

## **2012 NWS Billings Weather Office**

NOTE: This information describes the Billings Fire Weather support for the Northern Rockies Geographic Area. While most of the information is the same for the Rocky Mountain Area support, there are a few important differences, especially for Red Flag Criteria. Please refer to the Rocky Mountain Area operation plan for Billings Fire Weather support to portions of northern Wyoming.

Please note: New Assistant Fire Weather Program Leader and IMET Trainee.

### **Location**

The National Weather Service (NWS) office in Billings, Montana is located on the west end of Billings near Interstate 90 exit 446. The mailing address is:

National Weather Service  
2170 Overland Avenue  
Billings, MT 59102-6455

### **Contact Information**

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### **Contact Information and Internet Addresses**

Office: (406) 652-0851

Fax: (406) 652-3214

General Weather Information: <http://weather.gov/Billings>

Fire Weather Information: <http://www.wrh.noaa.gov/firewx/?wfo=byz>

National Fire Weather Information: <http://weather.gov/fire>

### **Operational Hours**

The NWS office in Billings is staffed 24 hours a day with at least one meteorologist certified to handle Fire Weather requests. Additional staff is usually available enabling multiple requests to be handled in a timely manner. The office has 1 certified Incident Meteorologist available for onsite support to large wildfires, prescribed fires, and other major incidents.

**Fire Weather Forecast Issuance Times** (Dates may be adjusted according to user needs)

Early spring thru June	Mornings	Daily	0700
July thru September	Mornings	Daily	0700
	Afternoons	Daily	1530
October thru November	Mornings	Daily	0700

## **Forecast Services**

Fire Weather Forecasts, site specific Spot Forecasts, Red Flag Warnings, and Fire Weather Watches will generally follow the format as defined in the **Fire Weather Products Section** of the **Northern Rockies Annual Operating Plan**. These products are issued on a routine basis through the season. Smoke Dispersion information is available upon request for verbal briefings or through spot requests. Additional Smoke Dispersion information is available in the form of the Clearing Index, on the Fire Weather webpage.

Non-routine or unscheduled products may be issued at any time as weather conditions can and do change rapidly. The various affected dispatch offices in the Billings Fire Weather district will be alerted by telephone should this need occur.

## **Fire Weather Briefings and Notification Emails**

Routine fire weather briefings are not scheduled, but may be held or requested during periods of extreme fire weather activity. If briefings are held, notification and briefing details will be disseminated to users through phone calls and emails. Emails may periodically be sent to provide overviews of upcoming weather events which will have high fire impacts. It is important to make sure you provide the National Weather Service your email address to receive these updates.

## **Red Flag Criteria**

Anytime the forecaster foresees a change in weather that would result in a significant increase in fire danger.

### For Very High or Extreme Fire Dangers:

1. Scattered dry thunderstorms. (A lightning storm accompanied by less than a wetting rain, 0.10 inch precipitation or less, often with very gusty winds).
2. Increased thunderstorm activity, wet or dry, during an extremely dry period.
3. A combination of low Relative Humidity and increasing strong or gusty surface winds, or abrupt change in direction due to the approach and passage of a cold front, squall line, or other weather phenomena other than isolated thunderstorms.

### Red Flag conditions may occur with High Fire Danger:

(Generally requires much lower RH and stronger wind thresholds than Very High or Extreme Fire Danger)

Note: Red Flag criteria for humidity and winds for Wyoming fire zones 274 and 284

(Rocky Mountain Area) are explicit with regards to winds and relative humidity and are as follows: Relative Humidity of 15% or less in combination with winds gusting to 25 mph or greater.

Red Flag conditions during the Off Season (Nov-May): For Grassland Areas Only

A prolonged period without snow cover (~ 10 days), during a time of significantly above normal temperatures, with a combination of Severe Winds and Low Relative Humidity.

-or-

Anytime the forecaster foresees a change in weather that would result in the potential for extreme grassland wildfire development.

### **Determining if Red Flag Criteria is Met**

June through October:

Very High or Extreme Fire Danger:

Red Flag Warnings for Winds and RH will be considered verified when sustained winds are observed at 15 mph or higher, or Gusts of 25 mph or higher, combined with an RH of 20 percent or lower for three observations within, or near the border of, a given zone. The three observations can be from one sensor or multiple sensors, but must encompass 3 separate hours out of a consecutive 8 hour period.

High Fire Danger:

Red Flag Warnings for Winds and RH will be considered verified when sustained winds are observed at 25 mph or higher, or Gusts of 40 mph or higher, combined with an RH of 15 percent or lower for three observations within, or near the border of, a given zone. The three observations can be from one sensor or multiple sensors, but must encompass 3 separate hours out of a consecutive 8 hour period.

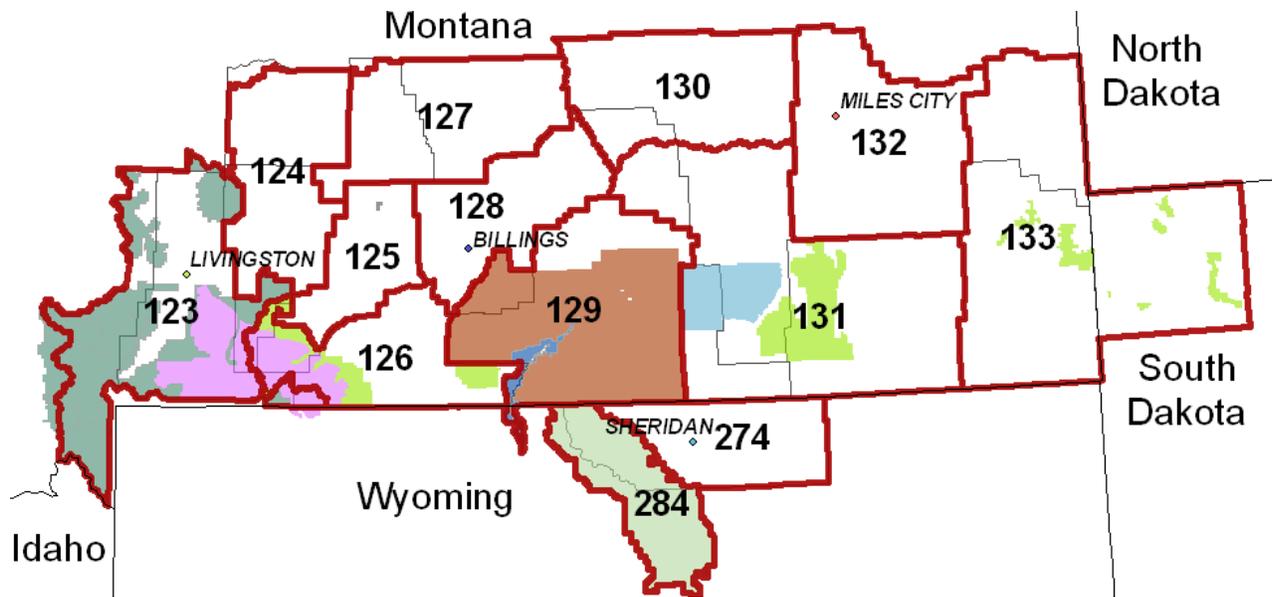
November through May:

During this period, Red Flag Warnings for Winds and RH will be considered verified when sustained winds are observed at 40 mph or higher, or Gusts of 58 mph or higher, combined with an RH of 25 percent or lower for 3 observations within, or near the border of, a given zone. The three observations can be from one sensor or multiple sensors, but must encompass 3 separate hours out of a consecutive 8 hour period.

### **Training Services**

The office has a cadre of meteorologists that may be available to handle fire weather training requests. Refer all training requests or technical support questions to the Focal Point or the





### Forecast Zone Descriptions

#### **Zone 123:**

South Central Montana includes all the Gallatin National Forest, Lee Metcalf Wilderness Lands, Butte District of the BLM, and Montana state lands. The area starts at the point where Montana, Idaho, and the Yellowstone National Park share a common point south of West Yellowstone, Montana, then north along the western portion of the Gallatin National Forest, including the Lee Metcalf Wilderness, through Bozeman, and north along the forest boundary to Sixteen Mile Creek along the Meagher and Gallatin County border, then east along the Meagher, Gallatin and Park county border, then around the Crazy Mountain portion of the Gallatin National Forest boundary to the Sweet Grass County border, then south to the Gallatin Forest boundary, then east and south along the Gallatin and Custer National Forests boundaries to the Montana and Wyoming state border, then west to the Yellowstone National Park boundary, then following the Yellowstone National Park boundary to the beginning point south of West Yellowstone, Montana.

#### **Zone 124:**

South Central Montana including portions of the Miles City District of the BLM, and Montana state lands. The area consists of Wheatland Sweet Grass counties in Montana, excluding portions of the Gallatin National Forest and the Lewis and Clark National Forest within those counties.

#### **Zone 125:**

South Central Montana including portions of the Miles City District BLM, Montana state lands, the Hailstone National Wildlife Refuge, and the Halfbreed Lake National Wildlife Refuge. The area is bounded on all sides by the Stillwater county in Montana, excluding that portion of the Custer National Forest within Stillwater County.

**Zone 126:**

South Central Montana area that includes portions of the Custer National Forest, Miles City District of the BLM, and Montana state lands. This area begins where the Western boundary of the Custer National Forest, Beartooth Ranger District, intersects the Montana State border east of Cooke City, Montana near Mt. Rearguard, then follow the boundary between the Gallatin and Custer National Forests north around the Custer National Forest boundary to the Carbon County border, then follow the county border between Carbon, Stillwater, and Yellowstone counties east to the Crow Indian Reservation, then south and east along this border to the Big Horn Canyon National Recreation Area, then south along the western boundary of the Big Horn Canyon Recreation Area to the Montana state border, then west along the state border to the initial point.

**Zone 127:**

South Central Montana area that includes Miles City District of the BLM, Montana state lands, and Lake Mason National Recreation Refuge area. The area is bounded by the county borders of Golden Valley and Musselshell Counties and excludes portions of the Musselshell Ranger district of the Lewis and Clark National Forest in northern Golden Valley county.

**Zone 128:**

South Central Montana area includes portions of the Miles City District of the BLM, and Montana state lands. The area is defined as that portion of Big Horn County north of the Crow Indian Reservation, and Yellowstone County excluding that portion of the Crow Indian Reservation within Yellowstone County.

**Zone 129:**

South Central Montana area that includes the Crow Indian Reservation in Montana and the entire Big Horn Canyon National Recreation area in Montana and Northern Wyoming. The area begins at the point where the Montana State border and Crow Indian Reservation coincide North of Sheridan, Wyoming, then follows the border of the Crow Indian Reservation North, West and South to the Carbon County border, then south to the eastern border between the Crow Indian Reservation and the Pryor mountain portion of the Custer National Forest, then east to the Big Horn Canyon National Recreation Area, then south along the western boundary of the Big Horn Canyon Recreation Area boundary to the Montana state border, then west along the state border to U.S. Highway 310, then south to U.S. Highway 14a, then east along this highway to the western border of the Big Horn Canyon Recreation Area, around the southern border of the Recreation area back to U.S. Highway 14a, then north along the eastern border of the Recreation area to the Montana state border, then east back to the initial point.

**Zone 130:**

Southeastern Montana including portions of the Miles City District of the BLM, and Montana state lands. The area begins where the Yellowstone River enters Treasure county, then north along the Treasure county border to the Rosebud county border, then follow the Rosebud county border to where the Yellowstone River exits Rosebud county,

then west along the middle of the Yellowstone River to where the Yellowstone River enters Treasure county.

**Zone 131:**

Southeastern Montana including the Northern Cheyenne Indian Reservation, Ashland Ranger District of the Custer National Forest, portions of the Miles City District of the BLM, and Montana state lands. The area begins where the Yellowstone River enters Treasure county, then east along the middle of the Yellowstone River to the Custer county border, then south and east along the Custer county border to the Carter county border, then south along the Carter county border to the Montana state border with Wyoming, then west along the Montana/Wyoming border to the southeast corner of the Crow Indian Reservation, then north along the eastern border of the Crow Indian Reservation to the northern border of the Northern Cheyenne Indian Reservation, then east along the Northern Cheyenne Indian Reservation to the Rosebud county border, then north along the Rosebud county border to the Treasure county border, then north along the Treasure county border to where the Yellowstone River enters Treasure county.

**Zone 132:**

Southeastern Montana including portions of the Miles City District of the BLM, and Montana state lands within Custer County, Montana.

**Zone 133:**

Southeastern Montana and a portion of northwestern South Dakota including the Sioux Ranger District of the Custer National Forest and portions of the Miles City District of the BLM, and state lands in both Montana and South Dakota. The area boundary consists of Fallon and Carter counties in Montana, and Harding county in northwestern South Dakota.

**Zone 274:**

Sheridan County in Wyoming except the portion that is covered by the Big Horn National Forest.

**Zone 284:**

Area consists of the entire Big Horn National Forest in Wyoming.

**RAWS Stations Reference List:**

A valuable resource for obtaining weather observation data is the Real Time Observation Monitor and Analysis Network at <http://raws.wrh.noaa.gov/roman> which part of the MesoWest website.

A listing of RAWS stations that have provided recent weather data within the Billings area of responsibility can be found at the link (portable RAWS will show up on this list):

[http://raws.wrh.noaa.gov/cgi-bin/roman/raws\\_ca\\_monitor.cgi?state=BYZfwz&rawsflag=2](http://raws.wrh.noaa.gov/cgi-bin/roman/raws_ca_monitor.cgi?state=BYZfwz&rawsflag=2)