

WSI Glossary

A

Advanced keyframing. A feature which allows the user to set a keyframe for a part of an object (i.e., color, transparency, rotation, etc.) rather than the entire object without affecting the keyframe properties of the parts of the object. For example, a user could set the transparency of a selected object without being concerned that the keyframe rotation of the object has been disturbed.

Aggregate. An organized collection of observation data, forecast model data and decoded bulletin data associated with specific geographic locations.

Animated icon. A type of show element weather graphic (shinning sun, raining cloud, etc.) that gives the illusion of movement. An animated icon is made up of multiple frames and is used in products that are viewed through the show player.

Animated weather scene 3D. A 3 dimensional animated weather scene which features advanced 3D models, full 360-degree movement, combined icons, graphics and “movie clips” for unique visual appeal. The moving images, graphics, and models are integrated with the latest weather data to generate dynamic images to illustrate current and future weather conditions.

Automatic plot. Associates a particular icon, (animated, non-animated, 2D or 3D) movie, or model with a specific weather condition. Commonly used to create current condition summaries, planners, or maps. See *Weather plot*.

AVN Model. A global weather data base model that outputs valid forecast weather data in 6 hour increments and stores this weather data through 72 hours.

AVN YZ Model. The North American version of a global weather data model with an 80 km spatial resolution. Valid forecast data is output in 6 hour increments and stored through 48 hours.

B

Background. An object, movie or image map (basemap or photograph) located at the bottom layer of a graphic or automatic plot.

Background status windows. A window that displays data used by the system administrator to monitor task activity, event information and status messages. With the exception of the monitor task, each background process has a specific status window that is initiated from the desktop system menu. The WeatherProducer and WeatherWorkstation Technical References discusses status windows in greater detail.

Background tasks. A process or application that runs unattended “behind the scenes”. These processes provide monitoring or support for the WeatherProducer Desk application and the Showfx Application

Briefing. An organizational tool, created from the desktop, which displays a series of products (text, graphics, and/or movies) in a pre-defined order. A presentation is a simple type of briefing.

Briefing station. A display-only application which views products created by the meteorological workstation. See *meteorological workstation*. The briefing station is invoked by entering `ww_brief <desk>&` command at the system prompt.

C

Camera view. The specific view or angle position of the camera in a scene. Camera view can be saved in the Camera View Library under a unique name to be used repeatedly in Showfx scenes.

Clipped movie. A clipped movie is a small movie file or animation that can be used as part of a movie or scene. Clipped movies are often short files incorporated into a show or scene.

Coded bulletin rendering. A map based on the analysis of coded bulletins that summarize: AIRMETs, SIGMETs, convective SIGMETs, severe thunderstorm and tornado watches, locations of fronts, centers of high and low pressure areas, storm tracks and hurricane tracks.

Color tables. A set of colors where each color is assigned a unique numeric value from 1 to *n*. These unique numeric values are then used to assign a color value to a particular color level in an image.

Composite. A product composed of several products layered on top of one another.

Configuration file. An ASCII file used to define, relate and integrate various aspects of a software installation.

Contour. A graphical representation of an area with equal numeric values displayed with lines or bands of color, based on gridded model data.

Create mode. Create mode is used to alter a WeatherProducer graphic or create a new graphic to be used in a scene. This “mode” is a variant of the WeatherProducer application called WeatherProducer *Create*. It is invoked at the command line by double-clicking a WeatherProducer icon, or from the WeatherProducer application system menu.

Also see *Showfx Create* and *Showfx Edit/render*.

D

Datastores. A background process utilized by the system application to store and maintain weather data. A typical system has multiple datastores; one or more for time-based (dynamic) datums, one or more for time-free (static) datums and one for system alerts. Refer to the WeatherProducer Technical Reference for more information on datastore. Also see *Time-based datastore* and *Time-free datastore*.

Depth mode. In depth mode, objects can share positions along the y-plane and can move anywhere along the y-axis during a scene regardless of the position or movement of other objects in the scene. See *Stacking mode*.

Desk. A collection of products, folders, briefings, shows, and/or snapshots categorized under a user-specified name and accessible from the desktop.

Desktop. The main window of the weather system application that provides access to open other desks, access products, snapshots, briefings, libraries and folders. The desktop is initiated by double-clicking the start icon on the system desktop.

E

Earth model. A textured 3D model of earth which can be added to a scene and manipulated.

Echo smoothing. A graphic function that reconfigures the pixel size of selected visual images so they appear to blend smoothly.

ECMWF. (European Center for Medium Range Weather Forecasting). A European global weather data model that outputs valid data in 6 hour increments out to 120 hours (5 days).

Edit/render mode. Edit/render mode is used to update data in a wizard scene show element. This “mode” is also a variant of the WeatherProducer application called WeatherProducer *Edit/Render*. It is run on a workstation running the WeatherProducer application from within the WeatherProducer show player. Updates are made in the wizard window associated with the scene (Wizard menu “Show” selection).

Updates are saved with the animation once the scene is re-rendered. Also see *Create mode*, *Showfx create mode*, and *Showfx edit/render mode*.

ETA Model. A North American weather data model with an 80 km spatial resolution that initializes forecast data in 6 hour increments and stores data through 48 hours.

Event handler. A background task that watches for the occurrence of predefined weather events and notifies the appropriate products upon detection. The event handler, and its behavior, is established through configuration. It is initiated using the command *ww_event*.

F

Folder. A collection of related products and briefings that are stored together under one name.

Forecast period. The number of hours that the model run time data is valid for.

Foreground. An overlay used to decorate the foreground of a WeatherProducer scene, such as banners and legends. WSI offers a number of foregrounds which match standard motifs.

Frame relay connection. One of the three communication options available for the WeatherProducer system. A Frame relay connection uses a dedicated T1 or a fractional T3 connection through a Frame relay network. A Frame relay connection is quick and highly

reliable. Since the connection is dedicated, the connection from WSI to your site is always active. Also see *ISDN connection* and *Internet connection*.

G

Graphic product. A graphical representation of weather-related information defined by a set of parameters and the most current data available. There are many kinds of graphics products including, but not limited to: a weather database image, a composite, a contour, a grid, a grid plot, a skew-t, a map, a station model plot, a lightning plot, a coded bulletin rendering, or a streamline.

Graupel. A mixture of frozen precipitation that is formed when supercooled water droplets coat frozen precipitation.

GRIB/GRID data. A time-based datum which includes computer simulations of the atmosphere as sourced from the National Center for Environmental Prediction (NCEP).

Grid. An array of numeric values derived from observation data, where each position in the array represents a specific geographic location. Grids are used to create products such as: contours, maps, streamlines, or grid plots.

Grid plot. A graphic representation of data copied from a grid and displayed on a map at or near the geographic location.

H

HCSN. High Capacity Satellite Network. WSI's high speed, high capacity satellite network offering the most varied and sophisticated weather data feed. See also *LASN* and *SADIS/ISCS*.

High resolution. Allows an image to be viewed with all available detail once it has gone through the rendering process. When high resolution is disabled, an image is rendered with less detail (lower resolution), thereby speeding up the rendering process.

I

Icon. A 2D pictorial symbol used in windowing software to represent a function, idea, activity, or category. Icons are also used to represent products, folders, snapshots and briefings.

Ingest system. The data collection component of the operating system which receives data from WSI's High Capacity Satellite Network (HCSN). The ingest system processes incoming weather data on a PC running the system application, then releases selected data to the appropriate data-stores.

Internet connection. The internet is one of the three communication options for the Weather-Player system. The Internet connection uses a T1 or fractional T3 connection to the Internet. This method is not as reliable as an ISDN connection, and is generally used only where ISDN lines are not available. Also see *Frame relay connection* and *ISDN connection*.

ISDN connection. ISDN is one of the three communications options for the WeatherProducer system. The ISDN uses a digital connection from WSI to your site where updated show elements are downloaded to a customer site. ISDN connections are quick, reliable, and the preferred communications method for the WeatherProducer system. Also see *Frame relay connection* and *Internet connection*.

Isentropic surface-derived. An atmospheric layer with a constant potential temperature.

K

Keyframe. A keyframe defines the position of one or more objects in a scene at a particular point in time. If an object has more than one keyframe (which it often does) the keyframes together define the motion of the object over a period of time. See *Principle keyframe*, *Master keyframe*, and *Advanced keyframing*.

L

LASN. The WSI Latin American Satellite Network weather data feed that supplies weather data to South America.

Layer label. A descriptive name that can be added to any product with an annotation layer. Labels can be product information such as date, time, data source, data time, or forecast period.

Lightning plot. A graphic representation of lightning strikes on a map at the actual geographic location.

Look. A color and the various properties associated with that color such as brightness, hue, and texture. WSI offers a variety of look palettes. Note that texture choices are also available independent of a particular color; see *Texture*.

Looping image. One of three types of show elements available for the WeatherProducer system. A looping image is a series of frames that show the change in a given pattern. Typical loops include radar loops, satellite loops, or a graphic image that illustrates a temperature change over time.

M

Master keyframe. A master keyframe is a keyframe which applies to all objects in the scene (not just to one object). See *Keyframe*.

Master Station List (MSL). A file identifying the names of worldwide weather stations.

Meso ETA Model. A continental USA 32 km weather data model that initialized forecast data in 3 hour increments and stores 27 hours of valid forecast data.

Meta object. Special objects in a plot that are associated with weather text, weather icons, day stamps and time stamps. Depending on the current viewer setting, these objects are displayed in the scene as a meta string, indicating both the item type and item format. They may also be displayed as a *spacing string*, which is the data associated with the specific meta string.

Model. A WeatherProducer model is any 3D object used in a composite, graphic or scene. See *Object*.

Model run time. The time of day when the specified model data bulletin is issued. Most models use run times of 00Z and 12Z. These run time bulletins contain data forecast across several time periods.

Morphing. A technique used to create smooth transitions between the frames of loops or movies by placing additional transitional frames between the individual loops or movies.

Motif. The windowing software used to present the user interface application.

Movie. A series of related graphic products organized into a continuous sequence with a defined length. They can be 2D or 3D, full-screen or clipped multiframe images.

MRF Model. A global weather data model that outputs valid forecast data in 12 hour increments from an initialization of 96 hours (4 days) to 240 hours (10 days). MRF is a continuation of the AVN Model.

N

Navigation aids. A set of FAA boundary data also known as point data.

NEXRAD. A WSI radar datum consisting of unaltered single-site radar images. Also see *NOWrad*.

NGM Model. A North American weather data model that outputs valid forecast data in 6 hour increments and stores weather data through 48 hours.

NGM YZ Model. A North American weather data model with an 80 km spatial resolution that outputs valid forecast data in 6 hours increments and stores weather data through 48 hours.

NOWrad. A WSI radar datum (databases) consisting of enhanced NEXRAD mosaic radar images. Also see *NEXRAD*.

O

Object. A WeatherProducer object is any item which can be added to a graphic or scene from the WeatherProducer Add menu. Objects include icons, movies, models, text, fronts, polygons, time stamps, day fields, plots, lines, jetstreams, and names of places (cities or regions). Also see *Wizard object*.

Orthogonal mode. In orthogonal view mode, movement along the same z-plane is restricted to a limited number of positions allowing inexperienced users to work faster and with fewer mistakes. Orthogonal mode, the default for scenes which do not contain the earth model object, is known as “safe mode”. Also see *Perspective mode*.

P

Perspective mode. This mode allows objects to be positioned at any point along the z-axis. The perspective view mode allows more experienced WeatherProducer users to manipulate objects to fly past the camera or viewing window. This also is the default for scenes which contain the earth model object. To switch between orthogonal mode and perspective mode click the View Mode toggle in the main Showfx window. There is no degradation in image quality when switching between *Orthogonal* and *Perspective* modes. Also see *Orthogonal mode*.

Point databases. The database which stores FAA boundaries, global, political and geographic boundary information used by the desktop for products and briefings.

Principle keyframe. A principle keyframe is a keyframe in which all objects are facing the viewer while the scene pauses (for discussion) during play. There can be more than one principle keyframe in a scene. See *Keyframe*, *Advanced keyframe* and *Master keyframe*.

Product. A related, coherent collection of visual weather information created and displayed within the desktop that can be saved as part of a presentation or as an entity by itself. Available product types include a still image, a looping image, or an animated image.

R

Regular scene. A scene which is built by the WeatherProducer user and requires user manipulation to become an animation. Also see *Scene*.

Render. The process used by WeatherProducer to build individual frames of an animation into a full operational animation that can be played in a show. Animations must be rendered before being played in a show. Rendering is initiated only after a scene has been established with all its components such as: background, foreground, graphics, objects and keyframes.

RUC (Rapid Update Cycle). A continental US weather data base model usually used for severe weather and short term forecasting. It is based on the ETA Model with an 80 km spatial resolution and outputs valid forecast data in 6 hour intervals out to 48 hours.

S

SADIS/ISCS. A global satellite data feed that offers world wide weather data. Also see *HCSN*.

Saturation mixing ratio. Point of greatest absorption of atmospheric water vapor in relation to the air temperature that results in condensation.

Scene. All the components that make up a finished animation. Components can include background and foreground images, objects, icons, movies, and the record of the movement of these items. Also see *Regular scene* and *Wizard scene*.

Selected object. Object(s) in a scene which are currently highlighted by a transformer tool. Also see *Object* and *Wizard object*.

Set principal keyframe. Principal keyframes define the point at which all objects are facing the viewer while the scene pauses (for discussion) during play. To set a principal keyframe, establish a point on the time line and position all objects in the scene appropriately as desired. Then select the Set Principal Keyframe menu options. Also see *Keyframe*, *Master keyframe* and *Advanced keyframing*.

Shell window. A window that provides access to the operating system command prompt.

Show. A series graphic images used to broadcast weather information intended for on-air viewing that incorporates a series of graphic image sequences, movies, animations and transitions that are manipulated by various show elements and playback parameters. Also see *Show element* and *Transition element*.

Show element. A show element is graphic representation used in a weather show to relay weather information. A show element can be a still image, looping image, or an animating image. A show element is always paired with a transition element. See also *Show* and *Transition element*.

Show element builder. A show builder compresses weather data products into show elements that can be played in an on-air show.

Show player. A WeatherProducer module where weather presentations (shows) are generated, maintained, and launched for on-air viewing.

Showfx. The WSI 3D animation tool that allows users to create 3D animations for on-air shows.

Showfx create. A Showfx design that allows the user to create a brand new showfx scene, modify or copy an existing scene, and/or render a scene for a movie for use in multiple shows. Also see *Showfx Edit/Render* and *Create Mode*.

Showfx edit/render. A Showfx design that is used to edit existing scenes and/or render a scene for playback from within a single show. Its primary function is to make editing, rendering and airing existing scenes faster and easier than Showfx create. Also see *Create mode* and *Showfx create*

Skew-T. A plot of the vertical temperature and dewpoint profiles for a specified location or set of locations.

Snapshot. A file containing the data associated with a specific observation, graphic or query.

Source material. Source material includes pre-configured base maps, backgrounds, foregrounds, 2D and 3D objects, and wizard scenes that are supplied by WSI for use with WeatherProducer.

Spacing string. See *Meta object*.

Stacking mode. In stacking mode (the default) each object has a unique position in the y-plane and each object maintains this assigned position in the “stack” throughout the duration of the scene.

Station model plot. A graphical map representing aggregate numeric or wind data at or near the geographic location.

Station template. A pattern (template) based on a set of objects and applied to set of stations selected by the user to plot station information on a map.

Status windows. A window that displays current operating status messages for background processes. See *Background status windows* in the WEATHERproducer Technical Reference.

Still image. A still image is a single picture that relays weather data, such as temperatures or precipitation amounts. One of three types of show elements available for the WEATHER-player

Streamline. A graphic representation of the wind flow pattern of specified gridded wind data.

Structure. A show structure contains the definition of the content of the show (the show elements), and the order that the elements are played in a show.

Synchronize time. When enabled, weather images in the scene update only when replacements for *all* the images are available concurrently. When disabled, each weather image is updated only when a new image becomes available (*this can make the scene choppy depending on which images are used and their update frequency*).

System alert. Visual and audible alerts that activate when system background tasks cannot be performed.

T

Tabular text query. A report that displays a table of pre-specified weather data based on any decoded data type supported by the system.

Text product. A collection of one or more text reports, bulletins, or queries.

Texture. A WeatherProducer texture defines the surface characteristics of an object. WeatherProducer textures can be applied to most objects.

Tilable image. Images that appear to fit seamlessly together in a scene.

Time-based datastore (TBDS). The background process that manages dynamic datums (*changing/updated databases*) such as hourly text data, satellite images, and radar images. Also see *Datastores* and *Time-free datastore*.

Time-free datastore (TFDS). The background process that manages static datums (*databases*) including snapshots, navigations, and station lists. Also see *Datastores* and *Time-based datastore*.

Time interpolation. A data option available for data based on a specific model run time that takes data from the two standard forecast periods closest to the model valid time and inserts new correlational data that match the conditions of the data model valid time.

Time series graph. A chart that compares how the value of one, two, or three parameters change over time.

Transition element. A transition element is a short sequence of frames that provides a smooth visual transition from one show element to another. See also *Show element* and *Show*.

U

U Wind Component. Horizontal Wind component.

V

V Wind Component. Vertical Wind Movement.

Vertical contour. A contour, based on gridded model data, of a cross-section of the atmosphere defined by points or stations along the cross-section.

Virtual sounding. A data source for Skew-t products that uses gridded model data to plot forecast conditions.

W

Weather icon. An icon in a weather plot product associated with a particular weather condition. See, *Weather plot*.

Weather plot. A weather plot (aka automatic plot) is a definition file which associates a particular icon (2D, 3D, animated, and non-animated), movie, or model with a particular weather condition. A typical weather plot defines multiple weather icons and maintains a theme such as cloud type, sky cover, or general weather conditions. Weather plots may also contain weather text.

WeatherProducer animation. A WeatherProducer animation is a WeatherProducer scene which has been rendered as an image sequence or as a compressed movie and is ready to view in a WeatherProducer show.

Weather text. A text object in a weather plot product associated with a specific station id or location on a map. Also see *Weather plot*.

Wizard object. A special object or graphic that can be added to a scene. *Wizard objects* are created by WSI with predetermined properties and characteristics some of which are editable. Also see *Object*.