



Fire Weather Annual Report for 2012

Great Falls, Montana Weather Forecast Office

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Weather Summary

2012 began with a dryer and warmer than average winter season with the months of January through March all seeing above average temperatures. Several strong wind events occurred in January and this combined with above average temperatures and little or no snowpack on the plains resulted in several grassland fire starts with two large fire events occurring in early January in Glacier County.

The above average temperature trend continued through the spring months of April through June with precipitation amounts closer to seasonal averages overall, mainly due to several spring storm events in April and May. Spring storm systems did deposit snow in the mountains, bringing the late spring mountain snowpack up to average for snow water content and green-up progressed through the period in a typical fashion. However, the month of June, which is typically the wettest month of the year, saw well below average precipitation, setting the stage for an active summer fire season.

The main summer fire season months of July through September were exceptionally warmer and drier than average. Precipitation was somewhat variable across the area in July as a mix of wet and dry thunderstorms occurred in association with occasional northern pushes of monsoon associated moisture. This produced lightning across much of the area with isolated locations seeing near or above average precipitation, while other places saw much less. August and September were exceptionally dry in all areas with only a trace of precipitation observed in the entire month of September at Great Falls and no precipitation observed in Helena. Periods of stronger winds accompanying the passage of mainly dry cold fronts prompted the issuance of many Red Flag Warnings during the months of August and September.

October finally brought a change from the exceptionally warm and dry weather pattern that prevailed from the summer months into September and temperatures cooled back to seasonal values with autumn storm systems bringing season ending rain and snow to much of the forecast area. November started cool and wet with a significant winter storm system affecting the area during the second week of the month before milder and drier conditions developed during the second half of the month. This mild and dry pattern then continued through much of December with a change to colder conditions developing during the final week of 2012.

Fire Activity

Large Incidents (>100 acres) within the TFX fire weather area.

Name	Start Date	End Date	Acres	Est. Cost
Wye	01/04/12	01/18/12	12,000	\$500,000
Boy	01/05/12	01/18/12	6,000	\$500,000
Corral	06/25/12	07/01/12	1,851	\$550,000
Waters	07/03/12	07/04/12	862	\$5,000
Elbow Pass Complex	07/12/12	10/04/12	26,128	\$4,130,000
Mission Road	07/22/12	07/26/12	3,250	\$800,000
Wolf Creek	7/24/12	07/30/12	11,887	\$571,709
15 Mile	07/25/12	07/29/12	1,509	\$284,914
Dove Tail	07/28/12	07/30/12	1,526	\$508,166

Goblin Gulch	07/30/12	08/10/12	283	\$805,000
Fisher	08/07/12	08/10/12	820	\$94,200
Boyce	08/10/12	08/13/12	356	\$157,151
Black Beach	08/21/12	08/26/12	1,450	\$210,000
PN	08/21/12	08/23/12	890	\$5,800
East Fork	08/22/12	10/26/12	4,700	\$450,000
Skinner	08/28/12	08/30/12	3,300	\$16,960
Bean Canyon	09/10/12	09/16/12	4,325	\$700,000
Vimy	09/12/12	09/13/12	489	\$10,000
Welder	09/14/12	09/19/12	33,318	\$225,000

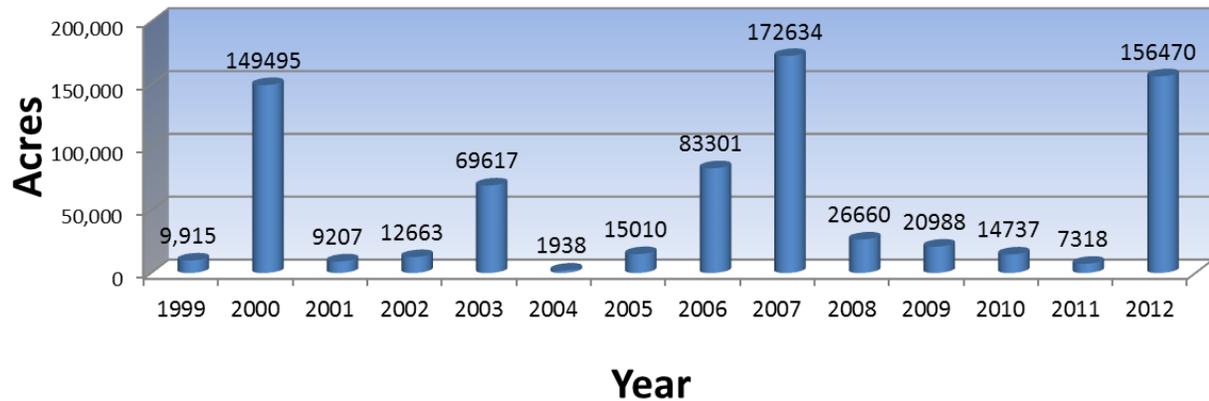
2012 was a significant fire season in central Montana, which came after several years of relatively less active fire seasons. Dry and mild conditions in the winter months aided in the development of several large grassland fires during wind events early in the year over the north central Montana plains. A warmer and much drier than average June led to early curing of fuels, with fire activity picking up at the end of the month at lower elevations. By the middle of July, fuels were critical at most elevations with multiple fire starts due to lightning, some of which escaped initial attack and grew into large incidents. The Elbow Pass fire started on July 12th and grew into a complex of wildfires as additional starts occurred in the vicinity during the following week and conglomerated in the Bob Marshall Wilderness west of Augusta Montana. This incident was managed by a Type II wildfire management team for 2 weeks in August and the TFX IMET was ordered and supported the incident during this period. The Elbow Pass Complex was the costliest fire to occur in the Great Falls forecast area in 2012 and also the largest if parts of the fire complex in the adjoining Missoula forecast area are included. The Elbow Pass complex was declared contained on October 4th. Fire danger remained Very High to Extreme through August and much of September with no season slowing or ending events occurring until October. The second largest fire of the season in acreage, a grassland fire named the Welder Fire, occurred in mid-September on the Fort Belknap Reservation.

Wildfire acres burned in the TFX forecast area by Agency/Unit

Agency	Unit	Wildfire Acres Burned
Bureau of Indian Affairs	Blackfeet Agency	19,095
	Ft. Belknap Agency	33,824
	Rocky Boy's Agency	1,823
BLM	*Lewistown Field Office	16,438
US Fish and Wildlife	Benton Lake NWR	173
Private	Great Falls Dispatch	1,307
	Helena Dispatch	16,004
	Lewistown Dispatch	24,587
State	Central Land Office	20,549
USDA Forest Service	Helena NF	5,030
	Lewis and Clark NF	17,640
Total		156,470

*some acreage in these units may fall in the Glasgow WFO Fire Weather Area

Wildfire Acres Burned in the TFX Fire Weather Forecast Area



Data compiled from Northern Rockies GACC yearly summaries by unit.

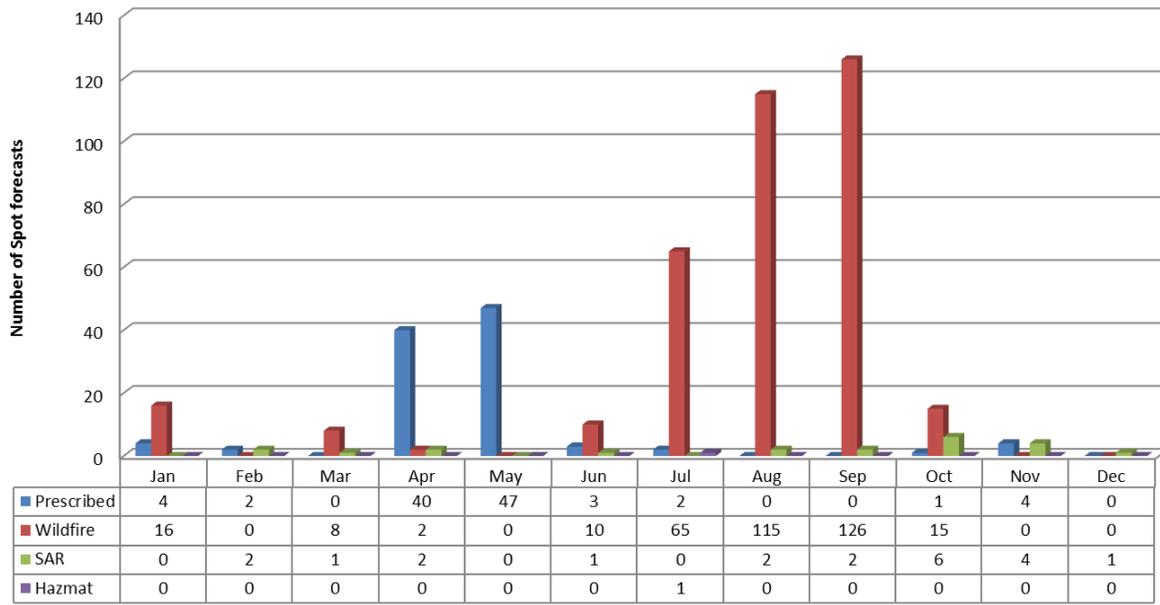
Outreach and Liaison Activities

Fire weather outreach and decision support continue to increase at the Great Falls forecast office. This included participation in pre-season meetings with various partners, highlighting new products and refreshing customers on the use of the webpage and spot forecast interface as well as an outlook for the summer season. Three separate weekly phone briefings were given to support fire restriction coordinating groups consisting of federal, state and county fire managers beginning in June and continuing through early October. Email notification was used to give partners a “heads-up” to potentially critical fire weather situations and social media (Facebook/Twitter) posts and weather story graphics were also disseminated to highlight critical fire weather events. The Great Falls forecast office provided course instructors for three separate S290/390 courses aimed at federal, state and local volunteer firefighters this year.

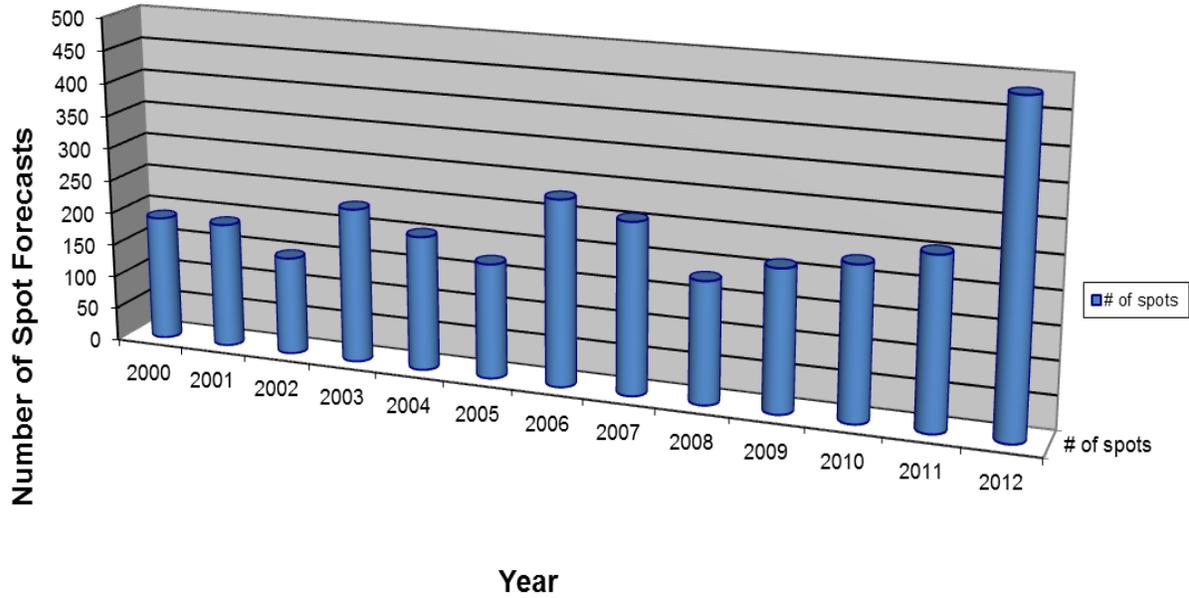
Spot Forecasts

Type of Spot	Number of Spots	Avg. Turnaround Time (minutes)
Prescription	103	25.4
Wildfire	357	24.6
Search and Rescue	21	21.2
Hazmat	1	12.0
Total	482	24.6

2012 Spot Forecasts type vs month



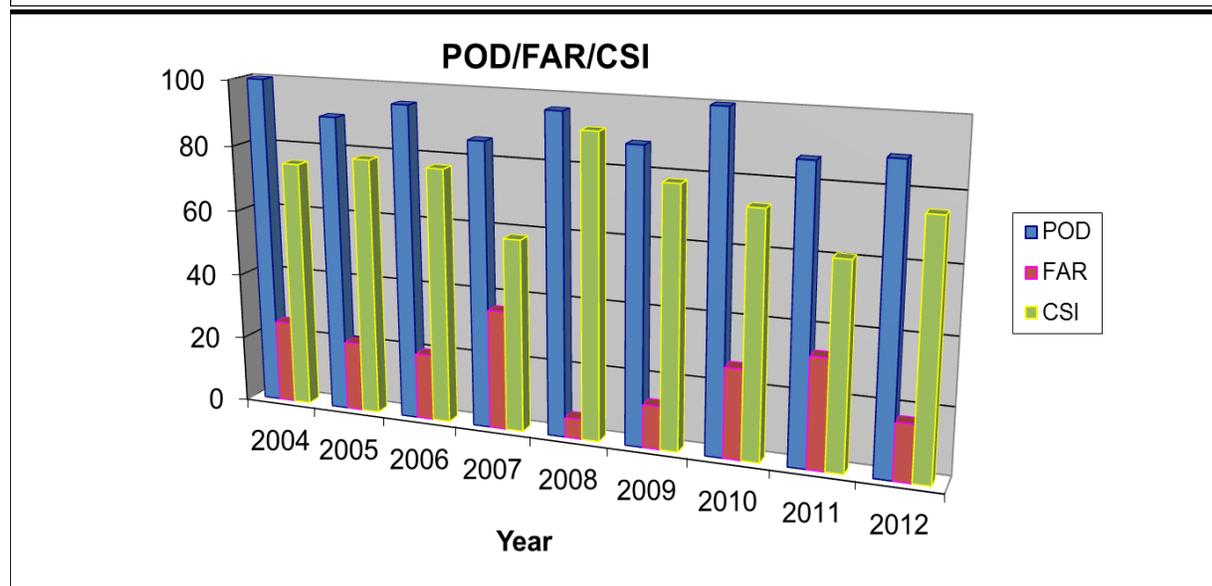
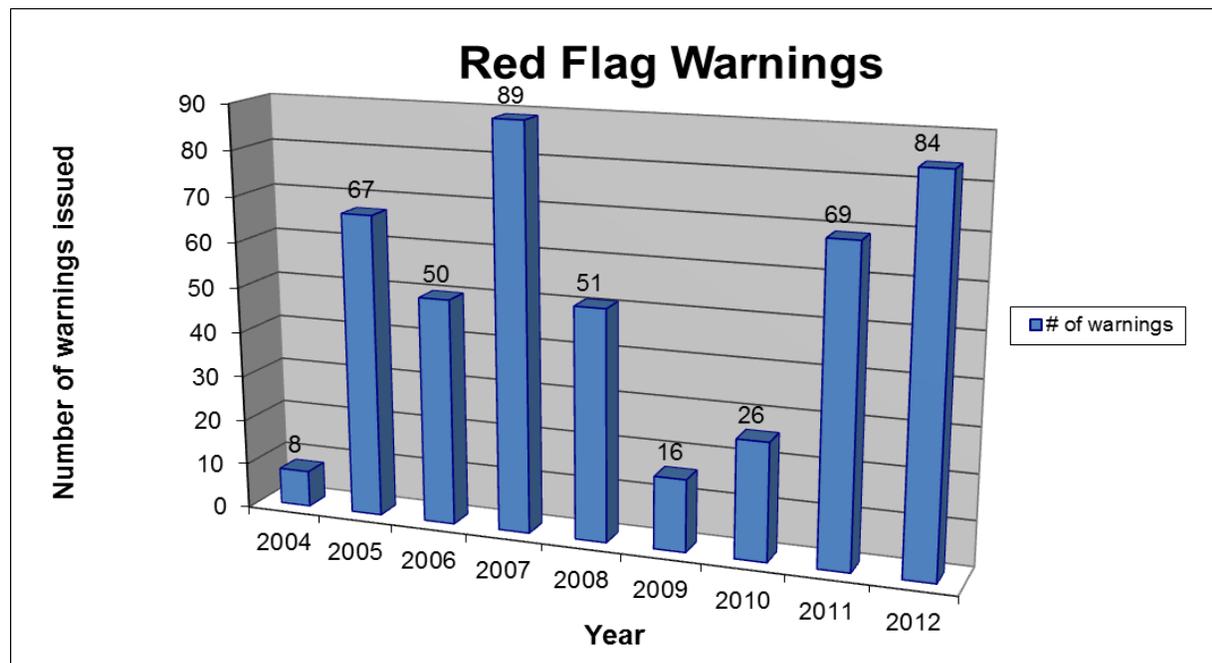
Spot Forecasts (FWS)



Red Flag Warning Verification Statistics

2012 Red Flag Warning Totals			
Total # of Warnings	84	POD	0.89
Total # of Events	79	FAR	0.17
Verified Warnings	70	CSI	0.75
Missed Warnings	9	Avg. Lead Time (Min)	1121.97
Unverified Warnings	14	Avg. Lead Time (Hrs)	18.70
Watches issued	73	Total Minutes	88636
Verified Watches	55		
Warnings Preceded by Watches	64		

Trends



POD (Probability of Detection), FAR (False Alarm Ratio), CSI (Critical Success Index)

IMET Dispatches

Bob Hoenisch: Fontenelle Fire, near Big Piney, WY (WFO-RIW). 6/28/2012 – 7/13/2012

Bob Hoenisch: Elbow Pass Complex, near Augusta, MT (**WFO-TFX**). 8/1/2012 – 8/15/2012

Bob Hoenisch: Sheep Fire, near Riggins, ID (WFO-MSO). 9/10/2012 – 9/25/2012

Training/Liaison/Outreach

January 2012 – S290 Instructor – MT DNRC – Chinook, MT (Suk)

February 2012 – Northern Rockies AOP (virtual) meeting. (Hoenisch)

March 2012 - Central MT Fire Zone preseason meeting - BLM, dispatchers, USFS, USFWS, State DNRC and cooperating county DES/Fire Wardens - Lewistown, MT (Hoenisch)

March 2012 – IMET IT (virtual) training. (Hoenisch)

April 2012 – S290 Instructor – Blackfeet Fire Management – Browning, MT (Suk)

April 2012 – North Central MT Fire Zone Pre-season meeting - Lewis & Clark Forest Service BLM, USFS, and various county representatives (DES/Fire Wardens). Great Falls, MT (Hoenisch)

May 2012 - Fire Weather WES case developed and taken by operational staff. (Hoenisch)

May 2012 – S290 Instructor – Helena NF - Helena, MT (Suk)

May 2023 – RT-130 Fire Safety Refresher taken by IMET – USFS Great Falls, MT (Hoenisch)

June 2012 - Central MT, Helena Zone preseason meeting – Helena USFS, dispatchers, State DNRC and cooperating county DES/Fire Wardens - Helena, MT (Hoenisch)

July/August 2012 – TFX hosted an IDSS conference call to brief partners on expected significant fire weather conditions.

October 2012 – Great Divide (virtual) workshop presentation on Winter Grassland Wildfires near Browning. (Hoenisch)