
   The **Data No:.** field indicates the number of data values being shown on the map with the DataLinq data.

   Select **Add** to add a new DataLinq data value.

   Select **Del** to delete a DataLinq data value.

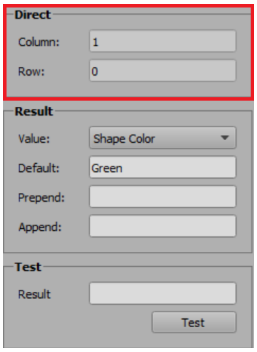
2. In the **Data** table, select the column and/or row with the information you want to use as the direct value parameter.

3. Right-click and select **Use as Direct Parameter**.



Direct Parameter Selection

The **Direct** section on the right of the Data table will display the **Column** or **Row** you have indicated.



Data Tab - Direct Section

4. In the **Result** section, adjust the parameters for the following:

   a. In the **Value** drop-down, select the **Value** for the DataLinq data to be displayed. The options depend on the type of data source.

   b. In the **Default** field, enter the value that you want to display when the value returned is "none". For example, in election data, if there is no result yet, the default value could be 0.

   c. In the **Prepend** field, enter the path to an image file that will be used in place of the actual result, e.g., an image of a flag to represent a country or state.

   d. In the **Append** field, enter the name of the image file that will be used in place of the actual result, e.g., country.jpg.

5. In the **Test** section leave the **Result** field blank and select **Test**.

   The **Result** field will generate the direct value parameter you have indicated from within the data table.

6. Select **Save** and close the **DataLinq Setup** window.

To view the DataLinq configurations in the output window:

1. In the **Shape Editor** select all of the shapes you want to display with the DataLinq configurations.

   Press **Shift+Right** click on the mouse button to select more than one shape.

2. In the **DataLing** tab, select the corresponding **DataLinq Source** from the drop-down and select the **Source** checkbox.

   The map in the output window reflects the configurations made in the **DataLinq Setup** window.

To configure DataLinq Data with Value Lookup Mode:

1. In the **Data** tab, in the **Mode** drop-down select **Value Lookup**.

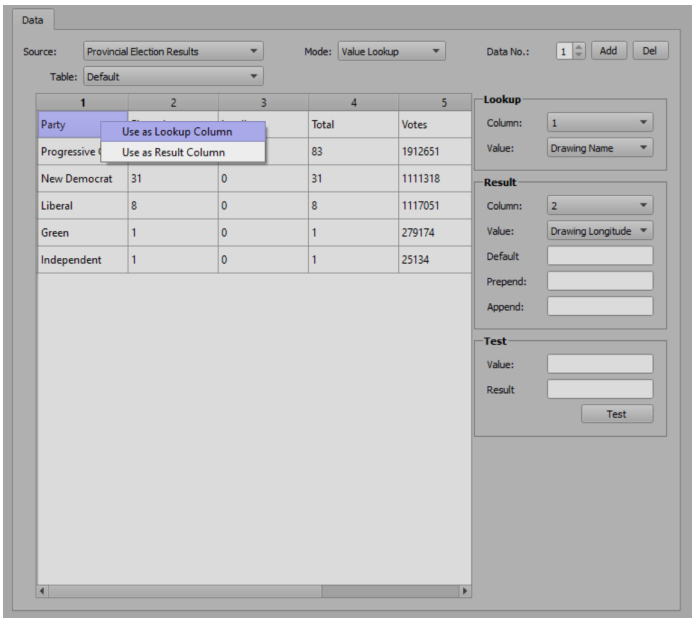
   The **Data No:.** field indicates the number of data values being shown on the map with the DataLinq Data.

   Select **Add** to add a new DataLinq Data value.

   Select **Del** to delete a DataLinq Data value.

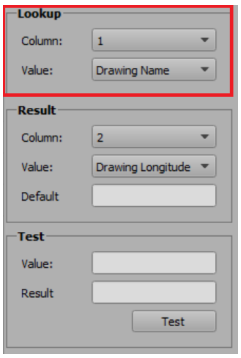
2. In the **Data** table, select a column containing the data you want to use as the **Value Lookup**.

3. Right-click on the mouse button and select **Use as Lookup Column**.



Value Lookup Column

The **Lookup** section on the right of the Data table will display the **Column** you indicated as the **Value Lookup** column.



Data Tab - Lookup Column

4. From the **Value** drop-down, select the value you want to be displayed on the map, the options are:

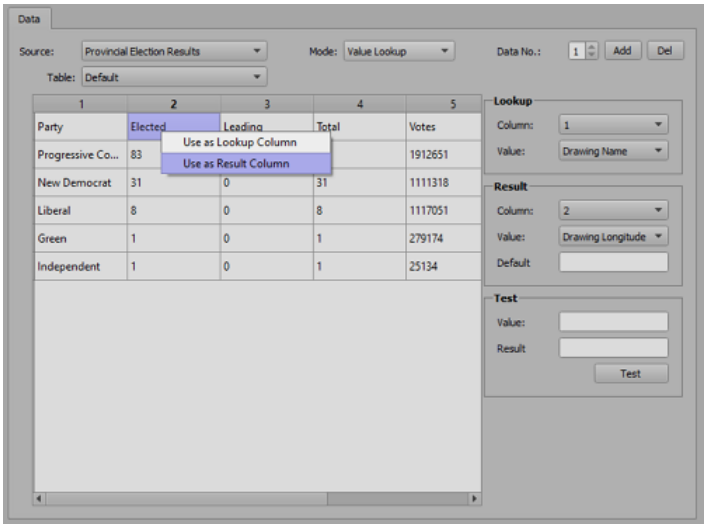
   Drawing Name

   Drawing Longitude

   Drawing Latitude

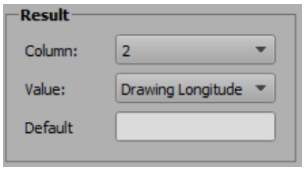
   Drawing Text

5. In the **Data** table, select the column containing the data you want to use as the **Result Column**.
6. Right-click on the mouse button and select **Use as Result Column**.



Result Column

The **Result** section on the right of the Data table will display the **Column** you indicated as the **Result Column**.



Data Tab - Result Section

7. In the **Result** section adjust the parameters for the following:

   a. From the **Value** drop-down, select the value you want to be displayed on the map, the options are:

      Drawing Longitude

      Drawing Latitude

      Drawing Visibility

      Drawing Color

      Drawing Text

   b. In the **Default** field, enter the name of the value chosen in the previous step, e.g., the name of the color you want to use.

   c. In the **Prepend** field, enter the path to an image file, if you want to use an image in the result or leave it blank if you just want the value chosen in the **Value** drop-down.

   d. In the **Append** field, enter the image name, if you want to use an image in the result or leave it blank if you just want the value chosen in the **Value** drop-down.

8. In the **Test** section, in the **Value** field, enter the **Lookup Value** you want to be displayed on the map.

   Leave the **Result** field empty.

9. Select **Test**.

   The **Result** field will generate the **Lookup Value** you have indicated from within the data table.

10. Select **Save** and close the **DataLinq Setup** window.

Configuring DataLinq Shapes

Use the DataLinq Shapes data source to display location-based results, that can be visually represented without text, such as election winners and losers.

★If you reconfigure your data source, you may have to exit and relaunch XPression Maps in order to view the updated data.

First you will need to create a map with the shapes you want to use and name the shapes to match the data in your data source.

To create a map for use with DataLinq Shapes:

1. In the **Search Editor**, in the **Location** field, enter the name of the country, state/province or city in which you want to use DataLinq data.
2. In the **Search Related Shapes** list, double-click the location you want.
3. In the **Shape Editor**, right-click the shape and select **Load Children** if you require the shapes of states/provinces or counties as well.
4. Select the first shape and then press the **Shift** key and select the last shape to select all shapes at once.
5. From the **Style** drop-down, select the initial shape style you want to use.
6. Then create or select alternate shape styles that will appear when the corresponding data is selected from the data table and name them to match the data.

   For example, you could have a shape style named "**Default State Color**" as your initial shape style and 2 alternate shape styles, named "**Democrat**" and "**Republican**", with the appropriate color.
7. Continue with Configuring DataLinq Data 192.

Configuring DataLinq Data

In the **DataLinq Setup** window for **DataLinq Shapes**, there are two modes that can be used to configure the data:

- **Direct Value** — one data item selected from the DataLinq data.
- **Value Lookup —** multiple data items selected from the DataLinq Source Data.

See the following sections for information on using each mode:

To configure DataLinq data with Direct Value Mode 192

To configure DataLinq data with Value Lookup Mode 192

To configure DataLinq Data with Direct Value Mode:

1. From the menu bar select **Edit > DataLinq Setup** and from the left column, select your DataLinq source.
2. In the **Data** tab, in the **Mode** drop-down select **Direct Value**.

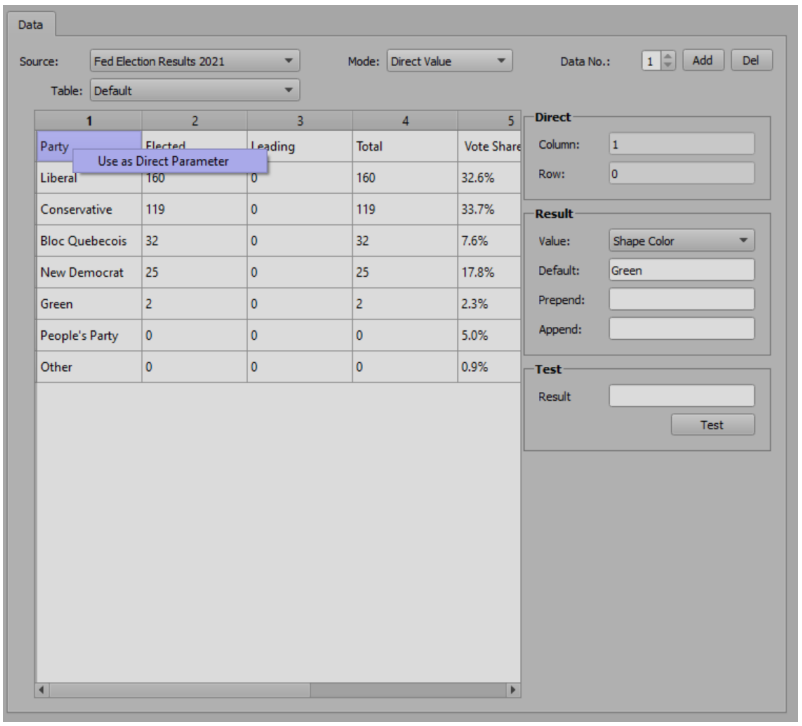
   The **Data No:.** field indicates the number of data values being shown on the map with the Datalinq Data.

   ➢ Select **Add** to add a new DataLinq Data value.

➢ Select **Del** to delete a DataLinq Data value.

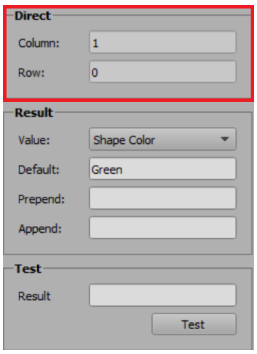
2. In the **Data** table, right-click in the column and row containing the data you want to see in your map and select **Use as Direct Parameter**.

   Note: The first row is "**0**".



Direct Parameter Selection

The **Direct** section on the right of the **Data** tab will display the data you have indicated as the **Direct Value Mode**.



Data Tab - Direct Section

4. In the **Result** section, in the **Value** drop-down, select the value for the DataLinq Data to be displayed. The options are:

   Shape Color

   Shape Outline Color

   Shape Style Name

   Shape Extrude

   Shape Visibility

   In the **Default** field, enter the value that should be displayed if there are no results, e.g., if a winner has not yet been selected in an election, you might want to display "**Undecided**".

   In the **Prepend** field, enter the path to an image file, if you want to use an image in the result or leave it blank if you just want the value chosen in the **Value** drop-down.

   In the **Append** field, enter the image name, if you want to use an image in the result or leave it blank if you just want the value chosen in the **Value** drop-down.

5. In the **Test** section leave the **Result** field blank and select **Test**.

   The **Result** field will generate the direct value parameter you have indicated from within the data table.

6. Select **Save** and close the **DataLinq Setup** window.

To configure DataLinq data with Value Lookup Mode:

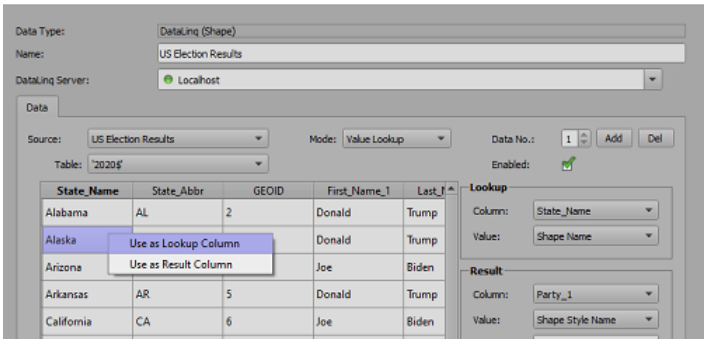
1. In the **Data** tab, in the **Mode** drop-down select **Value Lookup**.

   The **Data No:.** field indicates the number of data values being shown on the map with the DataLinq Data.

   Select **Add** to add a new DataLinq data value.

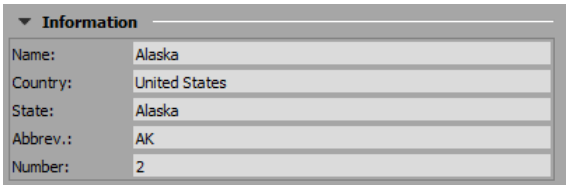
   Select **Del** to delete a DataLinq data value.

2. In the **Data** table, right-click anywhere in the column you want to use to look up data from and select **Use as Lookup Column**.



Value Lookup Column

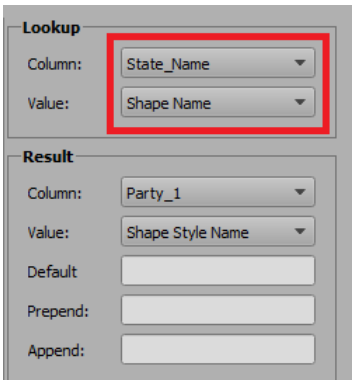
The column you select must correspond to one of the fields indicated in the **Shape Editor > Information** section. Your data source may have data that doesn't appear in the **Information** section and can't be used in XPression Maps, but could be used in XPression.



3. From the **Value** drop-down, select the value to be displayed on the map.

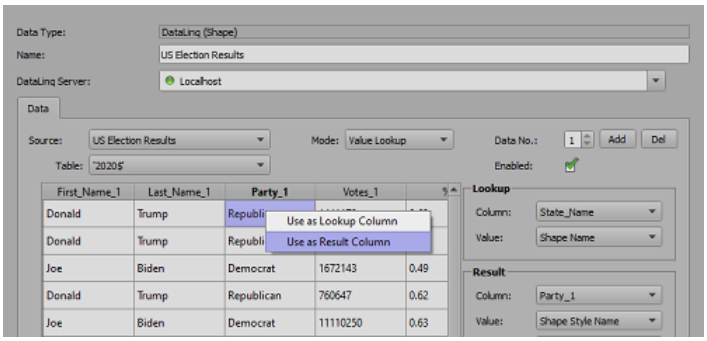
   The options will correspond to the column headings in your data source.

   The **Lookup** section on the right of the **Data** table will display the column and value selected.



Data Tab - Lookup Column

4. In the **Data** table, right-click in the column containing the data you want to see in your map and select **Use as Result Column**.



Result Column

5. In the **Result** section to the right of the **Data** table, from the **Value** drop-down, select the data you want to see in your map.

   The options are:

   Shape Color

   Shape Outline Color

   Shape Style Name

   Shape Extrude

   Shape Visibility

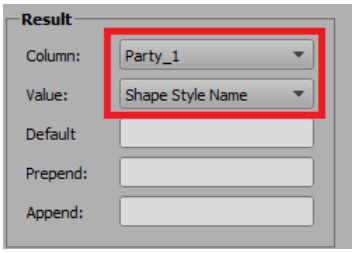
   Shape Opacity

   Shape Use Media

   Shape Media File Name

   The option you select needs to correspond with data that can be found in the data source. In the example here, the column chosen as the **Result Column** contains the **Shape Style Names** "**Democrat**" and "**Republican**", so you would use the **Shape Style Name** for the value.

   The **Result** section to the right of the **Data** table will display the selected **Column** and **Value**.



Data Tab - Result Section

6. Also, in the **Result** section, configure the following parameters if needed:

   In the **Default** field, enter a value that will be displayed if there are no results for the selected **Result Column** and **Value**, e.g., **Default State Color** (to show the color of the state shape before the winning party is determined.

   In the **Prepend** field, you can enter something that differentiates one shape from another. For example, if you added shapes called "**County Democrat**" and "**County Republican**" and you wanted to display the county results, you could enter the word "**County**".

   Similarly, in the **Append** field, if you had additional shape styles called "**Democrat Highlight**" and "**Republican Highlight**", and you wanted to display the highlighted shape styles, you could enter the word "**Highlight**".

7. In the **Test** section, in the **Value** field, enter the **Lookup Value** you want to be displayed on the map.

8. Leave the **Result** field empty.

9. Select **Test**.

   The **Result** field will generate the **Lookup Value** you have indicated from within the data table.

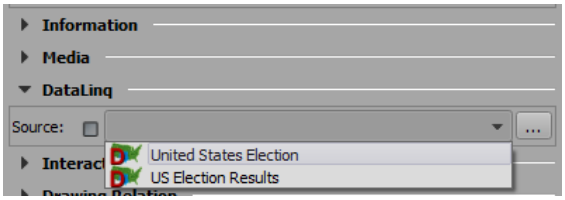
10. Select **Save** and close the **DataLinq Setup** window.

To view the DataLinq configurations in the output window:

1. In the **Shape Editor** select the shapes you want to display with the DataLinq configurations.

   Press **Shift** and left-click on the first and last shapes in the list to select all shapes at once.

2. Expand the **DataLing** section, select the corresponding **DataLinq Source** from the drop-down and select the **Source** checkbox.



Shape Editor - DataLinq

The map in the output window reflects the configurations made in the **DataLinq Setup** window.

Configuring DataLinq Container Drawings

In the **DataLinq Setup** window there are two methods of configuring the **Source** data for **DataLinq Container Drawings**:

- Method One: Tree 199

  If the DataLinq data imported from the **DataLinq Server** has multiple ranges of expandable information, the data will be displayed as a collapsible tree list with each data source containing different units of measure.

- Method Two: Table 202

  If the DataLinq data imported from the **DataLinq Server** has one range of data from an information data set, the data will be displayed as a table. The data source needs to include **Longitude** and **Latitude** values to be compatible with DataLinq container drawings.

★If you reconfigure your data source after adding it to the DataLinq Setup window, you may have to quit and relaunch XPression Maps in order to see the updated table.

Using a Tree Data Source

Use a tree data source when you want to be able to display multiple values in your map.

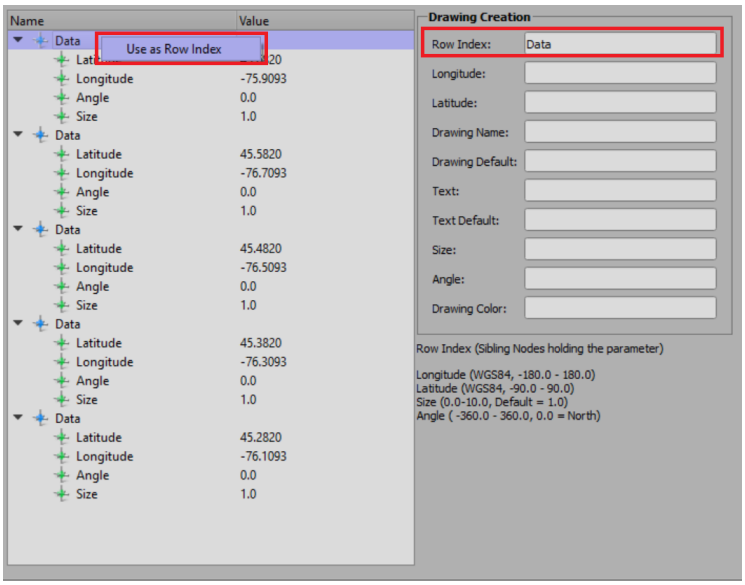
★If you reconfigure your data source after adding it to the DataLinq Setup window, you may have to quit and relaunch XPression Maps in order to see the updated table.

To configure the DataLinq Container Drawing data from a tree:

1. From the menu bar select **Edit > DataLinq Setup** to open the **DataLinq Setup** window.
2. In the **Data** tab, from the **Source** drop-down, select the source data.
3. In the **Data** table, select a row, right-click and select **Use as Row Index**.

   The selected row will be added in the **Row Index** field in the **Drawing Creation** section.

   ★ A **Row Index** can only be selected from the top level (**Name**) column. The **Value** column represents the remaining parameters.



Selecting a Row Index

4. Continue to select the following **Index Nodes** from the **Value** column, right-clicking to select each:
   - **Longitude**
   - **Latitude**
   - **Drawing Name**

     If the data source doesn't have a **Drawing Name** value, in the **Drawing Default** field, enter the name of the text drawing you will be using to configure the data output.
   - **Text**

     If you select a **Text Drawing** tool as an **Index Node**, you must input the **Text** tool in the **Text Default** field. For example, if you choose a **Callout Marker** you must identify that as your **Text Default** for the result to display in the output window.
   - **Size**
   - **Angle**

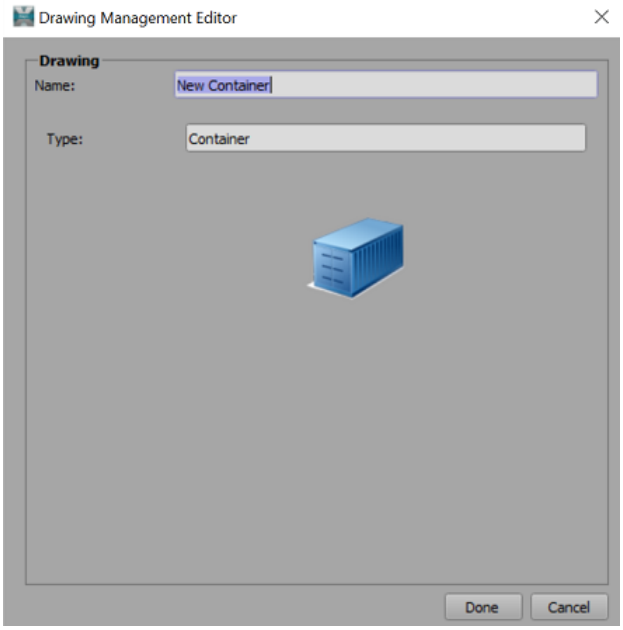
- **Drawing Color**

5. Select **Save** and close the **DataLinq Setup** window.

To add a Container drawing:

1. In the **Drawing Toolbox** select **New Drawing**.
2. In the **New Drawing** dialog, from the **Select Drawing Type** drop-down, select **Container**.

   The **Container Drawing** properties sheet opens.



New Container Drawing Properties

3. In the **Name** field, enter the name for the container drawing and select **Done**.

   ★ The container drawing name must match the data source being configured in the **DataLinq Setup** window.

4. Place the new container drawing anywhere in the output window.

   ★ The container drawing acts as a holder for the DataLinq data as previously setup in the **DataLinq Setup** window. The container drawings placement on the map is not important. The image of the container drawing will not be shown in the final render.

To configure a text drawing to display the data:

1. From the menu bar select **Edit > Manage Drawings**.
2. In the **Drawing Management Editor**, from the **Name** drop-down, select **Text**.
3. From the list of text drawings, select the drawing you want to use to display the data in your map.
4. In the **Drawing** panel, in the **Name** field, enter the name that appears in the **Drawing** column of your data source.

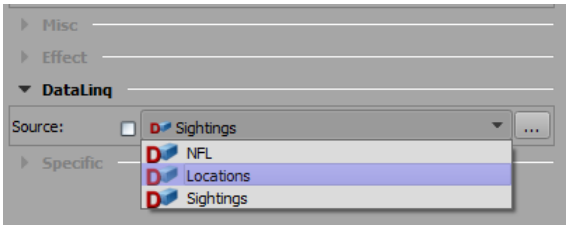
   If there is no **Drawing Name** value in your data source, enter any name and in the **DataLinq Setup** window, enter the same name in the **Drawing Default** field.

5. Then select a group in which to save the newly named text drawing and select **Duplicate**.

6. If you want to change any of the properties in the text drawing, you can do so now or you can select the text drawing in the **Drawing Toolbox** later and edit the properties.
7. Select **Done** to close the **Drawing Management Editor**.

To display the source data on the map:

1. In the **Search** editor, in the **Location / Address, City, Country** field, enter the location you want to display on your map.
2. Select the container drawing you added to the map.
3. In the **Drawing Editor**, expand the **DataLinq** parameter and from the **Source** drop-down, select the data source you are using.



Drawing Editor - DataLinq

4. Select the **Source** checkbox to view the data in the output window.

Using a Table Data Source

Use a table data source when you want to display text in specific locations on the map. You can only display one value type. If you need to display more than one value, use a tree data source instead. See Using a Tree Data Source 199 for more information. There may be data in your data source that cannot be used in a DataLlinq Container drawing.

★If you reconfigure your data source after adding it to the DataLinq Setup window, you may have to quit and relaunch XPression Maps in order to see the updated table.

To configure the DataLinq Container Drawing Data from a table:

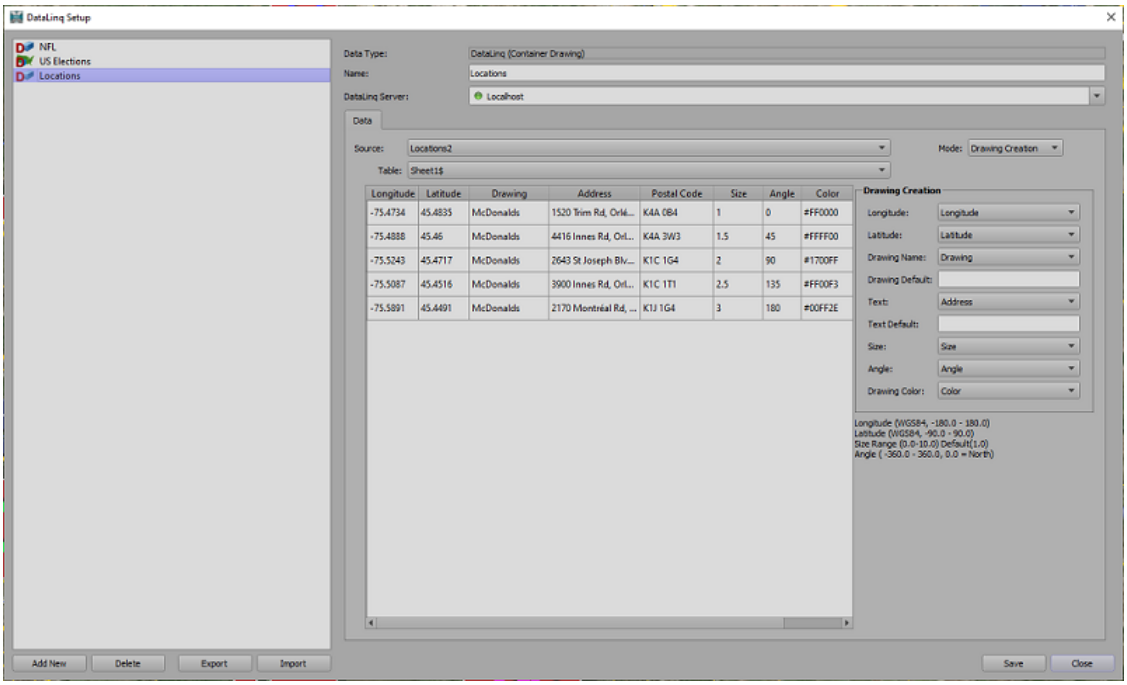
1. From the menu bar select **Edit > DataLinq Setup** to open the **DataLinq Setup** window.
2. In the **Data** tab, from the **Source** drop-down, select the source data.
3. From the **Table** drop-down select the sheet that you want to use.

   ★The **Table** drop-down will only generate multiple options if the data source has multiple sheets of information, for example, an Excel spreadsheet with more than one sheet.
4. In the **Data** table, do the following:
   - Right-click in the **Longitude** column and select **Use Column as Longitude Parameter**.
   - Right-click in the **Latitude** column and select **Use Column as Latitude Parameter**.
   - If the data source has a **Drawing** column, right-click in the **Drawing** column and select **Use Column as Drawing Name Parameter**.
     - If the data source doesn't have a **Drawing** column, in the **Drawing Default** field, enter the name of the text drawing you will be using to configure the data output.
   - Right-click in the column containing the data you want to display in your map and select **Use Column as Text Parameter**.
   - In the **Text Default** field, enter a value to be displayed if there is no value found in the column selected in the **Text** drop-down. For example, in election data, if there are no results yet for a particular polling station or state, you might want the value shown to be **0**.
   - Right-click in the **Scale** column (if one exists) and select **Use Column as Scale**.

     The values in the **Scale** column affect the size of the text drawing.
   - Right-click in the **Angle** column (if one exists) and select **Use Column as Angle**.

     The values in the **Angle** column affect the angle of the text drawing.
   - Right-click in the **Color** column (if one exists) and select **Use Column as Color**.

     The values in the **Color** column affect the color of the text in the text drawing.



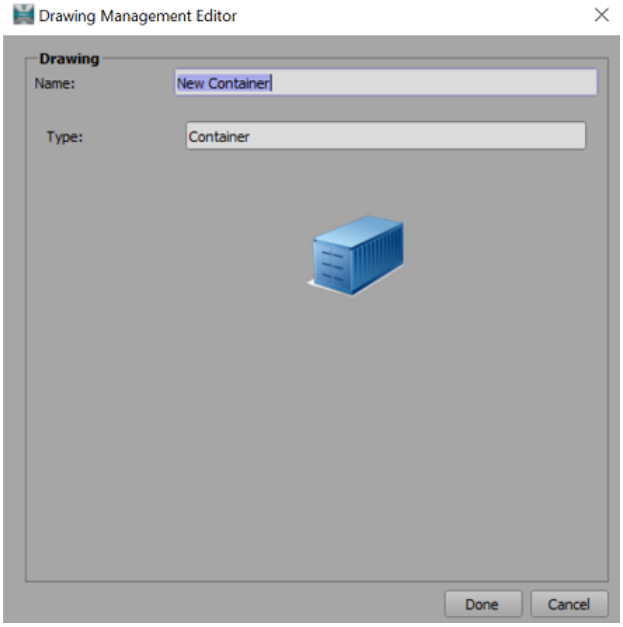
Select Drawing Creation Parameters

5. Select **Save** and close the **DataLinq Setup** window.

To add a Container drawing:

1. In the **Drawing Toolbox** select **New Drawing**.
2. In the **New Drawing** dialog, from the **Select Drawing Type** drop-down, select **Container**.

   The **Container Drawing** properties sheet opens.



New Container Drawing Properties

3. In the **Name** field, enter a name for the container drawing and select **Done**.

   ★ The container drawing name must match the data source being configured in the **DataLinq Setup** window.

4. Place the new container drawing anywhere in the output window.

   ★The container drawing acts as a holder for the DataLinq data as previously setup in the **DataLinq Setup** window. The container drawings placement on the map is not important. The image of the container drawing will not be shown in the final render.

To configure a text drawing to display the data:

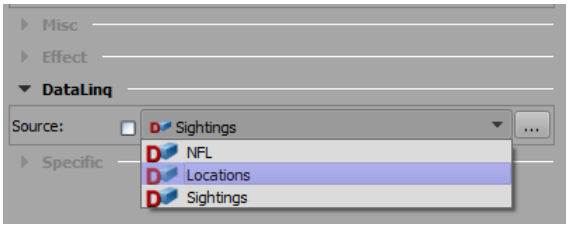
1. From the menu bar select **Edit > Manage Drawings**.
2. In the **Drawing Management Editor**, from the **Name** drop-down, select **Text**.
3. From the list of text drawings, select the drawing you want to use to display the data in your map.
4. In the **Drawing** panel, in the **Name** field, enter the name that appears in the **Drawing** column of your data source.

   If there is no **Drawing Name** value in your data source, enter any name and in the **DataLinq Setup** window, enter the same name in the **Drawing Default** field.

5. Then select a group in which to save the newly named text drawing and select **Duplicate**.
6. If you want to change any of the properties in the text drawing, you can do so now or you can select the text drawing in the **Drawing Toolbox** later and edit the properties.
7. Select **Done** to close the **Drawing Management Editor**.

To display the source data on the map:

1. In the **Search** editor, in the **Location / Address, City, Country** field, enter the location you want to display on your map.
2. Select the container drawing you added to the map.
3. In the **Drawing Editor**, expand the **DataLinq** parameter and from the **Source** drop-down, select the data source you are using.



Drawing Editor - DataLinq

4. Select the **Source** checkbox to view the data in the output window.

Editors

A group of editors located on either side of the output window allows you to create and edit shapes and drawings used in your maps, search for locations and shapes, create bookmarks for frequently used locations and customize your OpenStreetMap scenes.

The editors can be docked to the left or right of the output window, using the docking icon  in the top-right corner of the editors.

See the following topics for further information:

Shape Editor 206

Drawing Editor 223

Search Editor 235

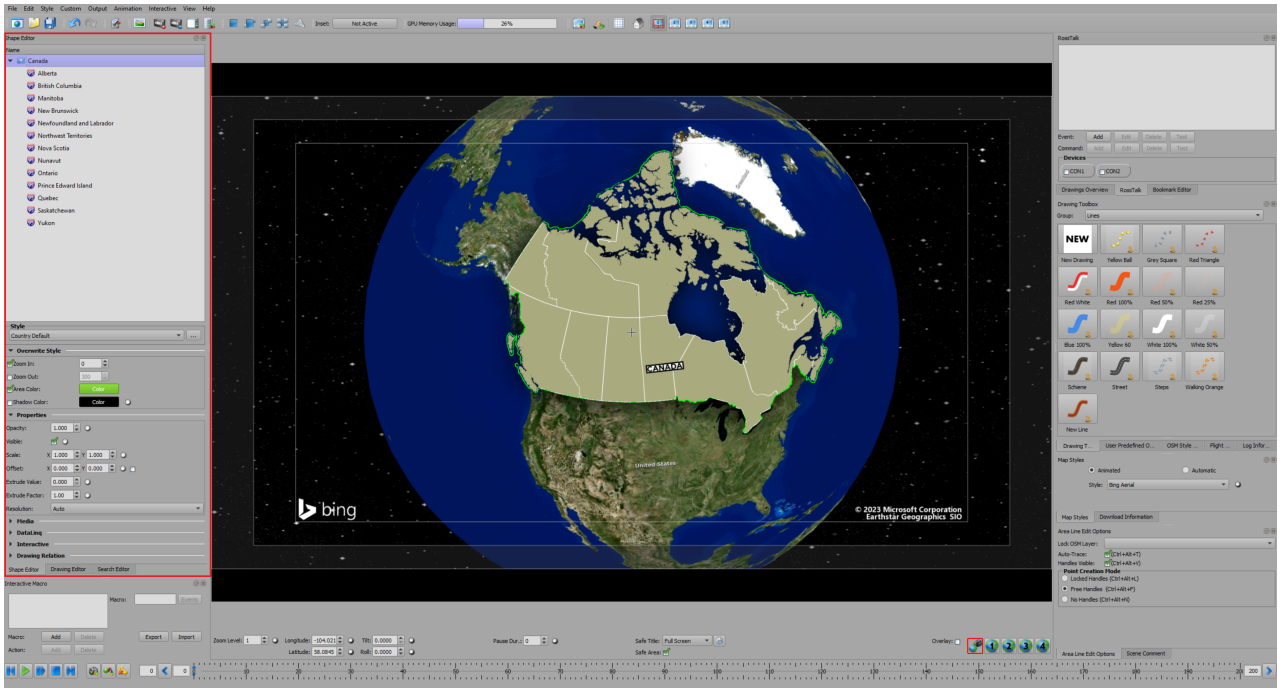
Bookmark Editor 244

OSM (OpenStreetMap) Style Editor 249

Shape Editor

XPression Maps comes with a library of national and interstate borders from around the world, allowing you to integrate political information quickly and easily. You can fill in one or more countries, states or regions with color for greater emphasis and apply map colors and outlines to your own layouts. You can also add, edit and delete predefined or custom shapes.

Use the **Shape Editor**, shown below, to modify the parameters of the shapes. The **Shape Editor** displays a list of all the shapes that have been added to the current scene.



Shape Editor Location

The following topics are discussed in this section:

In the upper portion of the **Shape Editor** there is a list of the shapes in the current scene.

Icons indicate if the shape is a country (), a state (), or a region (). Each shape is on its own layer and the order of the list corresponds to the order of the layers, where the first line is the back (or bottom) layer and the last line is the front (or top) layer. The shapes shown in the list appear in the scene in the output window as shown in the following diagram.

You can rearrange the list by dragging and dropping shapes from one position to another, however children shapes can not be rearranged.

Illustration of Shapes in a Scene

Adding and Deleting Shapes

In order to add a shape to the scene, you have to first find and select the shape in the **Search Editor**.

To add a shape:

1. In the **Search Editor**, in the **Filter** section, select the checkbox for **Country**, **States** and/or **Region** depending on the location for which you are searching.
2. In the **Location** field, enter the location you want to display in the scene and select **Search**.

   For more accurate results, be specific about the location you want to search. Enter the region, province/state and country in the Location field, separated by commas, as in the example shown below:

   Ottawa, Ontario, Canada
3. Then, in the **Search Related Shapes** list, double-click the shape you want to add to the scene.

   The default shape style is automatically applied to the shape, **Country Default** for a country, **State Default** for a state and **Region Default** for a region. The shape style can be changed in the **Shape Editor**.

   The shape name appears in the **Name** list of the **Shape Editor**.

   OR

   a. In the **Search Editor**, select **Shape Database Viewer**, navigate through the list to the shape you want to add and double-click the shape.

b. Then select **Done** to close the **Shape Database Viewer**.

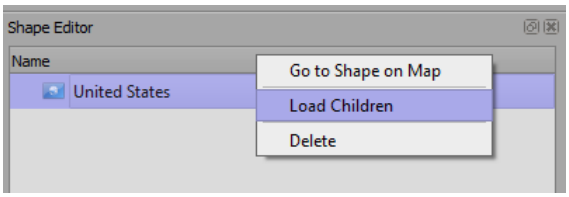
The default shape style is automatically applied to the shape, **Country Default** for a country, **State Default** for a state and **Region Default** for a region. The shape style can be changed in the **Shape Editor**.

The shape name appears in the **Name** list of the **Shape Editor**.

You can also add a custom shape, that you've created yourself. See Custom Shapes 285 for further instructions.

To add child shapes:

1. In the **Shape Editor**, once a country or state shape has been added, select the shape for which you'd like to add the states or regions.
2. Right-click the selected shape and from the context menu, select **Load Children**.

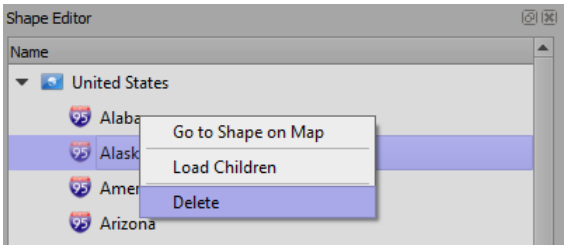


Add Child Shapes

- If a country shape has been selected, all the states of that country are loaded and displayed hierarchically below the country.
- If a state shape has been selected, all the regions of that state are loaded and displayed hierarchically below the state.
- It is possible that no children exist for a shape (for example, no regions are available for a state or the shape is already a region).

To delete a shape:

1. In the **Shape Editor**, from the list of shapes, select the shape you want to delete.



Delete Shape

2. Right-click the selected shape and from the context menu, select **Delete**.

- Press **Ctrl** and click on another shape name in the list to select multiple shapes to delete.
- Select a shape in the list, then press **Shift** and click on another shape to select all the shapes between the first and last selected shape to delete.
- If children have been loaded, select and right-click the parent shape and from the context menu, select **Delete Children** to remove all the child shapes.

Editing Shapes

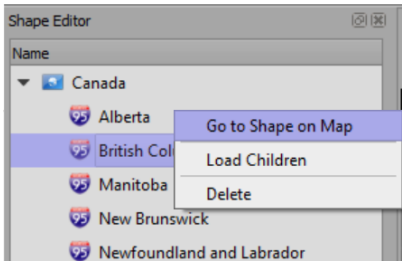
In the **Shape Editor**, you can apply a predefined style to a shape and overwrite certain parameters, allowing you to change the appearance of an individual shape without changing the style itself. This is useful if you have applied the same style to multiple shapes and don't want to change all of them.

You can also change the opacity and visibility of the shape, add an image to the shape and edit the shape boundaries.

Finally, you can create new **Shape Styles** to suit your production. See Shape Styles 215 for more information.

To edit a shape:

1. In the **Shape Editor**, select the shape you want to edit.
   - Press **Ctrl** and click on another shape in the list to select multiple shapes.
   - Select a shape in the list, then press **Shift** and click on another shape to select all the shapes between the first and last selected shape to edit.
   - A shape can also be selected by clicking on it in the output window.
2. In the shape list, double-click the shape or right-click the shape and select **Go to Shape on Map** from the context menu to adjust the view of the camera so that the shape is centered in the **Output Window**.



Go to Shape

3. From the **Style** drop-down, select a predefined shape style to apply to the shape.

   When a shape is selected, the **Style** drop-down indicates which shape style is currently applied to that shape.
4. In the **Overwrite Style** section, you can adjust the following default parameters of the selected shape style:
   - **Zoom In** — enable this checkbox, then enter or select a value to define at which camera **Zoom Level** the shape will be visible.
   - **Zoom Out** — enable this checkbox, then enter or select a value to define at which camera **Zoom Level** the shape will be visible.
   - **Area Color** — enable this checkbox, then select the **Color** button to open the **Color Selection** editor and select a color to overwrite the color of the selected shape style.

- **Shadow Color** — enable this checkbox, then select the **Color** button to open the **Color Selection** editor and select a shadow color for the shape style.

The color style overwrite can also be applied in tandem with the **Zoom In** and **Zoom Out** overwrite parameters when they are enabled.

5. In the **Properties** section of the editor:

   a. Enter a value or use the arrows to adjust the **Opacity**.

   - A value of 1 makes the shape completely opaque (a solid color).
   - A value between .99 and .01 makes the shape increasingly transparent.
   - A value of 0 makes the shape invisible.
   - Select the **Radio** button to place a keyframe on the timeline.

   ★Opacity does not affect children associated with the shape.

   b. Select the **Visible** checkbox to display the selected shape and its children.

   If the Visible checkbox is cleared, only the parent shape will be displayed.

   - Select the **Radio** button to place a keyframe on the timeline.

   Shapes will blend in or out for the number of seconds set in the **Effect In** and **Effect Out** parameters set in the **Edit Shape Style** editor when animated, starting at the key frame that makes the drawing visible or invisible. See Shape Style Properties 219 for more information.

   c. In the **Scale** fields, enter a value or use the arrows to adjust the **Scale** of the shape.

   - Select the **Radio** button to place a keyframe on the timeline.

   d. In the **Offset** fields, enter a value or use the arrows to increase or decrease the value by which the shape will be offset from the actual boundaries.

   - The **X** field offsets the shape horizontally.
   - The **Y** field offsets the shape vertically.
   - Select the **Radio** button to place a keyframe on the timeline.

   e. Select the checkbox beside the **Offset** fields to be able to move the shape to a different location.

   For details about using this feature, see Relocating Shapes 213.

   f. In the **Extrude** fields, enter a value or use the arrows to increase or decrease the height of the extruded shape.

   This setting becomes more visible if the map is tilted.

   g. In the **Resolution** drop-down, select one of the following options to define how the shape is displayed:

   - Auto
   - Low (with coastline)
   - High (with coastline cut by the water layer)

6. In the **Media** section:

   a. Select the **Use** checkbox, if you want to use an image file in the scene.

      When the **Use** checkbox is selected, the **Type** and **File** fields and **File Browse** button become available.

   b. From the **Type** drop-down, select the type of media file to use.

      Currently, only the **File** type is supported.

   c. Select the **Browse** button (...) beside the **File** field to navigate to the media file you want to use in the scene.

      The supported media file formats are **.jpg** and **.png**.

   d. In the **Scale** fields, enter a value or use the arrows to increase or decrease the size of the image.

   - The **X** field adjusts the size of the image horizontally.
   - The **Y** field adjusts the size of the image vertically.
   - Select the **Radio** button to place a keyframe on the timeline.

   e. In the **Translate** fields, enter a value or use the arrows to move the image within the shape.

   - A positive value in the **X** field moves the image to the right horizontally.
   - A negative value in the **X** field moves the image to the left horizontally.
   - A positive value in the **Y** field moves the image up vertically.
   - A negative value in the **Y** field moves the image down vertically.
   - Select the **Radio** button to place a keyframe on the timeline.

   f. In the **Angle** field, enter a value or use the arrows to tilt the image.

   - A positive value tilts the image towards the right.
   - A negative value tilts the image towards the left.
   - Select the **Radio** button to place a keyframe on the timeline.

   g. From the **Mapping** drop-down, select one of the following options to define how an image is displayed in the selected shape:

      UV Relative: The image is locked to the shape and moves with the shape. When this option is selected, the image is placed at a pre-calculated position relative to the shape center and cannot be moved.

      UV Absolute: The image is locked to the shape and moves with the shape. When this option is selected, you can adjust the Long. and Lat. values to position the image where you want it within the shape. You can also adjust the Size of the image.

      UV Static: The image is locked to the background, so when you move the shape, you see different parts of the image.

   h. Select the **Repeat** checkbox, if you want the image file to repeat to fill the selected shape or leave it blank if you want only one instance of the image.

   i. In the **Long**. and **Lat**. fields, enter a value or use the arrows to adjust the values to position the image within the selected shape (available for the **UV Absolute** option only).

j. In the **Size** field, enter a value or use the arrows to increase or decrease the size of the image (available for the **UV Absolute** option only).

   If the color of the shape style that has been applied to the shape conflicts with the colors in the image, you can overwrite the color in the **Overwrite Style** section of the **Shape Editor**. Refer to step 4 209 for further information.

7. In the **DataLinq** section:

   a. From the Source drop-down, select the **DataLinq Source**. For information on adding **DataLinq Servers** see To add a DataLinq Server.

   b. Select the **Source** checkbox and view the DataLinq data displayed in the output window.

   c. For information on configuring the **DataLinq Shape Data** see DataLinq Setup 181.

9. In the **Drawing Relation** section, group together different drawing tools from within a selected shape designated in the output window. These groupings can be added to the **User Predefined Objects** window and saved as one object.

   See User Predefined Objects 132 for information on creating groups.

Relocating Shapes

There are cases where you want to see all states, territories, districts, etc. of a country in your scene, but some are far from the mainland. For example, in the United States, Alaska and Hawaii are not visible when the camera is centered on the mainland. Fortunately, you can move the shapes of the areas that are out of view.

If the shape style you're using includes labels, you may need to move the default locations of the labels in the **Shape Database Viewer**.

For instructions on moving the labels, see Shape Label Properties. 241

To relocate the state shapes, you'll need to first isolate them and then move them. You may also need to resize the shapes to make them fit in the scene and be properly visible.

To isolate the state shapes:

1. At the bottom of the **Search** editor, click the **Shape Database Viewer** button and select the country you want to illustrate in your scene.
2. Select the arrow to expand the country and then select the country name.
3. On the right side of the **Shape Database Viewer**, select **Add State Shape**.
4. Then select the states that are not visible when the camera is centered on the mainland of the country and select **Add State Shape** for each.

   The default shape style is added but can be changed if necessary. See Shape Styles 215 for more information.
5. In the **Shape** editor, in the **Name** list, right-click on the country name and from the context menu, select **Load Children**.
6. In the **Children** list, select each of the states that you added separate shapes for in the **Shape Database Viewer** and press the **Delete** key.
7. Collapse the list.

   You should have the country name and the states you selected from the **Shape Database Viewer** displayed.

To move the state shapes:

1. Select one of the shapes you want to move.
2. In the **Shape** editor, in the **Properties** section, select the checkbox beside the **Offset** parameters.
3. Then left-click and drag the shape close to the mainland of the country.
4. If necessary, use the **Scale** parameters to resize the shape.
5. When the shape is positioned and sized as necessary, deselect the checkbox.
6. From the menu bar select **File > Save**.

   The image below is an example of how you might relocate Alaska and Hawaii.

Relocating Shapes

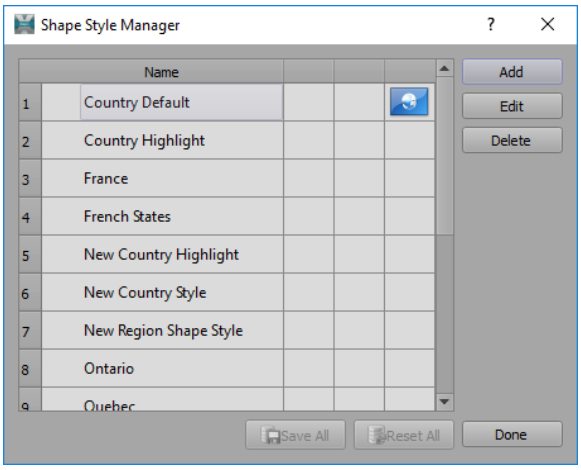
Shape Styles

XPression Maps comes with a set of predefined shape styles that can be applied to the shapes you add to your scene. The styles are available through the **Shape** editor, in the **Style** section, as described in Step 3 of To edit a shape style 217. You can also create your own custom shape style in the **Shape Style Manager**.

To create a new shape style:

1. In the **Shape Editor**, in the **Style** section, select the **Browse** button (…) beside the **Style** drop-down.

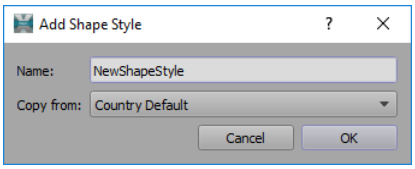
   The **Shape Style Manager** opens, displaying a list of predefined styles.



Shape Style Manager

2. Select **Add**.

   The **Add Shape Style** dialog opens.

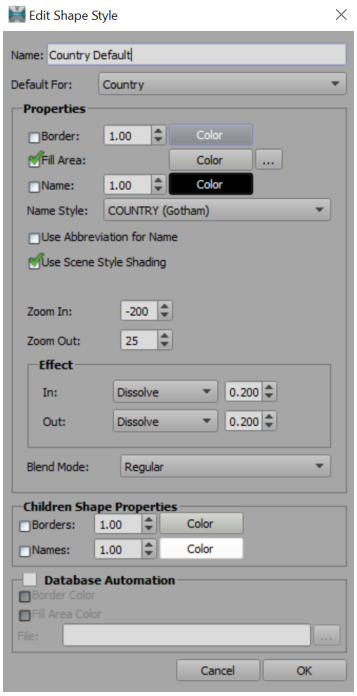


Shape Style Manager - Add Shape Style

3. In the **Name** field, enter a name for the new shape style.

4. If you want to copy the properties of one of the existing styles, from the **Copy** from drop-down, select the style you want to copy and select **OK**.

   The **Edit Shape Style** dialog opens.



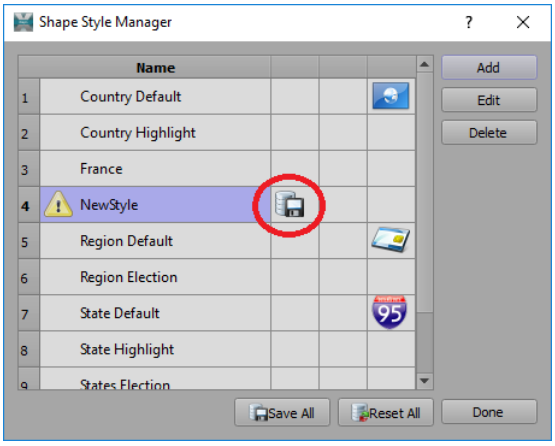
Edit Shape Style Dialog

5. Edit the shape style as necessary.

   See Shape Style Properties 219 for information on editing shape style properties.

6. When you have finished editing the shape style properties, select **OK**.

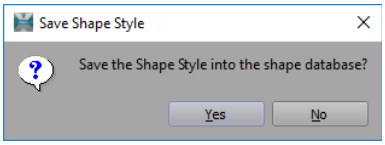
   In the **Shape Style Manager**, your new style is added to the list and the **Save** icon appears beside it.



Shape Style Manager

7. Select the **Save** icon and in the **Save Shape Style** confirmation dialog, select **Yes** to save the new shape style into the shape style database.

   If you don't save the shape style, it will only be applied in the current scene and will not be available to use again.



Save Shape Style Confirmation Dialog

8. Then select **Done** to close the **Shape Style Manager**.

To edit a shape style:

1. In the **Shape Editor**, in the **Style** section, select the **Browse** button (…) beside the **Style** drop-down.

   The **Shape Style Manager** opens, displaying a list of predefined styles.

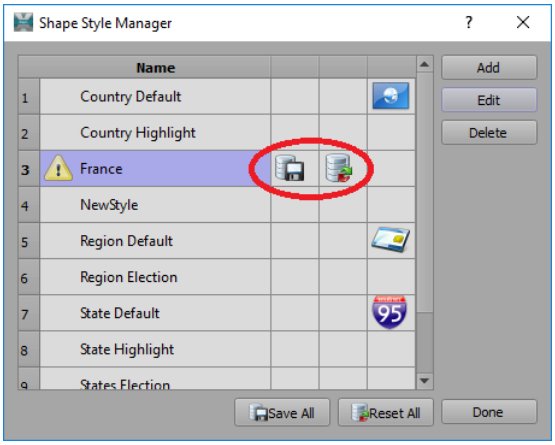
2. Select the shape style you want to change and select **Edit** or double-click the shape style.

   The **Edit Shape Style** dialog opens.

3. Edit the properties of the new style and select **OK**.

   See Shape Style Properties 219 for information on editing shape style properties. .

   The **Edit Shape Style** dialog box closes and the **Shape Style Manager** reopens. The edited style is highlighted and the **Save** icon and **Reset** icon are displayed beside it.



Shape Style Manager

4. Select the **Save** icon and in the **Save Shape Style** confirmation dialog, select **Yes** to save the shape style into the shape style database.

   An exclamation mark at the left of the shape style indicates that the style is saved in the scene but not in the database. That style will not be available to be used in other scenes.

   OR

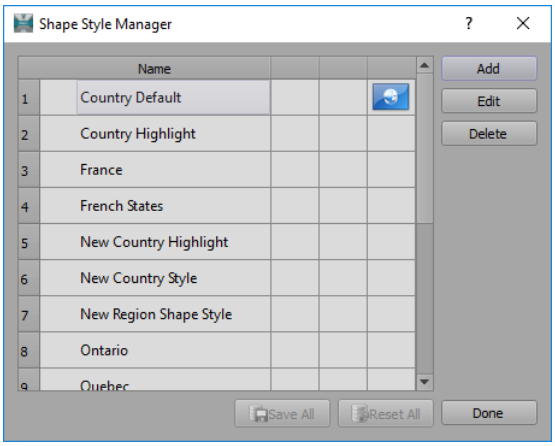
   Select the **Reset** icon and in the **Reset Shape Style** confirmation dialog, select **Yes** to reset the shape style to its previously saved state.

5. Then select **Done** to close the **Shape Style Manager**.

To delete a shape style:

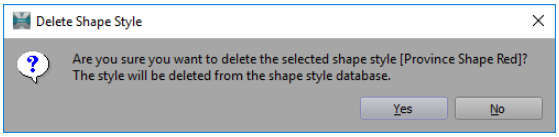
1. In the **Shape Editor**, in the **Style** section, select the **Browse** button (…) button beside the **Style** drop-down.

   The **Shape Style Manager** opens, displaying a list of predefined styles.



Shape Style Manager

2. Select the shape style you want to delete and select **Delete**.
3. In the **Delete Shape Style** confirmation dialog, select **Yes** to delete the style.



Delete Shape Style Confirmation

4. Then select **Done** to close the **Shape Style Manager**.

Shape Style Properties

Many of the properties of shape styles can be customized for a different appearance. Properties such as border and fill area color, name visibility and style and the zoom level at which the shape style becomes visible can be edited in the **Edit Shape Style** dialog. Changes in these properties are visible in the output window but not saved into the **Shape Style** until you select **OK**.

If the shape is a state rather than a country, the corresponding regions are shown, if available. Names and borders of regions are available only for states that have region shapes defined. Check the **Shape Database Viewer** to see whether region shapes are available for a state.

See Shape Database Viewer 239 for information about the **Shape Database**.

If the shape is a region, the settings in the **Children Shape Properties** section do not have any effect.

These properties and others are described in the table below.

Properties	Description
Name	Enter a name for the new style
Default For	Use the drop-down to select whether you want to make this style the default style for countries, states, or regions, or not make it the default for anything (by selecting None). Only one default style exists for each country, state or region. Setting a style to default will over-ride any previously defined default style.
Border	When enabled, the outline of the shapes using this style will be displayed in the color that is set in the corresponding **Color Selection** editor to the right of the checkbox. Borders are drawn on top of the selected map style and therefore take precedence over the borders of the map style. The border width can be adjusted by entering a value or using the arrows to increase or decrease the value in the field beside the checkbox. Maximum is 10 pixels.
Fill Area	When enabled, the shapes using this style will be filled with the color that is set in the corresponding **Color Selection** editor to the right of the checkbox.
Shape Fill Shadow (optional)	When enabled, a shadow will surround the shape fill area. The parameters are: **Shadow** — select the Shadow checkbox to enable a shadow color to surround the Shape area. **Shadow Color** — select the **Color** button to open the **Select Color** window. Select a basic color, use the color gradient or input a custom color for the Shadow Color. **Shadow Offset** — use the arrows to adjust the Shadow Offset. ➢ The first entry field adjusts the shadows placement from left to right, a higher number places the shadow more on the right side of the shape. A lower number places the shadow on the left side of the shape. ➢ The second entry field adjusts the shadows placement from top to bottom. A higher number places the shadow more on top of the shape. A lower number places the shadow more on the bottom of the shape. **Blur** — use the arrows to adjust the level of blur added to the shadow. A higher number will increase the blur level, a lower number will decrease the blur.

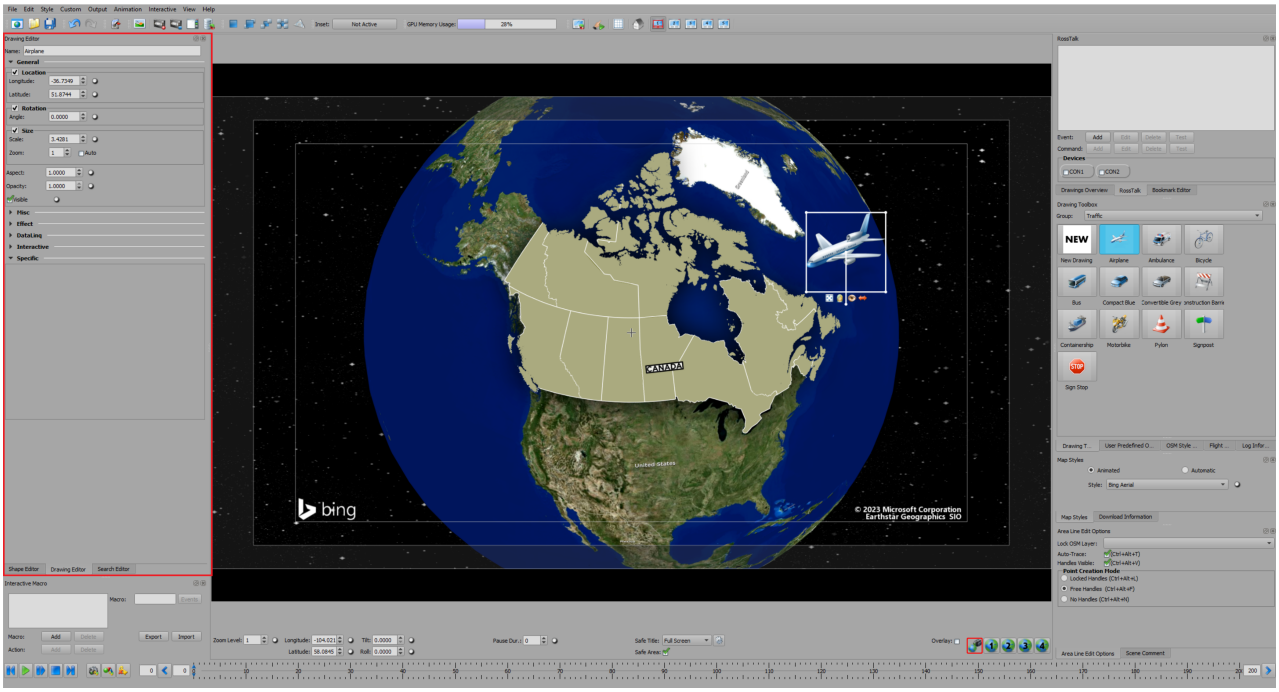
Properties	Description
	Enter **0** for no blur. **Standalone** — select the Standalone checkbox to view the shadow on the same shape styles on the map. Deselect the Standalone checkbox to view the shadow in only one area.  No Shadow Shadow Shadow Offset - Right Shadow Offset - Left Shadow Offset - Top Shadow Offset - Bottom
Name	When enabled, the name associated with the shape will be visible in the output and will be the color that is set in the corresponding **Color Selection** editor to the right of the checkbox. The size of the name can be scaled by entering a value or using the arrows to increase or decrease the value in the filed beside the checkbox. When not enabled, no name is displayed. This can be useful if you are using a map style that includes names.
Name Style	Use the drop-down to select a text drawing style to apply to the names. When you select a **Name Style**, you can preview it in the **Output Window**, but it is not saved into the Shape Style until you select **OK**.
Use Abbreviation for Name	When enabled, abbreviations will be used for the names of the top level shapes. Children shapes need to be separately configured
Use Scene Style Shading	When enabled, the height shading in the scene will be displayed. In order for this to work, the **Height Shading** parameter in the **Edit Map Style** editor must also be enabled. See Height Shading 50 for more information.
Apply Ocean Mask	When enabled, all parts of a shape that extend into the ocean will be hidden. In order for this to work, the **Ocean Mask** overlay parameter in the **Edit Map Style** editor must also be enabled. See Overlay for more information.
Zoom In	Enter or use the arrows to select the camera **Zoom Level** value at which the shape will be visible. If the camera **Zoom Level** value is smaller than the **Zoom In** value, the shape will not be visible.
Zoom Out	Enter or use the arrows to select a camera **Zoom Level** value at which the shape will no longer be visible. If the camera **Zoom Level** value is larger than the **Zoom Out** value, the shape will not be visible.

Properties	Description
Effect	These two parameters define how a shape appears and disappears during its visible animation. This effect can be seen when the animation is played or when the zoom level is changed. **In** - When set to **Dissolve**, the shape will blend in for the number of seconds selected in the corresponding field, starting at the key frame at which the shape is set to appear. When set to **None**, the shape appears at the frame to which the key frame is set. **Out** - When set to **Dissolve**, the shape will blend out for the number of seconds selected in the corrersponding field, starting at the key frame at which the shape is set to disappear. When set to **None**, the shape disappears at the frame to which the key frame is set.
Blend Mode	Use the drop-down to select how the **Fill Area** color of the shape is combined with the underlying map. The options are: **Regular** — the area color is combined with the underlying map color. This is the most common blend method. **Multiply** — the area color is multiplied with the underlying map color. **Add** — the area color is added to the underlying map color. **Hue From Map** — the hue (dominant color) of the shape style is discarded and the hue of the underlying map is used instead. **Saturation From Map** — the saturation (intensity) of the shape style is discarded and the saturation of the underlying map is used instead. **Value From Map** — the value (lightness or darkness) of the shape style is discarded and the value of the underlying map is used instead. **Saturation and Value From Map** — the hue (dominant color) of the shape style is combined with the saturation (intensity) and value (lightness or darkness) from the underlying map.  The **Height Shading** and **3D** of the scene style is also applied to the shapes.
Children Shape Properties	**Description**
Borders	When enabled, state or region borders will be visible in the output. Enter or use the arrows to select a width for the child borders. Click the **Color** button to open the **Color Selection** editor and set a color for the child borders.

Properties	Description
Names	When enabled, the names of the states or regions will be visible in the output. Enter or use the arrows to select a size for the name of the children. Click the **Color** button to open the **Color Selection** editor and set a color for the child names. The name style is determined by the **Name Style** selected in the **Properties** section.
Database Automation	
Border Color	When **Database Automation** is enabled and **Border Color** is selected, the border color queried from the **SQL** database that is defined in the file selected in the **File** field is applied to the shape.
Fill Area Color	When **Database Automation** is enabled and **Fill Area Color** is selected, the fill area color queried from the **SQL** database that is defined in the file selected in the **File** field is applied to the shape.
File	Click the **Browse** button (...) beside the **File** field to navigate to the **.xml** configuration file which contains the pointer to the **Shape Color Database** in which the **Border** and **Fill Area** colors are defined.

Drawing Editor

Use the **Drawing Editor**, shown below, to modify the parameters of a selected drawing that has been added to the map. If a parameter is greyed out, it doesn't apply to the selected drawing.



Drawing Editor Location

The following topics are discussed in this section:

Common Parameters

The upper part of the **Drawing Editor** contains the parameters that are common to most drawings. Select the drawing in the scene before adjusting the parameters.

Parameter	Description
Location	The **Longitude** and **Latitude** parameters, in degrees, determine the location of the selected drawing. Click the radio buttons beside the **Longitude** and **Latitude** fields to add a key frame for that location. Right-click the radio buttons to select an **Easing** method for the animation to and from that key frame.
Rotation	The **Angle** parameter, in degrees, determines the rotation of the selected drawing. This parameter does not apply to **Line** and **Area** drawings.
Size	The **Scale** and **Zoom** parameters are used to resize a drawing. New drawings are always created in the same size in pixels. When a drawing is created in the **Drawing Management Editor**, the default **Scale** value is 1. **Scale** - Enter a value or use the arrows to increase or decrease the scale of the drawing in the **Output Window**. For **Line** drawings, the **Scale** parameter adjusts the width of the line. **Zoom** - Enter a value or use the arrows to increase or decrease the zoom level of the drawing. Adjust the camera **Zoom Level** of the map to the level at which you want the drawing to appear before adding it. **Auto** - when checked, the drawing remains the same size in pixels, while the camera animates through the different zoom levels. When unchecked, the drawing increases or decreases in size as the camera animates through the different zoom levels.
Aspect	The **Value** parameter increases or decreases the width of the drawing, relative to the height. • If the value is less than 1, the width (X) decreases relative to the height (Y). • If the value is greater than 1, the width increases relative to the height. When you make the drawing larger or smaller by clicking and dragging a corner of the bounding box, the set **Aspect** ratio is maintained. The default is 1.
Opacity	Enter or select a value between 0 and 1 to define the transparency of the drawing. A value of 1 is opaque and a value of 0 is transparent.
Visible	Select the **Visible** checkbox to make the drawing visible. It has the same effect as clicking the **Eye** icon () in the output window.

Parameter	Description
Frontface	**Frontface** - Select to have the front side of the drawing face the camera. You can also toggle this parameter in the output window by clicking the **Frontface** icon ( ) at the bottom of the drawing's bounding box. This parameter does not apply to **Line** and **Area** drawings. The **View Camera** button in the camera control area changes to indicate that this camera is locked ( ). Only one drawing at a time can lock the playout camera. For a **Line** drawing, the playout camera looks at the head of the line when locked.
Keep Orientation	**Keep Orientation** - Select to align a text drawing to the screen. Clear to align a text drawing to the camera. Applies to **Text** drawings only.
Lock Camera	**Lock Camera** - Select to force the playout camera to look at the drawing. The play out camera can no longer be moved in its normal fashion.
Use Spline Rotation	**Use Spline Rotation** - Select to have the rotation angle of the drawing change according to the direction of the line. This parameter is only applicable for drawings that are connected to the head of a line. In order to connect a drawing to a line, it must be dragged and dropped to the head of the line in the output window. A yellow rectangle indicates that the drawing will be connected to the line when the drawing is dropped. To disconnect a drawing, drag it away from the head of the line until the yellow rectangle disappears.
Animation Slowdown	**Animation Slowdown** - Enter or select the number of frames in which an image is repeated in an image sequence before the next image is shown. The default value is 0. This parameter is only applicable to **Icon**, **Area** and **Line Drawings**. Image sequences loop independently of the timeline animation.

Parameter	Description
Effect **(In and Out)**	These parameters define how a drawing appears (**In**) and disappears (**Out**) during animation. Options are: **None** - the drawing appears instantly at the frame to which the key frame is set. **Dissolve** - the drawing blends in over the number of seconds selected in the Time field, starting at the key frame at which the drawing is set to appear. **Typewriter** - the drawing appears one character at a time over the number of seconds selected in the **Time** field. ★Applies to **Text** drawings only. **Alpha** - the drawing blends in one character at a time over the number of seconds selected in the **Time** field. ★Applies to **Text** drawings only. Wipe - the drawing animates in and out at the level set in the corresponding Zoom fields. The drawing appears from the right over the number of seconds selected in the Time field. Use the Delay field to input the number of seconds that the drawing will delay its animation. ★Applies to **Text** drawings only. **Wipe Reverse** - the drawing appears in and out at the level set in the corresponding **Zoom** fields. The drawing appears from the left over the number of seconds selected in the **Time** field. Use the **Delay** field to input the number of seconds that the drawing will delay its animation. ★Applies to **Text** drawings only. **Wipe Left** - the drawing appears/disappears from the left over the number of seconds selected in the **Time** field. The drawing animates in and out at the level set in the corresponding **Zoom** fields. **Wipe Right** - the drawing appears/disappears from the right over the number of seconds selecting in the **Time** field. The drawing animates in and out at the level set in the corresponding **Zoom** levels. **Wipe Bottom** - the drawing appears/disappears from the bottom over the number of seconds selected in the **Time** field. The drawing animates in and out at the level set in the corresponding **Zoom** levels. **Wipe Top** - the drawing appears/disappears from the top over the number of seconds selected in the Time field. The drawing animates in and out at the level set in the corresponding Zoom fields.
DataLinq	The DataLinq section links Drawings to DataLinq Sources configured in the DataLinq Setup window. See DataLinq Setup 180 for information. Select a DataLinq source from the drop-down menu or select the **Browse** button (...) to open the **DataLinq Setup** window. Once you have selected a DataLinq source, select the **Source** checkbox to view the configured DataLinq Drawing data in the output window.

Specific Parameters

The lower part of the editor will display parameters that are specific to the selected drawing. See the following sections for details:

Line Drawing Parameters 228

Text and OSM Replacement Drawing Parameters 229

Area Drawing Parameters 230

Magnifier Drawing Parameters 231

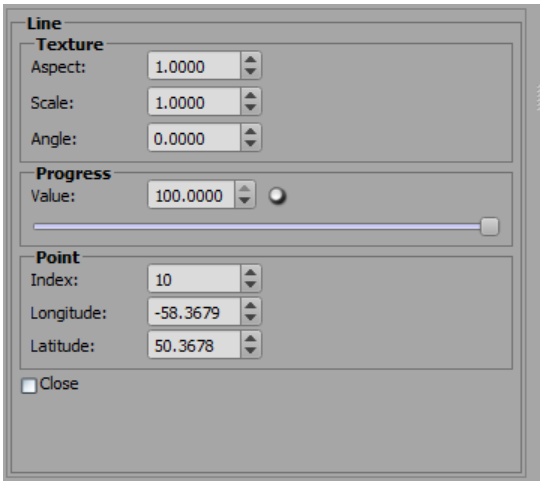
Locator Drawing Parameters 232

Dynamic Data Drawing Parameters 233

Inset Drawing Parameters 234

Line Drawing Parameters

The **Line** section contains the parameters that are specific to line drawings. Select the line drawing in the scene before adjusting the parameters.

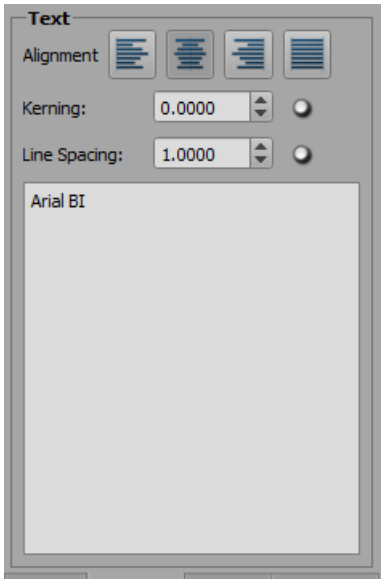


Line Drawing Parameters

Parameter	Description
Texture	**Aspect** — enter or select an aspect value to define how the image is mapped on the line. **Scale** — enter or select a scale value to define how the image is mapped on the line. **Angle** — enter or select an angle value to define how the image is mapped on the line.
Progress	**Value** - enter or use the slider to select a percentage between 0 and 100 to define how much of the line is visible.
Point	**Index** — enter or select a value for the active point of the line. A value of 0 means no active point. The active point is red in the output. All other points are green. **Longitude** — enter or select a longitudinal value for the active point of the line. **Latitude** — enter or select a latitudinal value for the active point of the line.
Close	Select the **Close** checbox to close the Line drawing from the starting point to the ending point.

Text and OSM Replacement Drawing Parameters

The **Text** section contains the parameters for modifying the alignment of text and OSM Replacement drawings. Select the drawing in the scene before adjusting the parameters.

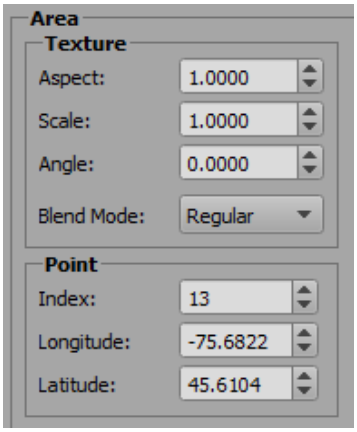


Text Drawing Parameters

Parameter	Description
Alignment	**Left** - align the text to the left. **Center** - center the text. **Right** - align the text to the right. **Justified** - align the text to the left and right margins.
Kerning	Enter a value or use the arrows to set the amount of space between letters.
Line Spacing	Enter a value or use the arrows to set the amount of space between multiple lines of text.
Text Box	Use the text box to edit the text on one or more lines. Press the **Enter** key to move text to the next line.

Area Drawing Parameters

The **Area** section contains the parameters that are specific to area drawings. Select the area drawing in the scene before adjusting the parameters.

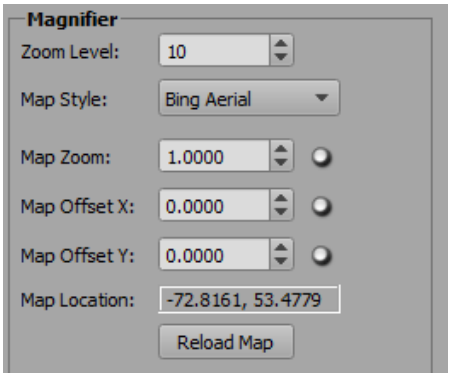


Area Drawing Parameters

Parameter	Description
Texture	**Aspect** — Enter or select a value to define the appearance of the pattern in the area. **Scale** — Enter or select a value to define the size of the pattern in the area. **Angle** — Enter or select a value to define the angle of the pattern in the area. **Blend Mode** — Use the drop-down to select how the area texture is mixed with the underlying map. The options are: **Regular** — the area is blended with the map. **Multiply** — the area color is multiplied with the map color. **Add** — the area color is added to the map color. 
Point	**Index** - enter or select a value for the active point of the line. A value of 0 means no active point. The active point is red in the output. All other points are green. The active point can also be set by left-clicking the mouse on the point. **Longitude** - enter or select a longitudinal value for the active point of the area. **Latitude** - enter or select a latitudinal value for the active point of the area.

Magnifier Drawing Parameters

The **Magnifier** section contains the parameters that are specific to magnifier drawings. Select the magnifier drawing in the scene before adjusting the parameters.

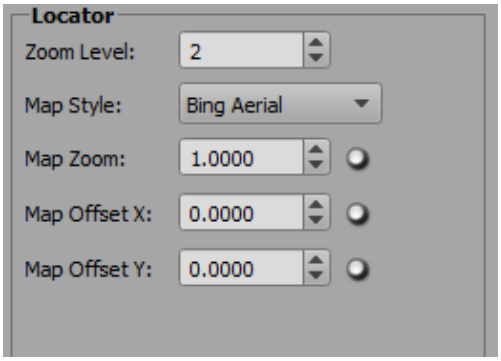


Magnifier Drawing Parameters

Parameter	Description
Zoom Level	Enter or select a zoom level between 1 and 21 to define how much detail is displayed in the highlighted area. A higher zoom level value means more detail is shown.
Map Style	Use the drop-down to select a map style. The options are: **Bing Aerial** **Bing Aerial Label** **Bing Road** **Bing Road Dark** **Bing Road Gray** **Bing Road Light**
Map Zoom	Enter or select a zoom value for the highlighted area of a map. **0 - 1**: The area is magnified. **>1**: The area is made smaller. The resolution of the map is not changed, so it does not show more or fewer details when zoomed in or out.
Map Offset X	Enter or select a value to move the highlighted area within the drawing along the **X** coordinate.
Map Offset Y	Enter or select a value to move the highlighted area within the drawing along the **Y** coordinate.
Map Location	Displays the longitude and latitude coordinates of the highlighted area. This is defined by the position of the drawing at creation.
Reload Map	If you move the magnifier drawing within the scene, click **Reload Map** to set the **Map Location** coordinates to the actual location of the drawing. This updates the map in the highlighted area.

Locator Drawing Parameters

The **Locator** section contains the parameters that are specific to locator drawings. Select the locator drawing in the scene before adjusting the parameters.



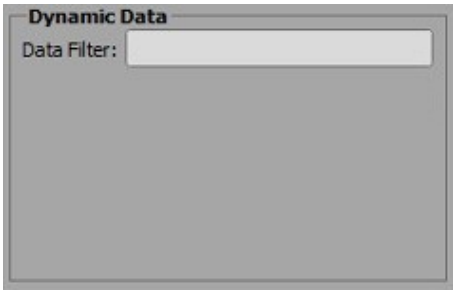
Locator Drawing Parameters

Parameter	Description
Zoom Level	Enter or select a zoom level between 1 and 21 to define how much detail is displayed in the highlighted area. A higher zoom level value means more detail is shown.
Map Style	Use the drop-down to select a map style. The options are: **Bing Aerial** **Bing Aerial Label** **Bing Road** **Bing Road Dark** **Bing Road Gray** **Bing Road Light**
Map Zoom	Enter or select a zoom value for the highlighted area of a map. **0 - 1**: The area is magnified. **>1**: The area is made smaller. The resolution of the map is not changed, so it does not show more or fewer details when zoomed in or out.
Map Offset X	Enter or select a value to move the highlighted area within the drawing along the X coordinate.
Map Offset Y	Enter or select a value to move the highlighted area within the drawing along the Y coordinate.

Dynamic Data Drawing Parameters

The **Dynamic Data** section contains the **Data Filter** parameter which is specific to dynamic data drawings. Select the dynamic data drawing in the scene before adjusting the parameters.

Dynamic Data is an optional feature for XPression Maps and the XPression Maps Server.

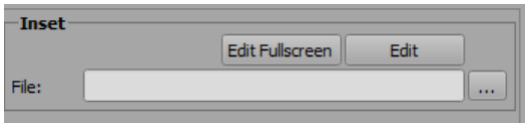


Dynamic Data Drawing Parameter

Parameter	Description
Data Filter	Defines a filter parameter for the dynamic data query. For example, if you place a **Dynamic Data Drawing** on the map which draws information about a city from an **SQL** database, and you want to move this drawing away from the location of the city on the map, enter the name of the city in the **Data Filter** parameter and use an **SQL** statement in the **Dynamic Data Query** such that the **SQL** statement is using the **${Filter}** parameter for the selection of the data. The data will be updated to be specific to that city. Updating requires that you move the drawing slightly in the output window.

Inset Drawing Parameters

The **Inset** section contains the parameters that are specific to the Inset drawings. Select the Inset drawing in the scene before adjusting the parameters.



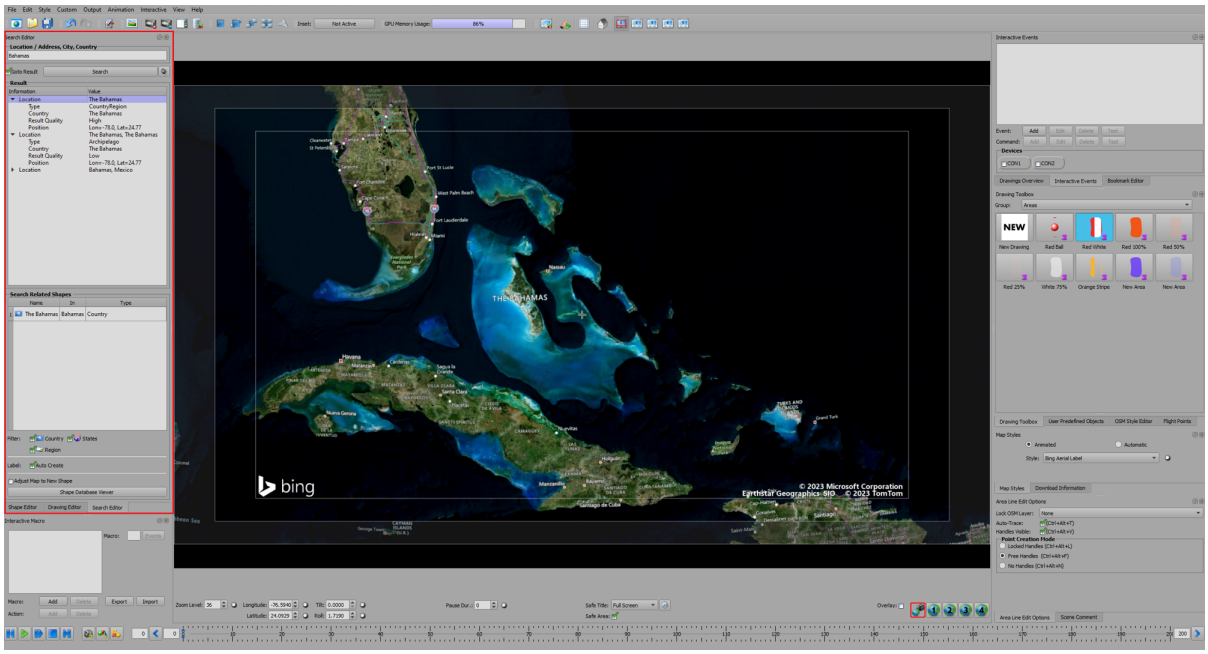
Inset Drawing Parameters

Parameter	Description
Edit Fullscreen	Select the **Edit Fullscreen** button to edit the **Inset** drawing in fullscreen mode. See Editing Inset Drawings 157 for information on editing in fullscreen mode.
Edit	Select the **Edit** button to edit the view of the **Inset** drawing as it is presented in the output window.
File	Select the **Browse** button (...) to open the **File Explorer** window to import an external file for the Inset drawing

Search Editor

Use the integrated Microsoft© search editor to find maps of locations throughout the world by searching for addresses, cities, countries and even prominent buildings. You can also add default names, icons or dynamic data drawings to the scene and edit shape label properties from this editor.

Use the **Search Editor**, shown below to specify a location.



Search Editor Location

The following topics are discussed in this section:

Searching for a Location

You can search for a location using the **Search** field or by using the **Geo Location** button beside the **Search** button. Both methods are described below:

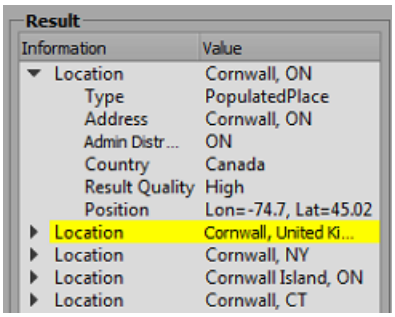
To search for a location using the Search field:

1. In the **Search Editor**, in the **Search (Location/Address, City, Country)** field, enter the location for which you want to find a map.
   - Separate the different parts of the location with a comma, for example, **Ottawa, Ontario, Canada**.
   - Enter more parameters, such as a street address, to narrow the search results.
   - In the **Filter** section, select the appropriate checkbox if you want to search for a country, state, region or any combination of the three.
2. If you want the map to go directly to the location you are searching, select the **Go to Result** checkbox.
3. Then select the **Search** button.

   The search results show all locations found that match the entered information.

   Where multiple results are returned, the first result is shown in the output window and lower quality results will be highlighted in yellow in the **Result** pane in the editor.

   In the **Search Related Shapes** section, a list of the available shapes for the searched location appears. This list is dependent on the search filters selected **(Country, States** and/or **Region)**.
4. In the **Result** pane, click the arrow beside the location to see details such as the country and latitude and longitude of the location.



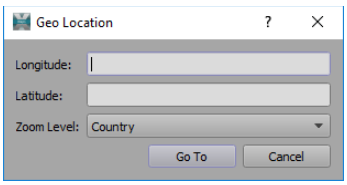
Search Results

If you haven't selected the **Go to Result** checkbox, double-click on any result to switch to that location in the output window.

To search for a location using Geo Location:

1. Select the **Geo Location** button ( ) located next to the **Search** button.

   The **Geo Location** dialog box opens.



Geo Location Dialog

2. Enter the **Longitude** and **Latitude** coordinates of the location you want to find.
3. Then from the **Zoom Level** drop-down, select how broad a view you want.

   Options are:

   - Country
   - State
   - City
   - Street
   - Address
4. Select **Go To**.

   Geo Location moves the map to the specified longitude and latitude.

To add a name, an icon or drawing data to the map:

1. Right-click on a search result.
2. From the context menu that opens, select one of the following options.
   - **Add Name to Map**: If you have identified a text drawing as the default, the name of the location will be added to the map using the style of the default text drawing.
   - **Add Icon to Map**: If you have identified an icon drawing as the default, the default icon will be added to the map at the corresponding location.
   - **Add Dynamic Data Drawing to Map**: If you have identified a dynamic data drawing as the default, the default dynamic data drawing for the corresponding location is added to the map.

To add a shape layer to a location:

1. After searching for a location in the **Search Editor**, in the **Search Related Shapes** list, double-click on the country, state or region shape you want to add to the scene.

Search Related Shapes List

OR

Select the **Shape Database Viewer** button and select a shape from the database.

To add a label to a shape:

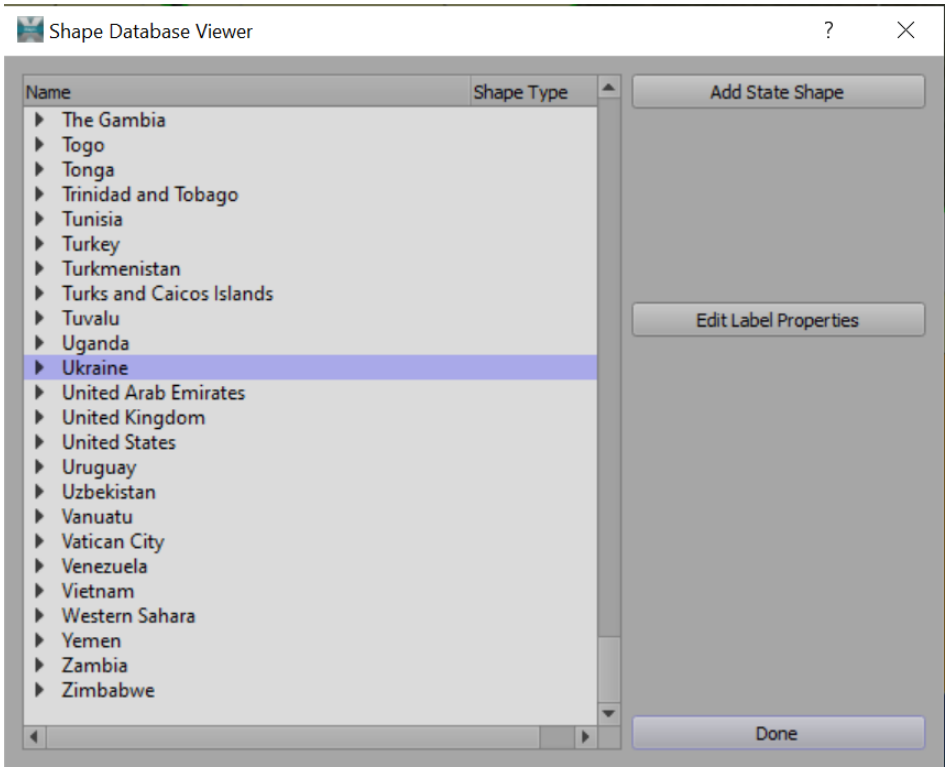
1. In the **Label** area, select **Auto Create** to enable labeling.
2. Then, in the **Search Related Shapes** list, double-click a shape to automatically add a label, if there isn't already one for that shape.

   The shape keeps a reference to its label so that the label is visible for as long as the shape exists and is visible.

   This label is created with the default text style and can be moved and scaled like a regular drawing. You can drag a different text style onto the label to change it.

Shape Database Viewer

The **Shape Database Viewer** provides direct access to the shapes of all countries and their states (and regions, where available). When using the **Shape Database Viewer**, it is not necessary to first search a location.



Shape Database Viewer

The countries are arranged in alphabetical order.

To add a shape:

1. In the **Search Editor**, select or clear the **Adjust Map to New Shape** checkbox.
   - When selected, the map in the output window moves to the location of the shape you're adding and adds the shape at its default zoom level, which is different for each shape.
   - When cleared, you need to manually adjust the map to the area of interest but then each shape is added to the map at the same zoom level.
2. Then select **Shape Database Viewer**.
3. Do one of the following:
   - Select a country from the list.
   - Click the arrow beside a country to select a state from the list.
   - Click the arrow beside a country and then the arrow beside a state to select a region from the list (if regions are available for the selected state).
4. Select **Add State Shape** or double-click the selected country, state or region to create a shape for the country.

   The shape appears on the map in the output window and in the **Shape** list in the **Shape Editor**.

5. If you want to make changes to the label of a shape, select the shape in the list and select **Edit Label Properties**. See Shape Label Properties 241 for details.

6. When you have finished adding shapes and editing shape labels, select **Done** to close the **Shape Database Viewer**.

   The same shape can be created multiple times. This can be useful if you want to swap different views of a single shape. In an election map, for example, you might want a state to change color to show which party controlled the state before and after the election.

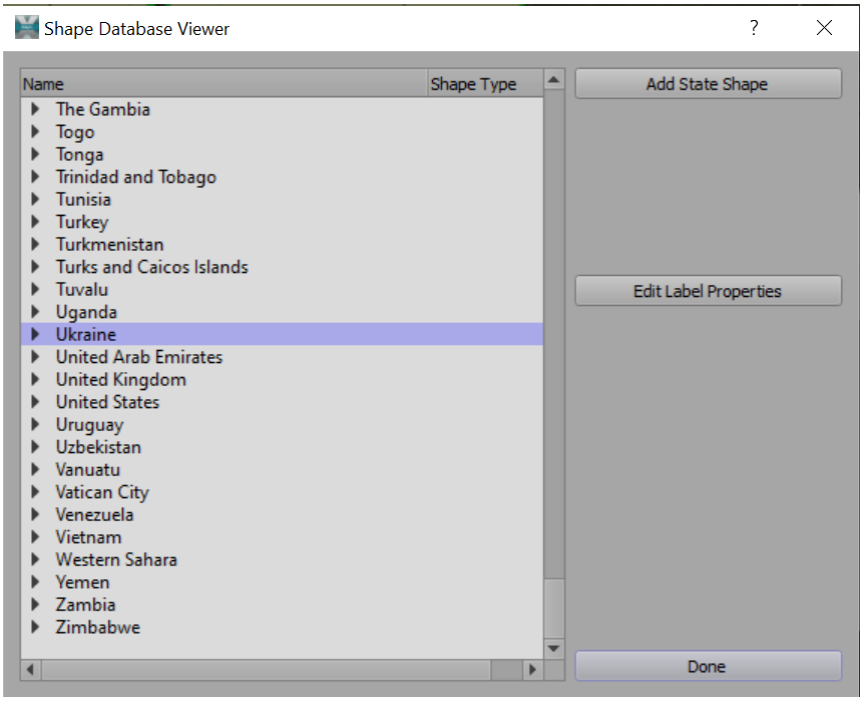
Shape Label Properties

The **Shape Label Properties** editor provides access to the label details of a shape and is accessed from the **Shape Database Viewer**. You can change the name of the shape label, the position, the size and the zoom level at which it appears and you can add search terms to the search info.

To edit the shape label properties:

1. In the **Search Editor**, select **Shape Database Viewer** at the bottom of the editor.

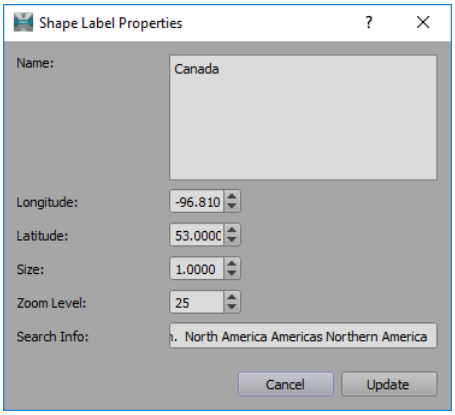
   The **Shape Database Viewer** opens.



Shape Database Viewer

2. From the list, select the shape whose label you want to edit.
3. Select **Edit Label Properties**.

   The **Shape Label Properties** editor opens.



Shape Label Properties Editor

4. Edit the parameters in the **Shape Label Properties** editor, as described in the table below, to configure the shape label.

Parameter	Description
Name	The name of the label. You might want to change the name that's displayed if you are translating it into a language that isn't configurable in the **Preferences**, i.e. English (en-US), Canadian French (fr-CA) or German (de-de). See Shape Label Translation 243 for more information.
Longitude	Enter or use the arrows to select a longitudinal coordinate for the label to reposition it within the shape boundaries. In the **Output Window**, the labels for all the shapes associated with your selection appear, so that you can judge how far and in what direction to move the label. Only the label you've selected will be changed.
Latitude	Enter or use the arrows to select a latitudinal coordinate for the label to reposition it within the shape boundaries. In the **Output Window**, the labels for all the shapes associated with your selection appear, so that you can judge how far and in what direction to move the label. Only the label you've selected will be changed.
Size	Enter or use the arrows to select a size for the label. The value of the size parameter is equal to the zoom parameter of a drawing. A value of 20 will make the label readable at a zoom level of 20. A larger value will make the label smaller, so that it is readable at a larger zoom value. Valid range is 0.00 to 100.
Zoom Level	Enter or select the zoom level of the map on which the shape will be created. The shape will become visible at this zoom level.
Search Info	Enter a group of search terms which can be used to find the shape in the database when searching for a location.

5. Select **Update** to save your changes.
6. Select **Done** to close the **Shape Database Viewer**.

   The new labels will not yet be updated in the scene.
7. Select **Save**.
8. Then select **File** and select the scene from the **Recent Scenes** list to re-open the same scene and apply the label changes.

Shape Label Translation

The shape labels are stored by language (Country code) in the shape database. The default language is English (en-US) and an initial translation for Canadian French (fr-CA) and German (de-de) exists. The labels for other languages need to be changed manually in the **Shape Label Properties** editor.

See Shape Label Properties 241 for more information.

The language can be changed in **File > Preferences** in the **Map** tab.

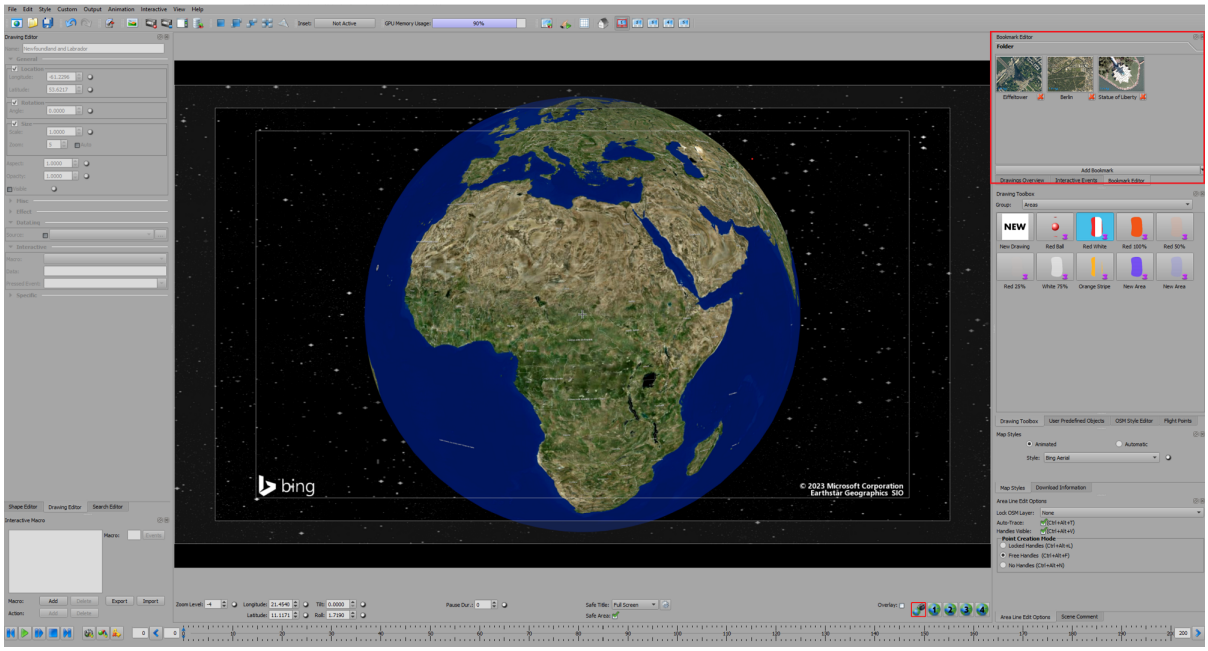
Bookmark Editor

The **Bookmark Editor** allows you to save map positions and organize them in folders for later use.

Use the **Bookmark Editor** shown below, to add and delete folders and bookmarks. These functions are useful for creating presets of commonly used locations. Using folders allows you to categorize bookmarks for different map types, styles, or other use cases. The application saves the bookmarks you've created on exit and reloads the bookmarks upon the next start.

The **Bookmark Editor** only saves the map position, not drawings that have been added to the scene. All bookmarks are shown in the currently selected map style, regardless of the map style selected when the bookmark was added.

Bookmarks can also be used to add a pause to a flight.



Bookmark Editor Location

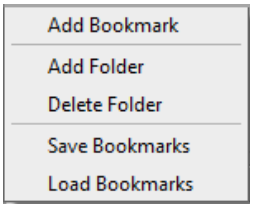
The following topics are discussed in this section:

Adding and Deleting Bookmark Folders

Keep your bookmarks organized to make them easier to locate by sorting them into folders.

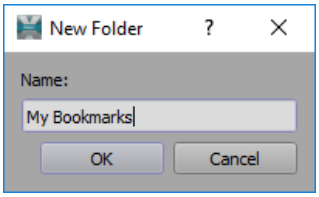
To add a bookmark folder:

1. In the **Bookmark Editor**, click the arrow beside the **Add Bookmark** button, to open the **Bookmark** menu shown below.



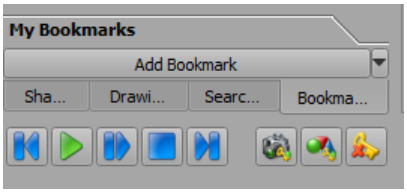
Bookmark Menu

2. Select **Add Folder**.
3. In the **New Folder** dialog, shown below, enter a name for the folder and select **OK**.



Add New Bookmark Folder

The new folder is added at the bottom of the **Bookmark** tab.

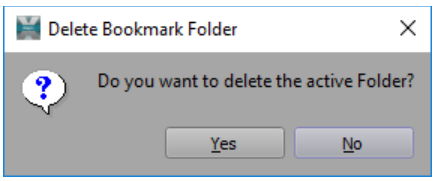


New Bookmark Folder

To delete a folder:

1. In the **Bookmark Editor**, select the folder you want to delete, to make it the active folder.
2. Then click the arrow beside the **Add Bookmark** button to open the **Bookmark** menu.
3. From the **Bookmark** menu, select **Delete Folder**.

   The **Delete Bookmark Folder** confirmation dialog opens.



Delete Bookmark Folder

4. Select **Yes** to delete the folder.

   The folder is deleted from the current view, but remains.

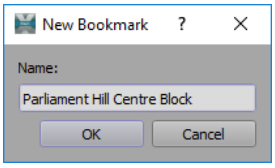
Adding and Deleting Bookmarks

Adding a bookmark allows you to quickly get back to a specific location with the same camera parameters that were used when the bookmark was created.

To add a bookmark:

1. With the map location selected and displayed in the output window, select **Add Bookmark**.

   The **New Bookmark** dialog opens.



Add New Bookmark

2. In the **Name** field, add an identifying name for the bookmark and seelct **OK**.

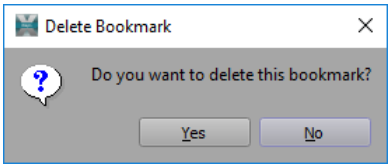
   A thumbnail of the map is added to the **Bookmark** folder.

To delete a bookmark:

1. In the **Bookmark Editor**, select the folder containing the bookmark you want to delete.
2. Select the red **X** in the corner of the bookmark.

Bookmark

   The **Delete Bookmark** confirmation dialog opens.



Delete Bookmark Confirmation Dialog

3. Select **Yes** to delete the bookmark.

Recalling and Editing Bookmarks

You can recall a saved bookmark to include it in your production or to edit the bookmark name.

To recall a bookmark:

1. In the **Bookmark Editor**, select the folder containing the bookmark you want, to open it.
2. Then click on the bookmark thumbnail.

To change a bookmark name:

1. In the **Bookmark Editor**, select the folder containing the bookmark whose name you want to change.
2. Double-click on the name of the bookmark.
3. In the **Change Bookmark Name** dialog that opens, type in the new name and select **OK**.

Saving and Loading Bookmarks

Your bookmarks are automatically saved into a default folder when you exit the XPression Maps application and reloaded when you launch the application. You can also save them into a folder of your choice.

To save your bookmarks:

1. In the **Bookmark Editor**, select the arrow beside the **Add Bookmark** button, to open the **Bookmark** menu.
2. From the **Bookmark** menu, select **Save Bookmarks**.
3. In the **Save File** dialog, navigate to the folder where you want to save your bookmarks and select **Save**.

   The bookmarks are saved in an **xml** file, which can then be loaded as needed.

To load your saved bookmarks:

1. In the **Bookmark Editor**, select the arrow beside the **Add Bookmark** button, to open the **Bookmark** menu.
2. From the **Bookmark** menu, select **Load Bookmarks**.
3. In the **Load File** dialog, navigate to the folder containing the bookmark file with your saved bookmarks.
4. Select the bookmark file and select **Open**.

Adding a Pause to a Flight

You can use a bookmark to add a pause during a flight animation, for example if you wanted to provide further information at that point in the flight.

To add a pause to a flight:

1. Select **File > Open** to open a flight animation scene in which the flight goes from point **A** to **B** to **C** without stopping.

   Alternatively, you can create a new flight animation.

   For information on creating a flight animation, see Flight Points. 163

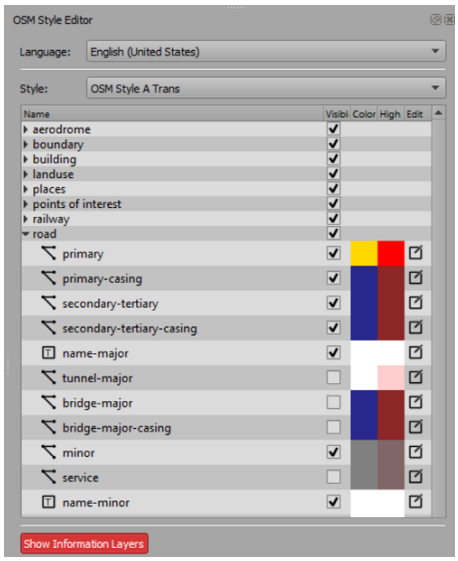
2. If necessary, move the key frames following flight point **B** towards the end of the timeline to leave space for the pause.
3. Move the timeline handle to point B and in the **Bookmark Editor**, click **Add Bookmark**.
4. Now move the timeline handle to a position after flight point **B**, where you want the pause to end and click on the bookmark you created in the previous step.
5. Add a camera key frame at that position.
6. Select the green **Play** button in the animation toolbar to play the animation.

OSM (OpenStreetMap) Style Editor

The **OSM Style Editor** allows you to customize scenes that use OpenStreetMaps as the map style.

Use the **OSM Style Editor** shown below, to change the background color of an OSM map, as well as the visibility, colors, parameters and labels of the layers of the selected map or its overlay. The elements are grouped into categories to make them easier to find.

You can convert the language used for the labels in real time by selecting a language from the drop-down.



OSM Style Editor

All street name suffixes in OSM maps are styled the same in XPression Maps. By default, an abbreviated suffix with no punctuation is used (ST, AVE, RD, DR, etc.). It is possible to change the suffix style. If this is something you would like to do, contact techsupport@rossvideo.com.

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Real-Time Language Support 251

Editing OpenStreet Maps 255

OSM Replacement Drawings 263

Show Information Layers 265

Editing Individual Layer Elements 266

Editing Overview

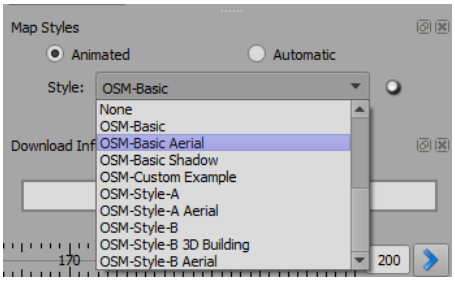
This is an overview of the procedure for editing OpenStreet maps. For detailed instructions on using the **OSM Style Editor**, see Editing OpenStreet Maps. 255

To edit and save a new OpenStreet map:

1. In the **Map Styles** section below the **OSM Style Editor**, from the **Style** drop-down, select an **OpenStreet Map Style**.

   It is preferable to add a new map style copied from an existing style and edit the new one.

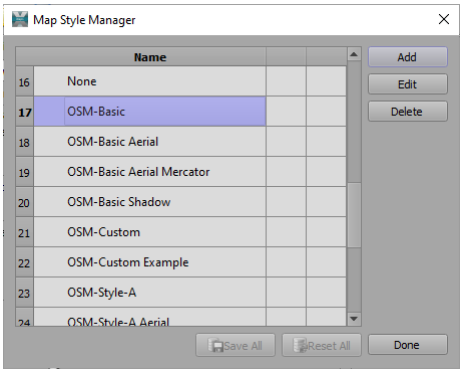
   For instructions on adding a map style see To add a new map style 46.



Map Styles - OpenStreet Maps

2. Edit the style according to the instructions in Editing OpenStreet Maps 255.

3. Select **Style > Map Styles** to open the **Map Style Manager**.



Map Style Manager

4. Select the map style you have modified.

5. Select the **Save** icon to save your changes into the default database or select the **Reset** icon to discard your changes and revert to the last saved version of the style.

   An exclamation mark at the left of the map style indicates that the style is saved in the scene but not in the database. That style will not be available to be used in other scenes.

   The **Save All** button Save All at the bottom of the dialog box saves all changes made to all styles in the database.

   The **Reset All** button Reset All at the bottom of the dialog box resets all styles in the database to their last saved version.

6. Select **Done** to close the **Map Style Manager**.

Real-Time Language Support

In the **OSM Style Editor**, you can convert the language of OSM Maps in real-time. This is useful in multilingual workplaces where map templates can get saved in one language and exported in others.

Language translations are supplied from the OpenStreet Maps Global Community.

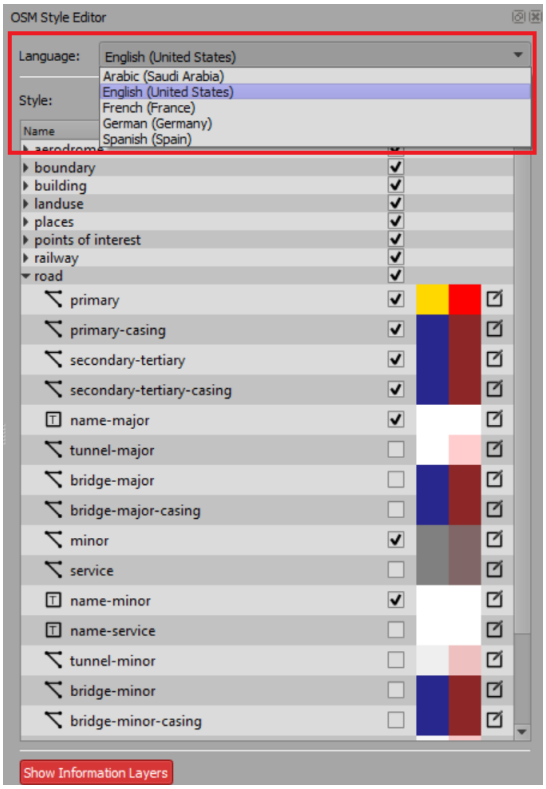
Configure language codes in the **Country Code Text Document** in the XPression Maps installation files. See Configuring Languages 253 for information.

To convert the language of an OSM Map:

- In the **OSM Style Editor**, select a **Language** from the drop-down.

  The default options are:

  - Arabic
  - English
  - French
  - German
  - Spanish



OSM Style Editor - Language

The map will display labels in the selected language.

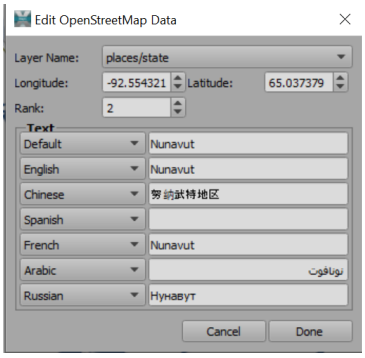
English (United States) Arabic (Saudi Arabia)

OSM Style Labels With Language Change

Once a language has been selected, XPression Maps will continue to populate maps with that language until it has been changed.

To edit the translation and/or spelling of languages (optional):

1. Select the text label or drawing you want to edit from the output window.
2. Press **Shift + right-click** and select whether you want to edit or remove the text label or drawing.
3. Select edit to open **Edit OpenStreetMap Data** window.



Edit OpenStreetMap Data Window

3. Edit the necessary fields and select **Update**.

★ Updates made to the labels will be in effect for everyone using that map.

To remove translation from map:

1. Select the text label you want to remove in the output window
2. Press **Shift + right-click** shift and select **Remove**.

   ★ Labels removed from the map template will be in effect for all users that have access to the map.

Configuring Languages

Language translations are supplied from the OpenStreet Maps global community.

Configure language codes from the **Country Code Text Document** in the XPression Maps installation files.

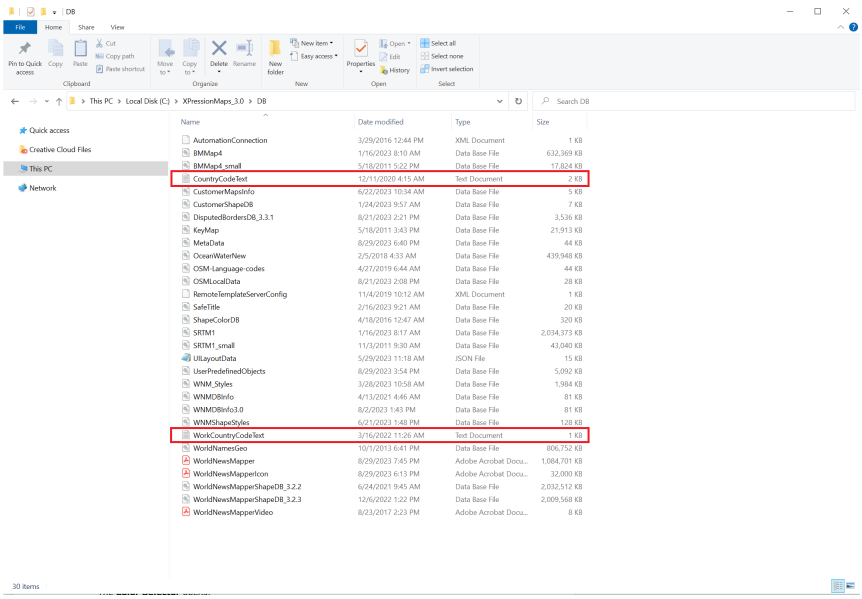
★**Country Code Text Document** is a master list for all users, do not edit this list.

To configure translation codes for XPression Maps:

1. Navigate to **C:\XPressionMaps_3.0/DB** folder and open the two **Text Documents:**

   CountryCodeText

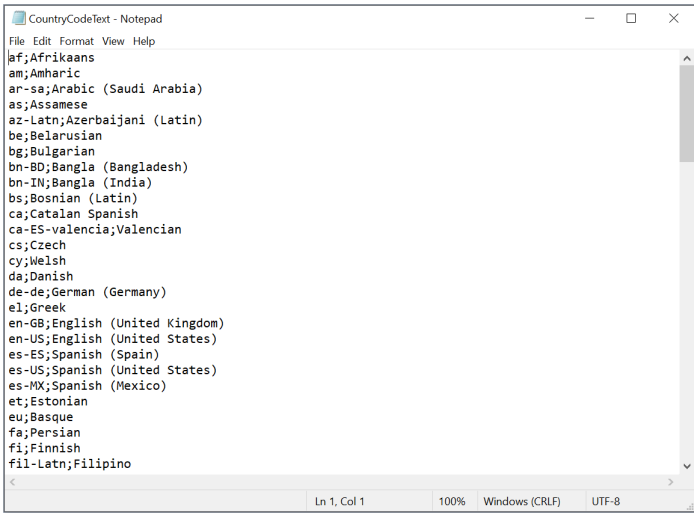
   WorkCountryCodeText



XPression Maps Country Code Text File Location

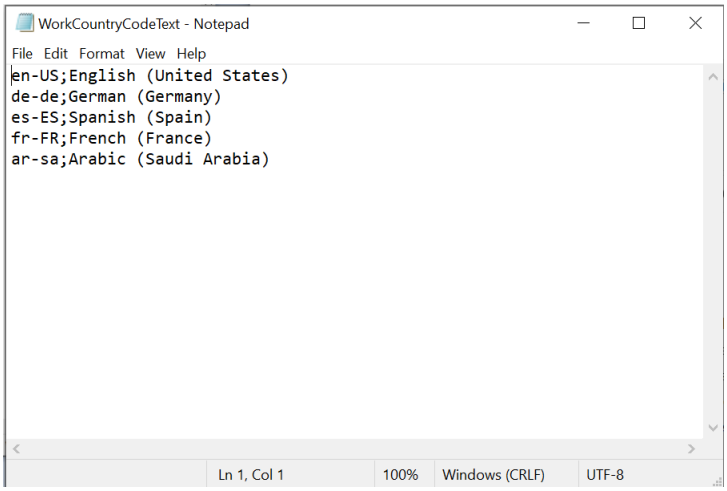
- **CountryCodeText -** this master list is supplied by the OpenStreetMaps global community and contains the translation codes for each language provided. Use this list to copy language codes into the **WorkCountryCodeText** document.

  ★ Do not make changes in this document.



CountryCodeText File

- **WorkCountryCodeText -** this is the local working list of language codes that can be modified as needed. Paste codes from the **CountryCodeText** file into the location you'd like to see them appear.



WorkCountryCodeText File

1. Select **File > Save** to save configurations in the **WorkCountryCodeText** file and close both windows.
2. Restart **XPression Maps**.

   The new languages will appear.

★When changing languages, it's important to note that fonts for text drawings and labels need to be supported for the selected languages.

Editing OpenStreet Maps

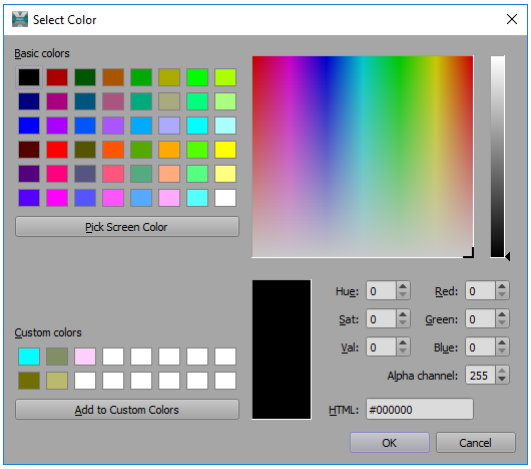
This section provides instructions for changing the background color, visibility, layer color, and layer highlight color of an OpenStreet map. It also describes how to edit the layer parameters and individual layer elements.

★ Right-click on the layer in the **output window** to highlight that layer in the **OSM Style Editor**.

To change the background color of an OSM map:

1. In the **OSM Style Editor**, from the layer list, select the **Background** layer.
2. Then select **Color**.

   The **Color Selector** opens.



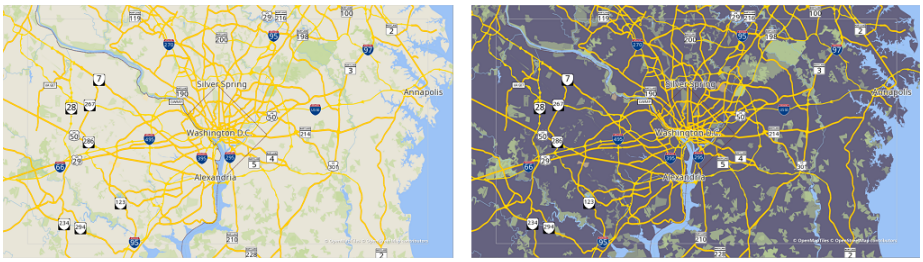
OSM Style Editor Color Selector - Background

3. Select a color swatch from the **Basic** colors or use the slider or **RGB** values to create a custom color.

   If you create a custom color, select **Add to Custom Colors** so that it's available for subsequent use.

4. Select **OK**.

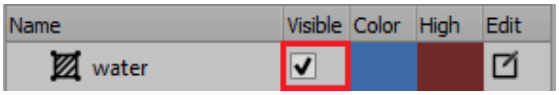
   The background color changes to the new color.



Background Color Change

To change the visibility of a layer:

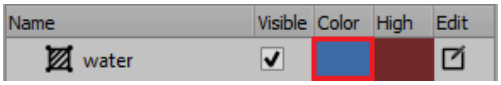
- In the **OSM Style Editor**, in the Visible column, clear the checkbox beside a layer to hide it or select the checkbox to show the layer.



OSM Style Editor Visibility Checkbox

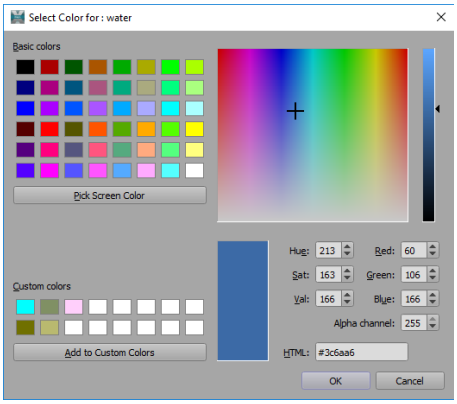
To change the color of a layer:

1. In the **OSM Style Editor**, in the **Color** column, select the color swatch beside the layer.



OSM Style Editor Color Swatch

The **Color Selector** for that layer opens.



OSM Style Editor Color Selector

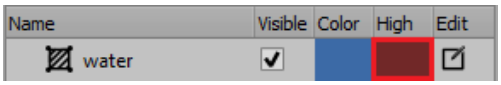
2. Select a color swatch from the **Basic** colors or use the slider or **RGB** values to create a custom color.

   If you create a custom color, select **Add to Custom Colors** so that it's available for subsequent use.

3. Then select **OK**.

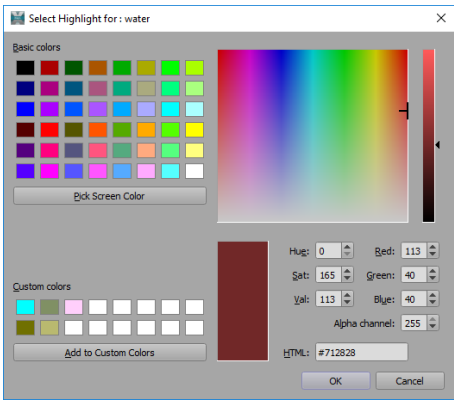
To change the highlight color of a layer:

1. In the **OSM Style Editor**, in the **High** column, select the highlight color swatch beside the layer.



OSM Style Editor Highlight Swatch

The **Highlight Selector** for that layer opens.



OSM Style Editor Highlight Selector

2. Select a color swatch from the **Basic** colors or use the slider or **RGB** values to create a custom color.

   If you create a custom color, select **Add to Custom Colors** so that it's available for subsequent use.

3. Then select **OK**.

To switch a layer from color to highlight:

1. Do one of the following:

   - Double-click on the layer in the output window to toggle between using the configured **Color** or **Highlight**.

   Double-clicking selects all the parts of a layer that have the same ID.

Double-click to Change Color

OR

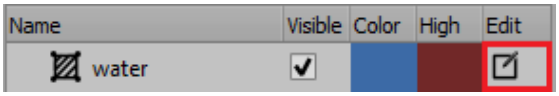
   - Right-click on the layer in the output window and from the context menu, select **Set color > Color** or select **Set color > Highlight**.

   Right-clicking selects the part of the layer on which you are clicking.

Right-click to Change Color

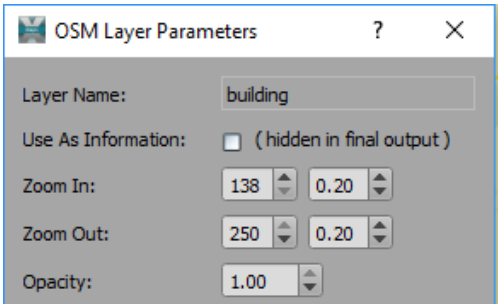
To edit the parameters of a layer:

1. In the **OSM Style Editor**, in the **Edit** column, select **Edit** for the layer you want to edit.



OSM Style Editor Edit Button

The **OSM Layer Parameters** dialog opens. There are at least 4 editable parameters for each layer, **Use As Information**, **Zoom In**, **Zoom Out** and **Opacity**. The other parameters depend on the type of layer that is selected.



OSM Layer Parameters

2. Select the **Use As Information** checkbox if you don't want the layer to appear in the final output but want it showing while you edit the map.

   You can also deselect the **Visible** checkbox for a category of layers if you don't want any of them to appear in the final output. For example, if you don't want any buildings in the final output, deselect the **building** layer checkbox.

3. Enter a value or use the arrows to adjust the **Zoom In** level at which the layer will appear.

   The adjacent field determines the amount of time, in seconds, it will take for the layer to dissolve in.

   0.00 = The layer is fully visible as soon as the **Zoom In** level is reached.

   9.00 = The layer dissolves in gradually over 9 seconds once the **Zoom In** level is reached.

4. Enter a value or use the arrows to adjust the **Zoom Out** level at which the layer will disappear.

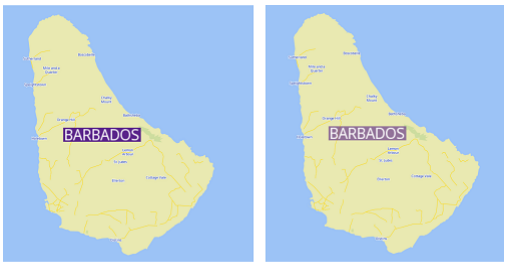
   The adjacent field determines the amount of time, in seconds, it will take for the layer to dissolve out.

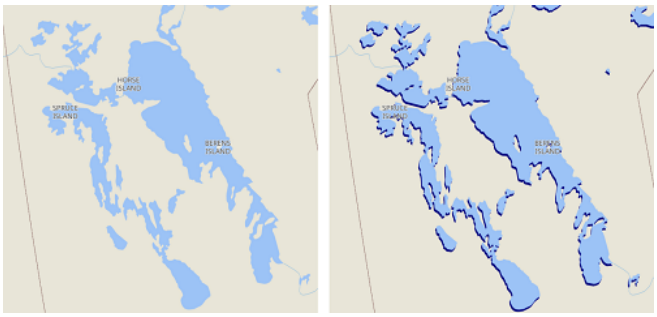
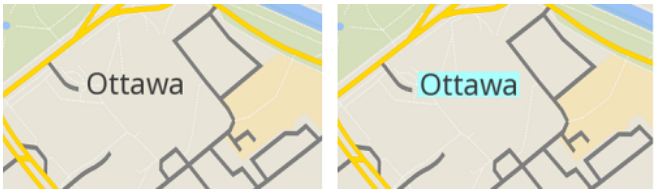
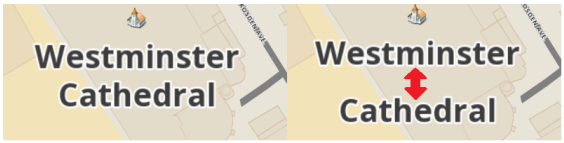
   0.00 = The layer disappears immediately after the **Zoom Out** level has been reached.

   9.00 = The layer dissolves gradually over 9 seconds, after the **Zoom Out** level has been reached.

5. Enter a value or use the arrows to adjust the **Opacity** of a layer, making it more or less transparent.

6. Adjust any additional parameters as described in the following table:

Parameter	Description
Background Color	Select the **Color** button to open the **Color Selector** and select the color for the **Text Background**.
Background Opacity	Enter a value or use the arrows to adjust the opacity of the background color for the text.  Background Opacity - 1.00 Background Opacity - 0.60
Font	Use the drop-down to select a font for the text.
Icon Color	Select the **Color** button to open the **Color Selector** and select a color for the icon.
Icon Opacity	Enter a value or use the arrows to adjust the opacity of the icon.
Icon Size	Enter a value or use the arrows to adjust the size of the icon.
Icon Text Fit	Select to link the size of the icon to the text or the size of the text to the icon. Some examples are shown below.  Unlinked IconFitsText KeepAspect TextFitsIcon KeepAspect
Ignore Collision	When checked, all **OSM Layers** will be displayed, even if they overlap at the current zoom level. When cleared, higher level layers will be displayed until a zoom level is reached that allows room for other level layers to be displayed. Applies to text layers only.
Line Stipple	Select if you want to give a road a dotted line effect.
Line Stipple Pattern	Enter a value or use the arrows to adjust the width of the dot (1st field) and the width of the space between the dots (2nd field).  1.00, 1.00 2.00, 1.00 1.00, 2.00
Line Width	Enter a value or use the arrows to adjust the width of the line.
Line GapWidth	Enter a value or use the arrows to adjust the gap between the 2 lines of a casing, such as the **bridge_major_casing**.
Opacity	Enter a value or use the arrows to adjust the opacity of text.

Parameter	Description
Outline Color	Select the **Color** button to open the **Color Selector** and select a new color for the outline of buildings (applies to building layer only).
Shadow	Select the checkbox to add a shadow to the layer. 
Shadow Color	If you've chosen to add a shadow, select the **Color** button to open the **Color Selector** and select a color for the shadow.
Shadow Offset	Use the arrows or enter a value in the **Offset** fields to change the position of the shadow. The first field changes the horizontal position. The second field changes the vertical position. See illustration below:
Text Background	Select the checkbox to insert a rectangle as a background to the text. Click the **Color** button to open the **Color Selector** and select a color for the background. See illustration below: 
Text Halo Blur	Enter a value or use the arrows to adjust the amount of blur in the text halo.
Text Halo Color	Select the **Color** button to open the **Color Selector** and select a color that will surround the text characters. This parameter only works if the value in **Text Halo Width** is greater than 0.
Text Halo Width	Enter a value or use the arrows to adjust the thickness of the text halo. 
Text Letter Spacing	Enter a value or use the arrows to adjust the amount of space between the characters of the text.
Text Line Height	Enter a value or use the arrows to increase or decrease the space between lines of text. 

Parameter	Description
Text Max Width	Enter a value or use the arrows to increase or decrease the maximum number of characters allowed in one line of text. Exceeding the **Text Max Width** will cause a line break, where possible.
Text Size	Enter a value or use the arrows to adjust the size of the existing label text.
Text Transform	Use the drop-down to select whether the text should be **UPPERCASE**, **lower case** or **None** (mixed case).
User Defined Replacement Drawing	Check to add a user-defined replacement drawing for the layer. Then select the **Browse** button (...) to select a replacement drawing from one of the following groups in the **Drawing Toolbox**: • Text • Web Examples • OSM Replacement • Your custom group When unchecked, a replacement drawing that is the same as the OSM text will be added. This could be used to add a label at a location where there isn't one or to change the size or the orientation of the text.

7. Select **Done** if you are satisfied with your changes.

   OR

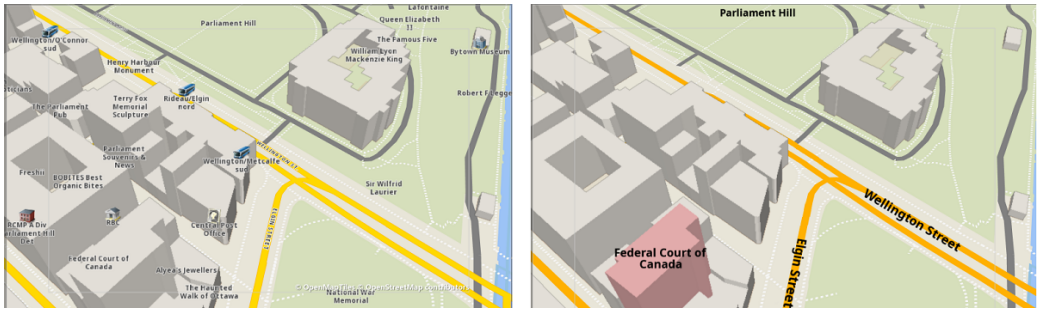
   Select **Reset** to restore the **OSM Layer Parameters** to their original settings.

   OR

   Select **Cancel** to discard your changes.

OSM Replacement Drawings

Replacement drawings are text drawings that can be used to replace existing labels on a map. The replacement drawings are placed in roughly the same location as the existing label and when the scene is used in production, all layers that have been configured as **Use As Information** will be hidden and only the replacement labels and items that are not configured to be hidden, will be displayed. This allows for a less cluttered map that shows only those items that are necessary for the production.

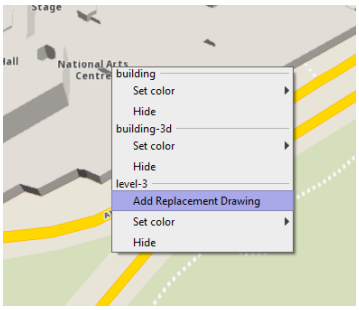


OSM Replacement Drawings (Original and Production)

To add a replacement drawing to a scene:

1. Right-click on a label on the map.
2. From the context menu, select **Add Replacement Drawing**.

   The replacement drawing that has been defined for the selected layer is added to the scene.

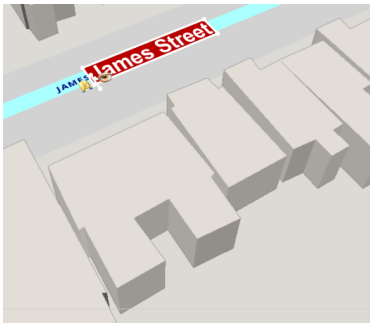


Add Replacement Drawing Context Menus

   Alternatively, you can double-click on a place label on the map to automatically add the replacement drawing for that layer.

   For information about defining a replacement drawing, see User Defined Replacement Drawing. 255

   The replacement drawing is placed on top of the existing place label and is selected by default. You can reposition the replacement drawing as needed.



Replacement Drawing Added

To edit user-defined replacement drawings:

1. In the **Drawing Toolbox**, from the **Group** drop-down, select the **Group** that contains the replacement drawing you want to edit.

   Typically, replacement drawings are found in the **Text**, **OSM Replacement**, or **Web Examples** groups or in a custom group.

   The available drawings are displayed. The example below shows **OSM Replacement** drawings.

Drawing Toolbox - OSM Replacement Drawings

2. Right-click the drawing you want to edit and select **Edit Drawing**.
3. Make the changes you want to the drawing and then click **Done**.
4. If you want to make your edited drawing the default drawing for that layer, right-click the drawing again and select **Set as Default Text**.

   The drawing will still have to be designated as the replacement drawing in the **OSM Layer Parameters** in the **User Defined Replacement Drawing** section. See User Defined Replacement Drawing. 262

To delete a replacement drawing from the scene:

1. In the output window, select the drawing you want to delete.
2. Press the **Delete** key.
3. To delete a replacement drawing from a **Group** in the **Drawing Toolbox**, see To delete a drawing. 88

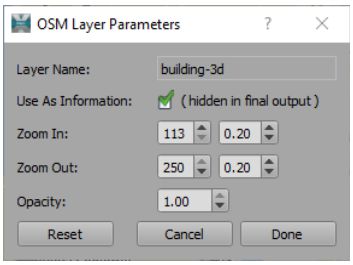
Show Information Layers

You may not want all the layers of a map to be displayed in your final output. Selected layers can be hidden in the **OSM Style Editor**. The exception is that if you've highlighted a particular road, area, building, etc., then that element will remain visible in the final output, while all other elements in the selected layer will be hidden.

To hide a layer:

1. In the **OSM Style Editor**, click the **Edit** button beside the layer you want to hide.

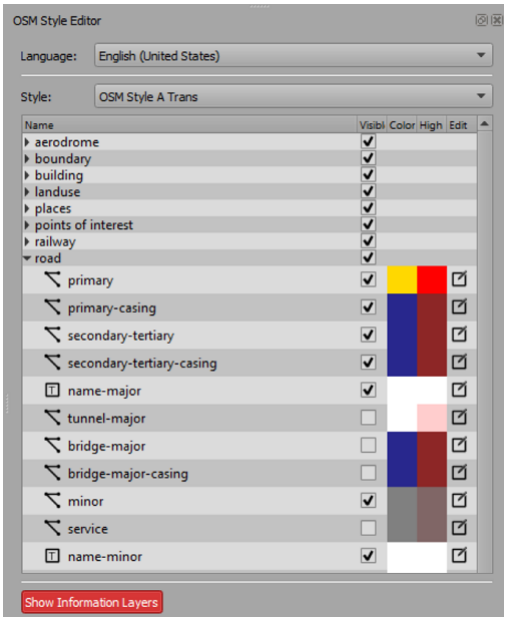
   The **OSM Layer Parameters** dialog opens.



OSM Layer Parameter

2. In the **OSM Layer Parameters** dialog, select the **Use As Information** checkbox and select **Done**.
3. In the **OSM Style Editor**, click the **Show Information Layers** button to view the scene with the selected layers hidden.

   By default, the **Show Information Layers** button is red, indicating that all layers are visible. When clicked, the button turns grey, indicating that the layers which have been chosen to be hidden, will not be visible.



OSM Style Editor

4. Select **Show Information Layers** again to view your scene with the layers displayed.

   When the scene is recorded, those layers will not be visible.

Editing Individual Layer Elements

For each element of a layer, you can switch between the main color and the highlight color or hide the element. You can also add a replacement drawing on top of a place label.

To edit individual elements:

1. Right-click on the element in the map.

   A menu opens, listing each layer that appears in that location.

   OSM Editing Menu

2. To change the color of an element, click **Set color** and from the context menu, select either **Color** or **Highlight**.

   Alternatively, you can double-click the layer to switch between the **Color** and **Highlight** colors.

   The layer changes to the color or highlight that has been selected for that layer in the **OSM Style Editor**.

3. To hide the element, select **Hide**.

   - To make the element visible again, press **Alt + Right-click**.

4. To add a replacement drawing on top of a text label, select **Add Replacement Drawing**.

   If a user-defined replacement drawing has been set for that layer in the **OSM Style Editor** the text label will be replaced by that replacement drawing. If no user-defined replacement drawing has been set, a drawing that is identical to the text label will be added.

   For information on defining a replacement drawing, see User Defined Replacement Drawing. 262

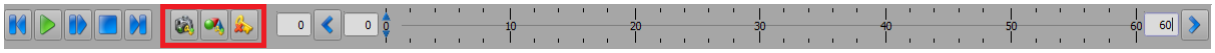
Creating Animations

You can create interesting animations to illustrate your story using the timeline and the key frame controls.

The following topics are discussed in this section:

Adding and Deleting Key Frames

You can add and delete key frames using the **Key Frame** toolbar beside the timeline or the **Edit** menu.



Key Frame Toolbar - Location

There are three options:

- **Add Camera Key Frame** - creates key frames for the camera parameters, **Zoom Level**, **Longitude**, **Latitude**, **Tilt** and **Roll** all at once, to record the location and view of the map. Additionally, it creates a key frame for the map style if it has changed and for the lock camera parameter if it has changed.

  Camera Parameters with Key Frames

  Camera, map style, and camera lock key frames are shown in the upper scale of the timeline slider.

- **Add Drawing Key Frame** - creates key frames for drawings. The **Location**, **Rotation**, and **Size** parameters are recorded when adding a key frame for a drawing. If a drawing is selected, only the parameters for this drawing are recorded, otherwise the above mentioned parameters of all drawings are recorded.

  Drawing key frames are shown in the lower part of the timeline scale.

- **Delete Selected Key Frames** - deletes all selected key frames.

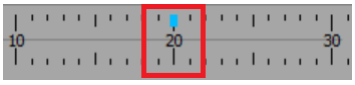
To add a camera key frame:

1. With the timeline slider at the position where you want to start your animation, rotate the globe to the location where you want the animation to begin.
2. In the menu bar, select **Edit > Add Camera Key Frame** or select the **Add Camera Key Frame** button.

   Add Camera Key Frame

   The timeline will display a blue camera key frame icon above the groove of the timeline slider.

   Camera Key Frame Icon
3. Move the slider in the timeline to a different position and change the location of the globe.
4. Select **Edit > Add Camera Key Frame** or select the **Add Camera Key Frame** button again to record the new location.
5. Repeat steps 3 and 4 until you have added all the key frames you want.

   The animation can be viewed by playing it or by moving the timeline slider.

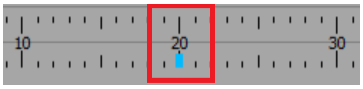
To add a drawing key frame:

1. With the timeline slider at the position where you want to start your animation, place a drawing on the map.
2. With the drawing selected, select **Edit > Add Drawing Key Frame** in the menu bar or select the **Add Drawing Key Frame** button.

Add Drawing Key Frame

The new **Location**, **Rotation** and **Size** parameters are recorded.

The timeline will display a blue drawing key frame icon below the groove of the timeline slider.



Drawing Key Frame Icon

3. Move the timeline slider to a different position and change the location or parameters of the drawing.
4. Select the **Add Drawing Key Frame** button to record the new location and/or parameters.

   The drawing will animate all recorded parameters between the two positions of the timeline.

To delete key frames:

1. From the timeline slider, select the key frame you want to delete.

   Press **Ctrl** and click to select multiple key frames or left-click in the timeline and drag a selection box around multiple key frames.

   The selected key frames change from blue to green (drawing key frames) or red (camera and interactive event key frames).
2. Select **Edit > Delete Selected Key Frames** in the menu bar or select the **Delete Selected Key Frames** button.

Delete Selected Key Frames

Moving Between Key Frames

There are several ways to move from one key frame to another.

To move between key frames:

- Select **Edit > Jump to Next Key Frame** or **Jump to Previous Key Frame**, as required.

  OR

- Press **Ctrl+Right Arrow** to move to the next key frame or **Ctrl+Left Arrow** to move to the previous key frame.

  OR

- In the timeline, select on the key frame to which you want to move.

Animation Control Menu

The **Animation** menu contains the animation playback controls. These controls are also provided in the toolbar shown below, located at the bottom-left side of the application.

Animation Playback Toolbar

To use the animation playback controls:

- Select **Animation** in the menu bar and then select one of the following controls:
  - **Rewind** - rewind the animation to the beginning; you can also press **Ctrl+B**
  - **Play** - play the animation from the beginning; you can also press **Ctrl+Space**
  - **Continue** - continue playing the animation from the position on the timeline; you can also press **Ctrl+G**
  - **Stop** - stop playing the animation; you can also press **Ctrl+H**
  - **Forward** - fast-forward the animation to the end; you can also press **Ctrl+M**

Location and View Animation

You can use a location and view animation to draw attention to multiple locations and different map views.

To animate multiple locations:

1. In the **Search Editor**, enter the location at which you want to begin your animation.

   The location you enter will be displayed in the center of the map.

   Alternatively, you can left-click on the map and move it to the location you want.

2. Adjust the **Zoom Level**, **Tilt** and **Roll** values to change the viewpoint of the map, if desired.

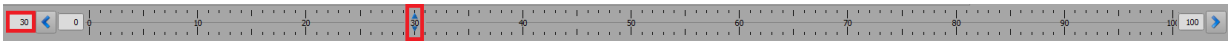
3. Select the **Add Camera Key Frame** button.

   Add Camera Key Frame

4. Drag the slider in the timeline to a different position.

   Alternatively, you can select any point in the timeline to move the slider to that point or enter the position in the frame counter to the left of the timeline.

   Frame Counter

5. Repeat steps 1 to 3 for each location you want to show.

6. Select the green **Play Animation** button in the **Animation Control** toolbar to view your animation.

   Play Animation

7. When you are satisfied with the animation, save it.

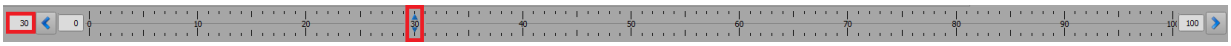
Drawing Animation

You can make drawings appear and/or disappear at specific points in an animation.

To create a drawing animation:

1. With the map positioned where you want to start your animation and the timeline slider at **0**, select the **Add Camera Key Frame** button in the **Key Frames** toolbar.
2. Drag the timeline slider to the point in the timeline where you want a drawing to appear.

   Alternatively, you can select any point in the timeline to move the slider to that point or enter the position in the frame counter to the left of the timeline.

   Frame Counter
3. Add a drawing to your scene and keep it selected.
4. In the **Drawing Editor**, in the **General** section, select the **Visible** checkbox (or clear the checkbox if you want the drawing to disappear) and select the **Radio** button beside the checkbox to key frame the visibility.
5. Then select the **Add Drawing Key Frame** button in the **Key Frames** toolbar.
6. Repeat steps 2 to 5 for each additional drawing you want to include in your scene.
7. Select the green **Play Animation** button in the **Animation Control** toolbar to view your animation.

   Play Animation
8. When you are satisfied with the animation, save it.

Line Animation

You can use a line animation to show the progression of a route across a map, for example the route to take to get from point A to point B, or the route that will be followed for a race.

To animate a line:

1. Add a line drawing to your scene to mark a route. See Adding and Editing Line Drawings 152 for instructions on adding a line drawing.
2. In the output window, select the line drawing you want to animate.
3. In the frame counter to the right of the timeline slider enter the number of frames you want to have in your animation.

   The timeline will display up to 9999 frames. The speed of the animation playback depends on the screen resolution selected in **File > Preferences > Output**. For example, HD 1080 50i will play 25 frames per second and HD 1080 60p will play 60 frames per second.
4. Then move the timeline slider to the last frame.

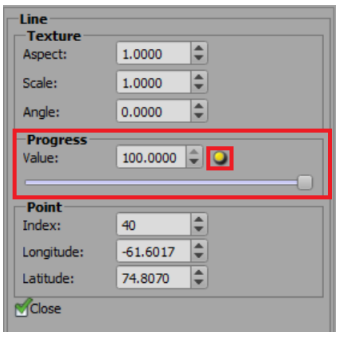
   Alternatively, you can select any point in the timeline to move the slider to that point or enter the position in the frame counter to the left of the timeline.

Frame Counter

5. In the **Drawing Editor**, in the **Progress** section, select the **Radio** button beside the **Value** field.

   This creates a key frame on the timeline at the slider position.
6. Select the **Close** checkbox to connect and close both ends of the **Line** animation.

   Leave unchecked if you want to have an open ended **Line** animation.



Drawing Editor - Progress Section

7. Move the timeline slider to the left to the **0** position.

   This marks the point on the timeline as the ending key frame (100.0000) of the animation.
8. In the **Drawing Editor**, in the **Progress** section, move the **Value** slider all the way to the left to the **0** position and select the **Radio** button beside the **Value** field.

   This creates the starting key frame of the animation.

   If your animation covers a large area of the map and you want the map to move with the line, in the **Drawing Editor**, in the **Misc** section, select the **Lock Camera** checkbox.

9. Select the green **Play Animation** button in the **Animation Control** toolbar to view your animation.

Play Animation

10. When you are satisfied with the animation, save it.

Zoom Animation

You can use a zoom animation to draw the viewer's attention to a specific location, beginning from a distant camera view and zooming in to a close-up view or starting close-up and zooming out.

To animate a zoom into a location:

1. In the frame counter to the right of the timeline slider enter the number of frames you want to have in your animation.

   The timeline will display up to 9999 frames. The speed of the animation playback depends on the video format and on the screen resolution selected in **File > Preferences > Output**. For example, HD 1080 50i will play 25 frames per second and HD 1080 60p will play 60 frames per second.

2. In the **Search Editor**, in the **Location** field, enter the name of the city, the area of the city or the landmark that you want to zoom into and select **Search**.

   The map in the output window will move to the specified location.

3. In the camera parameters beneath the output window, adjust the **Zoom Level** parameter to a level that gives you the desired starting view of the country or area of your location.

   Alternatively, you can scroll with your mouse to the desired zoom level.

4. With the timeline slider at the beginning of the timeline, select the **Add Camera Key Frame** button in the **Key Frame** toolbar.

   Add Camera Key Frame

5. Drag the timeline slider to the right as many frames as you want the animation to take to zoom into or out of the location.

   Alternatively, you can click on any point in the timeline to move the slider to that point or enter the position in the frame counter to the left of the timeline.

   Frame Counter

6. Adjust the **Zoom Level** parameter to a level that gives you the desired final view of the target location and add another camera key frame at this position.

   The animation will automatically move through the levels to the final zoom level.

7. Select the green **Play Animation** button in the **Animation Control** toolbar to view your animation.

   Play Animation

8. When you are satisfied with the animation, save it.

Shape Animation

You can use a shape animation to draw the viewer's attention to specific related locations, by having each location appear in the scene individually. An example would be a map showing election results. Each location is represented by a shape that appears at a specific point in the animation.

To animate a shape:

1. In the frame counter to the right of the timeline slider enter the number of frames you want to have in your animation.

   The timeline will display up to 9999 frames. The speed of the animation playback depends on the screen resolution selected in **File > Preferences > Output**. For example, HD 1080 50i will play 25 frames per second and HD 1080 60p will play 60 frames per second.

2. With the map positioned where you want to create your animation and the timeline slider at the beginning of the timeline, click the **Add Camera Key Frame** button in the **Key Frames** toolbar.

3. Drag the timeline slider to the point on the timeline where you want to display the shape.

   Alternatively, you can select any point on the timeline to move the slider to that point or enter the position in the frame counter to the left of the timeline.

   Frame Counter

   Incrementing the frame count by the same amount each time helps to create a smooth animation.

4. In the **Search Editor**, at the bottom, make sure the **Adjust Map to New Shape** checkbox is cleared.

   When cleared, shapes added using the **Shape Database Viewer** will appear at the current zoom level, rather than the zoom level set in the **Shape Database Viewer**.

5. Select the **Shape Database Viewer** button and select the shape you want to add.

6. Select **Add Shape** (or double-click the shape name) and then select **Done**.

   The shape appears on the map, using the default shape style defined in the **Shape Editor**.

7. In the **Shape Editor**, select the new shape you just added from the list and in the **Properties** section, make sure the **Visible** checkbox is selected and click the **Radio** button beside the **Visible** checkbox to add a key frame.

   This will make the shape become visible at this point in the timeline.

8. Select the **Add Camera Key Frame** button.

To add additional shapes to the scene:

- Repeat steps 3 to 7 to add additional shapes to the scene.

To view animation playback and save:

1. Select the green **Play Animation** button in the **Animation Control** toolbar to view your animation.

   Play Animation

2. When you are satisfied with the animation, save it.

RossTalk Animation

You can use RossTalk animation to draw the viewer's attention to a specific RossTalk Event.

To animate a RossTalk event:

1. In the frame counter to the right of the timeline slider enter the number of frames you want to have in your animation.

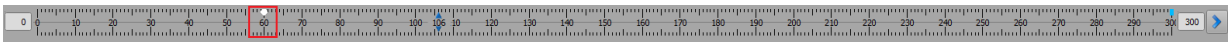
   The timeline will display up to 9999 frames. The speed of the animation playback depends on the screen resolution selected in **File > Preferences > Output**. For example, HD 1080 50i will play 25 frames per second and HD 1080 60p will play 60 frames per second.

2. With the map positioned where you want to create your animation and the timeline slider at the beginning of the timeline, click the **Add Camera Key Frame** button in the **Key Frames** toolbar.

3. Drag the timeline slider to the point on the timeline where you want to display the **RossTalk** event.

   Alternatively, you can select any point on the timeline to move the slider to that point or enter the position in the frame counter to the left of the timeline.

4. From the **RossTalk** section select the radio button next to the **Event** you want to add to the **Animation Control** toolbar.

   Frame Counter

   Incrementing the frame count by the same amount each time helps to create a smooth animation.

To view animation playback and save:

1. Select the green **Play Animation** button in the **Animation Control** toolbar to view your animation.

   Play Animation

2. When you are satisfied with the animation, save it.

Recording Animations

Maps provides the ability to render the full animation of a scene using the **Record Animation** function.

The following topics are discussed in this section:

Record Animation as an AVI File

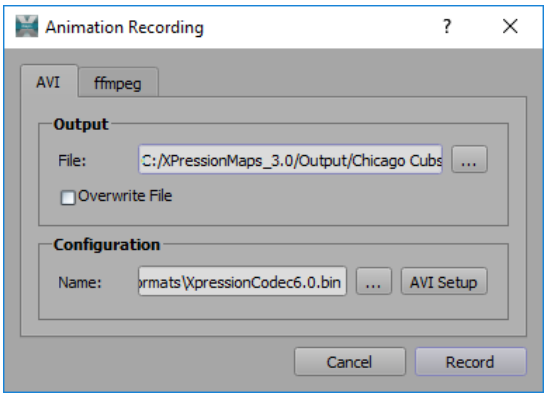
Record the animation of your scene as an AVI (Audio Video Interleaved) file using the **Record Animation** function.

To record an animation as an AVI file:

1. Select **Output > Record Animation** in the menu bar or select **Record Animation** in the toolbar.

XPression Maps Toolbar - Record Animation

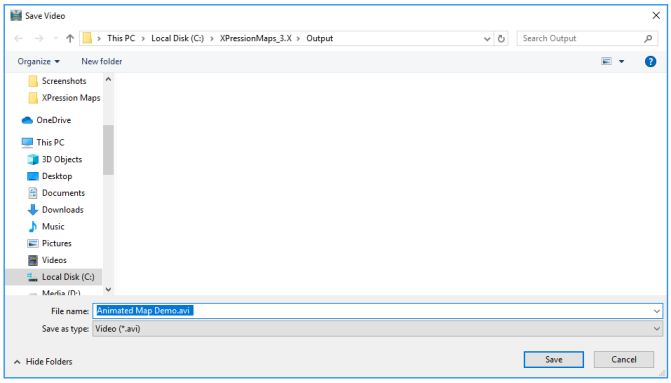
The **Animation Recording** dialog opens.



Animation Recording - AVI

2. Select the **AVI** tab if it is not already selected.
3. In the **Output** section, select **Browse** (…) beside the **File** field, to navigate to the location where you want to save the video file.

   The **Save Video** dialog opens.



Save Video in AVI Format

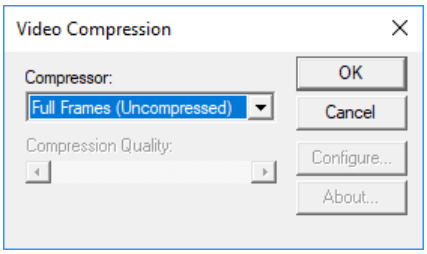
4. In the **Save Video** dialog, in the **File** name field, enter a name for the video file and select **Save**.

   In the **Animation Recording** dialog, in the **Output** section, the **File** field is populated with the path to the video file.

5. Select the **Overwrite File** checkbox if you want to overwrite an existing copy of the animation or clear the checkbox if you want to keep existing copies and create a new video file.

   If you choose not to overwrite an existing copy, you need to change the file name.

6. In the **Configuration** section, select **AVI Setup** to open the **Video Compression** dialog.



AVI Video Compression

   a. Select a video compressor from the drop-down and select **OK**.

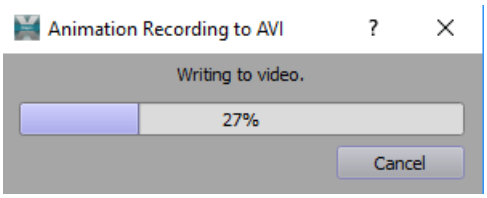
      Some options will activate the **Compression Quality** slider and/or the **Configure** button and require further configuration.

   ★Video compression options depend on system capabilities.

   b. Select **OK** when you have finished configuring the video compression.

7. In the **Save Format File**, select a video format file and select **Save**.
8. When you have finished configuring the output, select **Record** to record your animation.

   The **Animation Recording** progress dialog opens. When the recording is complete, the dialog closes.



Animation Recording Progress Dialog - AVI

To stop recording an animation:

- In the **Animation Recording** dialog, select **Cancel** or select the **Stop Animation Recording** button in the toolbar.

XPression Maps Toolbar - Stop Animation Recording

To play a recorded animation:

1. Navigate to the folder in which you've saved your recorded animations.
2. Double-click the recording you want to play.

Record Animation in ffmpeg Format

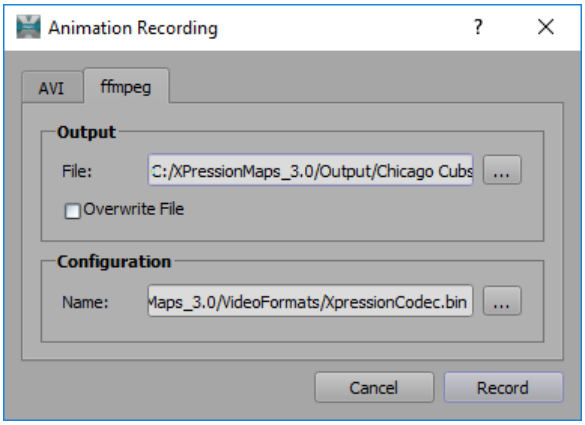
Record the animation of your scene into one of several ffmpeg file formats using the **Record Animation** function.

To record an animation in an ffmpeg file format:

1. Select **Output > Record Animation** in the menu bar or click the **Record Animation** button in the toolbar.

Maps Toolbar Record Animation

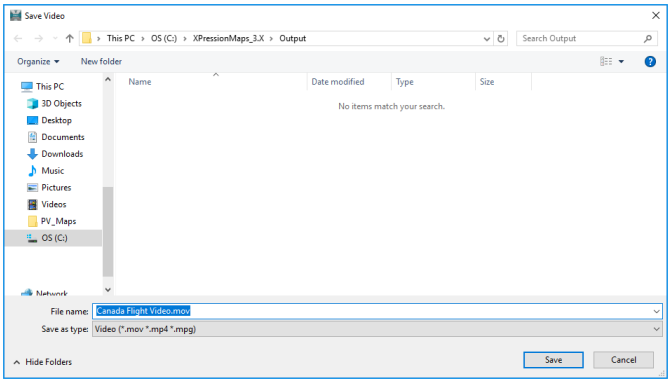
The **Animation Recording** dialog opens.



Annimation Recording - ffmpeg

2. Select the **ffmpeg** tab if it is not already selected.
3. In the **Output** section, select **Browse** (...) beside the **File** field, to navigate to the location where you want to save the video file.

The **Save Video** dialog opens.



Save Video in ffmpeg Format

4. In the **Save Video** dialog, in the **File** name field, enter a name for the video file and select **Save**.

Include the appropriate file extension in your file name.

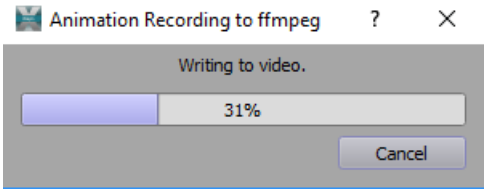
In the **Animation Recording** dialog, in the **Output** section, the **File** field is populated with the path to the video file.

5. Select the **Overwrite File** checkbox if you want to overwrite an existing copy of the animation or clear the checkbox if you want to keep existing copies and create a new video file.

   If you choose not to overwrite an existing copy, you need to change the file name.

6. When you have finished configuring the output, select **Record** to record your animation.

   The **Animation Recording to ffmpeg** progress dialog opens. When the recording is complete, the dialog closes.



Animation Recording Progress Dialog - ffmpeg

To stop recording an animation:

- In the **Animation Recording** dialog, select **Cancel** or click the **Stop Animation Recording** button in the toolbar.

XPression Maps Toolbar - Stop Animation Recording

To play a recorded animation:

1. Navigate to the folder in which you've saved your recorded animations.
2. Double-click the recording you want to play.

Custom Data

Custom data can be imported through the Custom menu in the menu bar. It allows the user to import custom shapes and maps.

The following topics are discussed in this section:

Custom Shapes

Custom shapes can be area or line shapes. Most common projection formats can be used.

Country or state borders are examples of area shapes. This kind of shape can be filled with a color and the border can be colored as well.

Streets, rivers and train lines are examples of line shapes. The lines can be colored.

It's a good idea to create a folder outside of the XPression Maps folder to store your custom shapes, to avoid inadvertently losing them when you upgrade your version of XPression Maps.

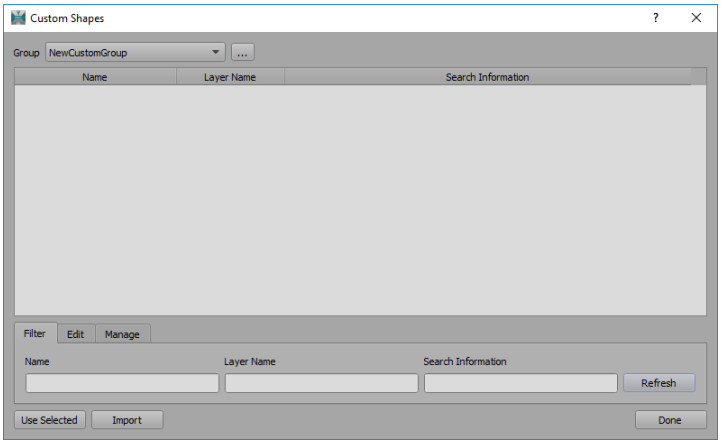
Once you've imported a custom shape, you'll want to create a custom shape style for that shape. See Shape Styles 215 for more information.

Managing Custom Groups

Custom shapes can be organized into groups, for easier retrieval. You can add, edit or delete custom groups, as described in the following sections.

To add a custom group:

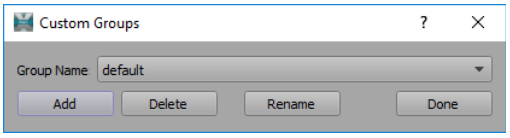
1. From the menu bar select **Custom > Shapes** to open the **Custom Shapes** editor.



Custom Shapes Editor

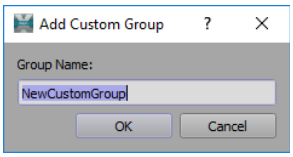
2. In the **Custom Shapes** editor, select the **Browse** button beside the **Group** drop-down.

   The **Custom Groups** dialog opens.



Custom Groups Dialog

3. Selet the **Add** button to open the **Add Custom Group** dialog.



Add Custom Group

4. In the **Group Name** field, enter a name for the new custom group and select **OK**.

5. In the **Custom Groups** dialog, select **Done** to close the dialog.
6. Then select **Done** to close the **Custom Shapes** editor.

   The new group will appear in the **Group** drop-down.

To edit a custom group:

1. From the menu bar select **Custom > Shapes** to open the **Custom Shapes** editor.
2. From the **Group** drop-down, select the **Group** you want to edit.

   The table in the center of the **Custom Shapes** editor displays the data for the selected group.
3. Select a data row in the table.
4. Select the **Edit** tab.
5. Edit the **Name**, **Layer Name** or **Search Info** parameters and select **Update**.
6. Then select **Done** to close the **Custom Shapes** editor.

To delete a custom group:

1. From the menu bar select **Custom > Shapes** to open the **Custom Shapes** editor.

   OR

   In the **Shape Editor**, select the **Add Custom Shapes** button at the top of the editor to open the **Custom Shapes** editor.
2. Select the **Browse** button beside the **Group** drop-down to open the **Custom Groups** dialog.
3. In the **Custom Groups** dialog, from the **Group Name** drop-down, select the **Group** you want to delete.
4. Select **Delete**.
5. In the **Delete Custom Group** confirmation dialog that opens, select **Yes** to delete the group and all its contents.
6. In the **Custom Groups** dialog, select **Done** to close the dialog.
7. Then select **Done** to close the **Custom Shapes** editor.

Managing Custom Shapes

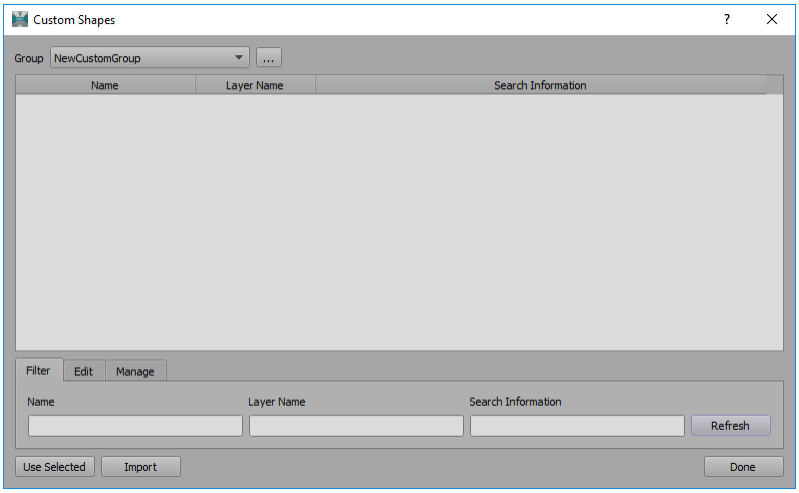
You can add custom shapes which you've created or acquired and stored locally on disk and use those shapes when creating new scenes.

Once you've added a custom shape to a scene, you'll want to create a shape style that will make it stand out. See Shape Styles 215 for more information.

To import a custom shape:

1. From the menu bar select **Custom > Shapes** to open the **Custom Shapes** editor.

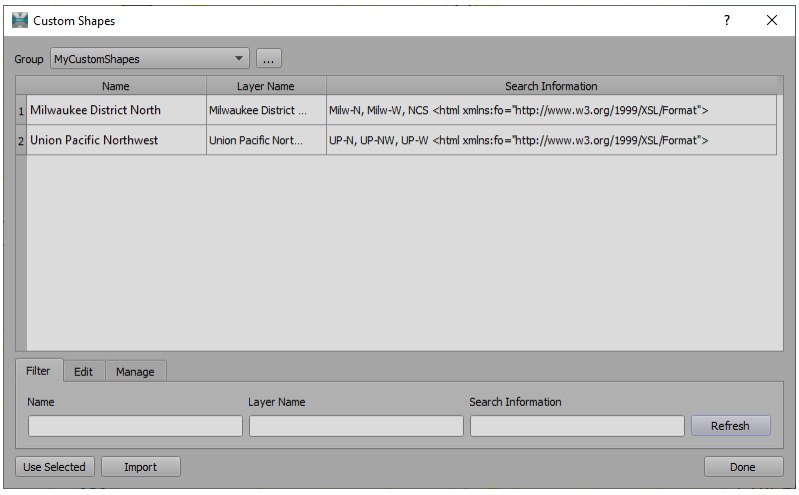
   The **Custom Shapes** editor opens.



Custom Shapes Editor - Blank

2. From the **Group** drop-down, select the **Group** to which you want to add the imported custom shape.

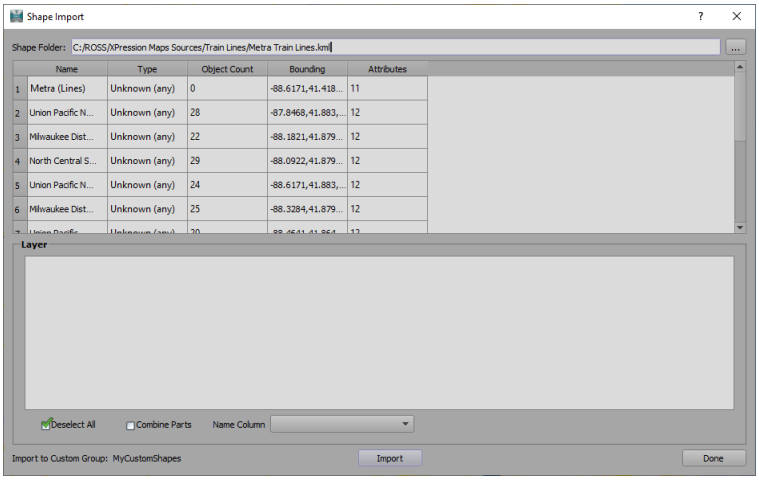
   If the **Group** already contains shapes, the table in the center of the **Custom Shapes** editor displays the data for the shapes in the **Group**.



Custom Shapes Editor - Populated

3. Select **Import**.

   The **Shape Import** editor opens.



Shape Import Editor

   If you've previously imported custom shapes, the **Shape Folder** field will display the last shape folder that was opened.

4. To open a different folder, select the **Browse** button (…) beside the **Shape Folder** field, navigate to the folder containing the custom shape you want to import and select **Open**.

   All shape archives in the selected folder are listed in the upper table of the editor. Information for each archive is displayed as follows:

   - **Name**: The name of the shape archive.
   - **Type**: The type can be 2D or 3D for **Polygon** (a closed shape where the beginning of each line is connected to its end), Line String (which is simply a line), or Point (a location reference).
   - **Object Count**: The number of shape objects in the archive.
   - **Bounding**: The area in which the shapes are contained, expressed in longitude and latitude coordinates.
   - **Attributes**: The number of attribute columns with additional data for the shape, that are stored in the archive.

5. Select the archive containing the shape you want to import.

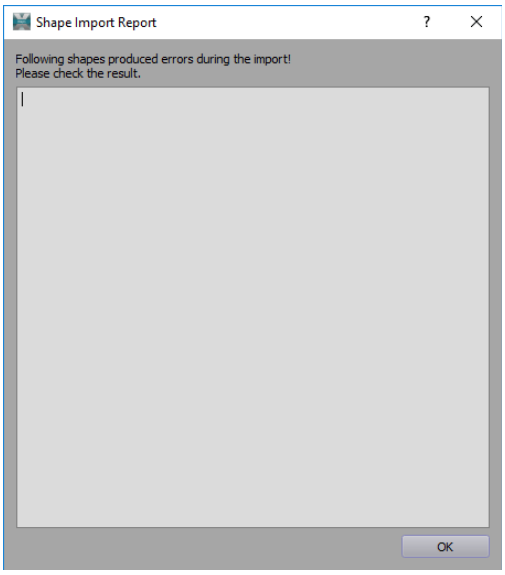
   The layers of the selected archive appear in the bottom-half of the **Shape Import** editor.

6. Select the layer(s) you want to import.

   - Check the **Select All** checkbox to select all the layers.
   - Check the **Combine Parts** checkbox to combine multiple layers into one shape.

7. Select **Import**.

   The **Shape Import Report** dialog opens indicating if there were any errors during the import.



Shape Import Report Dialog

8. If there were no errors, select **OK** to close the dialog and then select **Done**.

   The shapes from the selected archive appear in the table in the **Custom Shapes** editor.

9. Select **Done** to close the **Custom Shapes** editor or continue to add the custom shape to a scene.

To add a custom shape to a scene:

1. Open the scene to which you want to add a custom shape.
2. From the menu bar select **Custom > Shapes** to open the **Custom Shapes** editor, if it is not already open.
3. In the **Custom Shapes** editor, double-click the shape you want to add to your scene and select **Done**.

   The shape is added to the **Shape Editor** on the left.

4. Double-click the shape in the **Shape Editor** to display it in the output window.
5. If the map in the output window isn't displaying the selected shape, in the **Shape Editor**, right-click on the shape and select **Go to Shape on Map**.

To search for custom shapes:

1. From the menu bar select **Custom > Shapes** to open the **Custom Shapes** editor.
2. In the **Custom Shapes** editor, in the **Filter** tab, enter one or more of the **Name**, **Layer Name** or **Search Information** parameters to narrow down the number of custom shapes displayed in the table.
3. Select **Refresh** to display the new search results.

To delete custom shapes:

1. From the menu bar select **Custom > Shapes** to open the **Custom Shapes** editor.

   OR

   In the **Shape Editor**, select the **Add Custom Shapes** button at the top of the editor to open the **Custom Shapes** editor.

2. In the **Custom Shapes** editor, from the **Group** drop-down, select the group containing the custom shape(s) you want to delete.
3. Select the shape you want to delete or press **Ctrl** and click several shapes if you want to delete multiple shapes.
4. Go to the **Manage** tab and select **Delete**.
5. In the **Delete Shapes** confirmation dialog, select **Yes** to delete the selected shape(s).
6. Select **Done** to close the **Custom Shapes** editor.

Custom Maps

Custom maps can be high quality satellite images which have a geo-reference to the world. A geo-reference means this image has an exact mapping location, so that it can be mapped onto the globe in its exact position in the world. One of the most used formats is Geo-Tiff.

Each image, mostly large in resolution and size, is calculated and its position in between the 21 map levels is found. It is also cut into small images and stored in the database with exact location reference information. This allows for taking only the visible parts of the image.

For information on map setup, see Map Styles, 40

The **Custom Maps** editor displays all map data sources that contain imported map data or are ready to import map data.

Creating a Map Data Source

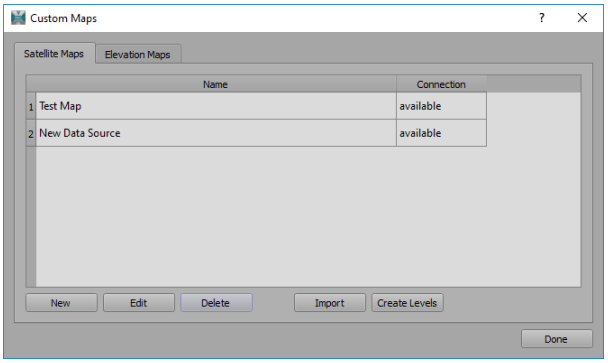
Before importing maps, you will need to create a data source. The data source will use either an Sqlite or MariaDB database.

The Sqlite database requires no additional program and can be used immediately with XPression Maps. However, the amount of data that can be stored in such a database is limited. A performance drop in reading and writing data into the one Sqlite file is the result.

If you plan to import more than 4 GB total of image data, the setup of a MariaDB (MySQL) server is recommended.

To create a map data source:

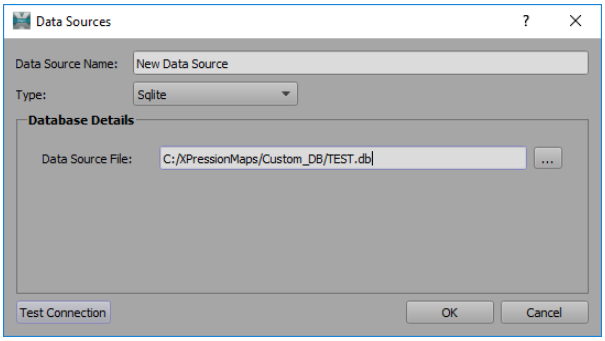
1. From the menu bar select **Custom > Maps** to open the **Custom Maps** editor.



Custom Maps Editor

2. In the **Custom Maps** editor, select **New**.

   The **Data Sources** editor opens.

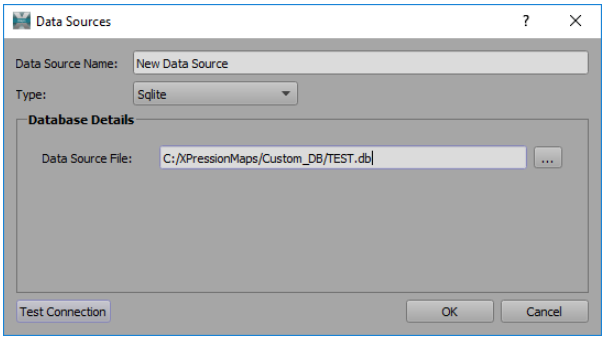


Datasources Editor

3. In the **Data Source Name** field, enter a unique name.
4. From the **Type** drop-down, select whether the data source will use an **Sqlite** file or the **mysql** (MariaDB) connection to the server.

   - If you select **Sqlite**, in the **Database Details** section, select the **Browse** button (...) beside the **Data Source File** field to navigate to the **SQLite** file you want to use and click **Save**. The file will be created if it does not exist.

     Then select **OK** and continue with Step 5.



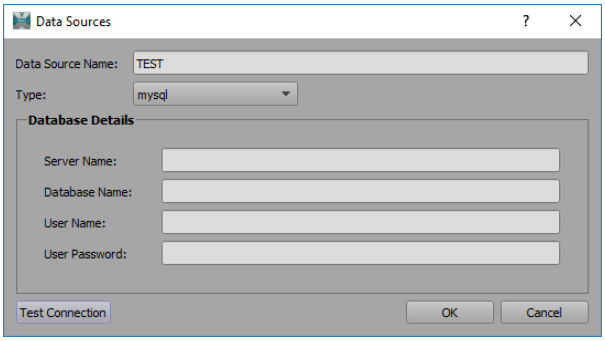
Datasources Editor - SQLite

- If you select **mysql**, in the **Database Details** section, enter the **Server Name**, **Database Name**, **User Name** and **User Password** for the database you want to use, to establish a connection with the server.

  - On this server, a separate database needs to be created and the name of the database entered into the **Database Name** field. Creation of the database on the server can be done using the HeidiSQL program.

  - Consult the database manual for how to create an empty database.

  Then continue with **Step 5**.



Datasources Editor - MySQL (MariaDB)

The default Details for the **XPression Maps Database** are:

Server Name: localhost

Database Name: name of the database

User Name: your user name

User Password: your password

5. Select the **Test Connection** button to open a connection to the database and check if read and write access exists.

6. If the connection is successful, select **OK**.

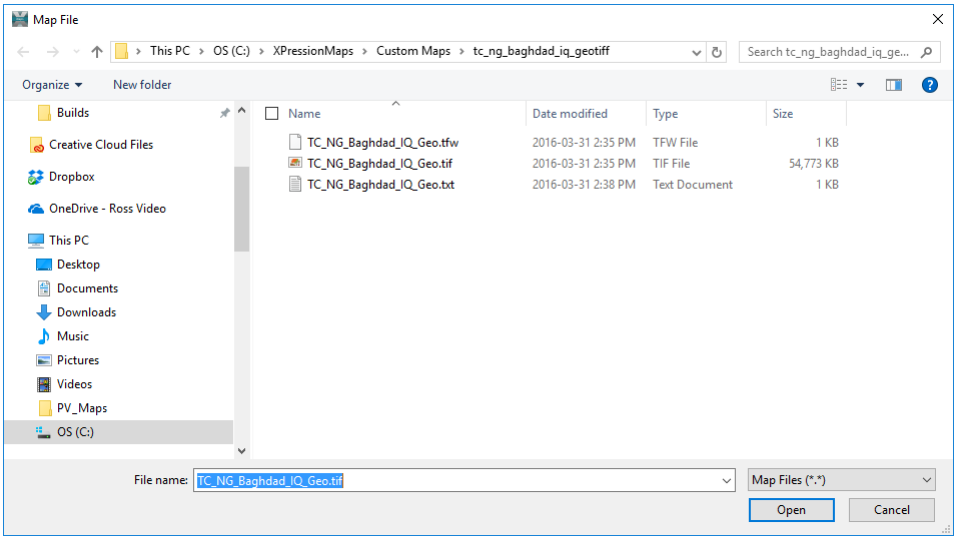
Importing Map Data

Import and level creation is a process which takes a lot of time depending on how much data is imported. Ensure that this procedure is performed ahead of time, if possible, and be aware that the XPression Maps system is busy importing during this time.

To import map data:

1. From the menu bar select **Custom > Maps** to open the **Custom Maps** editor.
2. In the **Satellite Maps** tab, select the data source for the custom map you want to import.
3. Then select **Import**.

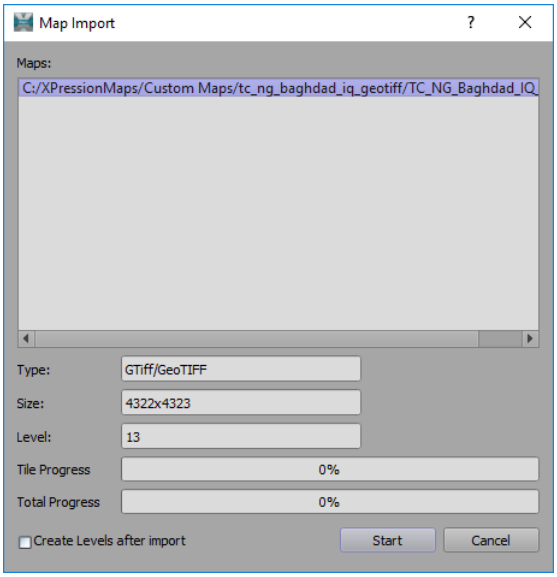
   The **Map File** explorer opens.



Map File Explorer

4. Select all geo-referenced image files (**.tif**) needed for the import and select **Open**.

   The **Map Import** editor opens and the selected image files are listed in the **Maps** list.



Map Import Editor

   Below the list, you'll see information displayed about the selected image, as follows:

   - **Type**: the data type of the image
   - **Size**: the image size
   - **Level**: the calculated level where the maximal image resolution is reached
   - **Tile Progress**: displays the progress of the imported file.
   - If you want the level creation to be started automatically at the end of the import, select the **Create Levels** after Import checkbox. See Creating Levels 296 for details about level creation.
   - **Total Progress**: displays the overall progress of the import
   - **Create Levels after Import**: select this checkbox to automatically start the level creation at the end of the import.

5. Select **Start** to begin the import process.

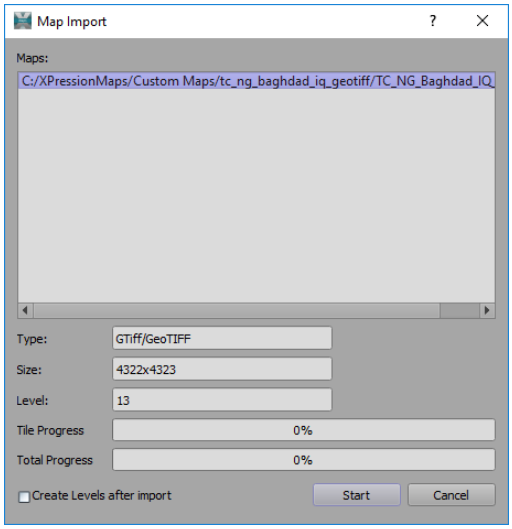
   The **Map Import** confirmation dialog appears when the import is successfully completed.

To display a custom map:

1. From the menu bar select **Style > Map Styles** and in the **Map Style Manager**, select **Edit** to open the **Edit Map Style** editor.
2. In the **Custom Data** section, select the **Map** checkbox.
3. From the drop-down, select your custom map.

Creating Levels

In the map data importing procedure, the maps are cut into parts and stored in the database with information about where in the world each map part is located and the resolution (level) of this map part.



Map Import Editor

In the **Map Import** editor image above, we can see that the example data will be imported into level 13. This means that we will see the map once we zoom into the location of the imported map in a height somewhere above street level. Without any level creation, we will only see our imported maps in this level. The level creation process, started by clicking the **Create Levels** button in the **Custom Maps** editor or by selecting the **Create Levels** after Import checkbox in the **Map Import** editor, calculates map tiles for lower levels out of the imported map tiles.

The next level with higher quality provides four tiles with the same resolution for one tile. This makes the resolution two times higher in X and Y. For the creation of a tile in the lower levels, we combine four map tiles to one tile, scale this new tile down to the needed tile size, and write it back into the database for the lower level.

Once the next lower level (in our example, level 12) is created the process continues with the next lower level based on the newly generated level, until the top level is generated. This process reads and writes heavily from and into the database, and the process usually takes longer than the import of the images. If you plan to import several map regions, wait until all maps are imported before creating the levels.

★ If you import more groups of maps, do not select the automatic Create Levels after Import checkbox before you start the last import.

Using Custom Maps

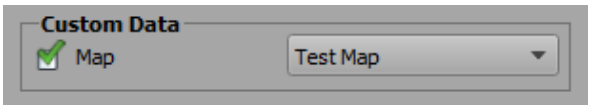
Imported custom maps can be activated in an existing Blue Marble Colored or Blue Marble Satellite style. This means that when the style is used, the custom map is drawn on top.

To use a custom map:

1. From the menu bar select **Style > Map Styles** and in the **Map Style Manager**, add a new map style to assign to your custom map. See To add a new map style 47 for more information.

   Custom maps can only be assigned to map types using the **Sphere** projection.

2. Select the new map style and select **Edit**.
3. In the **Edit Map Style** editor, in the **Custom Data** section, select the **Map** checkbox.
4. From the **Map** drop-down, select which data source to use.

   Imported Map Style

5. At the bottom of the **Edit Map Style** editor, select **OK**.

   The **Edit Map Style** editor closes and the **Map Style Manager** reopens. The edited style is highlighted and the **Save** icon is displayed beside it. If you are editing an existing map style, the **Reset** icon will also be displayed.

6. Select the **Save** icon to save your changes into the default database or select the **Reset** icon to discard your changes and revert to the last saved version of the style.

   The **Save All** button Save All at the bottom of the dialog box saves all changes made to all styles in the database.

   The **Reset All** button Reset All at the bottom of the dialog box resets all styles in the database to their last saved version.

7. In the **Save Map Style** confirmation dialog that opens, select **Yes**.
8. Select **Done** to close the **Map Style Manager**.

Map Data Configurator

The **Map Data Configurator** defines which data will be taken from local files (QSQLITE) and which will be shared through a database server (QMYSQL). The sharing of data is required to combine an instance of XPression Maps in the graphics department with the XPression Maps server in the machine room where scenes, drawings, and styles can be created and shared.

The main window of the application provides a list of data sources. It shows the data source type and indicates if the connection to the data source is available. You can also edit the parameters of each data source.

SQLite is a database setup where there is a file on the disk and the application can open and browse the data inside the file in a direct way. But SQLite is limited in parallel user access. Most files inside of the **DB** sub-folder are SQLite files.

To get around the limitation of the parallel user access, you can use the MariaDBdatabase server software. MariaDB can host several databases and can be accessed through the network by multiple users at the same time in parallel.

XPression Maps users using the Data option must also install the DataLinq Server Software so that the data can be imported.

The following topics are discussed in this section:

Configuring Data Sources

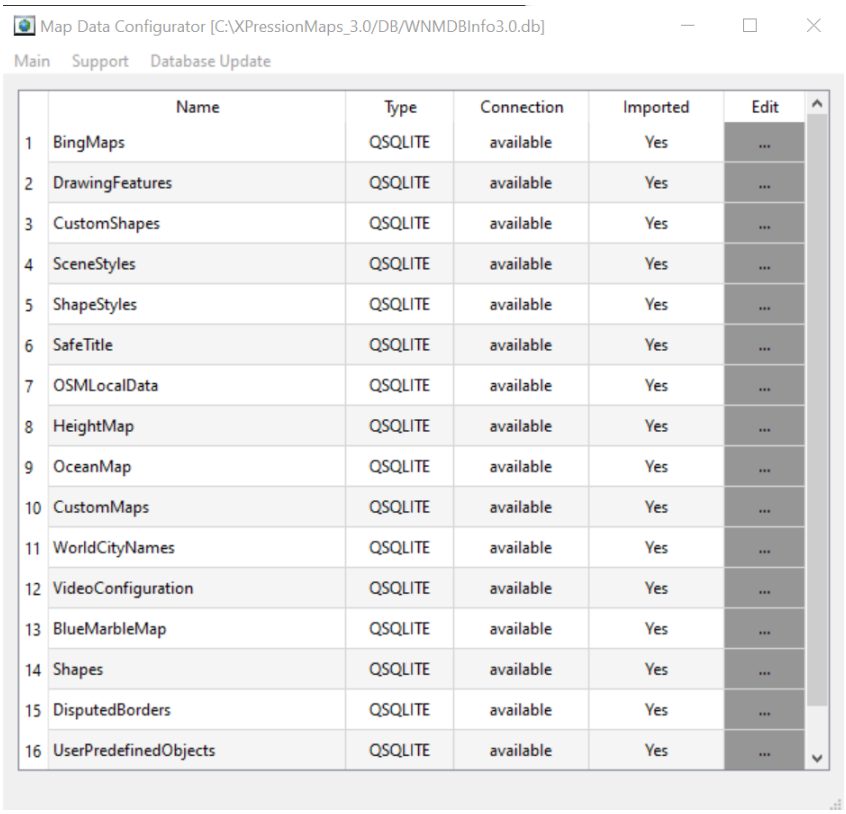
The following sections provide instructions for launching the **Map Data Configurator** and defining which data sources will be used by XPression Maps.

If you have upgraded from a previous version of XPression Maps, you will have loaded a new **Shape** database. This could mean that some scenes in your projects may have to be modified to accommodate the new database. If you want to continue using the old **Shape** database, you can do so by selecting it in the **Data Sources** editor in the **Map Data Configurator**. See To edit a data source 299 for more information.

To launch the Map Data Configurator:

1. Go to **C:\XPressionMaps\MapDataConfigurator**.
2. Double-click on the **MapDataConfigurator.exe file**.

   The **Map Data Configurator** opens.



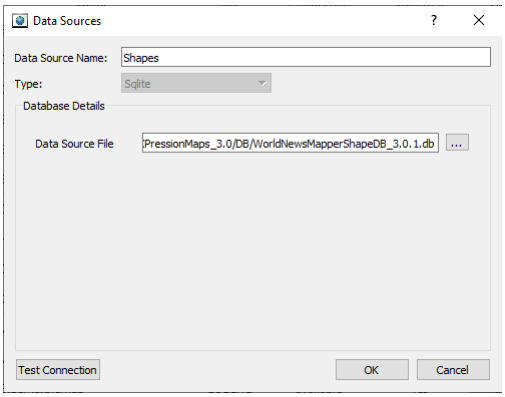
	Name	Type	Connection	Imported	Edit
1	BingMaps	QSQLITE	available	Yes	...
2	DrawingFeatures	QSQLITE	available	Yes	...
3	CustomShapes	QSQLITE	available	Yes	...
4	SceneStyles	QSQLITE	available	Yes	...
5	ShapeStyles	QSQLITE	available	Yes	...
6	SafeTitle	QSQLITE	available	Yes	...
7	OSMLocalData	QSQLITE	available	Yes	...
8	HeightMap	QSQLITE	available	Yes	...
9	OceanMap	QSQLITE	available	Yes	...
10	CustomMaps	QSQLITE	available	Yes	...
11	WorldCityNames	QSQLITE	available	Yes	...
12	VideoConfiguration	QSQLITE	available	Yes	...
13	BlueMarbleMap	QSQLITE	available	Yes	...
14	Shapes	QSQLITE	available	Yes	...
15	DisputedBorders	QSQLITE	available	Yes	...
16	UserPredefinedObjects	QSQLITE	available	Yes	...

Map Data Configurator

To edit a data source:

1. Open the **Map Data Configurator**.
2. Select a data source from the list (eg. Select **Shapes** to change the **Shapes Database**).
3. In the **Edit** column, select the corresponding **...** button.

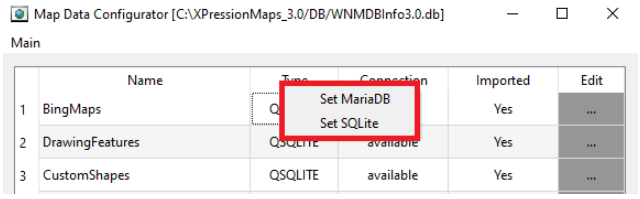
   The **Data Sources** editor opens.



Data Sources Editor

4. From the **Type** drop-down, select whether the data source will use the **Sqlite** file or the **MariaDB** connection to the server.
5. Some databases, like the **Shape** database can only use the **SQLite** data file.

   Alternatively, if you just want to change the **Type**, you can right-click in the **Type** column of a database and select either **Set SQlite** or **Set MariaDB** from the context menu.



Set Database Type

   a. If you select **Sqlite**, in the **Database Details** section, click the **Browse** button (...) beside the **Data Source File** field to navigate to the **SQLite** file you want to use and select **Save**.

      For example, if you are changing to the 3.0 version of the **Shape** database, you would select the WorldNewsMapperShapeDB_3.0.1.db SQLite file.

      Then select **OK** and continue with **Step 5**.

b. If you select **MariaDB**, in the **Database Details** section, enter the **Server Name**, **Database Name**, **User Name** and **User Password** for the database you want to use and then continue with Step 5.

   If the XPression Maps Database is installed, the default **Database Details** are:

   Server Name: hostname of the XPression Maps server where the MariaDB database is installed

   Database Name: same as the data source

   User Name: mapsuser

   User Password: wnmdb

   The following data types need to be changed to QMYSQL in a configuration with a server:

   - DrawingFeatures
   - CustomShapes
   - SceneStyles
   - ShapeStyles
   - SafeTitle
   - OSMLocalData
   - CustomMaps
   - UserPredefinedObjects

6. Select the **Test Connection** button.

   a. If the database exists, a confirmation dialog opens indicating that it exists.

      Select **OK** to close the dialog.

   b. If the database does not exist, a confirmation dialog will open asking if you want to create the database and tables in the server.

      Select **Yes** to create the database or **No** to cancel.

      If you select **Yes**, the Map Data Configurator will create the database and tables, but they will be empty.

7. Select **Import Data**.

   This step only needs to be done for the first XPression Maps system. Other systems will automatically use the same data. See Data Source Sharing 302 for more information.

8. In the **SQLite** file window, select the database you want to use and select **Open**.

   This step only needs to be done for the first XPression Maps system. Other systems will automatically use the same data. See Data Source Sharing 302 for more information.

   The data from the selected database is copied to the **MariaDB** database.

Data Source Sharing

The first XPression Maps system joins the shared data on the server used to import the data. The second system only needs to connect to the server and use the data.

Data Source Description

The following data sources can be configured in the **Map Data Configurator**. Only some of the data sources can be shared, as indicated in the table.

Data Source	Description	Sharing
BingMaps	The map tiles download from Bing	N/A
DrawingFeatures	All drawing objects	Yes
CustomShapes	Shapes imported by the user	Yes
SceneStyles	The map styles	Yes
ShapeStyles	The styles for the shapes	Yes
SafeTitle	All Safe Titles generated in the Safe Titles editor.	Yes
OSMLocalData	All local changes to the OSM data	Yes
HeightMap	The Blue Marble height model	N/A
OceanMap	The ocean overlay data	N/A
CustomMaps	Maps imported by the user	Yes
WorldCityNames	Name database for the offline mode	N/A
VideoConfiguration	Deprecated	N/A
BlueMarbleMap	The Blue Marble satellite images	N/A
Shapes	The internal shape database	N/A
DisputedBorders	All map styles	Yes
UserPredefinedObjects	Objects imported by the user	Yes

DataLinq Server Software

XPression Maps users using the Data option will also need to install the DataLinq Server Software installer from the USB drive in the package shipped with the software.

For information on installing the DataLinq Server Software see the *XPression User Guide*.

HTML5 Client

The **XPression Maps HTML5 Client** is a web-based control interface that allows you to access, edit, preview and play scenes that have been created from templates in the XPression Maps database.

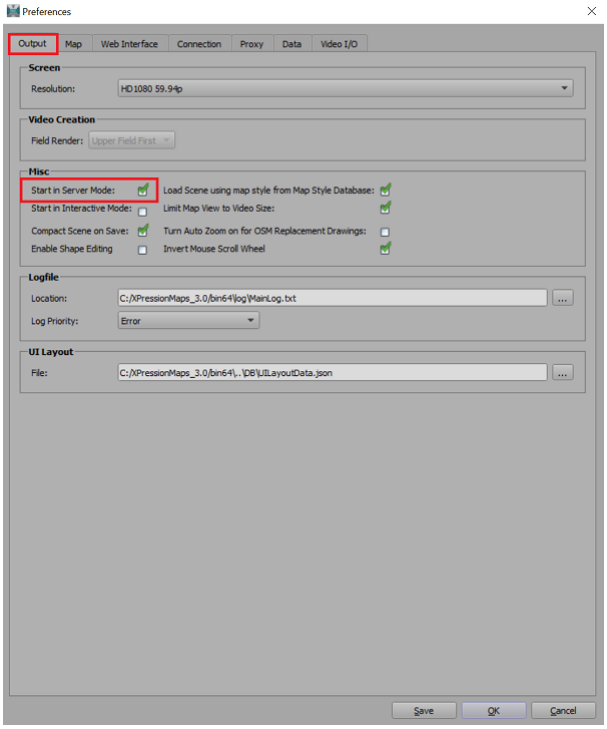
The following topics are discussed in this section:

Launching the HTML5 Client

The XPression Maps main application needs to be running in **Server** mode in order to use the HTML5 Client. Refer to the instructions below.

To select Server mode:

1. Launch XPression Maps.
2. From the menu bar select **File > Preferences > Output**, in the **Misc** section, select the **Start in Server Mode** checkbox.



Preferences - Output - Server Mode

3. Select **Save** and **OK**.
4. Close and relaunch XPression Maps.

   XPression Maps is launched and immediately minimized to the Windows system tray.
5. Continue with the next section to launch the **HTML5 Client**.

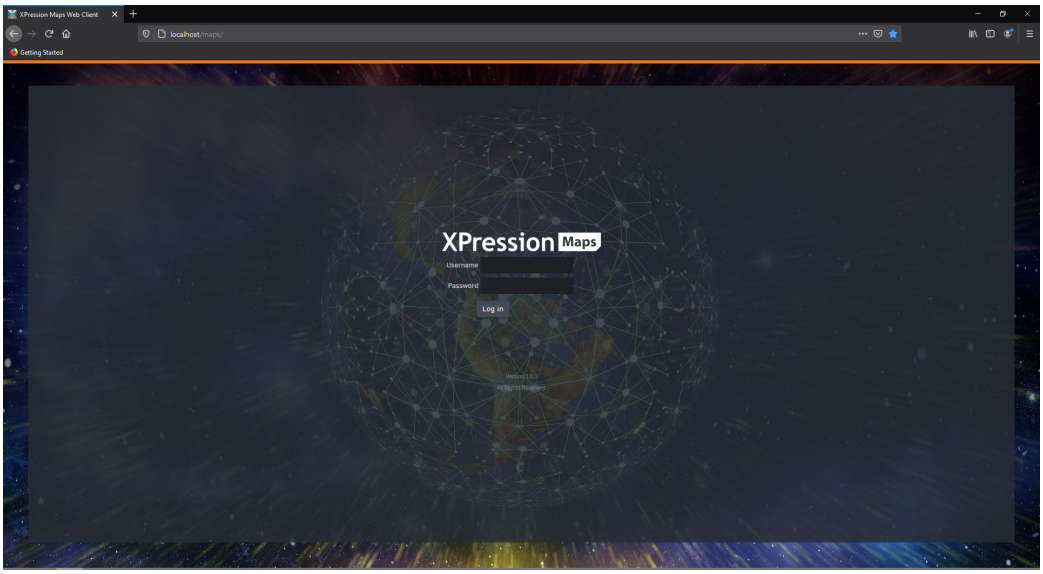
To launch the HTML5 Client:

1. With the XPression Maps main application running in **Server** mode, open your browser and in the address field, enter "`computername/maps/`" (without the quotation marks).

   Instead of "`computername`" you can also enter the **IP** address of the computer on which you want to run the **HTML5 Client**.

2. Press **Enter**.

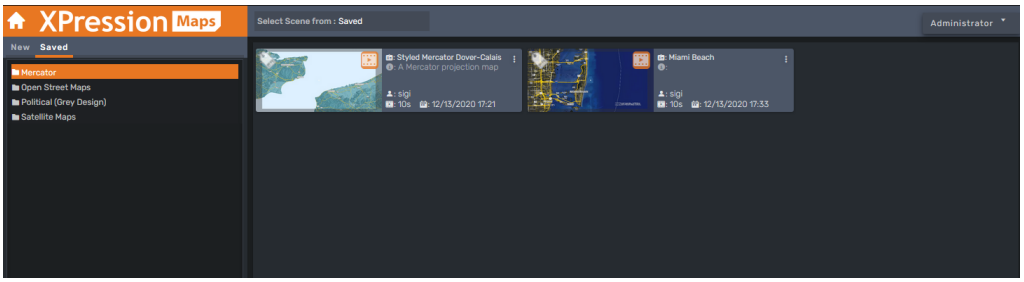
   The XPressionMaps HTML5 Client opens.



XPression Maps HTML5 Client Application - Login

3. Enter your **Username** and **Password** and click **Log in**.

   The **HTML5 Client Home** page is displayed.



XPression Maps HTML5 Client - Home Page

To return to the main XPression Maps application:

- In the **Windows** system tray, right-click on the XPression Maps icon and from the context menu, select **Return**.

Using the HTML5 Client

You can use the XPression Maps HTML5 Client to modify a template to create a new scene. You can also access a scene that has been saved in the HTML5 Client and drag it into a host application to play it there.

Templates that have been created in the XPression Maps main application are automatically available in the HTML5 client in the **New** tab.

Templates that have been modified in the **HTML5 Client** and saved as scenes, are found in the **Saved** tab.

The following topics are discussed in this section:

Selecting a Template or Scene

After launching the HTML5 client and logging in, you can either select a template and create a new scene or select a saved scene and edit it.

To select a template or scene:

- In the **New** tab, select the folder containing the type of map from which you want to create a scene and in the output window, click on the template you want to use.

  OR

- In the **Saved** tab, select the folder containing the scene you want to edit and in the output window, click on the scene you want to edit.

Modifying Templates in the HTML5 Client

In the XPression Maps HTML5 Client, you can modify templates that were created in the main application, to create a new scene. You can change the camera view, convert languages, modify the safe title area, add, edit or delete labels shapes and drawings and add a flight point.

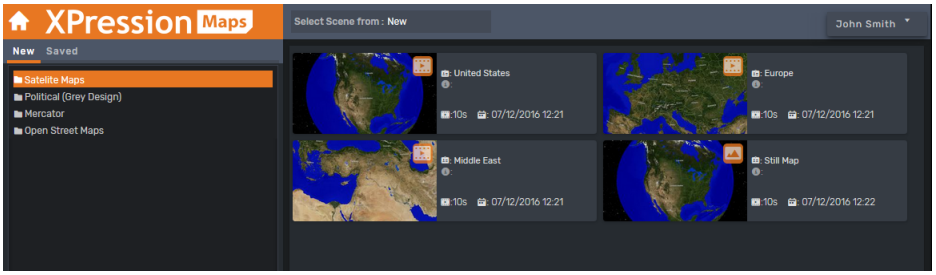
If the template has an animation, the scene you create from that template will also contain the animation, but the only animation you can add within the HTML5 client is a simple flight from **Point A** to **Point B**.

You can change the language for the text labels and drawings from a list of configured country codes. See Real-Time Language Support 251 for information.

The ability to delete a saved scene is one of the privileges that is assigned to a user group. If your group doesn't have that privilege, you will not be able to delete a scene.

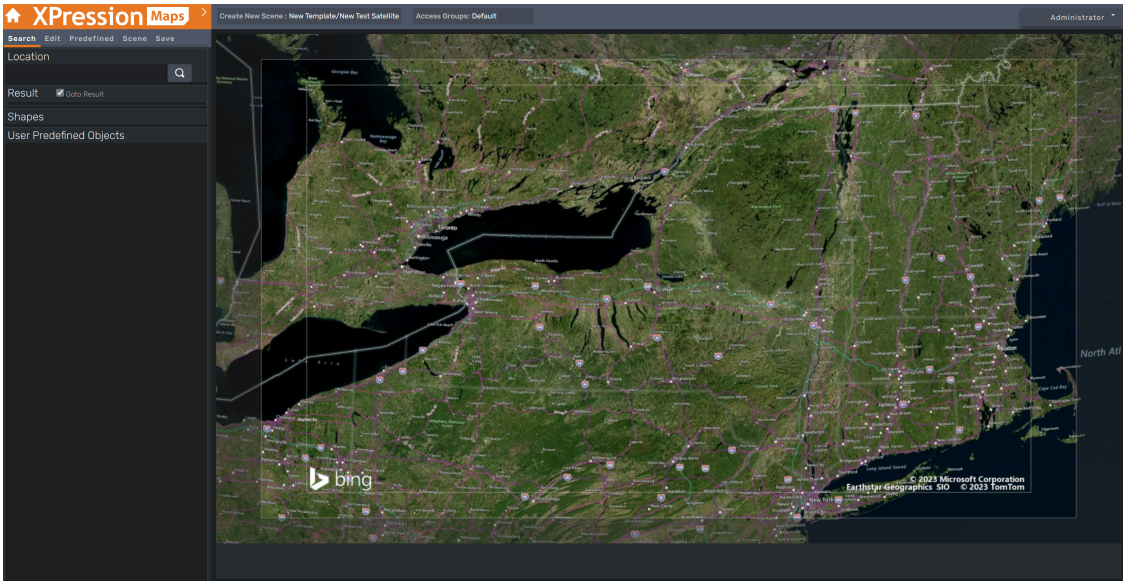
To modify a template:

1. Select the template you want to edit.



HTML5 Client - Select a Template

The template opens on the **Search** tab.



HTML5 Client Template

2. Modify the template, as described in the following sections:

   Changing the Camera View 310

   Changing the Language 310

   Modifying the Safe Title Area 311

   Adding, Editing and Deleting Shapes 312

   Adding, Editing and Deleting Labels 314

   Adding, Editing, Deleting and Ordering Drawings 317

   Adding a Flight Point 320

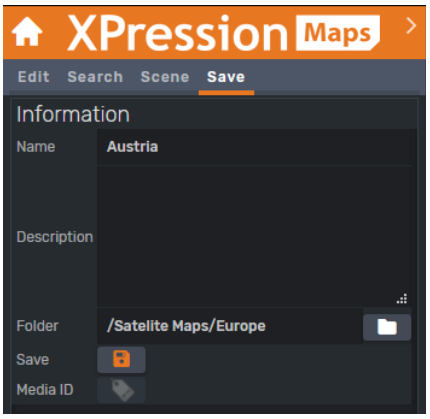
   Downloading a Still Image 322

3. Save your new scene. See To save a scene 309 for more information.

4. To return to the **Home** page, click the **Home** icon .

To save a scene:

1. In the **Save** tab, in the **Name** field, enter a name for your scene.



HTML5 Client - Save Scene

2. In the **Description** field, enter a description of the scene (optional).

3. In the **Folder** field, click the folder icon at the right of the field and select the folder to which you want to save the scene.

   You can only save into an existing folder. Creating new folders is an **Administrator** privilege.

   Once you've saved a scene the first time, the folder will be selected automatically if you edit the scene and save it again.

4. Then select the **Save** icon.

   Once a scene has been saved, the **Media ID** icon becomes active and you can drag it into a host project such as XPression, to play.

   For more information, see Playing Saved Scenes in a Host Application 327.

Changing the Camera View

In the XPression Maps HTML5 Client you can change the camera view of the scene in the template.

To change the camera view:

1. Select the template or scene you want to edit.
2. In the **Scene** tab, in the **Camera** section, adjust the **Longitude**, **Latitude**, **Tilt**, **Roll** and **Zoom Level** as desired.

Changing the Language of a Scene

In the XPression Maps HTML5 Client you can change the language of a scene from a predefined list of translation country codes.

To change the language of a scene:

1. Select the scene you want to edit.
2. Click on the hamburger stack and select **Duplicate Scene**.

   A duplicate of the scene opens.
3. In the **Scene** tab, in the **Language** section, select a language from the drop-down.

   The language in the output window will update.
4. Languages are populated from a predefined list of translation codes in the XPression Maps installation files. See Configuring Languages 251 for information on translation codes.
5. In the **Save** tab, in the **Information** section, update the name of the map to reflect the language change. For ex. Europe English.
6. Click the folder button to select a location to save the updated template.
7. Press the **Save** button.
8. The scene with the updated language will be displayed from the **Saved Templates** window.

   The scene with the new language change will be displayed from the **Saved Templates** window

Modifying the Safe Title Area

The **Safe Title Area** is the area inside the output window defined by the white rectangles. Content inside this area will be fully visible on air. The **Safe Title Area** is defined in the main application but you can decide whether or not to use it in the HTML5 Client. You can also select the style of the safe title area.

To modify the Safe Title Area:

1. Select the template or scene you want to edit.
2. In the **Scene** tab, in the **Safe Title** area, do one of the following:

   a. Select the checkbox to use the configured safe title area.

   OR

   b. Deselect the checkbox to use the entire **Output Window**.
3. From the **Style** drop-down, select how the safe title area should be displayed.

   The options are:

   - **Fullscreen** — the map credits appear in the bottom corners of the scene
   - **OTS (Over the shoulder)** — the map credits appear centered in the scene

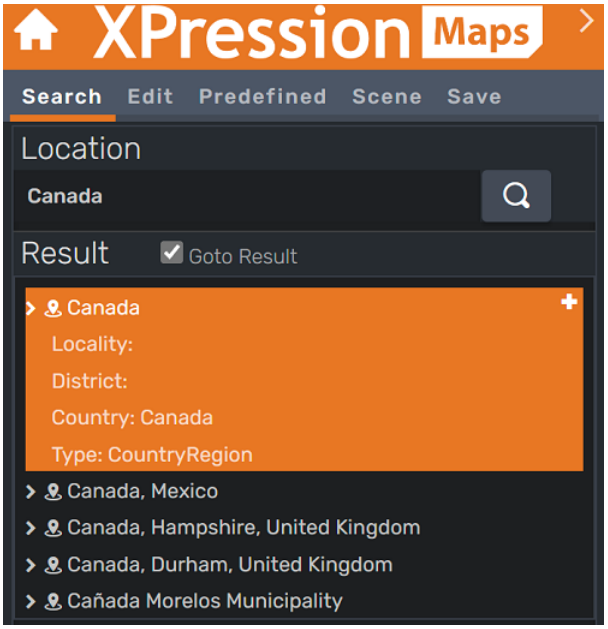
Adding, Editing and Deleting Shapes

In the XPression Maps HTML5 Client, you can add a shape for any location that exists in the shape database. You can also change the shape that has been applied to the location, to any shape that has been added to the **Shapes** tab for the original template in the main application.

To add a shape:

1. Select the template or scene to which you want to add a shape.
2. In the **Search** tab, enter the location for which you want to add a shape and select the **Search** icon or press **Enter**.
3. In the **Shapes** section, click on the location for which you want to add a shape and then click the **+** sign to the right of the location to add the default shape to the scene.

   The new shape appears on the map. The shape appears at the **Zoom** level set in the shape style, so you may have to zoom in or out (using the scroll wheel on your mouse) in order to see the new shape.

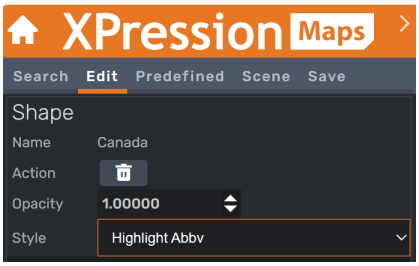


HTML5 Client - Select Shape

4. Save your new scene. See To save a scene 309 for more information.

To edit a shape:

1. Select the template or scene you want to edit.
2. In the output window, click on the shape.
3. In the **Edit** tab, from the **Style** drop-down, select a different shape style.

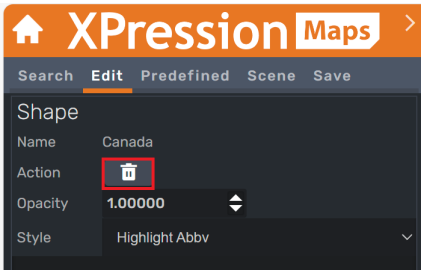


HTML5 Client - Edit Shape

4. In the **Opacity** field, enter a value or use the up and down arrows to change the transparency of the shape.
5. Save your new scene. See To save a scene 309 for more information.

To delete a shape:

1. Select the template or scene you want to edit.
2. In the output window, select the shape you want to delete.
3. In the **Edit** tab, select the **Delete Shape** button.



HTML5 Client - Delete Shape Button

Alternatively, with the shape selected, press the **Delete** key.

Adding, Editing and Deleting Labels

In the XPression Maps HTML5 Client, you can add a label anywhere in the scene. The labels that can be added are those that have been added to the **Location Labels** tab for the original template in the main application.

You can also set a default label which will be added automatically by clicking the **+** sign beside the location in the **Result** section and override a default label in the current scene only.

To add a label:

1. Select the template or scene to which you want to add a label.
2. In the **Search** tab, in the Location field, enter the location to which you want to add a label.
3. Click on the arrow beside the XPression Maps title to open the **Label** and **Drawing** menus.

HTML5 Client - Labels and Drawings Menus

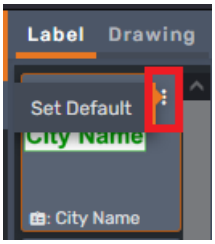
4. From the **Labels** list, click on the label style you want to use and drag it to the desired location.

   The label appears at the **Zoom** level set in the label style, so you may have to zoom in or out (using the scroll wheel on your mouse) in order to see the new label.

   Alternatively, you can set a default label style to use in any scene in the current folder. See To add a default label 314 for more information.

To add a default label:

1. Select the template or scene to which you want to add a label.
2. In the **Search** tab, in the **Location** field, enter the location to which you want to add a label.
3. Click on the arrow beside the XPression Maps title to open the **Label** and **Drawing** menus.
4. Then click on the three dots in the top-right corner of the label you want to use and click **Set Default**.



HTML5 Client - Set Default Drawing

5. In the **Result** section, click the **+** sign beside the location for which you want to add a label.

   The label is inserted in the correct location on the map, with the **Locality** name. This label style will be used by default for all scenes in the current folder.

To override a default label:

- Click on a different label style and drag it on top of the default label, to change only that instance of the label.

  In other scenes in the same folder, the default label will remain the same.

To edit a label:

1. Select the template or scene you want to edit.
2. In the **Output Window**, select the label you want to edit.
3. In the **Edit** tab, in the **Drawing** section, adjust the following properties as necessary.

Property	Description
Action	Place the label on top of or behind other text in the scene or delete the label
Zoom	Enter a value or use the arrows to adjust the size of the label in relation to the map.
Longitude, Latitude and Rotation	Enter a value or use the arrows to adjust the position of the label.
GPS	The GPS coordinates of the label.
Size	Enter a value or use the arrows to adjust the absolute size of the label.
Frontface	Select to have the front side of the label face the camera. You can also toggle this parameter in the output window by clicking the **Frontface** icon () at the bottom of the label's bounding box.
Auto Zoom	Select to have the label stay the same size, regardless of the **Zoom Level**.
Visible	Select if you want the label to be visible or deselect to hide the label.

4. In the **Text** section, you can change the text of the label if you want.
5. When you've finished modifying the label, save your new scene. See To save a scene 309 for more information.

To delete a label:

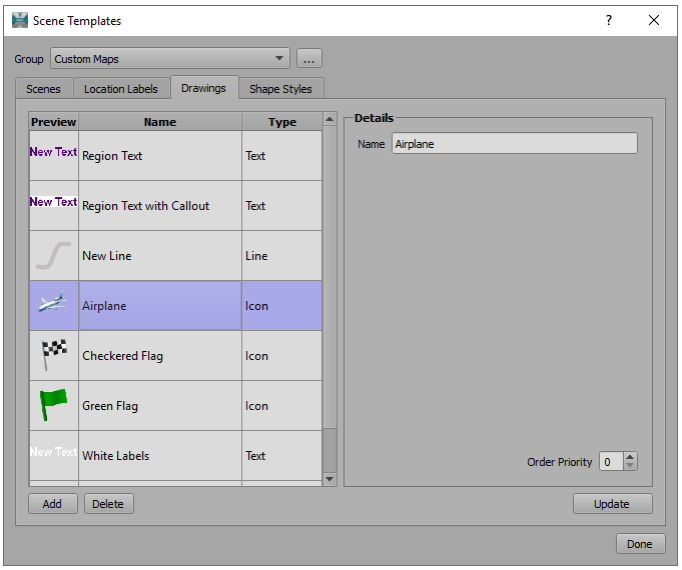
1. Select the template you want to edit.
2. In the output window, select the label you want to delete.
3. In the **Edit** tab, select the **Delete Drawing** button.

HTML5 Client - Delete Drawing Button

Alternatively, with the label selected, press the **Delete** key.

Adding, Editing, Deleting and Ordering Drawings

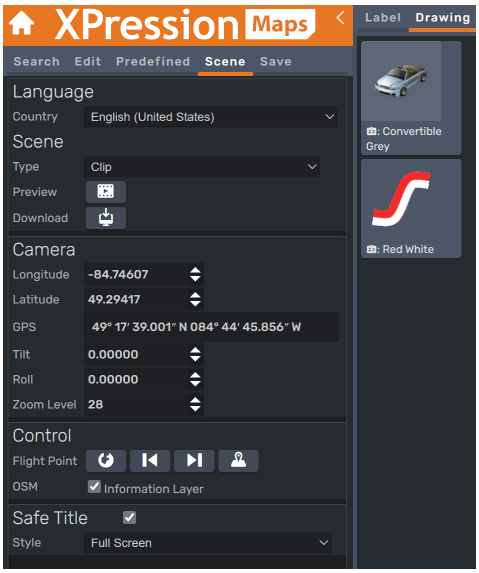
You can add drawings to your scenes, providing the drawings have been added to the **Drawings** tab of the template group that contains your template. You can also delete and edit drawings and change their order, putting one in front of another. For more information, see Adding Drawings. 71



Scene Templates - Drawings Tab

To add a drawing:

1. Select the template or scene to which you want to add a drawing.
2. Select the arrow beside the XPression Maps logo to open the **Label** and **Drawing** lists and select the **Drawing** tab.



HTML5 Client - Drawing List

3. In the **Drawing** list, select the drawing that you want to add to the scene and then click on the map where you want to place the drawing.

   For **Line** and **Area** drawings, click and drag the mouse on the map until the line or area is complete.

To edit a drawing:

1. Select the scene you want to edit.
2. Select the drawing you want to edit.
3. In the **Edit** tab, in the **Drawing** section, adjust the following properties as required.

Property	Description
Action	Place the drawing on top of or behind other drawings in the scene or delete the drawing.
Zoom	Enter a value or use the arrows to adjust the size of the drawing in relation to the map.
Longitude, Latitude and Rotation	Enter a value or use the arrows to adjust the position of the drawing.
GPS	The GPS coordinates of the drawing.
Size	Enter a value or use the arrows to adjust the absolute size of the drawing.
Frontface	Select to have the front side of the drawing face the camera. You can also toggle this parameter in the output window by clicking the **Frontface** icon () at the bottom of the drawing's bounding box.
Auto Zoom	When checked, the drawing remains the same size in pixels, while the camera animates through the different zoom levels. When unchecked, the drawing increases or decreases in size as the camera animates through the different zoom levels.
Visible	Select if you want the drawing to be visible.
Texture	Applies to line drawings and area drawings that have an image or pattern. **Scale** — Multiplies the scale of the drawing. For example, a line drawing of a road with a scale of 1, will be a single 2-lane road, while a road with a scale of 2 will be a 4-lane road. **Rotation** — Increases the rotation of the drawing, making it appear spiraled. **Aspect** — Increases or decreases the width of the drawing, relative to the height. • If the value is less than 1, the width (X) decreases relative to the height (Y). • If the value is greater than 1, the width increases relative to the height.
Point	Applies to area drawings only. **Index** — identifies each point in the drawing based on the order in which it was added. The selected point turns red. **Longitude** — Enter a value or use the arrow to adjust the longitudinal position of the selected Index point. **Latitude** — Enter a value or use the arrow to adjust the latitudinal position of the selected Index point.
Progress	Applies to line drawings only. Visualizes the progression of the line being drawn on the map. Use the up and

Property	Description
	down arrows to view the placement of the drawing at different intervals.

4. When you've finished modifying the drawing, save your new scene. See To save a scene 309 for more information.

To replace a drawing:

1. Select the scene you want to edit.
2. From the **Drawings** list, click on a different drawing of the same type (line, area, text, etc.) and drag it on top of the drawing you want to replace.

To set a default text drawing:

1. Select the scene you want to edit.
2. From the **Drawings** list, click on the text drawing you want to set as a default for all scenes in the current folder.
3. Then click on the three dots in the top-right corner of the text drawing you want to use and select **Set Default**.

To delete a drawing:

1. Open the scene from which you want to delete a drawing.
2. Click on the drawing you want to delete to select it
3. In the **Edit** tab, select the **Delete Drawing** button.

HTML5 Cient - Delete Drawing Button

Alternatively, you can click on the drawing you want to delete and then press the **Delete** key.

To order drawings:

1. Open the scene in which you want to reorder the drawings.
2. Select the drawing you want to move.
3. In the **Edit** tab, click the **Move Drawing** to **Front** button to move the drawing to the front.

HTML5 Client - Move Drawing to Front Button

OR

Click the **Move Drawing to Back** button to move the drawing to the back.

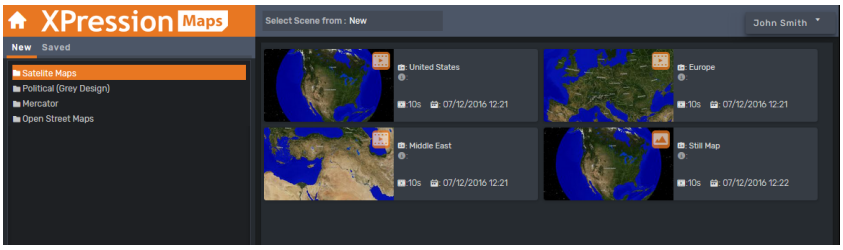
HTML5 Client - Move Drawing to Back Button

Adding a Flight Point

Start and Stop flight points are automatically added to each template if none exist. You can add one additional flight point in the XPression Maps HTML5 client to create a flight animation. If you add more than one additional flight point, only the last one added will be kept. The flight is calculated automatically between the initial flight point, stored inside of the template, and the ending location selected by the user in the client application.

To add a flight point:

1. In the **Home** screen, from the **New** tab, select the group that contains the template you want to use for your scene.
2. In the **Select Scene from**: pane, select the template to modify.

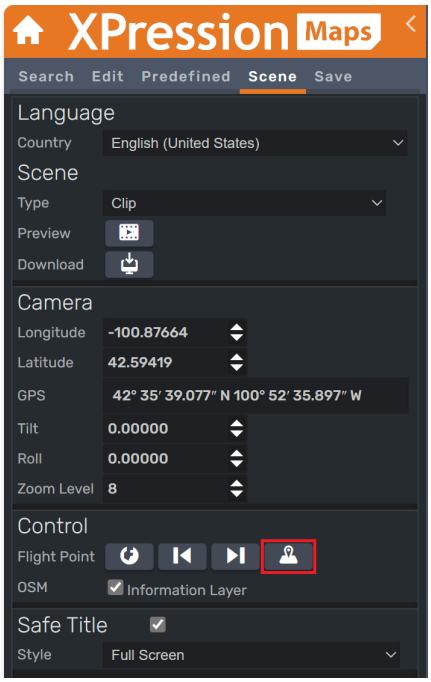


HTML5 Client - Select a Template

The template opens on the **Search** tab.

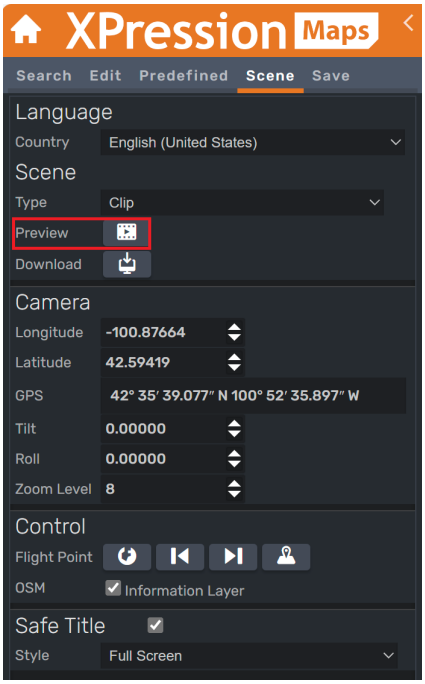
3. In the **Search** field, enter the location where you want to add the flight point.
4. In the **Scene** tab, use the **Zoom Level** parameter to adjust the zoom level of the map at that location.

   Alternatively, you can scroll the mouse wheel to adjust the zoom level.
5. Then, in the **Control** section, select the **Add Flight Point** button.



HTML5 Client - Add Flight Point

6. Select the **Preview** icon to play the animation.



HTML5 Client - Preview

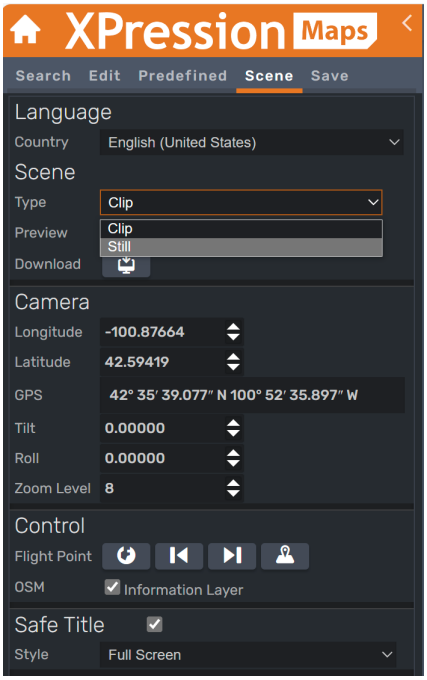
7. If no further edits are required, in the **Save** tab, save your new scene. See To save a scene 309 for more information.

Downloading a Still Image

You can download a still image of any scene if desired.

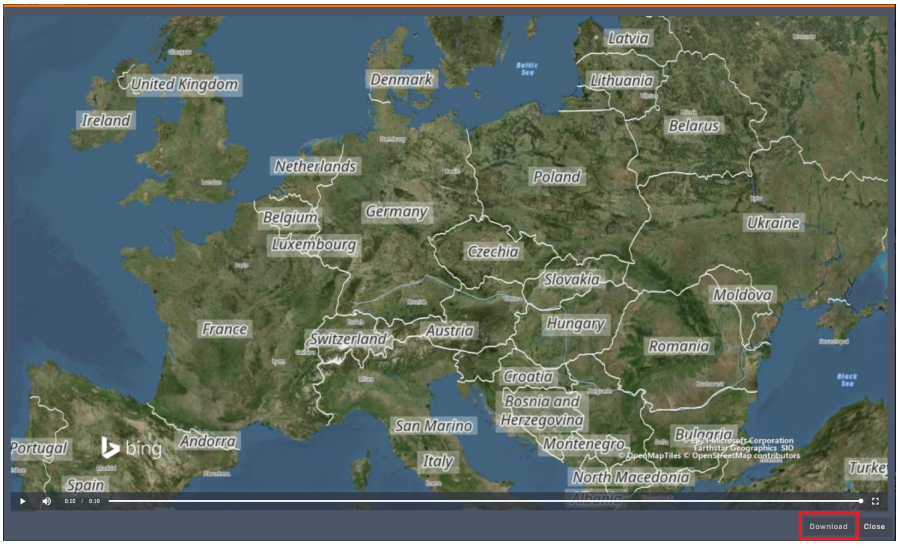
To download a still:

1. Select the scene you want to save as a still image.
2. In the **Scene** tab, from the **Type** drop-down, select **Still**.



HTML5 Client - Select Still

3. Then select the **Preview** button.
4. In the bottom-right corner of the scene, click the **Download** button.



HTML5 Client - Download Still

The **Opening PNG** dialog appears.

5. Select **Save File** in the **Opening PNG** dialog and navigate to the location where you want to save the still image.
6. Give the still image a name and select **Save**.

Playing Saved Scenes in the HTML5 Client

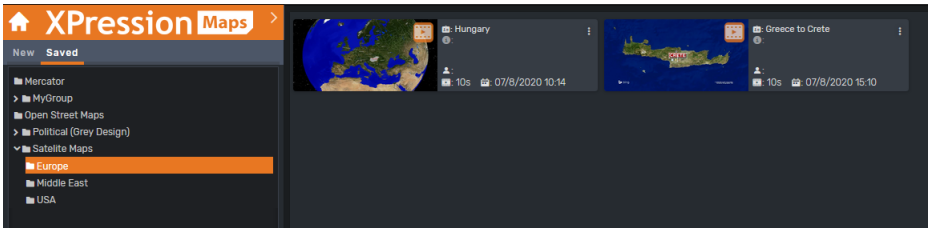
Any template that has been added to the **Scene Templates** feature in the XPression Maps main application is automatically available in the HTML5 client.

To play a saved scene:

1. Launch the XPression Maps HTML5 Client.

   See Launching the HTML5 Client 304 for more information.

2. Select the **Saved** tab and open the folder containing the scene you want to play.



HTML5 Client - Select Saved Scene

3. In the **Scenes** pane, click on the scene you want to play.
4. In the **Scene** tab, select **Preview**.

Deleting and Duplicating Saved Scenes

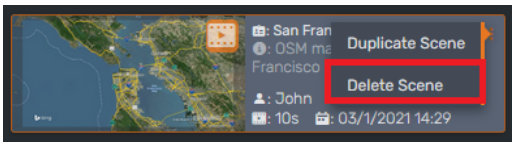
Only users with the **Delete Saved Scenes** privilege can delete a scene, but anyone can duplicate a scene.

To delete a scene:

1. In the **Home** screen, from the **Saved** tab, select the group that contains the scene you want to delete.

   The group expands to display subgroups, if there are any.

2. In the **Select Scene from: Saved** panel, in the top-right corner of the scene, move the cursor over the 3 dots and select **Delete Scene**.



HTML5 Client - Delete Scene

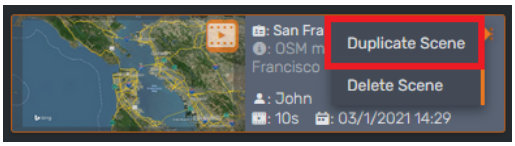
3. In the confirmation dialog that opens, select **Yes** to delete the scene.

To duplicate a scene:

1. In the **Home** screen, from the **Saved** tab, select the folder that contains the scene you want to duplicate.

   The group expands to display subfolders, if there are any.

2. In the **Select Scene from: Saved** panel, in the top-right corner of the scene, move the cursor over the 3 dots and select **Duplicate Scene**.



   The scene is opened for editing.

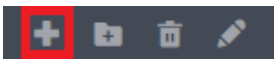
3. Make any needed changes to the scene.
4. Then, in the **Save** tab, enter a new name for the scene.
5. Select the **Folder** icon to select a folder to which to save the scene.
6. Select the **Save** icon.

Managing Saved Scene Folders

User who have been assigned the privilege of **Managing Saved Scene Folders** can add, delete and rename folders and sub-folders.

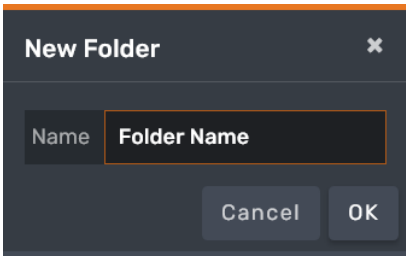
To add a folder:

1. In the **Saved** tab, select the **Add New Folder** icon.



HTML5 Client - Add New Folder Icon

2. In the **New Folder** dialog, enter a name for the folder and then select **OK**.



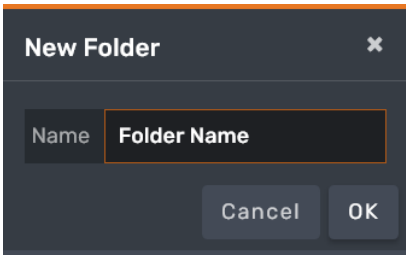
HTML5 Client - Add New Folder

To add a sub-folder:

1. In the **Saved** tab, select the folder to which you want to add a sub-folder.
2. Then select the **Add New Sub-Folder** icon.

HTML5 Client - Add New Sub-Folder Icon

3. In the **New Sub-Folder** dialog, enter a name for the sub-folder and then select **OK**.



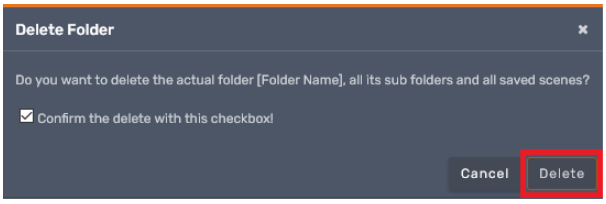
HTML5 Client - Add New Sub-Folder

To delete a folder:

1. In the **Saved** tab, select the folder or sub-folder you want to delete and select the **Delete Folder** icon.

HTML5 Client - Delete Folder Icon

2. In the **Delete Folder** dialog, select the checkbox to confirm that you want to delete the folder and all its contents and then select **Delete**.



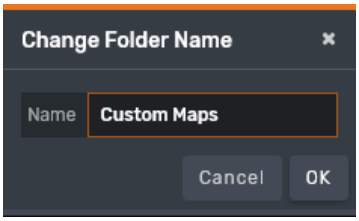
HTML5 Client - Delete Folder

To rename a folder:

1. In the **Saved** tab, select the folder you want to rename and select the **Rename Folder** icon.

HTML5 Client - Rename Folder icon

2. In the **Change Folder Name** dialog, enter a new name for the folder and then select **OK**.



HTML5 Client - Change Folder Name

Playing Saved Scenes in a Host Application

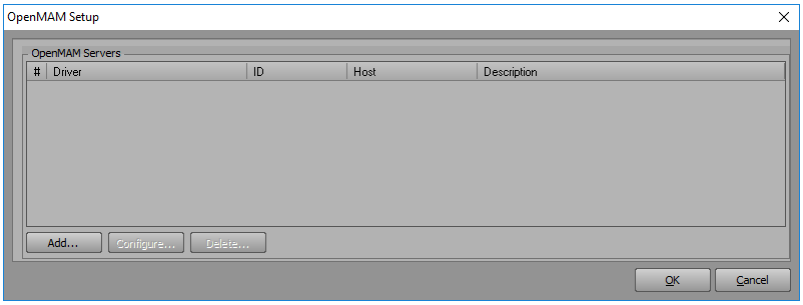
Saved scenes created in the XPression Maps HTML5 Client application can be dragged into projects in host applications such as XPression Studio.

You'll also need to configure the host application, as described below. The instructions provided are for configuring an XPression rendering engine, but the same process (or something similar) will need to be done for any rendering or preview engine on which you want to run your XPression Maps HTML5 Client scene.

To configure a host application:

1. In XPression, select **Edit > OpenMAM Setup**.

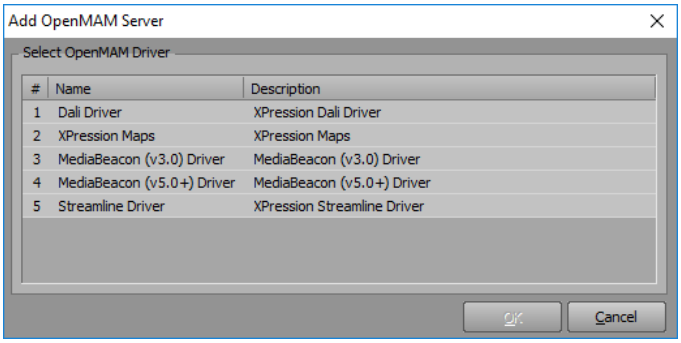
   The **OpenMAM Setup** dialog opens.



   XPression OpenMAM Setup Dialog

2. Select **Add**.

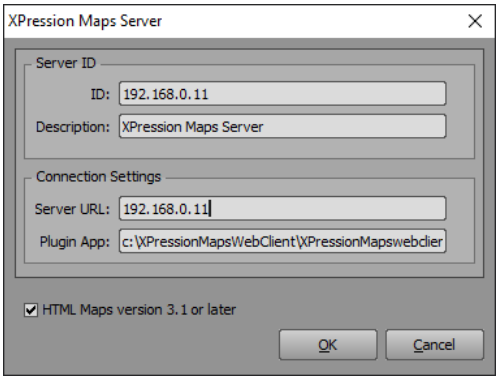
   The **Add OpenMAM Server** dialog opens.



   Add OpenMAM Server Dialog

3. Select the **XPression Maps** option and select **OK**.

   The **XPression Maps Server** dialog opens.



XPression Maps Server Dialog

4. In the **Server ID** section, in the **ID** field, enter the name of the server that is running XPression Maps.

   You can find this address in the XPression Maps main application in **File > Preferences > Web Interface**, in the **Web Template Database** section, in the **Hostname** field. Do not include **http://** or anything after **.rossvideo.com**.

5. In the **Description** field, enter a user-readable name, for example, `XPression Maps Server` to identify the server.

6. In the **Connection Settings** section, in the **Server URL** field, enter the same information as in the **Server ID** field.

7. In the **Plugin App** field, enter the path to the **XPression Maps HTML5 Client** application executable file.

   Typically this path is **C:\XPressionMapsWebClient\XPressionMapswebclient.exe**.

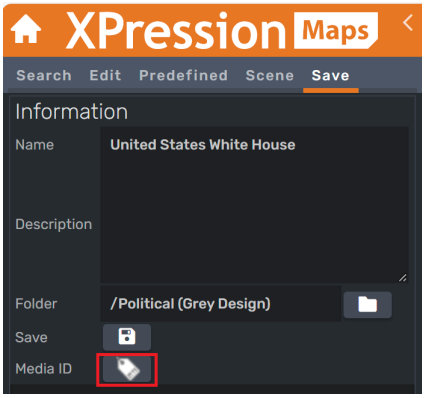
8. Then select **OK** and in the **OpenMAM Setup** dialog, click **OK** again.

To drag a scene into a host application:

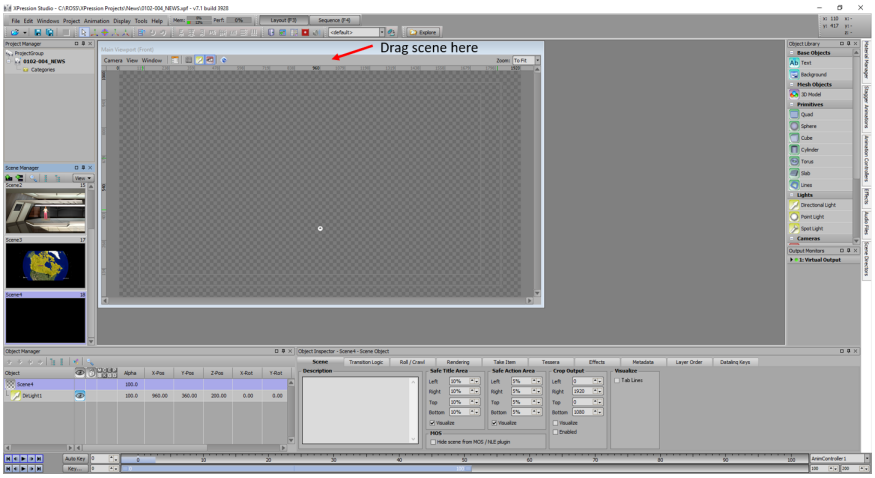
1. Open a project in the host application (XPression Studio, for example) and add a new blank scene.
2. Launch the **XPression Maps HTML5 Client** application.
3. In the **HTML5 Client** application, from the **Saved** tab, navigate to the scene you want to bring into the host application.

   The scene must be saved before you drag it into the host application.

4. Select the scene and in the **Save** tab, click and hold the mouse button down on the **Media ID** icon and drag the cursor into the XPression scene.

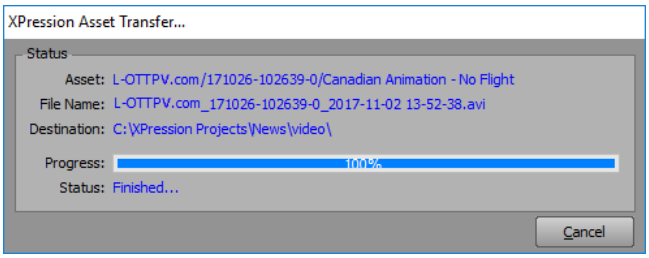


HTML5 Client - Media ID Icon



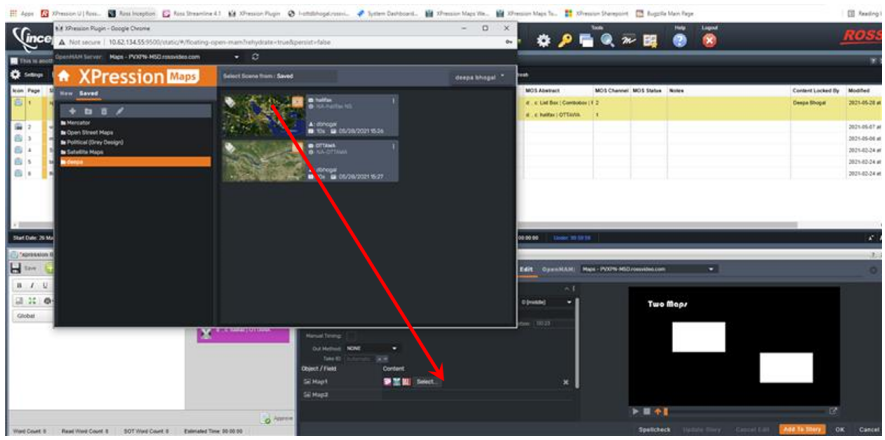
Menu Bar of Viewport in XPression Studio

The **Asset Transfer** progress dialog appears and closes when the transfer is complete.



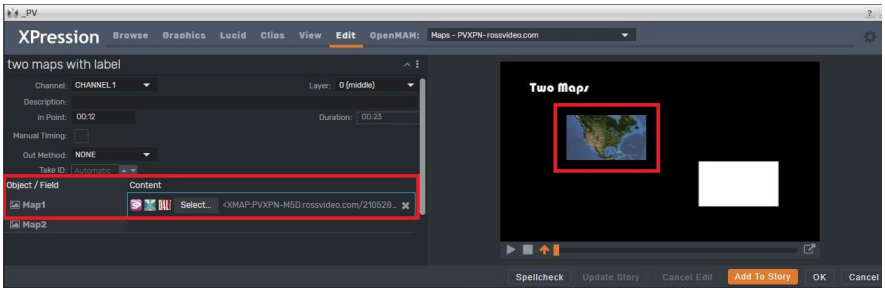
Asset Transfer Progress Dialog

Alternatively, with the **HTML5 Plugin** open in your news room system, you can just drag a saved map straight from the **HTML5 Client** into the **Object/Field Content** section in the plugin, as shown below:



Dragging into the HTML5 Plugin

The map appears in the **Preview** pane of the **HTML5 Plugin** and the video can be viewed.



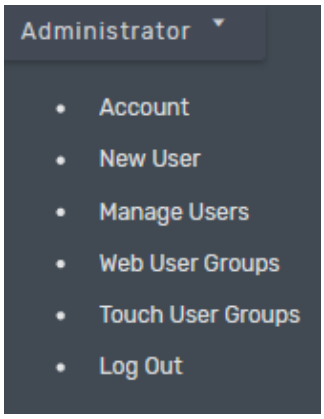
Map Added to the HTML5 Plugin

User Management

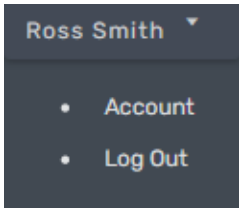
XPression Maps supports the management of user accounts and privileges for the **XPression Maps HTML5 Client** and **XPression Maps Touch Client**. A drop-down menu in the top-right corner of both clients allows an administrator or superuser to add or delete users, assign them to user groups and edit their account information.

This menu is also used to log out of the client.

Any user can use this feature to change their account password.



User Management Menu (Administrator and Superuser)



User Management Menu (All Other Users)

The following topics are discussed in this section:

Managing Users

There are a number of operations that the administrator can perform, as follows:

Adding users and assigning them to groups 332

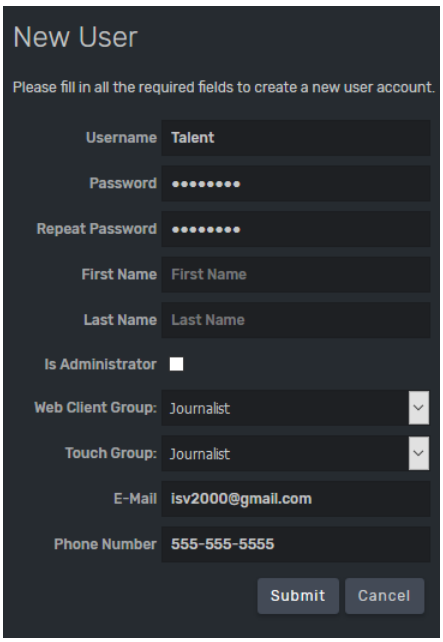
Deleting users 332

Editing user details 332

To add a user:

1. From the **User Management Menu**, select **New User**.

   The **New User** form opens.



User Management - New User Form

2. Enter the **Username**, **Password**, **First Name** and **Last Name** of the new user.
3. If the user will be an administrator, select the **Is Administrator** checkbox.
4. From the **Web Client Group** drop-down, assign the user to a user group.
5. For more information on user privileges, see Managing Groups 336.

   The user groups and default privileges are:

   - **Artist** — Delete Saved Scenes
   - **Journalist** — None
   - **Producer** — Manage Saved Folders / Delete Saved Scenes
   - **Production** — None
   - **Superuser** — Manage Saved Folders / Delete Saved Scenes

6. Similarly, from the **Touch Group** drop-down, assign the user to a user group.

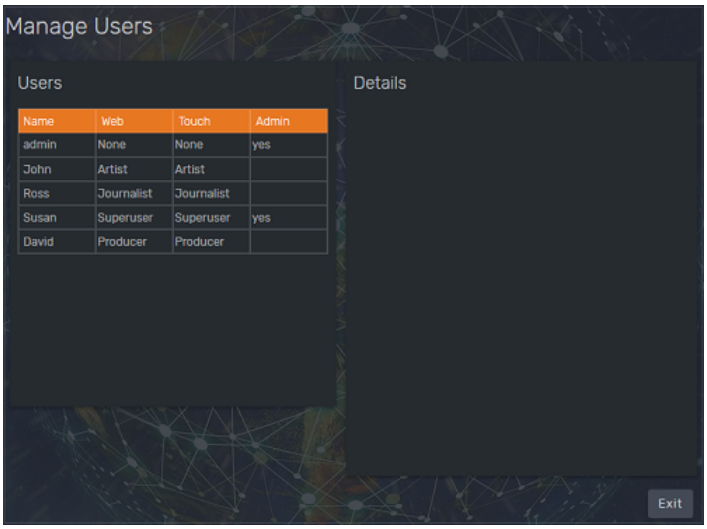
   The user groups and default privileges are:

   - **Artist** — All Users Scenes / Change Home / Load Scene
   - **Journalist** — Change Home / Load Scene
   - **Producer** — All Users Scenes / Change Home / Load Scene / Use Controls
   - **Production** — All Users Scenes / Change Home / Load Scene
   - **Superuser** — All Users Scenes / Change Home / Load Scene / Use Controls
7. In the **E-Mail** field, enter an e-mail address for the user (required).
8. In the **Phone Number** field, enter a phone number for the user (optional).
9. Select **Submit** to add the user.

To delete a user:

1. From the **User Management Menu**, select **Manage Users**.

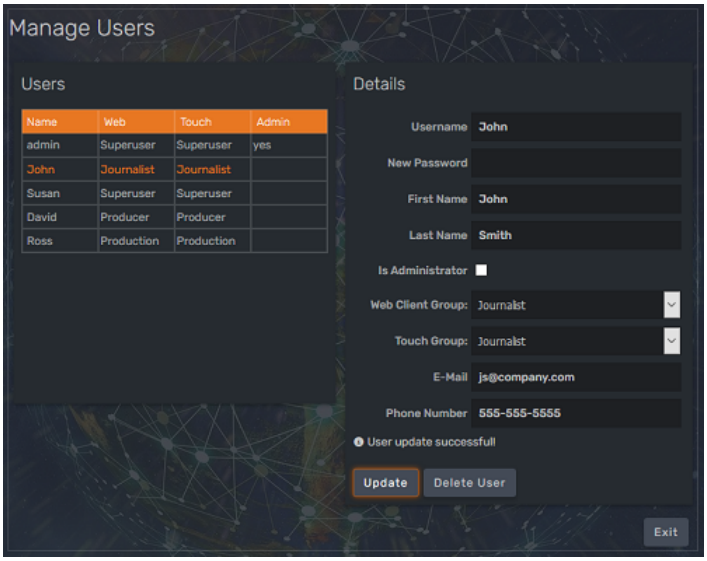
   The **Manage Users** screen is displayed.



User Management - Manage Users

2. In the **Users** list, select the user you want to delete.

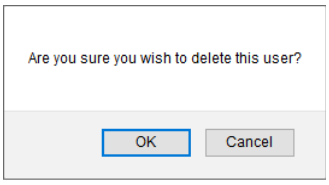
   The **Details** panel is populated with the user's information.



User Management - User Details

3. In the **Details** panel, select **Delete User**.

   A confirmation dialog opens.



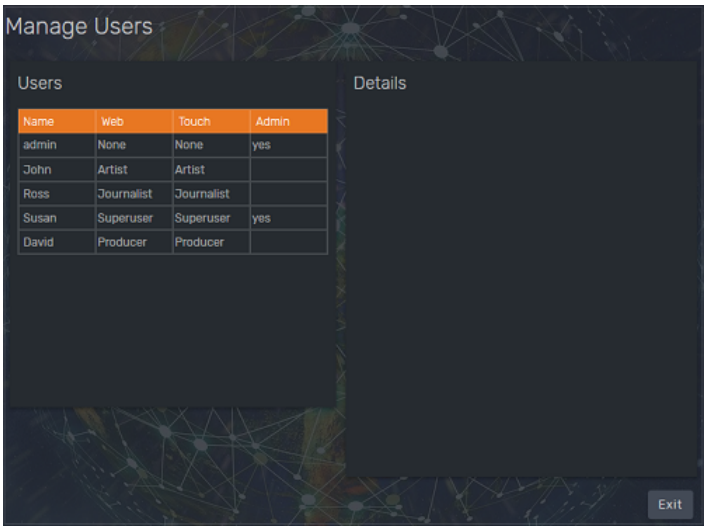
Web and Touch Client - Delete User Confirmation

4. Select **OK**.
5. Select **Exit** to close the **Manage Users** screen.

To edit user details:

1. From the **User Management Menu**, select **Manage Users**.

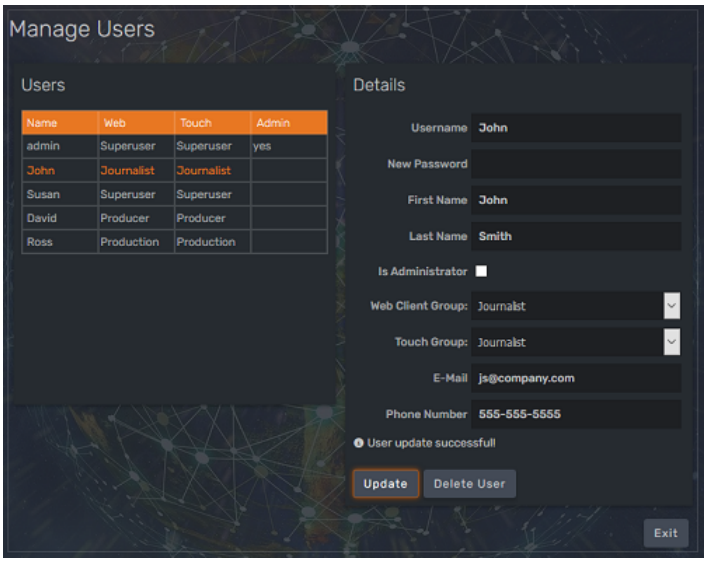
   The **Manage Users** screen is displayed.



User Management - Manage Users

2. From the **Users** list, select the user whose information you want to edit.

   The **Details** panel is populated with the user's information.



User Management - User Details

3. Edit the user details as necessary and select **Update**.

   A message appears above the **Update** button, indicating that the update was successful.

4. Select **Exit** to close the **Manage Users** screen.

Managing Groups

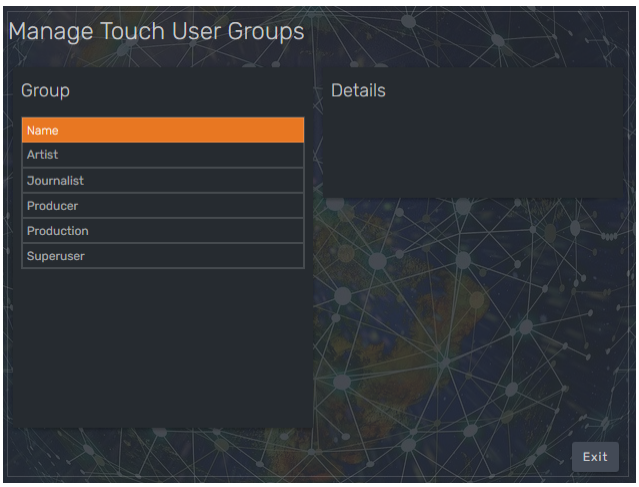
Users can be assigned to **Web User Groups** or **Touch User Groups** or both. Within those groups, they can be further assigned to one of a number of sub-groups:

A sub-group of users can have the right to manage scene folders and/or delete saved scenes, as determined by the administrator.

To edit user groups:

1. From the **User Management Menu**, select **Web User Groups** or **Touch User Groups**.

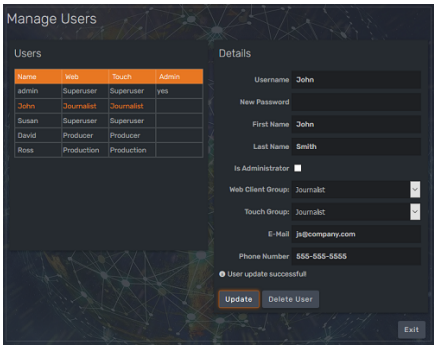
   The **Manage User Groups** screen for that group is displayed.



User Management - Manage User Groups

2. Select the sub-group you want to edit.

   The **Details** panel is populated with the group's details.



User Management - User Group Details

3. In the **Details** panel, select or deselect the check boxes to assign privileges to the group.

   In the **Web User Groups**, the options are:

   - **Manage Saved Folders** — the user will be able to add and delete Group folders and Sub-folders and edit the folder names.
   - **Delete Saved Scenes** — the user will be able to delete scenes from the Saved tab.

   In the **Touch User Groups**, the options are:

   - **All Users Scenes** — The user can load scenes created by anyone. If this option is unchecked, the user will only be able to load scenes they've created themselves.
   - **Change Home** — The user can change the location of the **Home Position** scene by manipulating the globe.
   - **Load Scene** — The user can load a saved scene.
   - **Use Controls** — The user can use the playout controls to manage the scene animation. If this option is unchecked, the **Control** tab is removed.
4. Select **Update** to save your changes.
5. Select **Exit** to close the **Manage Web User Groups** or **Manage Touch User Groups** screen.

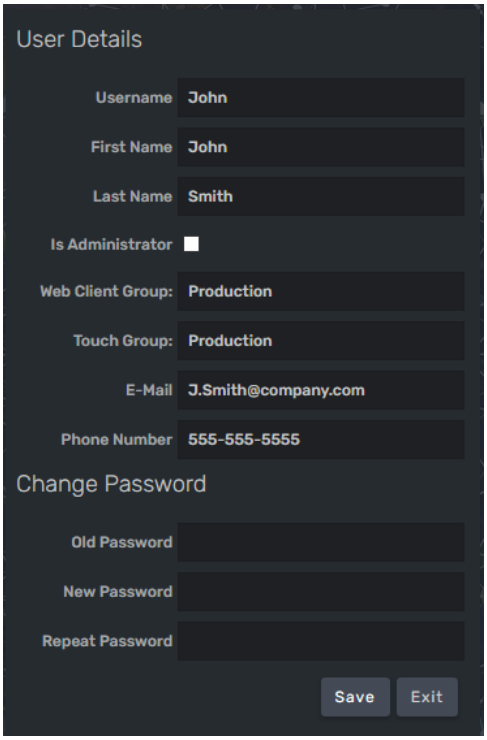
Changing your Password

Any user can change their own password.

To change your password:

1. From the **User Management Menu**, select **Account**.

   The **User Details** screen opens.



   HTML5 and Touch Client - Change Password

2. In the **Change Password** section, enter your current password and then enter your new password twice.
3. Select **Save** and then click **Exit** to close the **User Details** screen.

Appendix A: Keyboard Shortcuts

Shortcuts for the following menus and windows are included in this section:

File Menu Shortcuts

Command	Shortcut
New	CTRL+N
Open	CTRL+O
Save	CTRL+S
Save As	CTRL+SHIFT+S
Export	CTRL+E
Open Recent Used	CTRL+0...4
Exit	CTRL+Q

Edit Menu Shortcuts

Command	Shortcut
Undo	CTRL+Z
Redo	CTRL+Y
Copy Drawing	CTRL+C
Cut Drawing	CTRL+X
Paste Drawing	CTRL+V
Move Drawing to Top	CTRL+Page Up
Move Drawing Up	CTRL+Up
Move Drawing Down	CTRL+Down
Move Drawing to Bottom	CTRL+Page Down
Next Animation Key Frame	CTRL+Right Arrow
Previous Animation Key Frame	CTRL+Left Arrow
Add Camera Key Frame	CTRL+,
Add Drawing Key Frame	CTRL+.
Delete Selected Key Frames	CTRL+D

Output Window Shortcuts

Command	Shortcut
Snapshot	CTRL+P
Record Animation	CTRL+R

Animation Menu Shortcuts

Command	Shortcut
Rewind Animation	CTRL+B
Play Animation	CTRL+Space Bar
Continue Animation	CTRL+G
Stop Animation	CTRL+H
Forward Animation	CTRL+M

Output Window Shortcuts

Command	Shortcut
Toggle Framerate Display	F
Select Previous Point (shape, area object, or line object)	Left Arrow
Select Next Point (shape, area object, or line object)	Right Arrow
Delete drawing or point (shape, area drawing, line drawing)	Delete
To enter Full Screen Mode	F1

Appendix B: Managing Network Security

Secure Sockets Layer (SSL) protocol protects sensitive information as it travels across computer networks. It provides privacy, critical security and data integrity.

This section describes how to enable the **SSL** protocol in **XPression Maps**.

An **SSL** certificate must be purchased and installed on the **XPression Maps Gateway** and in the **XPression Maps** application. Purchase an **SSL** certificate from a trusted root authority (our certificates are purchased from DigiCert, so these instructions will use the steps for DigiCert as an example).

Buying an SSL Certificate

To purchase an **SSL** certificate, a **CSR** file must be generated and sent to the certificate authority. The **CSR** file describes the server machine that will hold the certificate as well as your **Company** and **Organization** details.

The **CSR** can usually be generated using a tool provided by the certificate authority (or they will provide documentation on how to generate the CSR).

Installing the SSL Certificate

The certificate authority will provide you with the **SSL** certificate files.

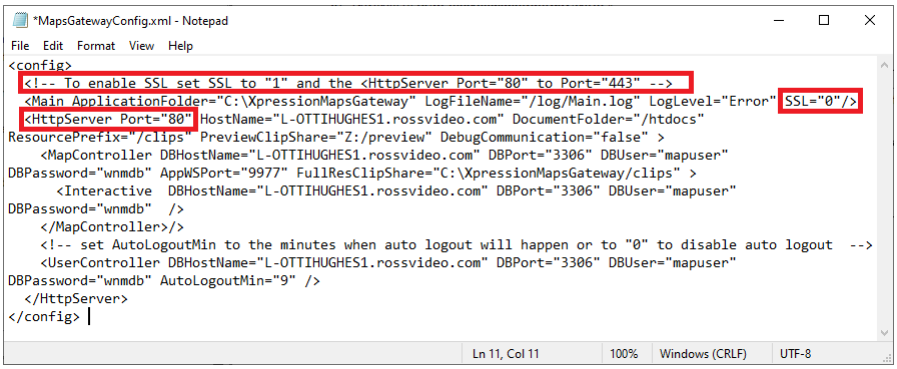
Once the certificates have been installed, they must be configured and bound to the ports used by the **XPression Maps Gateway** and the **XPression Maps** application.

To install the certificates:

- Copy the **Security Certificate (.crt)** and the **KEY** file **(.key)** into the following locations:
  - C:\XPressionMaps_3.x\bin64\certs
  - C:\XPressionMapsGateway\certs

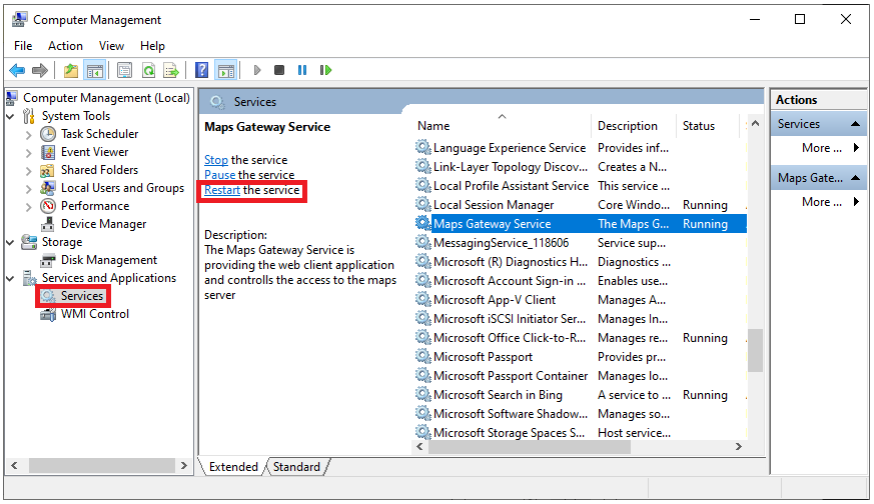
To configure the Maps Gateway:

1. Navigate to **C:\XPressionMapsGateway\bin64\ and double-click the MapsGatewayConfig.xml** file.



MapsGatewayConfig.xml

2. In the editor, change the **SSL** value to **1** and the **HttpServer Port** to **443**.
3. Select **File > Save**.
4. Open the **Windows Computer Management** application and from **Services and Applications**, select **Services > Maps Gateway Service**.



Maps Gateway Service

5. In the **Services** pane, click **Restart** the service.

To configure XPression Maps:

1. Launch the **XPression Maps** application.
2. Go to **File > Preferences > Web Interface**.
3. In the **Web Server Details** section, select the **SSL** checkbox.
4. In the **Web Gateway** section, change the **UI Port** from **80** to **443**.
5. Select **OK** and relaunch the application.

Appendix C: Third Party Licenses

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FreeType		FreeType Project License FreeType Font Engine License 355
GDAL/OGR		GDAL/OGR License 358
GStreamer	1.0	GNU Library General Public License 362
GTS		GNU Library General Public License 368
ImageMagick		GNU Library General Public License 374
Libav		GNU Lesser General Public License 378
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Specifically, the GPL parts of FFmpeg are:

- libpostproc

- optional x86 optimization in the files

    - `libavcodec/x86/flac_dsp_gpl.asm`

    - `libavcodec/x86/idct_mmx.c`

    - `libavfilter/x86/vf_removegrain.asm`

- the following building and testing tools

    - `compat/solaris/make_sunver.pl`

    - `doc/t2h.pm`

    - `doc/texi2pod.pl`

    - `libswresample/swresample-test.c`

    - `tests/checkasm/*`

    - `tests/tiny_ssim.c`

- the following filters in libavfilter:

    - `vf_blackframe.c`

    - `vf_boxblur.c`

    - `vf_colormatrix.c`

    - `vf_cover_rect.c`

    - `vf_cropdetect.c`

    - `vf_delogo.c`

    - `vf_eq.c`

    - `vf_find_rect.c`

    - `vf_fspp.c`

    - `vf_geq.c`

    - `vf_histeq.c`

    - `vf_hqdn3d.c`

- `vf_interlace.c`

- `vf_kerndeint.c`

- `vf_mcdeint.c`

- `vf_mpdecimate.c`

- `vf_owdenoise.c`

- `vf_perspective.c`

- `vf_phase.c`

- `vf_pp.c`

- `vf_pp7.c`

- `vf_pullup.c`

- `vf_repeatfields.c`

- `vf_sab.c`

- `vf_smartblur.c`

- `vf_spp.c`

- `vf_stereo3d.c`

- `vf_super2xsai.c`

- `vf_tinterlace.c`

- `vf_uspp.c`

- `vsrc_mptestsrc.c`

Should you, for whatever reason, prefer to use version 3 of the (L)GPL, then the configure parameter `--enable-version3` will activate this licensing option for you. Read the file `COPYING.LGPLv3` or, if you have enabled GPL parts, `COPYING.GPLv3` to learn the exact legal terms that apply in this case.

There are a handful of files under other licensing terms, namely:

- The files `libavcodec/jfdctfst.c`, `libavcodec/jfdctint_template.c` and `libavcodec/jrevdct.c` are taken from libjpeg, see the top of the files for licensing details. Specifically note that you must credit the IJG in the documentation accompanying your program if you only distribute executables.

  You must also indicate any changes including additions and deletions to those three files in the documentation.

- `tests/reference.pnm` is under the expat license.

External libraries

FFmpeg can be combined with a number of external libraries, which sometimes affect the licensing of binaries resulting from the combination.

Compatible libraries

The following libraries are under GPL:

- frei0r

- libcdio

- librubberband

- libvidstab

- libx264

- libx265

- libxavs

- libxvid

When combining them with FFmpeg, FFmpeg needs to be licensed as GPL as well by passing `--enable-gpl` to configure.

The OpenCORE and VisualOn libraries are under the Apache License 2.0. That license is incompatible with the LGPL v2.1 and the GPL v2, but not with version 3 of those licenses. So to combine these libraries with FFmpeg, the license version needs to be upgraded by passing `--enable-version3` to configure.

Incompatible libraries

There are certain libraries you can combine with FFmpeg whose licenses are not compatible with the GPL and/or the LGPL. If you wish to enable these libraries, even in circumstances that their license may be incompatible, pass `--enable-nonfree` to configure. But note that if you enable any of these libraries the resulting binary will be under a complex license mix that is more restrictive than the LGPL and that may result in additional obligations.

It is possible that these restrictions cause the resulting binary to be unredistributable.

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gdal/frmts/gtiff/tif_float.c

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gdal/frmts/pcraster/libcsf

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gdal/ogr/ogrsf_frmts/dxf/intronurbs.cpp

This code is derived from the code associated with the book "An Introduction to NURBS" by David F. Rogers. More information on the book and the code is available at:

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gdal/alg/thinplatespline.cpp

IEEE754 log() code derived from: @(#)e_log.c 1.3 95/01/18

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Version 2, June 1991

[This is the first released version of the library GPL. It is numbered 2 because it goes with version 2 of the ordinary GPL.]

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- the X11 grabber in libavdevice/x11grab.c
- the texi2pod.pl tool
- the following filters in libavfilter:
  - vf_blackframe.c
  - vf_boxblur.c
  - vf_cropdetect.c
  - vf_delogo.c
  - vf_hqdn3d.c
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- The files libavcodec/jfdctfst.c, libavcodec/jfdctint_template.c and libavcodec/jrevdct.c are taken from libjpeg, see the top of the files for licensing details. Specifically note that you must credit the IJG in the documentation accompanying your program if you only distribute executables. You must also indicate any changes including additions and deletions to those three files in the documentation.

external libraries

Libav can be combined with a number of external libraries, which sometimes affect the licensing of binaries resulting from the combination.

compatible libraries

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incompatible libraries

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Version 2.1, February 1999

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