WFMI Weather

Reference Guide and Definitions

June 23, 2014

Station Metadata on the Station page

The following information refers to the metadata shown on the Station page in the WFMI (Wildland Fire Management Information) Weather module. Each field notes where the data is sent and where it is visible. Visible information may differ from metadata sent to the client. For example, the NWS (WIMS Station) ID in WFMI Weather does not populate the WIMS ID field in WIMS and the information displayed in each system may be different. In addition, how the information is used which is sent to clients but not displayed on their systems is unknown.

Top left box on Station page

Last Modified – The date and time any WFMI weather metadata for the station was most recently modified.

- System generated date and time.
- This is station metadata sent to all clients. Visible in WFMI Weather.

Last Observation – The date and time of the most recent observation that was received by the system from the station.

- If the last scheduled transmission was not received by the system, the date and time of the most recent observation will be displayed in a red font.
- If no date is in the field, the station has not been active since December 2009 when WFMI Weather began.

General Information

Station Name – Assigned name of the weather station.

- Required for WFMI Weather.
- Editable by StatAdmin (Depot).
- Length is 25 characters.
- The station must have a unique station name if a station does not have a NESDIS ID (National Environmental Satellite, Data, and Information Services.
- This is the only required field in WFMI Weather for a station with a 'Proposed' status.
- This is station metadata sent to all clients. Visible in WFMI Weather, GeoMAC, WRCC, ROMAN, WIMS.

State – Selected State the weather station is physically located within.

- Required for WFMI Weather in order for the station to become active.
- Selectable by MaintEdit (Unit).
- Choices are selected through a drop-down menu. Includes all US states and some Pacific and Caribbean islands.
- Follows the NWCG data standard which adopts FIPS 5-2.
- This is station metadata sent to all clients. Visible in WFMI Weather, GeoMac, WRCC, ROMAN, WIMS.

County – Selected County of the State the weather station is physically located within.

- Choices are dependent upon State selected.
- Selectable by MaintEdit (Unit).
- Follows the NWCG data standard which adopts FIPS 6-4.
- This is station metadata sent to all clients. Visible in WFMI Weather, ROMAN, WIMS.

NESDIS ID – (National Environmental Satellite, Data, and Information Service Identifier) Unique eight alpha-numeric identification number assigned by NOAA that allows the station to transmit data to the GOES satellites.

- Required for GOES (Geostationary Operational Environmental Satellites) transmission.
- Editable by StatAdmin (Depot).
- This is station metadata sent to all clients. Visible in WFMI Weather, GeoMac, WRCC, ROMAN, WIMS.

NWS ID (WIMS Station ID) – Unique six-digit identification number assigned to the weather station.

- Editable by MaintEdit (Unit).
- The ID is obtained through the GACC Predictive Services unit.
- This is station metadata sent to all clients. Visible in WFMI Weather, GeoMac, WRCC, WIMS.
- Currently distributed to clients as NWS ID.
- *This ID does not need to be present in WFMI weather metadata in order for data to be sent to WIMS. It is NESDIS ID that must be present in WIMS (in station catalog) for data from WFMI Weather to be associated with the WIMS Station ID in the WIMS database.*

Installed Date – Date that the station was installed at a particular geographical site.

- Required by WFMI Weather in order for the station to become active.
- Editable by StatAdmin (Depot).
- Format is month, day, and year.
- This is station metadata sent to all clients. Visible in WFMI Weather, ROMAN.

Status – User designated status that controls how WFMI Weather treats the station data.

- Choices are; Active, Deactive, Proposed, Removed.
  - Active – The station data is processed by WFMI Weather if the station is collecting and transmitting data.
  - Deactive - The station may be collecting/transmitting data; however, the messages (raw data) will not be processed or distributed by WFMI Weather.
  - Proposed – Preliminary station metadata can be entered in WFMI Weather for new stations. Station metadata can be incomplete and no messages (raw data) are requested from LRGS.
  - Removed – System assigned status when a station is deleted.
- Selectable by StatAdmin (Depot) to make Active, Deactive, and Proposed.
- Selectable by AgencyEdit (National) to make Deactive only.
- This is station metadata sent to all clients. Visible in WFMI Weather.
- *Marking as Deactive does not turn the station data transmission to the GOES satellite off and it may still be visible to the public through other distribution systems. Turning the station off at the site is the only way to stop the transmission to the GOES satellite.*
- *If the station shows as Deactive in WFMI Weather and the station is turned on in the field, no data will flow to the clients until the station is made Active in WFMI Weather; need to email or call the RAWS Help Desk to make the station Active.*

Category – Short description of the hardware installation type.

- Choices are; Permanent (1), Portable (3), and Other (9).
  - Permanent - Station is at a fixed site.
  - Portable – Station is portable and location usually temporary.
  - Other - Station does not fit the definition of the Permanent or Portable categories.
- Selectable by AgencyEdit (National).
- This is station metadata sent to the selected clients. Visible in WFMI Weather.
- Sent to clients as Class.

Station Purpose – Individual types of each category.

- Current choices for Station Purpose are; Blank, Avalanche Control (AVLNCH), Fire (FIRE), Forestry (FOREST), Hazardous Materials (HAZMAT), Minerals (Mines), Oregon & Cal. RR Properties (O&C), Range (RANGE), Recreation (REC), Resource (RESRCE), Research (RESRCH), Soil-Water-Air (SWA), Wildlife-Fisheries (W&F), Wilderness (WILDER).
- Selectable by RegionEdit (Region)
- Visible in WFMI Weather
- Sent to clients as Ownership Type.
- Default choice is blank for new stations.

Maintenance Standards– Do NWCG Fire Weather Station Standards (PMS 426-3) apply to this station? (Permanent or portable) with the following choices:

- Choices are; Yes, No.
  - **Yes** – indicates the station will be maintained to the NWCG standards (PMS 426-3). The station has the required physical characteristics, sensor suite, and performance standards required by the standards. Within PMS 426-3, permanent stations refer to NFDRS section; portable stations refer to Fire RAWS section.
  - **No** – indicates that the station does not have the minimum compliment of sensors and/or meet the data collection standards and/or follow the NWCG maintenance schedule.
- The Yes and No stations are separated on the non-compliance report, along with the Category to separate between permanent, portable, or other.
- Selected by RegionEdit (Region).

Location Information

Latitude – Location at the center point of the sensor array.

- Required by WFMI Weather in order for the station to become active.
- Entered as WGS84, see paragraph below.
- Editable by MaintEdit (Unit).
- This is station metadata sent to all clients (as dd:mm:ss). Visible in WFMI Weather, GeoMac, WRCC, ROMAN, WIMS.
- Can be entered as Degrees, Minutes, Seconds; or Degrees and Decimal Minutes; or as Decimal Degrees

Longitude – Location at the center point of the sensor array.

- Required by WFMI Weather in order for the station to become active.
- Entered as WGS84.
- Editable by MaintEdit (Unit).
- This is station metadata sent to all clients (as ddd:mm:ss). Visible in WFMI Weather, GeoMac, WRCC, ROMAN, WIMS.
- Can be entered as Degrees, Minutes, Seconds; or Degrees and Decimal Minutes; or as Decimal Degrees

In addition to the value of the Degrees, Minutes, and/or Seconds, you must also specify if the value is negative or positive, by selecting the appropriate value from the drop-down list. These are set to default values for locations in North America; North (positive) for Latitude and East (negative) for Longitude. If the location is outside of this area, you must select the appropriate value from the drop-down lists. If you enter Seconds, then you must also enter Minutes and Degrees. If you enter Minutes, then you must also enter Degrees. It is acceptable to enter only Degrees; however, in order to provide an accurate location, you should enter to the nearest Second. If the Degrees are entered as a decimal value, then the Minutes and Seconds fields must be blank. If the Minutes are entered as a decimal value, then the Degrees field must be entered as a whole number (no decimal digits) and the Seconds field must be blank.

WFMI Weather stores latitude and longitude in WGS84 to accommodate RAWS outside North America. The coordinates for NAD83 within North America are the same or within 1 meter of WGS84. If you used NAD83 to obtain lat/long for the RAWS, please add documentation in the Station Notes field.

Site Information

Elevation – Elevation of the center point of the sensor array at the weather station in whole feet above mean sea level (MSL).

- Required by WFMI Weather in order for the station to become active.
- Editable by MaintEdit (Unit).
- This is station metadata sent to all clients. Visible in WFMI Weather, WRCC, ROMAN, WIMS.

Slope – Rise or fall of the representative terrain surrounding the weather station expressed as whole percent.

- Editable by MaintEdit (Unit).
- This is station metadata sent to all clients. Visible in WFMI Weather.

Aspect – Compass direction of the slope of the terrain surrounding the weather station (0 is north, 90 is east, 180 is south, 270 is west) in whole degrees.

- Editable by MaintEdit (Unit).
- This is station metadata sent to all clients. Visible in WFMI Weather, WIMS.

Cover Class – This field indicates which of the 34 defined categories of plant communities for the western United States and Alaska surround this RAWS. These plant communities are grouped by fire behavior type. These fire behavior categories were defined in 1985 by the BLM's Denver Service Center.

- Choices are; Agriculture, Wetland (20), Alpine Meadow (33), Aspen and Shrub (18), Barren (21), Barren Shrub (22), Black Spruce (25), Blackbrush (4), Chaparral (5), Deciduous Forest, Mixed Forest (28), Dwarf Mountain Shrub (11), Foothill Woodland (12), Forest & Brush (30), Graminoid, Tussocks, & Grassland (26), Grassland (1), Juniper (31), Logging & Slash (32), Low Shrub (8), Lowland Conifer (15), Mixed Conifer (14), Mixed Conifer, Dense (17), Mixed Conifer, Sparse (16), Mixed Desert and Shrub (3), Mountain Shrub (10), Nonburnable Tundra, Barrenland, Ice&Snow (29), Open Pinyon & Juniper (34), Pinyon and Juniper (13), Sagebrush (7), Sagebrush and Grassland (6), Sagebrush, Pinyon, & Juniper (9), Salt Desert and Shrub (2), Subalpine (19), Urban (24), Water, Rivers, & Lakes (23), White/Stika Spruce & Mountain Hemlock (27).
- Selectable by MaintEdit (Unit).
- This is station metadata sent to all clients. Visible in WFMI Weather.

Climate Zone – This field indicates in which of the 46 defined climate zones this RAWS is located. A climate zone is an area of the continental United States which has similar fire climate, fuel type, and pattern of fire occurrence. This field may be used for large scale fire severity rating.

- Choices are; Alabama (44), Appalachian Highlands (43), Arizona/New Mexico Plateau (27), Arizona/New Mexico Slope (28), Black Hills (32), Cascade Mountains (10), Central California Coast (3), Central Idaho Mountains (19), Central Wyoming Plains (46), Colorado Rocky Mountains (30), Eastern Montana Plains (31), Eastern New Mexico Plains (29), Eastern Utah Valleys (25), Eastern Washington Plains (13), Four Corners Valleys (26), Great Lakes (37), Idaho Panhandle Mountains (18), Mississippi River Valley (40), Montana Rocky Mountains (21), N.E. Great Plains (36), N.W. Great Plains (33), Nebraska - Texas Plains (35), New England (41), New York - Pennsylvania (42), Northern California Central Valley (8), Northern Nevada (15), Northern Sierra Mountains (11), Ohio River Valley (39), Oregon Willamette Valley (6), Oregon/Northern California Coast (2), Ozark Highlands (38), Rogue River & Calif. Coast Range Mtns. (7), S.E. Idaho Mountains (23), S.E. Oregon Plains (14), Snake River Valley (20), Southern Atlantic Coast (45), Southern California Central Valley (9), Southern California Coast (4), Southern Nevada Desert (16), Southern Sierra Mountains (12), Utah Wasatch Mountains (24), Washington Coast (1), West Texas

(34), Western Arizona Desert (17), Western Washington Valleys (5), Yellowstone Plateau (22).
- Selectable by MaintEdit (Unit).
- This is station metadata sent to all clients. Visible in WFMI Weather.

Site Description – Describes the general environment the weather station is located within, including topographic features and/or nearby landmarks.

- Free-format text field.
- Editable by MaintEdit (Unit).
- Length is five lines, 60 characters each.
- This is station metadata sent to all clients. Visible in WFMI Weather, ROMAN.
- This description is sent to external clients and visible to the public. The intended audience of the information is users of the observation data. *Sensitive or personal identifiable information must not be included.*

Transmit Information

DCP – Manufacturer and model of DCPs (Data Collection Platform).

- Required by WFMI Weather.
- In Edit metadata mode, drop-down lets you select manufacturer and model. On the Station page, field is shown in 3 sections; DCP manufacturer, DCP code, and DCP model.
- Choices are; Campbell Scientific-CR10(CR10), Campbell Scientific-CR1000(CR1K), Forest Technology System-F6(F6), Forest Technology System-FWS11(F11), Forest Technology System-FWS12(F12), Forest Technology System-FWS12S(F12S), Other-GENERIC(OTHR), Vaisala-120(M120), Vaisala-540(H540), Vaisala-555(H555).
- Selectable by AgencyEdit (National).
- This is station metadata sent to all clients. Visible in WFMI Weather.

Transmitter – Manufacturer and model of the transmitter for the DCP.

- Required by WFMI Weather.
- In Edit metadata mode, drop-down lets you select manufacturer and model. On the station page, field is shown in 2 sections; Transmitter manufacturer and Transmitter model.
- Specifies Choices are dependent on selection of DCP. FTS-, FTS-G5, FTS-G5-QD, FTS-TX312, HANDAR-540A, SEIMAC-SATHDRGOES, SEIMAC-SATHDRGOES2, SEIMAC-SATHDRGOESFTS2, SIGNAL ENG.-OMNISAT, SIGNAL ENG.-SE100(10W), SIGNAL ENG.-SE300, SUTRON-SL2, TELONICS, INC.-TGT-1.
- Selectable by AgencyEdit (National).

Channel – GOES satellite channel through which the observations for this station are transmitted.

- Required if there is a NESDIS ID.
- Editable by StatAdmin (Depot).
- Assigned by NOAA and entered into DADDS.
- This is station metadata sent to all clients. Visible in WFMI Weather.

Baud Rate – The baud rates (transmission speed) for transmitting the data from the DCP.

- Required if there is a NESDIS ID.
- Choices are blank, 100, 300, or 1200 bps (bits per second).
  - 100 baud - Low Data Rate (LDR). All GOES telemetered must be converted to HDR by 2013.
  - 300 baud – High Data Rate (HDR)
  - 1200 baud – High Data Rate (HDR)
- Selectable by StatAdmin (Depot).
- Visible in WFMI Weather.

Transmit Time – The amount of time after midnight (GMT) of the first transmission of the day.

- Required if there is a NESDIS ID.
- Shown on Station page as Transmit min:sec for hourly transmits; shown as Transmit Times for 3-hourly.
- Choices are between 00:00:00 to 00:59:59 for hourly transmit and 00:00:00 to 02:59:59 for three hour transmit. If 3-hourly, shows all eight transmit times on Station page.
- Editable by StatAdmin (Depot).
- Assigned by NOAA.
- This is station metadata sent to all clients. Visible in WFMI Weather.

Transmit Frequency – Total number of minutes between the transmissions for the station.

- Required if there is a NESDIS ID.
- Editable by StatAdmin (Depot).
- Choices are 60 or 180.
  - 60 - The station transmits every hour; shown in the metadata as Every Hour.
  - 180 - The station transmits every three hours; not shown on station page.
- Assigned by NOAA.
- This is station metadata sent to all clients. Visible in WFMI Weather.

Observation Frequency – Number of minutes between each observation within a transmission from this station.

- Required if there is a NESDIS ID.
- Set at the station. The number is always less than or equal to the Transmit Frequency.
- Every 60 minutes is most common.
- Editable by StatAdmin (Depot).
- This is station metadata sent to all clients. Visible in WFMI Weather.

Transmit Window Size – Size of the transmission window in seconds.

- Required if there is a NESDIS ID.
- Choices are; 10, 15, 30, 60
- Assigned by NOAA.
- Editable by StatAdmin (Depot).

Transmit Method – Method for transmitting the data from the weather station.

- Choices are; Blank; RADIO-DATA; RADIO-VOICE; RADIO-VOICE & DATA; SAT,RADIO; SAT,RADIO,TELEPHONE; SAT,TELEPHONE; SATELLITE; TELEPHONE-DATA; TELEPHONE-VOICE; TEL-VOICE & DATA.
- Selectable by StatAdmin (Depot).

GOES Satellite – The GOES satellite through which the station transmits the data.

- Choices are; Default, East, West.
- Most stations transmit through the default satellite, which is currently the West GOES satellite. However, some stations are required to always transmit through either the East or the West satellite; if so, that satellite must be specified here.
- Selectable by StatAdmin (Depot).
- Used to calculate the antenna elevation and azimuth values.

Antenna Elevation – The elevation from horizontal the GOES antenna should point; measured in whole degrees. (Vertical angle)

- Values are; -50 to 66 degrees.
- System generated.
- Based on Lat/long and east/west satellite

Antenna Azimuth – The direction the GOES antenna should point; measured in whole degrees from true north.

- Values are; 90 to 264 degrees.
- System generated
- Based on Lat/long and east/west satellite

Owner and Maintenance Information

Agency – The agency that owns and assumes responsibility for the station.

- Choices are; Bureau of Indian Affairs (BIA), Bureau of Land Management (BLM), Bureau of Reclamation (BOR), Cooperator, Contractor, etc. (OTHR), Department of Defense (DOD), Department of Energy (DOE), Fish and Wildlife Service (FWS), National Park Service (NPS), National Weather Service (NWS), State and Private Forestry (S&PF), United States Forest Service (USFS), United States Geological Survey (USGS).
- Selectable by StatAdmin (Depot).
- This is station metadata sent to all clients. Visible in WFMI Weather, WRCC, WIMS.

Region – The region of the agency that assumes responsibility for the station.

- Choices are dependent upon Agency selected.
- Selectable by StatAdmin (Depot).
- This is station metadata sent to all clients. Visible in WFMI Weather, WIMS.

Unit – The unit within the region of the agency that assumes responsibility for the station.

- Choices are dependent upon Agency/Region selected.
- Selectable by StatAdmin (Depot).
- This is station metadata sent to all clients. Visible in WFMI Weather, WIMS.

Subunit – Free-format text field.

- Editable by MaintEdit (Unit).
- Length is 20 characters.
- This is station metadata sent to all clients. Visible in WFMI Weather.

DADDS Group – Official database of record for the data platform information.

- Required for GOES
- Choices are selected through drop-down list.
- Selectable by StatAdmin (Depot). The list of choices is editable by AppAdmin.

Field Maintenance Agency – The entity that performs the annual physical maintenance of the station**.**

- Choices are; Bureau of Indian Affairs (BIA), Bureau of Land Management (BLM), Bureau of Reclamation (BOR), Cooperator, Contractor, etc. (OTHR), Department of Defense (DOD), Department of Energy (DOE), Fish and Wildlife Service (FWS), National Park Service (NPS), National Weather Service (NWS), State and Private Forestry (S&PF), United States Forest Service (USFS), United States Geological Survey (USGS).
- Selectable by AgencyEdit (National).
- This is station metadata sent to the selected clients. Visible in WFMI Weather.

Maintenance Contract – The types of weather station annual maintenance contracts.

- Choices are: Blank, CSEPP (C), Data Only (A), Depot BLM (D), FTS AOM (T), FTS FES (S), FTS RTF (B), Full BLM (F), Incident RAWS (R), Modified BLM (M), None (N), Other (O), Portable Return BLM (E), Project RAWS (P), Project Smoke (U), Warranty (W).
- Selectable by AgencyEdit (National).

Maintenance Paid by Agency –The agency that is responsible for the cost of annual maintenance of the station.

- Choices are: Choices are; Bureau of Indian Affairs (BIA), Bureau of Land Management (BLM), Bureau of Reclamation (BOR), Cooperator, Contractor, etc. (OTHR), Department of Defense (DOD), Department of Energy (DOE), Fish and Wildlife Service (FWS), National Park Service (NPS), National Weather Service (NWS), State and Private Forestry (S&PF), United States Forest Service (USFS), United States Geological Survey (USGS).
- Selectable by AgencyEdit (National).

Fund Source – Defines the funding source

- Choices are: blank, National, Shared, and Local.
- Selectable by AgencyEdit (National).
- Visible in WFMI Weather.

Contact and Maintenance Information

Point of Contact name, phone number, and email address – Point of Contact (POC) for the station. This is the person who is administratively responsible for the station.

- Editable by RegionEdit (Region).
- The name and phone number is sent to all clients. Visible in WFMI Weather.
- **Point of Contact Checkbox** – Shown while editing metadata. A drop-down list with Yes and No choices indicates whether the Event Report for this station will be sent to the provided email address.

Alternate Point of Contact name, phone number, and email address – Alternate Point of Contact for the station. This is an alternate person who is administratively responsible for the station.

- Editable by RegionEdit (Region).
- **Alternate Point of Contact Checkbox** – Shown while editing metadata. A drop-down list with Yes and No choices indicates whether the Event Report for this station will be sent to the provided email address

Event Email Address(es) – Email address(es) of the person(s) that will receive the event report for this station.

- The Station Event Report is emailed every Monday and includes all events from the past week.
- Editable by RegionEdit (Region).
- Multiple email addresses can be entered into this field, separated by a comma.
- The email address for the Point of Contact or Alternate Point of Contact does not need to be repeated in this field if the "Yes" is selected for the Station Event Report field in the Point of Contact or Alternate Point of Contact field.

Last Annual Maintenance Date – The most recent date annual maintenance was performed on this station.

- Editable by MaintEdit (Unit).
- Date used to generate the noncompliance report according to schedule and time frames.
- This is station metadata sent to all clients. Visible in WFMI Weather, ROMAN.
- Displayed on Station page in WFMI Weather as mm/dd/yyyy with the Julian date (day-of-year) in parentheses.

Last Repaired Date – The date when repairs were performed if different than the annual maintenance date.

- Editable by MaintEdit (Unit).
- This is station metadata sent to all clients. Visible in WFMI Weather.

Tipping Bucket Zeroed Date – Date the tipping bucket rain gauge was most recently reset to 00.02 (or 00.00) inches.

- Editable by MaintEdit (Unit).
- Normally, this is done annually.
- This is station metadata sent to all clients. Visible in WFMI Weather.

Data Distribution

WFMI End User? – User designator which answers the question; "Should the metadata and observations for this station be visible to ALL WFMI users?"

- Choices are; Yes, No.
  - Yes – The metadata and observations for this station are visible to all WFMI users.
  - No – The observations for this station are only visible to users with a Maintview or higher permission level.
- Selectable by AgencyEdit (National).

Metadata to Clients – System generated indicator whether the station metadata for a station is distributed to the clients.

- Choices are; No, Yes.
  - No – Station metadata is not distributed.
  - Yes - All clients (AKAFS (BLM Alaska Fire Service), GEOMAC (Geospatial Multi-Agency Coordination), ROMAN (Meso-West ROMAN), WIMS (USFS Weather Information Management System), WRCC (Western Regional Climate Center)) receive station metadata, based on the station's status and if a NESDIS ID is provided.
- This is a system generated field based on NESDIS ID, Status. Once metadata has been distributed to a client this flag stays set even if the other two data distribution fields change.

Observations to Clients – If Checkbox is checked observation data is distributed to selected client.

- Choices: AKAFS (BLM Alaska Fire Service), GEOMAC (Geospatial Multi-Agency Coordination), ROMAN (Meso-West ROMAN), WIMS (USFS Weather Information Management System), WRCC (Western Regional Climate Center)
- Selectable by AgencyEdit (National).

Information Shared with NAMS

Fields are only viewable by users with edit access to the station. Information is shared with NAMS (NIFC Asset Management System) and is only visible in WFMI Weather after selecting the appropriate button to edit the data.

Notes – Contains site-specific information such as uncommon sensors, lack of standard sensors, special access procedures, precautions, etc. *Since this information is retained in*

NAMS and is not sent to external clients, sensitive information regarding the station can be entered here.

- Editable by MaintEdit (Unit).
- Select the button on the Station page called “NAMS – Update Notes”.
- Free text field.
- Does not go to clients.
- Length is 4,000 characters.

Route – Contains site-specific information for access to the weather station. The information should be complete enough that the location can be found by someone who has not previously visited the site. Include mileage directions from a near-by town or city, if possible.

- Editable by MaintEdit (Unit).
- Select the button on the Station paged called “NAMS – Update Route”.
- Free text field.
- Does not go to clients.
- Length is 4,000 characters.

Order Parts – Available only for stations under a maintenance contract with Remote Sensing Fire Weather Support Unit (RSFWSU).

- Selectable by MaintEdit (Unit).
- Select the button on the Station page called “NAMS – Place an Order”.
- When ordering for annual maintenance, select the button “Order all items due for PM”. For repairs, select “Order Item” and include a justification. Complete shipping address, email address, and remarks if needed. Agree to the Terms, review order, and submit. An email acknowledgement will be sent with the order information and when items are shipped.
- After the order is received, keep the shipping boxes, which include a shipping label and return form. Perform annual maintenance or repair, making note of the sensors that will remain on the station; use these in the post-trip report. Ship back the old sensor(s) in the shipping boxes.

Submit a Post-Trip Report – Document annual maintenance, emergency repairs, and add narrative information about the station.

- Selectable by MaintEdit (Unit).
- Select the button on the Station page called “NAMS – Post-Trip Update”.
- Includes the following fields:
  - **Asset number** - For stations under contract with RSFWSU, asset numbers must be assigned. Select the asset number of the sensor/part that is currently installed on the station; the one that was put on there during annual

maintenance or repair. *Note: If the station is not under contract with RSFWSU, continue to the Dates fields.*

- **Station Maintenance Dates** - Complete the Last Annual Maintenance Date, or if this was a repair, fill in the Last Repaired Date. Tipping Bucket Zeroed Date can be completed, if known.
  - Note: This information is visible on the Station page.
- **DCP/Solar Rad** - DCP Program, DCP Firmware, and Solar Rad Constant can be completed, as necessary.
- **Narrative** - Contains cumulative maintenance and other information about the weather station.
  - Enter information related to the annual maintenance, repair, and/or upkeep of the station during the latest site visit.
  - Include the date of service, name of the person(s) completing the repair/annual maintenance, sensors replaced, and additional information needed for future visits.
  - Your name and the current date and time (in Mountain Time) will be automatically saved with this new entry; therefore, it is not necessary for you to include that information.
  - Length is 4,000 characters per entry.
- **Request RAWS Asset Report** - If the box is checked, an Asset Report will be e-mailed from NAMS.

System Information

Effective Date – Date and time of the last change to metadata sent to clients.

- This date changes only when a field that is critical to interpreting the stations observation data has been modified.
- Shown on Station page as Effective Date and Modified Date
- This is station metadata sent to all clients. Visible in WFMI Weather.

Modified Date – Date and time of the last change to the metadata (any field).

Modified By – Name of the user who modified the station's metadata (on the date of the Modified Date field).

Station ID – WFMI internal identifier.

Miscellaneous

The following is system information, not displayed on the Station page.

Hex ID – Internal Identifier used to interface with NAMS (NIFC Asset Management System).

Station Archive ID – Internal Identifier used to catalog versions of the station when the metadata is updated.

Version – Internal identifier used to communicate with the clients.

WX ID – Unique internal identifier eight digit number used to communicate with the clients.

- This is station metadata sent to all clients. Visible in WFMI Weather.

Fund Source Cost Accounting – Allows AgencyEdit users to add information regarding fiscal year, financial code, and maintenance cost for a station. A cost accounting detail list is available on the Select Station page in WFMI.

Station Elements

In WFMI, the configuration of the station elements determines how the raw data from the Local Readout Ground Station (LRGS) receiver is converted and formatted into a relational database of meaningful information for the user and customers downstream. This configuration also determines how the incoming data is quality checked through the use of hardcoded and user defined criteria. Any occurrences of invalid data, data values that are out of range, missing, or not changing are logged and listed in the weekly Station Event Report or any time the user generates the Station Events Summary.

The Station page provides the user with a spot view of how the station elements are configured for converting, reformatting, and the criteria used to quality check the converted data. For users with edit access, editing of the station elements also begins on this page when the Enable Edit Mode and Edit Elements buttons are selected. **Please refer to the User Roles Table at the end of this document to determine the level of access required to edit the station element fields.**

The following is a guide to the Station page Elements view and the screens used to create/edit the station elements.

Station Page Elements Table

The Station page displays tables of the elements on the station and the information about each of the elements.

Elements

- Table Heading - Element abbreviation for each element on the station.
- Element# - position number of the data element.
- Observation Pattern - Indicates how often the data for the element is transmitted. Typically, “All Obs” meaning that the data for the element is included in each observation (or transmission) from the station.

Input Element Information

- Description - Describes the data element type.
- Units - Unit of measure.

Output Element Information

- Description - Describes the data element type.
- Units - Unit of measure.
- Decimal Places - The number of digits after the decimal place in the output. This is hard coded in WFMI.
- SHEF Code - The Standard Hydrometeorological Exchange Format (SHEF) is the standard format used by the National Weather Service for encoding hydrometeorological data in a form for both visual and computer recognition. The code listed is the two-character Physical Element (PE) part of the code indicating the category and type of element. This is hard coded in WFMI.

Input Element Limits

- Physical Limit - Set to the valid operating parameters for the sensor. A station event is logged when the data reported by the sensor is outside the valid parameters. Sensor data outside of the physical limits should not be considered accurate, and probably indicates component/system failure of some type. This is hard coded in WFMI.
- Maximum Change per Hour - Set to the maximum rate/amount of change allowed for that sensor per hour. WFMI logs a station event when the sensor data exceeds this value. This is hard coded in WFMI.
- Maximum Hours Unchanged - Set to the maximum number of hours a sensor value is allowed to remain unchanged. A station event is triggered when the number of hours a sensor value remains unchanged exceeds the value set in this field**.** This is hard coded in WFMI.

Station-specific Limits

- Station Limit - The maximum and minimum range set by the user specific to this station. Values in this field must be within the physical limits for the given sensor**.** A station event is triggered/logged when the sensor value is outside the station limit. This is user defined (MaintEdit).

Seasonal Station-specific Limits (entered values)

- Winter/Summer - The maximum and minimum range set by the user specific to this station. Values in this field must be within the physical limits for the given sensor. This is user defined (MaintEdit).

Seasonal Station-specific Limits (computed values)

- A table is displayed of monthly values used to range check the data for a specific sensor. The table has been computed in WFMI. The user must provide all four summer and winter maximum and minimum values on the Edit Elements screen before the monthly values can be computed and seasonal range checking is enabled. A station event is triggered/logged when the sensor value is greater than or less than the station maximum or minimum.

Edit Elements Page

To Access the EDIT ELEMENTS page - On the Station page, click on "Enable Edit Mode" button then click on "Edit Elements" button.

Users with access to this page can:

- Add a new element to the list (RegionEdit)
- Edit elements currently on the list
  - RegionEdit can edit all available element properties
  - MaintEdit can edit Station-specific and Seasonal Station-specific Limits only
- Move elements to different positions on the list (RegionEdit)
- Delete elements on the list (RegionEdit)

Station Information - This display is prefilled with station information from WFMI Station page; Name, State, NESDIS ID, Last Modified, Agency, Region, Unit, and Status.

Add New Element button - When selected, an Edit Element page opens, allowing user to add an element to the table. See instructions below for adding a new element.

The List of Elements - The table displays elements currently assigned to the station. It allows the user to edit/move/delete each element on the station. See instructions below for editing an element.

Table Headings:

- Element # - Position number the element occupies in the converted data table.
- Input Element - Defines the raw data received from the station. Identifies the type of measurement and the units of measure for that element.
- Output Element - Determines the formatting of the WFMI output. Identifies the type of sensor and units of measure.
- Observation Pattern - Allows the user to select the time intervals used to capture the data within a 24 hour period (ex. every hour or once every 24hrs)
- Edit button – Clicking the Edit button opens the Edit Element page allowing the user to edit or update the selected element.

- Move button - Clicking the Up button allows the user to move an element to a new position within the element list.
- Delete button - Clicking the Delete button removes the selected element from the element list.

Add or Edit an Element

To access the Edit Element page, select the "Add New Element" or "Edit" buttons. The element seasonal and station-specific range-checking values are editable with MaintEdit access. All other fields require RegionEdit access.

- Input Element - Allows the user to select the input element from a drop-down list of the available input element types. Defines the raw data received from the station, identifies the type of sensor, and the units of measure for that element.
- Output Element - Allows the user to select the output element from a drop-down list of the available output element types. (This list will be limited based on the input element selected above.)
- Observation Pattern - Allows the user to select the time intervals used to capture the data within a 24 hour period (ex. every hour or once every 24hrs)
  - Clear All - Removes check mark from selected observations.
  - Select All - Selects all observations.
- Station Specific Limits
  - Seasonal Station-specific Limits - Only used on elements that can be configured for Station-specific Seasonal Validity Checking. Allows the user to define a range of summer and winter maximum and minimum values then generates a Monthly Values table used to range check the data. User must provide all four summer and winter maximum and minimum values before the monthly values can be computed and seasonal range checking is enabled.
  - Station-specific Limits - Only used on elements that can be configured for Station-specific Validity Checking. This allows the user to define a range of maximum and minimum values.
- Buttons at bottom of screen
  - Insert Element button - When adding a new element it inserts the new element into the element list.
  - Update Element button - When editing an existing element it updates the element information in the element list.
  - Cancel button - Cancels edit operation for the selected element and returns to the Edit Elements page.

User Roles Table

The following table illustrates at which level edit access has been given in WFMI Weather. For example, if the MaintEDIT shows "EDIT" in a field, users with the MaintEDIT role are allowed to edit that field. The View role is for MaintView.

The fields marked with an asterisk (*) are required by WFMI Weather and/or GOES.

		View	MaintEDIT	RegionEDIT	AgencyEDIT	StatAdmin	Example Data
Station Metadata							
General Information							
*	Station Name	view	view	view	view	**EDIT**	HURRICANE
*	State	view	**EDIT**				Washington
	County	view	**EDIT**				Clallam
*	NESDIS ID	view	view	view	view	**EDIT**	3280A25A
	NWS ID (WIMS Station ID)	view	**EDIT**				450124
*	Installed Date	view	view	view	view	**EDIT**	11/28/1989
	Status (see below, also)	view	view	view	view	**EDIT**	Active
	Change Status to Deactive only	view	view	view	**EDIT**		
	Category	view	view	view	**EDIT**		(1) Permanent-Station is at a fixed site
	Station Purpose	view	view	**EDIT**			FIRE
	Maintenance Standards	view	view	**EDIT**			Yes
Station Location							
*	Latitude	view	**EDIT**				47:58:13.37 North
*	Longitude	view	**EDIT**				123:29:55.32 West
Site Information							
*	Elevation	view	**EDIT**				5262 feet
	Slope	view	**EDIT**				2 percent
	Aspect	view	**EDIT**				270 degrees
	Cover Class	view	**EDIT**				Subalpine
	Climate Zone	view	**EDIT**				Western Washington Valleys
	Site Description	view	**EDIT**				Station is …

		View	MaintEDIT	RegionEDIT	AgencyEDIT	StatAdmin	Example Data
Transmit Information							
*	DCP	view	view	view	**EDIT**		Vaisala 555
*	Transmitter	view	view	view	**EDIT**		OMNISAT
*	Channel	view	view	view	view	**EDIT**	210
*	Baud Rate	view	view	view	view	**EDIT**	300
*	Transmit Time	view	view	view	view	**EDIT**	0:28:20
*	Transmit Frequency	view	view	view	view	**EDIT**	Every hour
*	Observation Frequency	view	view	view	view	**EDIT**	60
*	Transmit Window Size	view	view	view	view	**EDIT**	10
	Transmit Method	view	view	view	view	**EDIT**	SATELLITE
	Goes Satellite	view	view	view	view	**EDIT**	Default
	Antenna Elevation	view	view	view	view	view	34
	Antenna Azimuth	view	view	view	view	view	195
Owner and Maintenance Information							
	Agency	view	view	view	view	**EDIT**	NPS
	Region	view	view	view	view	**EDIT**	PACIFIC WEST
	Unit	view	view	view	view	**EDIT**	OLYMPIC NP
	Subunit	view	**EDIT**				FIRE MGMT OFFICE
*	DADDS Group	view	view	view	view	**EDIT**	NPS003 - National Park Service
	Field Maintenance Agency	view	view	view	**EDIT**		NPS
	Maintenance Contract	view	view	view	**EDIT**		Depot BLM
	Maintenance Paid by Agency	view	view	view	**EDIT**		NPS
	Fund Source	view	view	view	**EDIT**		National
Contact and Maintenance Information							
	Point of Contact Name	view	view	**EDIT**			TODD RANKIN
	Point of Contact Phone	view	view	**EDIT**			(xxx) 565-xxxx
	Point of Contact Email	view	view	**EDIT**			todd_rankin@xxx.xxx
	Alternate Point of Contact Name	view	view	**EDIT**			TODD RANKIN
	Alternate Point of Contact Phone	view	view	**EDIT**			(xxx) 565-xxxx
	Alternate Point of Contact Email	view	view	**EDIT**			todd_rankin@xxx.xxx
	Event Email Address(es)	view	view	**EDIT**			todd_rankin@xxx.xxx
	Last Annual Maintenance Date	view	**EDIT (Post-trip page)**				6/24/2011
	Last Repaired Date	view	**EDIT (Post-trip page)**				
	Tipping Bucket Zeroed Date	view	**EDIT (Post-trip page)**				6/24/2011

		View	MaintEDIT	RegionEDIT	AgencyEDIT	StatAdmin	Example Data
Data Distribution							
	End User View	view	view	view	**EDIT**		Yes
	Distribute Metadata	view	view	view	view	view	yes
	Distribute Observations	view	view	view	**EDIT**		ROMAN, WIMS, and WRCC
Information Shared with NAMS							
	Notes		**EDIT**				On 6/1/01 ….
	Route		**EDIT**				Go to….
	Narrative		**EDIT (Post-trip page)**				Changed out….
	Order Parts		**EDIT**				
	Submit Post Trip Report		**EDIT**				
	Request RAWS Asset Report		**EDIT**				
System Information							
	Effective Date	view	view	view	view	view	07/13/2011 20:07:57 (194) UTC
	Modified Date	view	view	view	view	view	07/13/2011 20:07:57 (194) UTC
	Modified By	view	view	view	view	view	Todd Rankin
	StationId	view	view	view	view	view	784
Misc							
	HexId					view	1031000
	StationArchiveId					view	630
	Version					view	32
	WxId					view	16977952
	Fund Source Cost Accounting				**EDIT**		2014 ABCDEF $900
Element Metadata							
	Element #	view	view	**EDIT**			1
	Observation Pattern	view	view	**EDIT**			All Obs
	Input Element	view	view	**EDIT**			Rain Gage (for high amounts;..)
	Output Element	view	view	**EDIT**			Rain Accumulation
	Station-specific Limits	view	**EDIT**				
	Seasonal Station-specific Limits	view	**EDIT**				