
WIMS TechNote-2019-02

Fire & Aviation Management Staff

Date: May 29, 2019

System: WIMS 5.1

Subject: WIMS 5.1 Release (scheduled June 14)

Purpose: Inform users of WIMS changes in version 5.1

Contact: Interagency Incident Applications (IIA) Helpdesk
1-866-224-7677
<https://iiahelpdesk.nwcg.gov/contact-us>

Scope: WIMS 5.1

1. Alternate Weather Gateway compatible with NFDRS2016 Fuel and Moisture Models

The WIMS Alternate Weather Gateway (AG) allows networks of non-satellite weather stations (i.e. state climate/agriculture mesonets) to automate uploading of weather observations for processing by NFDRS models. The AG processes files in the standard FW9/FW13 file transfer formats. Stations using the AG are coded as Type 6 (RAWS: Non-Sat NFDRS) versus Type 4 (RAWS: SAT NFDRS). Prior to Version 5.1, the AG could only generate NFDR records for legacy NFDRS models.

Because NFDR2016 dead fuel moisture models require hourly precipitation (versus 24 hour totals for legacy fuel moisture models) the AG needed updating. This required modest updates in WIMS and a slight enhancement of the FW13 file format. The existing ***Precipitation Measurement Type code*** was enhanced to allow the file to contain either 24 hour precipitation or hourly amounts.

2. Use the BLM Wildland Fire Management Information (WFMI) as station location metadata System of Record for WFMI/WIMS shared stations.

In 2018 the National Wildfire Coordinating Group (NWCG) Fire Weather Subcommittee (FWS) requested the WFMI application be the system of record for station location metadata data for stations existing in both WFMI and WIMS. With version 5.1, State, County,

Latitude, Longitude and elevation are now read only for type 3 (RAWS: Sat Non-NFDRS) and type 4 (RAWS: SAT NFDRS) stations.

Alternate Gateway (type 6 stations) and manual stations do not exchange metadata with WFMI and are unaffected by this change.

Station ID: 241513	FIPS: List 30 MONTANA / 063 Missoula
Nesdis ID: 326EC65E	Lightning Scaling Factor: 1
Last Modified Date: 18-Feb-19	Average Annual Precipitation: 13.36 Regular Scheduled Obs. Time: 13
Station Type: 4:RAWS (SAT NFDRS)	Station Name: BLUE MTN (MISSOULA) Previous Station:
Region Number: 1	Latitude: 46 Deg 49 Min 14.61 Sec or 46.8207250 Degree
Elevation: 3412 ft.	Longitude: 114 Deg 6 Min 3.2 Sec or -114.100890 Degree

New Station (NSTA). When a new station is being created, location is initially editable. If Station Type 3 or 4 is selected, location fields will become read only. This is not inconsistent with the current process of adding a new Type 4 RAWS station to WIMS. The station is first set up in WFMI where it is assigned the NESDIS ID (the common key between WFMI/WIMS). This is usually done by the RAWS Depot Helpdesk. Then it is created in the WIMS application by a WIMS user (with both a WIMS and NESDIS ID) with all information **except the RAWS sensor configuration**. WIMS users then notify the RAWS Depot Helpdesk that the station is set up in WIMS. WFMI then makes the metadata file available to WIMS to populate the RAWS sensor data. With this change, the location metadata in the WFMI file will now be transferred to the WIMS station catalog (station_information table) at the same time.

Edit Station (ESTA): Users can no longer update location in WIMS for Type 3 and 4 stations. Changes must be made in WFMI. A WFMI change causes an updated metadata file to be sent to WIMS, where it should be updated within an hour.

Initial WIMS update. Because WFMI is now the system of record, part of the Version 5.1 deployment will be to update all Type 3 and 4 WIMS stations with WFMI based State, County, Latitude, Longitude, and elevation data based on matching NESDIS ID. If changes from WFMI create incorrect information in WIMS, the metadata must be changed in WFMI first, after which they will be transmitted to WIMS and updated as noted in ESTA above.

3. Existing NWS forecasts to work with NFDR2016 Fuel and Moisture Models.

Version 5.1 provides the ability to calculate NFDRS2016 fuels moistures and indexes for forecasts for 1 to 7 days, using the current NWS->NFDRS forecasting scheme. To provide the hourly data needed, a sub-daily interpolation scheme was used to estimate hourly values of temperature and humidity. Work is underway to incorporate hourly forecast

parameters into the WIMS forecast scheme in the near future.

Station ID: 081302 or SIG Type: **F** Start Date: 26-MAR-19 End Date: 15-APR-19 Time: 13

Select which fuel models to display

P1: 8D1P3 P2: 7G1P3 P3: 7D1P3 P4: 16Y1P P5: 16Z1P

Station ID	Obs Date	Obs Tm	Obs Type	MSGC	Wind SP	WDY FM	HRB FM	1H FM	10 FM	HU FM	TH FM	XH	IC	SC	ERC	BI
81302	02-Apr-19	13	F	7G1P3	8	139.1	141.1	13.25	13.25	16.93	18.16	17.98	5.0	4.1	23.9	24.7
81302	02-Apr-19	13	F	16Y1P	8	170.0	202.7	16.86	9.20	12.00	10.95	-99.99	3.7	2.0	46.6	24.1
81302	01-Apr-19	13	F	7G1P3	3	135.3	136.1	23.17	23.17	16.37	17.73	17.65	0.1	0.4	18.1	7.7
81302	01-Apr-19	13	F	16Y1P	3	170.0	204.6	16.59	8.66	7.73	11.33	-99.99	3.1	1.3	50.4	20.4

- 4. Removal of type 7 (Historical) stations** This purge will free up many station IDs and will allow for less conflict with creating new stations. Access to historical stations and data will be available from the **FAM Fire and Weather** page through December 2019.
- 5. Provide consistent formatting of NFDRS decimal data.** WIMS version 5.0 introduced decimal precision NFDRS outputs. Version 5.0 focused on the most often used display pages (DIDX, DIDM). Decimal precision was inconsistent across other display screens. They are now consistent with 1 decimal for Indexes and Live Fuel Moisture and 2 decimals for Dead Fuel Moisture.
- 6. Display only active fuel models on DMGR, DSHR, DAVG, DABR and DNSR.** WIMS version 5.0 added 5 NFDRS2016 fuel models to every station and provided the ability to choose which fuel models are displayed by declaring a fuel model as active or not (in ESTA or ENFDR). The primary display screens (DIDX & DIDM) provided additional ability to view and filter displayed models regardless of their "Active" status.

In other display modules all models were always displayed. With Version 5.1, WIMS displays only "Active" models in the other modules. It **does not** add the enhanced fuel model display controls found in DIDX and DIDM.

Active Fuel Models	P r i	ID
<input checked="" type="checkbox"/>	1	7G
<input checked="" type="checkbox"/>	2	16Y
<input type="checkbox"/>	5	16V
<input type="checkbox"/>	6	16W
<input type="checkbox"/>	7	16X
<input type="checkbox"/>	8	16Y
<input type="checkbox"/>	9	16Z