

Fire Weather Annual Report for 2011 WFO Glasgow



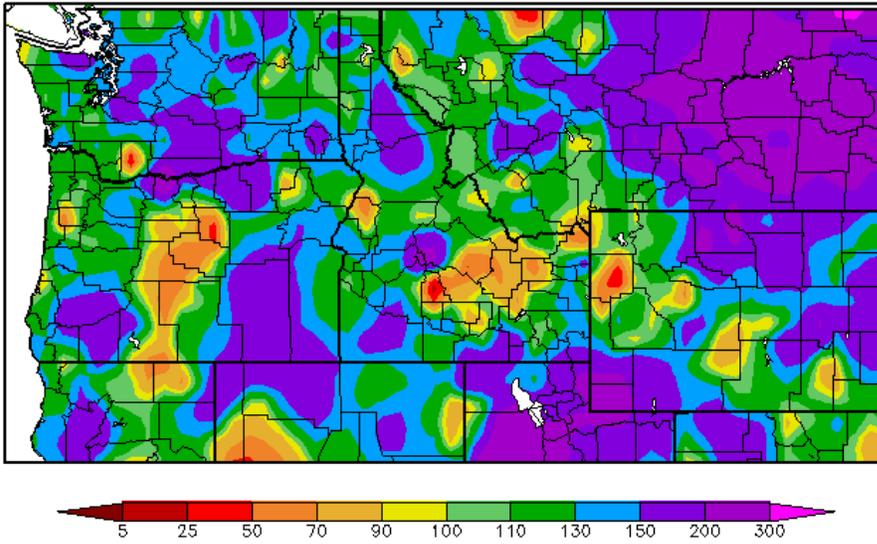
Black lining machine being used on a prescribed burn at Bowdoin NWS in 2011 (Courtesy Mike Granger USFWS).

Narrative

2011 was the wettest year on record across most of Northeast Montana. As a result, as you may expect, the fire season was largely nonexistent through the summer months. The early winter months of 2011 set snowfall records across the entire region...with Glasgow receiving 107.8 inches of snow. That is 38 inches more than the previous record, and over 70 inches above normal. The abundant snowfall was followed up by abundant rainfall throughout April, May, and June (Figure 1). This all culminated in record flooding along the Milk, Missouri, Yellowstone, and Musselshell rivers and their tributaries. With all the moisture grasses grew thick and approached 4 feet tall across the entire region. Late July, August, and September brought a taste of hot and dry conditions to Northeast Montana, but was not enough to drive long lived critical fire weather conditions. (Figure 2 and 3). When critical fire weather conditions were observed no starts were present to cause any fires, and fuels were kept moist by abundant ground water.

Figure 1

Percent of Normal Precipitation (%)
4/1/2011 – 6/30/2011

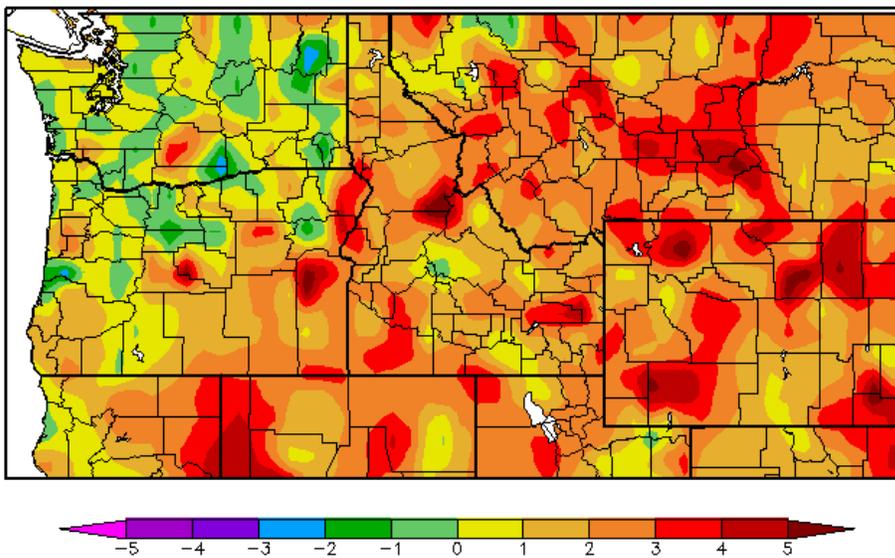


Generated 7/11/2011 at HPRCC using provisional data.

Regional Climate Centers

Figure 2

Departure from Normal Temperature (F)
7/1/2011 – 9/30/2011

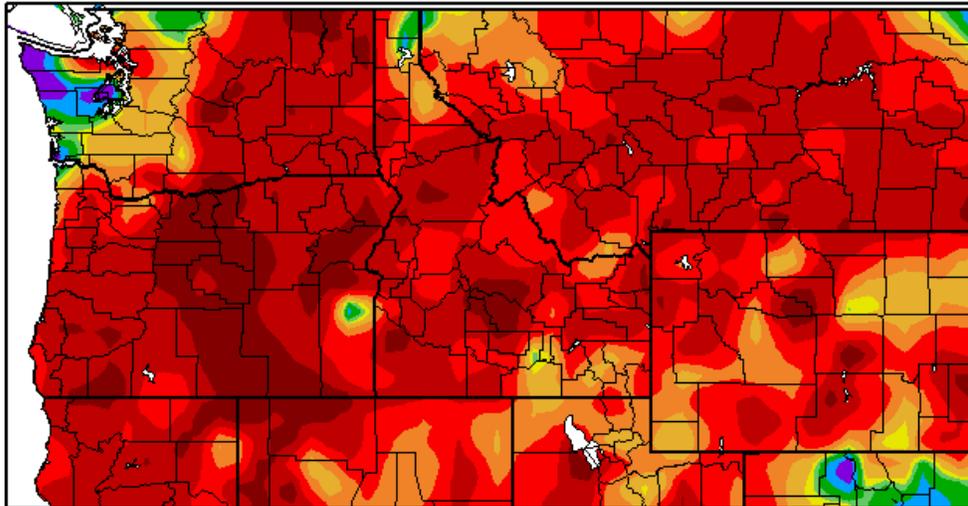


Generated 10/11/2011 at HPRCC using provisional data.

Regional Climate Centers

Figure 3

Percent of Normal Precipitation (%)
9/1/2011 – 9/30/2011



Generated 10/11/2011 at HPRCC using provisional data.

Regional Climate Centers

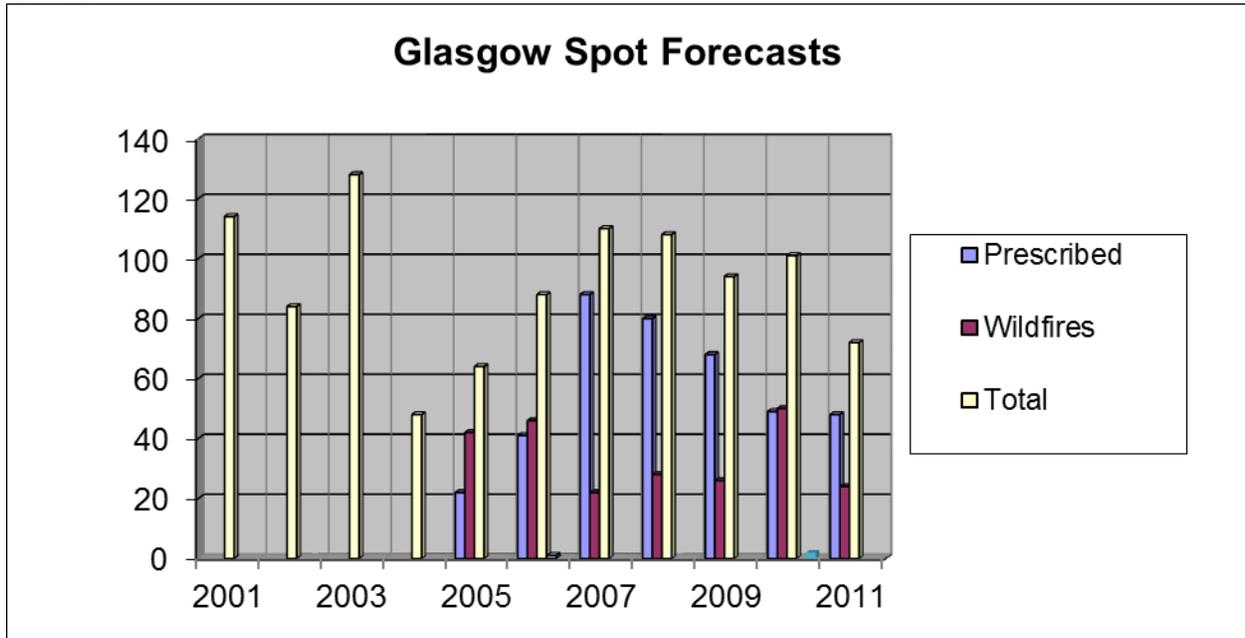
General Forecasts

Fire Weather Planning Forecasts were issued from April 30th to November 25th. Twice daily forecasts were issued from July 11th to October 15th. Forecasts for the National Fire Danger Rating System were issued beginning on July 11th and will now run year round.

Spot Forecasts

Only 72 spot forecasts were completed in 2011 (Table 1), a rather quiet year when compared to the recent past, and proved to be a fairly average fire weather year for WFO Glasgow, even given the mild fire season. Again the US Fish and Wildlife Service proved to be our biggest spot weather customer as active burn programs continued at both the Bowdoin NWR and the Medicine Lake NWR. Meetings in fall of 2011 confirmed continued active burn programs for the USFWS on the CMR, Bowdoin, and Medicine Lake NWR's for 2012. The BLM in Lewistown is also planning two big projects in the GGW forecast area for 2012 as well.

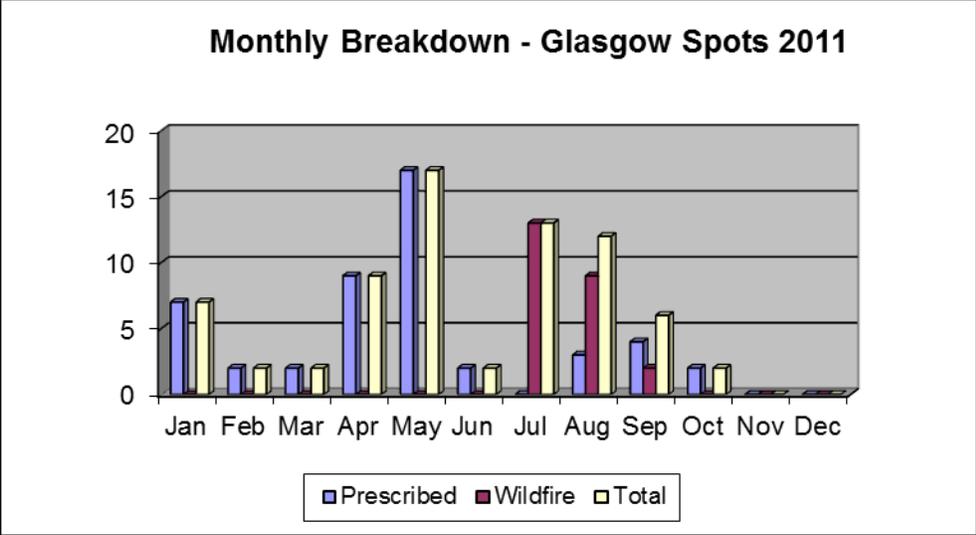
Table 1.



2010 WFO GGW Spot forecasts

Prescribed Burns.....	48
Wildland Fire Use.....	0
Search and Rescue.....	0
Wildfires.....	24
Hazardous Spills/ Search and Rescue.....	0
Total.....	72

Breakdown by Month



Training/Meetings/Outreach

Fire Weather Program Leader Patrick Gilchrist and Assistant Program Leader Rob Smith taught at an S-290 course aimed at volunteer fire fighters February 4th - February 6th.

Patrick Gilchrist, Rob Smith, and WCM Tanja Fransen hosted and presented a Fire Weather Workshop in Sidney, MT on February 26th.

Rob Smith, Patrick Gilchrist, Tanja Fransen, and MIC Ben Moyer attended the Fire Weather AOP Meeting in Great Falls MT March 7th-9th.

Patrick Gilchrist presented at the BLM/DNRC preseason meeting in Malta, MT on March 16th.

IMET Patrick Gilchrist and IMET trainee Rob Smith attended the 2011 IMET Workshop in Boise ID March 21st through the 25th.

Patrick Gilchrist was a featured presenter at the 2011 Montana Volunteer Firefighters Convention June 9th – June 11th. The convention featured a drill where he was able to feature IMET support.

WFO Glasgow provided DSS weather briefings on a biweekly/weekly basis throughout fire season to the Lewistown and Miles City Fire Restrictions Groups.

Patrick Gilchrist and Rob Smith conducted post season meetings with the BLM and USFWS in Lewiston, Sand Creek, and Zortman on November 8th and 9th.

Red Flag Warnings/Fire Weather Watches

Total Number of Red Flag Warnings Issued in 2011: **63**

Verified Red Flag Warnings.....	54
Non-Verified Red Flag Warnings.....	9

Red Flag Events Not Warned (Missed Events).....0

Average Lead Time: 10.59 Hours

Breakdown:

Synoptic (Wind, RH).....54
 Non-Synoptic (Thunderstorms).....9

Total Number of **Fire Weather Watches** Issued in 2011: 34

Verified Fire Weather Watches.....30
 Non-Verified Fire Weather Watches.....4

Breakdown:

Synoptic (Wind, RH).....33
 Non-Synoptic (Thunderstorms).....1

Verified Red Flag Warnings Not Preceded by a Watch.....24

Warning statistics:

Synoptic (Wind, RH).....**POD 1.00...FAR 0.09...CSI ...0.91**
 Non-Synoptic (Thunderstorms)...**POD 1.00...FAR 0.44...CSI...0.56**
 Total Synoptic/Non-Synoptic.....**POD 1.00...FAR 0.14...CSI...0.86**

Table 2

2011 Red Flag Warning Totals			
Total # of Warnings	63	POD	1.00
Total # of Events	54	FAR	0.14
Verified Warnings	54	CSI	0.86
		ALT	
Missed Warnings	0	(Min)	635.28
		ALT	
Unverified Warnings	9	(Hrs)	10.59
		Total	
Watches issued	34	Min	34305
Verified Watches	30		
Warnings Preceded by			
Watches	34		

2011 Red Flag Warning Synoptic Totals			
Total # of Warnings	54	POD	1.00
Total # of Events	49	FAR	0.09
Verified Warnings	49	CSI	0.91
		ALT	
Missed Warnings	0	(Min)	691.02
		ALT	
Unverified Warnings	5	(Hrs)	11.52
Watches Issued	33	Total	33860

Warnings Preceded by Watches	33	Min
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2011 Red Flag Warning Dry T-Storm Totals			
Total # of Warnings	9	POD	1.00
Total # of Events	5	FAR	0.44
Verified Warnings	5	CSI	0.56
Missed Warnings	0	ALT (Min)	89.00
Unverified Warnings	4	ALT (Hrs)	1.48
Watches Issued	1	Total	
Warnings Preceded by Watches	1	Min	445

2010 WR Goals vs. Glasgow Actual

Synoptic Event Based Red Flag Warnings (winds, low RH)

WR Goals: POD: 96 FAR: 21 CSI: 73 Lead Time: 12.25 hours
 Glasgow actual: POD: 1.00 FAR: 09 CSI: 91 Lead Time: 11.52 hours

Dry Thunderstorm/Lightning Based Red Flag Warnings

WR Goals: POD: 77 FAR: 43 CSI: 57 Lead Time: 7.75 hours
 Glasgow actual: POD: 100 FAR: 44 CSI: 56 Lead Time: 1.48 hours

Combined:

WR Goals: POD: 87 FAR: 33 CSI: 64 Lead Time: 10.50 hours
 Glasgow actual: POD: 1.00 FAR: 14 CSI: 86 Lead Time: 10.59 hours

Comments:

Overall I am happy with WFO Glasgow's Red Flag verification statistics for 2011 (Table 2). Our verification scores and average lead time have dipped over last year; however this year's record wet spring provided challenges that were different than previous years as fuels were much slower to cure thanks to abundant ground water. Again our numbers remain skewed due to a low event occurrence rate, especially with dry thunderstorms. Next year will see a continued push towards increasing lead times by issuing warnings over watches when confidence is high.

IMET Report

No IMETs were assigned in the WFO Glasgow CWA during 2011.

WFO GGW IMET Patrick Gilchrist had one dispatch to the Las Conchas Fire near Los Alamos New Mexico in late July 2011.