



FIRE ENVIRONMENT MAPPING SYSTEM

FEMS 3.2 Release Notice

Date: May 31st, 2025
Version: FEMS version 3.2

Description: The primary focus of the 3.2 Release is to view National Fire Danger data, improve ingest performance for observations and include ASOS stations in the ingest process.

General

- The Time Zone field at the top of the FEMS pages defaults to UTC. The user can change this time zone, as needed. NOTE: Changing the time zone only affects the time as it displays in the toolbar. It does not affect the observation times, which will display the local time for the station.
- NFDR data is now being calculated in FEMS.
- Station IDs have been removed from all filters, searches, pop-ups, and screens in FEMS. The metadata for a station will instead include the Station Name, Network, and State.
- Improvements were made to the WXx ingest process to reduce gaps in observation data.
- The Important Information button was removed from FEMS.

About

- The About page was updated to include a link to the FEMs overview page on the Wildland Fire Application Information Portal.

Help

- The videos were updated on the Help page for FEMS.
- The Frequently Asked questions section was removed from the Help page.

Station Updates

- When station metadata changes are received by FEMS, the system will automatically update the station information, notify authorized administrators of the changes, and not display the NFDR data based on the following rules:
 - If the delta changes + or - .01 or greater for the latitude, then the authorized administrators will receive a notification of the change and the NFDR will not display.

- If the delta changes + or - .01 or greater for the longitude, then the authorized administrators will receive a notification of the change and the NFDR will not display.
- If the state changes, then the authorized administrators will receive a notification of the change and the NFDR will not display.
- If the County changes, then the authorized administrators will receive a notification of the change and the NFDR will not display.
- If the Class changes, then the authorized administrators will receive a notification of the change and the NFDR will not display.
- If the Status changes for the station (Active to Deactivated or Deactivated to Active), send a notification of the change to the authorized administrators.
- Stations from the ASOS Network are now included in FEMS.
- Forecast data will be ingested for stations once a day at 3:00 UTC.

Maps

Fire Danger Map

- The FEMS map page now includes a Fire Danger Data Type.
 - Select the Fire Danger Data Type on the Map page to view stations with Fire Danger data.
 - When you select the Fire Danger Data Type, the map toolbar on the left side of the map includes options for filtering the Fire Danger data on the map. Filters include:
 - Date – When you are logged out of FEMS, you can view up to three weeks of data. When you are logged into FEMS, you can view past years of observations and seven days of forecasts.
 - Fuel Models – You can select any of the following fuel models: V, W, X, Y, Z. Fuel Models default to Y.
 - Hourly Data or Daily Max/Min data.
 - NFDR Output:
 - Hourly options are: 1 Hr FM, 10 HR FM, 100 Hr FM, 1000 Hr FM, IC, SC, ERC, BI.
 - Daily options are: 1 Hr FM Min, 10 Hr FM Min, 100 Hr FM Min, 1000 Hr FM Min, KBDI, Herb FM, Woody FM, GSI, IC Max, SC Max, ERC Max, and BI Max
 - A legend for the Fire Danger map is available that identifies the icons that you will see on the map.
 - A Dot displays for observations.
 - A Diamond displays for forecasts.
 - A gray dot with “. . .” displays with a red border when there are missing observations
 - A square with a red border displays for an observation with the NFDR quality flag.

- A triangle with a red border displays for a forecast with the NFDR quality flag.
- NOTE: The NFDR quality flag indicates that the NFDR calculated data has quality issues due to missing observation data.
- A Search Bar is available to search for a specific station on the Fire Danger map.
- Hover the mouse over a station's icon on the map to view the Station Name, Network, and State.
- Click a station's icon on the map to view the following Fire Danger data:
 - Station Metadata:
 - Network
 - Network ID
 - Owner
 - Latitude
 - Longitude
 - Elevation
 - Grass Type
 - Aspect/Slope
 - Average Annual Precipitation
 - A "Go To Catalog" hyperlink is available that will open the Catalog on the Tables page.
 - Expand to View Chart:
 - A chart displays for each NFDR output available. The NFDR options that are available are based on whether Hourly or Daily is selected.
 - A "Go To Charts" hyperlink is available that will open the Seasonal Trend Charts on the Tables page.
 - Expand to View Observation Table:
 - Fire Danger data for three days in the past, the current date, and three days in the future display.
 - The data that is included is based on the filters selected in the toolbar.
 - A "Go To Table" hyperlink is available that will open the Fire Danger data table on the Tables page.

Weather Map

- When the Daily Summary option is selected on the Weather Map, data with dates prior to 2023 now display appropriately. Previously, weather data with dates prior to 2023 displayed as missing data on the Weather Map, even though the data existed.
- When you select a dot for the hourly Weather Map and there is a missing observation in the weather data, the SF (Snow Flag) will be populated with a value. Previously, the SF data did not display.

Field Sample Map

- All data now displays in the hover-over pop-up without being cut-off.

Filters

- When adjusting the Station Elevation on the Filter toolbar for the Maps page, you can now enter a starting and ending elevation without any issues. Previously, the ability to enter the elevation, rather than using the slider bar, was not working.

Tables

- The Tables page now includes two tabs: Stations and Field Sample Sites.

Stations

- The new Stations tab includes a list of station hyperlinks.
- When you click a station hyperlink on the Stations tab, you can view Fire Danger data, Station Metadata, Catalog data, and Seasonal Trend Charts for the selected station.

Field Sample Sites

- The Data Type filter was removed from the Field Sample Sites tab on the Tables page.

Downloads

Fire Danger

- When downloading Hourly Fire Danger data, you can now download the data with either a CSV (UTC) Data Format or a CSV (LST – Local Standard Time) data format.
- When downloading Daily Fire Danger data, a new Average Fire Danger Outputs option is available. This option will calculate the average fire danger data for one or more selected stations.
- When downloading Fire Danger data, the Station Name column is now populated with Station Names. Previously, the Station Names were not downloading into this column.
- When downloading Fire Danger data, forecast data now downloads for all stations with forecast data. Previously, there were multiple stations for which forecast data was not downloading, even though the forecast data was available.
- The Fire Danger download for hourly and daily were updated to include the NFDRQAFlag (0 = Normal, 2 = QA Issue)
 - The Fire Danger Daily Summary download now includes the following data:
 - StationId
 - StationName
 - ObservationTime (local station time in MM/DD/YYYY format)
 - NFDRTYPE
 - FuelModel
 - 1HrFM
 - Min1HrFMTime (local station time)
 - 10HrFM
 - Min10HrFMTime (local station time)
 - 100HrFM
 - Min100HrFMTime (local station time)
 - 1000HrFM
 - Min1000HrFMTime (local station time)

- KBDI
- GSI
- WoodyFM
- HerbFM
- IC
- MaxICTime (local station time)
- ERC
- MaxERCTime (local station time)
- SC
- MaxSCTime (local station time)
- BI
- MaxBITime (local station time)

Weather

- When downloading weather forecast data, the Wind Gust Azimuth has been updated to include the correct data. Previously, the cloud cover data was downloading instead of the Wind Gust Azimuth data.

Field Samples

- Authorized users can now save site data when adding or editing sites for the Northern Rockies area. Previously, the system would not save the site data for the Northern Rockies area, and an error message displayed.
- A new Pine, Jeffery Fuel Type is now available when adding a new Field Sample.

FEMS 3.2 may be accessed by both public (unauthenticated user) and government wildland fire personnel (authenticated users) alike.

Unauthenticated users can access FEMS without a login and access the full fuel moisture dataset. Authenticated users can access, enter, and edit data, and will be able to edit Group or Site information, according to their FEMS role.

The FEMS business leads will be contacting the former Geographic Area NFMD leads to review permissions and assign roles in FEMS. Training for Area, Group, and Site roles is in development.

Additional information is also available on the FEMS Webpage:

<https://www.wildfire.gov/application/fems>.

Wildland fire personnel can become authenticated through the iNAP/eAuthentication process at <https://iwfirp.nwcg.gov/> using either eAuth for federal employees or Login.gov for public partners. Authenticated users will have unrestricted access to all RAWS data sets.

The FEMS 3.2 application URL is <https://fems.fs2c.usda.gov/>.

FEMS 3.2 has been tested on devices with the following specifications:

Operating System:

Windows 11 Enterprise

Version 23H2 Build 22631.4890

Intel(R) Core(TM) i5-12600HX, 2500 Mhz, 12 Core(s) 16 Logical Precision

64-bit operating system, x64-based processor

Browser specifications:

Chrome: Version 133.0.6943.127 (Official Build) (64-bit)

Microsoft Edge: Version 133.0.3065.69(Official build) (64-bit)