

## WFMI Weather Station Event Report

Every Monday, Wednesday, and Friday, a Station Event report of errors and other unseasonable events is emailed to the addresses listed in Wildland Fire Weather Management Information (WFMI) Weather for each station. The report covers the last 7 days of data. Most stations have an event at least once during this time.

Although the Station Event Report can be confusing, the best way to ensure a quick and proper response to problems is to review your data every day. Use the Station Event Report to see what the errors are and learn the characteristics of your stations.

In this document we describe common events. We have separated the events by satellite transmission messages and WFMI messages.

The Event Report displays the Event, the Element (sensor), the First and Last date of occurrence (in the last 7 days), and the Count. The maximum value in the Count is 168 (7 days times 24 hours).

If you have any questions about an event in your report, please contact the Remote Automated Weather Station (RAWS) Help Desk [rawshelp@blm.gov](mailto:rawshelp@blm.gov) or 208-387-5475 for assistance.

### Satellite Transmission Messages

Data from your station is transmitted to a satellite. Each RAWS is assigned a 10-second time slot to transmit on a specific satellite channel. Data transmission errors must be your highest priority because these types of errors mean your station may be interfering with (“stepping on”) other stations’ transmissions.

#### **Transmission time was outside expected window**

This error flag is set at -1 and +4 seconds from the time shown as the Transmit Time in WFMI.

If transmissions continue to drift totally out of the expected window, more event messages can be expected, such as Metadata channel does not match message channel.

Event	Element	First	Last	Count
Transmission time was outside expected window		01/03/2018	01/10/2018	168

#### **Metadata channel does not match message channel**

The satellite channel in WFMI does not match the channel assigned on the satellite. Email the RAWS helpdesk if excessive reports of this event occur.

Metadata channel does not match message channel		01/04/2018	01/04/2018	1
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#### **DCP message conversion error**

Errors in the data stream are causing ambiguous interpretation by WFMI. For example, wind speed is transmitted in 3 characters. If it shows up with 4, an event is recorded. Possible

causes include noisy transmitter, satellite downlink errors, or a changed program in the Data Collection Platform (DCP)/datalogger.

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DCP message conversion error | WSMP | 01/10/2018 | 01/10/2018 | 1
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### WFMI Weather Messages

WFMI Weather is programmed to identify errors and unusual events. When you receive a Station Event Report you should log into WFMI Weather, select your station, and click the Station Events tab. A detailed report of the Station Event will be displayed.

### **Annual Maintenance/NAMS**

National Interagency Fire Center (NIFC) Asset Management System (NAMS) and WFMI are linked for ordering sensors from the Remote Sensing Fire Weather Support Unit (RSFWSU) and for documenting annual maintenance. If you have a maintenance contract with RSFWSU, you will see messages about annual maintenance and ordering parts. If updates are made in WFMI maintenance date, narrative or station notes, you will see an event report.

NOTE: Station is almost due for annual maintenance (Last Annual Maintenance: 01/12/2017)

Event	Element	First	Last	Count
Order for parts submitted to NAMS (via WFMI)		01/04/2018	01/04/2018	1
Post-trip update submitted to NAMS (via WFMI)		01/04/2018	01/04/2018	1
Station Narrative updated in NAMS (via WFMI)		01/04/2018	01/04/2018	1
Station Notes updated in NAMS (via WFMI)		01/08/2018	01/08/2018	1

### **Station metadata has been updated**

This event is recorded anytime the metadata for a station is edited in WFMI Weather.

Event	Element	First	Last	Count
Station metadata has been updated		01/04/2018	01/04/2018	1

### **Critical change made to station metadata/PDT update will be sent to DADDS**

This event is recorded when certain critical metadata have been changed. Changes to the following fields trigger this event: Name, NESDIS ID, Transmit Time, Transmit Window Size, Channel, Baud Rate, Transmitter Model, or Installed Date. An update is sent to the satellite database (DADDS).

PDT update will be sent to DADDS		01/09/2018	01/09/2018	1
Critical change made to station metadata		01/09/2018	01/09/2018	1

### **Message received with parity errors**

Parity errors are common and may be due to a variety of reasons. Email the RAWs helpdesk if excessive reports of this event occur.

Event	Element	First	Last	Count
Message received with parity errors		01/04/2018	01/06/2018	8

### No data provided

Some or all of the data was expected and not provided. Email the RAWS helpdesk if excessive reports of this event occur.

Event	Element	First	Last	Count
No data provided	WDD	01/08/2018	01/08/2018	1

### Seasonal maximum/minimum limit exceeded

On the RAWS station page in WFMI Weather you will see max and min temps listed for summer and winter. Based on these values, the rest of the year is assigned monthly high/low values. These limits should represent a typical year, so it would be normal to get this event reported during unusually hot or cold weather. This value can be edited with the appropriate role in WFMI Weather or by the RAWS helpdesk. When you see this error, take a look at the data to determine whether it is a sensor error or a valid sensor reading.

Event	Element	First	Last	Count
Seasonal maximum/minimum limit exceeded	ATF	01/03/2018	01/08/2018	30

### Physical maximum/minimum limit exceeded

On the RAWS station page in WFMI Weather you will see max and min physical limits for each sensor element listed. This event is reported when the individual sensors exceed set limits and likely indicates a sensor or cable problem rather than unusual weather conditions.

Event	Element	First	Last	Count
Physical maximum/minimum limit exceeded	BVV	01/05/2018	01/05/2018	1

### Maximum number of hours without a change exceeded

This event is reported when sensor reading do not change for a specific time period. If this occurs for an extended time period it may indicate a sensor or cable problem.

If it occurs occasionally, it may be a weather event. An example of this is if the wind has been calm and the wind speed does not change for 12 hours, an event is reported with a count of 1 on the 13<sup>th</sup> hour of no change in the wind.

Event	Element	First	Last	Count
Maximum number of hours without a change exceeded	WSM	01/04/2018	01/04/2018	2

### Maximum change per hour exceeded

This event is reported when sensor readings appear to be changing too quickly. If it is not weather related, it may indicate a sensor or cable error.

An example of this is when the rain gauge has more than 2 inches in one hour. If you are in Florida this may not be an event but if you are in a dry climate with no rain, this may be an error.

Event	Element	First	Last	Count
Maximum change per hour exceeded	RNIN	01/03/2018	01/03/2018	1

### Common Elements

Element	Description
ATF	Air Temperature, Fahrenheit
BPHG	Barometric Pressure, inches
BP	Barometric Pressure
BVV	Battery Volts
FMP	Fuel Moisture
FTF	Fuel Temperature, Fahrenheit
RNIN	Rain Gage
RNWG	Rain Weighed Gage
RHP	Relative Humidity
SRW	Solar Radiation
WDD	Wind Direction
WDDP	Peak Wind Direction
WSM	Wind Speed
WSMP	Peak Wind Speed