Raiden

User Guide

Version 2.1



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.)*

Raiden User Guide

- Ross Part Number: 3800DR-001
- Version: 2.1
- Date/Time: 9/24/2026 8:47 AM
- Document Revision: 1

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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.

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IMPORTANT:

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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.

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"**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).

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   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.

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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.

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    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.

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    (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

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(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.

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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 flow-down provisions required by any customer of Licensee that is a Governmental Authority unless Ross Video expressly agrees to be bound by such flow-down provisions in writing.

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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.

Updated: November 1, 2023

Warranty and Repair Policy

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

- Raiden Server — 12 months
- Raiden 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 Raiden 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.

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Technical Support:	(+1) 613-686-1557
Australia/Sydney Local Support:	1300 007 677*
E-mail for Technical Support:	techsupport@rossvideo.com
E-mail for General Information:	solutions@rossvideo.com
Website:	http://www.rossvideo.com

*If the local support specialist is not available, your call will be transferred automatically to our North America center.

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Introduction

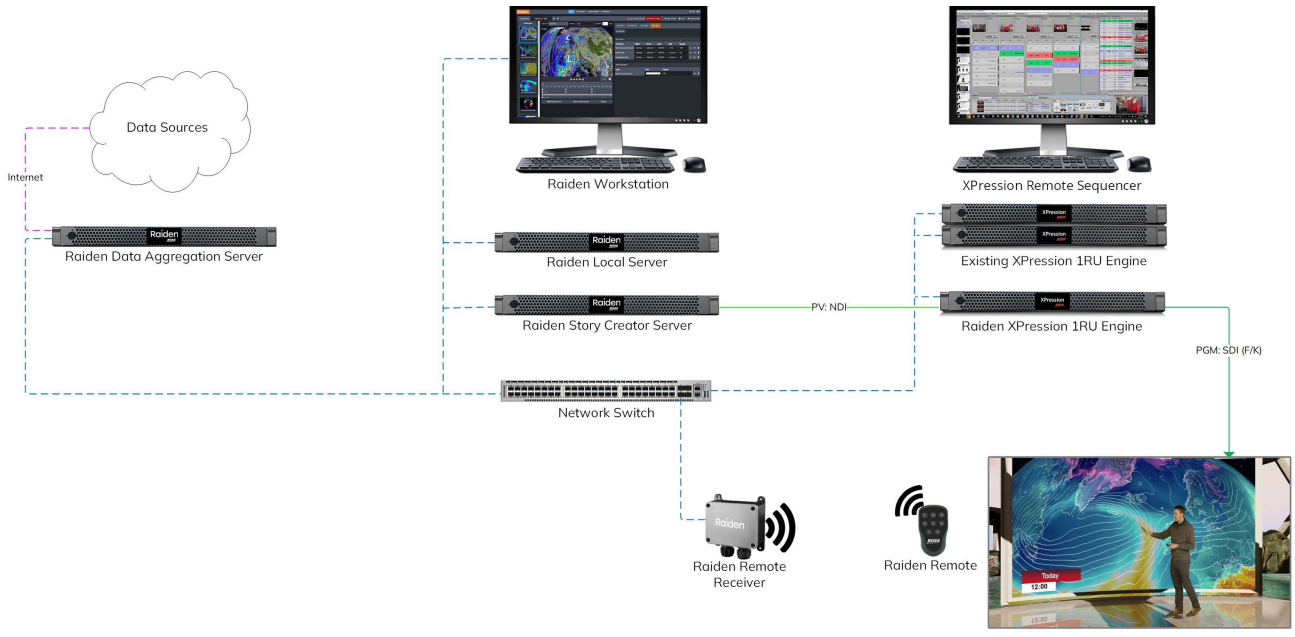
Congratulations on your selection of Raiden, Ross Video's weather broadcast software solution. Raiden is a suite of applications that enables you to extract and localize weather data from a number of data sources and export the data to a renderer (such as XPression or Voyager), a Media Asset Management system (such as Streamline), a DataLinq Server, or to the Raiden Story Creator.

Raiden brings ease-of-use to working with complex graphics applications by means of its weather story creation platform, the Story Creator. The Story Creator is a user-friendly platform that interacts with either XPression or Voyager, enabling users to customize visual representations of weather data and create accurate weather stories.

Raiden is compatible with XPression and Voyager.

The Raiden platform consists of these main components:

- The **Data Aggregator Server** retrieves and processes raw weather data from sources such as the National Centers for Environmental Prediction (NCEP), Global Forecast System (GFS), the Storm Prediction Center, the USA High Resolution Window and others.
- The **Local Server** calls the Data Aggregator Server for data specific to a region or point of interest and then outputs that data to various graphical endpoints.
- The **Story Creator** is a web-based tool that enables users to quickly build or update weather stories, and publish rundowns to a graphics engine, such as XPression.



Raiden Flowchart

About This Guide

This guide covers the use of Raiden. Raiden is a multi-component application, each of which is described in the following sections:

Data Aggregator Server 7: provides a description of the Data Aggregator Server user interface and instructions on how to configure the server to retrieve and pre-process weather data.

Local Server 41: provides a description of the Local Server user interface and instructions for using the server.

Raiden Story Creator 87: provides a description of the Story Creator user interface and instructions for using the application.

If you have questions regarding Raiden, please contact us at the numbers listed in the section Contacting Technical Support. Our technical staff is always available for consultation, 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.
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`.
Menu Sequences	Menu arrows are used in procedures to identify a sequence of menu items that you must follow. For example: If a step reads **Server > Save As**, you would select the **Server** menu and then select **Save As**.
Hypertext	Identifies a hyperlink to a related topic.

Getting Help

Raiden documentation is provided with the installation package. For additional assistance please contact Technical Support.

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:

- 1-613-686-1557
- 1 833-859-0499 (Toll free within North America)
- +800 3540 3545 (Toll free International)
- 1300 007 677 (Australia/Sydney)*
- E-mail: techsupport@rossvideo.com
- Website: http://www.rossvideo.com

*If the local support specialist is not available, your call will be transferred automatically to our North America center.

Installation Notes

Java Platform

The Raiden weather application is built on top of Azul Zulu Java 21 LTS. This version is included in the installation software and is automatically installed.

Requirements

Raiden has the following requirements:

Data Aggregator Server

- CPU: 3.0 GHz 8 Cores or higher
- Memory: 32 GB or higher
- Storage: 512 GB or higher
- Operating System: Windows 10/11
- Requires internet connection for data acquisition.

Local Server

- CPU: 3.0 GHz 12 logical processors or higher
- Memory: 64 GB or higher
- Storage for OS: 256GB or higher
- Storage for Media Drive: 2TB or higher
- Operating System: Windows 10/11
- Requires internet connection for the web map imagery.

Story Creator:

- CPU: 2.9 GHz 8 logical processors or higher
- Memory: 16 GB or higher
- Storage: 256 GB or higher
- Operating System: Windows 10/11
- Recommended Browser: Chrome Version 117
- Recommended Screen Resolution: 1920 x 1080 or higher

Each Meteorologist Client PC (recommended):

- OS: Windows 10/11
- Browser: Google Chrome
- Memory: 8GB or higher
- Disk drive: 256GB or higher
- CPU: Intel i7 2.0Ghz or higher
- Screen Resolution: 1920 x 1080 or higher

Installation and Configuration

- Ensure the above requirements are met prior to installation.
- A qualified Ross Video technician will assist you with the installation and configuration process.
- Administrative privileges are required to configure Raiden.

Data Aggregator Server

The Data Aggregator Server extracts weather data from various sources, processes the data and feeds it to one or more Local Servers when requested.

Data sources in the following file formats are supported:

- GeoJSON
- GRIB
- GRIB2
- JSON
- KML
- NetCDF
- XML

★Other file format types may be supported upon request.

The Data Aggregator has a Web user interface that supports multiple languages and responsive HTML.

Once the Data Aggregator has been set up, it will update the data automatically based on the frequency selected when configuring the data source (such as up to every 6 hours for a global scale model).

The following topics are covered in this section:

Accessing the Data Aggregator Server 8

Forecast 11

Observations 15

Preview styles 24

Endpoints 28

Statistics 32

Configuration 33

★Administrative privileges are required to configure the Data Aggregator server. Standard users have read-only access.

Accessing the Data Aggregator

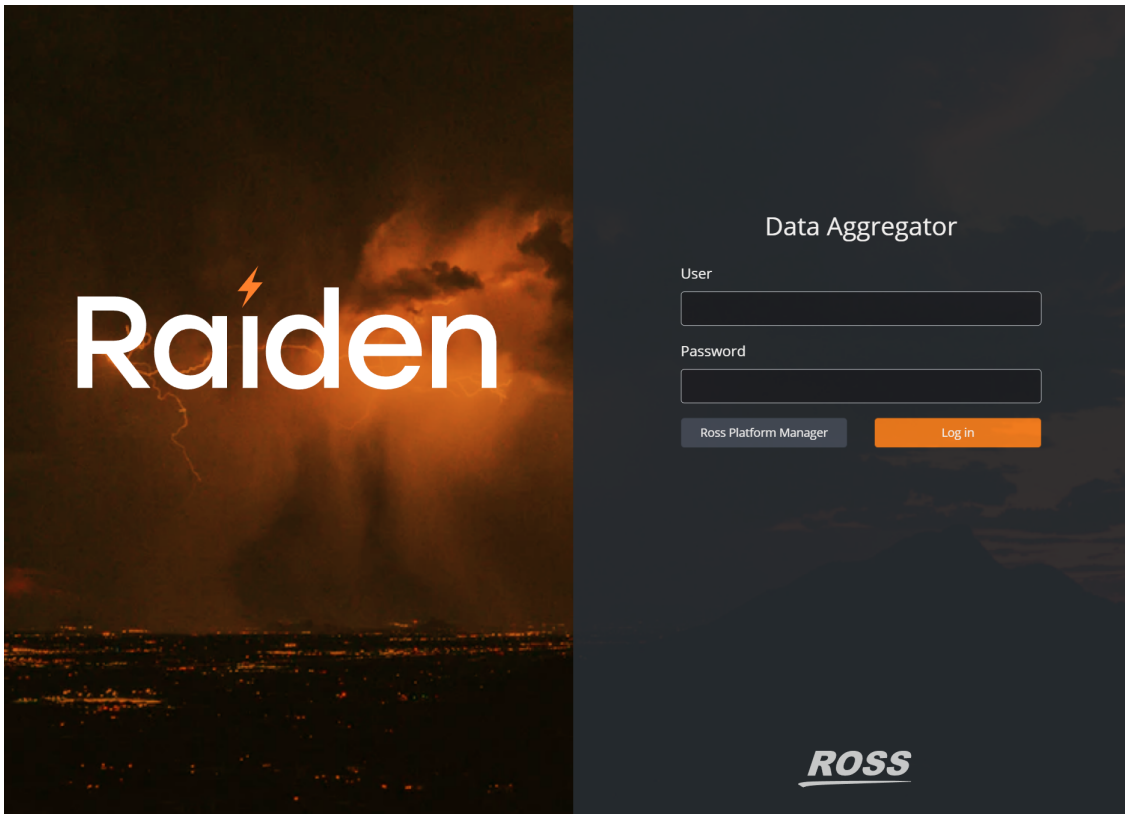
This section provides instructions for accessing the Data Aggregator Server.

To access the Data Aggregator Server:

1. Open a Web browser.
2. In the **URL** field enter the IP address of the Data Aggregator Server followed by the port number through which you will be communicating with the Local server (**xx.xx.xxx.:8082**).

   The default port is **8082**, but you can use another port as long as you make sure that the same port is entered in the URL of the Local server.
3. Press **Enter**.

   You will be taken to the Data Aggregator Server **Login** page.



Data Aggregator Login Page

4. Log in with the default **User** name and **Password** provided by Ross Video.
5. To ensure the security of your account, it is recommended that you change your **Password**.

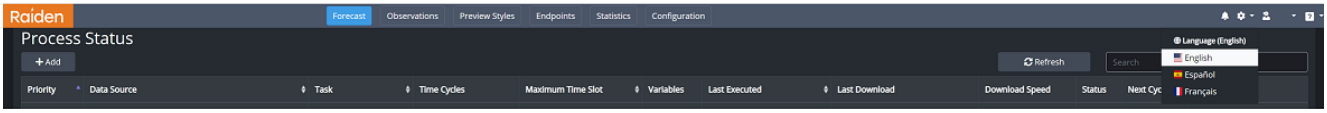
★For instructions on how to change your **Password**, see Changing Your Password 10.

To log out of the Data Aggregator Server:

- In the top-right corner of the UI, select the arrow beside your username and select **Logout**.

Setting the Display Language Preferences

This section provides instructions for setting the user-specific language preferences for the Data Aggregator's web user interface. For instructions on setting the default language for your organization see, Data Visualization 36.



Data Aggregator Home Page - Display Language Options

To set the web interface display language:

- In the top-right corner, select the arrow beside the **Language** icon and select the language you want to use.

  The options are:

  - **English** — Default
  - **Español**
  - **Français**

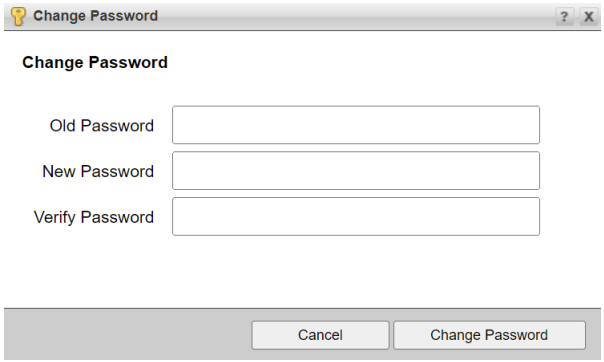
Changing Your Password

If you need to change your password, you can do so through the Ross Platform Manager (RPM). The Ross Platform Manager is a web based application that supports common administrative functions (such as licenses and user access) for Ross products.

★You will need your current Raiden User name and Password to access RPM. If you do not know your current User name and Password, you will need to contact your System Administrator to recover your login credentials.

To change your User name and Password:

1. In the **Data Aggregator Server** login page, select the **Ross Platform Manager** button.
2. Sign in to **RPM** with your Raiden login credentials.
3. In the navigation bar at the top of your screen, select the  **Tools** button.
4. The **Change Password** dialog opens.



RPM Change Password Dialog

5. In the **Old Password** field, enter your old password.
6. In the **New Password** field, enter a new password.
7. In the **Verify Password** field, re-enter the new password.
8. Select **Change Password**.

   The **Password** confirmation dialog will appear.
9. Select **OK**.

Forecast

In the **Forecast** section, you can add and configure download tasks and pre-process those tasks so that they are ready to be sent to the Local Server 41 when requested.

Creating a Forecast Download Task

The first step is to create a **Download Task** for a **Forecast** data source. Once you have created a download task, you can modify the task as needed.

★**Warning**: Configuring too many download tasks may exceed the server's data limits and cause server-related performance issues. It is recommended that you select only the data you will need for broadcast.

To add a download task:

1. In the **Forecast** section, select the **+Add** button.
2. In the **New Download Task** dialog, enter a name for the task.
3. From the **Data Source** drop-down, select a data source.

   The drop-down list displays unassigned data sources to select from. Data sources previously assigned to other download tasks are removed from the drop-down list.
4. In the **Priority** field, enter or select a Priority number for the task, which determines the processing order on the Data Aggregator and all connected Local Servers.
5. Use the **+** and **-** buttons to zoom in or out on the area of the preview map to view the data source's coverage area.

   Alternatively, you can use the scroll wheel on your mouse to zoom in and out.

   If the area of interest is covered by the selected **Data Source**, continue with the next step. Otherwise, select a different **Data Source**.
6. Scroll down the dialog to **Time Cycles** and select the **Time Cycles** you want downloaded and processed.
7. From the **Maximum Time Slot** drop-down, select the **Maximum Time Slots** you want, which will be the maximum number of timeslots for which **Forecast** data is requested.

   For example, 2d 00:00 represents two full days of model data, and all forecast hours up to that point will be acquired.

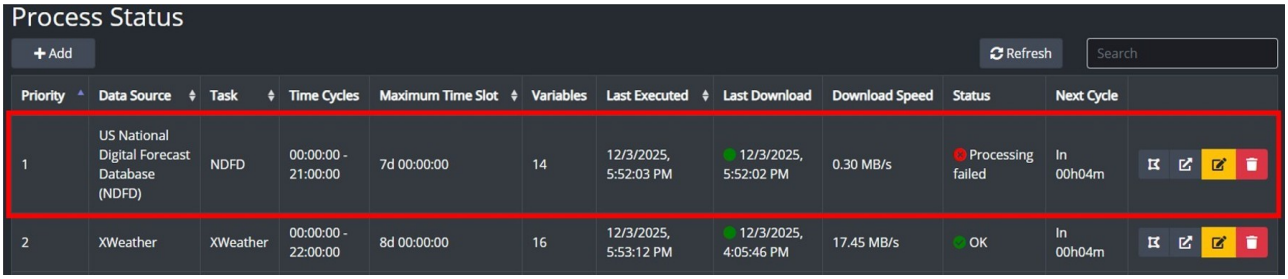
★**Warning**: Requesting data for too many time slots may exceed the server's data limit and cause server-related performance issues. It is recommended that you select only the data you will need for broadcast.

8. In the **Variables** section, select the variables you want acquired.

9. Select **Create** to save the settings.

   The new **Download Task** is added to the **Process Status** list in the position that matches its assigned Priority value.

   The list automatically sorts by Priority, with lower numbers indicating higher priority, and the column can be manually re-sorted.



Process Status - New Download Task

To modify a download task

1. From the **Process Status** list, locate the download task you want to modify, and select the **Edit** button.

   The **Modify Download Task** dialog appears, showing the settings that can be modified.

2. When you have made the modifications that you want, select the **Modify** button.

   The modifications will be added to the specified download task.

To delete a download task:

1. From the **Process Status** list, locate the download task you want to delete, and select the **Delete** button.

   The **Delete Download Task** confirmation dialog appears.

2. Select **Delete**.

   The **Download Task** will be deleted from the **Process Status** list.

Viewing the Details of a Forecast Download Task

With your download task created, you can now view and filter the results of the task.

To view the details of a specific download task:

- From the **Process Status** list, locate the download task you want to view, and select the **Expand View** button or select the task line.

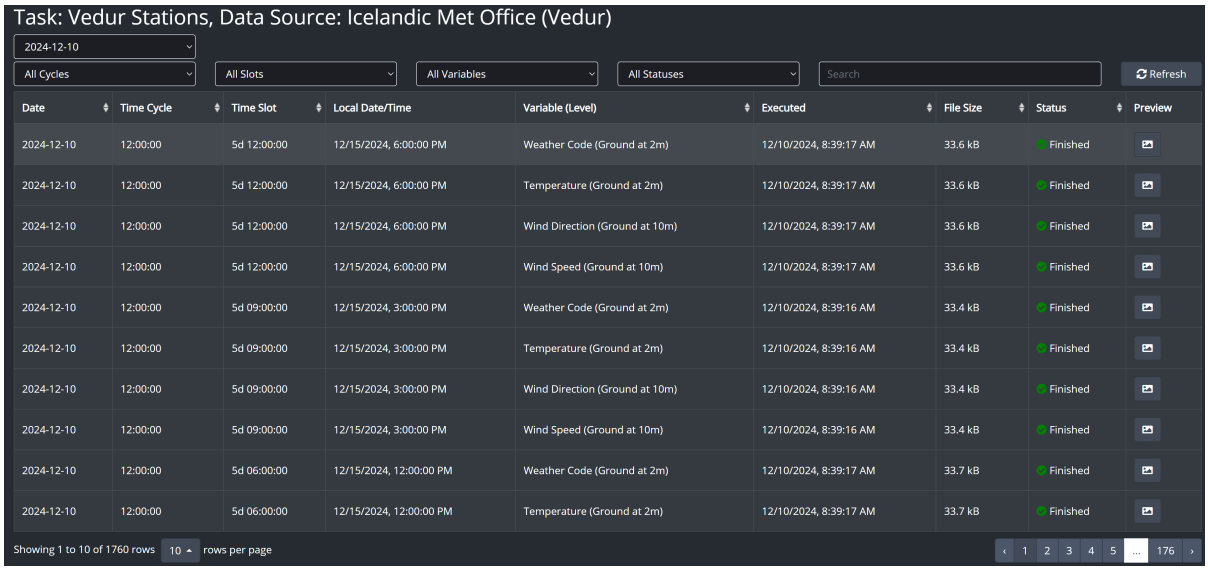
  Alternatively, you can use the **Search** field to search for a task by entering the name of the task and pressing **Enter**.

  The results for the download task will be displayed in the **Task** list.

To filter the download task results:

1. From the **Process Status** list, locate the download task you want to view, and select the **Expand View** button.

   The results for the download task will be displayed in the **Task** list.



Forecast Download Task - Task Results

2. From the **Date** drop-down, select whether to display the results for **All Dates** or for the current date only.
3. From the **Cycles** drop-down, select whether to display the results for **All Cycles** or for a specific cycle.
4. From the **Slots** drop-down, select whether to display the results for **All Slots** or for a specific time slot.
5. From the **Variables** drop-down, select whether you want to display the results for **All Variables** or for a specific variable.
6. From the **Statuses** drop-down, select whether to display the results for **All Statuses** or for a specific status.

   The filtered results will be displayed in the **Task** page.

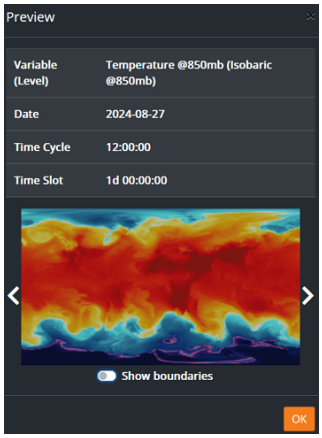
To preview an image for a download task:

1. From the **Process Status** list, locate the **Download Task** for which you want to view available preview images, and select the **Expand View** button.

   The results for the download task will be displayed in the **Task** list.

2. In the **Preview** column, select the **Preview Image** button for the **Task** you want to preview.

   The **Preview** window will appear.



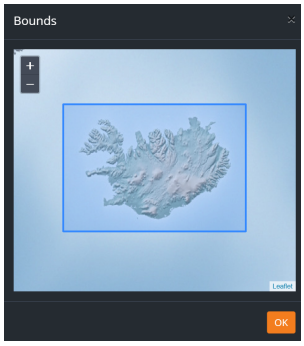
Forecast Download Task - Preview

3. Use the **<** and **>** buttons to view the task changing over time.
4. Use the **Show Boundaries** toggle to show/hide **Boundaries** in the preview.
5. Select **OK** to close the preview.

To view the bounds of a download task:

1. From the **Process Status** list, locate the download task for which you want to view the **Bounds**, and select the **Bounds** button.

   The **Bounds** window will appear.



Forecast Download Task - Bounds Preview

2. Use the **+** and **-** buttons to zoom in and out of the image.

   Alternatively, you can use the scroll wheel on your mouse to zoom in and out.

3. Select **OK** to close the preview.

Observations

In the **Observations** section, you can add and configure download tasks and pre-process those tasks so that they are ready to be sent to the Local Server 41 when requested.

Creating an Observations Download Task

The first step is to create a download task for the **Observations** data source. Once you have created a download task, you can modify the task as needed.

★**Warning**: Configuring too many download tasks may exceed the server's data limits and cause server-related performance issues.

To add an Observation download task:

1. In the **Observations** section, select the **+Add** button.
2. In the **New Download Task** dialog, enter a name for the task.
3. From the **Data Source** drop-down, select a data source.

   The drop-down list displays unassigned data sources to select from. Data sources previously assigned to other download tasks are removed from the drop-down list.
4. In the **Priority** field, enter or select a Priority number for the task, which determines the processing order on the Data Aggregator and all connected Local Servers.
5. Use the **+** and **-** buttons to zoom in or out on the preview map to view the data source's coverage area.

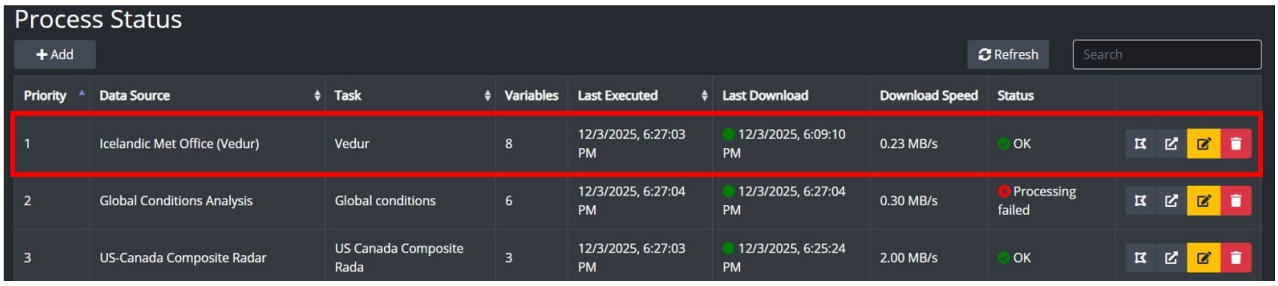
   Alternatively, you can use the scroll wheel on your mouse to zoom in and out.

   If the area of interest is covered by the selected **Data Source**, continue with the next step. Otherwise, select a different **Data Source**.
6. Scroll down the dialog to the **Variables** section**.**
7. In the **Variables** section, select each **Variable** you want displayed.

   ★ **Warning**: Selecting too many Variables may exceed data limits and cause server related performance issues.
8. Select **Create** to save the settings.

   The new **Download Task** is added to the **Process Status** list in the position that matches its assigned Priority value.

   The list automatically sorts by Priority, with lower numbers indicating higher priority, and the column can be manually re-sorted.



Process Status - New Task

To modify an Observations download task:

1. From the **Process Status** list, locate the download task you want to modify, and select the  **Edit** button.

   The **Modify Download Task** dialog appears, showing the settings that can be modified.

2. When you have made the modifications that you want, select the **Modify** button.

   The modifications will be added to the specified **Download Task**.

To delete an Observations download task:

1. From the **Process Status** list, locate the download task you want to delete, and select the  **Delete** button.

   The **Delete Download Task** confirmation dialog appears.

2. Select **Delete**.

   The **Download Task** will be deleted from the **Process Status** list.

Viewing the Details of an Observations Download Task

With your download task created, you can now view the results of the task. You can also view a Preview 18 of the weather map for a selected task and variable, as well as a Bounds map 18 showing the area covered by the task.

To view the details of a specific download task:

- From the **Process Status** list, locate the download task you want to view, and select the **Expand View** button or select the task line.

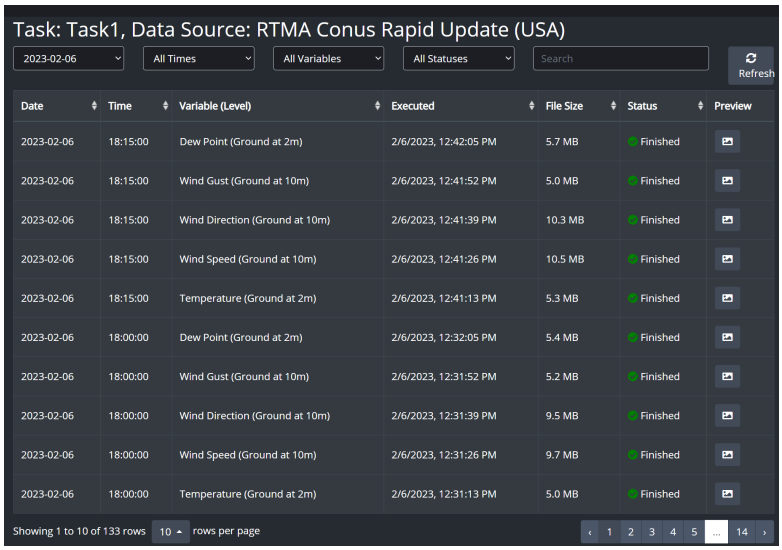
  Alternatively, you can use the **Search** field to search for a task by entering the name of the task and pressing **Enter**.

  The results for the download task will be displayed in the **Task** list.

To filter the download task results:

1. From the **Process Status** list, locate the download task you want to view, and select the **Expand View** button or select the task line.

   The results for the download task will be displayed in the **Task** list.



Observations - Download Task Results

2. From the **Date** drop-down, select whether to display the results for **All Dates** or for the current date only.
3. From the **Times** drop-down, select whether to display the results for **All Times** or for a specific time.
4. From the **Variables** drop-down, select whether you want to display the results for **All Variables** or for a specific variable.
5. From the **Statuses** drop-down, select whether to display the results for **All Statuses** or for a specific status.

   The filtered results will be displayed in the **Task** page.

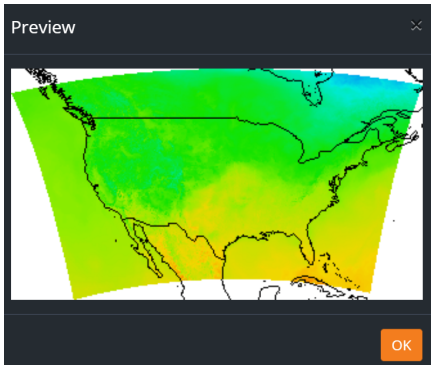
To preview an image for a download task:

1. From the **Process Status** list, locate the **Download Task** for which you want to view available preview images, and select the **Expand View** button.

   The results for the download task will be displayed in the **Task** list.

2. In the **Preview** column, select the **Preview Image** button for the **Download Task** you want to preview.

   The **Preview** window will appear.



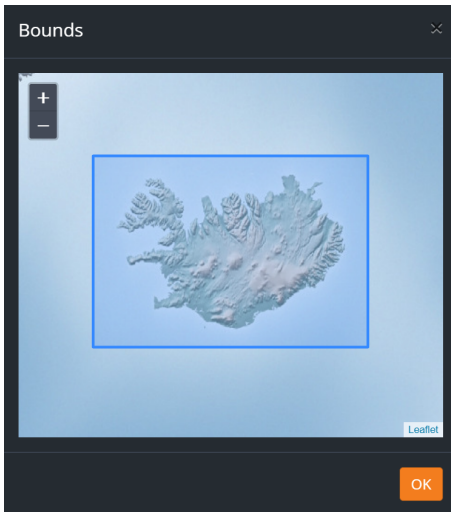
Forecast Download Task - Preview

3. Select **OK** to close the preview.

To view the Bounds of a download task:

1. From the **Process Status** list, locate the **Download Task** for which you want to view the **Bounds**, and select the **Bounds** button.

   The **Bounds** window will appear.



Forecast Download Task - Bounds Preview

2. Use the **+** and **-** buttons to zoom in and out of the image.

   Alternatively, you can use the scroll wheel on your mouse to zoom in and out.

3. Select **OK** to close the preview.

Advisory

The **Advisory** tab in the Data Aggregator is used to configure and manage advisory download tasks for weather warnings and tropical cyclone bulletins from national agencies and data providers. This integration ensures that broadcasters can receive and process critical weather information efficiently.

Advisory download tasks are organized into two tabs:

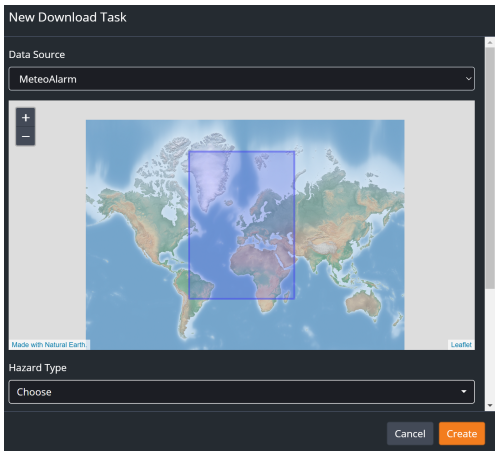
- **Warnings**, which contains weather warning and hazard advisory data.
- **Tropical**, which contains tropical cyclone bulletin data and related storm-tracking variables.

The following procedures explain how to add, modify, and delete Advisory Download Tasks.

To add an Advisory Download Task:

1. In the **Advisory** section, select either the **Warnings** or **Tropical** tab.
2. Select **+ Add**.

   The **New Download Task** window opens.



New Download Task

3. In the **Name** field, enter a name for the download task.
4. From the **Data Source** drop-down, select a data source for the download task.
5. Use the **+** and **-** buttons to zoom in or out on the preview map to view the data source's coverage area.

   Alternatively, you can use the scroll wheel on your mouse to zoom in and out.
6. Scroll below the preview map to configure the task settings.
7. If you are configuring a **Warnings** advisory task:
   a. From the **Hazard Type** drop-down, select **Select All** to include all hazard types, or select **Deselect All** and manually select specific hazards for the download task.
   b. From the **Awareness Level** drop-down, select the awareness level (**Moderate**, **Severe**, **Extreme**) for the hazard types.
   c. From the **Countries** drop-down, select the countries where the advisory should be applied.
   d. From the **Preferred Language** drop-down, select the language for the advisory.

8. If you are configuring a **Tropical** advisory task:

   a. From the **Variables** drop-down, select the variables to download.

9. Select **Create**.

   The download task is added to the **Process Status** list.

To modify a download task:

1. From the **Process Status** list, locate the download task you want to modify, and select the **Modify** button.

   The **Modify Download Task** window appears, displaying the available settings for modification.

   - For **Warnings** advisory tasks, you can modify the selected hazard types, awareness levels, countries, and preferred language.
   - For **Tropical** advisory tasks, you can modify the selected tropical variables.

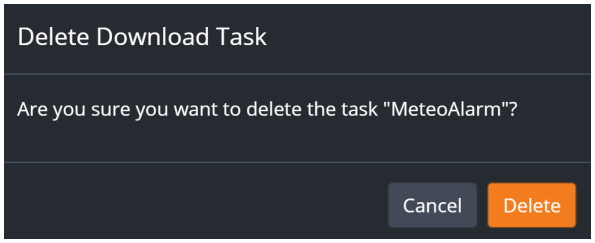
2. When you have made the modifications that you want, select **Modify**.

   The modifications are applied to the specific download task.

To delete a download task:

1. From the **Process Status** list, locate the download task you want to delete and select the **Delete** button.

   The **Delete Download Task** dialog appears.



Delete Download Task Dialog

2. Select **Delete**.

   The download task is deleted from the **Process Status** list.

Viewing the Details of an Advisory Download Task

With your Advisory download task created, you can now view the results of the task. You can also view a preview of the advisory for a selected task, as well as a **Bounds** map showing the area covered by the task.

To view the details of a specific download task:

- From the **Process Status** list, locate the download task you want to view, and select the **Expand View** button or select the task line.

  The results for the download task are displayed.

To filter the download task results:

1. From the **Process Status** list, locate the download task you want to view, and select the **Expand View** button or select the task line.

   The results for the download task are displayed.
2. If you are viewing a **Warnings** advisory task:
   a. From the **Date/Time** drop-downs, select a start and end date and time to define the range for displaying results.
   b. From the **Hazard Types** drop-down, select the hazard you want to view.
   c. From the **Levels** drop-down, select whether you want to display the results for all levels or for a specific level.
   d. From the **Certainties** drop-down, select whether to display the results for all certainties or for a specific certainty.
   e. From the **Urgencies** drop-down, select whether to display the results for all urgencies or for a specific urgency.

   Alternatively, you can use the **Search** field to search for a specific detail of a download task.
3. If you are viewing a **Tropical** advisory task:
   a. From the **Date/Time** drop-downs, select a start and end date and time to define the range for displaying results.
   b. From the **Variables** drop-down, select the variable that you want to view.

   Alternatively, use the **Search** field to search for a specific detail.
4. Select **Refresh**.

   The filtered results are displayed.

To preview an image and details for a download task:

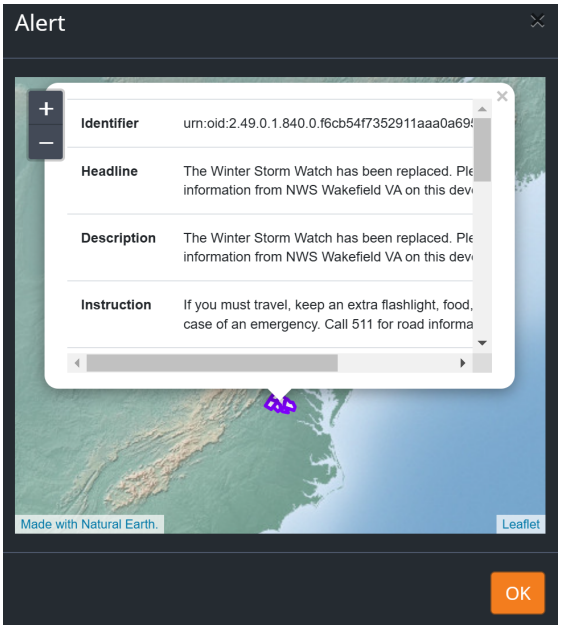
1. From the **Process Status** list, locate the **Download Task** for which you want to view available preview images, and select the **Expand View** button.

   The results for the download task are displayed.

2. In the **Preview** column, select the **Preview Image** button for the task you want to preview.

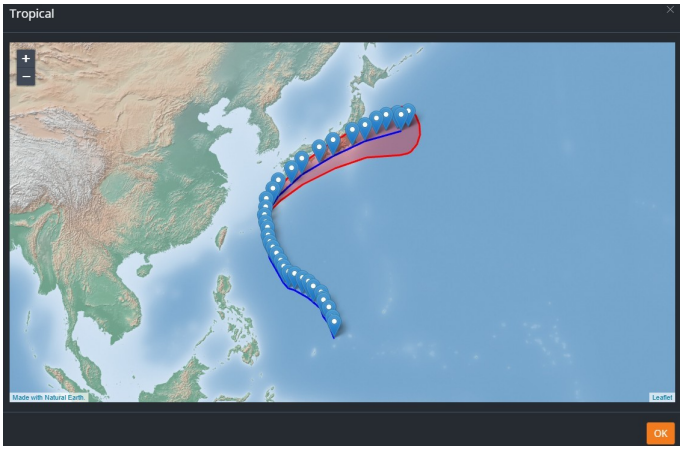
   The preview window appears, displaying the selected advisory data.

   - For **Warnings** advisory tasks, the preview displays a map with the affected area or zone outlined. A dialog box overlays the map, showing advisory details such as the identifier, headline, description, and public instructions.



Warnings Advisory Preview

   - For **Tropical** advisory tasks, the preview displays a map containing tropical storm visualization data, such as storm tracks, forecast positions, and related graphical elements. Click individual points to view a dialog box with additional system detail.



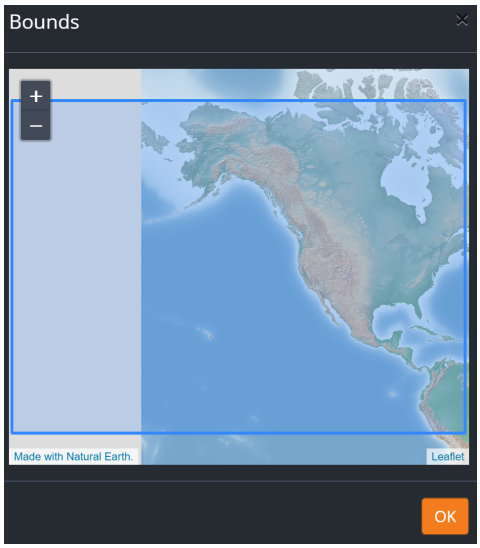
Tropical Advisory Preview

3. Select **OK** to close the preview.

To view the Bounds of a download task:

1. From the **Process Status** list, locate the task for which you want to view the **Bounds**, and select the **Bounds** button.

   The **Bounds** window will appear.



Advisory Download Task - Bounds Preview

2. Use the **+** and **-** buttons to zoom in and out of the image.

   Alternatively, you can use the scroll wheel on your mouse to zoom in and out.

3. Select **OK** to close the preview.

Preview Styles

In the **Preview Styles** section, users can add and customize the color preferences for preview images displayed in both the **Forecast** and **Observations** sections. This feature allows users to create a custom color palette that best suits their visualization needs, with the option to export the palette for future use. Additionally, users can easily import a previously exported color palette, enhancing control over the appearance and clarity of data visualizations.

For information on setting the color preferences for images used in broadcast graphics, see the Local Server's **Preview Styles** 64 section.

To add a new Preview Style:

1. In the **Preview Styles** section, select **+Add**.

   The **Create Preview Style** dialog appears.



   Create Preview Style Dialog

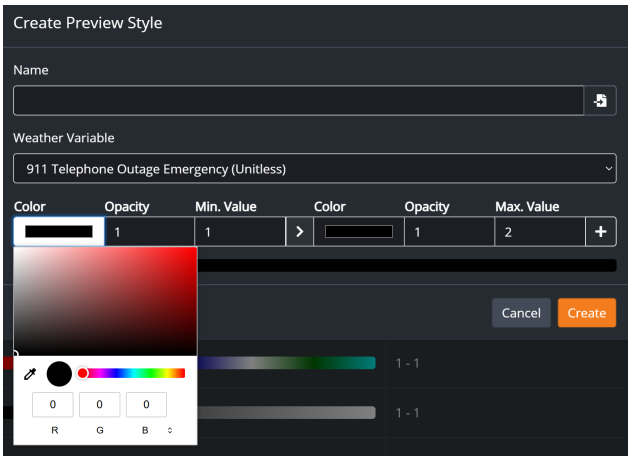
2. In the **Name** field, enter a new name for the style.
3. From the **Weather Variable** drop-down, select the **Weather Variable** to customize.
4. In the **Color/Opacity/Value** ranges table, select the **+** button to add additional rows as needed to create a customized color range for your style.

   Each row in the table indicates an increment in the range. The left side of the row sets the starting values for an increment and the right side of the row sets the ending values for an increment.

5. In each row, set the **Color**, **Opacity**, and **Min./Max. Value** as follows:

   a. In the left side of the row, use the color picker to set the starting color for the range.

      The **Color Selector** opens.



Preview Styles Color Selector

   b. Drag and drop the selector to the color you want.

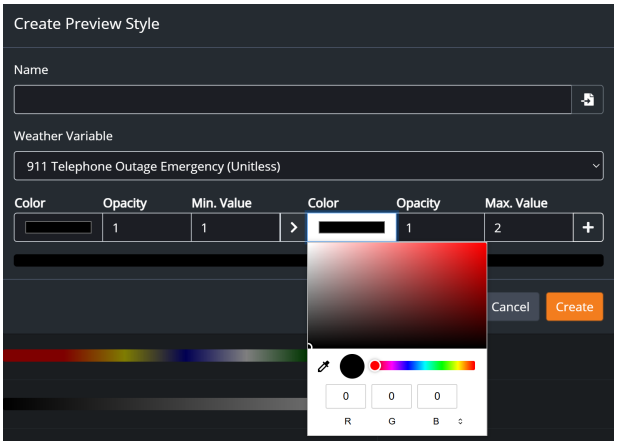
      Alternatively, you can use the eyedropper tool to select a color from another source displayed on your screen or manually enter the RGB values.

   c. In the **Opacity** field, enter or select the value to set the color **Opacity** (values range between 0 and 1).

   d. In the **Min. Value** field, enter or select the starting value.

   e. In the right side of the row, select the color picker to set the ending color for the first increment.

      The **Color Selector** opens.



Preview Styles Color Selector

   f. Drag and drop the **Selector** to the color you want.

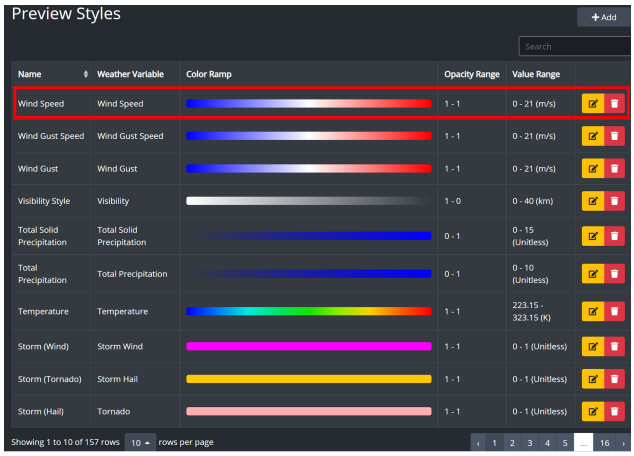
Alternatively, you can use the eyedropper tool to select a color from another source displayed on your screen or manually enter the RGB values.

   g. In the **Opacity** field, enter or select the value for the color **Opacity** (values range between 0 and 1).

h. In the **Max. Value** field, enter or select the ending value for the **Value Range**.

6. Continue setting the **Color**, **Opacity**, and **Min./Max. Value** for each row you added to the table.
7. When you have finished, select the **Create** button.

   The new **Preview Style** will be added to the **Preview Styles** page.



Preview Style Page - New Style

To modify a Preview Style:

1. From the **Preview Styles** list, select the **Edit** button next to the style you want to modify.

   The **Create Preview Style** dialog appears, showing the settings that can be modified.
2. When you have made the modifications that you want, select the **Modify** button.

   The new style adjustments are made to the **Preview Style**.

To search for a specific Preview Style:

- In the **Preview Styles** list, enter the name of the **Preview Style** in the **Search** field and press **Enter**.

  The search results are displayed in the **Preview Styles** list.

To delete a Preview Style:

1. In the **Preview Styles** list, select the **Delete** button next to the style you want to delete.

   The **Delete Preview Style** confirmation dialog appears.
2. Select the **Delete** button.

   The style is deleted from the **Preview Style** list.

To export a Preview Style:

- From the **Preview Styles** list, select the **Export** button for the **Preview Style** you want to export.

  The .**rsf** file will download to your system.

To import a Preview Style for an existing Style:

1. From the **Preview Styles** list, select the **Edit** button next to the style you want to modify.

   The **Modify Style** window appears.
2. Select the **Import** button.

   The **File Explorer** opens.
3. Navigate to the **.rsf** file you want and select **Open**.

   The **File Explorer** closes.
4. Select **Modify**.

   The imported style is applied to the weather variable.

To import a Preview Style for a new Style:

1. While creating a new **Style**, in the **Create Preview Style** window, select the **Import** button.

   The File Explorer opens.
2. Navigate to the .**rsf** file you want and select **Open**.

   The File Explorer closes.
3. Select **Create**.

   The imported style is applied to the weather variable.

Endpoints

Use the **Endpoints** section to configure API **Endpoints** and view the **API Key** details. In the Data Aggregator server, you can configure endpoints to establish communication between Raiden servers. You can add, modify, or delete as many endpoints as you require for your setup.

Creating an Endpoint Group

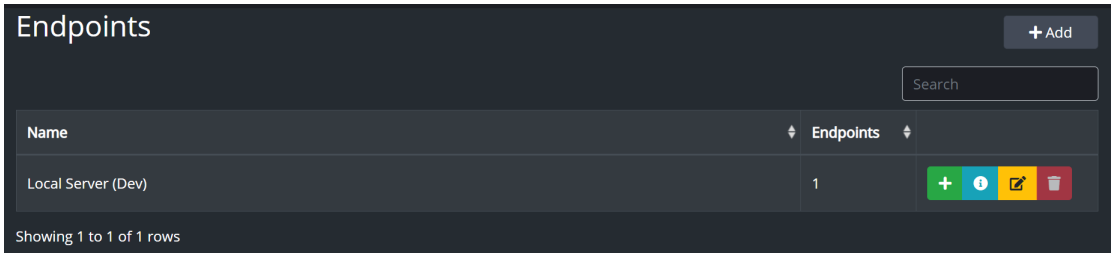
The first step is to create an **Endpoint Group**. Once you have created the group, you can modify or delete the **Endpoint Group** as needed.

To add an Endpoint Group:

1. In the **Endpoint** section, select **+Add**.

   The **New Endpoint Group** dialog appears.
2. In the **Name** field, enter a name for the **Endpoint Group**.
3. When you have named the group, select **Create**.

   The new group will be added to the **Endpoints** page.



Endpoint - New Group

To modify an Endpoint Group:

1. In the **Endpoint** list, select the **Edit** button next to the **Endpoint Group** you want to modify.

   The **Modify Endpoint Group** dialog will appear, showing the setting that can be modified.

   The following setting can be modified:

   - **Name**
2. When you have modified the name, select **Modify**.

   The modification will be saved to the **Endpoint Group**.

To delete an Endpoint Group:

1. In the **Endpoints** section, select the **Delete** button to the right of the **Endpoint Group** you want to delete.
2. In the **Delete End Group** dialog, select **Delete**.

   The **Endpoint Group** will be deleted from the **Endpoint** page.

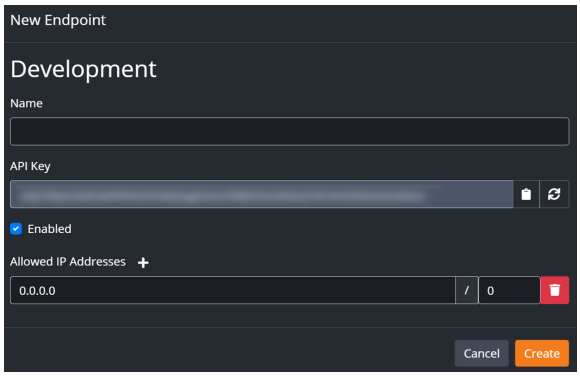
Adding New Endpoints to a Group

Next you'll need to add endpoints to the **Endpoint Group**. Once you have added a **New Endpoint**, you can modify or delete the endpoint if necessary.

To add a New Endpoint to an Endpoint Group:

1. In the **Endpoints** list, select the **Add** button for the group you want to add a **New Endpoint**.

   The **New Endpoint** dialog will be displayed.



   Endpoint - New Endpoint Dialog

2. In the **New Endpoint** dialog, enter a name for the **New Endpoint**.
3. Select the **Enabled** box to enable the **API Key.**
4. In the **Allowed IP Addresses** section, select the **+ Add** button to add any additional **IP Address** fields that may be required.
5. In the **Allowed IP Addresses** field, enter the IP address and subnet mask of the endpoint device.

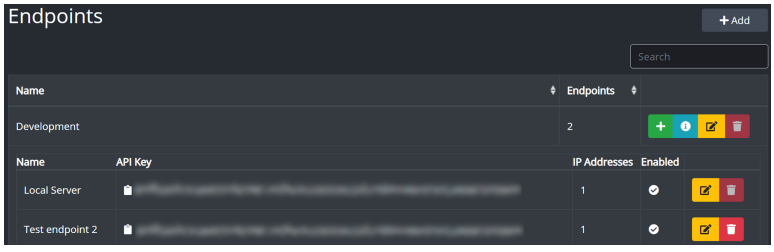
   Alternatively, you can use the **Up** - **Down** arrows to set the subnet mask number.
6. When you have configured the **New Endpoint** settings, select **Create**.

   The **New Endpoint** will be added to the group.

To modify an Endpoint within an Endpoint Group:

1. In the **Endpoints** list, select the **Information** button to the right of the group you want to modify.

   The **Endpoint Group** details will be displayed.



   Endpoints - Endpoint Group Modification

2. In the **Endpoint** list, select the **Edit** button next to the **Endpoint** you want to modify.

   The **Modify Endpoint** dialog will appear, showing the settings that can be modified.

   The following settings can be modified:

   - **Name**
   - **API Key**
   - **Enabled**
   - **Allowed IP Addresses**

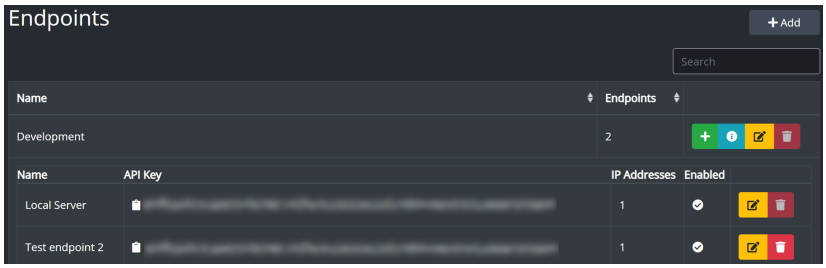
3. When you have made the modifications that you want, select **Modify**.

   The modifications will be added to the **Endpoint Group**.

To delete an Endpoint within a group:

1. In the **Endpoint** list, select the **Information** button to the right of the group containing the **Endpoint** you want to delete.

   The **Endpoints** in the **Endpoint Group** will be displayed.



Endpoints Section - Endpoints Within an Endpoint Group

2. In the **Endpoint** list, select the **Delete** button next to the **Endpoint** you want to delete.
3. In the **Delete Endpoint** dialog, select **Delete**.

   The **Endpoint** will be deleted from the **Endpoint Group**.

To search for an Endpoint Group:

- In the **Search** field, enter the name of the **Endpoint Group** and press **Enter**.

  The search results will be displayed in the **Endpoint** page.

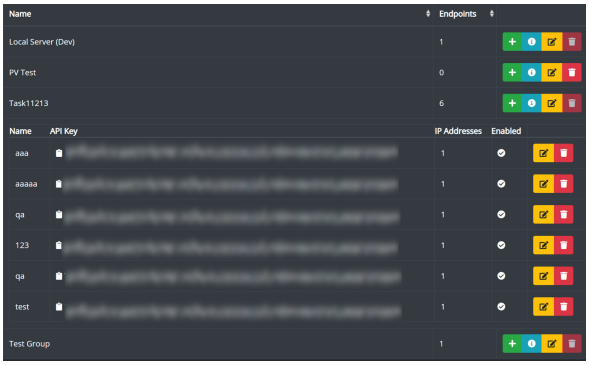
Viewing API Key Details

Once you have created your **Endpoint Groups** you can view the **API Key** details within the group.

To view the API Key details:

- In the **Endpoints** list, select the **Information** button for the **Endpoint Group** for which you want to view the **API Key** details.

  The **API Keys** for the specified **Endpoint Group** will be displayed.



Endpoints - API Keys

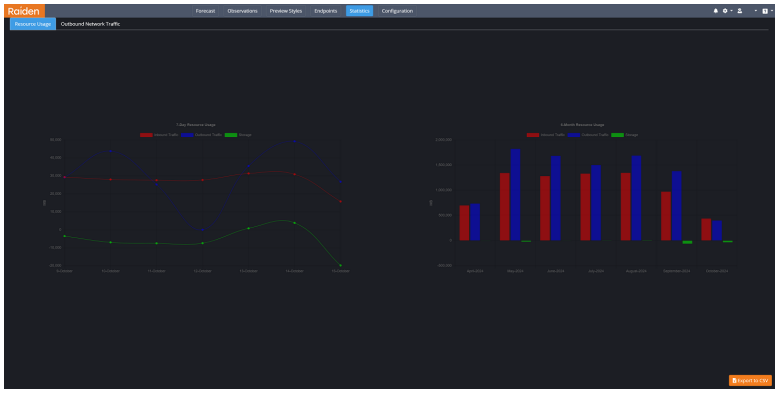
Statistics

In the **Statistics** section, you can monitor the **Resource Usage** and **Outbound Network Traffic**. Additionally, you can export the **Statistics** for the server's **Resource Usage.**

To view the Resource Usage:

- In the **Statistics** section, select the **Resource Usage** tab.

  The **7-Day Resource Usage** and **6-Month Resource Usage** graphs will be displayed.

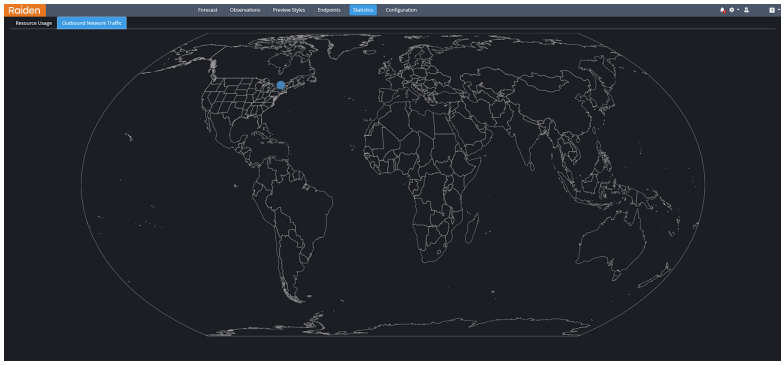


Statistics - Resource Usage

To view the Outbound Network Traffic.

- In the **Statistics** section, select the **Outbound Network Traffic** tab.

  The **Outbound Network Traffic** map will be displayed.



Statistics - Outbound Network Traffic

To export the Statistics data:

1. In the **Statistics** section, select the **Resource Usage** Tab.
2. In the bottom-right corner, select the **Export to CSV** button to export the **Statistics** data.

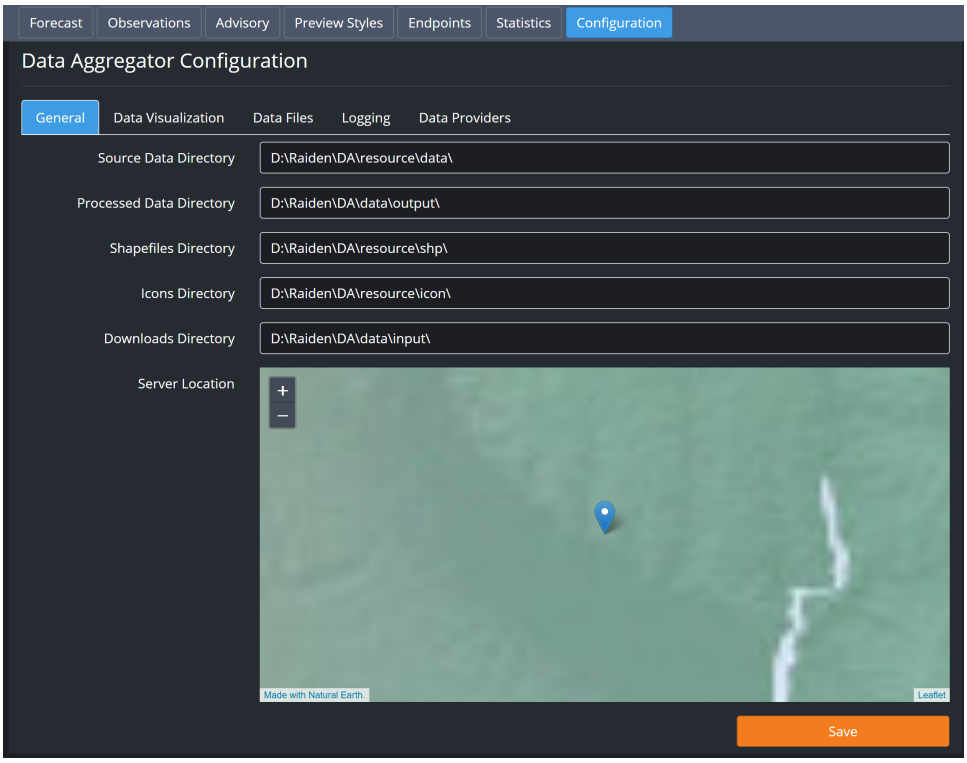
   The **Raiden_dataaggregator_stats.csv** file will download to your system.
3. Navigate to the location on your system where you want to save the statistics and select **Save**.

Configuration

In the **Configuration** section, you can view and set the properties related to the **Data Aggregator Server** configuration.

- The directory locations and server location details are stored in the **config.da** JSON file, which is located in C:\Raiden\DataAggregator.
- Administrative privileges are required to make changes to the **Configuration** section.

Use this panel to access the **Configuration** tabs.



Data Aggregator - Configuration Section

The **Configuration** panel contains the following tabs:

General 33

Data Visualization 36

Data Files 37

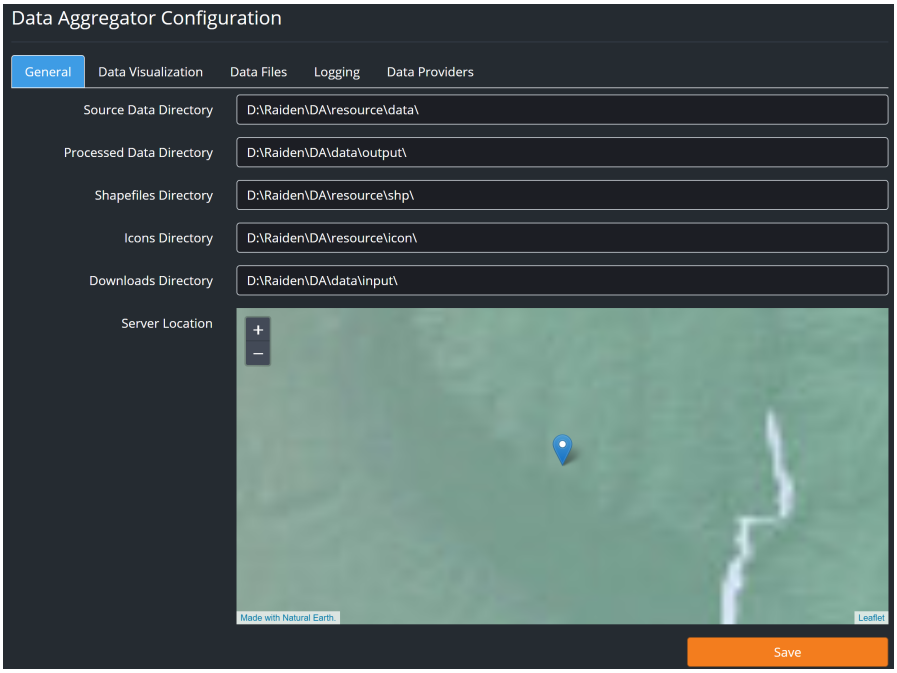
Logging 38

Data Providers 39

★Saving the properties in each tab will override the **config.da** JSON file and reload the information in the system.

General

In the **General** tab, you can view and configure the **General** directories, as described below.



General Directories Settings

To map your General directories:

1. Fill in the following fields:

- **Source Data Directory–**in this field, enter the path to the location where you want to store the source data (such as time zones).

  The default path is:

  C:\Raiden\DataAggregator\resource\data\

- **Processed Data Directory–**in this field, enter the path to the location where you want to store the output directory where the data downloaded and preprocessed by the Data Aggregator is located.

  The default path is:

  C:\Raiden\DataAggregator\output\

- **Shapefiles Directory**–in this field, enter the path to where you want to store the files used to create **Forecast** and **Observations** previews.

  The default path is:

  C:\Raiden\DataAggregator\resource\shp\

- **Icons Directory–**in this field, enter the path to the location where you want to store the icon files used in **Forecast** and **Observations** previews.

  The default path is:

  C:\Raiden\DataAggregator\resource\icon\

- **Downloads Directory–**in this field, enter the path to the location where you want to store the input directory, where the original files downloaded by the Data Aggregator Server are located.

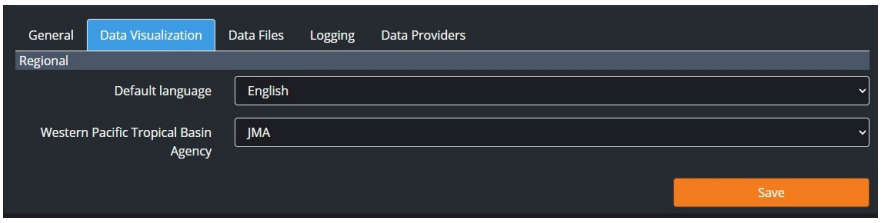
  The default path is:

  C:\Raiden\DataAggregator\input\

2. In the **Server Location** map, select the point to drag and drop it on the location of your server.
3. Select **Save** to apply your changes.

Data Visualization

Use the **Data Visualization** tab to configure the regional settings for your organization, including the **Default Language** and **Western Pacific Tropical Basin Agency** settings. The selected agency determines which organization's tropical cyclone naming and localization settings are used for the Western Pacific region.



Configuration - Data Visualization

To configure the regional settings:

1. From the **Default Language** dropdown, select the language you want to use.

   The options are:

   - **English — Default**
   - **Español**
   - **Français**

2. From the **Western Pacific Tropical Basin Agency** dropdown, select one of the following agencies:
   - **JMA** — Japan Meteorological Agency
   - **PAGASA** — Philippine Atmospheric, Geophysical and Astronomical Services Administration
   - **CMA** — China Meteorological Administration
3. Select **Save**.

   The **Data Visualization** settings are saved.

Data Files

Use the **Data Files** section to manage how long forecast and current condition data remains available in the **Process Status** list before expiring. When the data expires, the system will delete the data from the downloads directory and it will no longer be available in the **Process Status** list.

★ **Warning:** Setting the Data Files Max Cycles/Age too high may result in server-related performance issues. In practice, a Local Server is the one that is important to retain data for broadcast. Once data is processed at a Local Server, it does not need it again from the Data Aggregator. Therefore, these maximum ages can be low on the Data Aggregator.



Configuration - Data Files

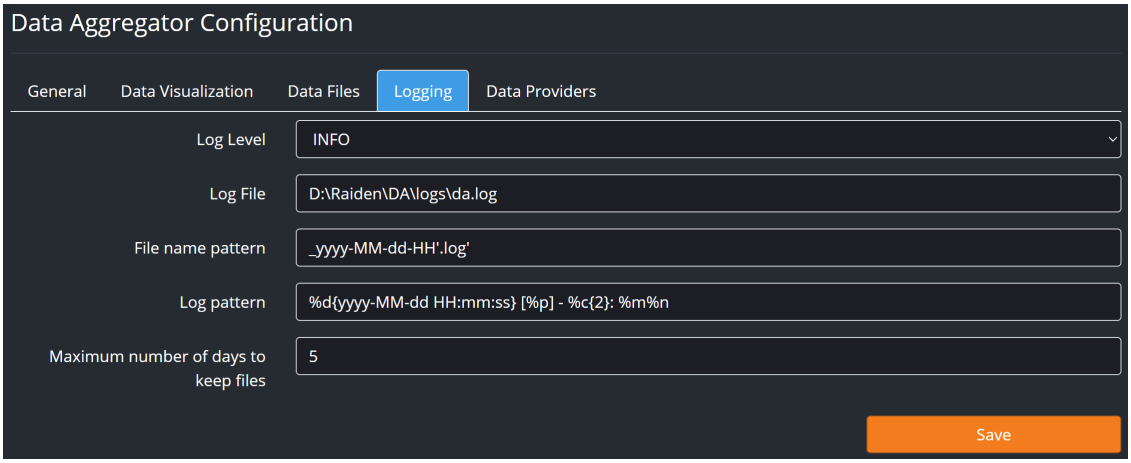
To configure the Data File settings:

1. In the **Forecast Data Files Max Cycles** field, use the **Up-Down** arrows to enter the maximum number of cycles you want the **Forecast** data to remain in the **Process Status** list.
2. In the **Observations Data Files Max Age** field, use the **Up-Down** arrows to enter the maximum number of days you want the **Observations** data to remain in the **Process Status** list.
3. When you have configured the settings, select **Save**.

   The settings will be saved in the **Data Files** page.

Logging

In the **Logging** section, you can access and configure the settings to track error reporting and related data.



Configuration - Logging

To configure the logging settings:

1. From the **Log Level** drop-down, select the log level you want to use.

   Your options are:

   - **INFO**
   - **ERROR**
   - **DEBUG**
   - **WARNING**
   - **TRACE**

2. In the **Log File** field, enter the path to the **Log File**.

   The default path is:

   C:\Raiden\DataAggregator\logs\da.log

3. In the **File name pattern** field, enter the pattern you want to define the format of file name extensions.

   For example: `_yyyy-MM-dd-HH'.log'` (Default)

4. In the **Log pattern** field, enter the log pattern you want to format your logging information.

   For example: `%d{yyyy-MM-ddHH:mm:ss}[%p]-%c{2}:%m%n` (Default)

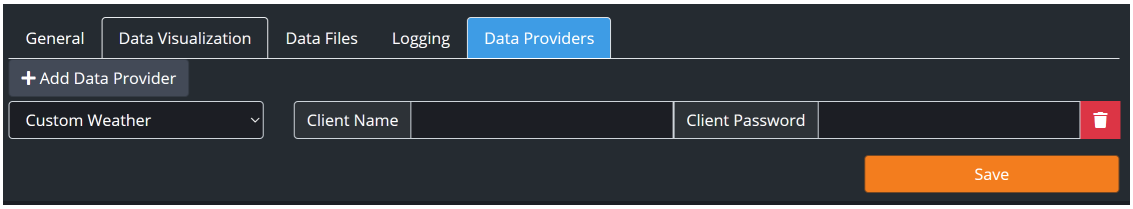
5. In the **Maximum Number of Days to Keep Files** field, use the **Up-Down** arrows to select the number of days you want to keep files.

★**Warning:** Keeping files for too many days is not recommended as it may cause server-related performance issues.

6. When you have configured the settings, select **Save**.

Data Providers

In the **Data Providers** section, you can access and configure the third party data provider settings.



Configuration - Data Providers

To add a Data Provider:

1. Select **+ Add Data Provider**.
2. From the drop-down, select a Data Provider.
3. In the **Client Name** field, enter the client name provided by your data provider.
4. In the **Client Password** field, enter the corresponding client password.
5. Select **Save**.

   The Data Provider is added.

★Refer to the table below to determine how to obtain the credentials based on the selected data provider:

Data Provider Credential Sources

Data Provider	Credential Source
Custom Weather	Ross Video provided (during commissioning)
Foreca	Ross Video provided (during commissioning)
Xweather	Ross Video provided (during commissioning)

To delete a Data Provider:

1. Select the **Delete** button for the Data Provider you want to delete.

   The Data Provider information disappears from the page.
2. Select **Save**.

   The Data Provider is deleted.

Events

In the **Events** section, you can access the log data for all task and error events.

To view executing task information:

The **Executable Tasks** tab is a live event viewer that displays current executing tasks.

1. In the **Events** section, select the **Executing Tasks** tab.

   The list of tasks currently being executed is displayed.

   ★ If the system is not processing data, the list will be empty.

2. Select **OK** to close the window.

To view logging information:

The **Log tab** displays all server tasks (successful or not).

1. In **Events** section, select the **Logs** tab.

   The list of completed tasks and error events is displayed.

2. Select **OK** to close the window.

Local Server

The Local Server is where you will retrieve weather data specific to your area of interest from the Data Aggregator. The data is processed based on the areas of interest and preferences you have defined locally. You can select the area of interest, store the data and generate the local media output, either images or video.

The following topics are covered in this section:

Accessing the Local Server 42

Areas of Interest 45

Forecast 58

Observations 60

Advisory 19

Output Styles 64

Data Profiles 72

Configuration 75

★Administrative privileges are required to configure the Local Server. Standard users have read-only access.

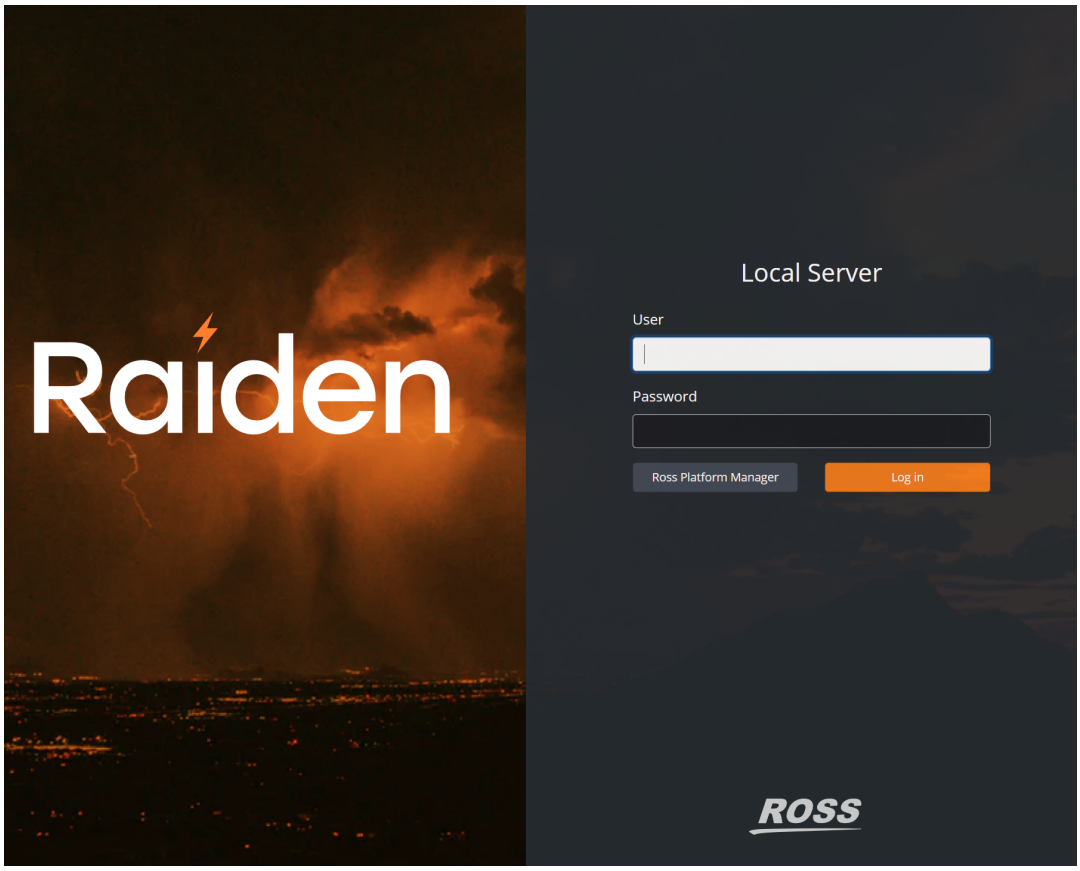
Accessing the Local Server

This section provides instructions for accessing the Local Server.

To access the local server:

1. Open a Web browser.
2. In the **URL** field enter the IP address of your local server followed by the port number through which you will be communicating with the Data Aggregator Server (in the format XX.XX.XXX.XXX:8082).
3. Press **Enter**.

   You will be taken to the Local Server **Login** page.



Local Server Login Page

4. Log in with the default **User** name and **Password** provided by Ross Video.

   Upon successful login, you will be on the **Areas of Interest** page.

To log out of the Local Server:

- In the top-right corner of the UI, select the arrow beside your username and select **Logout**.

Setting the Display Preferences

This section provides instructions for setting the user-specific display preferences for the Local Server's web user interface. For instructions on setting the default display preferences for your organization see, Data Visualization 78.

To configure unit display preferences:

1. In the top-right corner, select the arrow beside the **Temperature** icon and select the units of temperature you want to use.

   The options are:

   - **Celsius degrees** (°C)
   - **Fahrenheit degrees** (°F)
   - **Kelvin** (K) — Default

2. Then select the **Speed** icon and select the units of speed you want to use.

   The options are:

   - **Knots** (kt)
   - **Miles per hour** (mph)
   - **Kilometers per hour** (km/h) — Default
   - **Meters per second** (m/s)

3. Select the **Language** icon and select the language you want to use.

   The options are:

   - **English** — Default
   - **Español**
   - **Français**

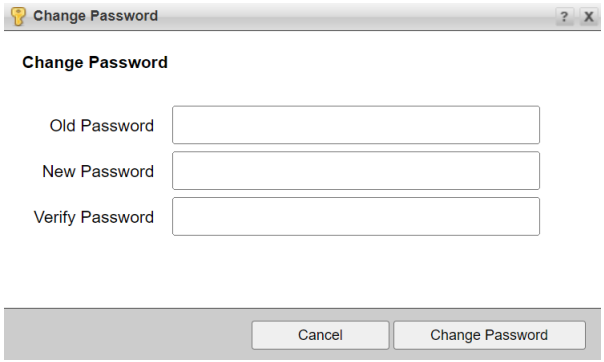
Changing Your Password

If you need to change your password, you can do so through the Ross Platform Manager (RPM). The Ross Platform Manager is a web based application that supports common administrative functions (such as licenses and user access) for Ross products.

★You will need your current Raiden User name and Password to access the RPM. If you do not know your current User name and Password, you will need to contact your System Administrator to recover your login credentials.

To change your User name and Password:

1. In the **Data Aggregator Server** login page, select the **Ross Platform Manager** button.
2. Sign in to the **RPM** with your Raiden login credentials.
3. In the navigation bar at the top of your screen, select the  **Tools** button.
4. The **Change Password** dialog opens.



RPM Change Password Dialog

5. In the **Old Password** field, enter your old password.
6. In the **New Password** field, enter a new password.
7. In the **Verify Password** field, re-enter the new password.
8. Select **Change Password**.

   The **Password** confirmation dialog will appear.
9. Select **OK**.

Areas of Interest

In the **Areas of Interest** section, you can define a point of interest (such as a city), a region of interest (a larger area), or a station (point of interest based on an official weather station) for which you want to download weather data. Once defined, you can save that point, region, or station and its associated data for later recall. Additionally, you can import Shapefiles 54 to add predefined areas of interest. You can also create Groups to organize sets of points or stations for use in scenes and workflows.

Each Area of Interest includes specific data selections that determine which datasets and variables are used for that location. These selections may be configured manually or applied through Data Profiles 72. A Data Profile defines the datasets and weather variables for a specific asset type and can be selected when creating or modifying an Area of Interest.

The following topics are covered in this section:

Points 46

Regions 48

Shapefiles 54

Stations 55

Groups 57

Points

In the **Points** tab, you can define a point of interest (such as a city) in a specific region on the map. Once defined, the point's associated data will be available for later recall.

Forecast data for Points is calculated using location-specific time zones. Raiden calculates Daily Forecast summary values (max, min, mean, and mode) using the local time of each location. A "day" is defined as 00:00–23:59 in the time zone selected for this Point or Station.

For example, if Raiden is running in Toronto (EST) but a Point is set up for Paris, Raiden will calculate the daily summary values for that location using Paris local time (CET) rather than the time zone of the server. This supports workflows such as forecasting across multiple time zones or working in UTC on your personal workstation.

Changing the Time Zone setting for a location will affect how Raiden groups forecast hours into daily summary values, and these values are used in the Story Creator and Raiden DataLinq feed.

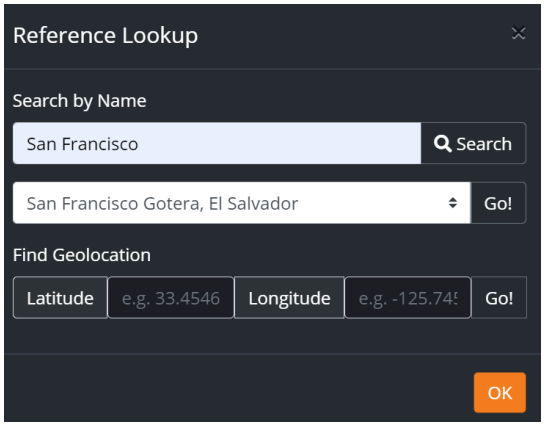
To add a new Point of interest:

1. the **Areas of Interest** section, on the left side of the page, select the **Search** button.

   The **Reference Lookup** dialog appears.

2. In the **Search by Name** field, enter the name of the city that you want to use as a point of interest and select **Search**.

   The results are displayed in the drop-down below the **Search** field.



Area of Interest - Reference Lookup

3. In the results, select the city for which you want to create a point of interest and select the **Go!** button.

   Alternatively, in the **Find Geolocation** field, you can enter the **Latitude** and **Longitude** of the city and select the **Go!** button.

   The map moves to the city you selected.

4. On the left side of the page, select the **Draw a Marker** button.
5. Select the spot on the map for where you want to place the **Marker**.

   The **New Area of Interest** dialog appears.

6. Use the **General** tab to set the name, time zone, and data selection as follows:

   a. In the **Name** field, enter the name for the New Area of Interest that you want to appear on broadcast graphics by default.

   b. From the **Time Zone** drop-down, select a preferred time zone.

c. From the **Data Selection** options, select one of the following options:

- **Data Profile** — Applies a Point Data Profile.
- **Custom** — Allows manual configuration of datasets and weather variables.

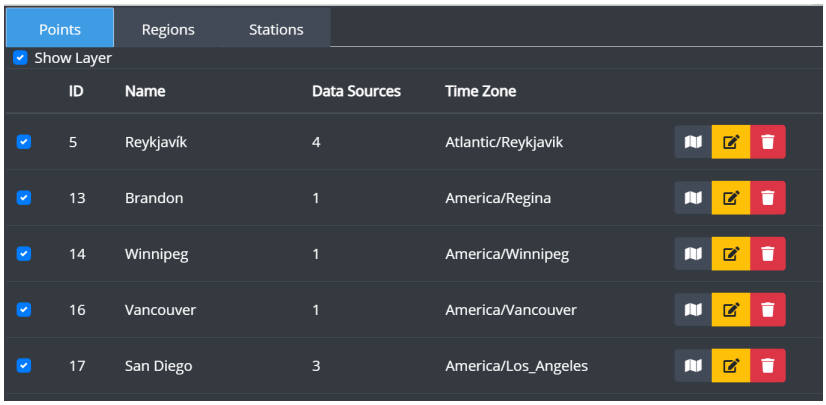
7. If **Custom** is selected in the **Data Selection** section, use the **Data Selection** tab to set the **Forecast** and **Observations** data sources as follows:

   a. From the **Data Source** list, select a data source.

   b. From the **Weather Variable** drop-down, select the weather variables you want to include for that point of interest.

8. Select **Create**.

   The area of interest will be added to the bottom **Point** list and a green message is displayed in the lower-right corner indicating that the point of interest was successfully added.



Area of Interest - Points

To preview a Point of Interest:

- In the **Points** list, select the **Map** button next to the **Point** you want to preview.

  The **Point** will be displayed on the map.

To modify a Point of interest:

1. In the **Points** list, select the **Edit** button next to the point you want to modify.
2. Adjust the settings as needed.
3. When you have finished modifying the settings, select **Modify**.

   The modifications will be saved to the **Points** list.

To delete a Point of interest:

1. In the **Points** list, select the **Delete** button next to the **Point** you want to delete.
2. In the **Area of Interest** dialog, select **Delete**.

   The **Point** will be deleted from the **Points** list.

Regions

In the **Regions** tab, you can search for a specific location, configure the location using the shape elements, and save your results as a defined region. **Regions** define specific areas that imagery will be generated in advance for graphics. For example, you may intend to have local, regional, and national views for map-based graphics, and therefore you should create **Regions** for all three of those sizes to get the maximum resolution imagery option each time.

Additionally, you can import **Shapefiles** 54 to add your own pre-defined **Regions** and download a region's files for creating base layers in your graphics engine.

To add a new Region:

1. In the **Areas of Interest** section, use your mouse to drag and zoom the map to the area you want to define as a Region.

   Alternatively, you can use search tools to center the map on a known location before drawing your region:

   a. On the left side of the page, select the **Search** button to open the **Reference Lookup** window.

   b. In the **Search by Name** field, enter the name of the city that is central to your area of interest.

   c. Select **Search**.

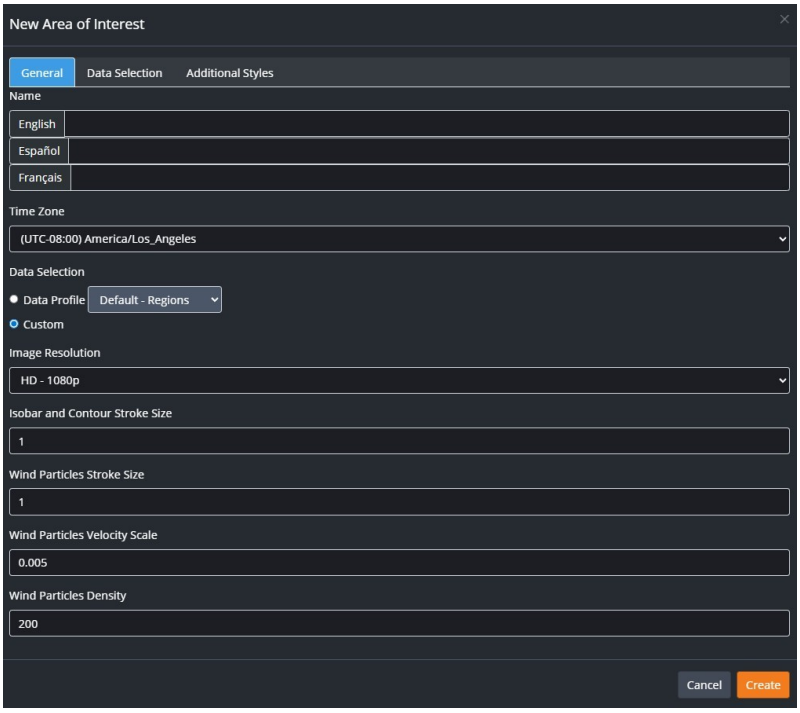
   d. From the results drop-down located below the **Search** field, select the name of the city that is central to your area of interest and click the **Go!** button.

   You can also enter coordinates in the **Find Geolocation** fields and click **Go!**

   The map then updates to the selected location.

2. On the left side of the page, select either the **Polygon** button or the **Rectangle** button to draw either a polygon or a rectangle around your **Region** of interest on the map.

   The **New Area of Interest** window appears.



Regions - New Area of Interest Window

3. Use the **General** tab to configure the Region settings as shown in the following table:

Setting	Description
Name	Enter the name for the Region.
Time Zone	From the drop-down, select the preferred time zone for the Region.
Data Selection	Choose how data selections will be assigned: • **Data Profile** — Applies Region Data Profile. • **Custom** — Allows manual configuration of data sources and weather variables.
Image Resolution	Select the output resolution for generated Region content: • **HD (1080p)** — Faster performance, lower storage usage • **UHD (4K – 2160p)** — Higher visual quality, increased processing and storage usage Changing this setting requires regeneration of base layers for the Region. ★For more information about how resolution impacts performance and visualization, see Balancing Performance and Visualization 52.
Isobar and Contour Stroke Size	Enter or select the desired stroke size for contour visualizations, which is the width in pixels (starting from 1 and increasing in whole numbers like 1, 2, 3, etc.). Contour visualizations include, for example, pressure isobars and advisory polygon outlines.
Wind Particles Stroke Size	Enter or select the desired stroke size for the wind particles, which is the width in pixels (starting from 1 and increasing in whole numbers like 1, 2, 3, etc.).
Wind Particles Velocity Scale	Enter or select the parameter for the wind particles' velocity, which is a measure of their speed in the rendered output. • Larger numbers indicate faster movement. • The range is from 0.00001 to 1.0, although typically values will not exceed 0.1.
Wind Particles Density	Enter or select the desired density for the wind particles, which is the number of particles visible in the rendered domain. • The range is from a minimum of 150 to a maximum of 10,000. • For the World domain, it is recommended to use 5,000 or fewer particles to avoid significant storage impact on the Local Server media drive.

★For additional information on the recommended settings for wind particle sizing values, refer to Appendix C: Wind Particle Sizing 260.

4. If **Custom** is selected in the **Data Selection** section, use the **Data Selection** tab to set the Forecast, Observations, and Advisory data sources as follows:

   a. From the **Data Source** list, select a data source.

   b. From the **Weather Variable** drop-down, select the weather variables you want.

   c. (Forecast only) From the **Smoothing** drop-down, select a smoothing value.

   ★Smoothing controls how smooth animations appear during playback. For more information about how smoothing impacts animation playback and performance, see Balancing Performance and Visualization 52.

5. Use the **Additional Styles** tab to add additional styles for output as follows:

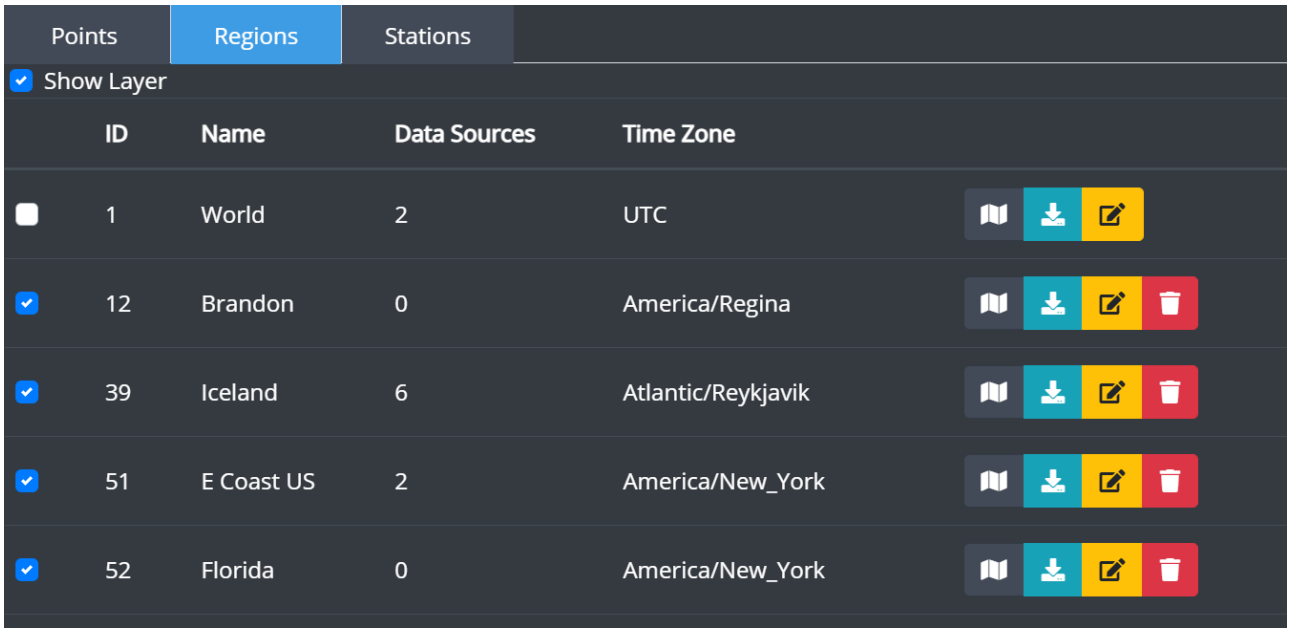
   a. Select the + Add Additional Style button.

   b. In the first column, use the drop-down to select a variable.

   c. In the second column, use the drop-down to select the unit of measure for the variable.

6. Select **Create**.

   The Region will be added to the **Regions** tab at the bottom of the list.



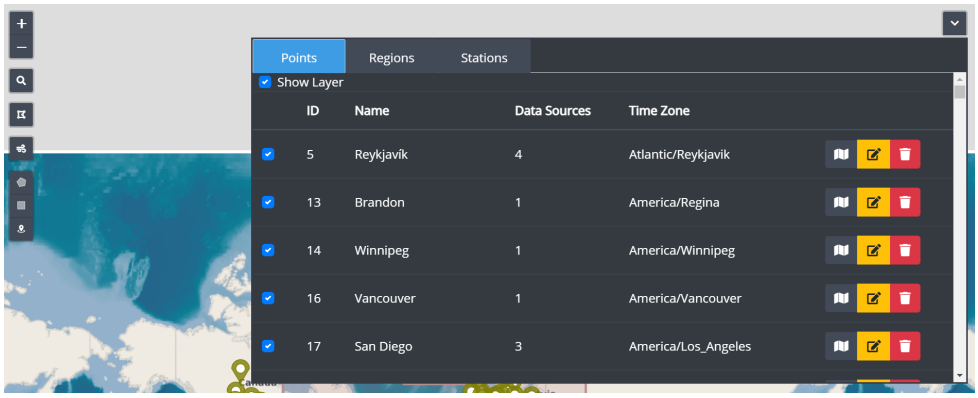
Area of Interest - Regions

Alternatively, you can add a pre-defined **Area of Interest** to the **Regions** tab by importing a **Shapefile** 54.

To show or hide the Points/Regions/Stations panel:

1. In the **Areas of Interest** section, to the top-right of the screen, select the **Down** arrow above the **Areas of Interest** panel.

   The **Points/Regions/Stations** panel list will be hidden.



Area of Interest - Points/Regions/Stations List

2. Select the **UP** arrow, to show the **Areas of Interest** panel.

To modify a Region of Interest:

1. In the **Regions** tab, select the **Edit** button next to the region you want to modify.

   The **Area of Interest** window opens.

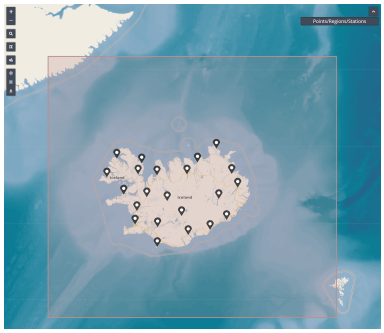
2. Adjust the settings as needed.
3. When you have modified the settings, select **Modify**.

   The modifications will be saved.

To preview a Region of Interest:

- In the **Regions** panel, select the **Map** button next to the region you want to preview.

  The Region will be displayed on the map.



Areas of Interest - Region Preview

To delete a Region of Interest:

1. In the **Regions** list, select the  **Delete** button next to the region you want to delete.
2. In the **Area of Interest** dialog, select **Delete**.

   The **Region** will be deleted from the **Regions** list.

Balancing Performance and Visualization

When configuring a Region, certain settings affect both the visual quality of generated imagery and the performance of the Local Server. Increasing quality improves visual output but requires additional processing time and storage. Lower settings improve performance and reduce processing time but may result in less detailed output.

The following table summarizes how **Image Resolution** and **Smoothing** impact visualization quality and system performance.

Setting	Description	Performance Impact
Image Resolution	Sets the output resolution for all generated Region content, including base layers and overlays. **Options:** HD (1080p); UHD (4K – 2160p) **Defaults:** >5000 km: UHD (4K); otherwise: HD; World: UHD (4K)	Higher resolution increases processing time and storage usage. Changing this setting triggers regeneration of base layers, which takes several minutes and blocks content generation until complete.
Smoothing	Controls how smoothly data transitions are rendered in animations and is configurable per data source (Custom Data Selection). **Options:** Higher values increase interpolation; lower values reduce interpolation	Higher smoothing increases processing time and storage usage. Lower smoothing improves performance and allows data to be available sooner but results in less smooth animations.

Region Map Export

When working with Regions of Interest in the Local Server, you have the option to download a ZIP file containing map data for the selected region. This exported file can be used in several workflows to support weather graphics in XPression. These workflows take advantage of the auto-generated region cut to enable high-quality, customized mapping graphics. In addition to direct integration, the auto-generated map cut can be used as the basis for a customized basemap or replaced entirely with a basemap of your own design.

The .zip file typically includes the following assets:

- ***_dem.png**: Digital elevation model image.
- ***_boundary.png/.tga**: Region boundary outlines at various resolutions.
- ***_labels.png/.tga:** Label overlays with city or geographic names.
- ***_landmask.png/.tga**: Land vs. water masking layers.
- ***_mask.png/.tga**: Visual masks defining the region area.
- ***_lakes.png, *_rivers.png**: Lake and river features, where applicable.
- ***_roads_primary.png**: Road network overlays.
- ***_obj3d.obj**: 3D mesh file for use with Region Meshes in XPression.
- ***_tile.png**: Composite image of the region cut.

Many of the image files may be prefixed with **high**, **low**, or **mosaic**, indicating different resolution levels for use in various rendering or performance scenarios.

In XPression, the downloaded Region file can be used when setting up Region Meshes. The same process also supports creating customized, higher-resolution regions that can be embedded within a broader basemap. For more details on using the Region zip export in XPression, refer to the XPression Region Mesh Setup 123 section.

To download the files for a Region of Interest:

1. In the **Regions** tab, select the  **Download** button next to the region for which you want to download the files.

   The files will download to your system.

2. Navigate to the location on your system where you want to save the **Region** file and select **Save**.

Shapefiles

A **Shapefile** is a Geographic Information System (GIS) vector format that contains the spatial and attribute components of features displayed on a map. The spatial component provides the vector data (line, polygon, and point) for spatial features and the attribute component provides the descriptive information of the feature (such as the name, type, and status of a road).

A **Shapefile** can be imported as a compressed file into the **Local Server**. The **Shapefile** must include the following four files with specific extensions:

- **Main File** - Feature geometry (.shp)
- **dBase File** - Attribute information (.dbf)
- **Projection File** - Coordinated system and projection information using plain text format (.prj)
- **Index File** - Index of feature geometry (.shx)

Each of these files must be contained in the compressed file and must have the exact same file name.

Example:

Main file: provinces.shp

Index file: provinces.shx

dBase file: provinces.dbf

Projection file: provinces.prj

★If the four required files are not included in the compressed file, or they do not have the exact same file name, the file upload will fail.

To import a Shapefile:

1. In the **Areas of Interest** section, to left side of the screen, select the  **Import** button.

   The **Import Shapefile** dialog appears.
2. Select the **Browse** button next to the **Choose file (.zip)** field.
3. Navigate to the zip file and select **Open**.

   The **New Area of Interest** dialog appears.
4. In the **Name** field, enter the name of the **New Area of Interest** and select **Create**.

   The new **Area of Interest**, defined by the **Shapefile** data**,** will be added to the **Regions** tab.

Stations

In the **Stations** tab, you can add a weather station to your **Area of Interest**. Once defined, the station's associated data will be available for later recall.

Forecast data for Stations is calculated using location-specific time zones. Raiden calculates Daily Forecast summary values (max, min, mean, and mode) using the local time of each location. A "day" is defined as 00:00–23:59 in the time zone selected for this Point or Station.

For example, if Raiden is running in Toronto (EST) but a Point is set up for Paris, Raiden will calculate the daily summary values for that location using Paris local time (CET) rather than the time zone of the server. This supports workflows such as forecasting across multiple time zones or working in UTC on your personal workstation.

Changing the Time Zone setting for a location will affect how Raiden groups forecast hours into daily summary values, and these values are used in the Story Creator and Raiden DataLinq feed.

To add a Station:

1. In the **Area of Interest** section, on the left side of the page, select the  **Weather Stations** button.

   The **Add Weather Station** window appears.

2. From the **Station Data Source** drop down, select the data source for which to search for an available weather station.
3. In the **Weather Station** field, enter the name of the local **Weather Station**.

   A drop-down with a list containing the available stations with that name will appear.

4. Select the station you want from the results drop-down list.

   The map will display the location of the station.

5. Use the **+** or **-** buttons to zoom in and out of the map.

   Alternatively, you can use the scroll wheel on your mouse to zoom in and out.

6. Select **Continue**.

   The **New Area of Interest** window opens.

7. Use the **General** tab to set the name, time zone, and data profile as follows:

   a. In the **Name** field, enter the name of the station that you want to appear on broadcast graphics by default.

   b. From the **Time Zone** drop-down, select the time zone you want.

   c. From the **Data Selection** options, select one of the following options:

   - **Data Profile** — Applies a Station Data Profile.
   - **Custom** — Allows manual configuration of datasets and weather variables.

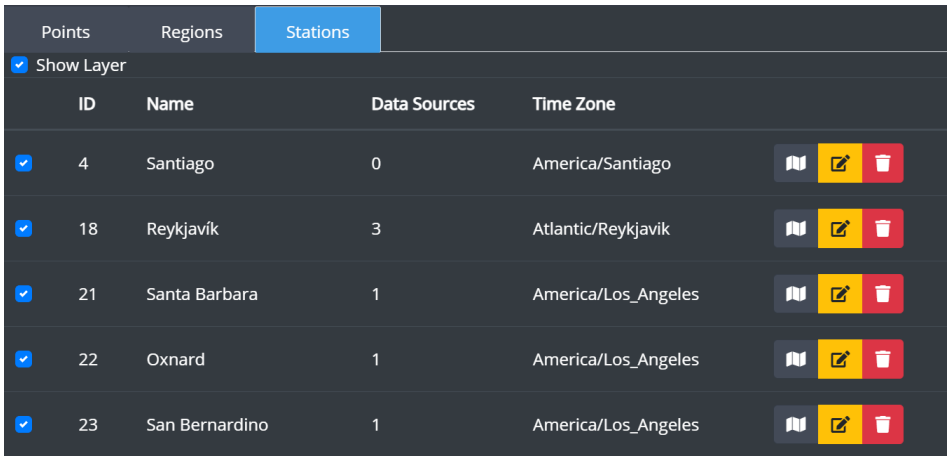
8. If **Custom** is selected in the **Data Selection** section, use the **Data Selection** tab to set the **Forecast** and **Observations** data sources as follows:

   a. From the **Data Source** list, select a data source.

   b. From the **Weather Variable** drop-down, select the weather variables you want to include for that point of interest.

9. Select **Create**.

   The **Weather Station** will be added to the **Stations** list.



Areas of Interest - Stations

To preview a Station:

- In the **Stations** tab, select the **Map** button next to the station you want to preview on the map.

  The station will be displayed on the map.

To modify a Station:

1. In the **Stations** list, select the **Edit** button next to the station you want to modify.

   The **Area of Interest** window will appear.
2. Adjust the settings as needed.
3. When you have finished modifying the settings, select **Modify**.

   The modifications will be saved to the **Stations** tab.

To delete a Station:

1. In the **Stations** tab, select the **Delete** button next to the **Station** you want to delete.
2. In the **Area of Interest** dialog, select **Delete**.

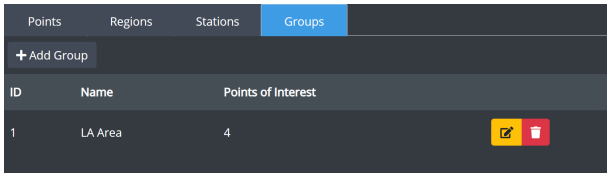
   The **Station** will be deleted from the **Stations** list.

Groups

In the **Groups** tab, you can define sets of stations or points that can be added to scenes in a single action, making it easier to manage frequently used locations for forecasts and observations.

To add a Group:

1. In the **Area of Interest** section, select the **Groups** tab.



Area of Interest - Groups Tab

2. Select **+ Add Group**.

   The **Add Group** window opens.

3. In the **Name** field, enter a name for the new group.
4. From the **Points of Interest** drop-down, select the point(s) of interest to add to the group.

   Additionally, you can choose **Select All** to add all available points or **Deselect All** to clear the selection.

5. Select **Add** to save the group.

   The new group is added to the **Groups** list.

To modify a Group:

1. In the **Groups** list, select the **Modify** button next to the group to modify.

   The **Modify Group** window opens.

2. Adjust the settings as needed.
3. After modifying the groups settings, select **Modify** to save the changes.

   The modifications are saved to the group.

To delete a Group:

1. In the **Groups** tab, select the **Delete** button next to the group you want to delete.

   The **Delete Group** dialog opens.

2. Select **Delete**.

   The group is deleted from the **Groups** list.

Forecast

In the **Forecast** section, you can preview incoming data for a specific data source, enabling you to validate that all the parameters are successfully generating for your **Area of Interest**. The results are temporary and update every time you preview the **Forecast** data.

Previewing Forecast Data

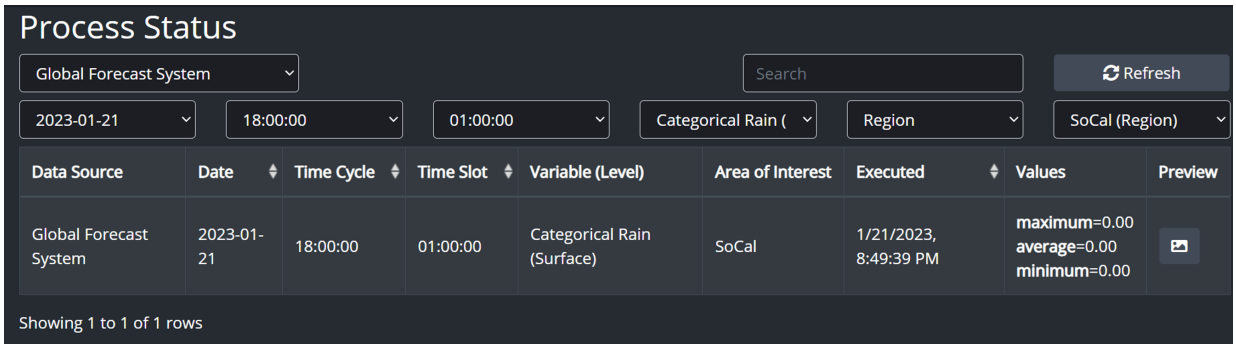
When previewing **Forecast** data, the server will retrieve and create a list of all available data from the specific data source that you select. Then you can filter the results and preview the available data for that source. If you selected to retrieve data from a region, your filtered results will include preview images. Preview images are not available for point or station data.

To filter forecast data:

1. From the **Data Sources** drop-down, select whether to display the results for **All Data Sources** or for a specific source only.
2. From the **Dates** drop-down, select whether to display the result for **All Dates** or for a specific date only.
3. From the **Cycles** drop-down, select whether to display the results for **All Cycles** or for a specific cycle only.
4. From the **Slots** drop-down, select whether to display the results from **All Slots** or for a specific slot only.
5. From the **Variables** drop-down, select whether to display the results from **All Variables** or a specific variable.

   Alternatively, you can use the **Search** field to find a particular variable.
6. From the **Place Types** drop-down, select whether to display the results from **All Place Types** or a specific place type.
7. From the **Places** drop-down, select whether to display the results from **All Places** or a specific place.

   The forecast data you selected will be displayed in the **Process Status** page.



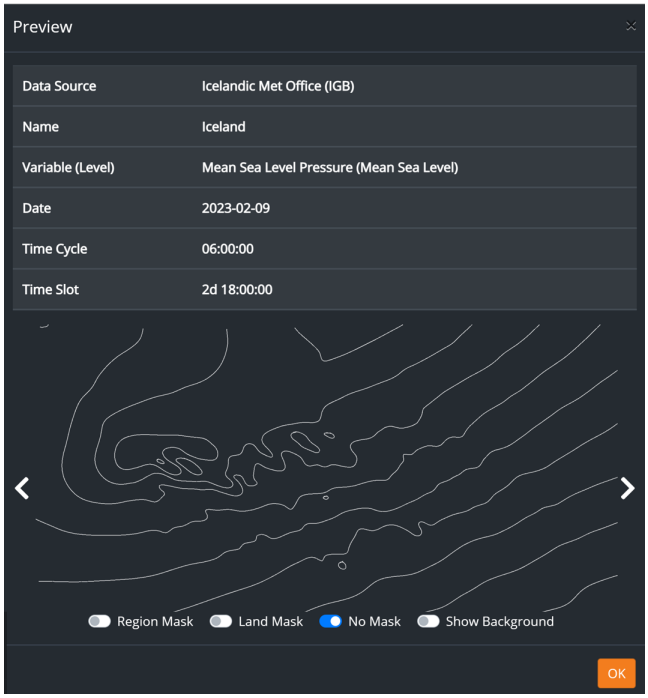
Forecast - Process Status Results

To preview an image:

1. From the **Process Status** list, select the **Preview Image** button next to the data source you want to preview.

★ Preview images are not available for **Line** or **Station** data.

The **Preview** dialog will appear.



Forecast - Preview

2. Select a toggle button to enable the following layers in the preview image:
   - **Region Mask**
   - **Land Mask**
   - **No Mask**
   - **Show Background**
3. Use the **<** and **>** buttons to view the variable changing over time.
4. Select **OK** to close the preview.

Observations

In the **Observations** section, you can preview incoming data for a specific data source, enabling you to validate that all the parameters are successfully generating for your area of interest. The results are temporary and update every time you preview the **Observations** data.

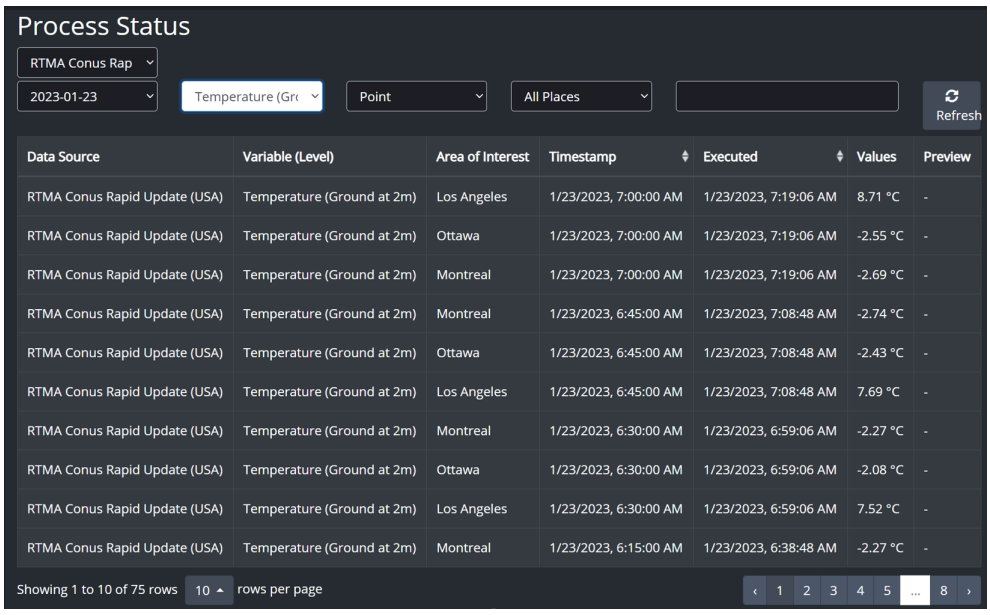
Previewing Observations Data

When previewing **Observations** data, the server will retrieve and create a list of all available data from the specific data source that you select. Then you can filter the results and preview the available data for that source. If you select to retrieve data from a region, your filtered results will include preview images. Preview images are not available for point or station data.

To filter Observations data:

1. From the **Data Sources** drop-down, select whether to display the results for **All Data Sources** or for a specific source only.
2. From the **Dates** drop-down, select whether to display the result for **All Dates** or for the current date or the previous day.
3. From the **Variables** drop-down, select whether to display the results for **All Variables** or for a specific variable only.
4. From the **Place Types**, select whether to display the results from **All Place Types** or for a specific type only.
5. From the **Places** drop-down, select whether to display the results from **All Places** or a specific place.
6. In the **Search** field, enter the name of the **Point** or **Region** of interest and press **Enter**.

   The data you selected will be displayed in the **Process Status** page.



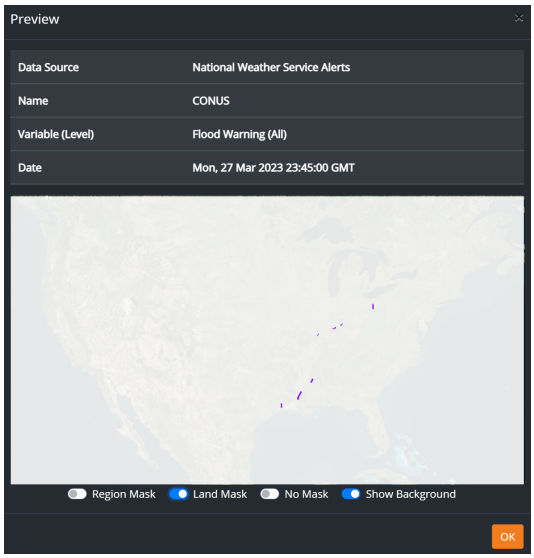
Observations - Process Status Results

To preview a variable image:

1. From the **Process Status** list, select the **Preview Image** button next to the variable you want to preview.

   ★ Only data from a **Region** contains preview images.

   The **Preview** dialog will appear.



Observations - Preview Image

2. Select a toggle button to enable the following layers in the preview image:
   - **Region Mask**
   - **Land Mask**
   - **No Mask**
   - **Show Background**
3. Select **OK** to close the preview.

Advisory

In the **Advisory** tab, you can preview incoming advisory data for a specific advisory data source, enabling you to validate that advisory content is being generated successfully for your Areas of Interest.

Advisory data is organized into two tabs:

- **Warnings**, which displays weather warning and hazard advisory data.
- **Tropical**, which displays tropical cyclone bulletin data and related storm information.

The following procedures explain how to filter advisory data and preview advisory images.

Previewing Advisory Data

When previewing **Advisory** data, the server will retrieve and create a list of all available data from the specific data source that you select. Then you can filter the results and preview the available data for that source.

To filter Advisory data:

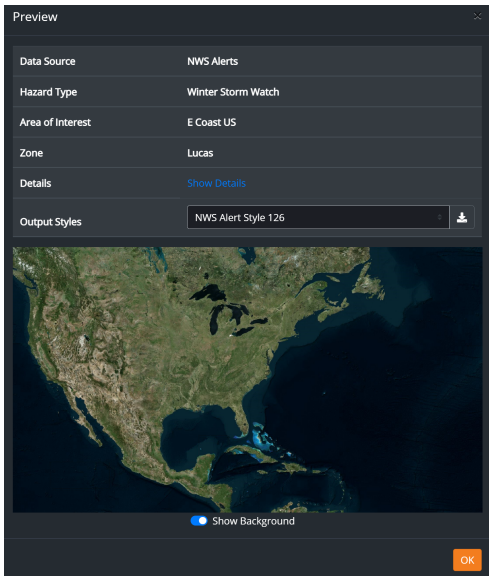
1. Select either the **Warnings** or **Tropical** tab.
2. From the **Data Sources** drop-down, select a data source.
3. From the **Date/Time** drop-downs, select a start and end date and time to define the range for displaying results.
4. If you are viewing the **Warnings** tab:
   a. From the **Hazard Types** drop-down, select the hazard you want to view.
   b. From the **Places** drop-down, select an area of interest.
   c. From the **Levels** drop-down, select whether you want to display the results for all levels or for a specific level.
   d. From the **Urgencies** drop-down, select whether to display the results for all urgencies or for a specific urgency.
   e. From the **Certainties** drop-down, select whether to display the results for all certainties or for a specific certainty.
5. If you are viewing the **Tropical** tab:
   a. From the **Variables** drop-down, select the variable that you want to view.
   b. From the **Places** drop-down, select an area of interest.
6. Alternatively, you can use the **Search** field to search for a specific detail in the Advisory data.
7. Select **Refresh**.

   The filtered results are displayed.

To Preview an Advisory image:

1. From the **Process Status** list, select the **Preview Image** button next to the variable you want to preview.

   The **Preview** window will appear.



   Advisory - Preview Image

2. Select **Show Details** to view additional advisory information, including the language, headline, description, impacts, and any recommended instructions.
3. Select the **Show Background** toggle button to show/hide the background layer in the preview image.
4. Select **OK** to close the preview.

Output Styles

In the **Output Styles** section, you can add and customize the color palette of weather variables displayed on a map, enabling you to control the color and style of your weather map layers. Some weather variables use standardized color schemes, such as the MeteoAlarm warning system 71, which categorizes severe weather alerts into three awareness levels—Moderate, Severe, and Extreme.

Color palettes are available for export to use as a template or to share with other Stations. Users can then easily import a previously exported color palette to modify an existing style or to use as a starting point for creating additional styles.

The following topics are covered in this section:

Adding Output Styles to a Weather Variable 65

Modifying Output Styles 69

MeteoAlarm Warning Colors 71

Adding Output Styles to a Weather Variable

The first step is to add Output Styles to a weather variable. After adding the Output Style, you must choose one to set as the default for the weather variable, as only a single Output Style can be designated as the default.

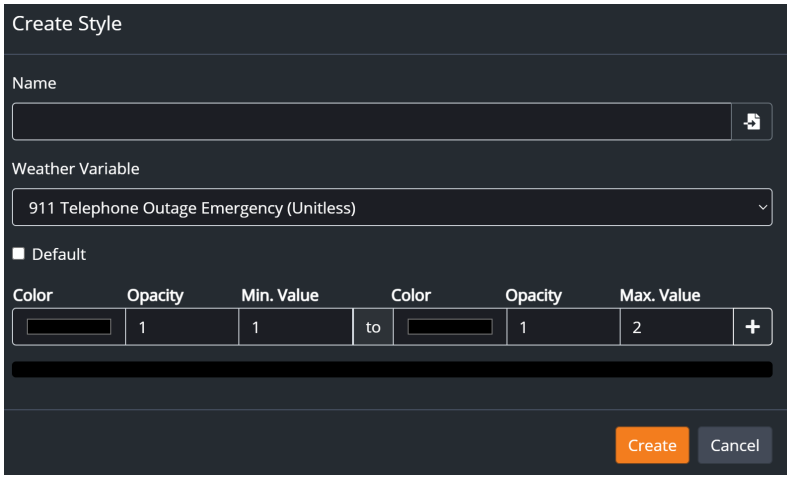
When adding an output style, the available settings depend on the selected weather variable. Some weather variables allow defining a full color range 65 with multiple increments, while others use only fill and outline colors 67. Follow the appropriate procedure based on the selected weather variable.

To add an Output Style for a full color range weather variable:

1. In the top-right corner of the **Output Styles** list, select **+Add**.

   Alternatively, you can select the **Add** button next to the weather variable to which you want to add a style.

   The **Create Style** window opens.



   Create Styles Window

2. In the **Name** field, enter a name for the new style.
3. From the **Weather Variable** drop-down, select the weather variable you want to customize.
4. Select the **Default** checkbox if you want to set the style as the default for the variable.

   ★If you have created multiple styles for a single weather variable, ensure that only one style is selected as the default.

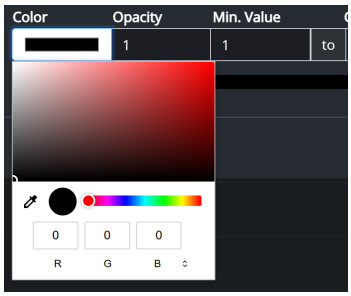
5. In the style settings table, select the **+** button to add additional rows as needed to create a customized color range for your style.

   Each row in the table indicates an increment in the range. The left side of the row sets the starting values for an increment, and the right side of the row sets the ending values for an increment.

6. In each row set the **Color**, **Opacity**, and **Min./Max. Value** as follows:

   a. In the left side of the row, use the color picker to set the starting color for the range.

      The color picker opens.



      Output Styles Color Picker

   b. Drag and drop the selector to the color you want.

      Alternatively, you can use the Eyedropper tool to select a color from another source displayed on your screen or manually enter the RGB values.

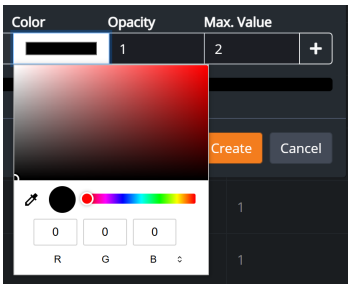
   c. In the **Opacity** field, enter or select the value to set the color opacity.

   d. In the **Min. Value** field, enter or select the starting value.

      ★The **Min. Value** is the minimum value for the measurement unit of the weather variable.

   e. In the right side of the row, use the color picker to set the ending color for the first increment.

      The Color Picker opens.



      Output Styles Color Picker

   f. Drag and drop the selector to the color you want.

      Alternatively, you can use the Eyedropper tool to select a color from another source displayed on your screen or manually enter the RGB values.

   g. In the **Opacity** field, enter or select the value for the color opacity.

   h. In the **Max. Value** field, enter or select the ending value.

7. Continue setting the color, opacity, and Min./Max Value for each row you added to the table.

8. When you have finished, select **Create**.

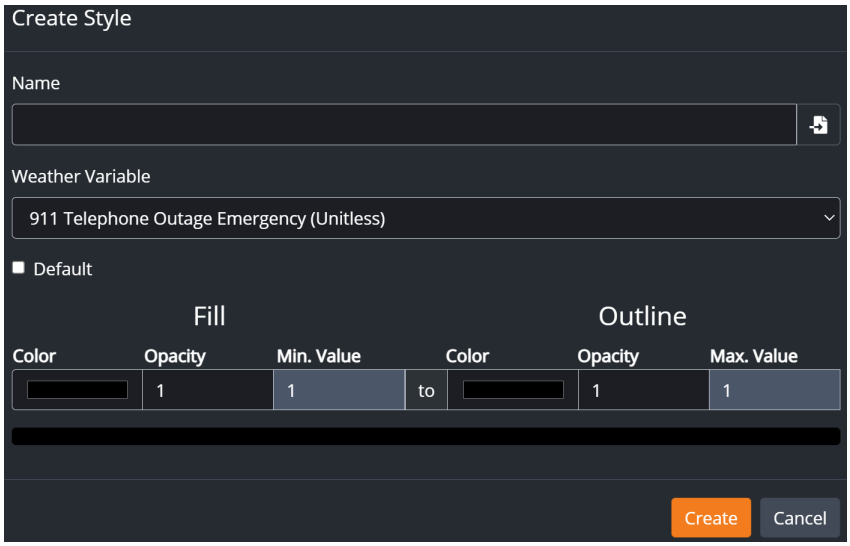
   The new **Output Style** will be added to the weather **variable**.

To add an Output Style for a variable that uses only Fill and Outline options:

1. In the top-right corner of the **Output Styles** list, select **+Add**.

   Alternatively, you can select the button next to the **Weather Variable** to which you want to add a style.

   The **Create Style** window appears.



Create Style Window

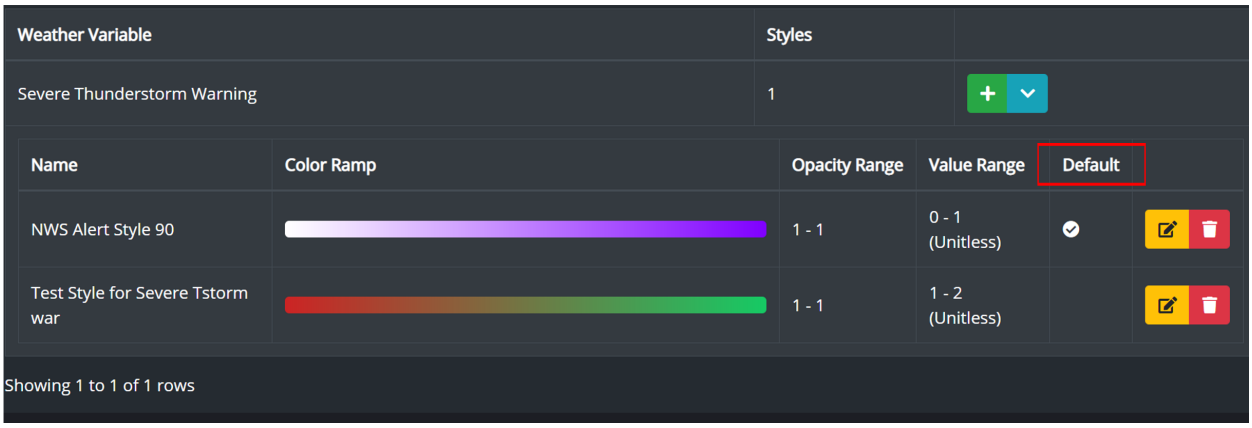
2. In the **Name** field, enter a name for the new style.
3. From the **Weather Variable** drop-down, select the weather variable you want to customize.
4. Select the **Default** checkbox if you want to set the style as the default for the variable.

   ★If you have created multiple styles for a single weather variable, ensure that only one style is selected as the default.
5. Use the color picker to select a **Fill** color.
6. Use the color picker to select an **Outline** color.
7. In the **Opacity** fields, enter or select the value to set the color opacity.
8. When you have finished, select **Create**.

   The new **Output Style** will be added to the **Weather Variable**.

To set the default Output Style for a Weather Variable:

1. In the **Output Styles** list, select the **Up** arrow next to the **Weather Variable**.
2. Select the **Edit** button next to the **Output Style** you want to set as the default style.
3. In the **Modify Style** dialog, select the **Default** checkbox and select **Modify**.



Output Styles - Default

4. In the **Default** column, confirm only one **Output Style** is set as the default.

To search for a specific Output Style:

- In the **Output Styles** list, enter the name of the **Output Style** in the **Search** field and press **Enter**.

  The search results will be displayed in the **Output Styles** list.

Modifying Output Styles

Once you have created **Output Styles**, you can modify or delete them as needed. You also have the option to export your selected palette for future use and easily import a previously exported color palette. This provides an easy way to ensure consistency of color palettes and styles between the Data Aggregator and the local server.

To modify an Output Style:

1. In the **Output Styles** list, select the **Up** arrow next to the **Weather Variable** you want to modify.
2. Then select the **Edit** button.

   The **Modify Style** dialog will appear, showing the settings that can be modified.

   The following can be modified:

   - **Name**
   - **Weather Variable**
   - **Color, Opacity, and Value ranges**
   - **Default**
3. When you have made the modifications that you want, select the **Modify** button.

To delete an Output Style:

1. In the **Output Styles** list, select the **Up** arrow next to the **Weather Variable** you want to delete.
2. Then select the **Delete** button.
3. In the **Delete Style** dialog, select **Delete**.

To export an Output Style:

1. In the **Output Styles** list, select the **Up** arrow next to the **Weather Variable** from which you want to export the style from.
2. Select the **Export** button.

The .**rsf** file downloads to your system.

To import an Output Style for an existing Style:

1. In the **Output Styles** list, select the **Up** arrow next to the **Weather Variable** to which you want to import a style.
2. Select the **Edit** button.

   The **Modify Style** window appears.
3. Select the **Import** button.

   The File Explorer opens.
4. Navigate to the **.rsf** file you want and select **Open**.

5. Select **Modify**.

   The imported style is applied to the weather variable.

To import an Output Style for a new Style:

1. While creating a new **Style**, in the **Create Style** window, select the **Import** button.

   The File Explorer opens.
2. Navigate to the .**rsf** file you want and select **Open**.
3. Select **Create**.

   The imported style is applied to the weather variable.

MeteoAlarm Warning Colors

The MeteoAlarm warning system provides a standardized way to display severe weather alerts across multiple European countries. Instead of categorizing warnings by weather type (such as wind or ice), it uses a three-level color scale to indicate severity:

Moderate (Yellow): Conditions may cause some disruptions but are generally manageable.

Severe (Orange): Weather events that could lead to significant impacts and require precautionary measures.

Extreme (Red): High-risk conditions that may pose threats to safety and require immediate attention.

Raiden includes 14 weather variables that use the MeteoAlarm color scheme:

- Avalanche
- Coastal Event
- Drought
- Flood
- Fog
- Forest Fire
- High Temperature
- Low Temperature
- Marine Hazard
- Rain
- Rain Flood
- Snow or Ice
- Thunderstorm
- Wind

Each of these weather variables includes three preset styles—one for each level of severity. These styles come pre-configured and do not need to be manually added. However, users can modify 69 them if necessary.



Output Styles - MeteoAlarm Warning Color Scale

Data Profiles

Data Profiles provide a centralized way to manage the datasets and weather variables used by Points, Regions, and Stations within the Areas of Interest. Each profile defines the data selections for a specific asset type, allowing you to configure data once and apply it to any number of locations. This ensures consistency across Areas of Interest and simplifies large-scale updates, since changes to a Data Profile automatically apply everywhere that profile is used. Additionally, profiles can be exported and imported for reuse across systems or projects.

When configuring a Point, Region, or Station, you can assign a Data Profile or choose custom data selections. This setting determines which data sources and weather variables are used for that Area of Interest.

★Only administrators can create, modify, or delete Data Profiles. Basic users may view and apply existing profiles but cannot edit them.

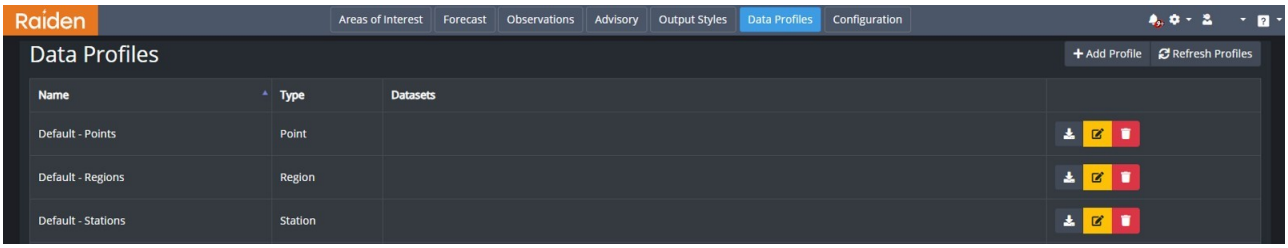
Managing Data Profiles

This subsection describes how to create, edit, and delete Data Profiles.

To add a Data Profile:

1. In the top navigation bar, select **Data Profiles**.

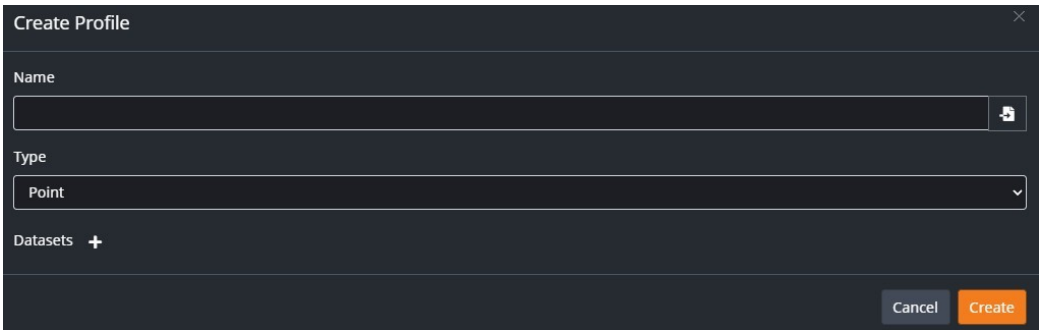
   The **Data Profiles** page opens.



   Data Profiles

2. Select **+ Add Profile**.

   The **Create Profile** window appears.



   Create Profile Window

3. In the **Name** field, enter a unique name for the profile.
4. From the **Type** drop-down, select either **Point**, **Station**, or **Region**.

   Only the data sources applicable to the selected type will be available.

5. In the **Datasets** section, select **+** to add a dataset.
6. Choose a data source from the drop-down list.
7. Select one or more weather variables associated with that data source.

   Additionally, you can use **Select All** or **Deselect All** to quickly manage weather variable selections.
8. If you selected **Region** as the **Type**, use the **Choose Animation Smoothing** drop-down to select a smoothing option.

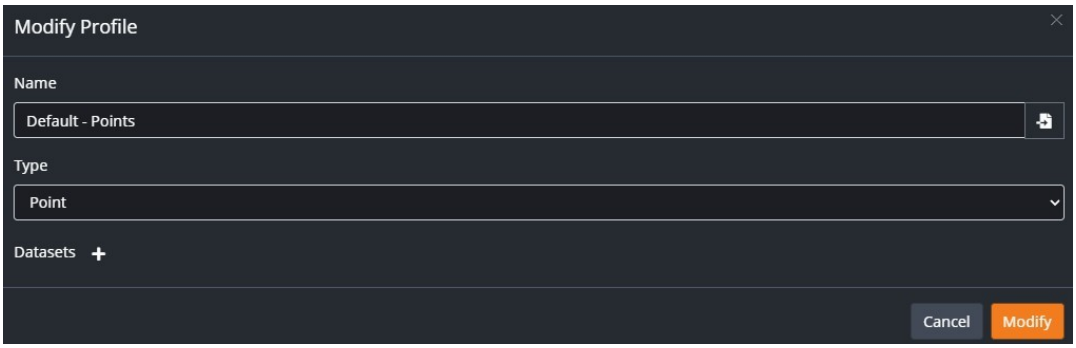
   ★This option is not available for Point or Station profiles.
9. Select **Create** to save the profile.

   The new profile appears in the **Data Profiles** list.

To modify a Data Profile:

1. In the **Data Profiles** list, select the **Modify** button next to the profile you want to edit.

   The **Modify Profile** window appears.



Modify Profile Window

2. Adjust the profile's name, type, datasets, weather variables, or smoothing (for Region profiles only) as needed.
3. Select **Modify** to save your changes.

   Any Area of Interest currently using this profile will automatically reflect the updated data selections.

To export a Data Profile:

1. In the **Data Profiles** list, locate the profile you want to export.
2. Select the **Download** button next to the profile.

   The profile is exported as an **.rdprof** file and can be saved for reuse or sharing.

To import a Data Profile:

An existing Data Profile file can be imported when creating or modifying a profile.

1. Select **+ Add Profile** or select the  **Modify** button next to an existing profile.
2. In the **Create Profile** or **Modify Profile** window, select the  **Import** icon next to the **Name** field.
3. Browse to and select a **.rdprof** file.

   The selected Data Profile file is imported into the profile.

To delete a Data Profile:

1. In the **Data Profiles** list, select the  **Delete** button next to the profile you want to remove.
2. In the **Delete Profile** confirmation dialog, select **Delete**.

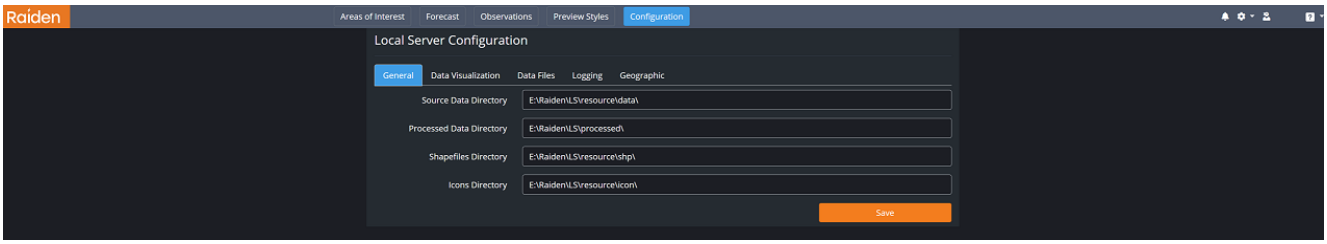
   The Data Profile is deleted.

Configuration

In the **Configuration** section, you can view and set the properties related to the **Local Server** configuration.

- The directory locations and server location details are stored in the **config.ls** JSON file, which is located in C:\Raiden\LS.
- Administrative privileges are required to make changes to the **Configuration** section.

Use this panel to access the configuration tabs.



Local Server - Configuration Panel

The **Configuration** panel contains the following tabs:

General 76

Data Visualization 78

Data Files 80

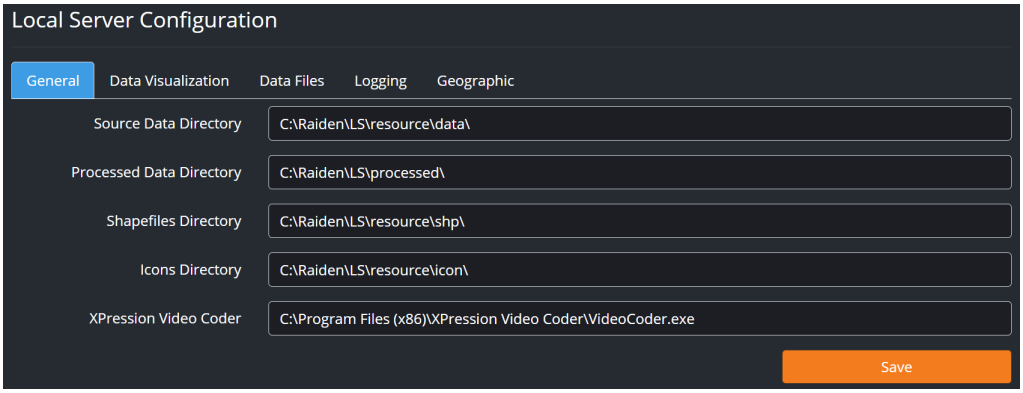
Logging 81

Geographic 82

★Saving the properties in each tab will override the **config.ls** JSON file and reload the information in the system.

General

In the **General** tab, you can view and configure the **General** directories, as described below.



Configuration - General

To map your General directories:

1. Fill in the following fields:

- **Source Data Directory—**in this field, enter the path to the location where you want to store your source data (such as time zones).

  The default path is:

  C:\Raiden\LS\resource\data\

- **Processed Data Directory—**in this field, enter the path to the location where you want to store the downloaded and preprocessed data.

  The default path is:

  C:\Raiden\LS\processed\

  If you need to change the target folder for the **Processed** path, see Changing the Target Process Path 77.

- **Shapefiles Directory—**in this field, enter the path to the location where you want to store the files used to create **Forecast** and **Observations** previews.

  The default path is:

  C:\Raiden\LS\resource\shp\

- **Icons Directory—**in this field, enter the path to the location where you want to store the icon files used in the **Forecast** and **Observations** previews.

  The default path is:

  C:\Raiden\LS\resource\icon\

- **XPression Video Coder—**in this field, enter the path to where the **XPression Video Coder** file is located.

  The default path is:

  C:\Program Files(x86)\XPression Video Coder\VideoCoder.exe

2. Select **Save** to apply your changes.

   The settings will be saved to the **General** tab.

Changing the Target Folder for the Processed Path

If you need to change the target folder for the **Processed** path, you will need to do so in the **config.ls.json** configuration file, in the "processed_path" element:

"processed_path": "C:\\Raiden\\LS\\processed\\"

Once you have changed the target folder, you will need to restart the Local Server to apply the change.

The system will write the new generated files, with the exception of the following two folders that are only generated when you add a new data source or new poi:

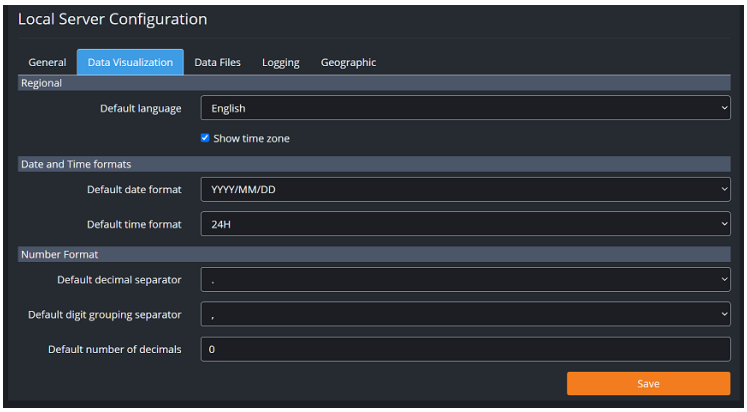
- **processed/grid**
- **processd/poi**

These two folders are not regenerated automatically and must be manually copied and moved into the new target folder.

★**Warning**: If you do not manually move these two folders into the new target folder, the Local Server will experience performance issues when generating new data layers.

Data Visualization

In the **Data Visualization** section, you can set the default language and define the custom date, time and number formats for your region.



Configuration - Data Visualization

This section describes the following procedures:

To configure the Regional preferences: 78

To configure the Date and Time formats: 78

To configure the Number Format preferences: 79

To configure the Regional preferences:

1. From the **Default Language** dropdown, select the language you want to use.

   The options are:

   - **English** — Default
   - **Español**
   - **Français**
2. From the **Time zone** dropdown, select the time zone that you want to use.
3. If you want to enable the **Time Zone** preference, select the **Show Time Zone** checkbox.
4. When you have finished configuring the settings, select **Save**.

To configure the Date and Time format preferences:

1. From the **Default date format** dropdown, select the date format you want to use.

   Your options are:

- **YYYY/MM/DD**
- **DD/MM/YYYY**
- **MM/DD/YYYY**
- **YYYY-MM-DD**
- **DD-MM-YYYY**
- **MM-DD-YYYY**

2. From the **Default time format** dropdown, select the time format you want to use.

   Your options are:

   - **12H**
   - **24H**

3. When you have finished configuring the settings, select **Save**.

To configure the Number Format preferences:

1. From the **Default decimal separator**, select the decimal separator that you want to use.

   Your options are:

   - **Comma (,)**
   - **Period (.)**

2. From the **Default digit grouping separator**, select the digit grouping separator that you want to use.

   Your options are:

   - **Comma (,)**
   - **Period (.)**

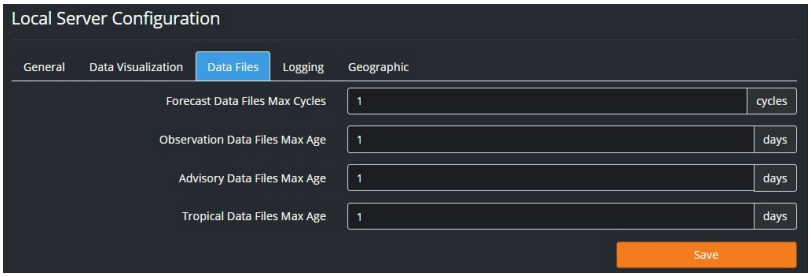
3. In the **Default number of decimals**, use the **Up-Down** arrows to set the number of decimals you want to use.
4. When you have finished configuring the settings, select **Save**.

   The settings will be saved in the **Data Visualization** section.

Data Files

Use the **Data Files** section to manage how long forecast, observation, advisory, and tropical data remains available in the Process Status lists before expiring. When data expires, the system deletes it from the downloads directory, and it is no longer available in the **Process Status** lists or broadcast graphics.

★ **Warning:** Setting the retention values too high may result in server-related performance issues. After receiving data from the Data Aggregator, the Local Server processes and retains the data for broadcast and no longer needs the data from the Data Aggregator. Therefore, you can configure lower retention values on the Data Aggregator.



Configuration - Data Files

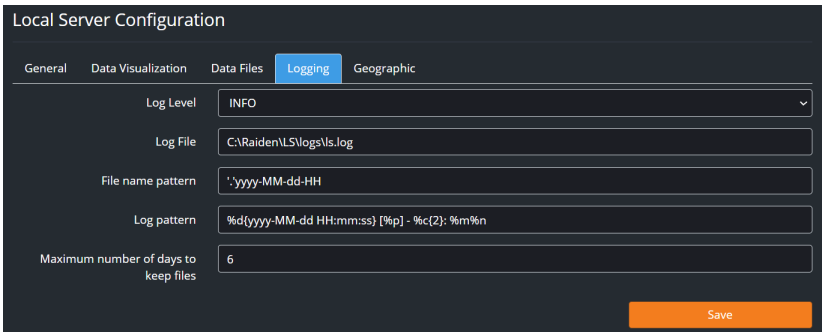
To configure the Data Files settings:

1. In the **Forecast Data Files Max Cycles** field, enter or select the maximum number of forecast data cycles to retain in the **Process Status** list.
2. In the **Observation Data Files Max Age** field, enter or select the maximum number of days to retain observation data in the **Process Status** list.
3. In the **Advisory Data Files Max Age** field, enter or select the maximum number of days to retain advisory data in the **Process Status** list.
4. In the **Tropical Data Files Max Age** field, enter or select the maximum number of days to retain tropical data in the **Process Status** list.
5. Select **Save**.

   The settings are saved.

Logging

In the **Logging** section, you can access and configure the settings to track error reporting and related data.



Configuration - Logging

To configure the logging settings:

1. From the **Log Level** drop-down, select the log level you want to use.

   Your options are:

   - **INFO**
   - **ERROR**
   - **DEBUG**
   - **WARNING**
   - **TRACE**

2. In the **Log File** field, enter the path to the location on your local computer where log files will be stored.

   C:\Raiden\LS\logs\ls.log (Default)

3. In the **File name pattern** field, enter the pattern you want to define the format of file name extensions.

   For example: _yyyy-MM-dd-HH'.log'

4. In the **Log pattern** field, enter the log pattern you want to format your logging information.

   For example: %d{yyyy-MM-ddHH:mm:ss}[%p]-%c{2}:%m%n

5. In the **Maximum Number of Days to Keep Files** field, use the **Up-Down** arrows to select the number of days you want to keep files.

6. When you have configured the settings, select **Save**.

   The settings will be saved to the **Logging** page.

Geographic

In the **Geographic** section, you can access and configure the base map, digital elevation model, and source tile preferences for the maps displayed in the Local Server.

The Geographic tab contains the following sections:

Configuring the Base Map preferences 83

Configuring the Labels Map preferences 84

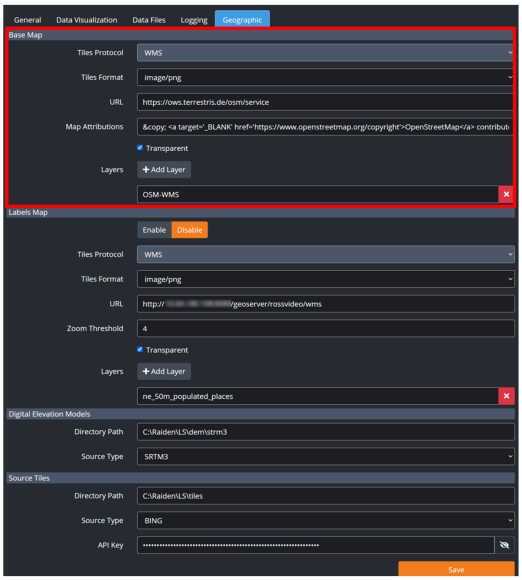
Configuring the Digital Elevation Models 85

Configuring the Source Tiles 86

★ The directory locations and server location details are stored in the **config.ls** JSON file. The **config.ls** JSON file is located in the Raiden project files that were provided with the installation package.

Configuring the Base Map Preferences

In the **Base Map** section, you can configure the base map settings for the map displayed in the **Areas of Interest** section.



Configuration - Base Map

To configure the Base Map preferences:

1. From the **Tiles Protocol** dropdown, select **WMS**.
2. From the **Tiles Format** dropdown, select the image format that you want to use.

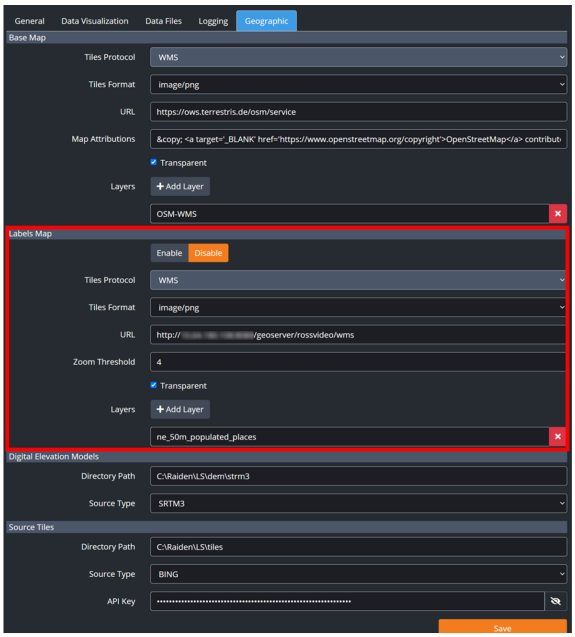
   The options are:

   - **image/png**
   - **image/jpeg**
   - **image/tiff**
3. In the **URL** field, enter the URL for the Web Map Service (WMS).
4. In the **Map Attributes** field, enter the path to the map service provider's attribution information (supports HTML code).
5. If you want to enable transparent tiles for the WMS protocol, select the **Transparent** checkbox.
6. Select the **+Add Layer** button to add additional WMS protocol layers.
7. In the **Layers** field, enter the layer name from the base URL you selected.
8. When you have finished configuring the settings, select **Save**.

Configuring the Labels Map Preferences

In the **Labels Map** section, you can configure the label map settings if you want to use your own maps server to display map labels. Map labels are the geographic labels (such has country, state, city, etc.) displayed when you zoom in on a map in the Local Server.

★ The **Zoom Threshold** setting determines when the map labels will appear as you zoom in on a map. The **Zoom Threshold** of 4 is recommended.



Configuration - Labels Map

To configure the Labels Map preferences:

1. In the **Labels Map** section, select **Enable** to enable the **Labels Map** in the Local Server.
2. From the **Tiles Protocol** drop-down, select **WMS**.
3. From the **Tiles Format** drop-down, select the image format for the tiles.

   Your options are:

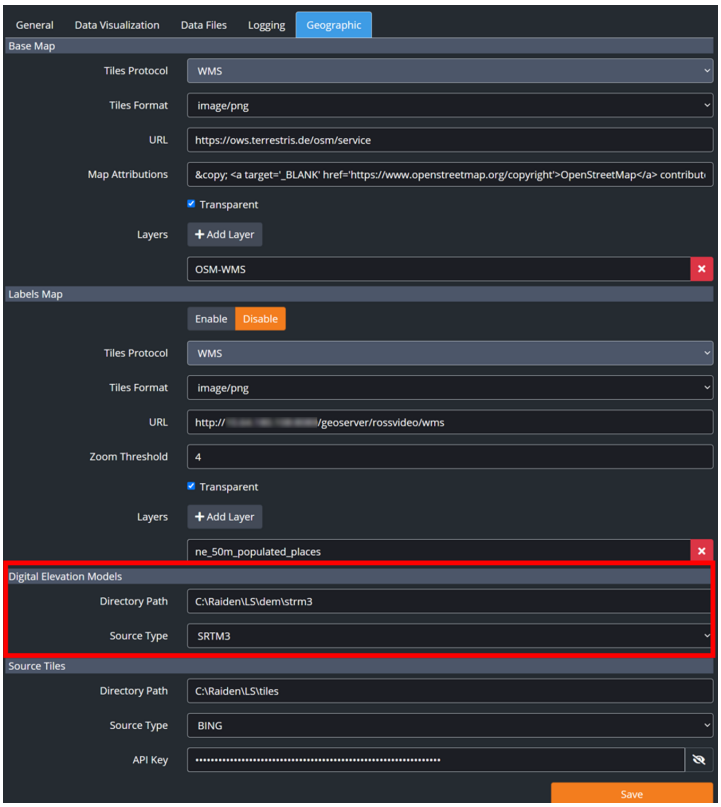
   - **image/png** (default)
   - **image/jpeg**
   - **image/tiff**
4. In the **URL** field, enter the URL for the **Web Map Service** (WMS), as follows:

   `http://xx.xx.xx.xxx:8080/geoserver/rossvideo/wms`
5. In the **Zoom Threshold** field, enter a value for the zoom threshold.

   ★A **Zoom Threshold** of 4 (default) is recommended.
6. Select the **Transparent** checkbox to enable transparent tiles for the WMS protocol.
7. Select the **+ Add Layer** button to add additional WMS protocol layers.
8. In the **Layers** field, enter the layer name for the **Labels Map** URL.
9. When you have finished configuring the settings, select **Save**.

Configuring the Digital Elevation Models Preferences

Once you have configured the **Base Map** and **Label Map** settings, you will need to configure the **Digital Elevation Models** (DEM) settings. DEMs are files that use either Shuttle Radar Topography Mission 1 (SRTM1) or Shuttle Radar Topography Mission 3 (SRTM3) radar observations to provide digital representations of surface elevations on a map. Your Raiden installation package comes with SRTM 3 data files, which contain over 14,000 DEM files. SRTM1 files are supported but not included.



Configuration - Digital Elevation Models

To configure the Digital Elevation Models preferences:

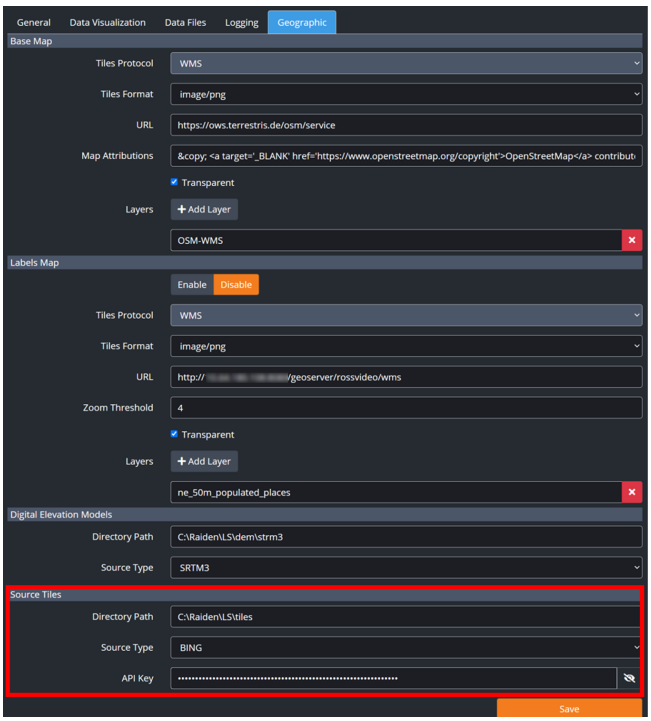
1. In the **Directory Path** field, enter the path to the location where you want to store the DEM files, where the SRTM1 data is located.
2. From the **Source Type** drop-down, select the source type for the DEM you are using.

   The options are:

   - **SRTM1**
   - **SRTM3**
3. When you have finished configuring the settings, select **Save**.

Configuring the Source Tiles Preferences

Next, you will need to configure the **Source Tiles** preferences. To complete this section, you will need to select an online map service (such as Bing or Mapbox) which provides the source tiles of geographic data (such as maps or other geographic images).



Configuration - Source Tiles

To configure the Source Tiles preferences:

1. In the **Directory Path** field, enter the path to the location where you want to store the downloaded map tiles used to create the **Regions** base layers.
2. From the **Source Type** drop-down, select the source type you want to use.

   The options are:

   - **BING**
   - **MAPBOX**
3. In the **API Key** field, enter the **API Key** for the map tile source you selected.
4. When you have finished configuring the settings, select **Save**.

   The settings will be saved in the **Geographic** section.

Story Creator

The Story Creator is used to create and manage weather stories using data from the Data Aggregator and Local Server.

Story Creator interacts with your selected graphics engine (XPression or Voyager) to provide content that can be customized and arranged into a story sequence. This content can include scenes or elements, along with graphics, overlays, and weather data.

For XPression workflows, base scenes are provided with predefined metadata and settings to help streamline story creation. These base scenes are the recommended starting point for building weather stories.

For Voyager workflows, Story Creator integrates with the Raiden plugin for Voyager, allowing you to build story sequences using elements from your Voyager project.

Before you begin, make sure that you have the latest version of your graphics engine running with the Raiden plugin enabled and your weather project open.

The following topics are covered in this section:

Accessing the Story Creator 88

Setting Display Preferences 90

User Interface Walkthrough 89

Story Browser 91

Editor 100

Graphics Objects 101

Raiden Story Player 106

Configuration 108

Accessing the Story Creator

This section provides instructions for accessing the Story Creator.

To access the Story Creator:

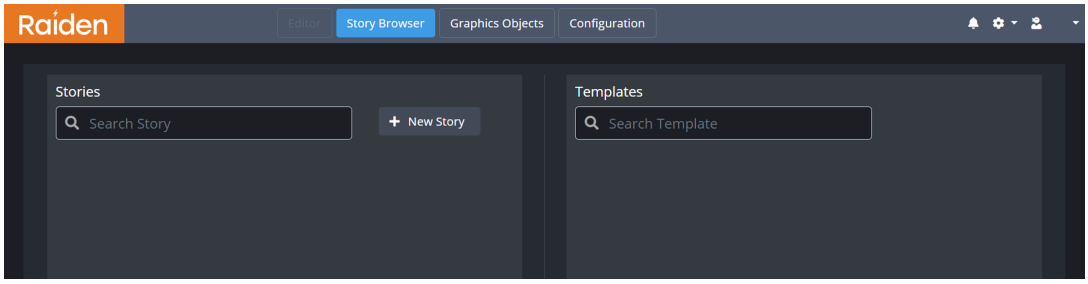
1. Open a Web browser.
2. In the URL field enter the IP address of the **Story Creator** followed by the port number through which you will be communicating with the **Local Server** (in the format XX.XX.XXX.XXX:8085).
3. Press **Enter**.

   You will be taken to the **Story Creator Login** page.



Story Creator Login Page

4. Log in with the default **User Name** and **Password** provided by Ross Video.
5. Upon successful login, you will be on the **Raiden Story Browser** page.

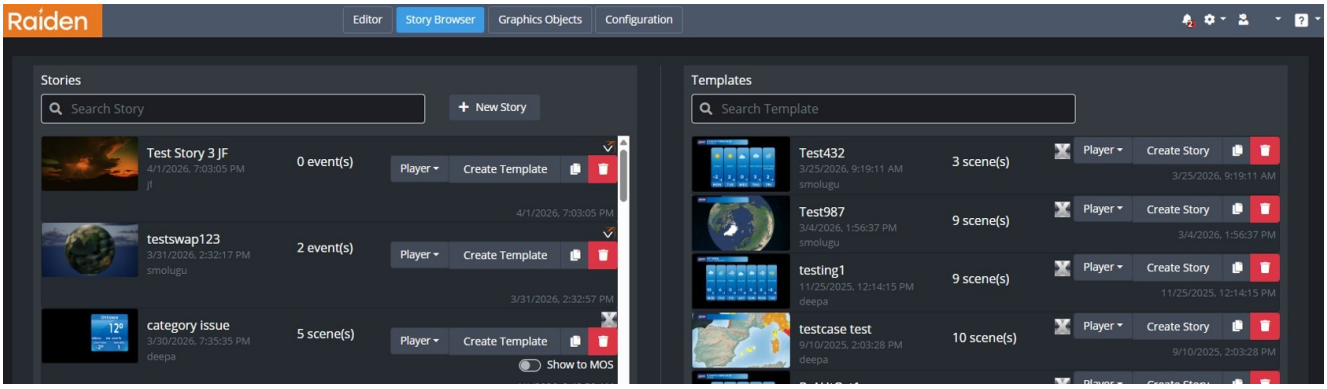


Raiden Story Browser

Story Creator User Interface Walkthrough

The Story Creator user interface provides access to the tools used to create, organize, and manage weather stories. The interface is organized into several primary tabs that allow you to navigate between story management, editing, graphics configuration, and system settings.

The main areas of the Story Creator interface include the **Editor**, **Story Browser**, **Graphics Objects**, and **Configuration** tabs, as well as controls in the upper-right corner for notifications, user settings, and help.



Story Creator User Interface

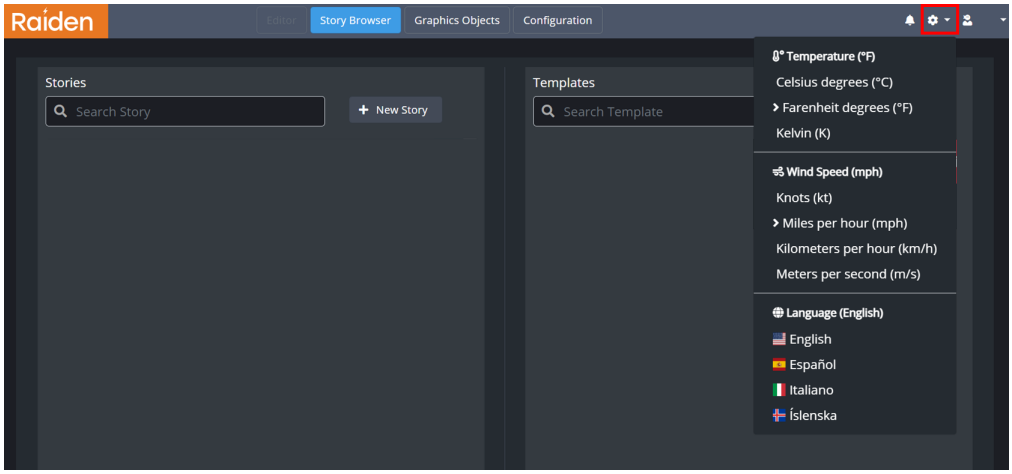
Interface Element	Description
Editor	The workspace where story content is assembled and prepared for broadcast. In the Editor, you can add and arrange elements within a story, preview the results, and publish the rundown to the selected graphics engine.
Story Browser	Used to create and manage stories and templates. From this tab, you can create new stories, open existing stories, and manage previously created templates. Stories in the Story Browser are associated with a specific graphics engine (Voyager or XPression), which determines how the story is structured and displayed.
Graphics Objects	Provides access to graphical assets that can be used in weather stories. These objects can include images, videos, icons, or other visual elements used within scenes.
Configuration	Provides access to system settings for Story Creator, including display preferences, engine configuration, logging settings, and other application options.
User Controls	Controls located in the upper-right corner of the interface. These controls include: • **Notifications** – Displays alerts and system messages related to Story Creator activity. • **Settings** – Opens the user settings and configuration options. • **User Menu** – Displays the currently logged-in user and provides option to log out of the application. • **Help** – Provides access to the Raiden User Guide.

Setting Display Preferences

This section provides instructions for setting the user-specific display preferences for the Story Creator's web user interface. For instructions on setting the default display preferences for your organization see, Data Visualization. 110

To configure unit display preferences:

1. In the top-right corner, select the **Settings** icon.



Story Creator - Settings Menu

The **Settings** drop-down menu appears.

2. From the drop-down menu, select the units of temperature you want to use.

   The options are:

   - **Celsius degrees** (°C)
   - **Fahrenheit degrees** (°F)
   - **Kelvin** (K) — Default

3. Then select the units of wind speed you want to use.

   The options are:

   - **Knots** (kt)
   - **Miles per hour** (mph)
   - **Kilometers per hour** (km/h) — Default
   - **Meters per second** (m/s)

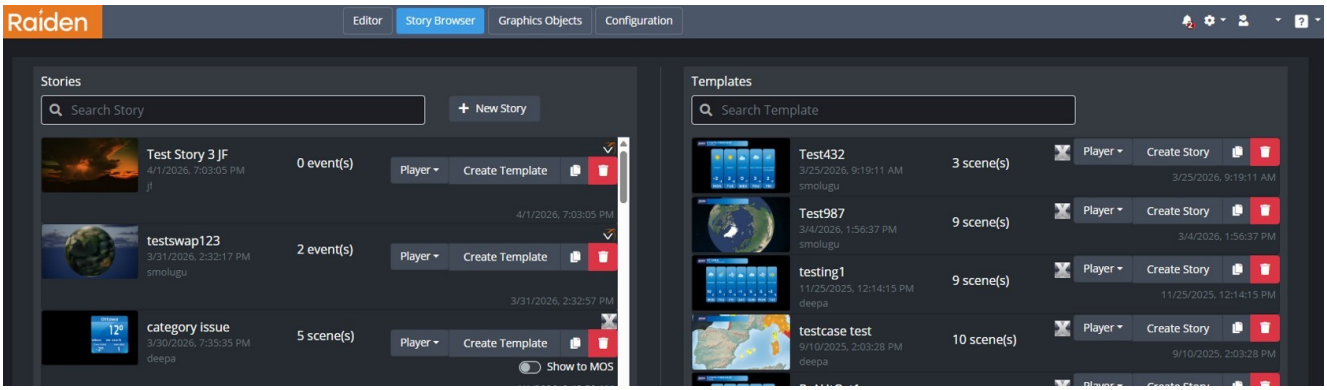
4. Select the language you want to use.

   The options are:

   - **English** — Default
   - **Español**
   - **Français**

Story Browser

The Story Browser is used to create and manage stories and templates. From this tab, you can create new stories, open existing stories, and manage templates.



Story Browser

Stories

On the left side of the user interface is the **Stories** panel. Use this panel to create and manage stories.

For information about creating and managing stories, see Creating Stories 93.

Templates

On the right side of the user interface is the **Templates** panel. Use this panel to create stories from a template.

For information about creating templates, see Creating Templates 97.

Story and Template Controls

Each story or template entry includes controls that allow you to manage that item.

Control	Description
Player	Opens the Raiden Story Player for the selected story or template. **Mobile** - Displays a QR code that can be scanned using a mobile device, allowing the story to be controlled from a phone or tablet. **Desktop** - Opens the Raiden Story Player in a web browser window on the current computer. The **Player** control is also available in the Editor toolbar, allowing the Story Player to be launched directly from the Editor.

Control	Description
Engine Indicator Icons	Displays the graphics engine associated with the story or template. This allows you to identify which graphics engine the story uses.  - indicates an XPression engine.  - indicates a Voyager engine.
Create Template	Available in the Stories panel. Converts the selected story into a reusable template.
Create Story	Available in the Templates panel. Creates a new story using the selected template.
Duplicate	Creates a copy of the selected story or template.
Delete	Removes the selected story or template.

Creating Stories

Stories are initiated in the Story Browser and built and managed in the **Editor**, where they can be saved for future use and edited when necessary.

The following procedures are described in this section:

Creating Stories from Scratch 94

Creating a Story from a Template 94

Copying a Story 95

Deleting a Story 95

Search for an Existing Story 96

Editing an Existing Story 96

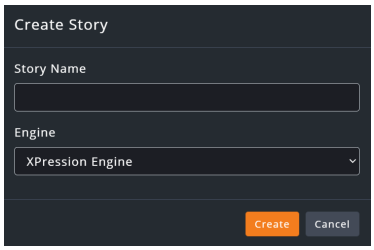
Creating a Story from Scratch

This section describes how to create a story from scratch in the Story Browser.

To create a Story from scratch:

1. In the **Stories** panel, select the + New Story button.

   The **Create Story** dialog opens.



   Create Story Dialog

2. In the **Story Name** field, enter a name for your story.
3. From the **Engine** drop-down, select a single engine or an engine group to use for the story.

   Engines are organized into **Single** and **Group** sections in the list. Engines that are part of a group appear only in the **Group** section and are not available as individual selections.

4. Select **Create**.

   The **Editor** opens.

   The story is automatically saved and is ready to be built and customized in the **Editor**.

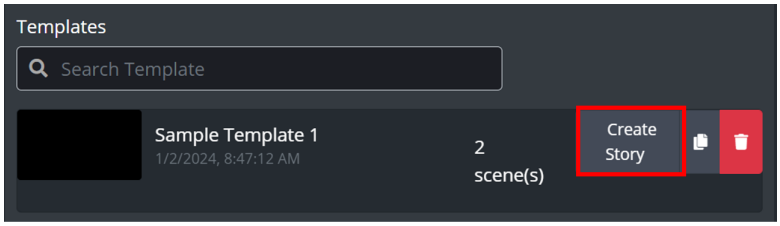
   - For XPression workflows, see Using Story Creator with XPression 133.
   - For Voyager workflows, see Using Story Creator with Voyager 230.

Creating a Story from a Template

This section describes how to create a story from a template in the Story Browser.

To create a story from a template:

1. In the **Templates** panel, select the **Create Story** button for the template you want to use to create a story.



   Templates Panel - Create Story

   The **Create Story** window opens.

2. In the **Story Name** field, enter a name for the story.

3. Select **Create**.

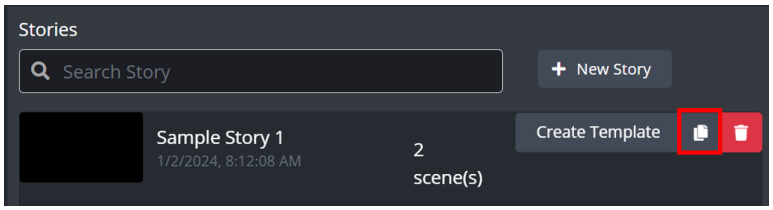
   The story will be saved to the list of stories in the **Stories** panel.

Copying a Story

This section describes how to copy a story in the Story Browser.

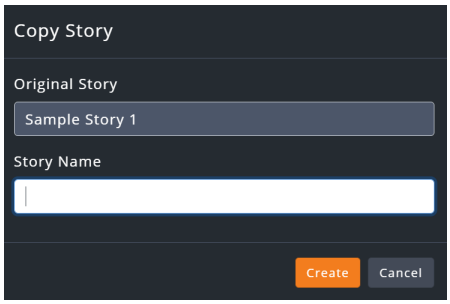
To copy a story:

1. In the **Stories** panel, select the **Copy Story** button for the story you want to copy.



Stories Panel - Copy Story

   The **Copy Story** window opens.



Copy Story Window

2. In the **Story Name** field, enter a name for the story.
3. Select **Create**.

   The story is copied and added to the list of stories in the **Stories** panel.

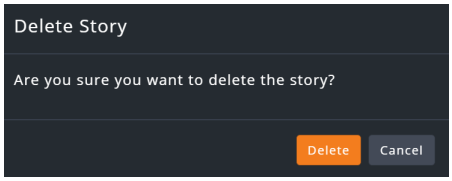
Deleting a Story

This section describes how to delete a story in the Story Browser.

To delete a story:

1. In **Stories** panel, select the **Delete** button for the story you want to delete.

   The **Delete Story** dialog appears.



Delete Story Dialog

2. Select **Delete**.

   The story is deleted from the list of stories.

Search for an Existing Story

This section describes how to search for an existing story in the Story Browser.

To search for an existing Story:

- In the **Stories** panel, enter the name of the story or template in the **Search Story** field.

  The story will appear in the **Stories** panel.

Editing an Existing Story

This section describes how to edit an existing story in the Story Browser.

To edit an existing story:

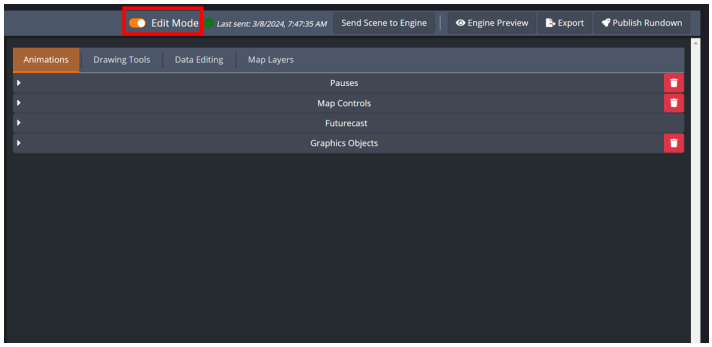
★If you created a story, you can edit it at any time. To edit a story created by another user, you must first enable editing for their story. By default, stories created by other users are accessible in read-only mode.

1. In the **Story Browser**, select the story you want to edit.

   The **Editor** opens.

2. Select the **Edit Mode** toggle switch.

   The story reloads and the **Edit Mode** toggle button is now orange.



Edit Mode Enabled

The story can now be edited.

Creating Templates

With your basic story created, you can create a template from that story to use as a base to quickly create future stories.

The following procedures are described in this section:

To create a Template from a story 98

To copy a Template 98

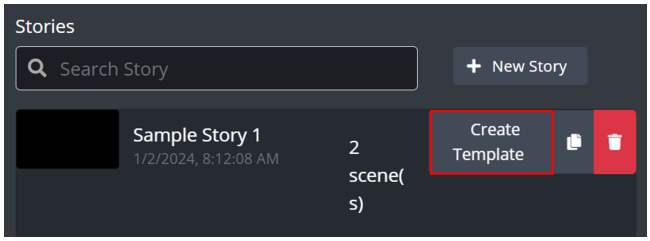
To delete a Template 99

To search for an existing Template 99

To edit an existing Template 99

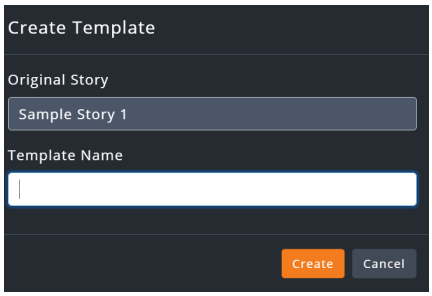
To create a Template from a story:

1. In the **Stories** panel, select the **Create Template** button next to the story you want to save as a template.



Story Browser - Create Template

The **Create Template** window opens.



Create Template Window

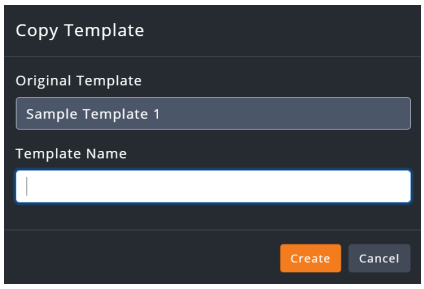
2. In the **Template Name** field, enter a name for the template.
3. Select **Create**.

   The template is saved to the list of templates in the **Templates** panel.

To copy a Template:

1. In the **Templates** panel, select the **Copy** button next to the template you want to copy.

   The **Copy Template** dialog opens.



Copy Template Dialog

2. In the **Template Name** field, enter a name for the template.
3. Select **Create**.

   A copy of the template is saved to the list of templates.

To delete a Template:

1. In the **Templates** panel, select the **Delete** button next to the template you want to delete.

   The **Delete Template** dialog opens.

2. Select **Delete**.

To search for an existing Template:

- In the **Templates** panel, enter the name of the template in the **Search Template** field.

  The template will appear in the **Templates** panel.

To edit an existing Template:

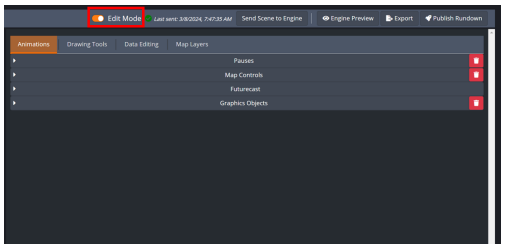
1. In the **Story Browser**, select the template you want to edit.

   The **Editor** opens.

   ★If you are the creator of a template, editing is available at any time. Templates created by other users open in read-only mode. Enabling editing is required before making changes to a template created by another user.

2. Select the **Edit Mode** toggle switch.

   The template reloads and the **Edit Mode** toggle button is now orange.



Edit Mode Enabled

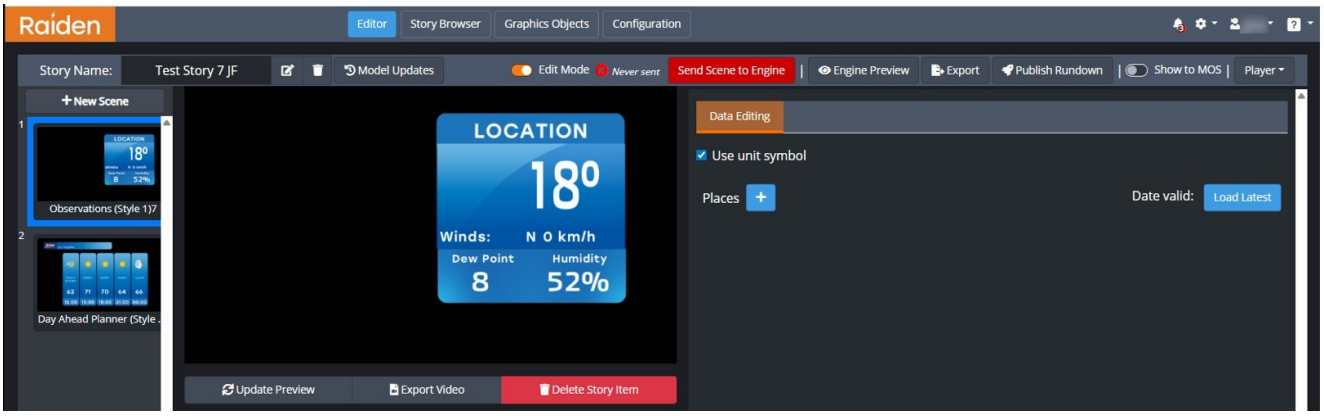
The template can now be edited.

Editor

The Editor is where stories are built, previewed, and prepared for output. In this workspace, you can arrange story content, preview changes, and publish the story to the selected graphics engine.

The Editor includes functionality that is shared across graphics engines. Some features and workflows are specific to the selected engine. For detailed instructions on working with stories for a specific engine, see:

- Using Story Creator with XPression 133
- Using Story Creator with Voyager 230



Story Creator - Editor

The available controls may vary depending on the graphics engine associated with the story. Some controls shown are available only for XPression workflows.

Interface Element	Description
Story Panel	Located on the left side of the Editor, this panel displays the sequence of story content (scenes or elements). You can add, remove, and reorder items in the story.
Preview Area	Located in the center of the Editor, this area displays the currently selected item as it will appear when rendered by the graphics engine.
Properties Panel	Located on the right side of the Editor, this panel displays configuration options for the selected item. Availability and content of this panel depend on the selected graphics engine and item type.
Edit Mode	Enables or disables editing of the story. When enabled, changes can be made to the story content.
Send Scene to Engine	Sends the current scene to the graphics engine. This control is available for XPression workflows.
Engine Preview	Opens a live preview of the story as rendered by the selected graphics engine.
Export	Exports the current content for external use. This control is available for XPression workflows.
Publish Rundown	Sends the full story sequence to the graphics engine for playout.
Show to MOS	Controls whether the story is visible to MOS-enabled systems. When enabled, the story can be accessed from connected MOS systems.
Player	Opens the Raiden Story Player to control playback of the story.

Graphics Objects

This section describes how to manage graphics objects used in Raiden. Graphics objects include visual assets such as icons and videos that can be displayed on top of scenes within a story.

A few **Graphics Objects** have been provided to help make creating stories easier. If you have your own graphics objects and videos that you want to use, you can upload those to the **Graphics Objects** section.

The following topics are discussed in this section:

Icons 102

Videos 104

Icons

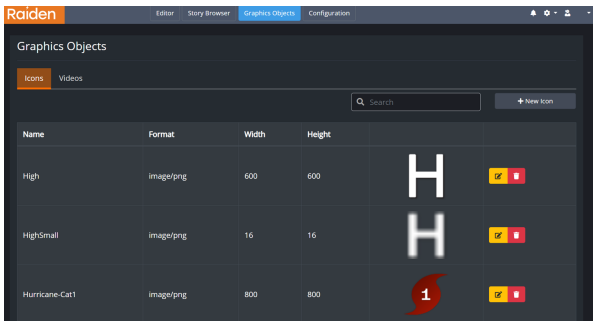
This section provides the instructions for adding, modifying, and deleting an **Icon**.

★ The following image file formats are supported:

- PNG
- JPG
- PSD
- TIFF

To add a new Icon:

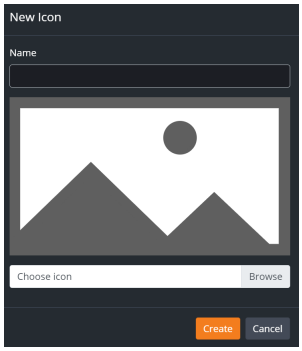
1. In the **Graphics Objects** section, select the **Icons** tab.



Graphics Objects Section - Icon Tab

2. Select the + New Icon button.

   The **New Icon** dialog will appear.



New Icon Dialog

3. In the **Name** field, enter the name for the icon.
4. Select **Browse**.

   The **File Explorer** opens.

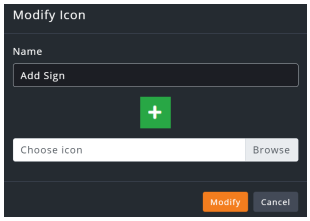
5. Navigate to the image you want to upload and select **Open**.
6. Select **Create**.

   The image is added to the **Icons** list.

To modify an Icon:

1. In the **Graphics Objects** section, select the **Icons** tab.
2. Select the **Modify** button next to the icon you want to modify.

   The **Modify Icon** window appears.



   Modify Icon Window

   The following modifications can be made:

   - Enter a new name
   - Upload a new icon

3. When you have modified the **Icon**, select the **Modify** button.

   The modifications are saved.

To delete an Icon:

1. In the **Icons** tab, select the **Delete** button next to the icon you want to delete.

   The **Confirmation** dialog will appear.

2. Select the **Delete** button.

   The icon will be deleted from the **Icons** list.

To search for an Icon:

- In the **Search** field, enter the name of the **Icon** and press **Enter**.

  The **Icon** will be displayed in the **Icons** list.

Videos

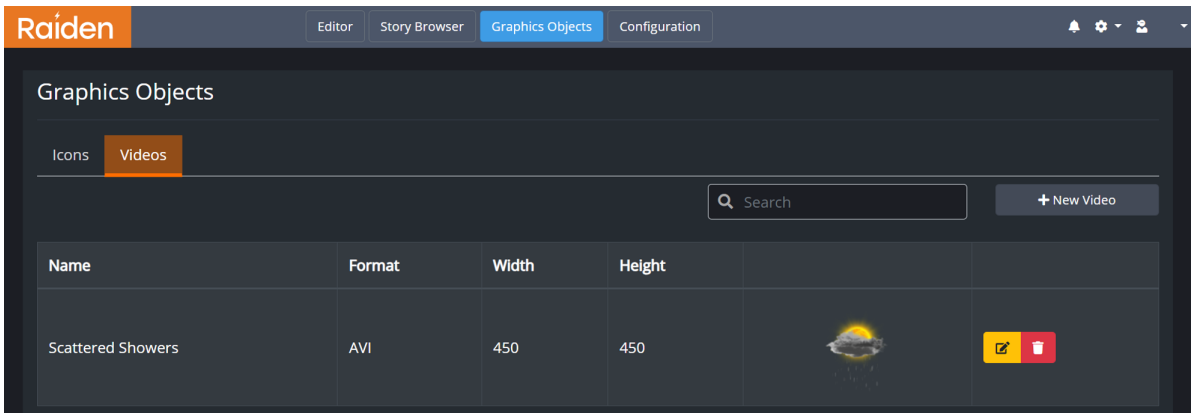
This section provides the instructions for adding, modifying, and deleting a **Video**.

★ The following video file formats are supported:

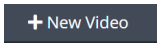
- AVI files (XPVC codec for XPression)

To add a video:

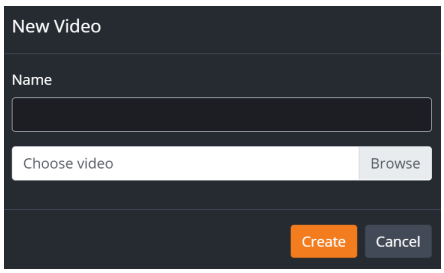
1. In the **Graphics Objects** section, select the **Videos** tab.



Graphics Objects Section - Videos Tab

2. Select the  button

   The **New Video** window will appear.



New Video Window

3. In the **Name** field, enter the name for the video.
4. Select **Browse**.

   The **File Explorer** opens.
5. Navigate to the video you want to upload and select **Open**.
6. Select **Create**.

   The video is added to the **Videos** list.

To modify a video:

1. In the **Graphics Objects** section, select the **Videos** tab.
2. Select the  **Modify** button next to the video you want to modify.

   The following modifications can be made:

   - Enter a new name
   - Upload a new video
3. When you have modified the video, select the **Modify** button.

   The modifications are saved.

To delete a video:

1. In the **Videos** tab, select the  **Delete** button next to the video you want to delete.

   The **Confirmation** window will appear.
2. Select the **Delete** button.

   The video will be deleted from the **Icons** tab.

To search for a video:

- In the **Search** field, enter the name of the video and press **Enter**.

  The video will be displayed in the **Icon** list.

Raiden Story Player

The Raiden Story Player is used to preview and control story playout. It provides a consistent interface for stepping through story elements and managing what is displayed during playback.

★The Raiden Story Player can be launched from the Story Browser or Editor using the **Player** control.



Raiden story Player

Primary and Secondary Stories

At the top of the interface is the story display. The appearance of this display depends on which graphics engines are set up in your Raiden system.

If both XPression and Voyager engines are set up, the story display appears as selectable tabs, allowing you to switch between stories, as shown above. The player automatically loads the most recently published story from each engine, allowing you to run stories from both XPression and Voyager at the same time.

- The Primary story is the story used to launch the player.
- The Secondary story is the most recently published story from the other engine type.

If only one graphics engine (XPression or Voyager) is set up, you will see only the single story loaded in the player.

Playback Controls

Below the story display controls are the playback controls used to navigate through the story sequence. These controls allow you to move between elements and manage story playout.

Playback Control	Description
Take First	Plays the first scene or element in the sequence.
Take Previous	Moves to the previous item in the sequence.
Take Next	Advances to the next item in the sequence.
Take Last	Jumps to the final item in the sequence.
Clear	Clears the currently active item from the graphics engine.

Sequence Items

The Sequence Items section displays the list of elements included in the story. Each row represents an individual scene or item in the sequence.

Sequence Item	Description
Index	Displays the position of the item within the sequence.
State	Indicates whether the item is currently visible (**Online**) or not visible (**Offline**) in the graphics engine.
Thumbnail	Displays a preview image of the scene or element.
Name	Displays the name of the scene or element.
Actions	Provides controls to trigger an item immediately, regardless of its position in the sequence.

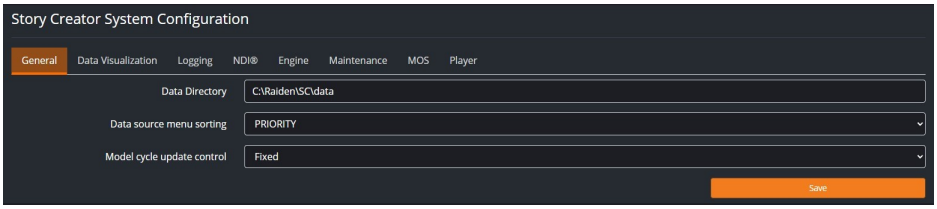
For workflow-specific information on using the Raiden Story Player with a particular graphics engine, see the Raiden for XPression 121 and Raiden for Voyager 225 chapters.

Configuration

In the **Configuration** section, you can view and set the properties related to the **Story Creator** configuration.

- Saving the properties in each tab will override the **config.sc** JSON file and reload the information in the system.
- Administrative privileges are required to make changes to the **Configuration** section.

Use this panel to access the **Configuration** tabs.



Story Creator - Configuration

The **Configuration** panel contains the following tabs:

General 109

Data Visualization 110

Logging 111

NDI 112

Engine 113

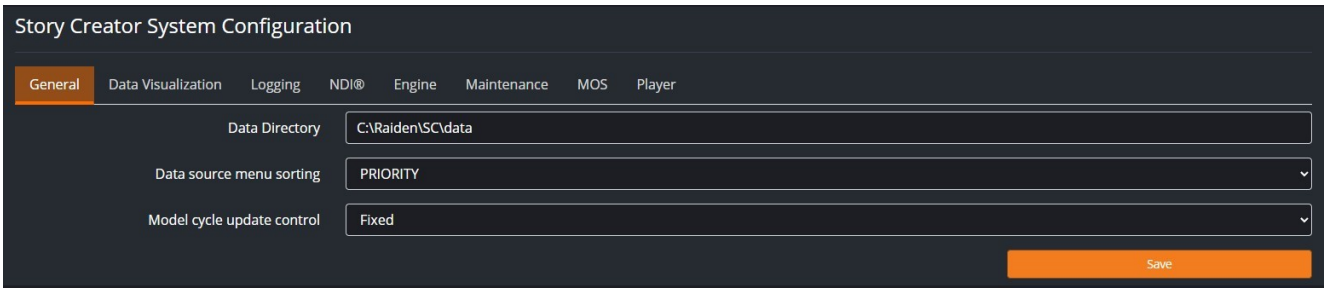
Maintenance 118

MOS 119

Player 120

General

Use the **General** tab to access and configure the **Data Directory** settings, which is where graphics objects and thumbnails are stored.



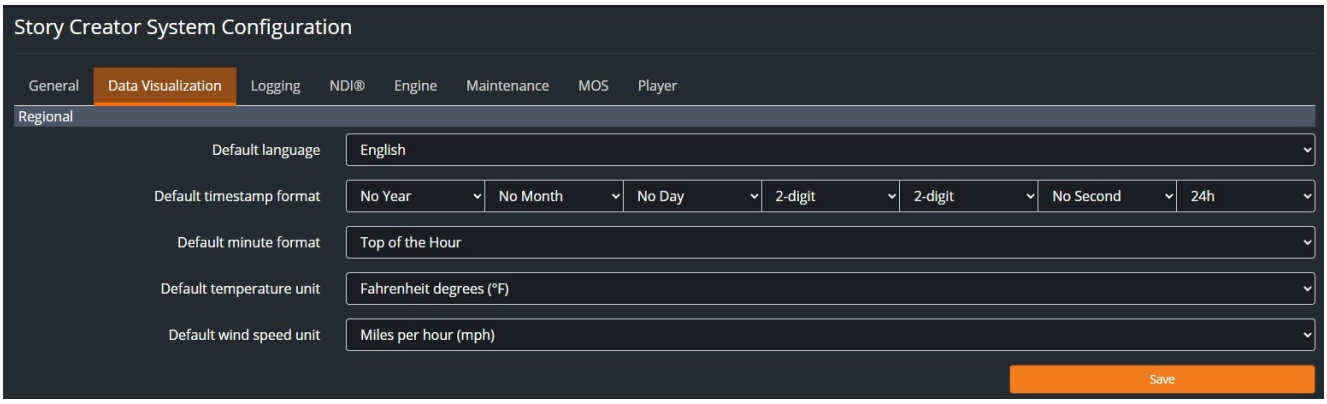
General Configuration - Directories

To configure the Data Directory:

1. In the **Data Directory** field, enter the path to the location where you want to store **Graphics Objects**.
   The default directory is:
   - D:\StoryCreator
2. From the **Data source menu sorting** drop-down, select how you want data sources to be displayed.
   The options are:
   - **Alphabetical**—Lists available data sources alphabetically.
   - **Priority**—Lists available data sources by priority order.
3. From the **Model cycle update control** drop-down, select how you want model data updates to be managed.
   The options are:
   - **Fixed**—Uses and maintains the model cycle that was selected when the scene was last configured.
     ★Data edits are retained until the model cycle is purged, according to the Local Server settings.
   - **Automatic – Latest Completed Cycle**—Automatically retrieves and applies the most recent completed model cycle.
4. When you have finished configuring the settings, select **Save**.

Data Visualization

In the **Data Visualization** section, you can configure the default display preferences for first-time users. These preferences determine how language, time, and measurement units appear in a scene. Users are assigned these defaults, and they can update them for their individual profile once logged in via the User Settings control in the top-right corner of the application window.



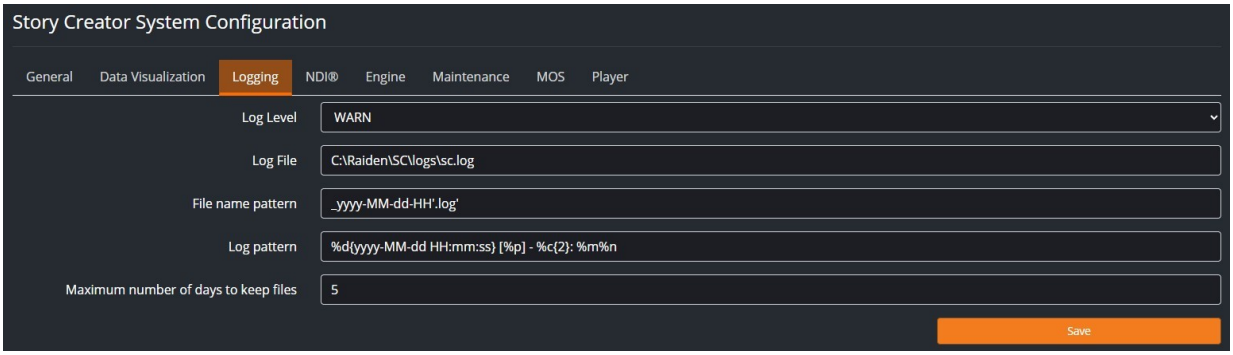
Configuration - Data Visualization

To configure the Default preference:

1. From the **Default language** drop-down, select the preferred language.
2. From the **Default timestamp format** drop-downs, configure the date and time values to display for each field.
3. From the **Default minute format** drop-down, select how minutes are displayed.
4. From the **Default temperature unit** drop-down, select the preferred unit.
5. From the **Default wind speed unit** drop-down, select the preferred unit.
6. When you have finished configuring the settings, select **Save**.

Logging

In the **Logging** section, you can access and configure the settings to track error reporting and related data.



Configuration - Logging

To configure the logging settings:

1. From the **Log Level** dropdown, select the log level you want to use.

   Your options are:

   - **INFO**
   - **ERROR**
   - **DEBUG**
   - **WARNING**
   - **TRACE**
2. In the **Log File** field, enter the path for the **Log File**.

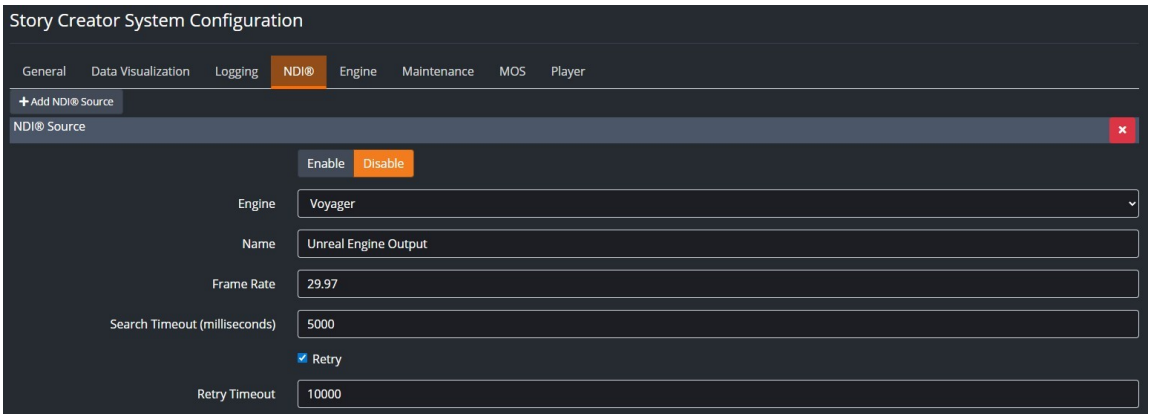
   The default location is D:\StoryCreator\logs\sc.log
3. In the **File Name Pattern** field, enter the pattern you want to define the format of file name extensions.

   For example: `_yyyy-MM-dd-HH'.log'` results in a file name extension _2024-02-15-13.log
4. In the **Log pattern** field, enter the log pattern you want to format your logging information.

   For example: `%d{yyyy-MM-ddHH:mm:ss}[%p]-%c{2}:%m%n`
5. In the **Maximum Number of Days to Keep Files** field, enter or select the number of days you want to keep files.
6. When you have configured the settings, select **Save**.

NDI

Use the **Network Device Interface (NDI)** tab to configure the **NDI Source** settings. The **NDI** enables the Story Creator to preview video rendered in your graphics engine (such as XPression or Voyager).



Configuration - NDI

To add an NDI Source:

1. In the **NDI** tab, select the **+Add NDI Source** button to add a new **NDI Source**.

   A new **NDI Source** section will appear.
2. Select **Enable** to enable **NDI Source**.
3. From the **Engine** drop-down, select the engine you are using (Voyager or XPression).
4. In the **Name** field, enter the name of the output engine.
5. In the **Frame Rate** field, enter or select the frame rate you want displayed.

   The default frame rate of 29.97 is recommended.
6. In the **Search Timeout (milliseconds)** field, enter or select the amount of time (in milliseconds) the **NDI** waits for a response from the selected engine to create a network connection.
7. Select the **Retry** box to automatically retry creating a network connection to the selected engine after an initial timeout.
8. In the **Retry Timeout** field, enter or select the time interval (in milliseconds) between attempts to connect to the selected engine.
9. Select **Save**.

To delete an NDI Source:

- In the **NDI** tab, select the **Delete** button, next to the **NDI Source** you want to delete.

  The **NDI Source** will be deleted from the **NDI Tab**.

Engine

Use the **Engine** tab to configure the graphics engines used by Story Creator. You can add multiple graphics engines, such as XPression and Voyager, and organize Voyager engines into engine groups when multiple engines are running the same project concurrently.

Engine groups are typically used in tracked virtual production workflows, such as Augmented Reality (AR), Virtual Set (VS), or Extended Reality (XR) environments, where each camera may be driven by a separate Voyager engine.

After Story Creator is configured to communicate with a graphics engine, it can retrieve scenes, data, and thumbnails from the weather project running on that engine.



Configuration - Engine

The following topics are covered in this section:

Configuring a Single XPression Engine 114

Configuring a Single Voyager Engine 115

Creating an Engine Group 116

Modifying an Engine or Engine Group 116

Deleting an Engine or Engine Group 117

Configuring a Single XPression Engine

Use this procedure to configure a connection between Story Creator and an XPression graphics engine.

To add a single XPression engine:

1. Select the **Single** sub-tab and then select **+New Engine**.

   The **New Engine** dialog appears.

2. Configure the engine settings as described in the following table.

Setting	Description
Type	Select the **XPression** graphics engine.
Description	Enter a descriptive name for the graphics engine.
Host	Enter the name of the endpoint for the plugins. • For an XPression engine, enter the URL of the XPression plugin.
Port	Enter the port number used by the engine. This value can be obtained from the plugin configuration.
API Key	Enter the XPression Plugin API key.
Video Output Monitor HTTPS Port	Enter the port used by the engine's Video Output Monitor service. Select the checkbox to enable the Video Output Monitor.

3. Select **Create** to save the settings.

Configuring a Single Voyager Engine

Use this procedure to configure a connection between Story Creator and a Voyager graphics engine.

To add a single Voyager engine:

1. Select the **Single** sub-tab and then select **+New Engine**.

   The **New Engine** window opens.

2. Configure the engine settings as described in the following table:

Setting	Description
Type	Select the **Voyager** graphics engine.
Description	Enter a descriptive name for the graphics engine.
Host	Enter the name of the endpoint for the plugins. • For a Voyager engine, enter the location of the Voyager machine.
Port	Enter the port number used by the engine. This value can be obtained from the plugin configuration.
API Key	Enter the Voyager Plugin API key.
Operator	Specifies the operating mode for the Voyager engine. • **None** – No operator mode is applied. • **Lucid Director** – Configures the engine for Lucid Director virtual production workflows. When selected, additional rows are displayed to configure the Lucid Director operator connection.
Operator URL (Lucid Director only)	Enter the URL for the Lucid Director operator.
Operator API Key (Lucid Director only)	Enter the API key for the Lucid Director operator.

3. Select **Create** to save the settings.

Understanding Voyager Engine Licensing

Story Creator requires a licensed Raiden Plugin to be installed on each Voyager engine used for virtual production workflows.

If a Voyager engine is configured in Story Creator but does not have an authorized Raiden Plugin, Story Creator cannot create virtual stories using that engine.

When attempting to create a story using an unlicensed engine, the following error message appears:

The selected engine does not have an authorized Raiden Plugin. Contact your technical team to ensure a licensed Raiden Plugin is configured for your engine.

Verify that the Raiden Plugin is installed and properly licensed on the Voyager engine before configuring the engine connection.

Creating an Engine Group

Use this procedure to create an engine group for Voyager engines that run the same project concurrently.

To add a new engine group:

1. In Story Creator, select **Configuration**.
2. Select the **Engine** tab.
3. Select the **Group** sub-tab.
4. Select **+ New Engine Group**.

   The **New Engine Group** window opens.
5. In the **Name** field, enter a name for the engine group.
6. From the **Engines** drop-down list, select the Voyager engines to include in the group by clicking their names.

   A check mark appears next to each selected engine.
7. Select the radio button beside one of the selected engines to designate it as the Primary engine.

   ★One engine must be designated as the Primary engine. All other selected engines in the group operate as Node engines.
8. Select **Create**.

   The engine group appears in the Engine Groups list and can be selected when creating a story. Engines that are added to a group are no longer available as single engine selections when creating a story.

Modifying an Engine or Engine Group

Use this procedure to update the settings of an existing engine or engine group.

To modify a single engine or engine group:

1. Select the **Edit** button to the right of the single engine or group you want to modify.

   The **Modify Engine or Group** dialog appears, showing the settings that can be modified.
2. Update the engine settings as required.
3. Select **Modify** to save the modifications.

Deleting Engines

Deleting an engine should only be done when you intend to permanently remove the engine and all associated data.

Warning: Deleting an engine will also delete all stories associated with that engine. This action cannot be undone, and deleted stories are not recoverable.

To avoid unintended data loss, do not delete an engine when updating or moving to new hardware. In these cases, you should transfer the project instead (see Transferring a Project to a New Engine 117 below).

To delete a single engine or group:

1. Select the **Delete** button to the right of the single engine or group you want to delete.

   The **Confirmation** dialog will appear.

2. Select **Delete** to delete the single engine or group.

   The single engine/group is deleted.

   Warning: Once an engine is deleted, all stories and templates associated with the engine will become inaccessible via the Story Editor.

Transferring a Project to a New Engine

Transferring a project allows you to move your work to new hardware without losing stories or associated data. This is the recommended approach when updating or replacing a Raiden hosted machine.

When transferring, do not delete and recreate the engine. Instead, edit and save the existing engine configuration so that all stories remain connected.

To transfer a project to a new machine:

1. Export the project from the current system.
2. Import and open the project on the new machine.
3. In Story Creator, update the engine settings to reflect the new IP address.
4. Save the updated configuration.

Once updated, all Stories and associated scenes will reconnect to the engine automatically.

When to Delete vs. Transfer

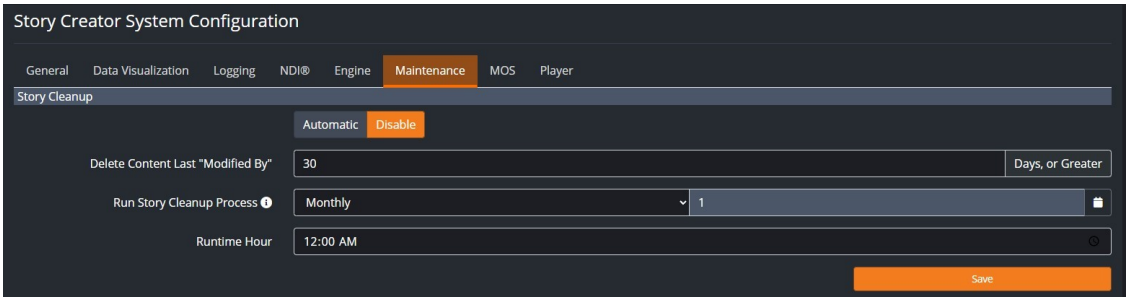
Use the following table to determine whether you should delete an Engine or transfer a Project when making changes to your system.

Action	When to Use	Result
Transfer a Project	When moving to new hardware or updating an existing machine	Preserves all Stories and project data. Stories will reconnect after updating the Engine configuration.
Delete an Engine	When permanently removing a project and all associated data	All Stories and associated data are permanently deleted and cannot be recovered.

Maintenance

The **Maintenance** tab allows you to configure the Story Creator cleanup process, which is set to run automatically by default. This process is designed to keep your graphics project and Story Creator efficient by removing content that hasn't been used or modified in a long time. You can specify the number of days in the **Maintenance** tab to define how long content must remain unused before it is deleted. Stories, scenes, and their corresponding materials will be deleted, with the exception of **Story Templates** and **Shared Scenes** in use by active stories. Even with the **Automatic** option enabled, stories can still be deleted manually at any time.

If you prefer to manage and delete stories manually in the Story Creator browser, you can disable the automatic cleanup process.



Maintenance Tab

To configure the Story Creator cleanup process:

1. In the **Delete Content Last "Modified By"** field, enter or select the number of days that content must remain unused before it is deleted.
2. From the **Run Story Cleanup Process** drop-down, select whether you want the cleanup process to occur **Monthly** or **Daily** as follows:
   a. To schedule the cleanup process to run monthly, select **Monthly** from the drop-down menu, then select the **Calendar** icon to choose the specific day(s) of the month for the cleanup to occur.
   b. To schedule the cleanup process for specific days, select **Daily** from the drop-down menu, then select the **Calendar** icon to select the specific day(s) of the week for the cleanup process to run.
3. Select the **Runtime Hour** field.

   The field turns white and a **Clock** icon appears.
4. Select the **Clock** icon to expand the time settings and set the Runtime hour.
5. Select **Save**.

   The cleanup settings are saved and set to run automatically by default.

To disable the cleanup process:

- In the **Maintenance** tab, select the **Disable** button.

  The cleanup process is disabled.

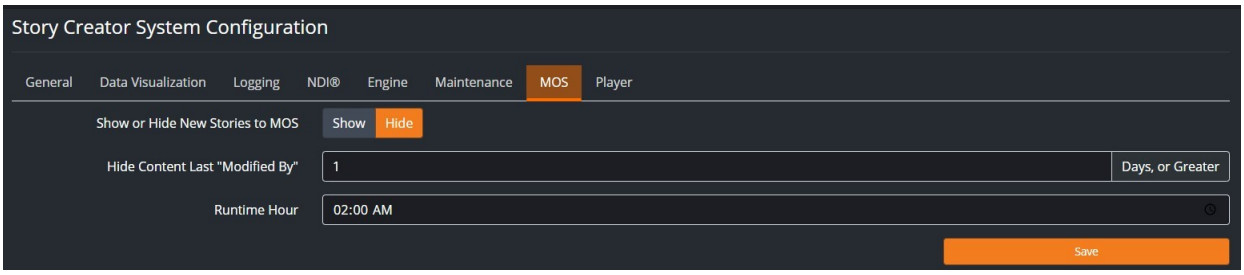
MOS

The **MOS** tab allows administrators to configure default behavior for how stories and scenes are exposed to MOS-enabled systems.

To configure the MOS settings:

1. In Story Creator, select the **Configuration** menu.
2. Select the **MOS** tab.

   The MOS configuration settings are displayed.



MOS Tab - MOS Settings

3. Use the **Show or Hide New Stories to MOS** toggle to select one of the following default behaviors:
   - **Show** — New stories are automatically shown to MOS when they are created.
   - **Hide** — New stories are hidden from MOS by default.
4. In the **Hide Content Last "Modified By"** field, enter or select the number of days after which content should be automatically hidden from MOS if it has not been modified.

   This value is used to control how long inactive content remains visible in the MOS Plugin view.
5. In the **Runtime Hour** field, specify the time of day when the automatic process runs to hide content that meets the inactivity criteria.
   - Enter the time directly in the field.

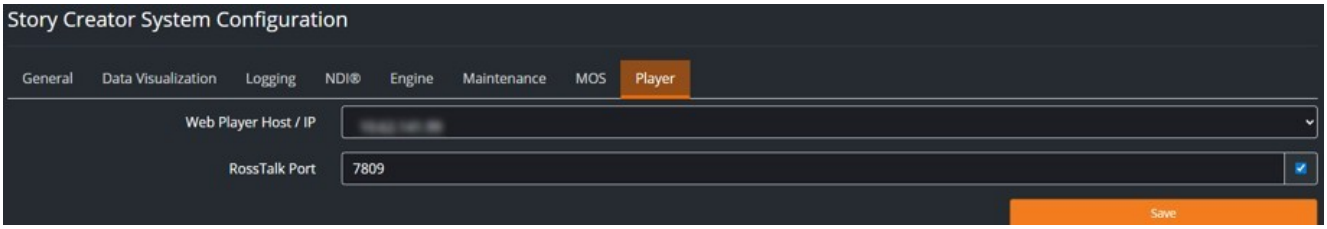
   OR

   - Select the **Clock** icon and choose the hour, minutes, and AM/PM from the drop-down menu.
6. Select **Save** to apply the MOS configuration settings.

   The settings are saved.

Player

The **Player** tab is used to configure the Web Player connection settings for Story Creator, including the host/IP address and RossTalk communication port.



Player Tab - Web Player Settings

To configure the Player settings:

1. In **Story Creator**, select the **Configuration** menu.
2. Select the **Player** tab.
3. In the **Host/IP Address** field, enter the IP address of the machine where Story Creator is installed.
4. In the **RossTalk Port** field, enter the RossTalk communication port used by the graphics engine.
5. Use the checkbox next to the **RossTalk Port** field to enable or disable RossTalk.
6. Select **Save**.

   The settings are saved.

Raiden with XPression

When creating a Raiden project in XPression, you will need to consider whether you will create a project using Story Creator or DataLinq to apply XPression metadata. XPression metadata allows Raiden generated data and graphics to be applied to scenes and objects within your XPression project.

With Story Creator, several base scenes have been provided to make setting up your weather project in XPression easier. The base scenes have XPression metadata applied and are ready to use in Story Creator. You can also copy the provided base scenes, modify them, and save them for future use in XPression.

With DataLinq, you can apply Raiden data and graphics directly to your custom XPression project without using Story Creator.

Raiden supports the following workflows:

- Raiden for XPression using Story Creator 127
- Raiden for XPression using DataLinq 216

The following topics are covered in this section:

Customizing XPression Projects for Raiden 122

Using Story Creator with XPression 133

Using DataLinq with XPression 216

XPression Maintenance 265

Customizing XPression Projects for Raiden

This section describes how to customize XPression projects for use with Raiden. Topics include adding high-resolution regional basemaps and configuring scene and object metadata so Raiden can recognize and interact with XPression scenes, objects, and weather graphics workflows.

The following topics are covered in this section:

Adding High-Resolution Regional Basemaps 123

Scene and Object Metadata 127

Adding High-Resolution Regional Basemaps

Regional high-resolution basemaps provide enhanced visual detail for specific areas of the standard 3D globe in Raiden. This optional configuration allows you to manually add detailed background imagery for a region, beyond the default global basemap.

Each regional basemap consists of two components: a custom region mesh (.obj file) and a mosaic image (mosaic.png). The region mesh defines the shape and placement of the area on the globe, while the mosaic image provides the high-resolution surface texture.

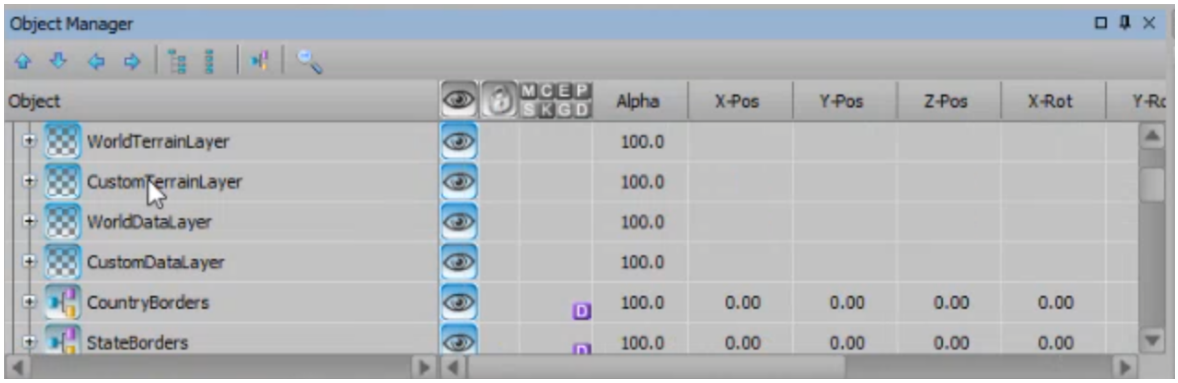
These files are included in the ZIP package downloaded from the Raiden Local Server when exporting a Region of Interest. Before proceeding, ensure the ZIP file has been downloaded and that the region mesh has already been imported into your XPression project.

★**Important:** Depending on the style approach of your standard global basemap, it may be in visual conflict with your intended high resolution regional basemap provided natively from Raiden's Local Server. Such as if the global basemap was edited (from the installed default) with color changes to the ocean or land, saturation, settings, etc. If this is the case, you should consider in advance these options:

- **Style Matching** — Align the style of the new regional mosaic image from the ZIP package with the global basemap, matching color choices, saturation, etc. Then, proceed with the procedure below. This ensures the region will appear seamless across zoom levels when building Stories.
- **Duplicate Version** — If the styles are intentionally different, create two versions of the 3DWorld in XPression, such as "3DWorld" and a duplicate named "3DWorld_HRES." Then, proceed with the procedure below for the "3DWorld_HRES" version only. This version is used for Story coverage that is zoomed in to the high resolution region.

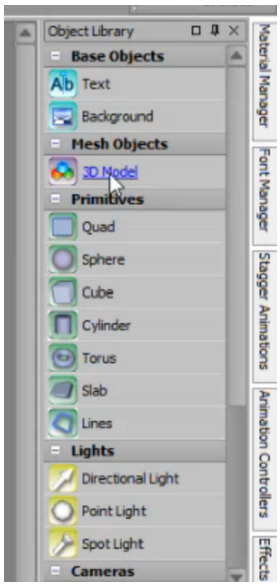
To add the custom region mesh into the XPression project:

1. In your XPression project, go to the **Base 3D Scene**.
2. In the **Object Manager**, expand the **CustomTerrainLayer**.



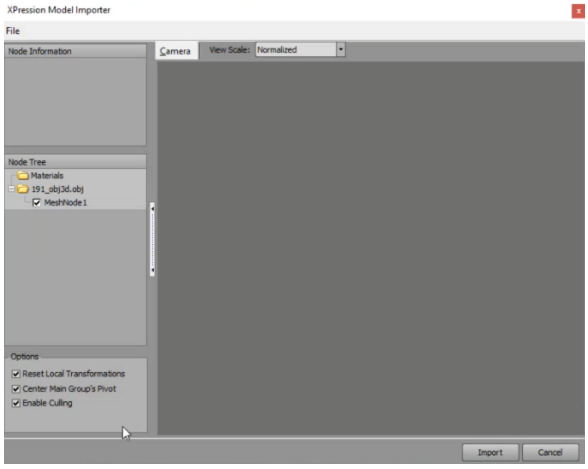
Object Manager - CustomTerrainLayer

3. In the **Object Library**, under **Mesh Objects**, select **3D Model** and open the .obj file for the region using the file browser.



Object Library - Mesh Objects

4. In the **XPression Model Importer**, expand the .obj in the **Node Tree**, select **MeshNode1**, and click **Open**.



XPression Model Importer

5. Locate the new .obj in the **Object Manager**, drag it to the **CustomTerrainLayer** group, rename it, and expand it to reveal **MeshNode1**.
6. Use the scene navigation tools to adjust the globe's view so the intended region is displayed.
7. Select the .obj file, open the **Transform** tab in the **Object Inspector**, and set the object's position as follows:

   Set **Pivot** to:

   X: 0

   Y: 0

   Z: 0

Set **Position** to:

X: 0

Y: 0

Z: 771

Set **Rotation** to:

X: 0

Y: 180

Z: 0

Set **Scale** to:

X: 1.0

Y: 1.0

Z: 1.0

8. Expand the .obj file to reveal **MeshNode1**, then set its position as follows:

   Set **Pivot** to:

   X: 0

   Y: 0

   Z: 0

   Set **Position** to:

   X: 0

   Y: 0

   Z: 0

   Set **Rotation** to:

   X: 0

   Y: 0

   Z: 0

   Set **Scale** to:

   X: 495

   Y: 495

   Z: 495

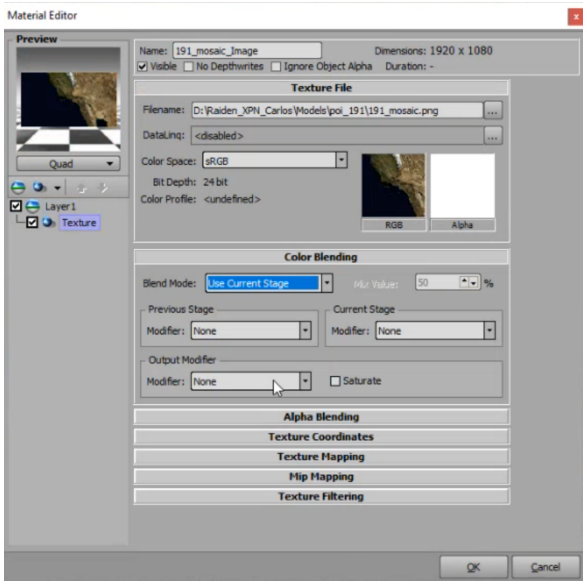
   The mesh appears over the region.

9. Next, apply the Mosaic 126 texture to the region mesh.

To apply the Mosaic texture to the region mesh:

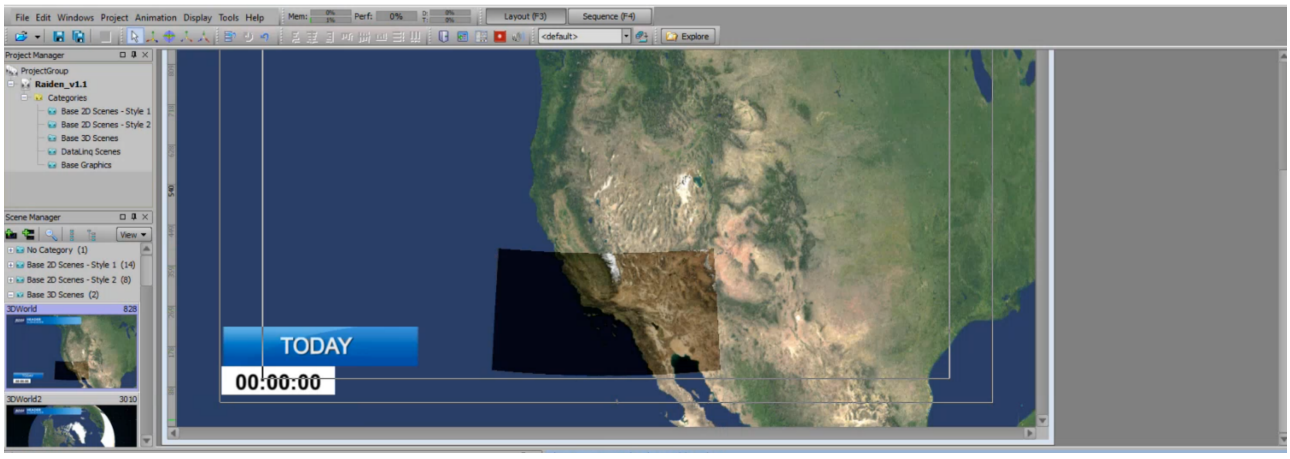
1. In the **Object Inspector**, select the **Materials** tab.
2. In the **Materials** tab, right-click and from the menu, select **Image**.

   The **Texture Explorer** opens.
3. In the **Texture Explorer**, navigate to the **mosaic.png** image file and select **OK**.
4. In the **Material** tab, right-click the new mosaic material and select **Edit Material**.
5. In the **Material Editor**, expand **Layer1** and select **Texture**.
6. In the **Color Blending** section, from the **Blend Mode** drop-down, select **Use Current Stage**.



Material Editor - Color Blending

7. Select **OK** to close the **Material Editor**.
8. Confirm that the mosaic image appears on the mesh in the 3D scene.



Mosaic Layer

9. Save the project.

   The high-resolution mosaic layer is now saved to the project.

Scene and Object Metadata

XPression metadata enables Story Creator to recognize which XPression objects can be used, the purpose of each object, and the context of each scene.

The provided base scenes are predefined with XPression metadata and are ready to use in Story Creator. However, you can make modifications to adapt a base scene to your specific needs.

You will need to add metadata to the following:

- Each scene that you want to control from the Story Creator.
- Each object that you want the Story Creator to apply content to.

The metadata may vary depending on the specific scene type. The most common scene and object metadata are described below:

Scene Metadata

raiden_is_base: The flag to indicate if the scene is to be used as a base scene or not.

- **1** — Is base scene.
- **None** or **0** — Is not base scene, but a story based on a template scene.

raiden_type: The code to differentiate the purpose of scenes.

- "full_screen_texture" — Simple image or video scene.
- "forecast_3dworld" — Main 3D World scene for any mapping requirements.
- "forecast_single_poi_days" — Scene to display daily forecast information for a single place of interest, for instance, next 3 days forecast for Ottawa (based on the "raiden_days" metadata value).
- "forecast_multi_poi_days"
- "forecast_multi_poi_day_summary"
- "current_conditions_multi_poi" — Scene to display current observations for multiple places of interest (based on the raiden_pois metadata array).
- "summary_single_poi" — Add to display current observations as well as next day(s) forecast for a single place of interest.

raiden_pois: A comma separated list of the default places of interest's IDs to include:

- [1] — Between brackets
- [] — Can be empty

★ For the 3D World Scene, the **raiden_pois** should be set to [] empty by default as the Story Creator will automatically populate the place of interest's ID.

raiden_days: number of days data that the scene would cover.

For example:

- 3 — Indicates a 3-day forecast
- 5 — Indicates a 5-day forecast

raiden_use_unit_symbol:

- 1 or 0 — to display the unit symbol by default, e.g.: 1

raiden_region: ID of the specific region this scene is related to.

For example:

1 — Indicates the whole world.

★ For the 3D World Scene, the default region ID for **raiden_region** is set to **1**, as the region covers the whole world.

Object Metadata

raiden_type: code to differentiate the purpose of the object.

- "map_overlay" — object used to display a map overlay.

raiden_data_type: code to specify the type of content that the object supports.

- “current_forecast_value”

raiden_variable: code to specify the variable type that the object supports.

- TMP — Temperature
- VGRD — Wind Direction
- PRMSL — Mean Sea Level Pressure

raiden_poi: ID of the place of interest related to the object.

For example:

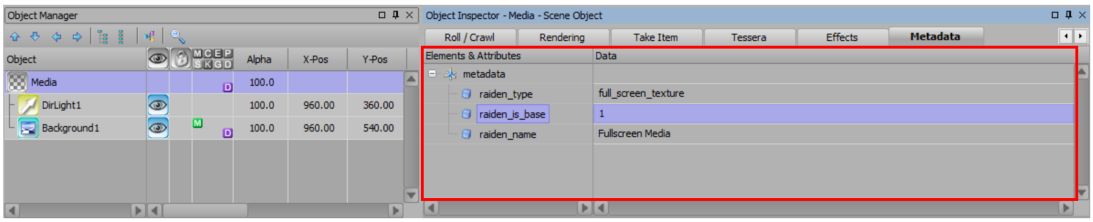
- 1 — Indicated the whole world.

Applying Metadata to a Scene

You can adapt any of the provided base scenes to your specific needs by modifying the pre-defined metadata.

★ Metadata must to be applied to base scenes that you want to control from the Story Creator.

In the **Object Manager**, select the base scene and go to the **Metadata** tab. The **Metadata** tab contains two sections, **Elements & Attributes** and **Data**.



Metadata Tab

The **Element & Attributes** section displays the metadata types applied to the scene. You can select each type and in the **Data** section you assign metadata codes to specify which metadata type to use.

The following procedure provides an example of how to add metadata to a scene.

To add metadata to a scene:

1. In the **Elements & Attributes** section, select **raiden_type**.
2. In the **Data** field, enter the scene metadata code to specify the purpose of the scene.

The **raiden_type** code options are:

- "full_screen_texture"
- "forecast_3dworld"
- "forecast_single_poi_days"
- "forecast_multi_poi_days"
- "forecast_multi_poi_day_summary"
- "current_conditions_multi_poi"
- "summary_single_poi"

3. In the **Data** field, enter the scene metadata code you want for the the base scene. This code lets the Story Creator know that the scene can be used as a base scene or not.

   The **raiden_base_template** code options are:

   - 1
   - None or 0

4. In the **Element & Attributes** panel, select **raiden_poi**.

5. In the **Data** field, enter the point of interest ID you want for the the scene.

   The **raiden_poi** code is delineated by comma separated list of default places of interest to include:

   - Between bracket [1]
   - Can be empty []

   ★ The raiden_poi metadata can be set in Story Creator and is optional for you to set in XPression.

6. In the **Element & Attributes** panel, select **raiden_days**.
7. In the **Data** field, enter the scene metadata code you want for the number of days you want the scene to cover.

   Examples of raiden_days code use:

   - 3 — Indicates a 3-day forecast.
   - 5 — Indicates a 5-day forecast.

8. From the **File** menu, select **Save**.

   The scene metadata has been updated and saved to the project.

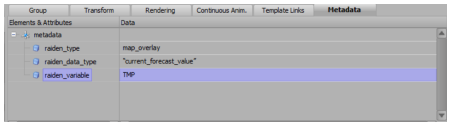
Applying Metadata to an Object

Once you have applied metadata at the scene level, you can apply metadata to objects.

The following procedure provides an example of how to add metadata to an object.

To apply metadata to an Object:

1. Select an **Object** and go to the **Metadata** tab.
2. The **Elements & Attributes** section displays the metadata that has been applied to the **Object**.



Elements & Attributes - Data Code Examples

3. In the **Elements & Attributes** section, select **raiden_data_type**.
4. In the **Data** field, enter the metadata code to specify the type of content the **Object** supports such as:
   - "current_forecast_value"
5. In the **Elements & Attributes** section, select **raiden_type**.
6. In the **Data** field, enter the metadata code that specifies the purpose of the object such as:
   - map_overlay
7. In the **Elements & Attributes** section, select **raiden_variable**.
8. In the **Data** field, enter the metadata code to specify the variable type that the **Object** supports.

   Refer to Appendix A: Metadata Descriptions 245 to find the metadata codes and their corresponding details.
9. From the **File** menu, select **Save**.

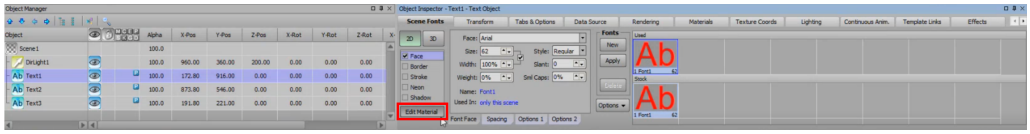
   The **Object** metadata has been updated and saved to the project.

Managing Font and Color Updates for Text Objects

When working on a project with multiple scenes and Points of Interest (POIs), individually changing the text color across numerous text objects can be time-consuming and error-prone. To streamline this process and maintain consistency, editing the Font Material ensures that the desired changes are automatically applied to all associated text objects, rather than applying a material directly to the face of each object.

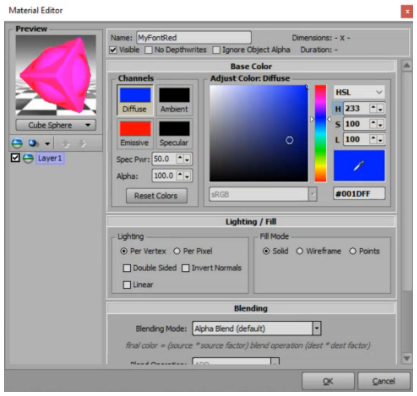
To edit the font and color for all text objects across a project:

1. In the **Object Inspector**, select the **Scene Fonts** tab.
2. Select **Edit Material**.



Scene Fonts Tab - Edit Material Button

The **Material Editor** opens.



Material Editor

3. In the **Material Editor**, adjust the color settings as desired.
4. Select **OK** when you have finished adjusting the color settings.

   The **Material Editor** closes, and the updated settings are applied to all associated text objects.

Using Story Creator with XPression

After the XPression environment and project have been properly configured, Story Creator can be used to build and manage weather stories for playback in XPression. This section describes how to customize stories and scenes, work with scene types and graphics objects, and publish stories for use in broadcast workflows such as MOS integration.

The following topics are covered in this section:

Building a Story 134

Editing and Managing Stories 136

Operating the Story Creator Player 148

Showing Stories and Scenes to MOS 150

Scene Types and Customizations 153

Building a Story

Story Creator can be used with XPression to build and manage weather stories for broadcast. Scenes from the XPression project can be arranged into a sequence, customized, and prepared for playback or integration into broadcast workflows.

Stories are created in the Story Browser and built and managed in the Editor. Additional story management tasks, such as creating stories from templates, copying, deleting, or editing stories, are also performed in the Story Browser. For more information, see Creating Stories 91.

The following topics are covered in this section:

Creating a Story 134

Adding Scenes 134

Repositioning a Scene 135

Removing a Scene 135

Creating a Story

Create a story in the Story Browser to begin building a story sequence for use with XPression. When creating a story, select an XPression engine to associate the story with an XPression workflow.

To create a story for use with XPression:

1. In the **Stories** panel, select **+ New Story**.
2. In the **Story Name** field, enter a name for the story.
3. From the **Engine** drop-down, select an XPression engine.
4. Select **Create**.

   The story opens in the **Editor**, where you can build the story sequence by adding 134, arranging 135, and removing 135 scenes.

★Stories are automatically saved in Story Creator. Sending scenes to the graphics engine is only required for preview, export, or broadcast use.

Adding Scenes

Add scenes to your story to define the content and flow of the sequence.

To add scenes:

1. In the left panel, select **+ New Scene**.
2. Select one of the following tabs to view available scenes, and then select a scene to add it to the story sequence:
   - **Base** – contains scenes that are pre-defined with metadata and ready to use in Story Creator.
   - **Shared** – contains scenes that are shared between stories. For more information, see Sharing Scenes 142.
   - **From Templates –** contains scenes from **Story Templates**.

- **All** – contains all available scenes.

★ Scenes outlined in yellow are not pre-defined with metadata.

3. If **From Templates** is selected:
   a. Select a template to view its scenes.
   b. Select a scene to add it to the story sequence, or select the left arrow icon to return to the list of templates.

   The scene is automatically saved to the story.

Repositioning a Scene

Reposition scenes to control the order in which they appear in the story sequence.

To reposition a scene:

1. In the left panel, select a scene.
2. Drag the scene to a new position in the sequence.

   The scene is moved to the new position.

Removing a Scene

Remove scenes that are no longer needed in the story sequence.

To remove a scene:

1. In the left panel, select a scene.
2. Do one of the following:
   - Right-click the scene and select **Delete Story Item**.
   - Select **Delete Story Item** in the Editor.

   The scene is removed from the story.

Editing and Managing Stories

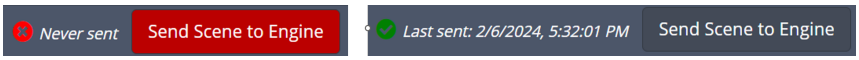
This section describes how to edit and manage stories using Story Creator with XPression. You can organize scenes, update story content, preview results, and prepare stories for playback or export. These tasks allow you to refine your story and ensure it is ready for use in broadcast workflows such as playout and MOS integration.

Stories are edited within the Story Creator Editor, where you can retrieve scene information, duplicate or share scenes across multiple stories, and finalize scenes for playback or export. The Editor interacts with your graphics engine and Local Server to provide tools for detailed customization of scene elements, ensuring your weather stories are both engaging and precise.

Each scene type in Story Creator has its own configuration options and workflows. While the Editor provides the tools to organize, manage, and send scenes to your graphics engine, the steps for customizing a scene vary depending on its type. For detailed procedures on how to work with each scene type—including how to add data, adjust map layers, apply animations, and format scene text—see the Scene Types and Customizations 153 section.

Once a scene has been customized, it can be duplicated, previewed, published for use on broadcast, and exported as a video file for future use.

★ When working in the Editor, if you haven't yet sent your configurations to the graphics engine, the Send Scene to Engine button glows red with a **Never Sent** notification. After sending the configurations to the graphics engine, the Send Scene to Engine button stops glowing and displays a **Last Sent** notification.



Before and After Sending Scene to Engine

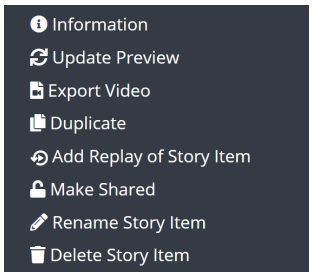
Accessing Scene Options

In the Editor, you can access a set of scene-specific actions by opening the options menu for any scene in the story list. These actions allow you to view scene details, duplicate or share the scene, export it as a video, and more. This menu provides quick access to common tools used for managing scenes during story development.

To access a scene's option menu:

1. In the Editor, locate the scene in the panel on the left.
2. Right-click the scene thumbnail.

   The options menu for the selected scene opens, displaying a list of available actions.



Scene Options Menu

The following table describes each option available in the scene's options menu.

Option	Description
Information	Opens a window displaying the scene's details, such as its name, type, and ID.
Update Preview	Refreshes the scene's preview to reflect the most recent content and configuration.
Export Video	Opens the **Export Video** window, allowing the scene to be saved as a video file. See Exporting Videos 146 for additional information.
Duplicate	Creates an exact copy of the scene with all current settings and elements. See Duplicating Scenes 140 for additional information.
Add Replay of Story Item	Adds an instance of the scene to the story, allowing it to appear again without creating a separate copy. See Adding Replay of a Story Item 141 for additional information.
Make Shared	Converts the scene into a shared scene that can be reused across multiple stories. See Sharing Scenes 142 for additional information.
Rename Story Item	Allows the display name of the scene to be changed in the story panel. See Renaming Scenes 139 for additional information.
Delete Story Item	Removes the scene from the current story.

Accessing Scene Information

When you select a scene, Story Creator interacts with your graphics engine to retrieve the scene's information and makes it available for you to view.

To access scene information:

1. In the **Stories** panel, select a story.

   The story opens in the **Editor**.

2. In the left panel, right-click a scene.

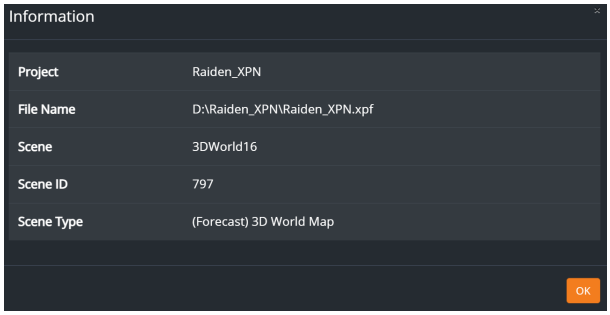
   The options menu appears.



Options Menu - Scene Information

3. From the options menu, select **Information**.

   The **Information** window appears.



Scene Information Window

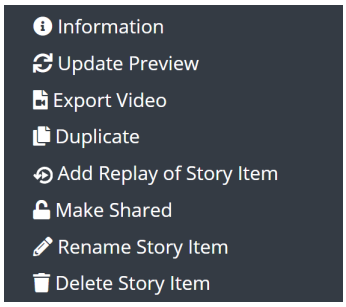
4. Select **OK** to close the window.

Renaming Scenes

By default, Story Creator and XPression assign a scene name based on the source scene—either the original or a duplicated version. This often results in non-descriptive names, such as [Name]293, which can make it difficult to identify scenes when collaborating with colleagues. To improve clarity and streamline communication, scenes can be renamed directly within the Story Creator interface.

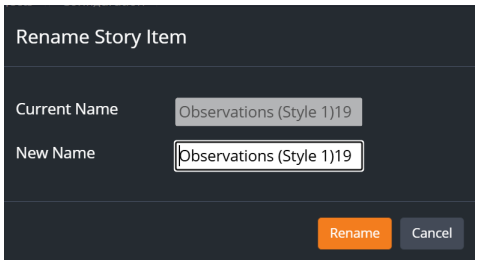
To rename a scene:

1. In the Editor, locate the scene in the panel on the left.
2. Right-click the scene thumbnail.
3. The options menu appears.



Scene Options Menu

4. Select **Rename Story Item**.
5. The **Rename Story Item** window opens.



Rename Story Item Window

6. In the **New Name** field, enter a new name for the scene and select **Rename**.

   The new name is saved to the scene.

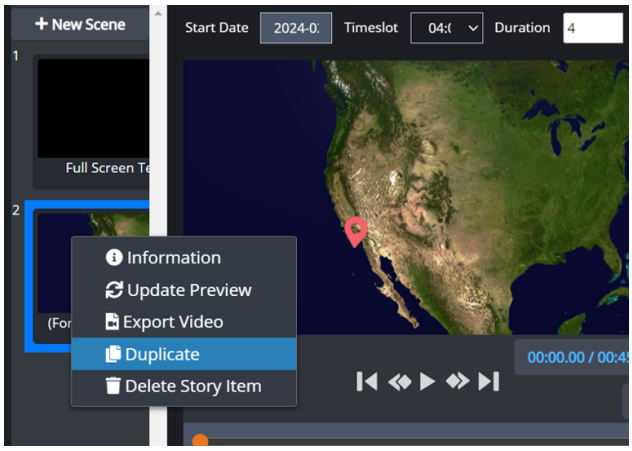
Duplicating Scenes

If you want to create an exact copy of an existing scene, you can duplicate the scene. You do not have to recreate the modifications from the original scene as the duplicate will contain the exact modifications you made to the original scene.

To duplicate a scene:

1. In the **Editor**, right-click on the scene you want to copy.
2. From the options menu, select **Duplicate**.

   The scene is duplicated and is added to the left panel.



Duplicate Scene

3. Make any alterations to the scene such as date and timeslot, map layers, animations, etc.
4. Select the Send Scene to Engine button.

   The duplicated scene is saved to the project.

Adding Replay of a Story Item

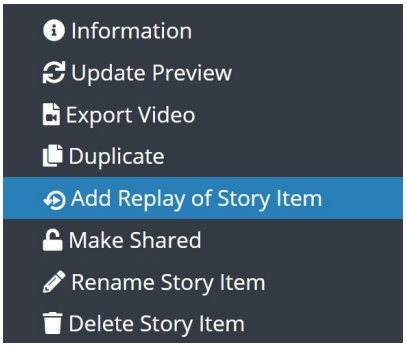
The Add Replay of Story Item feature allows users to include the same scene multiple times within a single story. This can be helpful in scenarios where a scene needs to appear at more than one point in the sequence, such as at the beginning and again at the end of a show.

Replay items are created as instances, which can be based on either standard or shared scenes.

To add a replay of a story item:

1. In the Editor, right-click on the scene you want to replay.

   The options menu opens.



   Options Menu - Add Replay of Story Item

2. From the options menu, select **Add Replay of Story Item**.

   The replay scene appears in the rundown with a grayscale thumbnail and a replay icon to distinguish it from the original.

   The instance can be repositioned within the rundown or deleted, but it cannot be edited directly.



   Original Scene and Replay

Sharing Scenes

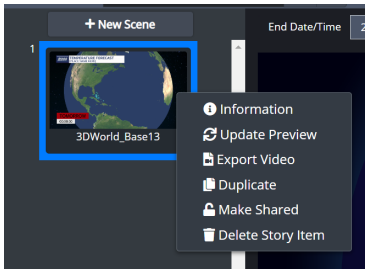
A **Shared Scene** is a common scene that can be added to multiple stories, allowing users to configure or edit it once, with updates automatically reflected in all other stories where the scene is used. This eliminates the need to manually update the same scene across different stories. When a shared scene is edited in one user's editor, the changes are instantly applied to every other story that includes that scene.

Additionally, a shared scene only needs to be sent to the engine once, covering all the stories that utilize it. Even if a story's rundown has already been published, the shared scene will seamlessly update across all relevant stories.

To share a scene:

1. In the **Editor**, right-click on the scene you want to share.

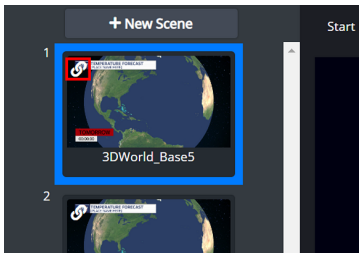
   An options menu appears.



   Make Shared Option

2. From the options menu, select **Make Shared**.

   The scene is now shareable, and a **Link** icon appears on the scene thumbnail to indicate its shareable status.



   Shared Scene

To remove the shared option on a scene:

1. In the **Editor**, right-click on the scene you want to remove the shared option from.

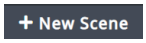
   An options menu appears.

2. From the options menu, select **Make Unshared**.

   The shared option is removed, and the shared icon no longer appears on the scene thumbnail.

   Any Stories that previously included this now unshared scene will still retain it, and any changes made to the scene will continue to apply across those stories. However, the scene will no longer appear in the **+ New Scene > Shared Scenes Only** category, meaning you can no longer add it as a shared scene to any new stories.

To view/add shared scenes:

1. In the left panel, select the 

button to view or add a shared scene to your story.

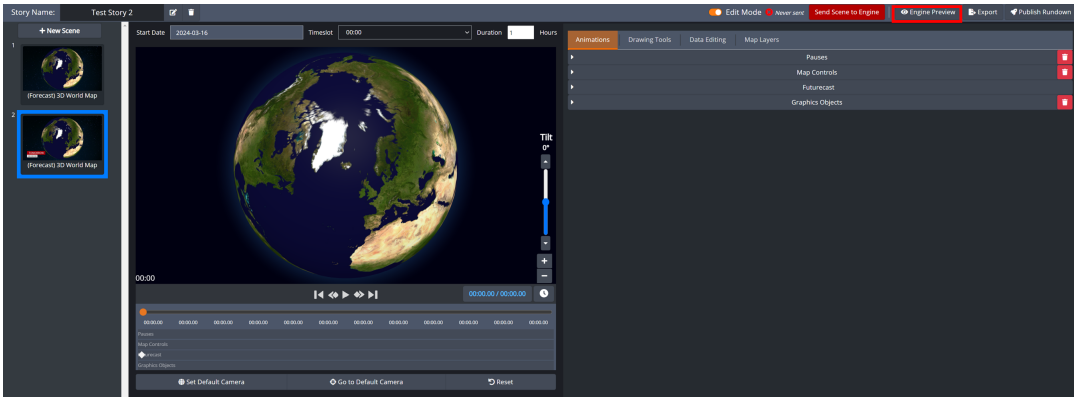
   The scene menu opens.
2. Select the **Shared scenes only** tab.

   The available shared scenes are displayed in the scene menu.
3. Select a scene to add it to your story.

   The scene has been added to your story and now appears in the left panel.

Previewing Scenes

Use the **Engine Preview** button to preview scenes in your story.

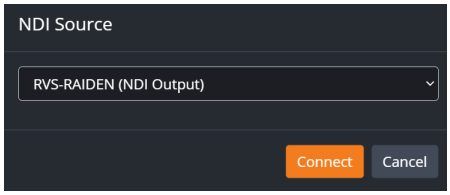


Editor - Engine Preview

To preview a scene:

1. In the **Editor**, select the **Engine Preview** button.

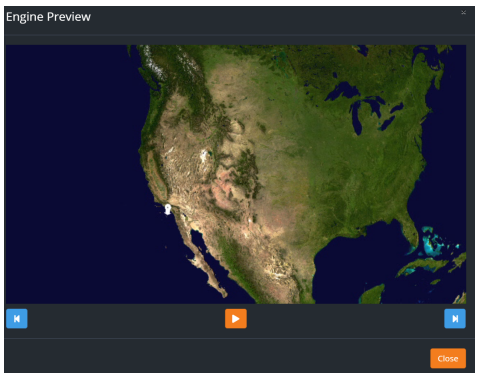
   The **NDI Source** dialog appears.

   NDI Source Dialog

2. From the **NDI Source** drop-down, select the output source you are using.
3. Select **Connect**.

   The **Engine Preview** window opens.

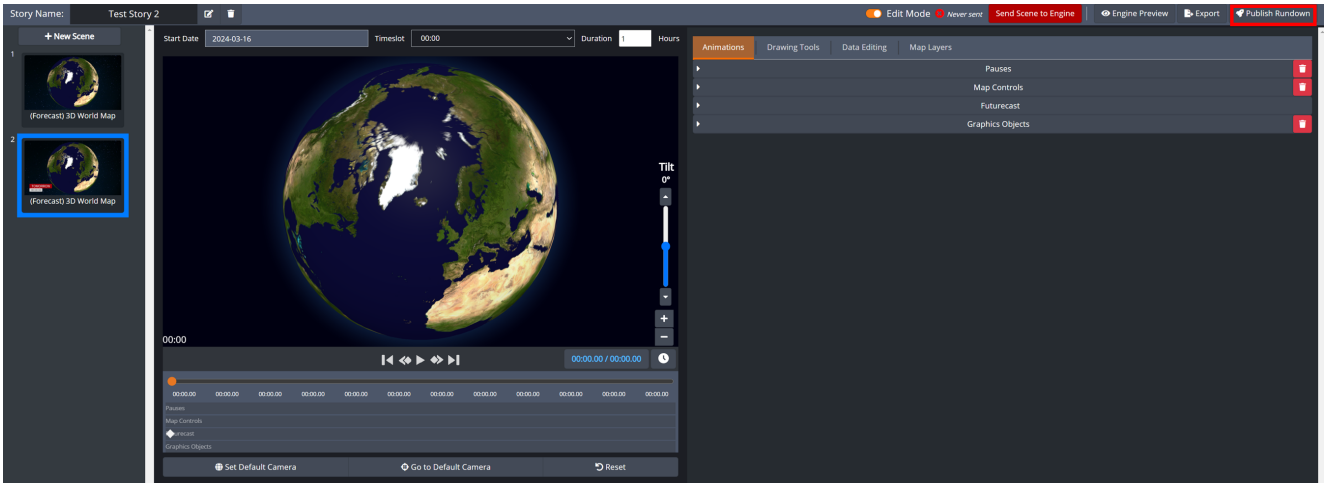
   Engine Preview Window

4. Select the **Play** button to play the preview.
5. Use the **Forward** and **Backward** buttons to move through the scenes in your story.
6. Select **Close** to close the **Engine Preview** window.

Publishing the Rundown

When you have finished creating your story in the Story Creator, the final step is to **Publish Rundown**. **Publish Rundown** creates the entire sequence of your story in your graphics engine and makes it ready for playout.

★For Observation 3D World scenes, when the rundown is published, all observational scenes in the story with the **Latest** checkbox selected are automatically re-processed. The system retrieves the newest available data at the time the **Publish Rundown** button is pressed, updates those scenes in both the story and XPression, and completes the publishing process.



Editor - Publish Rundown

To Publish Rundown:

- In the **Editor**, Select the **Publish Rundown** button.

  The story will be published in your graphics engine.

Exporting Videos

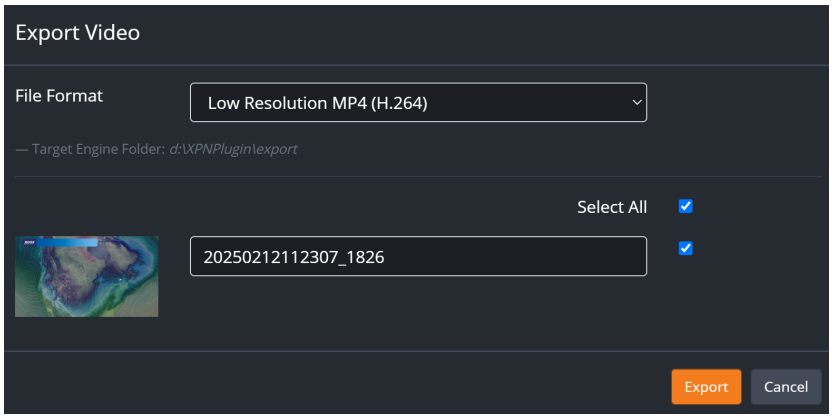
Once you have customized the scenes in your story, you have the option of exporting the scenes as a video file for future use (such as posting a video to a social media platform).

★**Important**: Scenes must be sent to the engine before they are exported as videos.

To export a single scene in a story:

1. In the **Editor**, right-click on the scene you want to export and select **Export Video** from the options menu.

   The **Export Video** window opens.



   Story Creator - Export Video Window

2. From the **File Format** drop-down, select a file format.
3. In the field next to the scene thumbnail, enter a title for the video.

   ★A default name based on the date and time (e.g., 20250212112307_1826) is automatically generated for your convenience.

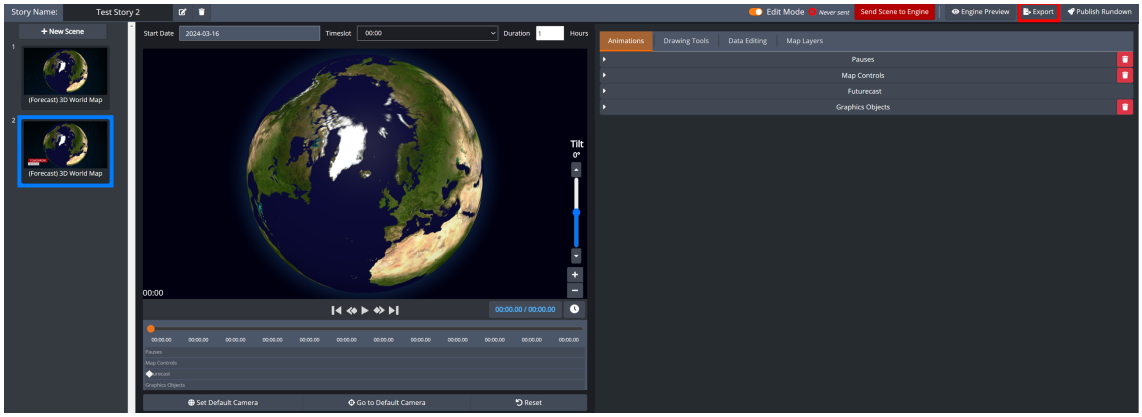
4. Select **Export**.

   Once the export file is ready, the video will also save to both the **XPression Plugin** folder on the host engine machine and your Local PC as a ZIP file. For the Local PC, the web browser will download the ZIP file to the default folder where your web browser saves downloaded files (e.g., the user's Downloads folder on Windows)—see browser "Download" settings.

   ★**Note:** Default browser settings may block the download, requiring the user to select a **Keep** button on Chrome, for example.

To export all scenes in a story:

1. In the **Editor**, select **Export**.



Editor - Export

The **Export Videos** window opens.

2. From the **File Format** drop-down, select a file format.
3. Use the **Select All** checkbox to select or clear all scene checkboxes; when cleared, manually select the scenes to export.
4. In the fields next to each scene thumbnail, enter a title for each scene.

   ★A default name based on the date and time (e.g., 20250212112307_1826) is automatically generated for your convenience.

5. Select **Export**.

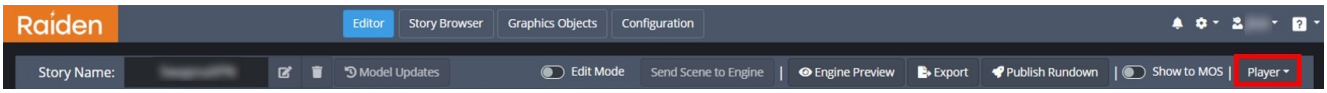
   Once the export file is ready, the videos will also save to both the **XPression Plugin** folder on the host engine machine and your Local PC as a ZIP file. For the Local PC, the web browser will download the ZIP file to the default folder where your web browser saves downloaded files (e.g., the user's Downloads folder on Windows)—see browser "Download" settings.

   ★**Note:** Default browser settings may block the download, requiring the user to select a **Keep** button on Chrome, for example.

Operating the Raiden Story Player

The **Raiden Story Player** is used to run and control stories during broadcast. The player allows operators to step through the sequence of scenes or elements in a story and control what appears on air.

The player can be opened from the **Story Browser** or directly from the **Editor** using the **Player** control.



Editor - Player Control

When selecting Player, you can choose to launch the player in either mobile or desktop view.

- **Mobile** - Displays a QR code that can be scanned using a mobile device, allowing the story to be controlled from a phone or tablet.
- **Desktop** - Opens the Raiden Story Player in a web browser window on the current computer.

To open the Raiden Story Player:

1. In the **Editor**, from the **Player** drop-down list, select the desired player mode (either **Mobile** or **Desktop**).

   Alternatively, you can access the Player in the Story Browser, next to the desired Story.
2. If **Mobile** is selected, scan the displayed QR code using a mobile device to open the Raiden Story Player.
3. If **Desktop** is selected, the Raiden Story Player opens in a web browser window on the current computer.



Raiden Story Player

Using the Story Player

When a story is published, it is loaded into the Story Player and becomes the active story for its engine type. If multiple engine types are set up, the Story Player loads the most recently published story from each engine type.

Control	Description
Take First	Plays the first scene or element in the sequence.
Take Previous	Moves to the previous item in the sequence.
Take Next	Advances to the next item in the sequence.

Control	Description
Take Last	Jumps to the final item in the sequence.
Clear	Clears the currently active item from the graphics engine.
Take Online / Take Offline	Triggers (**Take Online**) or removes (**Take Offline**) the selected item immediately, regardless of its position.

For an overview of the Story Player interface, see Raiden Story Player 106 in the Story Creator chapter.

Showing Stories and Scenes to MOS

The **Show to MOS** feature controls whether stories and scenes created in Story Creator are visible to connected Media Object Server (MOS)–enabled systems.

Story Names and Categories in MOS

When stories are shown to MOS, the Story Name is used to organize content in connected MOS Plugins. In MOS-enabled systems, each story appears as a category named after the Story Name, with all scenes in that story grouped within that category. This structure helps users quickly find scenes for a specific story when building a rundown, instead of searching through a large list of scenes.

Story categories in MOS are created and managed automatically. Users do not need to manually create or maintain categories, and when a story is deleted—either manually or through an automated cleanup process—its corresponding category is also removed from MOS.

Scenes marked as shared are displayed separately under a dedicated Shared Scenes category.

Overview of MOS Visibility

MOS visibility is applied primarily at the story level and inherited by scenes within the story. When a story is shown to MOS, all of its scenes are exposed to connected MOS-enabled systems.

Stories can be shown or hidden from MOS using the **Show to MOS** toggle. This toggle controls the MOS visibility of the entire story and serves as the primary method for managing MOS exposure.

When a story is set to **Show to MOS**:

- The story becomes visible to connected MOS-enabled systems.
- All scenes within the story are exposed to MOS.

When a story is set to **Hide from MOS**:

- The story and its scenes are hidden from MOS.
- Individual scenes may be selectively shown to MOS using scene-level controls.

The default MOS visibility for newly created stories is controlled by administrator-defined settings in the **Configuration > MOS** tab. Depending on preferences, new stories may be automatically shown or hidden from MOS when they are created.

Administrators can also configure an automated process that hides content from MOS after a specified period of inactivity, based on the last modified time. This behavior is intended to help manage content visibility and reduce clutter in MOS-enabled systems.

For detailed information about these settings, see the Story Creator Configuration 108 section.

Showing or Hiding a Story from MOS

Stories can be shown or hidden from MOS using the **Show to MOS** toggle. This toggle controls MOS visibility for the entire story, whether you're editing it in the Editor or managing it from the Story Browser.

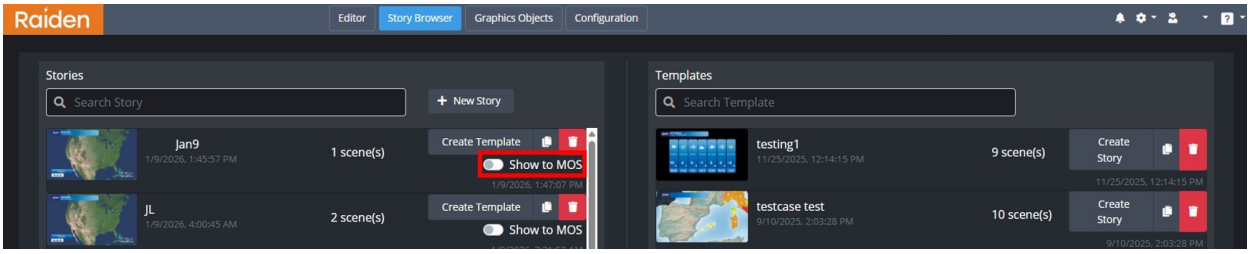
The **Show to MOS** toggle appears both in the Story Browser and in the Editor; changing the toggle in either location updates the same story-level MOS setting.

To show or hide a story from MOS in the Story Browser:

1. In Story Creator, select the **Story Browser** tab.
2. In the **Stories** list, locate the story you want to manage.
3. Use the **Show to MOS** toggle for that story to set the desired state:

   On (Show) — The story and its scenes are shown to MOS.

   Off (Hide) — The story and its scenes are hidden from MOS.

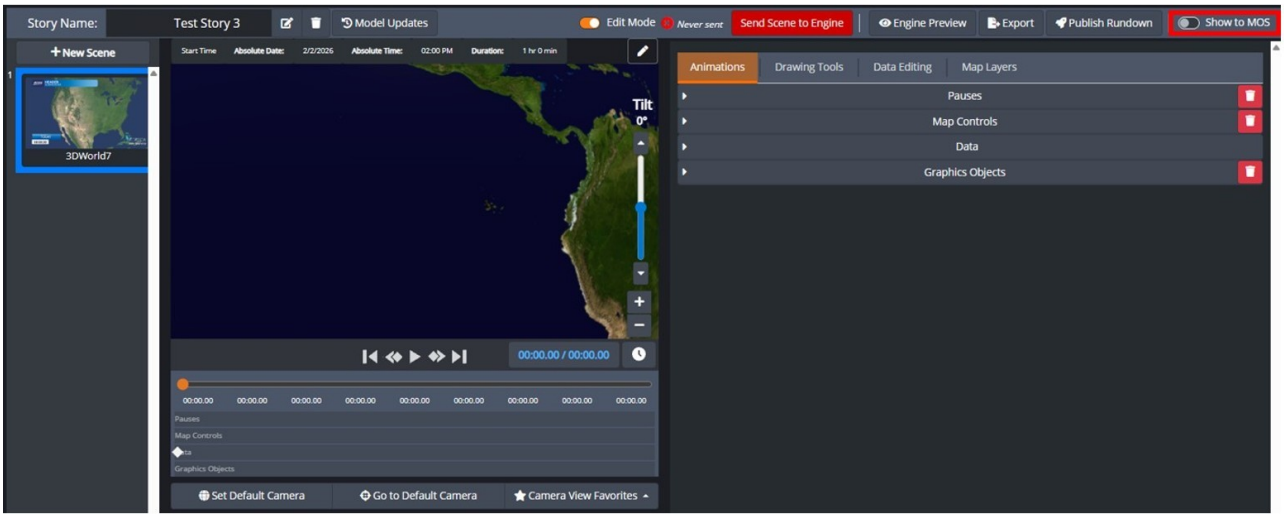


Story Browser - Show to MOS toggle

To show or hide a story from MOS in the Editor:

1. In the Story Creator, open the story you want to manage.

   The **Editor** opens.
2. In the top control bar, locate the **Show to MOS** toggle in the upper-right corner.



Editor - Show to MOS toggle

3. Use the **Show to MOS** toggle to update the story's MOS visibility.

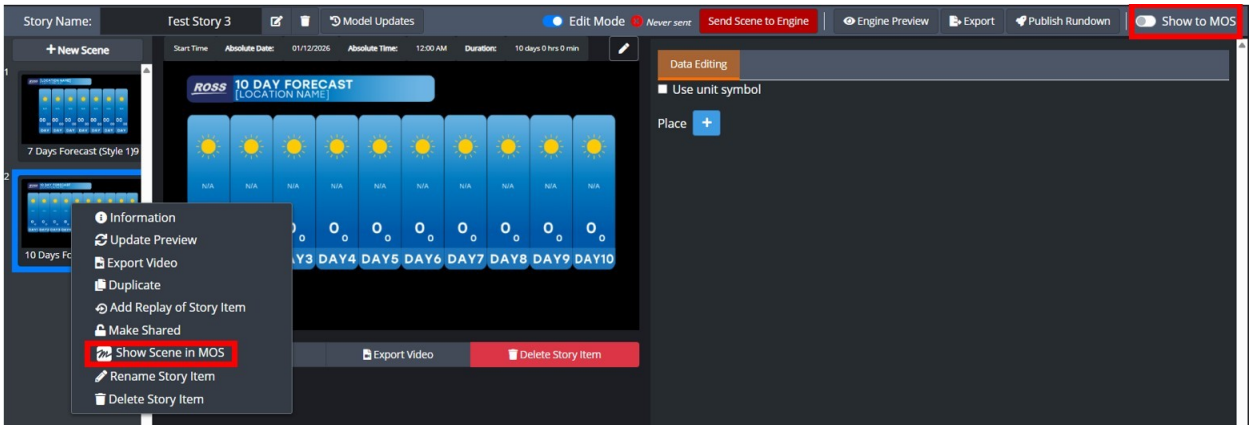
Showing or Hiding Individual Scenes from MOS

Individual scenes can be shown or hidden from MOS only when their parent story is set to **Hide from MOS**. This allows specific scenes to be exposed to MOS without making the entire story visible. Scene-level MOS controls are accessed from the scene thumbnail menu in the Editor and are disabled when the story is set to **Show to MOS**.

To show or hide scenes from MOS:

1. Open the story that contains the scenes you want to manage.
2. In the top control bar, check the **Show to MOS** toggle setting for the story.

   Scene-level MOS options are enabled only when the parent story is set to **Hide from MOS**.
3. In the scene list on the left, locate the scene you want to manage.
4. Right-click the scene thumbnail.



Scene thumbnail menu showing the Show Scene in MOS option

5. Select one of the following options:
   - **Show Scene in MOS** — Makes the selected scene visible to MOS.
   - **Hide Scene from MOS** — Hides the selected scene from MOS (this option is disabled when the story is set to **Show to MOS**).

   A confirmation message appears indicating that the story item was updated successfully. Additionally, when a scene is set to **Show Scene in MOS**, an **MOS** icon appears on the scene thumbnail to indicate that the scene is visible to MOS. When the scene is set to **Hide Scene from MOS**, the **MOS** icon is removed.

Story Creator Scene Types and Customizations

Once your basic story is created, you can begin customizing each scene to fit the needs of your weather presentation. This section discusses the different types of scenes available in Story Creator, organized into functional categories. Each group includes an overview of its purpose, relevant setup options, and links to detailed configuration instructions for each scene type.

Presentation and Supporting Scenes

Presentation and supporting scenes are used to deliver text-based information, branding elements, or transitional visuals that complement data-driven content. These scenes do not rely on data sources from the Local Server and are often used to introduce, emphasize, or close segments of a story. They are ideal for reinforcing your message with headlines, station branding, or sponsored content.

Available presentation and supporting scenes:

Media Scene 156

Headlines Scene 209

Observation Scenes

Observation scenes display current or historical weather conditions based on official data sources such as meteorological stations, radar, or satellite imagery. These scenes are useful for showing what has happened recently or what is happening now at selected locations. They allow configuration of timestamps, durations, and visual overlays to help communicate real-time trends or significant weather events.

Available Observation scenes:

3D World Scene - Observation 181

Current Conditions Scene 205

Multi-Point Observation Scene 212

Forecast Scenes

Forecast scenes use modeled weather data to visualize future conditions at specific locations over a defined period. These scenes rely on data sources and forecast cycles managed through the Local Server. You can configure parameters such as start date, timeslots, data variables, and display styles to communicate expected changes in weather. Forecast scenes are dynamic and update regularly as new forecast cycles become available.

Available Forecast scenes:

3D World Scene - Forecast 157

Daily Forecast Scene 207

Multi-Point Forecast Scene 210

Next Hours Scene 214

Managing Forecast Model Cycle Updates

Managing cycle updates across forecast scenes in a story helps ensure your data remains current without requiring manual adjustments in each scene. In the **Editor**, stories that include Daily Forecast, Next Hours, or 3D World Forecast scenes offer a centralized control—accessible through the **Model Updates** button at the top of the interface—that lets you determine how the data cycles for these scenes are updated.



Editor - Model Updates Button

If you select **Fixed**, the data cycles used in each scene are saved as-is and will not change unless manually updated. A **One-time Update to Latest Cycle** option is available to move all forecast scenes to the latest available cycle. This gives you full control over when cycle updates occur. By default, the **Fixed** option is automatically enabled when a story is created.

If you select **Automatic**, all forecast scenes in the story are set to always use the latest completed cycle. This option ensures that each scene stays up to date as new data becomes available, even when the story is reopened or duplicated.

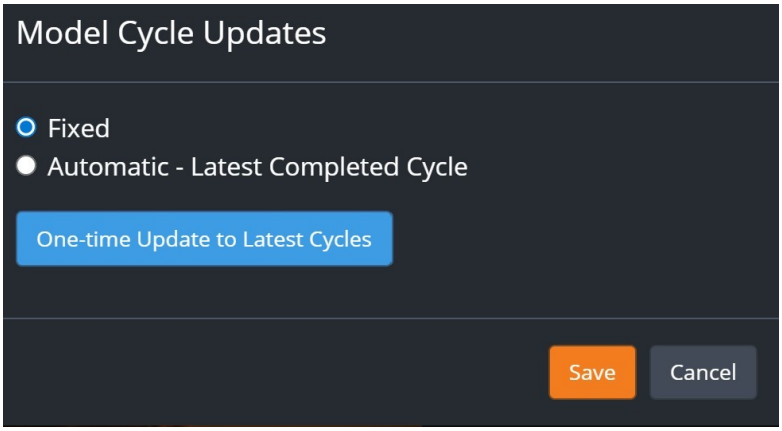
★The selected update option—Fixed or Automatic—is retained when duplicating a story or creating a template.

To use the Model Cycle Update feature:

1. If you want to use the **Fixed** option:

   a. In the **Editor**, select the **Model Updates** button at the top of the screen.

   The **Model Cycle Update** dialog opens.

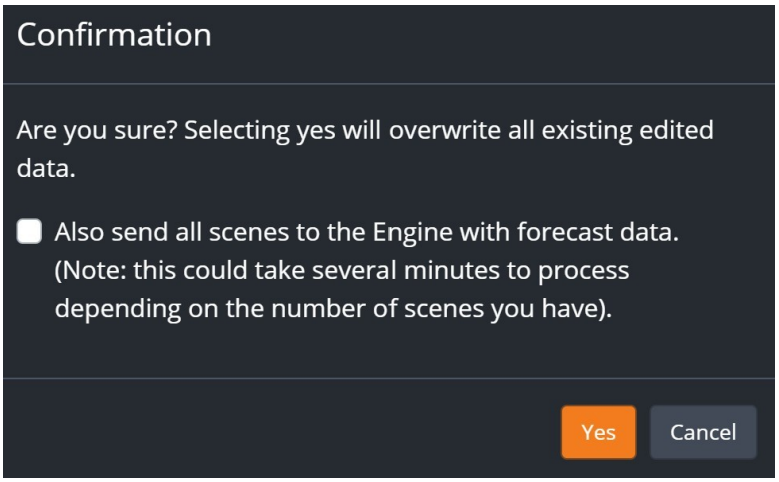


   Model Cycle Updates

   b. Select the **Fixed** option.

c. Select the **One-time Update to Latest Cycles** button.

A **Confirmation** dialog opens.



Confirmation Dialog

d. Enable the **Also send all scenes to the Engine with forecast data** checkbox to send all forecast scenes to the graphics engine during the update.

e. Select **Yes** to apply the update or **Cancel** to exit the dialog without making changes.

★For a scene to be successfully updated in the engine using this option, it must have been sent to the engine at least once prior.

2. If you want to use the **Automatic – Latest Completed Cycle** option:

   a. In the **Model Cycle Update** dialog, select the **Automatic – Latest Completed Cycle** option.

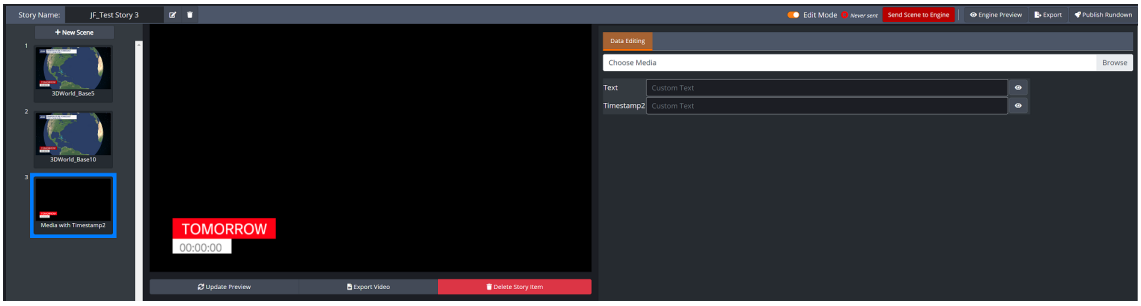
   b. Select **Yes** to apply the setting and exit the dialog or **Cancel** to exit without saving.

   All forecast scenes—both existing and new—now use the latest completed cycle and continue to update automatically as new data becomes available.

Media Scene

The Media Scene allows you to add video or image files to your story, with optional text and timestamps for additional context.

The **Editor** contains one tab for customizing the **Media** scene as seen below:



Scene Configuration Panel - Media Scene

In the **Data Editing** tab, you can incorporate media files, such as still images and videos, into your scene to include intros, outros, or advertisements in your story. Additionally, you have the flexibility to overlay text and add timestamps to your media files, with the option to show or hide the text and timestamp individually.

★The following video file is supported:

- AVI files (XPVC codec for XPression) are supported. You can use XPression Video Coder to convert other video types to the supported type.

To add a media file to the scene:

1. In the **Data Editing** tab, select the **Browse** button.

   The **File Explorer** window appears.
2. In the **File Explorer**, navigate to the media file you want to use and select the file.
3. Select **Open**.

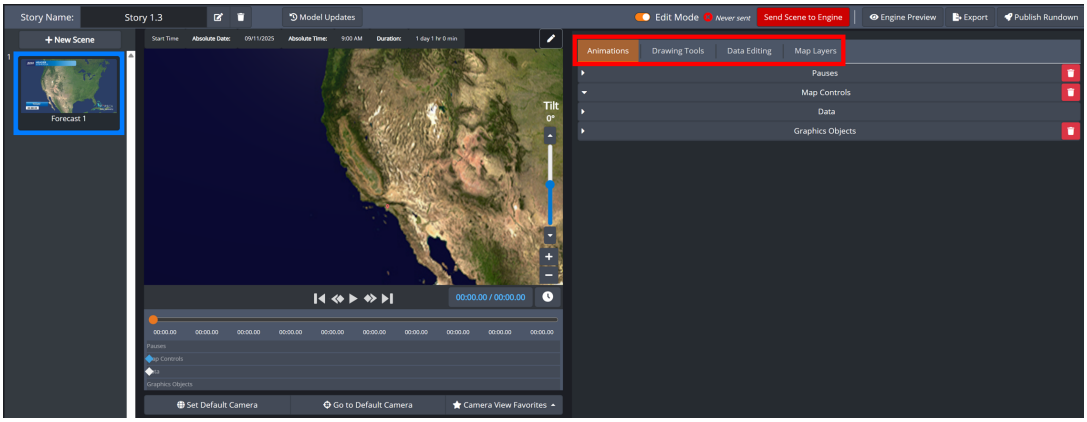
   The **File Explorer** closes.
4. In the **Text** field, enter the text you want to display in the scene.
5. In the **Timestamp2** field, enter the time you want displayed in the scene.
6. Use the **Show/Hide** button to show/hide the text and timestamp in the scene.
7. Select the Send Scene to Engine button.

   The media file, text, and timestamp will be assigned to the weather project running in your graphics engine and shown in the preview panel.

Forecast 3D World Scene

The **Forecast 3D World Scene** is used when creating modeled forecasts.

You can customize and edit the **Forecast 3D World Scene** using the **Data Editing**, **Map Layers**, **Animations**, and **Drawing Tools** tabs, as shown below:



Forecast 3D World Scene

Definitions

Data Editing—use this tab to add places of interests, timestamps, custom texts, and edit the scene's data (such as the values that visualize the weather variables for the region and the data source).

For information about configuring the data editing settings, see Data Editing 158.

Map Layers—use this tab to access the tools for adding map layers for current and forecasted weather variables.

For information about configuring the map layer settings, see Map Layers 165.

Animations—use this tab to add visual effects to your weather story.

For information about adding and managing animations, see Animations 171.

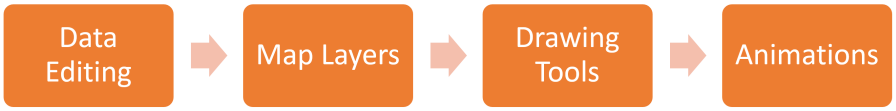
Drawing Tools—use this tab to add graphics objects to your scene.

For information about using the drawing tools, see Drawing Tools 169.

Workflow

The **Data Editing** settings should be configured first, followed by configuring the **Map Layer** settings prior to working with the **Animations** and **Drawing Tools**.

At anytime after configuring the **Data Editing** and **Map Layer** settings, you can return to your scene and work with the **Animations** and **Drawing Tools**, without having to reconfigure the **Data Editing** and **Map Layers**.



3D World Scene - Workflow

Data Editing

In the **Data Editing** tab, you can add places of interests and edit the scene's data. The options available to edit will change depending on the scene's metadata.

The following topics are covered in this section:

Configuring the Parameters for Receiving Data 158

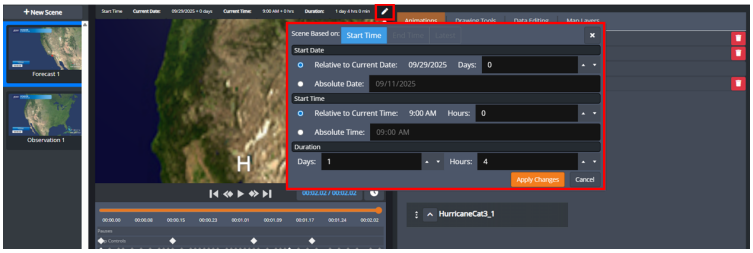
Adding and Configuring Places of Interest 159

Setting the Timestamp Format 163

Adding Custom Texts 164

Configuring the Parameters for Receiving Data

The first step is to set the data range for when to begin retrieving forecast data. The scene can be based on a **Start Time**, with values defined as either relative or absolute. The data range settings are located above the scene preview board. Select the **Edit** button to open the Data Range Configuration window, where the date, time, and duration values are set.



Data Editing Tab - Start Date, Timeslot, and Duration Settings

To configure the Start Date, Time, and Duration settings:

1. Above the scene preview board, select the **Edit** button to open the data range configuration window.
2. Configure the **Start Date** settings by selecting one of the following:
   - **Relative to Current Day**, and enter an offset if needed (e.g., +1 = tomorrow, -1 = yesterday).
   - **Absolute Date**, and either manually enter a date or select a date from the calendar picker.
3. Configure the **Start Time** settings by selecting one of the following:
   - **Relative to Current Time**, and enter an offset in hours if required.

     ★The system rounds to the nearest past hour (for example, 4:59 rounds down to 4:00).
   - **Absolute Time**, and either manually enter a time in the field or select the **Clock** button to choose the hour, minutes, and AM/PM from the time picker.
4. In the **Duration** fields, enter the number of days and hours the forecast should extend into the future.
5. Select **Apply Changes** to save the settings or **Cancel** to discard them.
6. Select the **X Close** button in the top-right corner of the settings window to close it.
7. Next, you will need to add and configure places of interest settings. Proceed to the Adding and Configuring Places 159 section.

Adding and Configuring Places of Interest

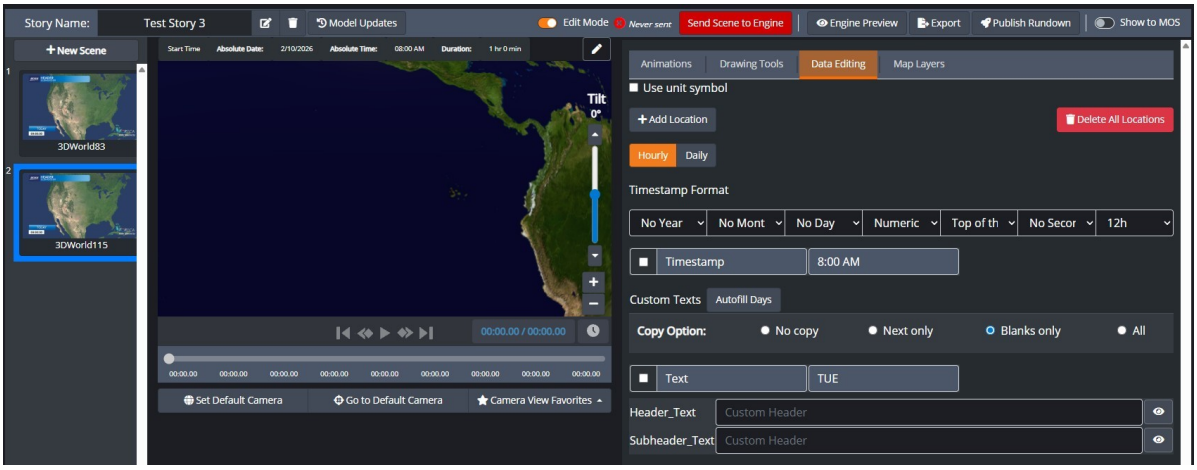
After configuring the parameters for receiving data, the next step is to add and configure the places of interest.

Places of interest represent locations for which forecast data is retrieved based on the configured start date, time, and duration. Locations may be added as stations or points, depending on the selected forecast source.

Depending on the selected settings, forecast values may be displayed as hourly values or as daily summary values for a specific day. Daily summary values commonly include minimum and maximum temperature, average wind, maximum wind gust, predominant weather condition, and low dew point for a specific day.

A key part of this process is the **Source** and **Cycle** table, which simplifies managing data cycle settings. By centralizing these settings for all locations tied to the same source(s), the table eliminates the need for individual configuration, reducing repetitive tasks and ensuring consistency. If needed, you can override these centralized settings and make location-specific configurations, providing additional flexibility. This approach saves time and minimizes the risk of errors, particularly when working with multiple locations and data sources.

This section explains how to add points of interest, set data source and cycle settings, and adjust weather variables associated with each place.



Data Editing Tab

This section contains the following procedures:

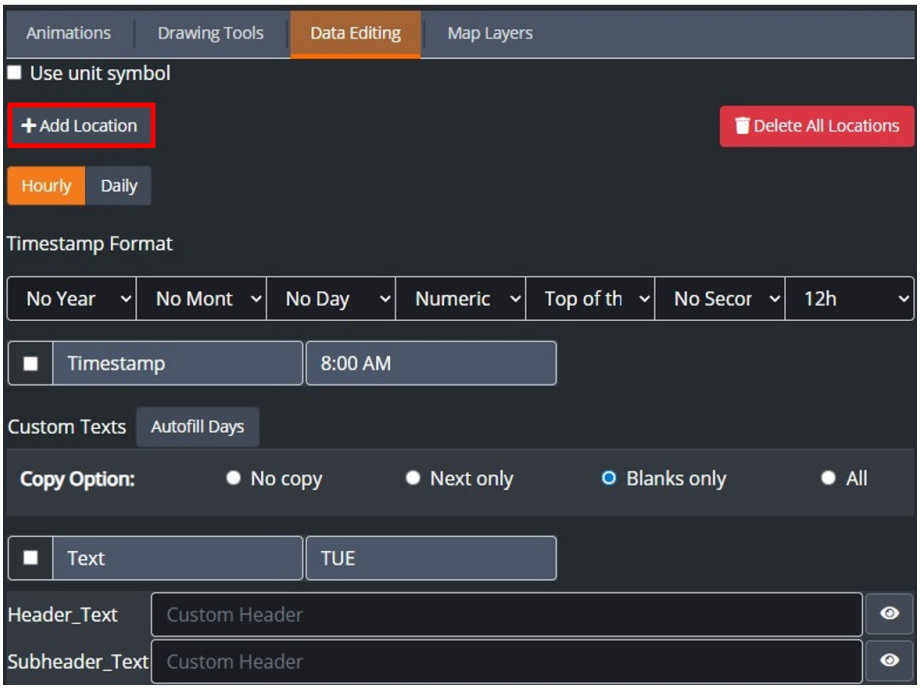
To add a Place of Interest 160

To configure Place of Interest settings 161

To delete a Place 162

To add a Place of Interest:

1. Select the **+ Add Location** button.



Data Editing - Add Location

The **Add Place to Map** window opens, presenting two tabs: **Single** and **Group**.

2. Choose one of the following options:
   - Select the **Single** tab to add one or more individual locations.
   - Select the **Group** tab to add a group of locations.
3. Enter the name of the place in the **Place** field for the **Single** tab or select a group from the **Group** drop-down for the **Groups** tab.

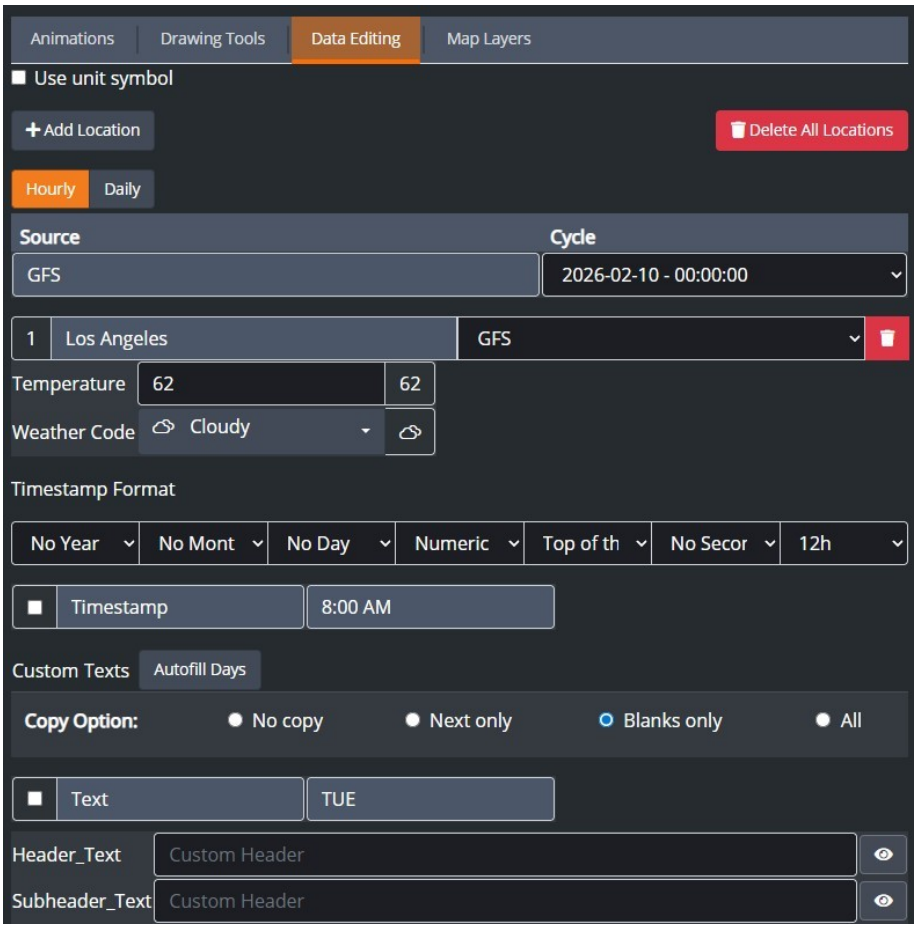
   If the name of the place or group you entered does not appear in the results, ensure that it has been configured in the Local Server.

   ★**Note**: **Points** are user-defined locations extracting data from models. **Stations** are official datasets associated with a physical observation station from a local meteorological agency.
4. From the results, select the place or group you want.
5. From the **Template** drop-down, select the XPression template you want to use.

6. Select **Add and Close** to return to the **Editor**.

   Alternatively, you can select **Add,** to add additional places and then select **Close** to return to the **Editor.**

   The place and its configuration options are displayed in the **Data Editing** tab.



Data Editing - Place of Interest Settings

7. Next, configure the Place of Interest settings 161.

To configure Place of Interest settings:

1. In the **Data Editing** tab, select the forecast interval mode:
   - **Hourly** — Displays forecast values by hour.
   - **Daily** — Displays daily summary values for the selected day.
2. In the Source and Cycle table, from the **Cycle** drop-down, select the data cycle you want applied to all locations that use the listed source.
   - **Source**: Displays the forecast sources (e.g., Euro, GFS, etc.) used in your locations (read-only).
   - **Cycle**: Provides a drop-down menu to select the cycle time for the data source specified in the table, with the latest cycle pre-selected by default.

3. If **Hourly** is selected, configure the forecast values as follows:

   a. Select the field next to the variable name and enter a new value to apply a location-specific override for the Place of Interest, if needed.

   b. If needed, double-click the field to the right of the value to restore the default value.



Data Editing Tab - Default Value

★The weather variables available to edit depend on the selected template.

4. If **Daily** is selected, configure the forecast values as follows:

   a. For each weather variable, use the drop-down displayed next to the variable name to choose how hourly values are summarized for the day.

   - **Mean** — average of hourly values
   - **Minimum** — lowest hourly value
   - **Maximum** — highest hourly value
   - **Mode** — most frequent value
   - **Sum** — total of hourly values

   b. Select the field next to the variable name and enter a new value to apply a location-specific override for the Place of Interest, if needed.

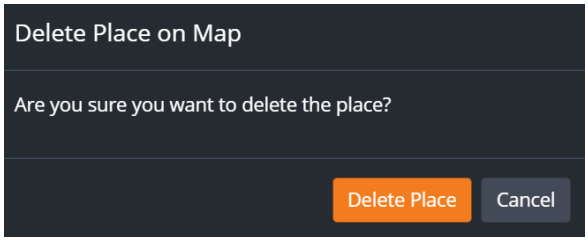
   c. If needed, double-click the field to the right of the value to restore the default summarized value.

5. Next, configure the Timestamp Format 163 settings.

To delete a Place:

1. Select the **Delete** button for the place you want to delete.

   The **Delete Place on Map** dialog opens.



Delete Place on Map Dialog

2. Select the Delete Place button.

   The place is deleted from the scene.

   Alternatively, you can use the **Delete All Locations** button to delete all locations at once.

Setting the Timestamp Format

This section provides instructions for configuring the format for the date and time displayed in a scene.

To set the Timestamp Format:

1. In the **Timestamp Format** section, configure how you want date and time values to display for each field.

   For each field, select your preferred display option:

   - **Year Format** (No Year, Numeric, or 2-digit)
   - **Month Format** (No Month, Numeric, 2-digit, Long, Short, or Narrow)
   - **Day Format** (No Day, Numeric, or 2-digit)
   - **Hour Format** (No Hour, Numeric, or 2-digit)
   - **Minute Format** (None, Top of the Hour, 0:15 increments, or 0:01 increments)
   - **Second Format** (No Second, Numeric, or 2-digit)
   - **12/24 Format** (12h or 24h)

2. (Optional) Select the **Timestamp** checkbox to display the configured time format in the scene.

   - When the checkbox is cleared, the **Data** track in the timeline remains empty and timestamps are not displayed.
   - When the checkbox is selected, the configured timestamp appears in the scene and diamonds appear in the **Data** track to indicate timestamped data points.
   - Hover over a diamond to view its associated time value.

3. Next, configure the Custom Texts 164 settings.

Adding Custom Texts

Custom texts can be used in a Forecast 3D World scene to label forecast data for each timeslot. These labels may include day names, headings, or other descriptive text that enhance clarity and relevance.

To streamline text entry, **Autofill Days** and **Copy Options** are available. **Autofill Days** populates day names across timeslots, with options to select a language and use long (e.g., Monday) or short (e.g., MON) formats. **Copy Options** allow text entered in one field to be automatically duplicated, reducing repetition and ensuring consistency.

To add Custom Texts to a scene:

1. If using automatic day names, select the **Autofill Days** button:
   a. In the **Autofill Days** window, from the **Language** drop-down, select a language.
   b. From the **Day Name Format** drop-down, select a day-name format—**Long** (e.g., Monday) or **Short** (e.g., MON).
   c. Select **Add** to apply the values or **Cancel** to close the window without making changes.
2. If entering text manually, use the Copy Options to reduce repetition:
   a. From the **Copy Option** section, choose how text from the first field should be copied to other fields:

      No Copy — Does not copy text to subsequent fields.

      Next Only — Copies text to the next field only.

      Blanks Only — Copies text into blank fields only.

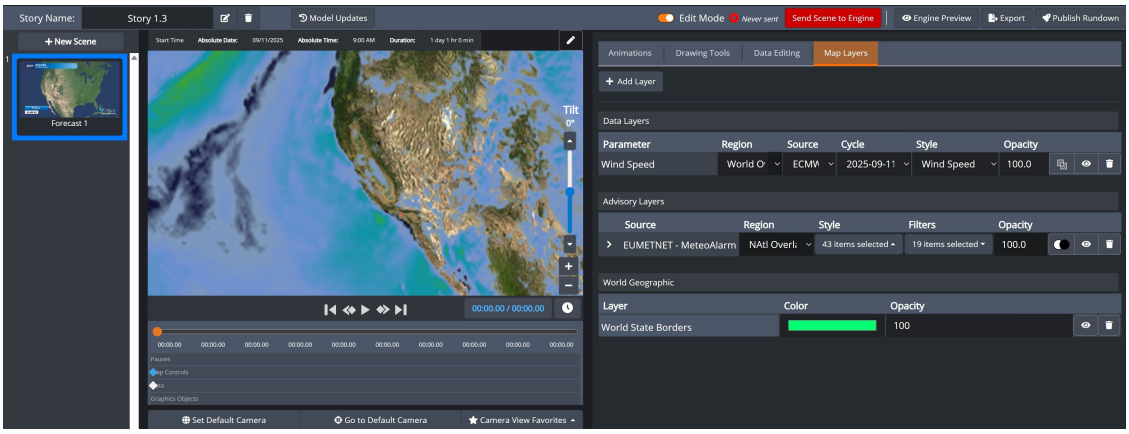
      All — Copies text from the first field to all subsequent fields.
   b. Select the **Text** checkbox to enable text.
   c. Enter the desired text in the fields to the right of the **Text** checkbox, then press the **Tab** key to autofill the subsequent cells.
3. In the **Header_Text** field, enter the text you want for a heading.
4. In the **Subheader_Text** field, enter the text you want for a subheading.
5. When you have finished adding text to the scene, select the Send Scene to Engine button.

   The **Data Editing** settings are saved to your project.
6. Next, you will need to add **Data Layers** and **World Geographic Layers** to the scene. Proceed to the Map Layers 165 section.

Map Layers

The **Map Layers** tab provides tools for adding weather and geographic overlays to a 3D World scene. The available map layers depend on the scene type and the layers enabled in the Local Server.

Each selected layer is added as a row in the **Map Layers** tab, where its settings can be configured.



Map Layers Tab

The following map layer types are available.

Layer Type	Description
Data Layers	Displays forecast weather variables, depending on the selected layer.
Advisory Layers	Displays weather watches, warnings, and advisories. Advisory layers can be filtered by hazard type and awareness level.
World Geographic Layers	Displays geographic reference information, such as country borders, coastlines, and other map features.
Tropical Layers	Displays tropical weather systems and their associated visual elements. The available layer and style options depend on the selected tropical system and the available advisory data.
Tropical Models Layers	Displays model track data for tropical weather systems. The available model track options depend on the selected tropical system.
Regional Geographic Layers	Displays regional geographic reference information, such as countries, states, counties, roads, rivers, and lakes.

To add a Map Layer:

1. In the **Map Layers** tool, select **Add Layer**.
2. From the drop-down, select the layer(s) you want to add, then click outside of the drop-down list.

   ★Only layers enabled in the Local Server are available for selection.

   The **layer** selections appear in the **Map Layer** tab.
3. Configure the settings for each layer as required.

   For more information, see Configuring Layer Settings 166.
4. Select the Send Scene to Engine button to save the settings to the scene.

To delete a Map Layer:

1. Select the **Delete** button for the **Map Layer** you want to delete.

   The **Map Layer** is deleted.

2. Select the Send Scene to Engine button to save the modification to the scene.

Configuring Layer Settings

After adding a map layer, configure the available settings as required. The available settings depend on the selected layer type.

Data Layers

Use **Data Layers** to display forecast weather variables.

Setting	Description
Region	Select the geographic region or domain.
Source	Select the data source.
Cycle	Select the data cycle.
Style	Select the display style for the layer.
Opacity	Adjust the layer transparency.
Land Mask	Hide ocean areas in the map display.
Layer Preview	Show or hide the layer preview in the scene.

Advisory Layers

Use **Advisory Layers** to display weather watches, warnings, and advisories.

Setting	Description
Source	Select the data source. Expand the source to display the **Hazard Type Icons** option.
Region	Select the geographic region or domain.
Style	Select the display style for the layer.
Filters	Filter advisories by **Hazard Type** and **Awareness Level**.
Opacity	Adjust the layer transparency.
Layer Blending	Choose how overlapping advisories are displayed. When enabled, advisories with different warning levels blend together, potentially creating intermediate colors. When disabled, the highest-severity advisory is displayed on top.
Layer Preview	Show or hide the layer preview in the scene.

★**Hazard Type Icons** are visible when you hover over a region on the map or in the **Engine Preview**. Advisory icons are automatically grouped and decluttered within the Engine to improve readability. Icon spacing and size require changes to the default Raiden configuration. Contact Ross Technical Support for assistance.

Tropical Layers

Use **Tropical Layers** to display tropical weather systems and their associated visual elements.

Setting	Description
Storm Name	Displays the tropical system. Expand the tropical system to configure additional graphical elements, when available: • **Latest Advisory** — Enable the latest advisory graphic and select the display style. • **Storm Position Labels** — For an active system, enable storm position labels and select the display style. • **Tropical System Label** — For a potential system, enable the tropical system label and select the display style. • **Forecast Positions** — Select all forecast positions, positions at 24-hour intervals, or specific forecast positions to display. **To reposition a tropical label:** 1. Enable **Storm Position Labels** for an active system or **Tropical System Label** for a potential system, and select the graphic template you want to use. 2. In the scene, drag the label to the desired location.
Region	Select the geographic region or domain.
Layers & Style	Select one or more tropical elements and styles to display.
Opacity	Adjust the layer transparency.
Layer Blending	Choose how overlapping layer elements are displayed.
Layer Preview	Show or hide the layer preview in the scene.

Note: The available graphical elements depend on the selected tropical system and advisory data.

Tropical Models Layers

Use **Tropical Models Layers** to display model track data for tropical weather systems.

Setting	Description
Storm Name	Displays the tropical system.
Region	Select the geographic region or domain.
Layers & Style	Select the model tracks to display.
Opacity	Adjust the layer transparency.
Layer Blending	Choose how overlapping layer elements are displayed.
Layer Preview	Show or hide the layer preview in the scene.

World Geographic Layers

Use **World Geographic Layers** to display geographic reference information.

Setting	Description
Color	Select a display color using the color picker, Eyedropper tool, or RGB values.
Opacity	Adjust the layer transparency.
Layer Preview	Show or hide the layer preview in the scene.

Regional Geographic Layers

Use **Regional Geographic Layers** to display regional geographic reference information.

Setting	Description
Region	Select the geographic region or domain.
Color	Select a display color using the color picker, Eyedropper tool, or RGB values.
Opacity	Adjust the layer transparency.
Layer Preview	Show or hide the layer preview in the scene.

Drawing Tools

Use the **Drawing Tools** tab to add graphics objects to your scene. A few graphics objects have been provided to help make creating your scene easier. However, you can use your own graphics objects if they have been uploaded to the Story Creator.

For instructions on how to upload your own graphics to the Story Creator, see Graphics Objects 101.

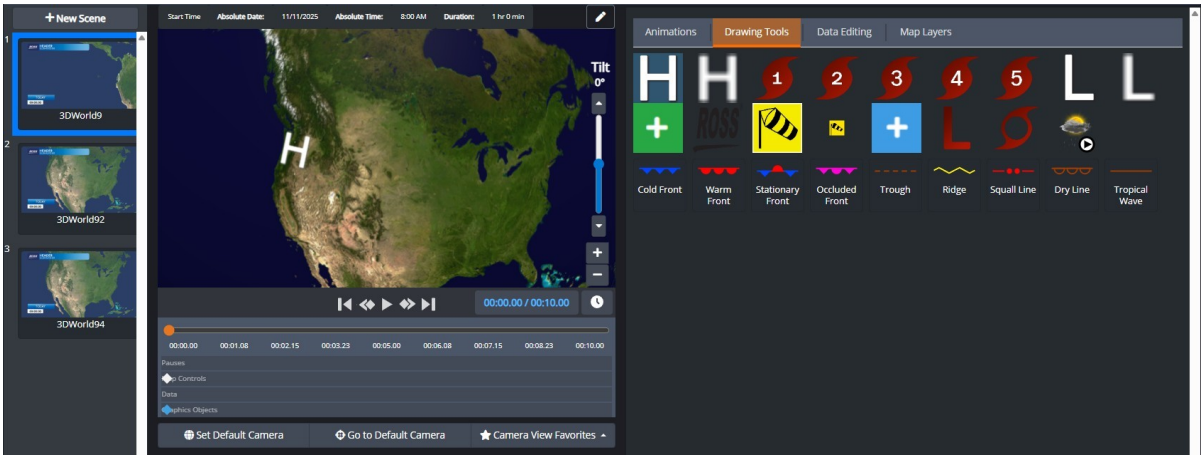
Most graphics objects are added by selecting them from the **Drawing Tools** tab and clicking on the map to drop the objects onto the scene. Once added, you can position or delete them using the **Graphics Objects** tool in the **Animations** tab. For more information about positioning and deleting graphics objects, see Graphics Objects 171 in the Animations 171 section.

Certain graphics objects—such as fronts—use a different workflow. Fronts represent meteorological features such as cold fronts, warm fronts, stationary fronts, occluded fronts, troughs, and ridges. These objects are drawn directly onto the map in the **Drawing Tools** tab.

To add an icon to a scene:

1. In the **Drawing Tools** tab, select an icon, then click on the globe where you want to place it.

   The icon appears on the globe at the selected location.



   Drawing Tools - Icon Placed on Globe

2. Click-and-drag the icon to reposition it.
3. Use the Graphics Objects 171 tool in the **Animations** tab to adjust the icon's opacity, scale, animate it, or delete it.

   For information about animating and deleting icons, see Graphics Objects 171 in the Animation 171 section.

To add a front to a scene:

1. In the **Drawing Tools** tab, select the type of front you want to add.
2. Click on the globe where you want the front to start.

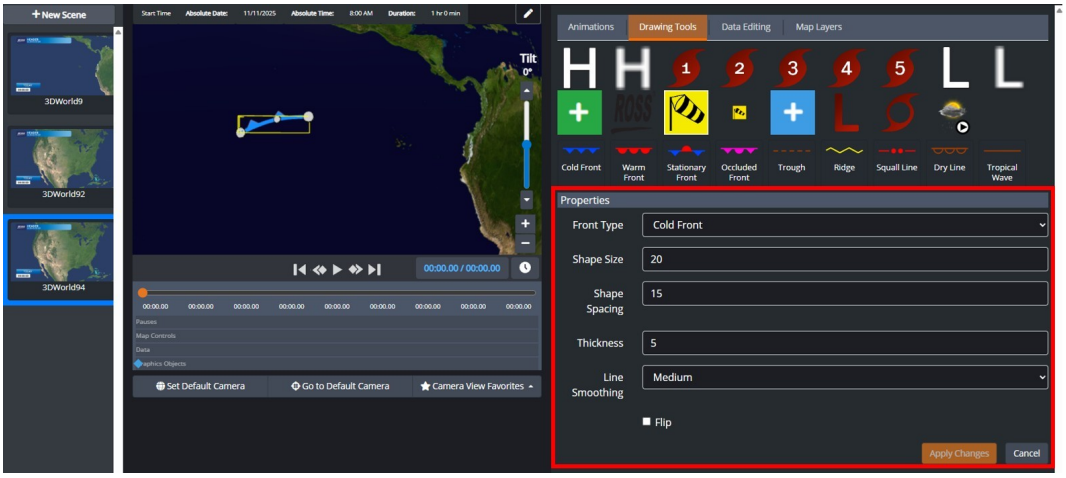
   A dot appears at that point.
3. Continue clicking along the globe to define the front's path.

   A dot appears with each click.
4. If needed, hover the cursor over a dot until it highlights with yellow behind it, then right-click to delete it.

5. Double-click the final dot to complete the front.

   A line connects all the dots to form the front.

   Additionally, the **Properties** panel appears on the right side of the screen, displaying editable settings for customizing the front's appearance.



Properties Panel - Front Settings

6. Click and drag an individual dot to adjust the front's shape or curvature.
7. If needed, hover the cursor between two dots until a yellow box appears, then click and drag to move the entire front.
8. In the **Properties** panel, adjust the desired settings:
   - **Front Type**: Select or confirm the type of front (for example, Cold Front or Warm Front).
   - **Shape Size**: Enter or adjust the size of the front symbols.
   - **Shape Spacing**: Specify the distance between symbols along the front.
   - **Thickness**: Adjust the thickness of the front line.
   - **Line Smoothing**: Choose the smoothing level to refine the front's curvature.
9. Select **Apply Changes** to save the property adjustments.
10. Use the Graphics Objects tool in the **Animations** tab to adjust the object's opacity, animate it, or delete it.

Animations

Use the **Animations** tab to add visual effects to your weather story.

The **Animations** tab contains four animation tools:

Pauses 171

Map Controls 173

Data 177

Graphic Objects 178

If you haven't already done so, you will need to configure the **Data Editing** and **Map Layers** settings prior to working with the animation tools.

For instructions on configuring **Data Editing** settings, see Data Editing 158, and for instructions on configuring the **Map Layers** settings, see Map Layers 165.

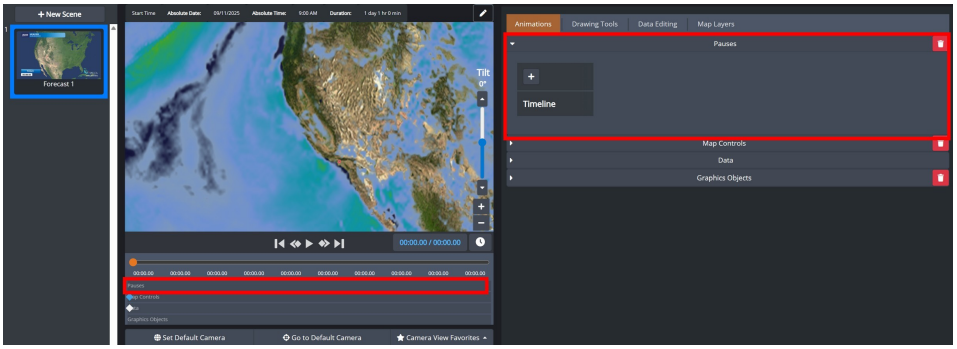
Pauses

The **Pauses** tool allows you to add pause points to the map animation. Adding a pause point to the timeline pauses the animation at the current timecode until you advance the scene.

To add a Pause:

1. In the **Pauses** track, right-click and select **+Add Keyframe**.

   Alternatively, you can use the **Pauses** tool and select the **+Add** button.



   Animations - Pauses

2. A **Pause** keyframe appears in the **Pauses** tool and a blue diamond appears in the **Pauses** track, indicating the position of the keyframe on the timeline.
3. In the **Pauses** track, slide the blue diamond to the position on the timeline you want.

   The color of the diamond changes from blue to white, indicating the position has been saved.
4. Repeat Steps 1 - 3 to add additional **Pause** keyframes.
5. When you are done adding **Pauses**, you can preview the scene using the timeline playback controls to run the animation.

   The **Pauses** are automatically saved.

To delete a pause:

1. In the **Pauses** track, right-click on the diamond for the **Pause** you want to delete and select **Delete Keyframe**.

   Alternatively, you can use the **Pauses** tool and select the **Delete** button.

   The **Delete Keyframe** dialog appears.

2. Select **Delete**.

   The **Pause** keyframe is deleted from the timeline.

To edit a Keyframe from the timeline:

1. In the **Pauses** track, right-click on the diamond for the **Pause** keyframe you want to edit and select **Edit Keyframe**.

   The **Edit Keyframe** window appears.

2. Use the **Keyframe** field to adjust the timeline position of the keyframe.
3. When you have finished modifying the position of the keyframe, select **Edit**.

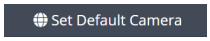
   The **Edit Keyframe** window closes and the modifications are saved.

Map Controls

The **Map Controls** tool allows you to add pan and zoom transitions to a 3D World scene.

When working with the **Map Controls** tool, you select the positions you want on the globe and add keyframes to determine the order in which they are panned and zoomed in/out to.

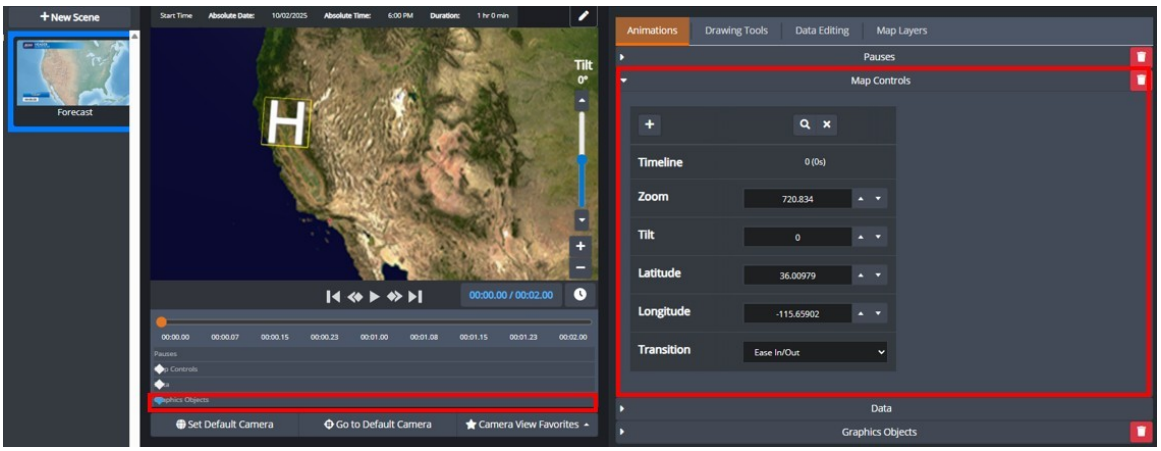
To add Map Controls:

1. In the scene preview board, use the following controls to set the position of the globe to the location you want:
   - Hold the left mouse button down and drag to rotate the globe.
   - Use the **Tilt** slider to move the globe up and down.
   - Use the scroll wheel on your mouse to zoom in or out.
2. Select the 

button.

   Additionally, if you move the globe to a different position, you can select the **Go to Default Camera** button to return to the default camera position.
3. In the **Map Controls** track, right-click and select **+ Add Keyframe**.

   Alternatively, In the **Map Controls** tool, you can select the **Add** button to add a keyframe to the timeline.



Animations - Map Controls

The keyframe controls appear in the **Map Controls** tool and a blue diamond appears in the **Map Control** track, indicating the position of the keyframe along the timeline.

Additionally, if you need to make adjustments to the position of the keyframe, you can use the keyframe controls to adjust the position.

The keyframe control options are:

- **Zoom**
- **Tilt**
- **Latitude**
- **Longitude**

4. In the keyframe controls, use the **Transition** drop-down to select the transition style between keyframes.

   The options are:

   - **Ease In/Out** — To transition slowly between keyframes.
   - **Linear** — To transition with a constant speed between keyframes.

5. In the **Map Controls** track, click-and-drag the blue diamond to adjust its position along the timeline.

   The color of the diamond changes to white, indicating the modifications have been saved to the keyframe.

6. Position the globe to the next position you want, and repeat **steps 3—5** to add and configure additional keyframes.

   Additionally, you can re-arrange the position the diamonds on the track to change the order in which the keyframes are panned and zoomed in/out to on the globe.

7. When you have finished adding and configuring the keyframes, you can preview the scene using the timeline playback controls to run the animation.

   The keyframes are automatically saved.

   ★For information about previewing the keyframe animations, see To preview keyframe animations 180.

To delete a Map Control keyframe:

1. In the **Map Controls** track, right-click on the diamond for the keyframe you want to delete and select **Delete Keyframe**.

   Alternatively, in the **Map Control** tool, select the **Delete** button for the keyframe you want to delete.

   The **Delete Keyframe** dialog appears.

2. Select **Delete**.

   The keyframe is deleted from the timeline.

To edit a Keyframe from the timeline:

1. Right-click on the diamond for the keyframe you want to edit and select **Edit Keyframe**.

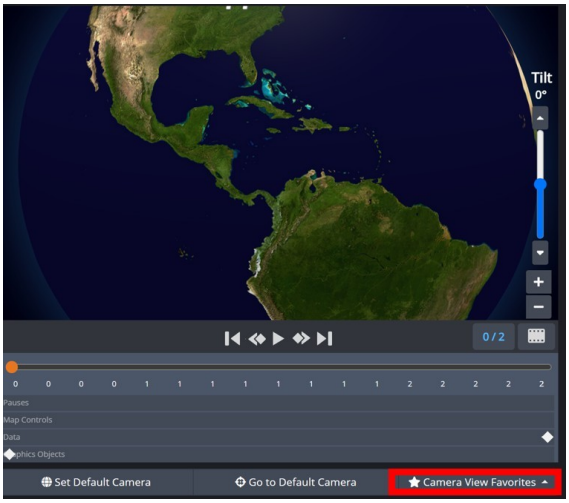
   The **Edit Keyframe** window appears.

2. Use the **Keyframe** fields to adjust the timeline position of the keyframe.
3. When you have finished modifying the position of the keyframe, select **Edit**.

   The **Edit Keyframe** window closes and the modifications are saved.

Camera View Favorites

The **Camera View Favorites** feature allows users to save and reuse predefined camera views for animations. By saving commonly used camera views, this feature enhances the efficiency of working with animations, particularly when setting up keyframe positions for dynamic map transitions. Administrators can create station-wide favorites to ensure consistency across teams, while individual users can create personal favorites for their own use.



Camera View Favorites

To add a new camera view to your favorites:

1. Position, tilt, and zoom the map to set the desired view, then select the **Camera View Favorites** button located at the bottom of the timeline.
2. In the menu, select the **+Add New** button.

   The **Add New** window opens.
3. In the **Name** field, enter a name for the camera view.
4. Select the **Available to Everyone** checkbox if you want to make the camera view available to all users (Administrative users only).

   When this option is enabled, a people icon appears next to the camera view in the list, indicating that it is station-wide.
5. Select **Save & Apply** to save the camera view and apply it to the current keyframe position.

   The **Add New** window closes and the new camera view is saved.

   Alternatively, you can select **Save** to save the camera view without applying it to the current keyframe position and return to the list of **Camera View Favorites**.

To modify an existing Camera View Favorite:

1. Select the **Camera View Favorites** button to open the menu.
2. Locate the camera view you want to modify and select the **Modify** button next to it.

   The **Modify Favorite** window opens.
3. Edit the following settings as needed:
   - **Name**: Update the name of the camera view.
   - **Available to Everyone**: Enable or disable this setting to control whether the camera view is station-wide or personal (Administrative users only).
4. Select **Save** to apply the changes and return to the list of favorites.

To delete a Camera View Favorite:

1. Select the **Camera View Favorites** button to open the menu.
2. Find the camera view you want to delete and select the **Delete** button next to it.

   The **Delete Favorite** dialog opens.
3. Select **Delete** to confirm the action.

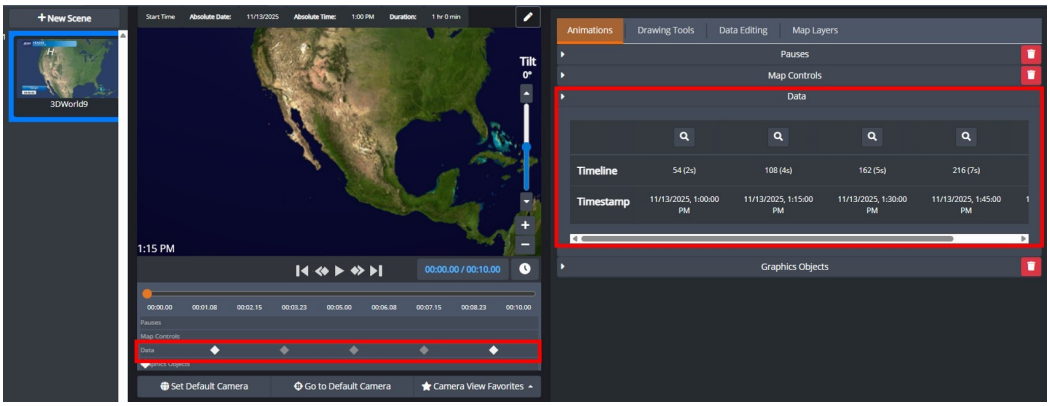
   The **Camera View Favorite** is removed from the list.

Data

The **Data** tool allows you to position **Data** keyframes to show a specific weather variable or timestamped data sequence transitioning over different points in time.

To position a Data keyframe:

1. In the **Animations** tool, select **Data**.



Animations Tab - Data

2. Select the **Search** button for the **Data** keyframe you want to position along the timeline.

   The color of the diamond changes from white to blue, indicating it can be repositioned along the timeline.

3. In the **Data** track on the timeline, slide the blue diamond along the track to the desired position.

   The color of the diamond changes to white, indicating the modifications have been saved to the project.

4. Repeat **steps 2-3** to position any additional **Data** keyframes along the timeline.

   The keyframes are automatically saved.

To edit a Data Keyframe from the timeline:

1. Right-click on the diamond for the keyframe you want to edit and select **Edit Keyframe**.

   The **Edit Keyframe** window appears.

2. Use the **Keyframe** field to adjust the timeline position of the keyframe.
3. When you have finished modifying the position of the keyframe, select **Edit**.

   The **Edit Keyframe** window closes and the modifications are saved.

Graphics Objects

The **Graphics Objects** tool allows you to configure and animate visual elements—such as fronts and icons—within a scene. Each graphics object can be positioned, scaled, and animated along a keyframe path on the map. This allows objects to move, resize, or change opacity as the scene plays.

Fronts are also a type of graphics object and use the same keyframing workflow in the **Graphics Objects** tool. However, their animation workflow differs slightly because fronts can be reshaped by adjusting their individual points over time.

Each object in the **Graphics Objects** list includes a **Lock /** **Unlock** icon that controls whether it can be edited or selected in the Map Preview. Use the lock option to prevent unintended changes when multiple objects overlap or are positioned close together:

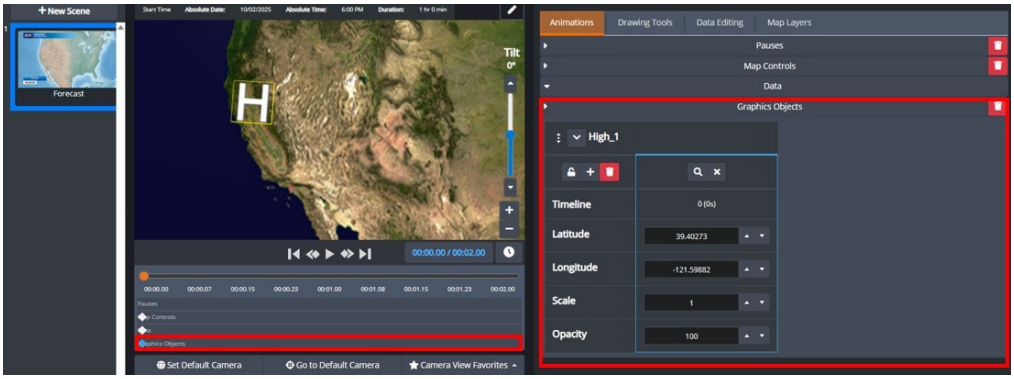
- Unlocked objects can be selected and edited directly on the map.
- Locked objects cannot be edited or selected in the Map Preview and remain locked across all times and keyframes.

To configure and animate an icon:

On the map, you will create a keyframe path that the icon will move along when the scene is played out. Each new keyframe you add corresponds to a different position on the map.

1. In the **Graphics Objects** tool, select the icon you want to configure.

   A keyframe appears as a blue diamond in the **Graphics Objects** track.



   Animations - Graphics Objects

   If you haven't already added graphics objects to your scene, you can do so in the **Drawing Tools** tab.

   For more information, see Drawing Tools 169.

2. On the map, drag the icon to the desired position.

   Additionally, you can use the **Latitude** and **Longitude** fields to adjust the position on the globe.

3. In the **Scale** and **Opacity** fields, enter or select the desired size and transparency for the icon.

4. In the **Graphics Objects** track, select the blue diamond and drag it to the desired position on the timeline.

   The color of the diamond changes from blue to white, indicating the modifications have been saved to the animated icon keyframe.

5. In the **Graphics Object** track, right-click at the point on the timeline where you want the next keyframe to appear, then select **+Add Keyframe**.

   Alternatively, you can select the **+ Add** button in the **Graphics Object** tool to add an additional keyframe.

6. If you need to delete the keyframe, right-click on the diamond in the track and select **Delete Keyframe**, or select the **Delete** button for the keyframe you want to delete.

7. Move the icon on the globe to its new position, and adjust its size and opacity as needed.

   Additionally, you can re-arrange the position of the diamonds on the track to change the order of the icon's movements on the map.

   ★If you want to set a graphic object to a fixed position, do not configure any additional keyframes for that icon.

8. Repeat **Steps 5 through 7** for each keyframe until the icon's full movement path across the map is complete, then use the timeline controls to preview the animations.

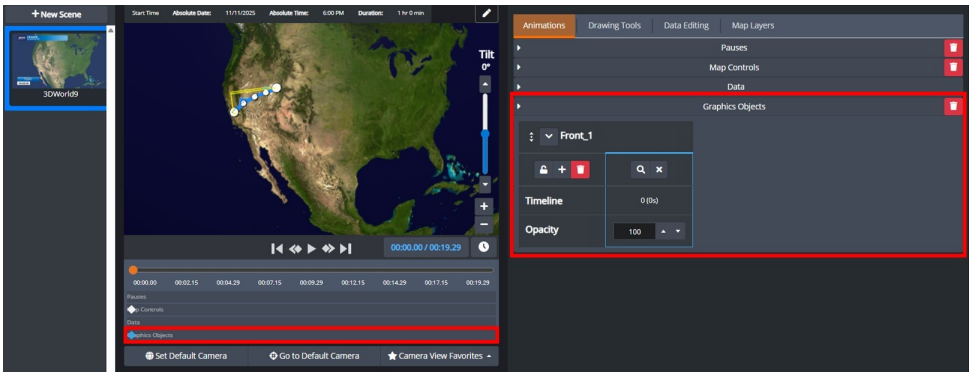
   The modifications are automatically saved to the scene.

To configure and animate a front:

Fronts follow a similar keyframing workflow as icons but have additional options that let you change their shape and position over time.

1. In the **Graphics Objects** tool, select the front you want to configure.

   A keyframe appears as a blue diamond in the **Graphics Objects** track.



Animations - Graphics Objects Tool and Timeline Track

2. On the map, position the front where you want it to appear at the start of the animation.

3. In the **Opacity** field, enter or select the desired transparency level.

4. In the **Graphics Objects** track, select the blue diamond and drag it to the desired position on the timeline.

   The diamond changes from blue to white, indicating that the modifications have been saved to the keyframe.

5. Click the point on the timeline where you want the next keyframe to appear, then right-click and select **+Add Keyframe**.

   Alternatively, select the **+Add** button in the **Graphics Objects** tool to add another keyframe.

6. Hover the cursor between two points on the Front until a yellow box appears, then click and drag to move the entire front to a new position.

7. Click and drag individual dots to adjust the front's shape or curvature.
8. Repeat **Steps 5 through 7** for each new keyframe until the front's full animation path across the map is complete.
9. When you have finished, use the timeline controls to preview the animation.

   The modifications are automatically saved to the scene.

To Reorder Graphics Objects:

1. In the **Graphics Objects** tool, locate the object you want to move.
2. (Optional) Select the **Collapse/Expand Arrow** beside the object's name to collapse its attributes into a single line, making it easier to reorder.
3. Grab the **Drag-and-Drop Handle** and drag the object to the desired position in the list.

   ★Reordering affects how objects are layered in the XPression project. Objects lower in the list are displayed on top of objects higher in the list.

To delete a Graphics Object from a scene:

1. In the **Graphics Objects** tool, select the **Delete** button for the graphics object you want to delete.

   The **Delete Track Element** dialog opens.
2. Select **Delete**.

   The graphics object is deleted from the scene.

To preview Animations:

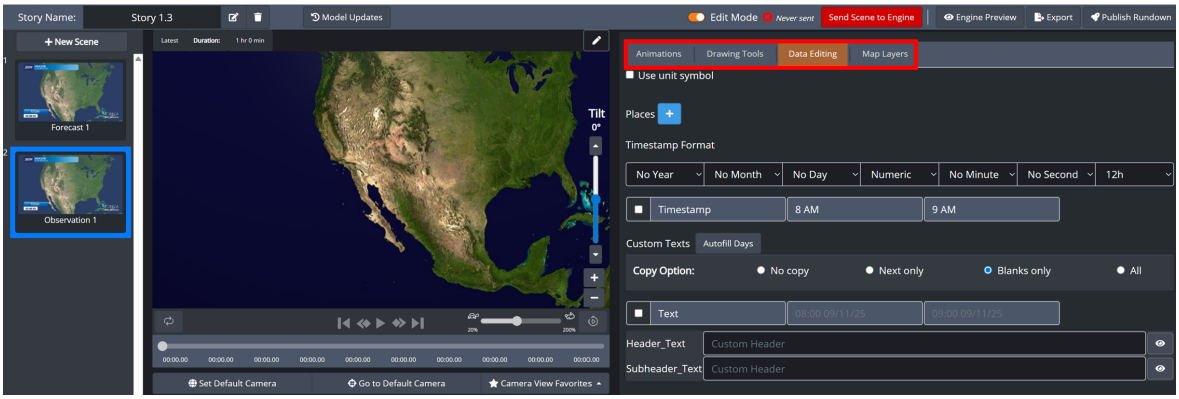
- Use the timeline playback controls to run the animation as follows:

Control	Description
Play	Plays the animation.
Pause	Pauses the animation.
Back	Returns to the start of the timeline.
Forward	Skips forward to the end of the timeline.
Previous Keyframe	Skips to the previous keyframe.
Next Keyframe	Skips to the next keyframe.

Observations 3D World Scene

The **Observations 3D World Scene** is intended for users creating animations using current or historical weather imagery.

You can customize and edit the **Observations 3D World Scene** using the **Data Editing**, **Map Layers**, **Animations**, and **Drawing Tools** tabs, as shown below:



Observations 3D World Scene

Definitions

Data Editing—use this tab to add places of interests, timestamps, custom texts, and edit the scene's data (such as the values that visualize the weather variables for the region and the data source).

For information about configuring the data editing settings, see Data Editing 158.

Map Layers—use this tab to access the tools for adding map layers for current and forecasted weather variables.

For information about configuring the map layer settings, see Map Layers 165.

Animations—use this tab to add visual effects to your weather story.

For information about adding and managing animations, see Animations 171.

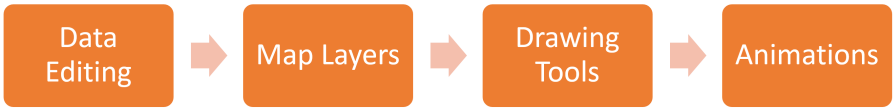
Drawing Tools—use this tab to add graphics objects to your scene.

For information about using the drawing tools, see Drawing Tools 169.

Workflow

The **Data Editing** settings should be configured first, followed by configuring the **Map Layer** settings prior to working with the **Animations** and **Drawing Tools**.

At anytime after configuring the **Data Editing** and **Map Layer** settings, you can return to your scene and work with the **Animations** and **Drawing Tools**, without having to reconfigure the **Data Editing** and **Map Layers**.



3D World Scene - Workflow

Data Editing

In the **Data Editing** tab, you can add places of interests and edit the scene's data. The options available to edit will change depending on the scene's metadata.

The following topics are covered in this section:

Configuring the Parameters for Receiving Data 182

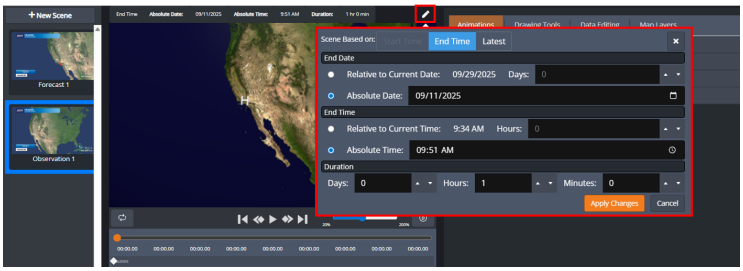
Adding and Configuring Places of Interest 184

Setting the Timestamp Format 186

Adding Custom Texts 187

Configuring the Parameters for Receiving Data (Observations 3D World)

The first step is to set the data range for retrieving observation data. In observation scenes, **Start Time** is disabled. The scene can be based on either **End Time** or **Latest**. The data range settings are located above the scene preview board. Select the **Edit** button to open the Data Range Configuration window, where the date, time, and duration values are set.



Data Editing Tab - End Date/Time and Duration Settings

To configure the End Date, Time, and Duration settings:

1. Above the scene preview board, select the **Edit** button to open the Data Range Configuration window.
2. In the **Scene Based On** field, select one of the following:
   - **End Date**, which sets a specific end point for the data range.
   - **Latest**, which always retrieves the most recent available data and only displays the **Duration** fields.
3. If **End Time** is selected, configure the **End Date** and **End Time** settings:
   - For **End Date**, select either **Relative to Current Day** and enter an offset (e.g., +1 = tomorrow, -1 = yesterday), or **Absolute Date** and either manually enter a date or select one from the calendar picker.
   - For **End Time**, select either **Relative to Current Time** and enter an offset in hours (the system rounds to the nearest past hour, for example, 4:59 rounds to 4:00), or **Absolute Time** and either manually enter a time in the field or select the clock button to choose the hour, minutes, and AM/PM from the time picker.

4. If **Latest** is selected, configure the **Duration** fields by entering the number of days, hours, and minutes the data should extend into the past.

   ★When **Latest** is selected, only the **Duration** fields are available.

5. Select **Apply Changes** to save the settings or **Cancel** to discard them.

6. Select the **X Close** button in the top-right corner of the settings window to close it.

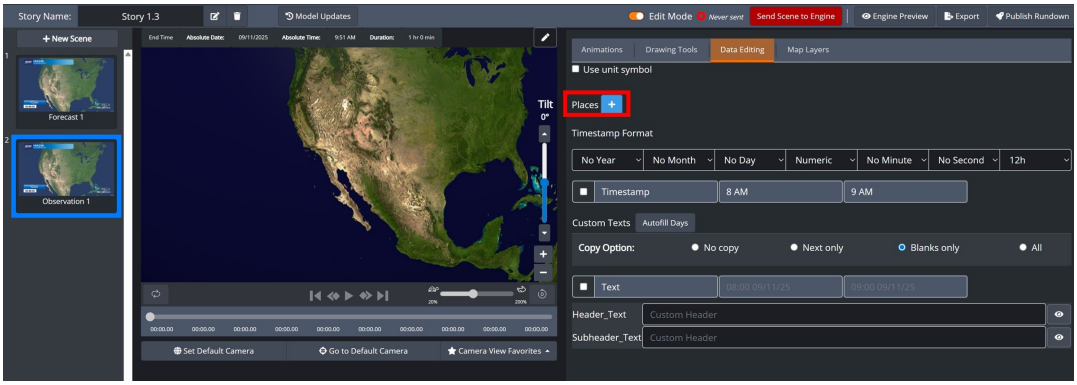
7. Next, add and configure the places of interest settings. Proceed to the Adding and Configuring Places 184 section.

Adding and Configuring Places of Interest

This is where you add and configure the settings for the places of interests and their associated weather variables.

Each row in this section allows you to select the data source you want for the corresponding place of interest.

Below each row are the weather variables and their default values, grouped by timeslot. The default values can be edited to display the value you prefer in the scene. Once you edit a value, you can recover the default value if needed.



Data Editing Tab - Places Section

This section contains the following procedures:

To add and configure a Place of Interest: 184

To delete a Place: 185

To add and configure a Place of Interest:

1. Select the **Places** button.

   The **Add Place to Map** window opens, presenting two tabs: **Single** and **Group**.

2. Choose one of the following options:

   - Select the **Single** tab to add one or more individual locations.
   - Select the **Group** tab to add a group of locations.

3. Enter the name of the place in the **Place** field for the **Single** tab or select a group from the **Group** drop-down for the **Groups** tab.

   If the place of interest you entered does not appear in the results, ensure that it has been configured in the Local Server.

   ★**Note**: **Points** are user-defined locations extracting data from models. **Stations** are official datasets associated with a physical observation station from a local meteorological agency.

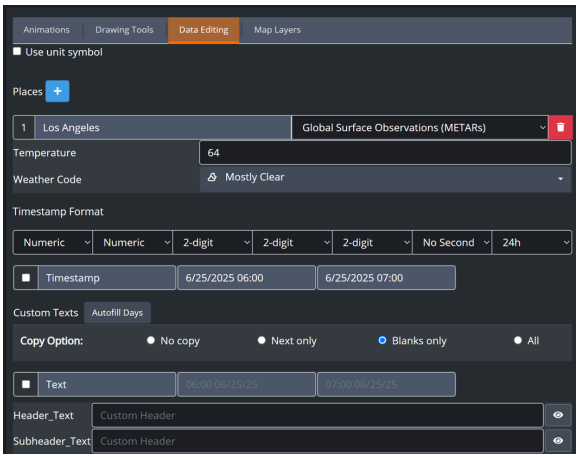
4. From the results, select the place or groups you want.

5. From the **Template** drop-down, select the XPression template you want to use.

6. Select **Add and Close** to return to the **Editor**.

   Alternatively, you can select **Add,** to add additional places and then select **Close** to return to the **Editor.**

   The place and its configuration options are displayed in the **Data Editing** tab.



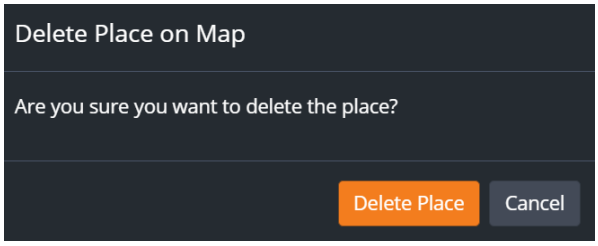
Data Editing - Place and Configuration Options

7. Configure the **Places** settings for each place of interest as follows:
   - Confirm the place of interest is correct and select the data source you want to retrieve data from.
8. Next, configure the **Timestamp Format** settings. Proceed to the Setting the Timestamp Format 186 section.

To delete a Place:

1. Select the **Delete** button for the place you want to delete.

   The **Delete Place on Map** dialog opens.



Delete Place on Map Dialog

2. Select the Delete Place button.

   The place is deleted from the scene.

Setting the Timestamp Format

This section provides instructions for configuring the format for the date and time displayed in a scene.

To set the Timestamp Format:

1. In the **Timestamp Format** section, configure how you want date and time values to display for each field.

   For each field, select your preferred display option:

   - **Year Format** (No Year, Numeric, or 2-digit)
   - **Month Format** (No Month, Numeric, 2-digit, Long, Short, or Narrow)
   - **Day Format** (No Day, Numeric, or 2-digit)
   - **Hour Format** (No Hour, Numeric, or 2-digit)
   - **Minute Format** (None, Top of the Hour, 0:15 increments, or 0:01 increments)
   - **Second Format** (No Second, Numeric, or 2-digit)
   - **12/24 Format** (12h or 24h)

2. (Optional) Select the **Timestamp** checkbox to display the configured time format in the scene.

   - When the checkbox is cleared, the **Data** track in the timeline remains empty and timestamps are not displayed.
   - When the checkbox is selected, the configured timestamp appears in the scene and diamonds appear in the **Data** track to indicate timestamped data points.
   - Hover over a diamond to view its associated time value.

3. Next, configure the Custom Texts 187 settings.

Adding Custom Texts

Custom texts can be used in an Observations 3D World scene to label observation data for each timeslot. These labels may include day names, headings, or other descriptive text that enhance clarity and relevance.

To streamline text entry, **Autofill Days** and **Copy Options** are available. **Autofill Days** populates day names across timeslots, with options to select a language and use long (e.g., Monday) or short (e.g., MON) formats. **Copy Options** allow text entered in one field to be automatically duplicated, reducing repetition and ensuring consistency.

To add Custom Texts to a scene:

1. If using automatic day names, select the **Autofill Days** button:
   a. In the **Autofill Days** window, from the **Language** drop-down, select a language.
   b. From the **Day Name Format** drop-down, select a day-name format—**Long** (e.g., Monday) or **Short** (e.g., MON).
   c. Select **Add** to apply the values or **Cancel** to close the window without making changes.
2. If entering text manually, use the Copy Options to reduce repetition:
   a. From the Copy Option section, choose how text from the first field should be copied to other fields:

      No Copy — Does not copy text to subsequent fields.

      Next Only — Copies text to the next field only.

      Blanks Only — Copies text into blank fields only.

      All — Copies text from the first field to all subsequent fields.

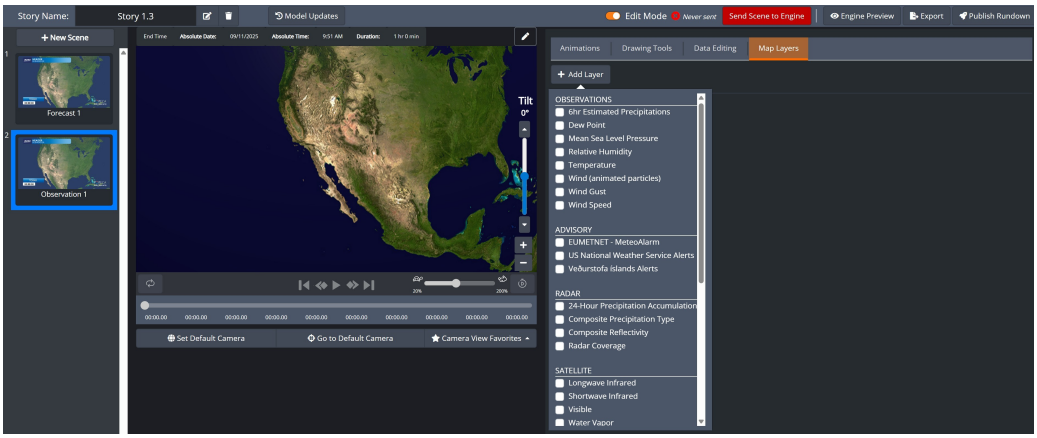
   b. Select the **Text** checkbox to enable text.
   c. Enter the desired text in the fields to the right of the **Text** checkbox, then press the **Tab** key to autofill the subsequent cells.
3. In the **Header_Text** field, enter the text you want for a heading.
4. In the **Subheader_Text** field, enter the text you want for a subheading.
5. When you have finished adding text to the scene, select the Send Scene to Engine button.

   The **Data Editing** settings are saved to your project.
6. Next, you will need to add **Data Layers** and **World Geographic Layers** to the scene. Proceed to the Map Layers 165 section.

Map Layers

The **Map Layers** tab provides the essential tools for enhancing your scene with various data overlays. The available map layers depend on the scene type and the layers enabled in the Local Server.

Each selected layer is added as a row in the **Map Layers** tab, where its settings can be configured.



Map Layers Tab

The following map layer types are available.

Layer Type	Description
Data Layers	Displays observation, radar, and satellite data, depending on the selected layer.
Advisory Layers	Displays weather watches, warnings, and advisories. Advisory layers can be filtered by hazard type and awareness level.
World Geographic Layers	Displays geographic reference information, such as country borders, coastlines, and other map features.
Tropical Layers	Displays tropical weather systems and their associated visual elements. The available layer and style options depend on the selected tropical system and the available advisory data.
Tropical Models Layers	Displays model track data for tropical weather systems. The available model track options depend on the selected tropical system.
Regional Geographic Layers	Displays regional geographic reference information, such as countries, states, counties, roads, rivers, and lakes.

To add a Map Layer:

1. In the **Map Layers** tool, select **Add Layer**.
2. From the drop-down, select the layer(s) you want to add, then click outside the drop-down list.

   ★Only layers enabled in the Local Server are available for selection.

   The **layer** selections appear in the **Map Layer** tab.
3. Configure the settings for each layer as required.

   For more information, see Configuring Layer Settings 189.
4. Select the Send Scene to Engine button to save the settings to the scene.

To delete a Map Layer:

1. Select the **Delete** button for the **Map Layer** you want to delete.

   The **Map Layer** is deleted.

2. Select the Send Scene to Engine button to save the modification to the scene.

Configuring Layer Settings

After adding a map layer, configure the available settings as required. The settings displayed depend on the selected layer type.

Data Layers

Use **Data Layers** to display observation, radar, and satellite data.

Setting	Description
Region	Select the geographic region or domain.
Source	Select the data source.
Style	Select the display style for the layer.
Opacity	Adjust the layer transparency.
Land Mask	Hide ocean areas in the map display.
Layer Preview	Show or hide the layer preview in the scene.

Advisory Layers

Use **Advisory Layers** to display weather watches, warnings, and advisories.

Setting	Description
Source	Select the data source. Expand the source to display the **Hazard Type Icons** option.
Region	Select the geographic region or domain.
Style	Select the display style for the layer.
Filters	Filter advisories by **Hazard Type** and **Awareness Level**.
Opacity	Adjust the layer transparency.
Layer Blending	Choose how overlapping advisories are displayed. When enabled, advisories with different warning levels blend together, potentially creating intermediate colors. When disabled, the highest-severity advisory is displayed on top.
Layer Preview	Show or hide the layer preview in the scene.

★**Hazard Type Icons** are visible when you hover over a region on the map or in the Engine Preview. Advisory icons are automatically grouped and decluttered within the Engine to improve readability. Icon spacing and size require changes to the default Raiden configuration. Contact Ross Technical Support for assistance.

Tropical Layers

Use **Tropical Layers** to display tropical weather systems and their associated visual elements.

Setting	Description
Storm Name	Displays the tropical system. Expand the tropical system to configure additional graphical elements, when available: • **Latest Advisory** — Enable the latest advisory graphic and select the display style. • **Storm Position Labels** — For an active system, enable storm position labels and select the display style. • **Tropical System Label** — For a potential system, enable the tropical system label and select the display style. • **Forecast Positions** — Select all forecast positions, positions at 24-hour intervals, or specific forecast positions to display. **To reposition a tropical label:** 1. Enable **Storm Position Labels** for an active system or **Tropical System Label** for a potential system, and select the display style. 2. In the scene, drag the label to the desired location.
Region	Select the geographic region or domain.
Layers & Style	Select one or more tropical elements and styles to display.
Opacity	Adjust the layer transparency.
Layer Blending	Choose how overlapping layer elements are displayed.
Layer Preview	Show or hide the layer preview in the scene.

★The available graphical elements depend on the selected tropical system and advisory data.

Tropical Models Layers

Use **Tropical Models Layers** to display model track data for tropical weather systems.

Setting	Description
Storm Name	Displays the tropical system.
Region	Select the geographic region or domain.
Layers & Style	Select the model tracks to display.
Opacity	Adjust the layer transparency.
Layer Blending	Choose how overlapping layer elements are displayed.
Layer Preview	Show or hide the layer preview in the scene.

World Geographic Layers

Use **World Geographic Layers** to display geographic reference information.

Setting	Description
Color	Select a display color using the color picker, Eyedropper tool, or RGB values.
Opacity	Adjust the layer transparency.
Layer Preview	Show or hide the layer preview in the scene.

Regional Geographic Layers

Use **Regional Geographic Layers** to display regional geographic reference information.

Setting	Description
Region	Select the geographic region or domain.
Color	Select a display color using the color picker, Eyedropper tool, or RGB values.
Opacity	Adjust the layer transparency.
Layer Preview	Show or hide the layer preview in the scene.

Drawing Tools

Use the **Drawing Tools** tab to add graphics objects to your scene. A few graphics objects have been provided to help make creating your scene easier. However, you can use your own graphics objects if they have been uploaded to the Story Creator.

For instructions on how to upload your own graphics to the Story Creator, see Graphics Objects 101.

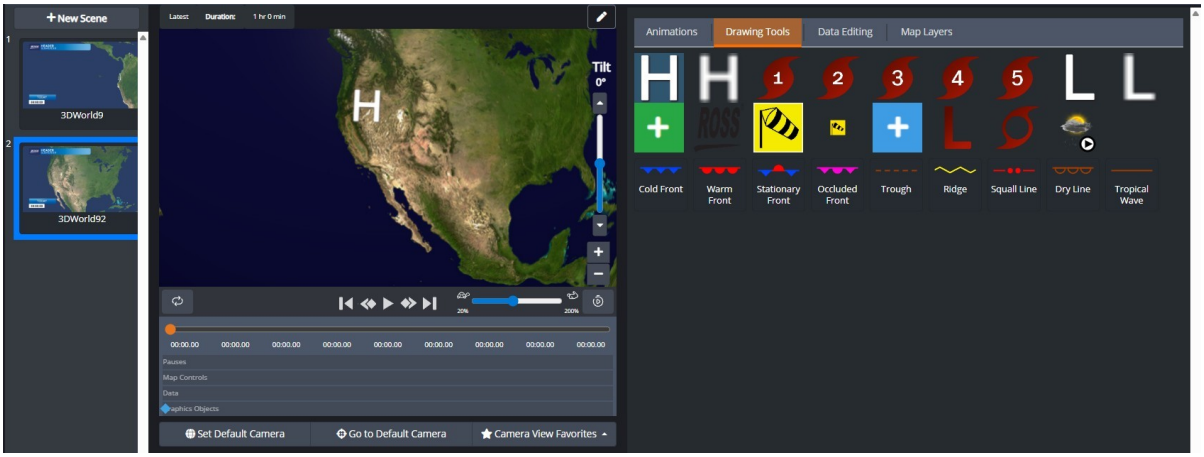
Most graphics objects are added by selecting them from the **Drawing Tools** tab and clicking on the map to drop the objects onto the scene. Once added, you can position or delete them using the **Graphics Objects** tool in the **Animations** tab. For more information about positioning and deleting graphics objects, see Graphics Objects 202 in the Animations 194 section.

Certain graphics objects—such as fronts—use a different workflow. Fronts represent meteorological features such as cold fronts, warm fronts, stationary fronts, occluded fronts, troughs, and ridges. These objects are drawn directly onto the map in the **Drawing Tools** tab.

To add an icon to a scene:

1. In the **Drawing Tools** tab, select an icon, then click on the globe where you want to place it.

   The icon appears on the globe at the selected location.



   Drawing Tools - Icon Placed on Globe

2. Click-and-drag the icon to reposition it.
3. Use the Graphics Objects 202 tool in the **Animations** tab to adjust the icon's opacity, scale, animate it, or delete it.

   For information about animating and deleting icons, see Graphics Objects 202 in the Animation 194 section.

To add a front to a scene:

1. In the **Drawing Tools** tab, select the type of front you want to add.
2. Click on the globe where you want the front to start.

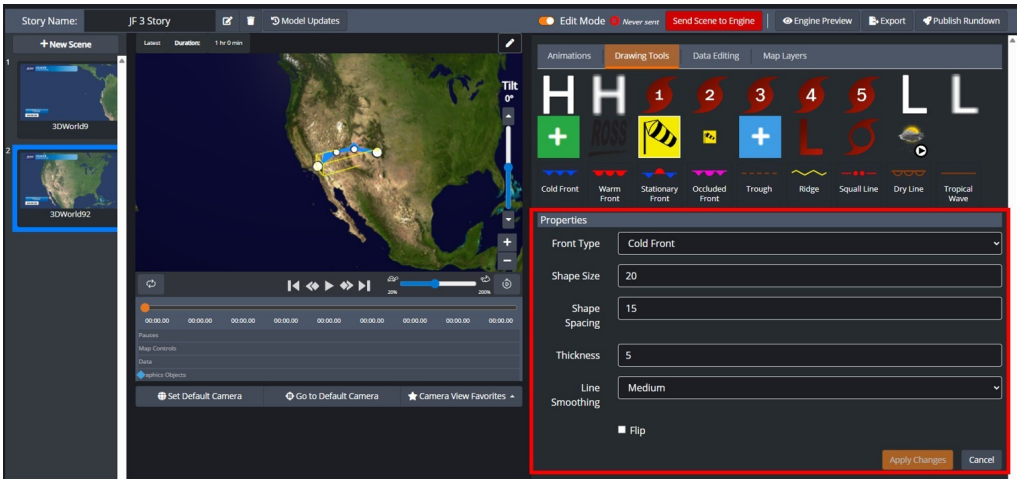
   A dot appears at that point.
3. Continue clicking along the globe to define the front's path.

   A dot appears with each click.
4. If needed, hover the cursor over a dot until it highlights with yellow behind it, then right-click to delete it.

5. Double-click the final dot to complete the front.

   A line connects all the dots to form the front.

   Additionally, the **Properties** panel appears on the right side of the screen, displaying editable settings for customizing the front's appearance.



Properties Panel

6. Click and drag an individual dot to adjust the front's shape or curvature.
7. If needed, hover the cursor between two points until a yellow box appears, then click and drag to move the entire front.
8. In the **Properties** panel, adjust the desired settings:
   - **Front Type**: Select or confirm the type of front (for example, Cold Front or Warm Front).
   - **Shape Size**: Enter or adjust the size of the front symbols.
   - **Shape Spacing**: Specify the distance between symbols along the front.
   - **Thickness**: Adjust the thickness of the front line.
   - **Line Smoothing**: Choose the smoothing level to refine the front's curvature.
9. Select **Apply Changes** to save the property adjustments.
10. Use the Graphics Objects 202 tool in the Animations 194 tab to adjust the object's opacity, animate it, or delete it.

Animations

Use the **Animations** tab to add visual effects to your weather story.

The **Animations** tab contains several animation tools:

Loop 194

Speed Controls 195

Pauses 196

Map Controls 197

Data 201

Graphic Objects 202

If you haven't already done so, you will need to configure the **Data Editing** and **Map Layers** settings prior to working with the animation tools.

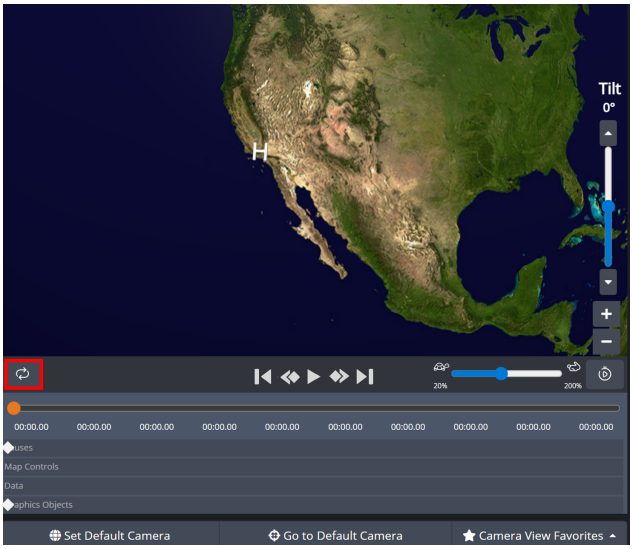
For instructions on configuring **Data Editing** settings, see Data Editing 158, and for instructions on configuring the **Map Layers** settings, see Map Layers 165.

Loop

The Loop feature offers two playback options:

Loop toggled on (default) - Loop is enabled, allowing the animation to automatically restart from the beginning until the meteorologist advances to the next scene. A brief, one-second pause is built in at the end of each loop, giving viewers a moment to absorb the "latest" frame before the animation starts over.

Loop toggled off - Loop is disabled, and the animation plays through just once without repeating.



Loop Toggle

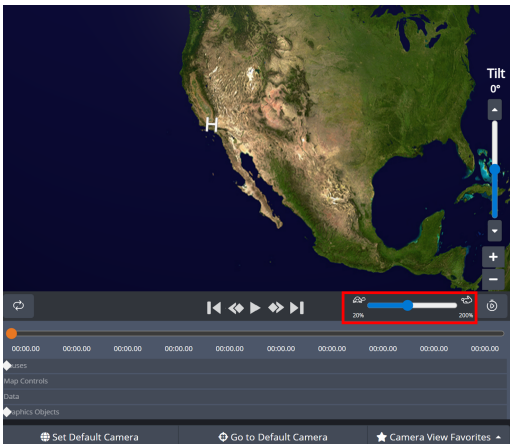
To enable/disable the Loop feature:

- Select the **Loop** button to toggle on/off the **Loop** feature.

Speed Controls

The speed control features allows users to adjust the pace of an animation. When building an observation animation from scratch, users need to enter the desired data duration in hours/minutes. The system then automatically calculates the animation's timing, but users can override this using the **Default Duration** feature. This feature allows for adjustments to the clip's default timing by modifying the number of frames or switching to a clock format to display time in minutes and seconds.

For further customization, users can also adjust the animation speed using the **Tortoise-Hare** slider, speeding it up or slowing it down as needed. A slider, featuring a **Tortoise** icon on one end and a **Hare** icon on the other, is used to control the speed. Sliding the control towards the **Hare** increases the speed, while moving it towards the **Tortoise** slows the animation down, offering a simple and intuitive way to adjust the playback speed.

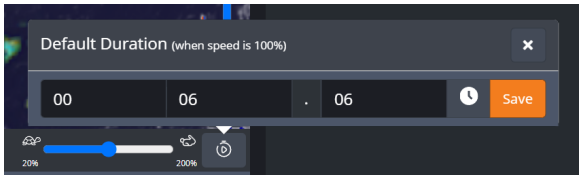


Speed Controls

To use the Default Duration feature:

1. Select the **Default Duration** button.

   The **Default Duration** window appears.

   Default Duration Window

2. In the fields, enter or select the minutes, seconds, and milliseconds for the duration.

   Alternatively, you can select the **Clock** icon to switch to the frames-per-second setting and specify the duration in frames.

3. Select **Save**.

   The **Default Duration** settings are saved.

To use the Tortoise-Hare slider:

- Click and drag the slider towards the **Hare** to increase the speed, or towards the **Tortoise** to decrease the speed of the animation.

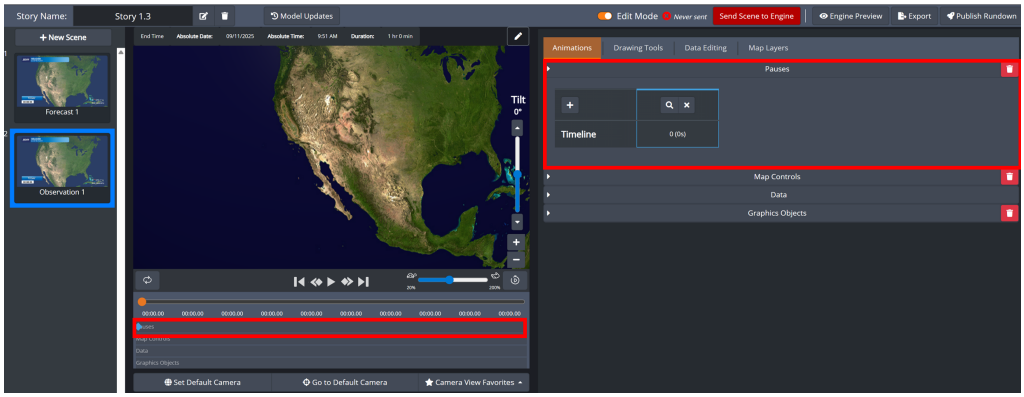
Pauses

The **Pauses** tool allows you to add pause points to the map animation. Adding a pause point to the timeline pauses the animation at the current timecode until you advance the scene.

Additionally, pause points can be used to halt the **Loop** feature at a specific moment during a live broadcast, allowing the user to explain specific details or events in the presentation more thoroughly.

To add a Pause:

1. In the **Pauses** tool, select the **+Add** button.



Animations - Pauses Tool

A **Pause** keyframe appears in the **Pauses** tool and a blue diamond appears in the **Pauses** track, indicating the position of the keyframe on the timeline.

2. In the **Pauses** track, slide the blue diamond to the position on the timeline you want.

   The color of the diamond changes from blue to white, indicating the position has been saved.

3. Repeat Steps 1 - 3 to add additional **Pause** keyframes.

4. When you are done adding **Pauses**, you can preview the scene using the timeline playback controls to run the animation.

   The **Pauses** are automatically saved.

To delete a pause:

1. In the **Pauses** track, right-click on the diamond for the **Pause** you want to delete and select **Delete Keyframe**.

   Alternatively, you can use the **Pauses** tool and select the **Delete** button.

   The **Delete Keyframe** dialog appears.

2. Select **Delete**.

   The **Pause** keyframe is deleted from the timeline.

To edit a Keyframe from the timeline:

1. In the **Pauses** track, right-click on the diamond for the **Pause** keyframe you want to edit and select **Edit Keyframe**.

   The **Edit Keyframe** window appears.
2. Use the **Keyframe** field to adjust the timeline position of the keyframe.
3. When you have finished modifying the position of the keyframe, select **Edit**.

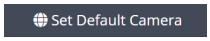
   The **Edit Keyframe** window closes and the modifications are saved.

Map Controls

The **Map Controls** tool allows you to add pan and zoom transitions to a 3D World scene.

When working with the **Map Controls** tool, you select the positions you want on the globe and add keyframes to determine the order in which they are panned and zoomed in/out to.

To add Map Controls:

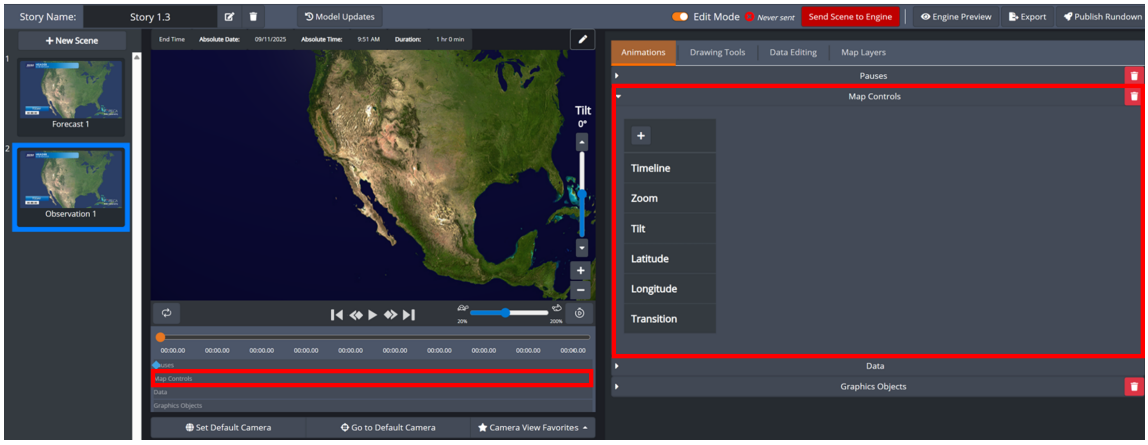
1. In the scene preview board, use the following controls to set the position of the globe to the location you want:
   - Hold the left mouse button down and drag to rotate the globe.
   - Use the **Tilt** slider to move the globe up and down.
   - Use the scroll wheel on your mouse to zoom in or out.
2. Select the 

button.

   A keyframe appears in the **Map Controls** tool and a blue diamond appears in the **Map Controls** track on the timeline.
3. In the **Map Controls** track, slide the blue diamond to the position on the timeline you want.

   The color of the diamond changes from blue to white, indicating the position has been saved.
4. In the **Map Controls** track, right-click and select **+ Add Keyframe**.

   Alternatively, In the **Map Controls** tool, you can select the **Add** button to add a keyframe to the timeline.



Animations - Map Controls

The keyframe controls appear in the **Map Controls** tool and a blue diamond appears in the **Map Control** track, indicating the position of the keyframe along the timeline.

Additionally, if you need to make adjustments to the position of the keyframe, you can use the keyframe controls to adjust the position.

The keyframe control options are:

- **Zoom**
- **Tilt**
- **Latitude**
- **Longitude**

5. In the keyframe controls, use the Transition drop-down to select the transition style between keyframes.

   The options are:

   - **Ease In/Out** — To transition slowly between keyframes.
   - **Linear** — To transition with a constant speed between keyframes.

6. In the **Map Controls** track, click-and-drag the blue diamond to adjust its position along the timeline.

   The color of the diamond changes to white, indicating the modifications have been saved to the keyframe.

7. Position the globe to the next position you want, and repeat **steps 3—5** to add and configure additional keyframes.

   Additionally, you can re-arrange the position the diamonds on the track to change the order in which the keyframes are panned and zoomed in/out to on the globe.

8. When you have finished adding and configuring the keyframes, you can preview the scene using the timeline playback controls to run the animation.

   The keyframes are automatically saved.

   ★For information about previewing the keyframe animations, see To preview keyframe animations 204.

To delete a Map Control keyframe:

1. In the **Map Controls** track, right-click on the diamond for the keyframe you want to delete and select **Delete Keyframe**.

   Alternatively, in the **Map Control** tool, select the **Delete** button for the keyframe you want to delete.

   The **Delete Keyframe** dialog appears.

2. Select **Delete**.

   The keyframe is deleted from the timeline.

To edit a Keyframe from the timeline:

1. Right-click on the diamond for the keyframe you want to edit and select **Edit Keyframe**.

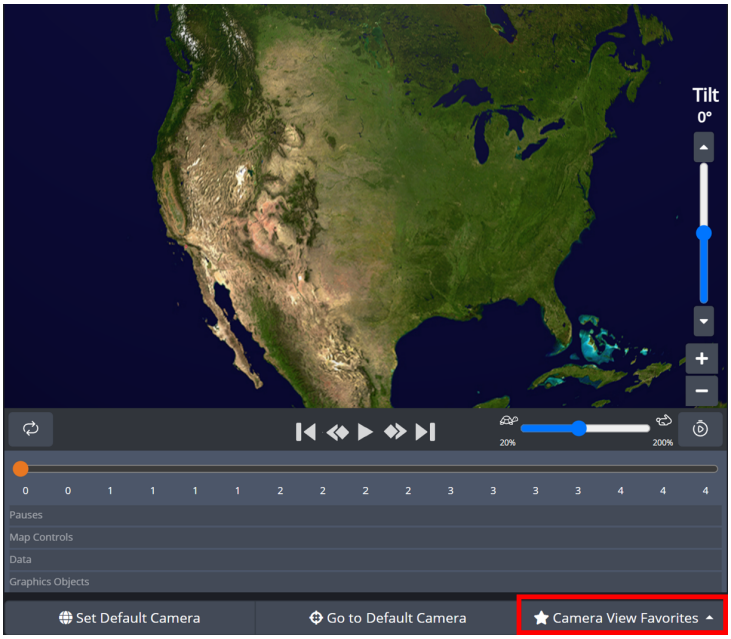
   The **Edit Keyframe** window appears.

2. Use the **Keyframe** fields to adjust the timeline position of the keyframe.
3. When you have finished modifying the position of the keyframe, select **Edit**.

   The **Edit Keyframe** window closes and the modifications are saved.

Camera View Favorites

The **Camera View Favorites** feature allows users to save and reuse predefined camera views for animations. By saving commonly used camera views, this feature enhances the efficiency of working with animations, particularly when setting up keyframe positions for dynamic map transitions. Administrators can create station-wide favorites to ensure consistency across teams, while individual users can create personal favorites for their own use.



Camera View Favorites

To add a new camera view to your favorites:

1. Position, tilt, and zoom the map to set the desired view, then select the **Camera View Favorites** button located at the bottom of the timeline.
2. In the menu, select the **+ Add New** button.

   The **Add New** window opens.
3. In the **Name** field, enter a name for the camera view.
4. Select the **Available to Everyone** checkbox if you want to make the camera view available to all users (Administrative users only).

   When this option is enabled, a people icon appears next to the camera view in the list, indicating that it is station-wide.
5. Select **Save & Apply** to save the camera view and apply it to the current keyframe position.

   The **Add New** window closes and the new camera view is saved.

   Alternatively, you can select **Save** to save the camera view without applying it to the current keyframe position and return to the list of **Camera View Favorites**.

To modify an existing Camera View Favorite:

1. Select the **Camera View Favorites** button to open the menu.
2. Locate the camera view you want to modify and select the **Modify** button next to it.

   The **Modify Favorite** window opens.
3. Edit the following settings as needed:
   - **Name**: Update the name of the camera view.
   - **Available to Everyone**: Enable or disable this setting to control whether the camera view is station-wide or personal (Administrative users only).
4. Select **Save** to apply the changes and return to the list of favorites.

To delete a Camera View Favorite:

1. Select the **Camera View Favorites** button to open the menu.
2. Find the camera view you want to delete and select the **Delete** button next to it.

   The **Delete Favorite** dialog opens.
3. Select **Delete** to confirm the action.

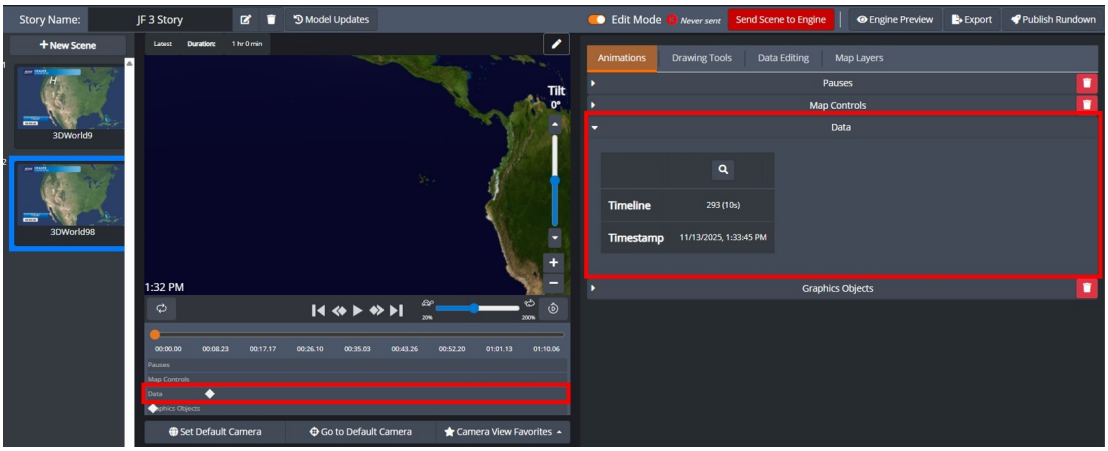
   The **Camera View Favorite** is removed from the list.

Data

The **Data** tool allows you to position **Data** keyframes to show a specific weather variable or timestamped data sequence transitioning over different points in time.

To position a Data keyframe:

1. In the **Animations** tool, select **Data**.



Animations Tab - Data

2. Select the **Search** button for the **Data** keyframe you want to position along the timeline.

   The color of the diamond changes from white to blue, indicating it can be repositioned along the timeline.

3. In the **Data** track on the timeline, slide the blue diamond along the track to the desired position.

   The color of the diamond changes to white, indicating the modifications have been saved to the project.

4. Repeat **steps 2-3** to position any additional **Data** keyframes along the timeline.

   The keyframes are automatically saved.

To edit a Data Keyframe from the timeline:

1. Right-click on the diamond for the keyframe you want to edit and select **Edit Keyframe**.

   The **Edit Keyframe** window appears.

2. Use the **Keyframe** field to adjust the timeline position of the keyframe.
3. When you have finished modifying the position of the keyframe, select **Edit**.

   The **Edit Keyframe** window closes and the modifications are saved.

Graphics Objects

The **Graphics Objects** tool allows you to configure and animate visual elements—such as fronts and icons—within a scene. Each graphics object can be positioned, scaled, and animated along a keyframe path on the map. This allows objects to move, resize, or change opacity as the scene plays.

Fronts are also a type of graphics object and use the same keyframing workflow in the **Graphics Objects** tool. However, their animation workflow differs slightly because fronts can be reshaped by adjusting their individual points over time.

Each object in the **Graphics Objects** list includes a **Lock /** **Unlock** icon that controls whether it can be edited or selected in the Map Preview. Use the lock option to prevent unintended changes when multiple objects overlap or are positioned close together:

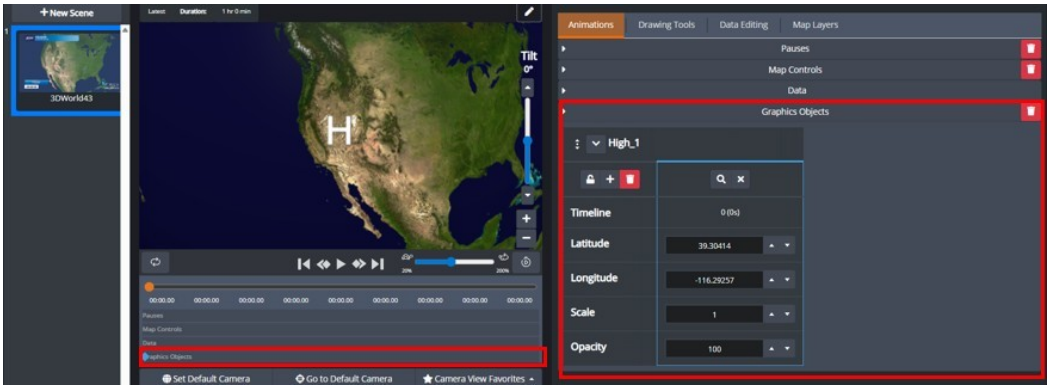
- Unlocked objects can be selected and edited directly on the map.
- Locked objects cannot be edited or selected in the Map Preview and remain locked across all times and keyframes.

To configure and animate an icon:

On the map, you will create a keyframe path that the icon will move along when the scene is played out. Each new keyframe you add corresponds to a different position on the map.

1. In the **Graphics Objects** tool, select the icon you want to configure.

   The keyframe appears as a blue diamond in the **Graphics Objects** track.



   Animations - Graphics Objects

   If you haven't already added **Graphics Objects** to your scene, you can do so in the **Drawing Tools** tab.

   For more information on how to add **Graphics Objects** to a scene, see Drawing Tools 169.

2. On the map, drag the icon to the desired position.

   Additionally, you can use the **Latitude** and **Longitude** fields to adjust the position on the globe.

3. In the **Scale** and **Opacity** fields, enter or select the desired size and transparency for the icon.

4. In the **Graphics Objects** track, select the blue diamond and drag it to the desired position on the timeline.

   The color of the diamond changes from blue to white, indicating the modifications have been saved to the animated icon keyframe.

5. In the **Graphics Object** track, right-click at the point on the timeline where you want the next keyframe to appear, then select **+Add Keyframe**.

   Alternatively, you can select the **+ Add** button in the **Graphics Object** tool to add an additional keyframe.

6. If you need to delete the keyframe, right-click on the diamond in the track and select **Delete Keyframe**, or select the **Delete** button for the keyframe you want to delete.

7. Move the icon on the globe to its new position, and adjust its size and opacity as needed.

   Additionally, you can re-arrange the position of the diamonds on the track to change the order of the icon's movements on the map.

   ★ If you want to set a graphic object to a fixed position, do no configure any additional keyframes for that icon.

8. Repeat **Steps 5 through 7** for each keyframe until the icon's full movement path across the map is complete, then use the timeline controls to preview the animations.

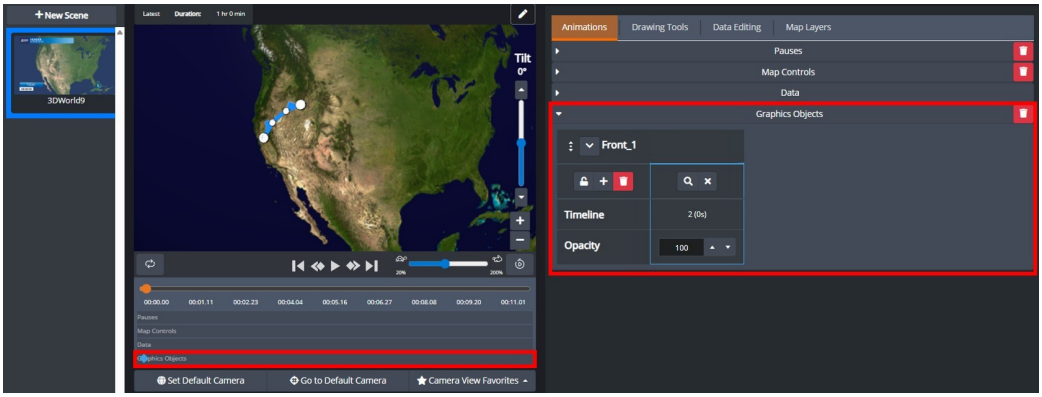
   The modifications are automatically saved to the scene.

To configure and animate a front:

Fronts follow a similar keyframing workflow as icons but have additional options that let you change their shape and position over time.

1. In the **Graphics Objects** tool, select the front you want to configure.

   A keyframe appears as a blue diamond in the **Graphics Objects** track.



Animations - Graphics Objects Tool and Timeline Track

2. On the map, position the front where you want it to appear at the start of the animation.

3. In the **Opacity** field, enter or select the desired transparency level.

4. In the **Graphics Objects** track, select the blue diamond and drag it to the desired position on the timeline.

   The diamond changes from blue to white, indicating that the modifications have been saved to the keyframe.

5. Click the point on the timeline where you want the next keyframe to appear, then right-click and select **+Add Keyframe**.

   Alternatively, select the **+Add** button in the **Graphics Objects** tool to add another keyframe.

6. Hover the cursor between two points on the Front until a yellow box appears, then click and drag to move the entire front to a new position.

7. Click and drag individual dots to adjust the front's shape or curvature.

8. Repeat **Steps 5 through 7** for each new keyframe until the front's full animation path across the map is complete.
9. When you have finished, use the timeline controls to preview the animation.

   The modifications are automatically saved to the scene.

To Reorder Graphics Objects:

1. In the **Graphics Objects** tool, locate the object you want to move.
2. (Optional) Select the **Collapse/Expand Arrow** beside the object's name to collapse its attributes into a single line, making it easier to reorder.
3. Grab the **Drag-and-Drop Handle** and drag the object to the desired position in the list.

   ★Reordering affects how objects are layered in the XPression project. Objects lower in the list are displayed on top of objects higher in the list.

To delete a Graphics Object from a scene:

1. In the **Graphics Objects** tool, select the **Delete** button for the graphics object you want to delete.

   The **Delete Track Element** dialog opens.
2. Select **Delete**.

   The **Graphics Object** is deleted from the scene.

To preview Animations:

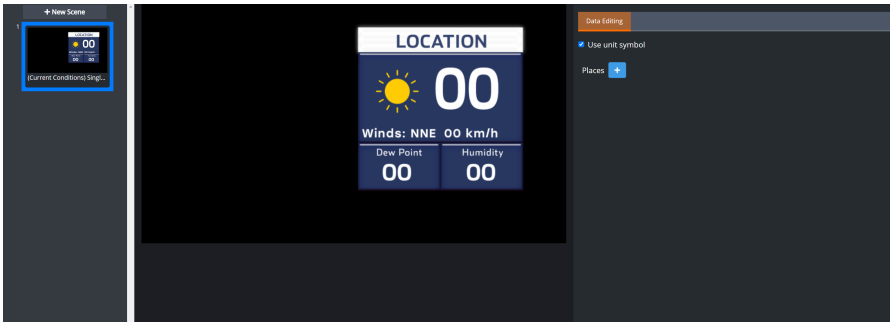
- Use the timeline playback controls to run the animation as follows:

Control	Description
Play	Plays the animation.
Pause	Pauses the animation.
Back	Returns to the start of the timeline.
Forward	Skips forward to the end of the timeline.
Previous Keyframe	Skips to the previous keyframe.
Next Keyframe	Skips to the next keyframe.

Current Conditions Scene

The Current Conditions Scene displays current weather conditions for a selected location using observation data.

The **Editor** contains one tab for customizing the **Current Conditions** scene as seen below:



Scene Configuration Panel - Current Conditions Scene

In the **Data Editing** tab, you can add places of interests and edit the scene's data.

To configure a Current Conditions Scene:

1. Select the **Use unit symbol** check-box if you want to enable the unit symbol in the scene.
2. Select the + **Places** button.

   The **Add Place** window opens.
3. In the **Place** field, enter the name of the place you want to add.

   A list of places containing that name will appear.

   If the place of interest you entered is not appearing in the results, ensure that it has been configured in the Local Server.
4. From the results, select the place you want.
5. Select **Add and Close** to return to the **Editor**.

   The place and its configuration options are displayed in the **Data Editing** tab.
6. Configure the **Places** settings as follows:

   a. In the first field, confirm the place of interest is correct.

   b. In the second field, use the drop-down to select the data source you want to retrieve data from.
7. Below the first row are the weather variables and their default values.

   You can override the default value as follows:

   - Select the field next to the weather variable you want to change and enter a new value.
8. When you have finished configuring the settings, select the Send Scene to Engine button.

   The **Data Editing** configurations are saved to your project.

To change the Place of Interest:

1. In the **Data Editing** tab, select the  **Places** button.

   The **Add Place** window opens.

2. In the **Place** field, enter the name of the place you want to add.

   A list of places containing that name will appear.

   If the place of interest you entered is not appearing in the results, ensure that it has been configured in the Local Server.

3. From the results, select the place you want.

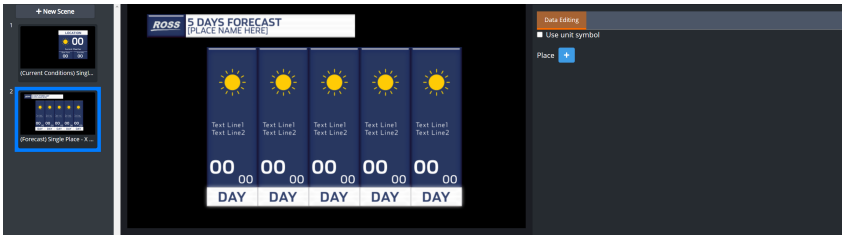
4. Select **Add and Close** to return to the **Editor**.

   The place and its configuration options are displayed in the **Data Editing** tab.

Daily Forecast Scene

The Daily Forecast Scene shows a multi-day weather forecast for a selected location.

The **Editor** contains one tab for customizing a **Daily Forecast** scene as seen below:



Scene Configuration Panel - Daily Forecast Scene

In the **Data Editing** tab, you can add places of interests and edit the scene's data.

To configure a Daily Forecast scene:

1. In the **Data Editing** tab, use the **Use unit symbol** check-box if you want to enable the unit symbol in the scene.
2. Select the **Places** button.

   The **Add Place** window opens.
3. In the **Place** field, enter the name of the place you want to add.

   A list of places containing that name will appear.

   If the place of interest you entered is not appearing in the results, ensure that it has been configured in the Local Server.
4. From the results, select the place you want.
5. Select **Add and Close** to return to the **Editor**.

   The place and its configuration options are displayed in the **Data Editing** tab.
6. Configure the **Places** settings as follows:

   a. In the first field, confirm the place of interest is correct.

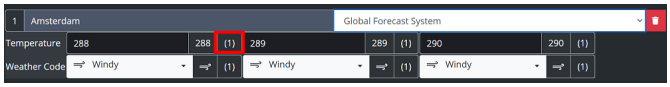
   b. In the second field, use the drop-down to select the data source you want to retrieve data from.

   c. In the third field, use the drop-down to select the the data cycle you want.
7. Below the first row are the weather variables and their default values, grouped by day.

   You can override the default value as follows:

   - Select the field next to the weather variable you want to change and enter a new value.

   Additionally, if want to recover the default value, double-click the column to the right of the value you want to recover. The default value will appear in the value field.



Default Value Recovery

8. When you have finished configuring the settings, select the Send Scene to Engine button.

   The **Data Editing** configurations are saved to your project.

To change the Place of Interest:

1. In the **Data Editing** tab, select the + **Places** button.

   The **Add Place** window opens.

2. In the **Place** field, enter the name of the place you want to add.

   A list of places containing that name will appear.

   If the place of interest you entered is not appearing in the results, ensure that it has been configured in the Local Server.

3. From the results, select the place you want.

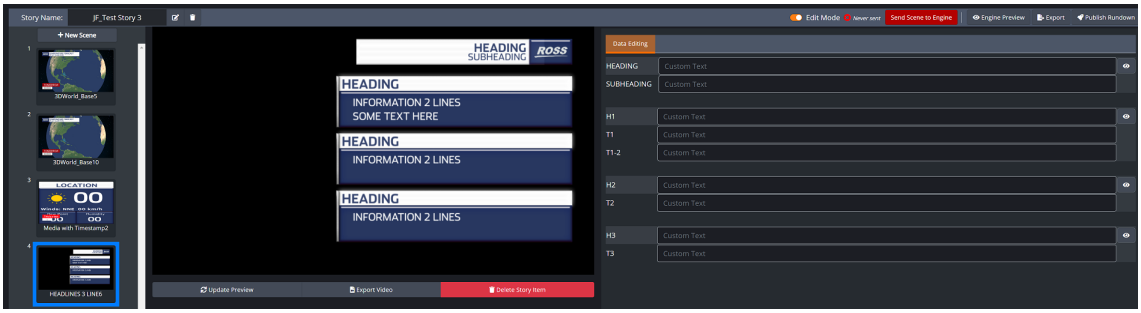
4. Select **Add and Close** to return to the **Editor**.

   The place and its configuration options are displayed in the **Data Editing** tab.

Headlines Scene

The Headlines Scene shows text headlines for presenting key information.

The **Editor** contains one tab for customizing the **Headlines** scene as seen below:



Headlines Scene

The **Headlines** scene is designed to convey key concepts quickly and clearly during story presentations using simple text headlines, allowing users to emphasize important information in an easily digestible format.

Users can choose between two **Headlines** scene layout options: **Headlines 3 Line** or **Headlines 4 Line**, depending on the amount of content needed to present. Each headline box consists of two components:

Heading (Heading, Subheading, H1, H2, etc.) – typically used to display a date, time, or contextual reference.

Body Text (T1, T2, etc.) – where the main headline statement is entered.

To configure a Headlines Scene:

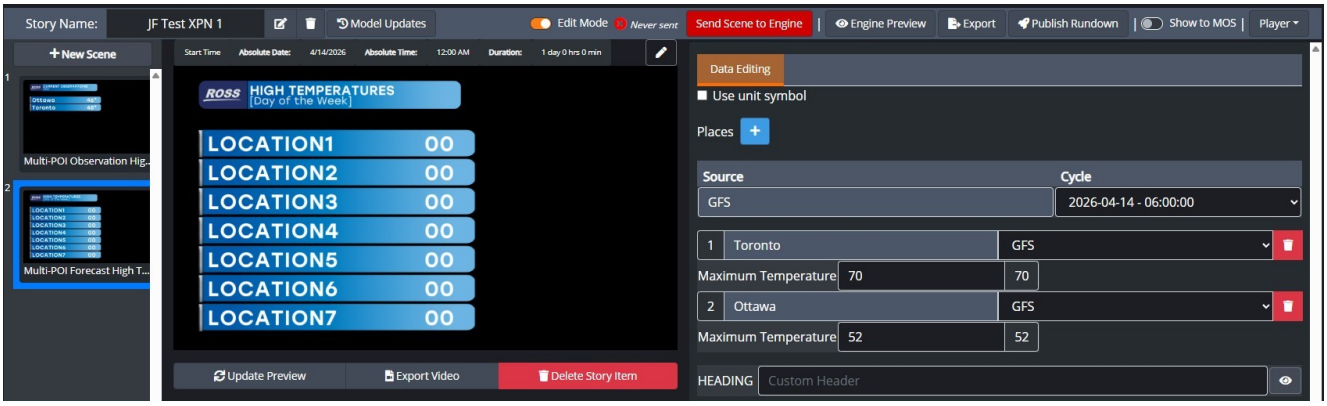
1. In the **HEADING** and **SUBHEADING** fields, enter the text you want.
2. In the **H1** field, enter the text you want for the Heading 1.
3. In the **T1** field, enter the text you want for the body text.
4. Repeat steps 2 and 3 if you want additional **Heading/Body** text boxes.
5. Use the **Show/Hide** button to toggle the visibility of the header and body text boxes in the scene.
6. Select the Send Scene to Engine button.

   The Headings and Body text will be assigned to the weather project running in your graphics engine and shown in the preview panel.

Multi-Point Forecast Scene

The Multi-Point Forecast Scene shows forecast data for multiple locations.

The **Editor** contains one tab for customizing a Multi-Point Forecast scene as seen below:



Multi-Point Forecast Scene

The first step is to set the data range for retrieving forecast data. In forecast scenes, the scene is based on a fixed start time, and you can configure the Start Date and Duration using either relative or absolute values. The application of the **Duration** setting may be constrained by the scene's design.

To configure the Start Date and Duration settings:

1. Above the scene preview board, select the **Edit** button to open the Data Range Configuration window.
2. Configure the **Start Date** settings by selecting one of the following:
   - **Relative to Current Date**, and enter an offset if needed (e.g., +1 = tomorrow, -1 = yesterday)

   or
   - **Absolute Date**, and either manually enter a date or select one from the calendar picker.
3. In the **Duration** fields, enter the number of days and hours the forecast should extend into the future.
4. Select **Apply Changes** to save the settings or **Cancel** to discard them.
5. Select the (**X**) **Close** button to close the settings window.
6. Next, configure the places of interest and text settings 211.

To configure the Places of Interest and text settings:

1. In the **Data Editing** tab, select the **Use unit symbol** check box if you want to display units in the scene.
2. Select the **+ Places** button.

   The **Add Place** window opens with two tabs: **Single** and **Group**.
3. Add locations using one of the following options:
   - In the **Single** tab, enter the location name in the **Place** field, then select the place from the results.
   - In the **Group** tab, select a place group from the **Group** drop-down list.

   If the place or group does not appear, ensure it has been configured in the Local Server.
4. Select **Add and Close** to return to the **Editor**, or select **Add** to continue adding places.

   The place is added to the list in the **Data Editing** tab.
5. Repeat steps 2–4 to add additional locations.
6. From the **Cycle** drop-down at the top of the **Places** section, select the forecast cycle for each data source.
7. For each place, from the drop-down menu to the right of the place name, select the data source.
8. In the weather value field, confirm or edit the weather value for each place.
9. In the **HEADING** and **SUBHEADING** fields, enter the text you want to display, and use the  **Show/Hide** button to toggle visibility.
10. Select the **Send Scene to Engine** button.

    The scene configuration is applied to your project and displayed in the preview panel.

To delete a place:

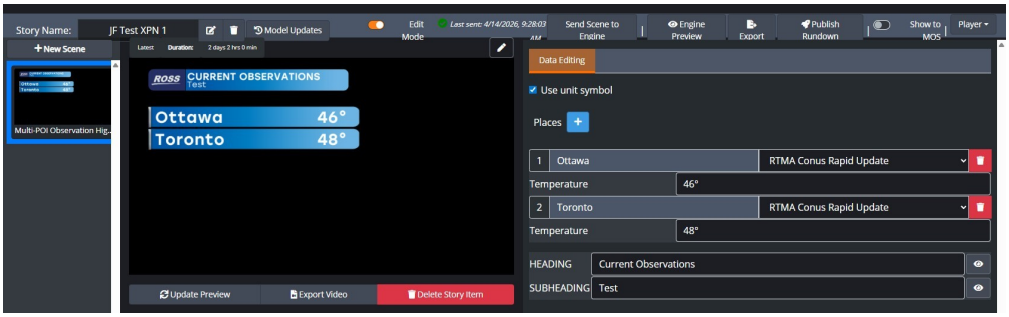
1. In the **Data Editing** tab, locate the place you want to remove.
2. Select the  **Delete** button to the right of the place.

   The place is removed from the list.

Multi-Point Observation Scene

The Multi-Point Observations Scene shows observation data for multiple locations.

The **Editor** contains one tab for customizing a Multi-Point Observations scene as seen below:



Multi-Point Observation Scene

The first step is to set the data range for retrieving observation data. In observation scenes, **Start Time** is disabled. The scene can be based on either **End Time** or **Latest**.

To configure the End Date, Time, and Duration settings:

1. Above the scene preview board, select the **Edit** button to open the Data Range Configuration window.
2. In the **Scene Based On** field, select one of the following:
   - **End Time -** sets a specific end time for the data range.
   - **Latest -** retrieves the most recent available data and only displays the **Duration** fields.
3. If **End Time** is selected, configure the **End Date**, **End Time**, **and Duration** settings:

Setting	Description
End Date	Select either: **Relative to Current Day** and enter an offset (e.g., +1 = tomorrow, -1 = yesterday) OR **Absolute Date** and either manually enter a date or select one from the calendar picker.
End Time	Select either: **Relative to Current Time** and enter an offset in hours (the system rounds to the nearest past hour, for example, 4:59 rounds to 4:00) OR **Absolute Time** and either manually enter a time or select the clock button to choose the hour, minutes, and AM/PM from the time picker.
Duration	Enter the number of days, hours, and minutes the data should extend into the past.

4. If **Latest** is selected, configure the **Duration** fields by entering the number of days, hours, and minutes the data should extend into the past.

   ★When **Latest** is selected, only the **Duration** fields are available.

5. Select **Apply Changes** to save the settings or **Cancel** to discard them.

6. Select the **X** Close button in the top-right corner of the settings window to close it.
7. Next, configure the places of interest and text settings 213.

To configure the Places of Interest and text settings:

1. In the **Data Editing** tab, select the **Use unit symbol** check box if you want to display units in the scene.
2. Select the **+ Places** button.

   The **Add Place** window opens with two tabs: **Single** and **Group**.
3. Add locations using one of the following options:
   - In the **Single** tab, enter the location name in the **Place** field, then select the place from the results.
   - In the **Group** tab, select a place group from the **Group** drop-down list.

   If the place or group does not appear, ensure it has been configured in the Local Server.
4. Select **Add and Close** to return to the **Editor**, or select **Add** to continue adding places.

   The place is added to the list in the **Data Editing** tab.
5. Repeat steps 2–4 to add additional locations.
6. For each data source listed at the top of the **Places** section, from the corresponding **Cycle** drop-down menu, select the data cycle.
7. In the weather value fields, confirm or edit the weather value for each place.
8. In the **HEADING** and **SUBHEADING** fields, enter the text you want to display, and use the **Show/Hide** button to toggle visibility.
9. Select the **Send Scene to Engine** button.

   The scene configuration is applied to your project and displayed in the preview panel.

To delete a place:

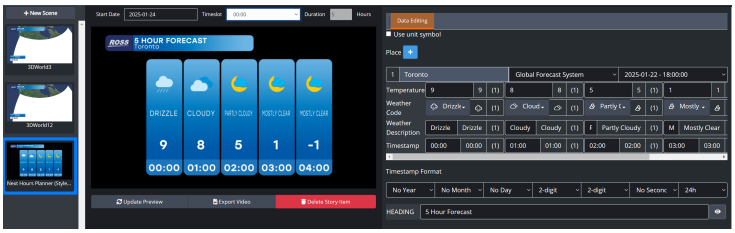
1. In the **Data Editing** tab, locate the place you want to remove.
2. Select the **Delete** button to the right of the place.

   The place is removed from the list.

Next Hours Scene

Use the **Next Hours** scene to display an hourly forecast, which can be designed into various formats and layouts including hourly and multi-hourly (e.g. 3-hour steps) graphic presentations. Each valid forecast hour is displayed, and allows users to edit all parameters of interest and timestamps. Users can also customize the heading and toggle its visibility on or off within the scene.

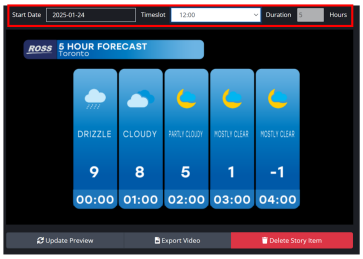
The **Editor** contains one tab for customizing the **Next Hours** scene as seen below:



Next Hours Scene

To configure the Next Hours scene:

1. Configure the parameters for when you want to start receiving data as follows:
   a. From the **Start Date** calendar, select the date you want to start retrieving data.
   b. From the **Timeslot** drop-down, select the time you want to start retrieving data.



Start Date and Timeslot

★**Note**: The default duration is fixed to five hours in this example based on its XPression scene design and cannot be modified in Story Creator. Alternate hourly durations are possible by creating additional base scene designs in XPression.

2. In the **Data Editing** tab, select the **Use unit symbol** checkbox if you want the unit symbol to be displayed in the scene.
3. Select the **Place** button.

   The **Add Place** window opens.
4. In the **Place** field, enter the place name, and select it from the results.

   If the place you entered does not appear in the results, ensure that it has been configured in the Local Server.

   ★**Note**: **Points** are user-defined locations extracting data from models. **Stations** are official datasets associated with a physical observation station from a local meteorological agency.
5. Select **Add and Close** to return to the **Editor**.

   The place and its configuration options are displayed in the **Data Editing** tab.

6. Configure the **Place** settings as follows:

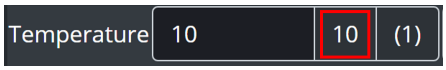
   a. Confirm the place of interest is correct and select the data source you want to retrieve data from.

   b. From the second drop-down, select the data cycle you want.

7. Below the place of interest are the weather variables and their default values, grouped by timeslot.

   - Select the field next to the weather variable you want to change and enter a new value.

   Additionally, you can recover the default value by double-clicking the column to the right of the value and the default value will reappear.



   Default Value

8. Configure the **Timestamp Format** settings for the year, month, day, hour, minute, second, and 24-hour or 12-hour format for the time.

9. In the **HEADING** field, enter a heading and use the **Show/Hide** button to show/hide the heading in the scene.

10. Select the Send Scene to Engine button.

    The settings are saved to your project and shown in the preview panel.

Using DataLinq with XPression

This section describes how DataLinq is used to apply Raiden data and graphics directly to a custom XPression project without using Story Creator.

In this workflow, the Local Server generates the station-required data and imagery. The Raiden Data Server, hosted on the same Local Server machine, provides this data as a generic feed. The XPression DataLinq Server then consumes this feed (or connects to it), and the data is used to automatically populate graphics.

First, you will need to add and configure the Raiden Data source to the XPression DataLinq Server. Once you have the Raiden Data source enabled, then you can apply the data directly to your XPression Project.

Before getting started, you will need to have the XPression DataLinq Server installed on your network. If you do not have the XPression DataLinq Server, please contact Ross Video at the numbers listed in the section Getting Help 4 for assistance.

The Raiden Data Server provides the list of Places of Interest (POI) through DataLinq, exposing queries as dynamic JSON DataLinq Sources.

HTTP Ports:

- Default HTTP port: 8083
- Default HTTPS (SSL) port: 8483

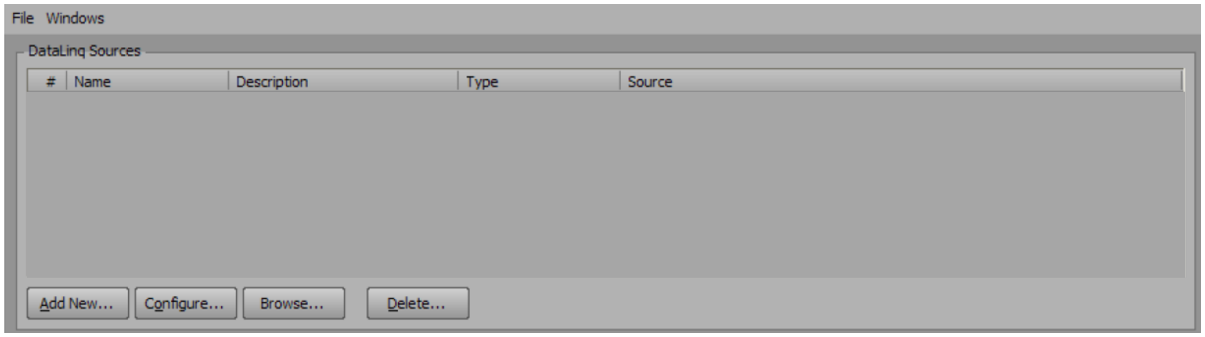
Adding the Raiden Data Source

The Raiden Data Source plugin enables direct access to Raiden data through the XPression DataLinq Server.

To add and configure the Raiden Data source to the XPression DataLinq Server:

1. Use one of the following methods to start the **XPression DataLinq Server**:
   - Double-click the **XPression DataLinq Server** icon on the desktop.
   - Use the **Start** menu to select **All Programs > XPression > XPression DataLinq Server**.

   The **XPression DataLinq Server** window opens.



XPression DataLinq Server Window

2. Select **Add New**.

   The **Add DataLinq Source** dialog opens.

3. From the list of **DataLinq Sources**, select **Raiden DataLinq Source**.

4. Select **OK**.

   The **Raiden DataLinq Configuration** window opens.

5. Configure the **Raiden Data Server** source as follows:

   a. In the **IP** or **HostName** field, enter the IP address or host name of your Raiden Data Server.

   b. In the **Port** field, enter or select the port number of your Raiden Data Server.

   c. In the **API Key** field, enter the API key for the Raiden Data Server.

   d. In the **Observation Interval** field, enter the intervals (5 minutes or higher) at which observation data should be retrieved.

   e. In the **Forecast Interval** field, enter the intervals (30 minutes or higher) at which forecast data should be retrieved.

   f. In the **Timeout if data not received in field**, enter the amount of time (2500 milliseconds recommended) to wait before timing out.

   g. In the **Data Settings** section, configure the following preferences for the Raiden Data source:

   ★The default option is the value configured in the Data Aggregator server.

   - **Number Format**
   - **Decimal Digits**
   - **Date Format**
   - **Time Format**
   - **Temperature**
   - **Language**
   - **Wind**

   h. **Wrap Indices** check box - select this check box to wrap the indices above the record count within record count limits. This check box should be selected when using looping queries.

   ★When Wrap Indices is enabled, an index greater than the number of records in the source wraps around to zero when index reaches the record count. For example: a data source holds 5 records and a field selection with the value of 8 is issued, the DataLinq field with idex 3 (8-5=3).

6. Select **OK**.

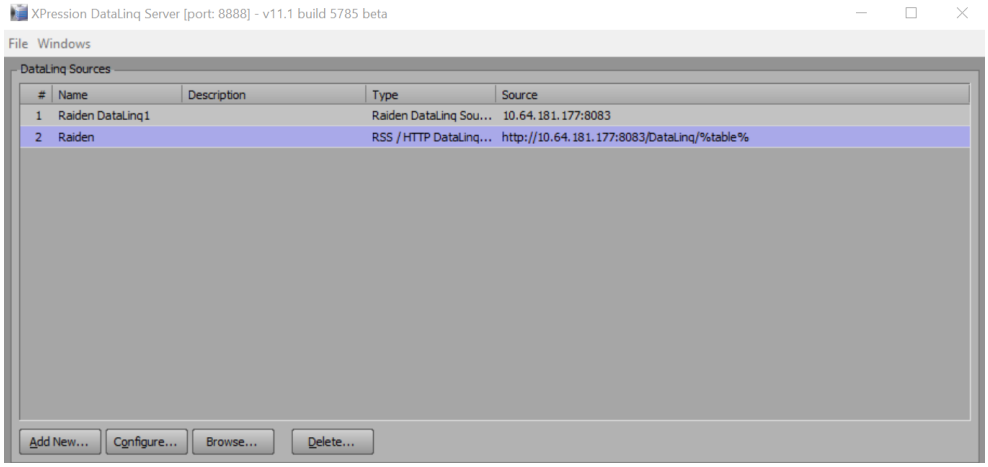
   The **Raiden DataLinq Configuration** window closes and the **Raiden Data Source** is added to the list of DataLinq sources in the XPression DataLinq Server.

Verifying XPression DataLinq is Receiving Raiden Data

Next, you will need to verify that XPression DataLinq Server is receiving data from the Raiden Data source.

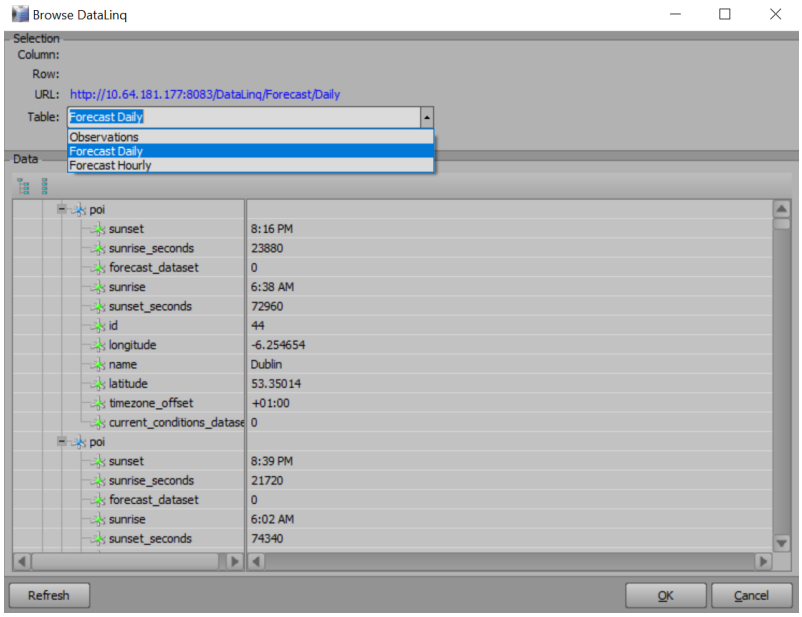
To verify XPression DataLinq is receiving data from the Raiden Data source:

1. In **XPression DataLinq Server**, select the **Raiden Data Source** and select **Browse**.



XPression DataLinq - Raiden Data Source

The **Browse DataLinq** window opens.



Browse DataLinq Window - Raiden Source Data

Raiden Data is displayed.

2. From the **Table** drop-down, select the data you want to view.

   The options are:

   Observations

   Forecast Daily

   Forecast Hourly

   The selected data will be displayed.

3. Select **OK** and close the **XPression DataLinq Server** window.

   The **XPression DataLinq Server** window will be minimized to the task bar.

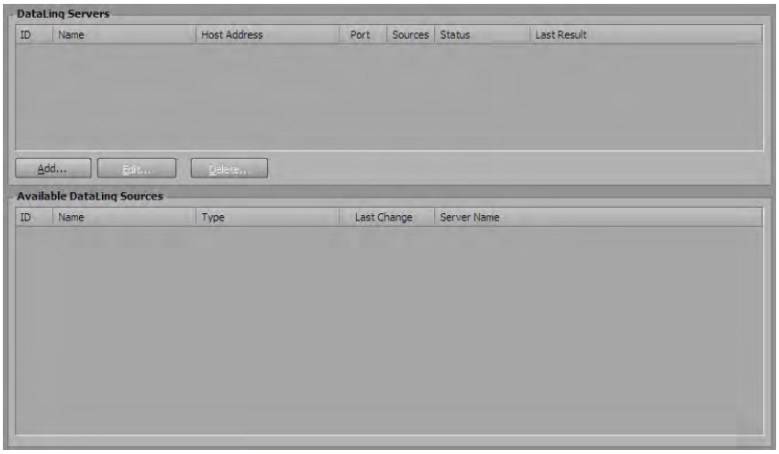
Connecting XPression to the Raiden Data Source

Once you have added the Raiden Data source, you will need to enable it in XPression and then set-up the Raiden User Controls 222.

To enable the Raiden Data source in XPression:

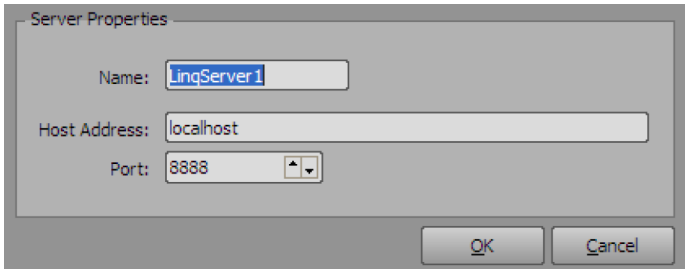
1. In **XPression**, go to **Project** and select **DataLinq Manager**.

   The **XPression DataLinq Manager** dialog opens.



XPression DataLinq Manager Dialog

2. Select **Add**.
3. The **DataLinq Server - Properties** dialog opens.



XPression DataLinq Server Dialog

4. In the **Name** field, enter a name for the new DataLinq server connection.
5. In the **Host Address** field, enter the IP address of the computer running your XPression DataLinq server.

   ★ Enter `localhost` when the DataLinq server is running on the same computer as XPression.

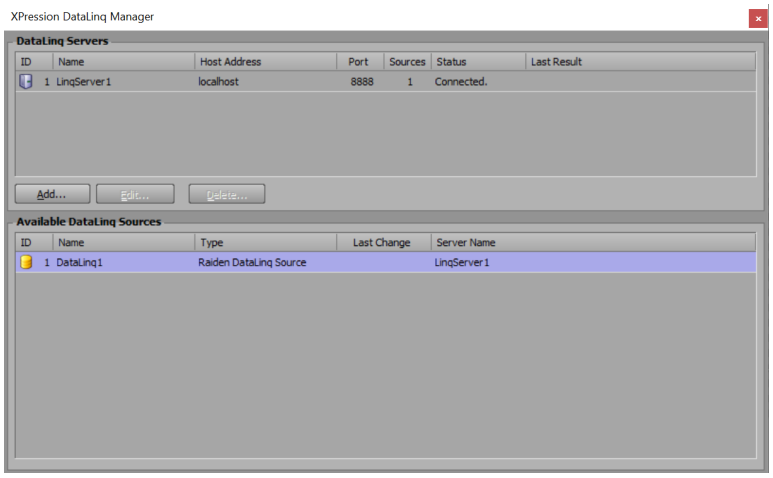
6. In the **Port** field, enter or select the port number used to communicate with the computer running the XPression DataLinq server.

   The default port number is **8888**.

7. Select **OK**.

   The DataLinq server connection is added to the **DataLinq Servers** section of the **XPression DataLinq Manager** dialog.

   The DataLinq sources that are made available by the DataLinq server connection are listed in the **Available DataLinq Sources** section.



XPression DataLinq Manager - Available Sources

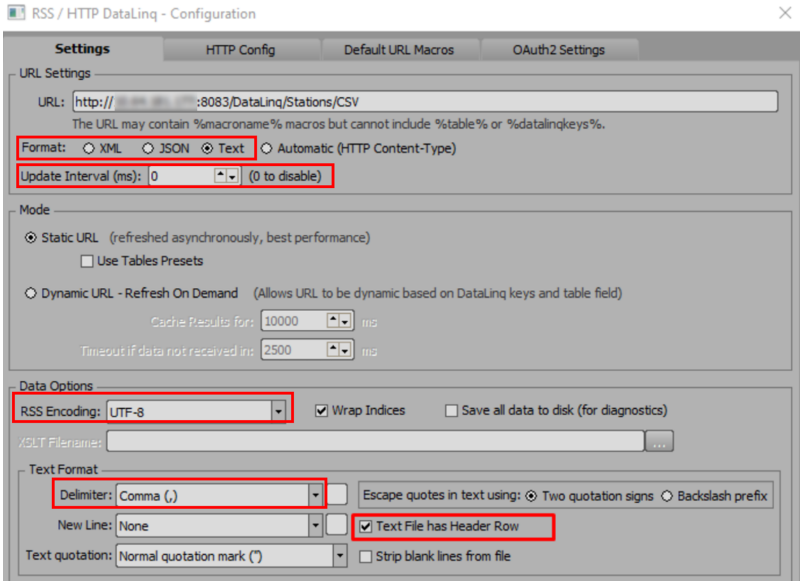
Setting Up User Input Controls

The Raiden Data server provides the list of Places of Interest (POI) through CSV endpoints:

- List of Stations in CSV format: /DataLinq/Stations/CSV
- List of Places of Interest in CSV format: /DataLinq/Pois/CSV

You can add table-based data sources to your XPression DataLinq Server as an RSS / HTTP DataLinq Source.

- **Format**: Text
- **Update Interval (ms)**: Set to 0, if Station or Places of Interest are not regularly added.
- **RSS Encoding**: UTF-8
- **Delimiter**: Comma (,)
- **Text File has Header Row**: Enabled



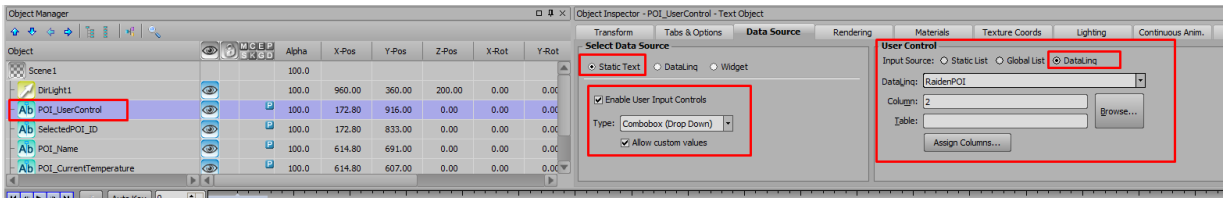
RSS / HTTP DataLinq - Configuration

Once you have configured the XPression DataLinq server as an RSS/HTTP DataLinq Source, you can then use the **User Control** in XPression as a parameter for your DataLinq requests.

To use the User Control in XPression as a parameter for DataLinq requests:

1. In XPression, add a text object to your scene. This text object will be used as your **User Control**.
2. In the **Object Inspector**, select the **Data Source** tab.
3. In the **Select Data Source** section, select the following settings:
   - **Static Text**
   - **Enable User Input Controls**
   - From the **Type** drop down, select the **Combobox (Drop Down)** option.

4. In the **User Control** section, configure the settings as follows:
   a. From the **Input Source** options, select **DataLinq**.
   b. From the **DataLinq** drop-down, select the **Raiden Places of Interest Table Data Source**.
   c. Select **Browse**.
   d. The **select DataLinq Field** window opens.
   e. Select the **Name** column.
   f. Select **OK**.



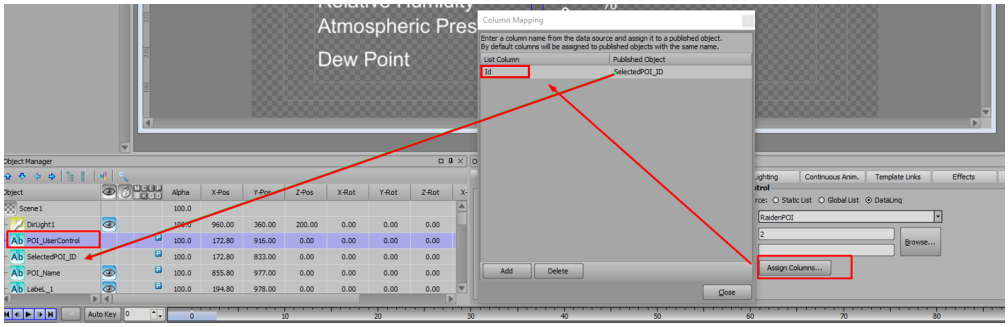
Object Inspector Settings

5. Add a text object to store the selected Place of Interest ID.



Selected Place of Interest ID

6. Assign the **ID Column** to the text object to be used for storing the selected **Place of Interest ID**.



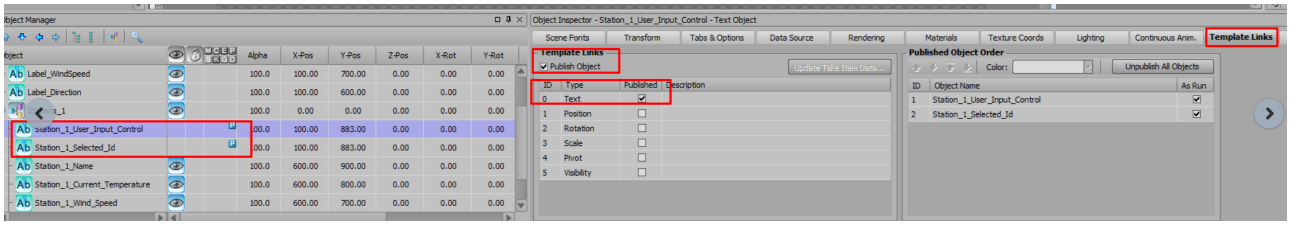
Object Inspector - Assign Columns

Additionally, you can hide both text objects by deselecting the  **Visibility** button.



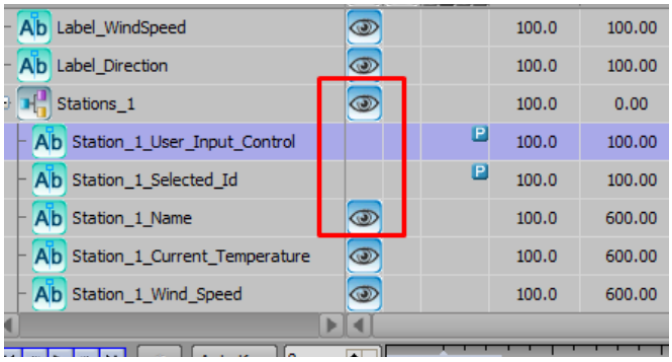
Object Visibility - Text Object

7. In the Template Links tab, ensure the User Input Control and the Selected ID is set to **Published**.



Template Links - Publish Setting

Additionally, you can hide the User Input Control and the Selected ID by deselecting the  **Visibility** button.

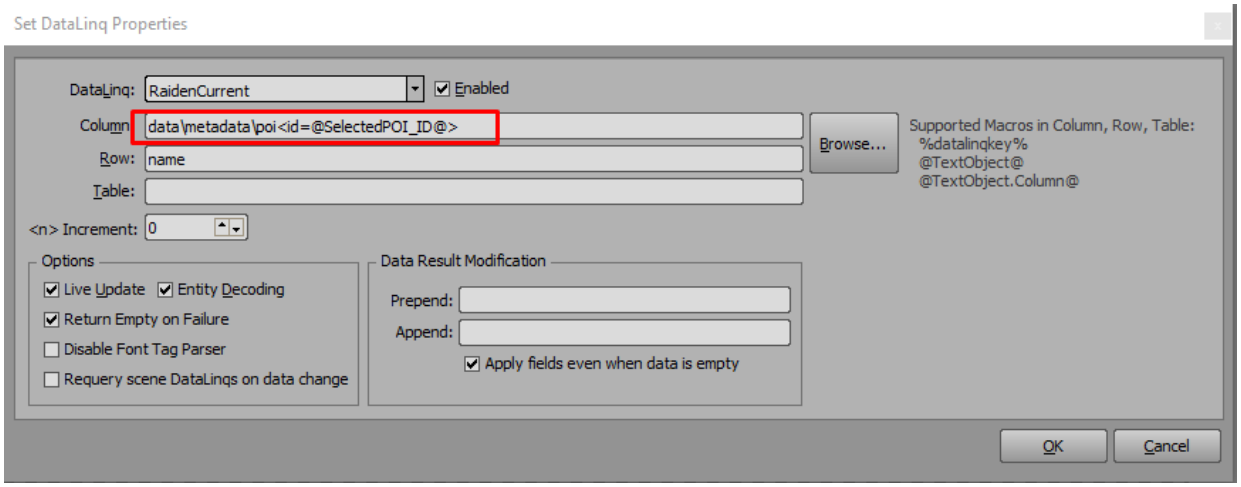


Object Visibility - User Input Control and Selected ID

8. Use the selected **Place of Interest ID** anywhere in your DataLinq queries, surrounding its name with the "@" character.

   For example:

   The "SelectedPOI_ID" text object would be entered as "@SelectedPOI_ID@".



Place of Interest ID - Example

You can now use the selected **Place of Interest ID** anywhere in your DataLinq queries.

Raiden with Voyager

The Voyager chapter describes how to integrate Raiden with Voyager, configure necessary plugins, and leverage Raiden's weather and geographic data visualization tools within the Voyager environment. This integration enables real-time rendering of weather datasets using vector-based overlays, region-specific data selections, and optional dynamic sky simulations.

This chapter covers the following topics:

Customizing Voyager Projects for Raiden 226

Using Story Creator with Voyager 230

Using DataLinq with Voyager 236

Customizing Voyager Projects for Raiden

This section describes the project configuration required for using Voyager with Raiden. To enable communication between Voyager and Story Creator, specific Raiden elements must be added to the project and configured within each level.

- **Raiden Sequence Actor**
- **NDI Broadcast Actor**

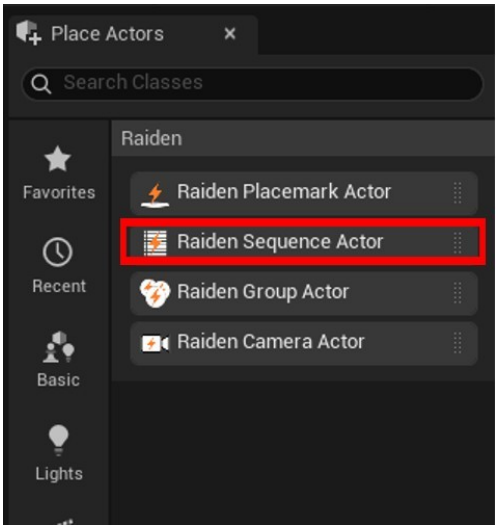
Raiden Sequence Actor

The **Raiden Sequence Actor** is required to enable sequencing functionality in Voyager. Only one instance is allowed per level.

This actor contains the sequence of elements that can be arranged and triggered. If the **Raiden Sequence Actor** is not present, Story Creator will not function and will display a prompt indicating that it is missing. The actor includes a **Sequence Items** section, which displays the sequence of elements used in Story Creator.

To add the Raiden Sequence Actor:

- From the Place Actors panel, drag and drop the Raiden Sequence Actor into the level.



Place Actors - Raiden Sequence Actor

The **Raiden Sequence Actor** appears in the level and its properties are available in the **Details** panel.

★**Note:** The **Raiden** section in the **Details** panel provides access to sequencing options. The **Sequence Items** section displays the elements used for sequencing in Story Creator. In a Story Creator workflow, sequence items are automatically populated when a story is published and do not need to be manually configured.

NDI Broadcast Actor

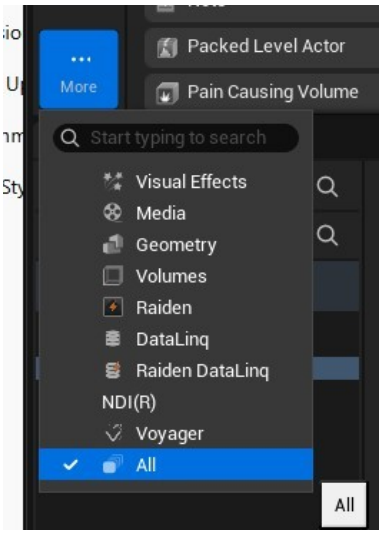
The **NDI Broadcast Actor** is used to enable NDI preview output and functions as the preview camera for Story Creator and can be positioned anywhere in the level.

If you want to support preview through NDI, add this actor to the level. This allows Story Creator to access a preview of the level.

★NDI output requires the NDI IO plugin to be enabled and an appropriate NDI streaming license.

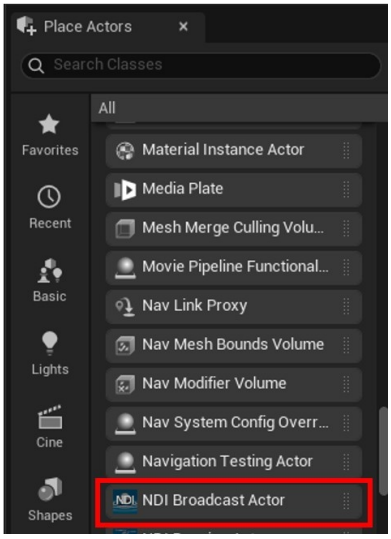
To add the NDI Broadcast Actor:

1. From the **Place Actors** panel, select **More** and ensure the filter is set to **All**, then locate the **NDI Broadcast Actor**.



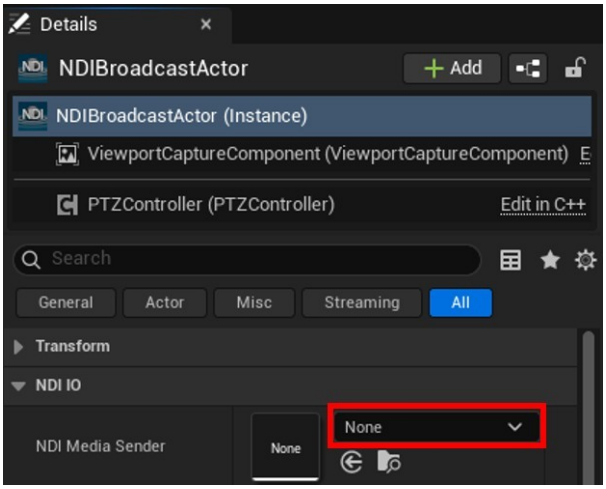
Menu Options - All

2. Drag and drop the **NDI Broadcast Actor** into the level.



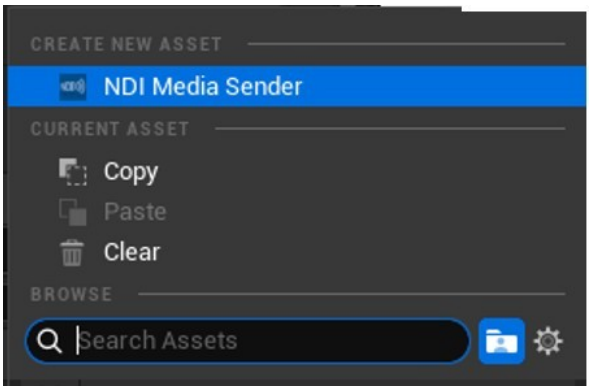
Place Actors - NDI Broadcast Actor

3. In the **Details** panel, locate the **NDI IO** section and select the **NDI Media Sender** drop-down menu.



NDI Media Sender Drop-Down

4. In the menu, from the **Create New Asset** section, select **NDI Media Sender**.

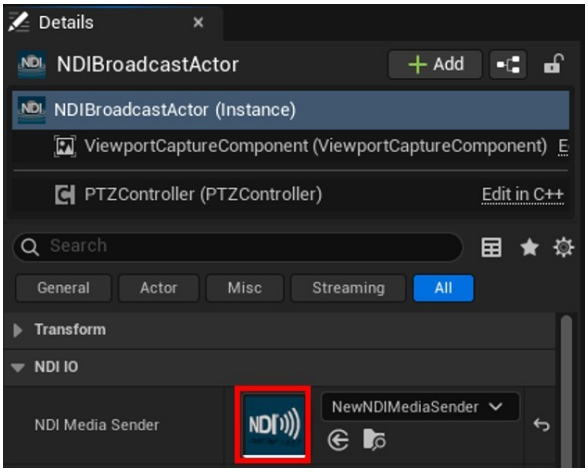


NDI Media Sender

The **Save Asset As** window appears.

5. In the **Save Asset As** window, select **Save**.

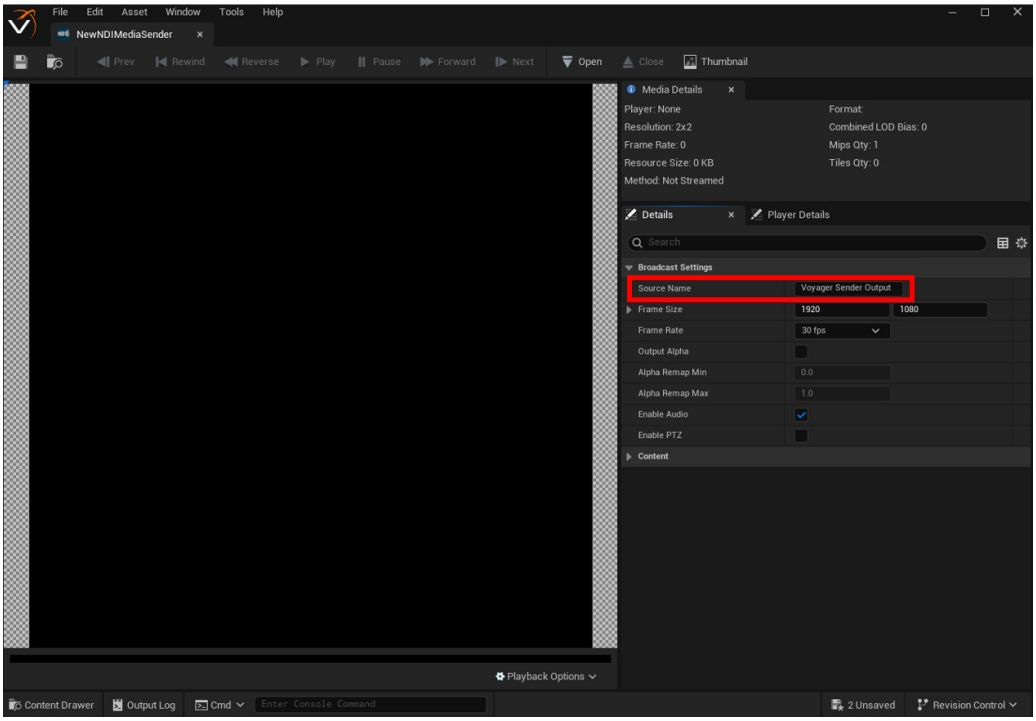
The **NDI Media Sender** asset is assigned.



NDI Media Sender Icon

6. Double-click the **NDI Media Sender icon** to open the asset editor.
7. In the **Broadcast Settings**, review the **Source Name** field, then close the window to return to the Editor.

   ★**Note:** The field is populated with a default value, which can be used as-is or modified if needed.



Broadcast Settings - Source Name

The **NDI Broadcast Actor** is enabled.

Operational Use of Raiden Actors

The Raiden Sequence Actor supports different methods of operation depending on how content is controlled.

- In a Story Creator workflow, sequences are created and managed in Story Creator, with preview provided through the NDI Broadcast Actor.
- In other control workflows, sequences can be triggered directly from systems such as Lucid, Lucid Director, or RossTalk without requiring Story Creator.

Using Story Creator with Voyager

Story Creator can be used with Voyager to build and manage weather sequences for broadcast. Elements from the Voyager project can be arranged into a sequence, published to the Voyager engine as a rundown, and operated during broadcast.

The following topics are covered in this section:

Building a Story 231

Publishing and Previewing the Rundown 233

Operating the Story Creator Player 234

Building a Story

Story Creator can be used with Voyager to build and manage weather sequences for broadcast. Elements from the Voyager project can be arranged into a sequence, published to the Voyager engine as a rundown, and operated during broadcast.

Stories are created in the Story Browser and built and managed in the Editor. Additional story management tasks, such as creating stories from templates, copying, deleting, or editing stories, are also performed in the Story Browser. For more information, see Creating Stories 91.

This section covers the following topics:

Creating a Story 231

Adding Elements 231

Repositioning an Element 232

Removing an Element 232

Creating a Story

Create a story in the Story Browser to begin building a sequence for use with Voyager. When creating a story, select a Voyager engine or Voyager engine group to associate the story with a Voyager workflow.

To create a story for use with Voyager:

1. In the **Stories** panel, select **+ New Story**.
2. In the **Story Name** field, enter a name for the story.
3. From the **Engine** drop-down, select a single Voyager engine or Voyager engine group.
4. Select **Create**.

   The story opens in the **Editor**, where you can build the story sequence by adding 231, arranging 232, and removing 232 elements.

★Stories are automatically saved in Story Creator. Publishing the rundown sends the story to the Voyager engine and is required for previewing and using the Story Creator Player.

Adding Elements

Add elements to your story to define the content and flow of the sequence.

To add elements:

1. In the left panel, select **+ New Element**.
2. Browse or search for elements using the available categories or search field.

   ★Available tabs may vary depending on your enabled plugins.
3. (Optional) Use the category drop-down to filter elements.
4. Select an element thumbnail to add it to the sequence.

   The element is added to the sequence and appears in the left panel.

Repositioning an Element

Reposition elements to control the order in which they appear in the story sequence.

To reposition an element:

1. In the left panel, select an element.
2. Drag the element to a new position in the sequence.

   The element is moved to the new position.

Removing an Element

Remove elements that are no longer needed in the story sequence.

To remove an element:

1. Select an element in the left panel.
2. Select **Remove from Sequence**.

   The element is removed from the sequence.

Publishing and Previewing the Rundown

After building a story sequence, publish the rundown to send it to the Voyager engine and preview how it will appear when rendered.

Publishing the Rundown

Publish the rundown to send the current story sequence from the Editor to the Voyager engine.

To publish the rundown:

- In the **Editor**, Select the **Publish Rundown** button.

  The rundown is sent to the Voyager engine.

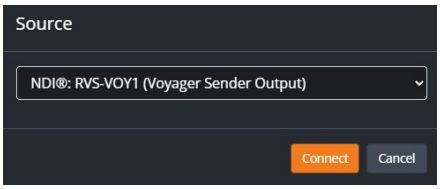
Previewing the Rundown

Preview the published rundown to verify how it appears in the Voyager engine.

To preview the rundown:

1. In the **Editor**, select **Engine Preview**.

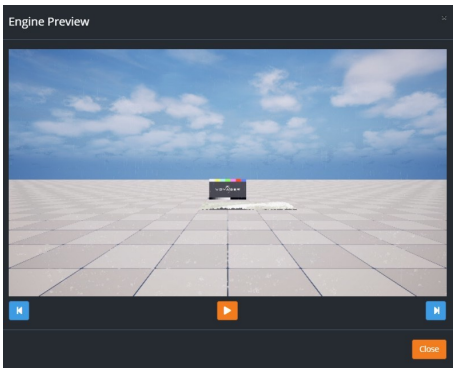
   The **Source** Window opens.

   Source Window

2. From the **Source** drop-down, select a Voyager source.
3. Select **Connect**.

   The **Engine Preview** window opens.

   Engine Preview Window

4. Use the playback controls to preview the rundown.

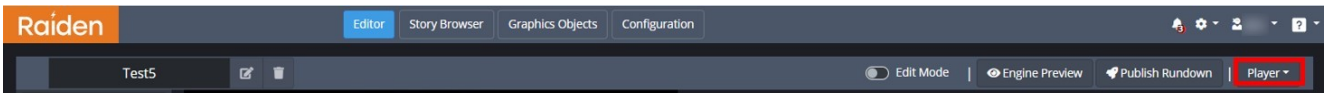
   The preview displays the current camera view configured in Voyager.

5. Select **Close** to close the **Engine Preview** window.

Operating the Raiden Story Player

The **Raiden Story Player** is used to run and control stories during broadcast. The player allows operators to step through the sequence of scenes or elements in a story and control what appears on air.

The player can be opened from the **Story Browser** or directly from the **Editor** using the **Player** control.



Editor - Player Control

When selecting Player, you can choose to launch the player in either mobile or desktop view.

- **Mobile** - Displays a QR code that can be scanned using a mobile device, allowing the story to be controlled from a phone or tablet.
- **Desktop** - Opens the Raiden Story Player in a web browser window on the current computer.

To open the Raiden Story Player:

1. In the **Editor**, from the **Player** drop-down list, select the desired player mode (either **Mobile** or **Desktop**).

   Alternatively, you can access the Player in the Story Browser, next to the desired Story.
2. If **Mobile** is selected, scan the displayed QR code using a mobile device to open the Raiden Story Player.
3. If **Desktop** is selected, the Raiden Story Player opens in a web browser window on the current computer.



Raiden Story Player

Using the Story Player

When a story is published, it is loaded into the Story Player and becomes the active story for its engine type. If multiple engine types are set up, the Story Player loads the most recently published story from each engine type.

Control	Description
Take First	Plays the first scene or element in the sequence.
Take Previous	Moves to the previous item in the sequence.
Take Next	Advances to the next item in the sequence.

Control	Description
Take Last	Jumps to the final item in the sequence.
Clear	Clears the currently active item from the graphics engine.
Take Online / Take Offline	Triggers (**Take Online**) or removes (**Take Offline**) the selected item immediately, regardless of its position.

For an overview of the Story Player interface, see Raiden Story Player 106 in the Story Creator chapter.

Using DataLinq with Voyager

This section describes how to use DataLinq with Voyager to visualize Raiden weather data directly within Voyager scenes. The topics in this section explain how to configure and use the available DataLinq-enabled actors and controllers to display regional and global weather information.

The following topics are covered in this section:

Region DataLinqed Actors 237

World DataLinqed Actors 240

Auto Multi-Controllers 242

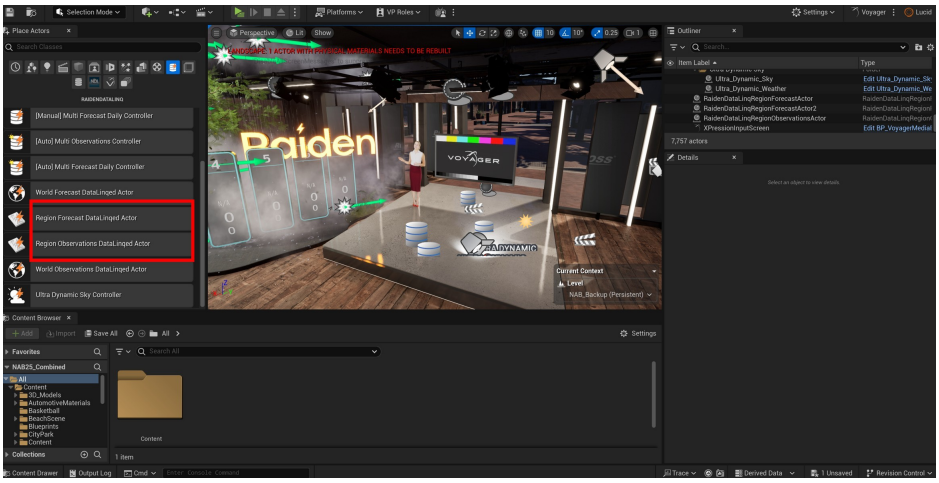
Ultra Dynamic Sky Integration 244

Region DataLinqed Actors

Use a Region DataLinqed Actor to display weather datasets over a 3D geographic region. Two types of actors are available:

- **Region Observations DataLinqed Actor** – Displays observational data.
- **Region Forecast DataLinqed Actor** – Displays forecast model data.

Both actor types follow the same workflow and share the same customization settings. The only difference is the dataset configuration step.



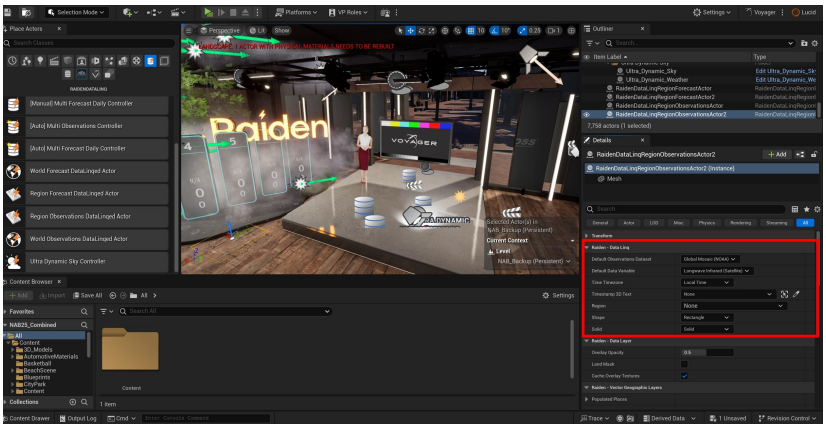
Place Actors Tab - Region DataLinqed Actors

To add a Region DataLinqed Actor:

1. Drag and drop the desired Region DataLinqed Actor onto the scene.

   This adds the weather data element to the viewport.

2. In the **Details** tab, expand the **Raiden-Data Linq** section.



Details Tab - Raiden-Data Linq Section

3. Configure the required settings:

   For **Region Observations DataLinqed Actor**:

   - **Region** – Select the desired region to generate the corresponding 3D map.
   - **Default Observations Dataset** – Choose the dataset containing observational weather data.
   - **Default Data Variable** – Select the variable to visualize from the chosen dataset.

   For **Region Forecast DataLinqed Actor**:

   - **Region** – Select the desired region to generate the corresponding 3D map.
   - **Default Forecast Dataset** – Choose the dataset containing forecast model data.
   - **Default Data Variable** – Select the variable to visualize from the chosen forecast dataset.

4. Customize additional settings in the **Details** panel to control how elements are displayed, styled, and interact when triggered.

   The following table describes the available customization options in the Details panel.

Section	Option	Description
Raiden – Data Linq	Time Zone	Specifies whether the timestamp displays Local Time, UTC, or Region Time.
	Timestamp 3D Text	Designates a dragged-in text actor to display the current time (based on the selected Time Zone option).
	Shape	Determines the outline of the region by setting its geometric form to Rectangle, Square, or Oval.
	Solid	Defines the visual depth of the region by controlling how its base is rendered—fully extruded (Solid), thinly extruded (Solid Thin), or flat (Hollow).
Raiden - Data Layer	Overlay Opacity	Controls the opacity balance between the weather data overlay and the underlying terrain.
	Land Mask	Restricts the overlay to land areas only.
	Cache Overlay Textures	Enables caching of overlay textures for improved performance.
Raiden - Take Item	Layer Index	Specifies the layer used to control how elements behave when triggered or sequenced. Elements in the same layer replace each other, while elements in different layers can be displayed together.
	Take Others in Layer Index Offline	When enabled, taking this element online takes other

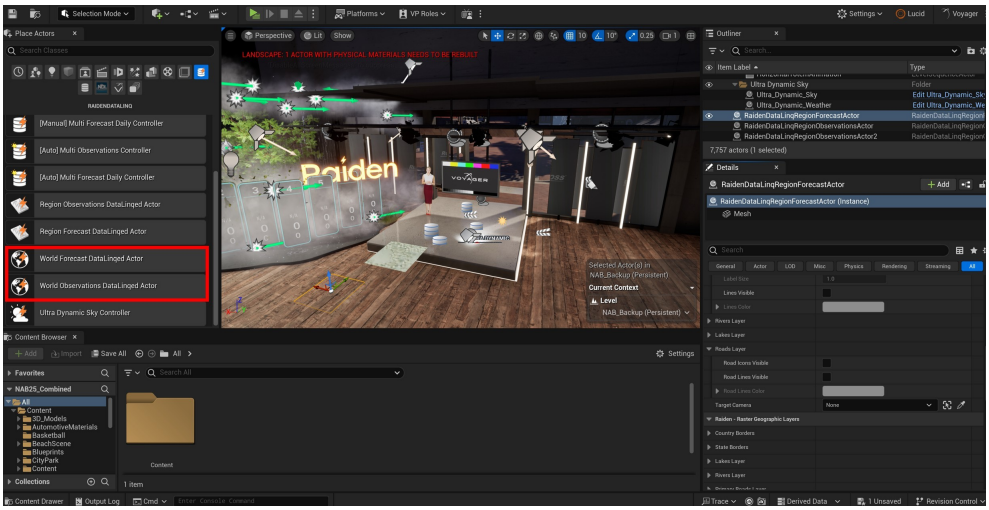
Section	Option	Description
		elements in the same layer offline. Disable this option to allow multiple elements in the same layer to be displayed together.
Vector Geographic Layers – Populated Places	Visible	Toggles the display of populated places.
	Minimum Population	Shows only places with populations equal to or above the entered value.
	Labels Color	Sets the label color for populated places.
	Face Camera	Makes place labels always face the camera.
	Size	Sets the base size of the populated place labels.
	Scaled by Population	Scales label size according to population size.
Vector Geographic Layers – Countries, States, Rivers, Lakes Layers	Labels Visible	Shows or hides labels for the layer.
	Label Color	Sets the color of labels.
	Label Size	Sets the size of label text.
	Lines Visible	Toggles visibility of boundary lines.
	Lines Color	Sets the color of the boundary lines.
Vector Geographic Layers – Roads Layer (U.S. Only)	Road Icons Visible	Toggles the display of road icons.
	Road Lines Visible	Toggles the display of road lines.
	Road Lines Color	Sets the color of the road lines.
Vector Geographic Layers (All)	Target Camera	Forces all geographic labels and graphics to face the selected camera.

World DataLinqed Actors

Use a World DataLinqed Actor to display global-scale weather data using either observations or forecast datasets. Two types of actors are available:

- **World Observations DataLinqed Actor** – Displays observational weather data globally.
- **World Forecast DataLinqed Actor** – Displays forecast model data globally.

Both actor types share the same workflow, with slight differences in the dataset configuration step.



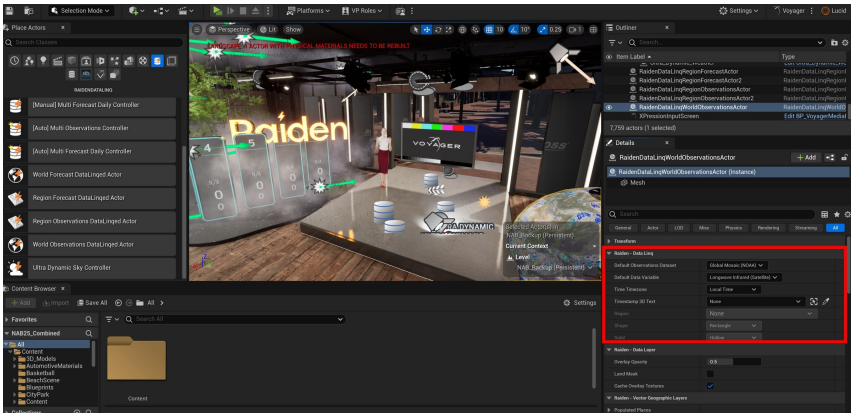
Place Actors Tab - World DataLinqed Actors

To add a World DataLinqed Actor:

1. Drag and drop the desired World DataLinqed Actor onto the scene.

   This adds the weather data element to the viewport.

2. In the **Details** tab, expand the **Raiden-Data Linq** section.



Details Tab - Raiden Data Linq Section

3. Configure the required settings:

   For **World Observations DataLinqed Actor**:

   - **Default Observations Dataset** – Choose the dataset containing observational weather data.
   - **Default Data Variable** – Select the variable to visualize from the chosen dataset.

   For **World Forecast DataLinqed Actor**:

   - **Default Forecast Dataset** – Choose the dataset containing forecast model data.
   - **Default Data Variable** – Select the variable to visualize from the chosen forecast dataset.

4. (Optional) Configure timestamp display:

   - **Time Zone** – Specifies whether the timestamp displays Local Time, UTC, or Region Time.
   - **Timestamp 3D Text** – Designates a dragged-in text actor to display the current time (based on the selected Time Zone option).

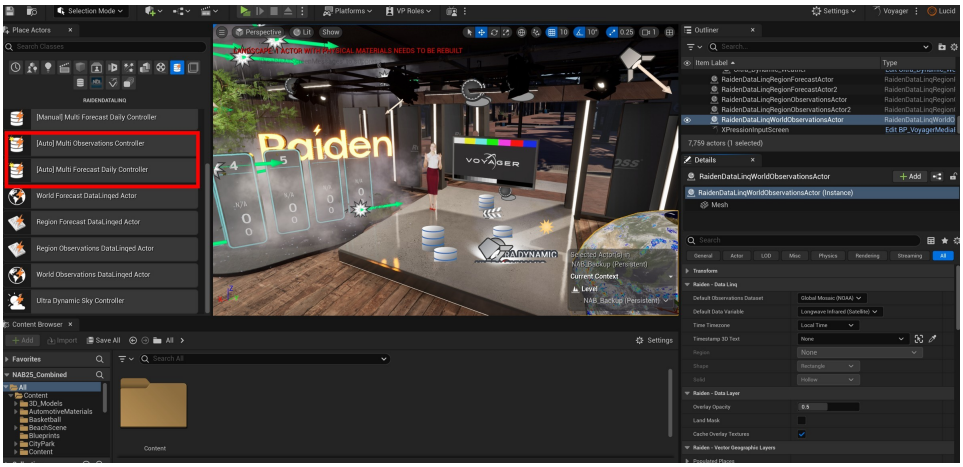
★Additional scene customization options are not available for World DataLinqed Actors.

Auto Multi-Controllers

Auto Multi-Controllers offer a fast and flexible way to visualize multiple weather data points across 3D elements such as totems and pushpins. These controllers automatically populate data from Raiden into assigned components without requiring manual data connections.

The following Auto Multi-Controllers are covered in this section:

- **Multi Observations Controller** – Visualizes real-time observation data.
- **Multi Forecast Daily Controller** – Visualizes forecast data on a daily basis.



Place Actors Tab - Auto Controllers

To support quick implementation, a set of sample 3D actors is provided with the Raiden plugin for use with Auto Multi-Controllers. These actors are located in the following folder in the **Content Browser**:

Raiden Core Plugin Content > Sample 3D Actors

Within this folder are two subfolders:

- **RaidenPushpin**
- **RaidenSimpleTotem**

These actors can be added directly to a scene and linked to an Auto Multi-Controller for automated weather data population. Custom 3D actors can also be created. When doing so, ensure they are named according to the metadata that has already been defined by Raiden. Any number of custom 3D actors can be added as needed.

To use an Auto Multi-Controller:

1. Drag and drop the appropriate Auto Multi-Controller into the scene.

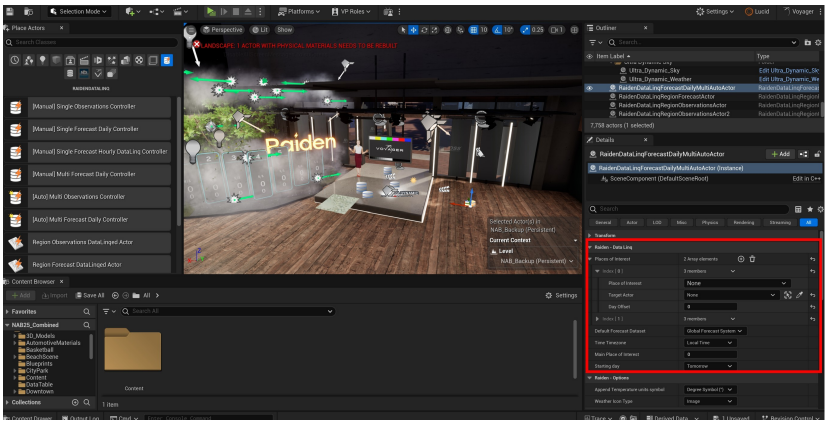
   Use the **Multi Observations Controller** to visualize observational data, or the **Multi Forecast Daily Controller** to visualize forecast data.

2. In the **Details** tab, expand the **Raiden – Data Linq** section and configure the following:

   a. **Places of Interest** – Select the **Add Element** button for each place of interest to visualize.

   b. Expand each **Index** and configure the following:

   - **Place of Interest** – Select a place of interest from the list populated by the Local Server.
   - **Target Actor** – From the drop-down select an actor already placed in the scene.



Details Tab - Raiden Data Linq Section

3. From the appropriate dataset drop-down, select the data source to display:
   - Use the **Default Observations Dataset** for observational data.
   - Use the **Default Forecast Dataset** for forecast data.
4. If multiple places of interest are added, use the **Main Place of Interest** field to prioritize which location should take priority when linking a 3D actor.
5. (Optional) Expand the **Raiden – Options** section to configure display settings:
   - **Weather Icon Type** – Select either **Image** or **3D Model**.

     ★Icon files are located in:

     Raiden Core Plugin Content > Icons > 3D

     Raiden Core Plugin Content > Icons > Still
   - **Append Temperature Units Symbol** – Select either **None**, **Degree Symbol (°)**, or **Degree Symbol (F°/C°)**.
   - **Append Wind Units Symbol** – Enable this checkbox to display wind speed units.
   - **Wind Direction Option** – Select either **Cardinal** or **Angle**.
6. Select **Play** to run the scene.

   The assigned 3D actors will automatically display weather data and icons based on the controller configuration.

Ultra Dynamic Sky Integration

The Ultra Dynamic Sky (UDS) plugin enhances the realism of weather simulations in Voyager by rendering dynamic sky conditions such as cloud coverage, sunlight shifts, and precipitation. When connected to a Raiden data controller, UDS dynamically visualizes weather phenomena based on the incoming dataset—for example, displaying rain when rain conditions are detected in the data.

★UDS is a third-party plugin and is not included with Raiden. The Raiden plugin provides middleware to integrate with UDS, but the UDS plugin must be obtained and installed separately.

To use UDS with a Raiden data controller:

1. Drag and drop the **Ultra Dynamic Sky Controller** onto the scene.

   This adds the UDS system to your Voyager environment.
2. In the **Details** tab, expand the **Raiden-UDS** section.
3. In the **Data Controllers** row, select the **Add Element** button.
4. From the **Index** drop-down, select the Raiden data controller you want to link.

   UDS will use this controller's weather variable (e.g., rain or snow) to drive visual simulation.
5. Select **Play** to view the simulation.

   Weather effects such as rain or sun appear automatically based on the connected dataset.

Appendix A: Codes, IDs, and Metadata Descriptions

For Raiden specific data, use the following tables as a reference for Weather Codes and Weather Variable IDs.

Weather Codes

Code	Description	Reference
01d	Sunny	Day
01n	Clear	Night
01n_wm	Clear	Night, Clear Night, New Moon
01n_lm	Clear	Night, Clear Night, Full Moon
01n_xg	Clear	Night, Clear Night, Waxing Gibbous
01n_xc	Clear	Night, Clear Night, Waxing Crescent
01n_ng	Clear	Night, Clear Night, Waning Gibbous
01n_nc	Clear	Night, Clear Night, Waning Crescent
01n_fq	Clear	Night, Clear Night, First Quarter Moon
01n_tq	Clear	Night, Clear Night, Third Quarter Moon
02d	Mostly Sunny	Day
02n	Mostly Clear	Night
03d	Partly Cloudy	Day
03n	Partly Cloudy	Night
04d	Mostly Cloudy	Day
04n	Mostly Cloudy	Night
05d	Cloudy	Day
05n	Cloudy	Night
06a	Overcast	Day, Night
07d	Patchy Fog	Day
07n	Patchy Fog	Night
08a	Fog	Day, Night
09a	Mist	Day, Night
10a	Drizzle	Day, Night
11d	Scattered Showers	Day
11n	Scattered Showers	Night
12a	Light Rain	Day, Night
13a	Rain	Day, Night
14a	Heavy Rain	Day, Night

Code	Description	Reference
15a	Freezing Drizzle	Day, Night
16a	Freezing Rain	Day, Night
17a	Sleet	Day, Night
18a	Rain / Sleet Mix	Day, Night
19a	Rain / Snow Mix	Day, Night
20a	Wintry Mix Snow / Sleet	Day, Night
21d	Rain to Snow Showers	Day
21n	Rain to Snow Showers	Night
22d	Scattered Flurries	Day
22n	Scattered Flurries	Night
23d	Scattered Snow Showers	Day
23n	Scattered Snow Showers	Night
24a	Light Snow	Day, Night
25a	Snow	Day, Night
26a	Heavy Snow	Day, Night
27a	Blizzard	Day, Night
28a	Blowing / Drifting Snow	Day, Night
29a	Thunder	Day, Night
30a	Thunderstorms	Day, Night
31d	Isolated Thunderstorms	Day
31n	Isolated Thunderstorms	Night
32d	Scattered Thunderstorms	Day
32n	Scattered Thunderstorms	Night
33a	Strong Storms / Squalls	Day, Night
34a	Hail	Day, Night
35a	Tornado	Day, Night
36a	Tropical Storm	Day, Night
37a	Hurricane	Day, Night
38a	Haze	Day, Night
39a	Smoke	Day, Night
40a	Blowing Dust / Sandstorm	Day, Night
41a	Hot	Day, Night
42a	Frigid / Ice Crystals	Day, Night
43a	Windy	Day, Night
44a	Breezy	Day, Night
45a	Volcanic Ash	Day, Night

Code	Description	Reference
46a	Funnel Clouds	Day, Night
47a	Waterspouts	Day, Night

Weather Variables - General

VARIABLE ID

NAME	ID	CODE
6hr Estimated Precipitation	258	EAPCP
6hr Estimated Snowfall	286	EASNOW
24-Hour Precipitation Accumulation	308	APCP_24H_RADAR
911 Telephone Outage Emergency	20	NWS_911_TELEPHONE_OUTAGE_EMERGENCY
Accumulated Precipitation (1 Hour)	183	APCP_1H
Accumulated Precipitation (12 Hour)	186	APCP_12H
Accumulated Precipitation (120 Hour)	191	APCP_120H
Accumulated Precipitation (24 Hour)	187	APCP_24H
Accumulated Precipitation (3 Hour)	184	APCP_3H
Accumulated Precipitation (48 Hour)	188	APCP_48H
Accumulated Precipitation (6 Hour)	185	APCP_6H
Accumulated Precipitation (72 Hour)	189	APCP_72H
Accumulated Precipitation (96 Hour)	190	APCP_96H
Accumulated Rainfall	149	ACCUM_RAINFALL
Accumulated Snow Precipitation (1-Hour)	226	SAPCP_1H
Accumulated Snow Precipitation (12-Hour)	229	SAPCP_12H
Accumulated Snow Precipitation (120-Hour)	234	SAPCP_120H
Accumulated Snow Precipitation (24-Hour)	230	SAPCP_24H
Accumulated Snow Precipitation (3-Hour)	227	SAPCP_3H
Accumulated Snow Precipitation (48-Hour)	231	SAPCP_48H
Accumulated Snow Precipitation (6-Hour)	228	SAPCP_6H
Accumulated Snow Precipitation (72-Hour)	232	SAPCP_72H
Accumulated Snow Precipitation (96-Hour)	233	SAPCP_96H
Administrative Message	21	NWS_ADMINISTRATIVE_MESSAGE

NAME	ID	CODE
Age of Sea Ice	299	ACI
Air Quality Alert	22	NWS_AIR_QUALITY_ALERT
Air Quality Category	275	AQC
Air Quality Index	274	AQI
Air Stagnation Advisory	23	NWS_AIR_STAGNATION_ADVISORY
Arroyo And Small Stream Flood Advisory	24	NWS_ARROYO_AND_SMALL_STREAM_FLOOD_ADVISORY
Ashfall Advisory	25	NWS_ASHFALL_ADVISORY
Ashfall Warning	26	NWS_ASHFALL_WARNING
Atmospheric Pressure	13	ATM_PRESSURE
Avalanche Advisory	27	NWS_AVALANCHE_ADVISORY
Avalanche Warning	28	NWS_AVALANCHE_WARNING
Avalanche Watch	29	NWS_AVALANCHE_WATCH
Avalanches	163	AVALANCHES_ALERT
Beach Hazards Statement	30	NWS_BEACH_HAZARDS_STATEMENT
Blizzard Warning	31	NWS_BLIZZARD_WARNING
Blizzard Watch	32	NWS_BLIZZARD_WATCH
Blowing Dust Advisory	33	NWS_BLOWING_DUST_ADVISORY
Blowing Dust Warning	34	NWS_BLOWING_DUST_WARNING
Brisk Wind Advisory	35	NWS_BRISK_WIND_ADVISORY
Carbon Monoxide	277	CO
Categorical Freezing Rain	9	CFRZR
Categorical Ice Pellets	10	CICEP
Categorical Precipitation	180	CPCP
Categorical Rain	8	CRAIN
Categorical Snow	11	CSNOW
Categorical Storm	15	STRM_CAT
Chance of Precipitation	19	APCP2
Child Abduction Emergency	36	NWS_CHILD_ABDUCTION_EMERGENCY
Civil Danger Warning	37	NWS_CIVIL_DANGER_WARNING
Civil Emergency Message	38	NWS_CIVIL_EMERGENCY_MESSAGE
Cloud Cover	6	TCDC
Cloud Cover @50mb	196	TCDC_50
Cloud Cover @100mb	197	TCDC_100
Cloud Cover @125mb	221	TCDC_125
Cloud Cover @150mb	198	TCDC_150
Cloud Cover @175mb	222	TCDC_175

NAME	ID	CODE
Cloud Cover @200mb	199	TCDC_200
Cloud Cover @225mb	223	TCDC_225
Cloud Cover @250mb	200	TCDC_250
Cloud Cover @275mb	224	TCDC_275
Cloud Cover @300mb	201	TCDC_300
Cloud Cover @350mb	202	TCDC_350
Cloud Cover @400mb	203	TCDC_400
Cloud Cover @450mb	204	TCDC_450
Cloud Cover @500mb	205	TCDC_500
Cloud Cover @550mb	206	TCDC_550
Cloud Cover @600mb	207	TCDC_600
Cloud Cover @650mb	208	TCDC_650
Cloud Cover @700mb	209	TCDC_700
Cloud Cover @750mb	210	TCDC_750
Cloud Cover @800mb	211	TCDC_800
Cloud Cover @850mb	212	TCDC_850
Cloud Cover @900mb	213	TCDC_900
Cloud Cover @925mb	214	TCDC_925
Cloud Cover @950mb	215	TCDC_950
Cloud Cover @975mb	216	TCDC_975
Cloud Cover @1000mb	217	TCDC_1000
Coastal Event	161	COASTAL_EVENT_ALERT
Coastal Flood Advisory	39	NWS_COASTAL_FLOOD_ADVISORY
Coastal Flood Statement	40	NWS_COASTAL_FLOOD_STATEMENT
Coastal Flood Warning	41	NWS_COASTAL_FLOOD_WARNING
Coastal Flood Watch	42	NWS_COASTAL_FLOOD_WATCH
Composite Precipitation Type	236	COMP_CPRCP
Composite Reflectivity	235	COMP_REFL
Composite Reflectivity – Simulated from Forecast Models	247	REFC
Composite Reflectivity with Type	313	COMP_REFLT
Convective Available Potential Energy	177	CAPE
Convective Precipitation Rate	178	CPRAT
Convective Inhibition	237	CIN
Current Direction	290	CURV
Current Speed	289	CURU
Dense Fog Advisory	43	NWS_DENSE_FOG_ADVISORY

NAME	ID	CODE
Dense Smoke Advisory	44	NWS_DENSE_SMOKE_ADVISORY
Derived Reflectivity	248	REFD
Dew Point	14	DEW_POINT
Dominant Pollutant	283	DPOLL
Drought	219	DROUGHT_ALERT
Dust Advisory	45	NWS_DUST_ADVISORY
Dust Storm Warning	46	NWS_DUST_STORM_WARNING
Earthquake Warning	47	NWS_EARTHQUAKE_WARNING
Evacuation Immediate	48	NWS_EVACUATION_IMMEDIATE
Excessive Heat Warning	49	NWS_EXCESSIVE_HEAT_WARNING
Excessive Heat Watch	50	NWS_EXCESSIVE_HEAT_WATCH
Extreme Cold Warning	51	NWS_EXTREME_COLD_WARNING
Extreme Cold Watch	52	NWS_EXTREME_COLD_WATCH
Extreme Fire Danger	53	NWS_EXTREME_FIRE_DANGER
Extreme Wind Warning	54	NWS_EXTREME_WIND_WARNING
Feels Like	284	TMPFL
Fire Warning	55	NWS_FIRE_WARNING
Fire Weather Watch	56	NWS_FIRE_WEATHER_WATCH
Flash Flood Statement	57	NWS_FLASH_FLOOD_STATEMENT
Flash Flood Warning	58	NWS_FLASH_FLOOD_WARNING
Flash Flood Watch	59	NWS_FLASH_FLOOD_WATCH
Flood Advisory	60	NWS_FLOOD_ADVISORY
Flood Statement	61	NWS_FLOOD_STATEMENT
Flood Warning	62	NWS_FLOOD_WARNING
Flood Watch	63	NWS_FLOOD_WATCH
Flooding	165	FLOODING_ALERT
Fog	158	FOG_ALERT
Forest Fire	162	FOREST_FIRE_ALERT
Freeze Warning	64	NWS_FREEZE_WARNING
Freeze Watch	65	NWS_FREEZE_WATCH
Freezing Fog Advisory	66	NWS_FREEZING_FOG_ADVISORY
Freezing Rain	240	FRZR
Freezing Rain Advisory	67	NWS_FREEZING_RAIN_ADVISORY
Freezing Spray Advisory	68	NWS_FREEZING_SPRAY_ADVISORY
Frost Advisory	69	NWS_FROST_ADVISORY
Frozen Rain	239	FROZR

NAME	ID	CODE
Future Radar	310	COMP_FREFL
Gale Warning	70	NWS_GALE_WARNING
Gale Watch	71	NWS_GALE_WATCH
Hail	241	HAIL
Hard Freeze Warning	72	NWS_HARD_FREEZE_WARNING
Hard Freeze Watch	73	NWS_HARD_FREEZE_WATCH
Hazardous Materials Warning	74	NWS_HAZARDOUS_MATERIALS_WARNING
Hazardous Seas Warning	75	NWS_HAZARDOUS_SEAS_WARNING
Hazardous Seas Watch	76	NWS_HAZARDOUS_SEAS_WATCH
Hazardous Weather Outlook	77	NWS_HAZARDOUS_WEATHER_OUTLOOK
Health Category	288	AQHC
Health Index	276	AQHI
Heat Advisory	78	NWS_HEAT_ADVISORY
Heavy Freezing Spray Warning	79	NWS_HEAVY_FREEZING_SPRAY_WARNING
Heavy Freezing Spray Watch	80	NWS_HEAVY_FREEZING_SPRAY_WATCH
High Cloud Cover	167	HCDC
High Surf Advisory	81	NWS_HIGH_SURF_ADVISORY
High Surf Warning	82	NWS_HIGH_SURF_WARNING
High Temperature	159	HIGH_TEMPERATURE_ALERT
High Wind Warning	83	NWS_HIGH_WIND_WARNING
High Wind Watch	84	NWS_HIGH_WIND_WATCH
Highest Wind Direction	244	WIND_V_MAX
Highest Wind Gust	151	GUST_MAX
Highest Wind Speed	150	WIND_U_MAX
Hourly Maximum of Updraft Helicity	245	MXUPHL
Hourly Maximum of Upward Vertical Velocity	243	MAXUVV
Hurricane Force Wind Warning	85	NWS_HURRICANE_FORCE_WIND_WARNING
Hurricane Force Wind Watch	86	NWS_HURRICANE_FORCE_WIND_WATCH
Hurricane Local Statement	87	NWS_HURRICANE_LOCAL_STATEMENT
Hurricane Warning	88	NWS_HURRICANE_WARNING
Hurricane Watch	89	NWS_HURRICANE_WATCH
Hydrologic Advisory	90	NWS_HYDROLOGIC_ADVISORY
Hydrologic Outlook	91	NWS_HYDROLOGIC_OUTLOOK
Ice Accumulation	307	ICE_ACC
Ice Storm Warning	92	NWS_ICE_STORM_WARNING
Lake Effect Snow Advisory	93	NWS_LAKE_EFFECT_SNOW_ADVISORY

NAME	ID	CODE
Lake Effect Snow Warning	94	NWS_LAKE_EFFECT_SNOW_WARNING
Lake Effect Snow Watch	95	NWS_LAKE_EFFECT_SNOW_WATCH
Lake Wind Advisory	96	NWS_LAKE_WIND_ADVISORY
Lakeshore Flood Advisory	97	NWS_LAKESHORE_FLOOD_ADVISORY
Lakeshore Flood Statement	98	NWS_LAKESHORE_FLOOD_STATEMENT
Lakeshore Flood Warning	99	NWS_LAKESHORE_FLOOD_WARNING
Lakeshore Flood Watch	100	NWS_LAKESHORE_FLOOD_WATCH
Law Enforcement Warning	101	NWS_LAW_ENFORCEMENT_WARNING
Lifted Index	176	LFTX
Lightning	242	LTNG
Local Area Emergency	102	NWS_LOCAL_AREA_EMERGENCY
Longwave Infrared	192	LWI
Low Cloud Cover	168	LCDC
Low Temperature	160	LOW_TEMPERATURE_ALERT
Low Water Advisory	103	NWS_LOW_WATER_ADVISORY
Marine Hazard	218	MARINE_HAZARD_ALERT
Marine Weather Statement	104	NWS_MARINE_WEATHER_STATEMENT
Maximum Temperature	2	TMAX
Mean Sea Level Pressure	147	PRMSL
Medium Cloud Cover	169	MCDC
Minimum Temperature	3	TMIN
Nitrogen Dioxide	278	NO2
Nuclear Power Plant Warning	105	NWS_NUCLEAR_POWER_PLANT_WARNING
Ozone	279	O3
Partical Matter (<2.5µm)	281	PM2_5
Partical Matter (<10µm)	282	PM10
Percentage Frozen Precipitation	238	CPOFP
Precipitable Water	246	PWAT
Precipitation Rate	179	PRATE
Precipitation with Type (1-Hour)	311	CAT_PPT_1H
Precipitation with Type (3-Hour)	312	CAT_PPT_3H
Primary Swell Direction	271	SWDIR1
Primary Swell Period	267	SWPER1
Primary Swell Wave Height	263	SWELL1
Primary Wave Direction	261	DIRPW
Primary Wave Period	260	PERPW

NAME	ID	CODE
Radar Coverage	309	RADAR_COV
Radiological Hazard Warning	106	NWS_RADIOLOGICAL_HAZARD_WARNING
Rain	164	RAIN_ALERT
Rain Flood	166	RAIN_FLOOD_ALERT
Red Flag Warning	107	NWS_RED_FLAG_WARNING
Relative Humidity	12	REL_HUM
Rip Current Statement	108	NWS_RIP_CURRENT_STATEMENT
Sea Ice Albedo	300	SIA
Sea Ice Area Fraction	301	SIAF
Sea Ice Speed	302	SIS
Sea Ice Thickness	303	SIT
Sea Level Change Due To Change In Ocean Mass	291	SLCOM
Sea Surface Height	292	SSH
Sea Surface Temperature	293	SST
Sea Surface Temperature Anomaly	305	SSTA
Sea Water Salinity	294	SWS
Secondary Swell Direction	272	SWDIR2
Secondary Swell Period	268	SWPER2
Secondary Swell Wave Height	264	SWELL2
Severe Thunderstorm Warning	109	NWS_SEVERE_THUNDERSTORM_WARNING
Severe Thunderstorm Watch	110	NWS_SEVERE_THUNDERSTORM_WATCH
Severe Weather Statement	111	NWS_SEVERE_WEATHER_STATEMENT
Shelter In Place Warning	112	NWS_SHELTER_IN_PLACE_WARNING
Short Term Forecast	113	NWS_SHORT_TERM_FORECAST
Shortwave Infrared	195	SWI
Significant Wave Height	259	HTSGW
Simulated Brightness Temperature for GOES 11, Channel 3	249	SBT113
Simulated Brightness Temperature for GOES 11, Channel 4	250	SBT114
Simulated Brightness Temperature for GOES 12, Channel 3	251	SBT123
Simulated Brightness Temperature for GOES 12, Channel 4	252	SBT124
Small Craft Advisory	114	NWS_SMALL_CRAFT_ADVISORY
Small Craft Advisory For Hazardous Seas	115	NWS_SMALL_CRAFT_ADVISORY_FOR_HAZARDOUS_SEAS
Small Craft Advisory For Rough Bar	116	NWS_SMALL_CRAFT_ADVISORY_FOR_ROUGH_BAR

NAME	ID	CODE
Small Craft Advisory For Winds	117	NWS_SMALL_CRAFT_ADVISORY_FOR_WINDS
Small Stream Flood Advisory	118	NWS_SMALL_STREAM_FLOOD_ADVISORY
Snow Cover	254	SNOWC
Snow Depth	253	SNOD
Snow Precipitation Rate	220	SPRATE
Snow Squall Warning	119	NWS_SNOW_SQUALL_WARNING
Snow or Ice	156	SNOW_OR_ICE_ALERT
Snowfall	170	ASNOW
Snowfall Rate	182	SRATE
Special Marine Warning	120	NWS_SPECIAL_MARINE_WARNING
Special Weather Statement	121	NWS_SPECIAL_WEATHER_STATEMENT
Steric Sea Level Change	295	SSLC
Storm Hail	17	STRM_HAIL
Storm Surge Warning	122	NWS_STORM_SURGE_WARNING
Storm Surge Watch	123	NWS_STORM_SURGE_WATCH
Storm Warning	124	NWS_STORM_WARNING
Storm Watch	125	NWS_STORM_WATCH
Storm Wind	16	STRM_WIND
Sulfur Dioxide	280	SO2
Surface Snow Thickness	304	SSTHICK
Temperature	1	TMP
Temperature @850mb	181	TMP_850
Tertiary Swell Direction	273	SWDIR3
Tertiary Swell Period	269	SWPER3
Tertiary Swell Wave Height	265	SWELL3
Thunderstorm	157	THUNDERSTORM_ALERT
Tidal Current Direction	298	TDCV
Tidal Current Speed	297	TDCU
Tidal Height	296	TDH
Timestamp	175	TIMESTAMP
Tornado	18	STRM_TORNADO
Tornado Warning	126	NWS_TORNADO_WARNING
Tornado Watch	127	NWS_TORNADO_WATCH
Total Column Integrate Graupel	255	TCOLG
Total Precipitation	171	APCP
Total Snow Precipitation	225	SAPCP

NAME	ID	CODE
Total Solid Precipitation	174	ASPCP
Tropical Depression Local Statement	128	NWS_TROPICAL_DEPRESSION_LOCAL_STATEMENT
Tropical Storm Local Statement	129	NWS_TROPICAL_STORM_LOCAL_STATEMENT
Tropical Storm Warning	130	NWS_TROPICAL_STORM_WARNING
Tropical Storm Watch	131	NWS_TROPICAL_STORM_WATCH
Tsunami Advisory	132	NWS_TSUNAMI_ADVISORY
Tsunami Warning	133	NWS_TSUNAMI_WARNING
Tsunami Watch	134	NWS_TSUNAMI_WATCH
Typhoon Local Statement	135	NWS_TYPHOON_LOCAL_STATEMENT
Typhoon Warning	136	NWS_TYPHOON_WARNING
Typhoon Watch	137	NWS_TYPHOON_WATCH
Upward Sea Water Velocity	306	USWV
Urban And Small Stream Flood Advisory	138	NWS_URBAN_AND_SMALL_STREAM_FLOOD_ADVISORY
UV Category	287	UVC
UV Index	285	UVI
Vertically Integrated Liquid	256	VIL
Visibility	152	VIS
Visible	193	VISR
Volcano Warning	139	NWS_VOLCANO_WARNING
Water Equivalent of Accumulated Snow Depth	257	WEASD
Water Vapor	194	WV
Weather Code	148	WEATHER_CODE
Weather Description	154	WEATHER_DESC
Weather Icon	153	WEATHER_ICON
Wind	155	WIND_ALERT
Wind Advisory	140	NWS_WIND_ADVISORY
Wind Chill Advisory	141	NWS_WIND_CHILL_ADVISORY
Wind Chill Warning	142	NWS_WIND_CHILL_WARNING
Wind Chill Watch	143	NWS_WIND_CHILL_WATCH
Wind Direction	5	VGRD
Wind Gust	7	GUST
Wind Gust Direction	173	VGUST
Wind Gust Speed	172	UGUST
Wind Speed	4	UGRD
Wind Wave Direction	270	WVDIR

NAME	ID	CODE
Wind Wave Height	262	WVHGT
Wind Wave Period	266	WVPER
Winter Storm Warning	144	NWS_WINTER_STORM_WARNING
Winter Storm Watch	145	NWS_WINTER_STORM_WATCH
Winter Weather Advisory	146	NWS_WINTER_WEATHER_ADVISORY

Weather Variables - Tropical Storm

NAME	ID	CODE	UNIT
2 Days Formation Probability	348	STRM_2DAY_FPROB	%
7 Days Formation Probability	349	STRM_7DAY_FPROB	%
Cone of Uncertainty	332	CONE_OF_UNCERTAINTY	
Current Central Pressure	314	CCPR	mb
Current Movement	344	MOV	
Current Movement Direction	316	MOV_V	°
Current Movement Speed	315	MOV_U	m/s
Current Position	345	STRM_CUR_POS	
Current Wind Field	336	CUR_WINDF	
Development Area	347	STRM_DEV_AREA	
Forecast Wind Field	338	FX_WINDF	
Historical Wind Field	337	HIST_WINDF	
Hurricane Force	331	WIND_RADII_64KT	
Reference Line	346	STRM_REF_LINE	
Storm Category	342	STRM_CATT	
Storm Forecast Positions - Lines	335	STRM_FX_LINES	
Storm Forecast Positions - Points	339	STRM_FX_POINTS	
Storm Forecast Track	334	STRM_FX_TRACK	
Storm Historical Path - Line	333	STRM_HIST_PATH	
Storm Historical Path - Points	435	STRM_HIST_POINTS	
Storm Location	341	STRM_LOC	
Storm Location Reference	343	STRM_LOC_REF	
Storm Name	340	STRM_NAME	
Strong Gale Force	330	WIND_RADII_50KT	
Tropical Storm Force	329	WIND_RADII_34KT	
Wind Radii-34kt NE	317	WIND_RADII_34KT_NE	km
Wind Radii-34kt NW	320	WIND_RADII_34KT_NW	km
Wind Radii-34kt SE	318	WIND_RADII_34KT_SE	km

NAME	ID	CODE	UNIT
Wind Radii-34kt SW	319	WIND_RADII_34KT_SW	km
Wind Radii-50kt NE	321	WIND_RADII_50KT_NE	km
Wind Radii-50kt NW	324	WIND_RADII_50KT_NW	km
Wind Radii-50kt SE	322	WIND_RADII_50KT_SE	km
Wind Radii-50kt SW	323	WIND_RADII_50KT_SW	km
Wind Radii-64kt NE	325	WIND_RADII_64KT_NE	km
Wind Radii-64kt NW	328	WIND_RADII_64KT_NW	km
Wind Radii-64kt SE	326	WIND_RADII_64KT_SE	km
Wind Radii-64kt SW	327	WIND_RADII_64KT_SW	km

Weather Variables - Model Tracks

NAME	ID	CODE
Model Tracks - A.I. Models	356	MTRK_AI
Model Tracks - Consensus Models	353	MTRK_CONS
Model Tracks - Dynamical Models	352	MTRK_DYN
Model Tracks - Early Guidance (All Models)	351	MTRK_ALL
Model Tracks - Ensemble Guidance	350	MTRK_ENS
Model Tracks - Official Forecasts	355	MTRK_OFF
Model Tracks - Statistical Models	354	MTRK_STAT
Model Tracks - Unclassified Models	357	MTRK_OTHER
Model Tracks - Unrecognised Model	359	MTRK_UNKNOWN

★**NOTE:** IDs 360-434 represent individual tropical model tracks in the National Hurricane Center operational area, which vary year to year.

Data Sources

ADVISORY DATA SOURCES

NAME	ID	COVERAGE
EUMETNET - MeteoAlarm	1	Europe
US National Weather Service Alerts	2	United States and Territories
Veðurstofa íslands Alerts	3	Iceland

CURRENT OBSERVATION DATA SOURCES

NAME	ID	COVERAGE
Alaska Composite Radar	10	Alaska
Conditions Analysis	12	Global
Direccion Meterologica de Chile	5	Chile (Stations only)
Europe Composite Radar (Foreca)	15	Europe
Global Surface Observations (METARs)	7	Global
Hawaii Composite Radar	11	Hawaii
Icelandic Met Office (Vedur)	6	Iceland (Stations only)
National Weather Service Stations	3	North America Stations
RTMA Alaska	1	North Pole / Alaska
RTMA Conus Rapid Update	2	North America Regions
Satellite Imagery - Global Mosaic (NOAA)	8	Global
US-Canada Composite Radar	9	CONUS
XWeather	14	Global
XWeather - Air Quality	13	Global

FORECAST DATA SOURCES

NAME	ID	COVERAGE
Alaska High Resolution Ensemble Forecast	5	North Pole / Alaska
Alaska High Resolution Window	4	North Pole / Alaska
ECMWF Iceland High Resolution	14	Iceland
ECMWF Public Open Data	12	Whole world
Future Radar - Europe Composite (Foreca)	28	Europe
GFS Global Forecast System	1	Whole world
GFS Wave	21	Global
Hawaii High Resolution Ensemble Forecast	7	Hawaii

NAME	ID	COVERAGE
Hawaii High Resolution Window	6	Hawaii
High Resolution Rapid Refresh (HRRR)	20	CONUS
Icelandic Met Office IGIS	15	Iceland and Greenland area
Icelandic Met Office IGIC	16	Iceland and Greenland area
Icelandic Met Office DINI	17	Iceland and Greenland area
Mercator Global Ocean Physics Analysis & Forecast Model - DAILY	24	Global
Mercator Global Ocean Physics Analysis & Forecast Model - HOURLY	23	Global
MeteoFrance ARPEGE Europe	18	Europe
MeteoFrance ARPEGE Monde	19	Global
NCEP Short-Range Ensemble Forecast	11	North America
National Digital Forecast Database (NDFD)	22	CONUS
Puerto Rico High Resolution Ensemble Forecast	9	Puerto Rico
Puerto Rico High Resolution Window	8	Puerto Rico
USA High Resolution Ensemble Forecast	3	North America
USA High Resolution Window	2	North America
USA Storm Prediction Center	10	North America
Vedur/IMO Station Forecasts	13	Iceland (Stations only)
XWeather	26	Global
XWeather - Air Quality	25	Global
XWeather - Maritime	27	Global

★ **Important:** Not every variable will have a value for a specific place of interest for a certain Data Source. For example, only Chilean Cities will have data for the Chilean Meterologic Datasource.

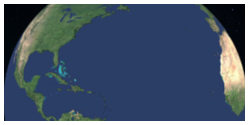
TROPICAL DATA SOURCES

NAME	ID	COVERAGE
Official Tropical Cyclone Bulletins (Global)	1	Global
National Hurricane Center - Active Tropical Cyclone Bulletins	3	North Atlantic, East and Central Pacific
National Hurricane Center - Graphical Tropical Weather Outlook	2	North Atlantic, East and Central Pacific
National Hurricane Center - Model Tracks	4	North Atlantic, East and Central Pacific

Appendix B: Wind Particle Sizing

The following table outlines the recommended wind particle sizing settings based on region size. It includes descriptions of each region size and the corresponding size settings for stroke, velocity, and density. These recommendations are designed to optimize performance and visual accuracy while minimizing storage impact on the system.

Recommended Wind Particle Size Settings by Region Size

Region Size	Description	Size Setting
 **Small Region**	US DMA, small country, or a small region of a country.	• Isobars Stroke Size: 2 • Wind Particles Stroke Size: 2 • Wind Particles Velocity Scale: 0.002-0.003 • Wind Particles Density: 1000
 **Medium Region**	Region of a large country, medium country, or ocean basin.	• Isobars Stroke Size: 1 • Wind Particles Stroke Size: 1 • Wind Particles Velocity Scale: 0.008 • Wind Particles Density: 3000-4000
 **Large Region**	Region of a large country, continent, or ocean.	• Isobars Stroke Size: 1 • Wind Particles Stroke Size: 1 • Wind Particles Velocity Scale: 0.01 • Wind Particles Density: 6000-7000
 **Full World**	The full world.	• Isobars Stroke Size: 1 • Wind Particles Stroke Size: 1 • Wind Particles Velocity Scale: 0.02 • Wind Particles Density: 5000 ★Wind particles density values above 5000 are available, but they will place a heavy demand on storage resources on your local server.

Appendix C: Raiden Licensing

This section provides an overview of the process for installing and activating the Raiden product key license(s).

Prerequisites

Before beginning the licensing process, ensure you have the following:

- **Raiden product key license(s)** - provided by Ross Video.

  If you do not have the product key license(s), contact Ross Technical Support for assistance.

- **Ross Platform Manager (RPM)**

  Ensure the Ross Platform Manager (RPM) is installed and running on your local network.

- **XPression License Tool**

  Ensure the XPression License Tool is installed on each Raiden server.

★**Note:** This section does not provide instructions for how to use the Ross Platform Manager (RPM) or the XPression License Tool.

For detailed instructions on using RPM, refer to the *RPM User Guide*. For information on using the XPression License Tool, consult the *XPression License Tool and Software Maintenance* document.

Installing the Raiden Product Key License

This section explains the process for installing and activating the product key license for the Raiden system.

To install the Raiden product key license:

1. Use the Ross Platform Manager (RPM) to add and activate the Raiden product key license provided by Ross Video.
2. Once the Raiden product key license has been activated, install it on each Raiden server using the XPression License Tool.

   The servers include:

   - Raiden Data Aggregator Server
   - Raiden Local Server
   - Raiden Story Creator Server
   - Raiden DataLinq Server

   Upon completing the licensing process, all Raiden servers will be fully activated and operational.

Appendix D: Raiden User Rights Management

This appendix outlines the process for configuring user rights for Raiden using the Ross Platform Manager (RPM).

This section does not provide instructions on how to use RPM. For instructions on adding roles and creating user accounts in RPM, refer to the *RPM User Guide*.

To set up and configure Raiden user rights in Ross Platform Manager (RPM):

1. In RPM, create the following Raiden-specific roles:
   - Data Aggregator Administrator
   - Data Aggregator User
   - Local Server Administrator
   - Local Server User
   - Story Creator Administrator
   - Story Creator User

   ★**Important:** Ensure that the roles are entered exactly as listed above, including capitalization, as they are case sensitive.
2. Create user accounts as follows:
   a. Add a user account for each individual who needs access to Raiden.
   b. Ensure accurate user details are entered during account creation.
3. For each user account, assign one or more of the Raiden-specific roles created in step 1 and ensure the following:
   a. Enable each user account by marking it as **Active**.
   b. Enable API access for each user.
4. Verify that all users have the appropriate roles and settings applied.

   Once the user rights configuration is complete, users will have the appropriate roles and access levels required to use the Raiden application.

Appendix E: XPression Environment Requirements for Raiden

This appendix summarizes the required XPression environment settings. Requirements are grouped as follows:

XPression Preferences 263

Sequencer Mode Settings 263

Hardware Settings 264

Tessera System Setup (if applicable) 264

XPression Preferences

This section summarizes the XPression preferences required for use with Raiden.

Setting	Value/Configuration
Hardware Renderer: GPU Adapter	NVIDIA adapter corresponding to the adapter in the XPression machine
Texture & Image Cache: Memory Allocation	Set the allocated memory pool to 16384 MB
Video Engine: Cache Mode	Enable *Cache Clips on GPU instead of Host Memory*
Startup Settings: Load Most Recent Project	Enable
Startup Settings: Sequencer Mode	Enable *Switch to Sequencer Mode*

Sequencer Mode Settings

These settings support a smoother Raiden workflow by opening XPression directly into the Raiden project and entering Sequencer Mode automatically. This approach bypasses the Editor Viewport, resulting in a lighter and more responsive interface.

Setting	Requirement
Load Most Recent Project	Enable this setting to open the most recent project on startup
Switch to Sequencer Mode	Enable this setting to start XPression in Sequencer Mode

Hardware Settings

This section summarizes the hardware settings required for system integration and output configuration.

Setting	Value/Configuration
Production Output	Video card or NDI output configured
NDI Output	NewTek Network Device Interface configured
Output Name	Matches the NDI source name in the configuration file
Tessera Exclusion	"Exclude from Tessera" enabled for the NDI output
GPI/Tally Board	Smart GPI/RossTalk
GPI/Tally State	Enabled
GPI/Tally Mode	TCP
GPI/Tally TCP Port (Incoming)	Communication port used by the system (default: 7788)
GPI/Tally TCP Port (Outgoing)	7788

Tessera System Setup (if applicable)

These settings apply when using Raiden with a Tessera system. Tessera environments require source and destination mappings to ensure content is rendered and distributed correctly across outputs.

Setting	Value/Configuration
Tessera Mode	Single Engine
Source Region Layout	Source Defined
Destination Region Layout	Destination Defined
Region Size	Width set to 1920
Source to Destination Mapping	Source mapped to destination region
Source Template	Set to Source 1
Tessera Output Setting	"Exclude from Tessera" enabled

Appendix F: XPression Maintenance

This section describes maintenance tasks for the XPression environment when used with Raiden, including managing plugin settings and configuring export codec presets.

The following topics are covered in this section:

Raiden and XPression Maintenance 266

XPression Plugin - Export Codec Presets 272

Raiden and XPression Maintenance

Managing the application update is a manual process and is required for maintaining Raiden's performance and compatibility with XPression.

Raiden must be updated with each XPression update.

Raiden Application Update Process

The manual update process includes updating the following for each Raiden project in XPression:

Global Scripts 266

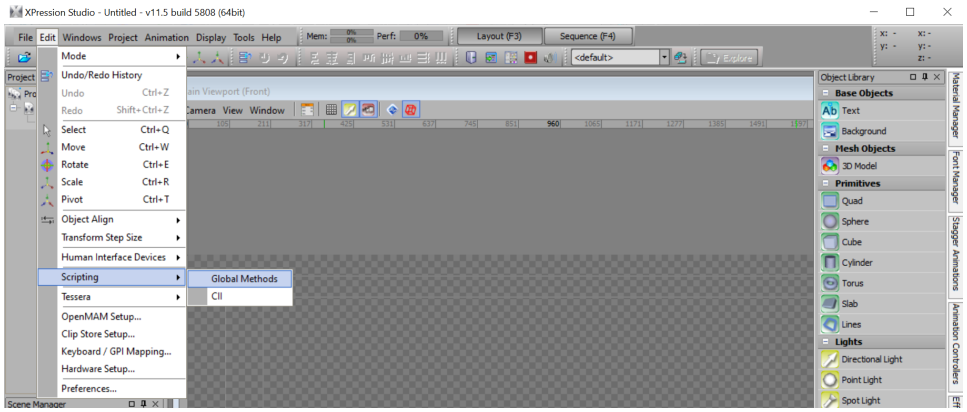
Base Scene Scripts 267

Keyboard/GPI Mapping Scripts 267

3D World and Pushpin Template Scenes 270

To update the Global Scripts:

1. In your XPression project, go to **Edit**, select **Scripting** and from the **Scripting** drop-down, select **Global Methods**.



Edit Menu - Global Methods

The **Global Script Methods Editor** opens.

2. Navigate to the **XPressionPlugin>XPN>VB** folder.
3. Copy the scripting from the **VB** folder and return to the **Global Script Methods Editor**.
4. Delete the scripting in the **Global Script Methods Editor**.
5. Paste the scripting from the **XPN.Globals.vb** folder into the **Global Script Methods Editor**.
6. Select the **Compile current script (F7)** button.

   The **Global Scripts** have been updated.
7. Next, update the **Base Scene Scripts**.

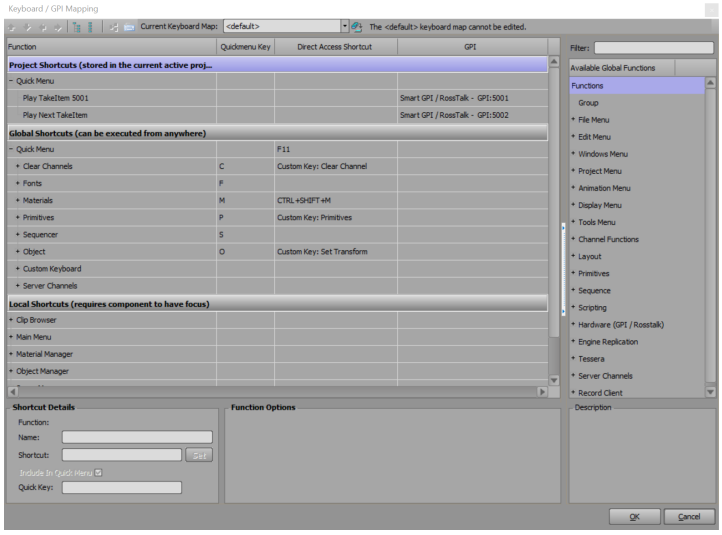
To update the Base Scene Scripts:

1. In your XPression project, right-click on the **3D World Scene**.
2. From the menu, select **Edit Script Events**.

   The **Script Editor** opens.
3. Update the **OnBeforeOnline** scripting as follows:
   a. In the **Events** section, select **OnBeforeOnline**.
   b. Navigate to the **XPN>VB** folder and open the **XPN.Scene.OnBeforeOnline.vb** file.
   c. Copy the scripting from the file and return to the **Script Editor**.
   d. Delete the **OnBeforeOnline** scripting.
   e. Paste the scripting from the **XPN.Scene.OnbeforeOnline.vb** file in **OnBeforeOnline** tab.
4. Next, update the **OnRender** scripting as follows:
   a. Navigate to the **XPN>VB** folder and open the **XPN.Scene.OnRender.vb** file.
   b. Copy the contents of the file and return to the **Script Editor**.
   c. Delete the contents of the **OnRenderer** tab.
   d. Paste the scripting form **XPN.Scene.OnRender.vb** file into the **OnRenderer** tab.
5. Select the  **Compile current script (F7)** button.
6. The **3D World** scene scripts have been updated.
7. Repeat this procedure for the **3D World Timestamp** scene.
8. Next, update the **Keyboard/GPI Mapping** scripts.

To update Keyboard/GPI Mapping scripts:

1. In your XPression project, go to **Edit** and select **Keyboard/GPI Mapping**.
2. The **Keyboard/GPI Mapping** window opens.

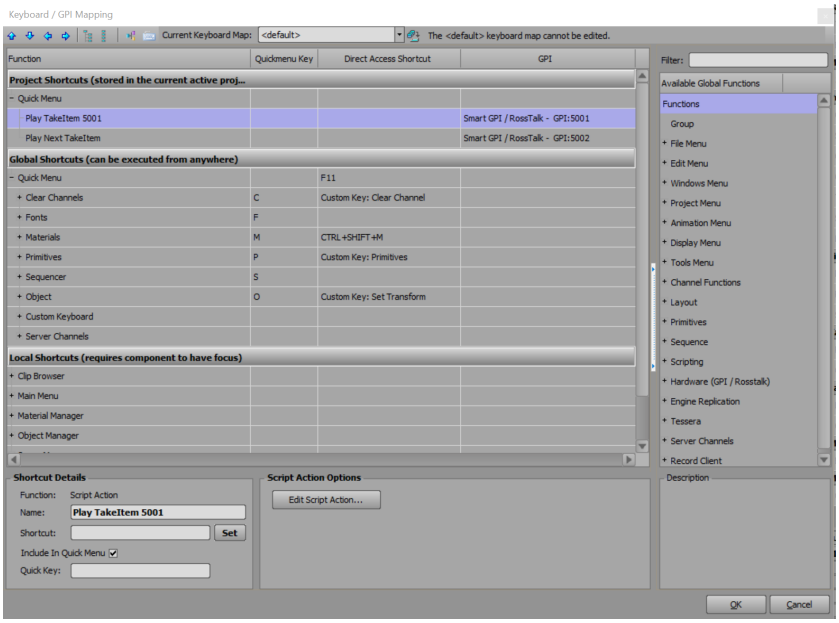


Keyboard/GPI Mapping Window

3. Update the **Project Shortcuts GPI** scripting as follows:

   a. In the **GPI** column, use the **GPI** fields to enter or select **5001** in the first **GPI** field and **5002** in the second **GPI** field.

   ★The **GPI** defaults are **5001** and **5002**, and can be changed if they are already in use.



Keyboard/GPI Mapping Window - Play TakeItem 5001

   b. In the **Script Action Options** section, select **Edit Script Action**.

      The **Script Editor - Script Shortcut** window opens.

   c. Delete the scripting.

   d. Navigate to the **XPN>VB** folder and open the **XPN.Mapping.NEXT.vb** file.

   e. Copy the script from the file and return to the **Script Editor - Script Shortcut** window.

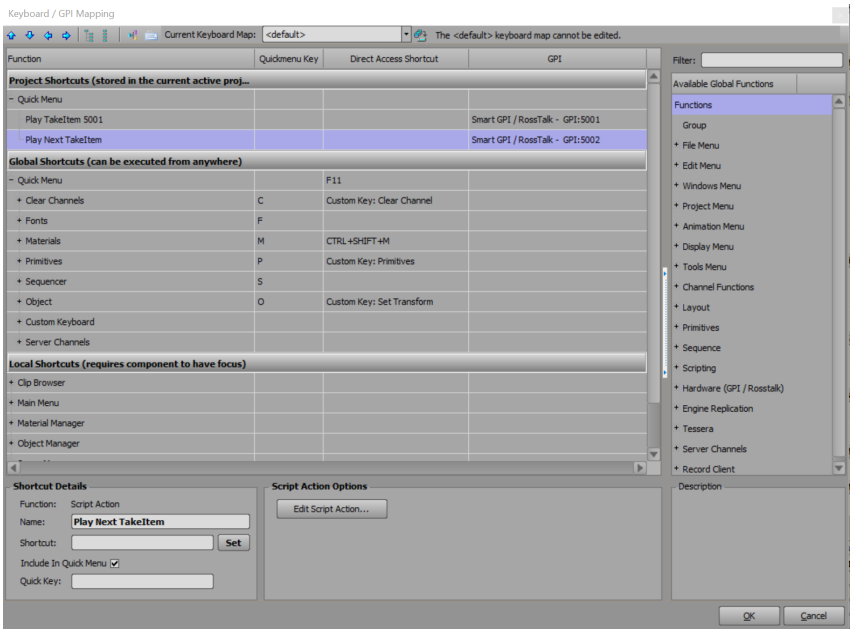
   f. Paste the copied script from the **XPN.Mapping.NEXT.vb** file into the **Script Editor**.

   g. Select the **Compile Current Script (F7)** button.

      The script has been updated.

4. Next, update the **Play Next TakeItem** script as follows:

   a. In the **Project Shortcuts** section, select **Play Next TakeItem**.



Keyboard/GPI Mapping Window - Play Next TakeItem

   b. In the **Script Action Options** section, select **Edit Script Action**.

      The **Script Editor - Script Shortcut** window opens.

   c. Delete the scripting.

   d. Navigate to the **XPN>VB** folder and open the **XPN.Mapping.FOCUS.vb** file.

   e. Copy the script from the file and return to the **Script Editor - Script Shortcut** window.

   f. Paste the copied script from the **XPN.Mapping.FOCUS.vb** file into the **Script Editor**.

   g. Select the  **Compile Current Script (F7)** button.

      The script has been updated.

5. Select **OK** to close the **Keyboard/GPI Mapping** window.

   The **Keyboard/GPI Mapping** scripts have been updated.

6. Next, update the **3D World** and **Pushpin Template** scenes in your project.

To update the 3D World and Pushpin Template scenes:

You will need to update the **3D World, 3D World Timestamp**, and **Pushpin** base scenes. To update these scenes in your project, you need to first delete these scenes, and then import them back into your project.

The procedure below provides instructions for updating the **PushPin**, **3D World**, and **3D World Timestamp** base scenes.

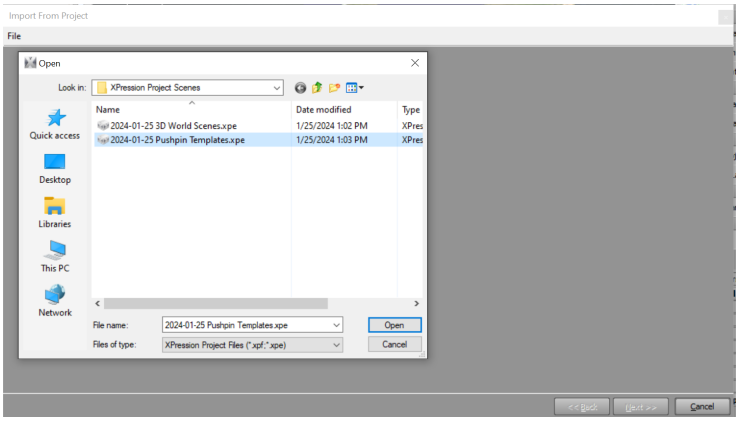
Additionally, you can use this procedure to restore lost or accidentally deleted scenes.

1. In your project, delete the **Pushpin** base scene (or **3D World**) scenes.
2. Next, import the **Pushpin** base scene (or **3D World**) scenes as follows:
   a. From the **File** menu, select the **Import** drop-down and select **From Project / File**.

      The **Import From Project** window opens.

   b. From the **File** menu, select **Open**.

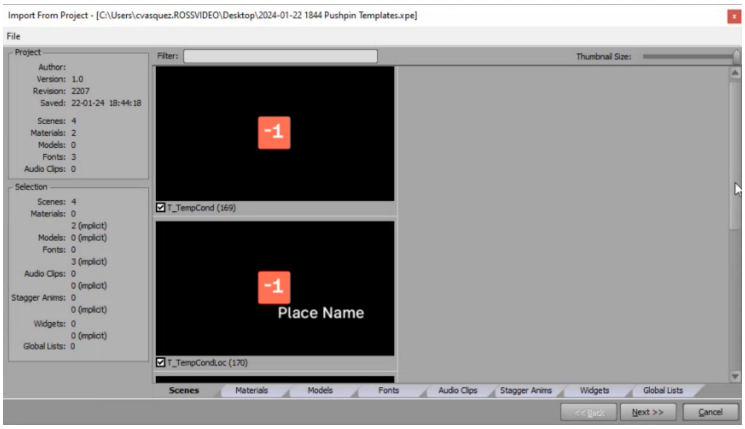
   c. Select the **Pushpin Templates.xpe** file (or the **3D World Scenes.xpe** file) and select **Open**.



Pushpin Templates.xpe File

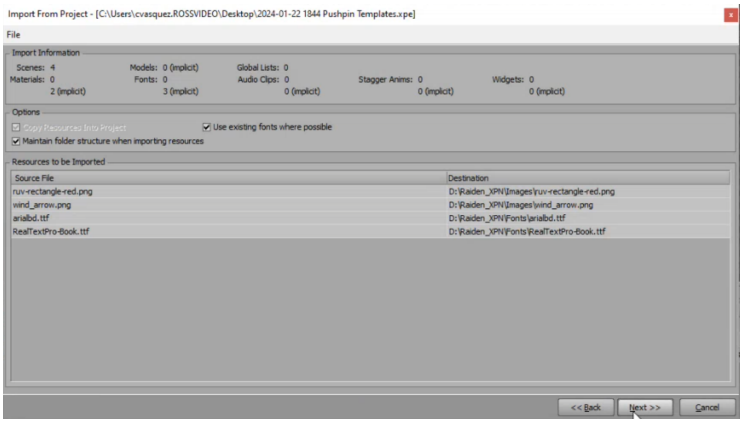
The files are opened in the **Import From Project** window.

   d. Select **Next** to accept the default selected options.



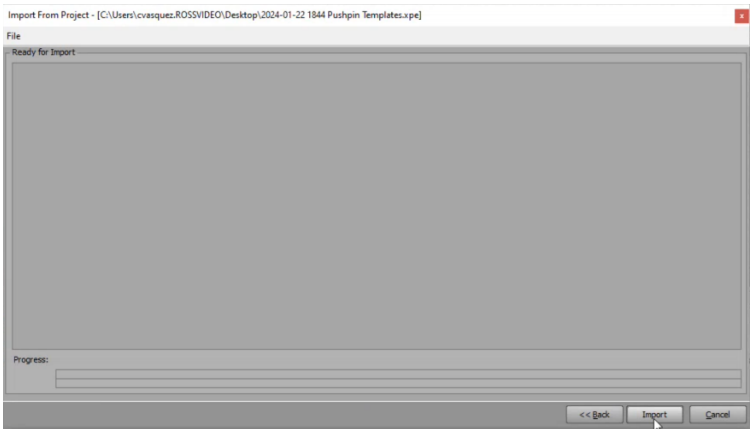
Import From Project - Pushpin Templates

e. Select **Next** to accept the default settings.



Import From Project - File Settings

f. Select **Import** to import the scenes into the project.



Import From Project - Import

g. Select **Close**.

3. Save your project.

   The base scenes have been imported into your project.

To recover lost or deleted scenes in your project:

- To restore lost or deleted scenes in your project, follow **Steps 2** - **3** of the To update 3D World and Pushpin Template scenes 270 procedure.

XPression Plugin - Export Codec Presets

XPression plugin export codec presets allow users to define export settings for video files, including storage locations, codec types, and bitrate configurations.

General Configuration

The export configuration in the **config.json** file includes settings for defining where exported files are stored and whether they are shared over a network.

JSON Export Configuration:

```
"export": {
    "localPath": "d:\\Raiden\\XPN_Plugin\\export",
    "shared": false,
    "networkPath": "\\\\RAIDEN-XPN\\raiden\\export",
    ...
```

Each element must include:

- **localPath**: Specifies the local folder where the exported files are generated and stored.
- **shared**: Set to **false** by default. Determines if the local path is shared as a network-shared folder.
- **networkPath**: Defines the network shared folder if the local path is shared across the network.

Presets Configuration

The **presets** section defines codec types, unique identifiers, and bitrate settings for MP4 files. These presets allow users to configure export settings for different video formats, ensuring compatibility with various playback and editing workflows.

JSON Preset Configuration:

```
...
   "preset": [
     {
       "id": 1,
       "name": "Low Resolution MP4 (H.264)",
       "codec": "MP4_H264_VIDEO",
       "bitrate": 5000000
     },
     {
       "id": 2,
       "name": "High Resolution MP4 (H.265)",
       "codec": "MP4_H265_VIDEO",
       "bitrate": 5000000
     },
     {
       "id": 3,
       "name": "Large Broadcasting Media Exchange DNxHR (MXF)",
       "codec": "MXF_DNXHR444_VIDEO",
       "bitrate": 0
     },
     {
       "id": 4,
       "name": "Smaller Broadcasting Standard XPression AVI",
       "codec": "XPVC_VIDEO",
       "bitrate": 0
     }
   ]
```

Each element must include:

- **id**: A unique integer value to identify the preset.
- **name**: A human-readable, descriptive name for the preset.
- **codec**: A codec type defined from the following supported formats:

Codec Type	Description
XPVC_VIDEO	XPression Video Codec AVI Files
MP4_H264_VIDEO	MP4 video file with H.264 Codec
MP4_H265_VIDEO	MP4 video file with H.265 Codec
WEBM_VP9_VIDEO	WebM video file with VP9 Codec
WEBM_VP8_VIDEO	WebM video file with VP8 Codec
MXF_DNXHR444_VIDEO	MXF video file with DNxHR Codec

- **bitrate** (for MP4 files only):

  Each MP4 preset must include a bitrate integer value, which defines the maximum bitrate and quality for the generated video file. This setting applies only to MP4 (H.264 or H.265) video files, while other formats can retain the default value of 0, as it is ignored.

  Example using a 4-second, 55.3MB, XPVC 1920x1080 AVI source file:

  - **Lower bitrate values produce lower-quality, smaller output files:**

    Example: A bitrate of 100000 (100,000, ~100kb) generates a low-quality MP4 video.

    Example output: 341KB, 686kbps.

  - **Higher bitrate values produce higher-quality, larger output files:**

    Example: A bitrate of 5000000 (5,000,000) generates a high-quality MP4 video.

    Example output: 2.38MB, 4.991kbps.

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com.beust	Jcommander	1.78	Apache-2.0
com.conversantmedia	Disruptor	1.2.15	Apache-2.0
com.fasterxml.jackson.core	Jackson Core	2.19.0	Apache-2.0
com.fasterxml.uuid	Java UUID Generator	5.2.0	Apache-2.0
com.github.cosinekitty	Astronomy	2.1.19	MIT
com.github.jai-imageio	JAI ImageIO Core	1.4.0	BSD-3-Clause
com.github.oshi	Oshi	7.1.0	MIT
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com.google.code.findbugs	Jsr 305	3.0.2	Apache-2.0
com.google.code.gson	Gson	2.14.0	Apache-2.0
com.google.errorprone	Error Prone Annotations	2.36.0	Apache-2.0
com.google.errorprone	Error Prone Annotations	2.47.0	Apache-2.0
com.google.guava	Failureaccess	1.0.3	Apache-2.0
com.google.guava	Guava	33.4.8-jre	Apache-2.0
com.google.guava	Guava	33.6.0-jre	Apache-2.0
com.google.guava	Listenablefuture	9999.0-empty-to-avoid-conflict-with-guava	Apache-2.0
com.google.j2objc	J2objc Annotations	3.0.0	Apache-2.0
com.google.j2objc	J2objc Annotations	3.1	Apache-2.0
com.google.protobuf	Protobuf Java	4.31.1	BSD-3-Clause
com.google.re2j	Re2j	1.3	Go License
com.google.zxing	ZXing	3.5.4	Apache-2.0
com.googlecode.json-simple	JSON Simple	1.1.1	Apache-2.0
com.luckycatlabs	SunriseSunsetCalculator	1.2	Apache-2.0
com.miglayout	Miglayout	3.7	BSD
com.nimbusds	Nimbus Jose Jwt	10.9	Apache-2.0

Package	Name	Version	License
com.sun.istack	Istack Commons Runtime	3.0.7	CDDL-1.1; GPL-2.0-with-Classpath-exception
com.sun.xml.bind	Sun XML Bind	2.2	CDDL-1.0; GPL-2.0-with-Classpath-exception
com.sun.xml.fastinfoset	FastInfoset	1.2.15	Apache-2.0
com.twelvemonkeys	TwelveMonkeys	3.13.1	BSD
com.zaxxer	HikariCP	7.0.2	Apache-2.0
commons-codec	Apache Commons Codec	1.22.0	Apache-2.0
commons-io	Apache Commons IO	2.21.0	Apache-2.0
commons-io	Apache Commons IO	2.22.0	Apache-2.0
commons-jxpath	Apache Commons Jxpath	1.4.0	Apache-2.0
commons-logging	Apache Commons Logging	1.3.5	Apache-2.0
commons-logging	Apache Commons Logging	1.3.6	Apache-2.0
commons-net	Apache Commons Net	3.13.0	Apache-2.0
commons-pool	Apache Commons Pool	1.5.4	Apache-2.0
de.micromata.jak	JavaAPIforKml	2.2.1	BSD
edu.ucar	Jj 2000	5.4	JJ2000
edu.ucar	UCAR NetCDF Java	5.9.1	BSD-3-Clause
io.airlift	Aircompressor	2.0.3	Apache-2.0
io.netty	Netty	4.1.136.Final	Apache-2.0
it.geosolutions.imageio-ext	ImageIO Ext	2.0.1	LGPL
it.geosolutions.jgridshift	Jgridshift Core	1.3	LGPL-2.0
it.sauronsoftware	Junique	1.0.4	LGPL-2.1
jakarta.annotation	Jakarta Annotation API	3.0.0	EPL-2.0; GPL-2.0-with-Classpath-exception
jakarta.el	Jakarta El API	6.0.0	EPL-2.0; GPL-2.0-with-Classpath-exception
jakarta.el	Jakarta El API	6.0.1	EPL-2.0; GPL-2.0-with-Classpath-exception
jakarta.enterprise	Jakarta Enterprise	4.1.0	Apache-2.0
jakarta.inject	Jakarta Inject API	2.0.1	Apache-2.0
jakarta.interceptor	Jakarta Interceptor API	2.2.0	EPL-2.0; GPL-2.0-with-Classpath-exception
jakarta.servlet	Jakarta Servlet API	6.1.0	EPL-2.0; GPL-2.0-with-Classpath-exception
jakarta.servlet.jsp	Jakarta Servlet JSP API	4.0.0	EPL-2.0; GPL-2.0-with-Classpath-exception

Package	Name	Version	License
jakarta.transaction	Jakarta Transaction API	2.0.1	EPL-2.0; GPL-2.0-with-Classpath-exception
javax.activation	Activation	1.1	CDDL-1.0
javax.activation	Javax Activation API	1.2.0	CDDL/GPL
javax.measure	Unit API	2.2	BSD-3-Clause
javax.xml.bind	JAXB API	2.2	CDDL-1.0
javax.xml.stream	StAX API	1.0-2	CDDL-1.0
joda-time	Joda Time	2.12.7	Apache-2.0
junit	Junit	4.13.2	EPL-1.0
net.java.dev.jna	JNA	5.11.0	LGPL-2.1-or-later; Apache-2.0
net.java.dev.jna	JNA	5.17.0	LGPL-2.1-or-later; Apache-2.0
net.java.dev.jna	JNA	5.18.1	LGPL-2.1-or-later; Apache-2.0
net.sf.geographiclib	GeographicLib Java	1.49	MIT
net.sf.jsi	Jsi	1.1.0-SNAPSHOT	LGPL-2.1-or-later
net.sf.trove4j	Trove4j	3.0.3	LGPL
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org.apache.commons	Apache Commons Collections 4	4.5.0	Apache-2.0
org.apache.commons	Apache Commons Lang 3	3.18.0	Apache-2.0
org.apache.commons	Apache Commons Lang 3	3.20.0	Apache-2.0
org.apache.commons	Apache Commons Math 3	3.6.1	Apache-2.0
org.apache.commons	Apache Commons Text	1.15.0	Apache-2.0
org.apache.httpcomponents	Apache HttpComponents	4.5.13	Apache-2.0
org.apache.httpcomponents	Httpcore	4.4.13	Apache-2.0
org.apache.pdfbox	Xmpbox	3.0.7	Apache-2.0
org.apache.xml	XML Commons Resolver	1.2	Apache-2.0
org.apiguardian	Apiguardian API	1.1.2	Apache-2.0
org.checkerframework	Checker Qual	3.55.1	MIT
org.codehaus.plexus	Plexus Utils	4.0.3	Apache-2.0
org.eclipse.ecf	Ch Ethz Iks Slp	1.5.0	EPL-1.0
org.eclipse.emf	Eclipse Modeling Framework	2.15.0	EPL-1.0
org.eclipse.imagen	Eclipse ImageN	0.9.1	Apache-2.0
org.eclipse.jdt	Ecj	3.46.0	EPL-2.0

Package	Name	Version	License
org.eclipse.jetty	Eclipse Jetty	12.1.11	EPL-2.0; Apache-2.0
org.eclipse.xsd	Org Eclipse Xsd	2.12.0	EPL-1.0
org.ehcache	Ehcache	3.4.0	Apache-2.0
org.ejml	EJML	0.41	Apache-2.0
org.gdal	Gdal	3.7.1	MIT
org.geotools	GeoTools	34.3	LGPL; EPSG database distribution license; HSQLDB BSD
org.glassfish.jaxb	JAXB	2.4.0-b180830.0438	CDDL/GPL
org.hamcrest	Hamcrest Core	1.3	BSD-3-Clause
org.hsqldb	Hsqldb	2.7.2	HSQLDB BSD
org.huldra.math	Bigint	0.7.1	BSD-2-Clause
org.javatuples	Javatuples	1.2	Apache-2.0
org.jcommander	Jcommander	1.85	Apache-2.0
org.jdom	Jdom 2	2.0.6.1	Similar to Apache License but with the acknowledgment clause removed
org.jetbrains	Annotations	13.0	Apache-2.0
org.jetbrains.kotlin	Kotlin	1.6.10	Apache-2.0
org.jspecify	Jspecify	1.0.0	Apache-2.0
org.jvnet.staxex	StAX Ex	1.8	CDDL-1.1; GPL-2.0
org.locationtech.jts	JTS Core	1.20.0	EPL-2.0; EDL-1.0
org.mortbay.jasper	Mortbay Jasper	11.0.23	Apache-2.0
org.openpnp	OpenCV	4.9.0-0	BSD
org.ow2.asm	ASM	9.10	BSD-3-Clause
org.postgresql	Postgresql	42.7.13	BSD-2-Clause
org.reactivestreams	Reactive Streams	1.0.4	MIT-0
org.shredzone.commons	Apache Commons Suncalc	3.11	Apache-2.0
org.slf4j	SLF4J	1.7.36	MIT
org.slf4j	SLF4J	2.0.17	MIT
org.snmp4j	SNMP4J	3.10.0	Apache-2.0
org.snmp4j	SNMP4J Agent	3.8.3	Apache-2.0
picocontainer	Picocontainer	1.2	BSD-3-Clause
si.uom	Si Quantity	2.1	BSD-3-Clause
si.uom	Si Units	2.1	BSD-3-Clause
software.amazon.awssdk	AWS SDK for Java	2.50.2	Apache-2.0

Package	Name	Version	License
software.amazon.eventstream	Eventstream	1.0.1	Apache-2.0
systems.uom	Systems Common	2.1	BSD
tech.units	Indriya	2.2	BSD-3-Clause
tech.uom.lib	Uom Lib Common	2.2	BSD

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| AS GIVEN IN EPSG DATASET || PERMITTED CHANGE FOR VENDORS/USERS TO ADOPT | |-||-| | Change of ellipsoid defining parameters. ||| | 1a | Ellipsoid parameters a and b. | a and 1/f ; a and f; a and e; a and e2. | | 1b | Ellipsoid parameters a and 1/f. | a and b; a and f; a and e; a and e2. | | Change of projection method ||| | 2a | Lambert Conic Conformal (1 SP) method with projection parameters and kO. | Lambert Conic Conformal (2 SP) method with projection parameters and | | 2b | Lambert Conic Conformal (2 SP) method with projection and | Lambert Conic Conformal (1 SP) method with projection parameters and kO. | | 3a | Mercator (variant A) method with projection parameters and kO. | Mercator (variant B) method with projection parameter | | 3b | Mercator (variant B) method with projection parameter | Mercator (variant A) method with projection parameters and kO. | | 4a | Hotine Oblique Mercator (variant A) method with projection parameters FE and FN. | Hotine Oblique Mercator (variant B) method with projection parameters EC and NC. | | 4b | Hotine Oblique Mercator (variant B) method with projection parameters EC and NC. | Hotine Oblique Mercator (variant A) method with projection parameters FE and FN. | | 5a | Polar Stereographic (Variant A) method with projection parameters and kO. | Polar Stereographic (Variant B) method with projection parameter | | 5b | Polar Stereographic (Variant B) method with projection parameter | Polar Stereographic (Variant A) method with projection parameters and kO. | | 5c | Polar Stereographic (Variant A) method with projection parameters kO, FE and FN. | Polar Stereographic (Variant C) method with projection parameters EF and NF. | | 5d | Polar Stereographic (Variant C) method with projection parameters EF and NF. | Polar Stereographic (Variant A) method with projection parameters kO, FE and FN. | | 5e | Polar Stereographic (Variant B) method with projection parameter FE and FN. | Polar Stereographic (Variant 199 C) method with projection parameters EF and NF. | | 5f | Polar Stereographic (Variant C) method with projection parameters EF and NF. | Polar Stereographic (Variant B) method with projection parameter FE and FN. | | Change of transformation method | | | 6a | Position Vector 7-parameter transformation method parameters RX RY and RZ. | Coordinate Frame transformation method with signs of position vector parameters RX RY and RZ reversed. | | 6b | Coordinate Frame transformation method parameters RX RY and RZ. | Position Vector 7-parameter transformation method with signs of coordinate frame parameters RX RY and RZ reversed. | | 7 | Concatenated transformation using geocentric methods (Geocentric translations, Position Vector 7-parameter transformation, Coordinate Frame rotation). | Equivalent single geocentric transformation in which for each parameter the parameter values of the component steps have been summed. | | Change of units ||| | 8 | NTv2 method grid file filename. | NTv2 method grid file relative storage path with file name including removal (if necessary) of “special characters” [spaces, parentheses, etc] which are replaced by underscore characters. | | 9 | Parameter value. | Convert unit to another, for example from microradian to arc-second, using conversion factors obtained from the EPSG dataset Unit table. |

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Glossary of Terms

A

Areas of Interest — Geographic location on a map that represents either a point, region, or station.

Attribute — Non-spatial data that describes geographic information (such as the name, length, and depth of a river).

Attribution Text — Copyright text for basemap layer or data which credits the basemap layer or data service.

B

Basemap — The foundation of a map on which layers of geographic information are overlaid.

Basemap Layer — Map layers that display geographic features on a basemap.

D

Data Aggregator Server — A component of the Raiden application that retrieves and processes raw weather data from sources such as the National Centers for Environmental Prediction (NCEP), Global Forecast System (GFS), the Storm Prediction Center, the USA High Resolution Window and others.

Datalinq™ — A server that enables XPression and Voyager to import dynamic data from external sources and make it available for use in live templates.

Digital Elevation Models (DEMs) — Files that use either Shuttle Radar Topography Mission 1 (SRTM1) or Shuttle Radar Topography Mission 3 (SRTM3) radar observations to provide digital representations of surface elevations on a map.

F

Forecast — A prediction of atmospheric conditions for a particular point in time.

Frame rate — The measurement or frequency at which images appear on screen, also known as Frames Per Second (FPS).

K

Key frames — The anchor points that define when transitions between animations begin and end.

L

Local Server — A component of the Raiden application that calls the Data Aggregator Server for data specific to a region or point of interest and then outputs that data to various graphical endpoints.

M

Metadata — The up-to-date forecast and current observation data for the places of interest in the Local Server.

N

Network Device Interface (NDI) — A network protocol that enables video to be delivered over a network in real time.

O

Observations — The atmospheric conditions (such as temperature, precipitation, and cloud cover) at a particular point in time.

P

Pause point — anchor points in a video timeline that temporarily stop the video playout.

Point — A geographic location of interest on a map defined by a specific longitude and latitude coordinate (such as a city).

R

Region — A broad geographic location of interest on a map defined by specific boundaries.

Ross Platform Manager (RPM) Server — A web based application that supports common administrative functions (such as licenses and user access) for Ross products.

S

Server — A computer component that stores, organizes, and processes data upon request.

Station — A point of interest based on an official weather station.

Shapefile — A Geographic Information System (GIS) vector format that contains the spatial and attribute components of features displayed on a map.

Shuttle Radar Topography Mission (SRTM) — A database of radar observations that provide digital representations of surface elevations on a map.

Story — An organized collection of scenes used to make a graphics sequence.

Story Creator — A weather story creation platform that requests data from the Local Server and interacts with either XPression or Voyager, enabling users to create weather stories from scratch or from templates.

T

Template — A saved story, used as a baseline so that the story does not have to be recreated each time it is used.

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