

# Red Flag Event Summary – National Weather Service Duluth

April 29<sup>th</sup>, 2018

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## Synopsis:

In coordination with the Minnesota and Wisconsin Department of Natural Resources (MN DNR and WI DNR respectively), the National Weather Service (NWS) office in Duluth, MN issued a Fire Weather Watch for much of northeast Minnesota and portions of northwest Wisconsin during the afternoon of April 28<sup>th</sup>. The watch area was upgraded to a Red Flag Warning (Figure 1) on the morning of Sunday, April 29<sup>th</sup> per the requests of the MN DNR and WI DNR. Special Weather Statements (SPS) were sent out for adjacent fire weather zones that were near critical fire weather conditions. The only exceptions were the Southern Lake and Southern Cook zones. The Red Flag Warning was issued due to the combination of gusty southerly winds and critically low relative humidity.

## Weather:

On April 29<sup>th</sup>, the Upper Mississippi River Valley was situated between a developing low in the Northern Plains and high pressure building across the Western/Central Great Lakes (Figure 2). As the day progressed the low moved from eastern Montana into the Western Dakotas while the high built into the Central Great Lakes. This setup tightened the pressure gradient over Minnesota which promoted strengthening winds and wind gusts. Winds were generally out of the south with sustained winds of 10 to 20 mph with frequent gusts of 25 to 30 mph. Relative humidity values ranged from 19 to 25% within the warned area. Maximum temperatures were generally in the 60s. MN DNR reported Extreme fire danger across all northeast Minnesota counties included in the Red Flag Warning on the 29<sup>th</sup> (Figure 3) and WI DNR reported High fire danger in Burnett County (Figure 4). Areas included within the SPS reported Fire Danger ranging from Low to Extreme.

## **NWS Services:**

- Critical Fire Weather conditions were highlighted in the Hazardous Weather Outlook, Fire Weather Planning Forecast, and on Social Media.
- Part of the Duluth County Warning Area was in the Elevated category of the morning issuance of the SPC Day 1 Fire Weather Outlook.

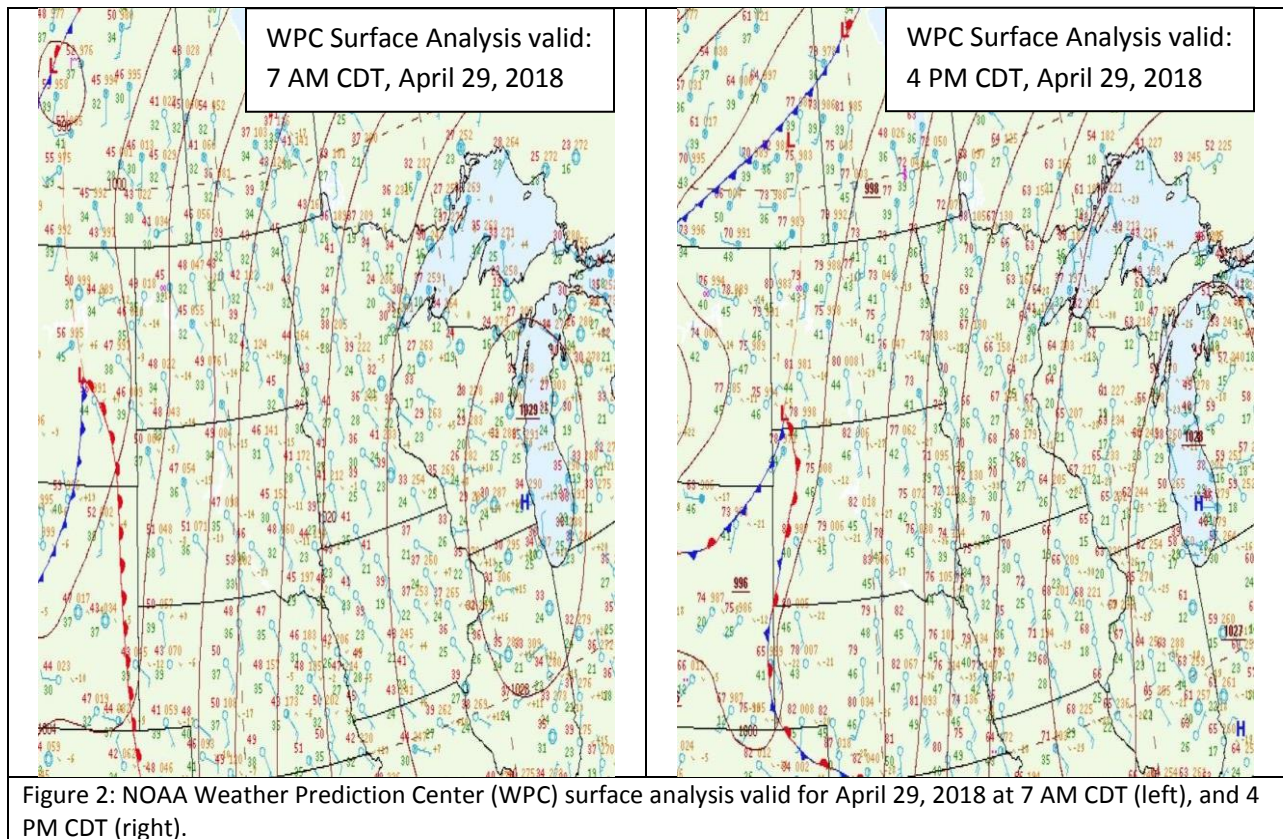
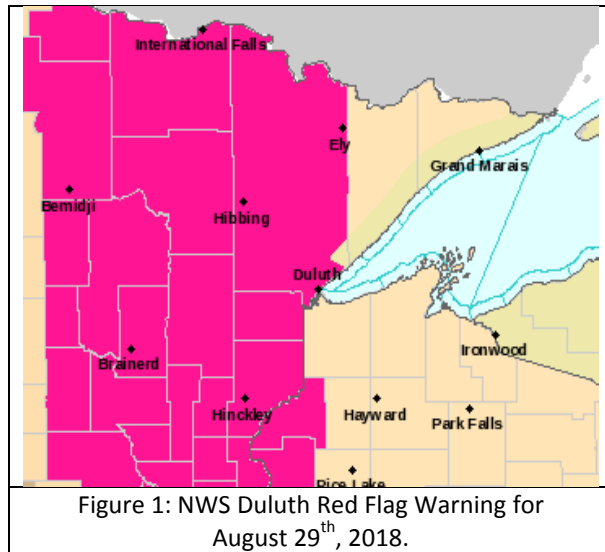
## **Fires:**

- The Minnesota Incident Command Center (MNICS) reported that there were several wildfires on April 30<sup>th</sup> during the MNICS call on May 1<sup>st</sup>.

## **Red Flag Warning, Weather Verification:**

|                                 |                       |
|---------------------------------|-----------------------|
| <b>Date:</b>                    | <b>April 29, 2018</b> |
| Number of Watches Issued:       | 15                    |
| Number of Warnings Issued:      | 13                    |
| Number of Warnings Verified:    | 11                    |
| Number of Misses:               | 2                     |
| Probability of Detection (POD): | 100%                  |
| False Alarm Ratio (FAR):        | 15%                   |
| Average Lead Time:              | 9.5 hrs               |

**Figures:**



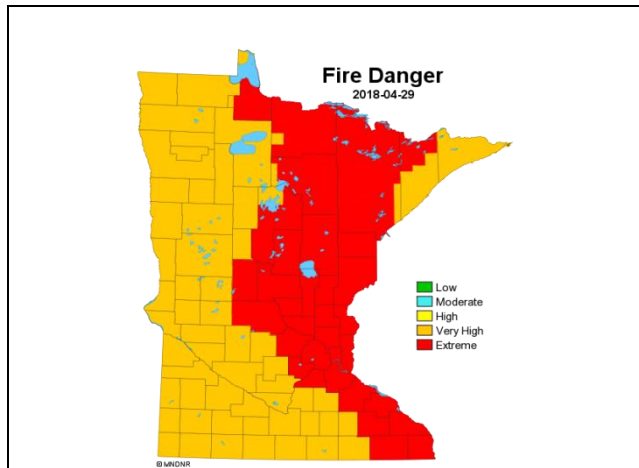


Figure 3: Minnesota Department of Natural Resources Fire Danger for April 29, 2018 (Source: Minnesota Department of Natural Resources)

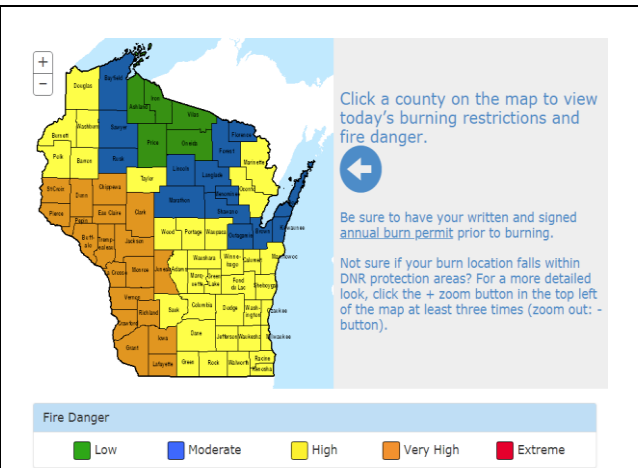


Figure 4: Wisconsin Department of Natural Resources Fire Danger for April 29, 2018 (Source: Wisconsin Department of Natural Resources)