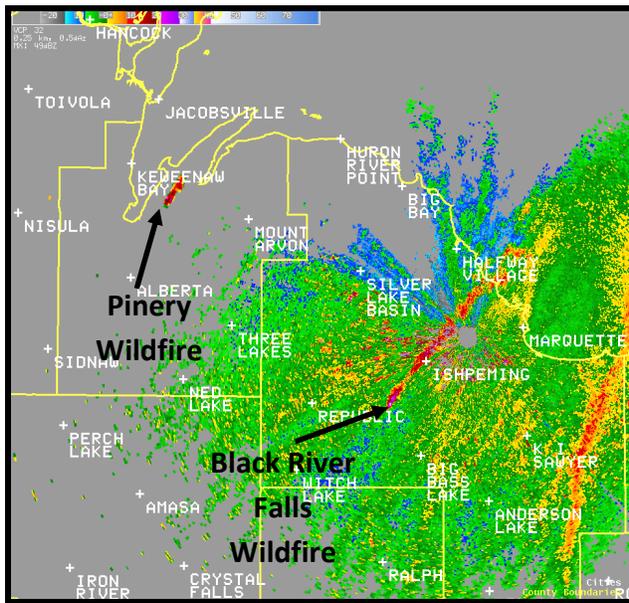
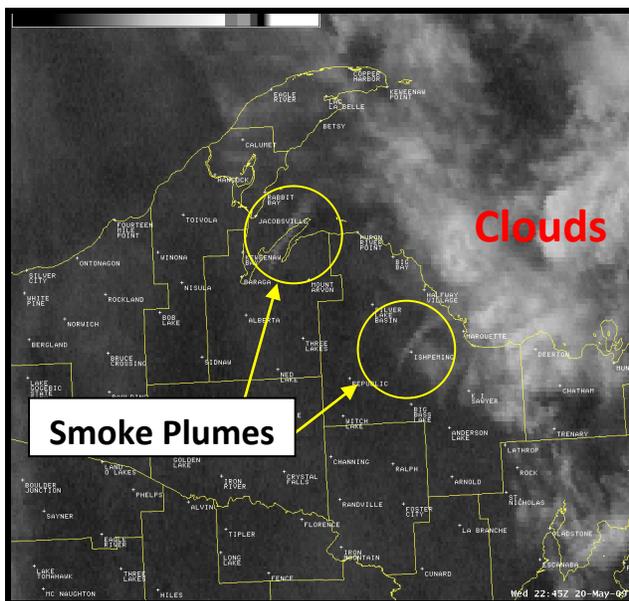


## Summary

On May 20<sup>th</sup> 2009, Michigan Department of Natural Resources and Environment (DNRE), Bureau of Indian affairs (BIA) and other local and federal fire agencies battled two wildfires in central Upper Michigan. The Pinery Wildfire near L'Anse in Baraga County and the Black River Falls Wildfire southwest of Ishpeming in Marquette County destroyed more than 30 homes and structures and charred around 1,300 acres. The Marquette National Weather Service Office provided advanced notice of the conditions leading up to the wildfires, as well as additional forecasts and services to the Michigan DNRE and BIA to support their efforts to contain the two wildfires.



Radar Image May 20<sup>th</sup>, 2009 (~ 6 pm EDT)



Satellite Image May 20<sup>th</sup>, 2009 (~6 pm EDT)

## **Weather Leading up to, and Behind the Wildfires**

Conditions during the first half of May 2009 leading up to the wildfires included a precipitation deficit of up to a half inch at the Marquette National Weather Service in Negaunee Township (roughly 10 miles from the site of the Black River Falls wildfire). Most of the rain that occurred prior to the fires in May occurred on only three days. Temperatures were normal or below normal for the first half of May 2009, mainly due to well below normal minimum temperatures, with frequent frosty mornings observed inland from Lake Superior.

The approach of a warm front from the Plains led to very changeable weather May 18<sup>th</sup> through the 20<sup>th</sup>. After a day with near normal temperatures and scattered showers on May 18<sup>th</sup>, easterly winds and low clouds forming north of the warm front resulted in temperatures falling as much as 15 degrees below normal on May 19<sup>th</sup>. These cool conditions persisted until around sunrise on May 20<sup>th</sup> as the warm front lifted through the area. A very quick warm up was observed with the passage of this warm front as gusty southwest winds up to 50 mph developed. Some areas in western and central Upper Michigan experienced a 30 degree temperature rise in just a couple hours. By early afternoon on May 20<sup>th</sup>, temperatures had already surged into the upper 80s, which was 20 to 25 degrees above normal. By late afternoon, some record high temperatures fell as readings were pushing into the lower 90s. In addition to these record warm temperatures and gusty winds, dry air aloft mixing to the surface allowed for afternoon humidity values to plummet to 15 to 25 percent. The combination of the very warm temperatures, dry air, and strong and gusty winds supplemented by very dry fuels around spring green-up resulted in extreme wildfire potential and allowed both wildfires to spread quickly once they started. Three days prior to these conditions, the Marquette National Weather Service Office alerted the fire management agencies in Upper Michigan to the potential of dangerous fire weather conditions developing. After further coordination with the fire management agencies, a Red Flag Warning was issued for most of Upper Michigan the afternoon of May 19<sup>th</sup>, for May 20<sup>th</sup>.

The arrival of a strong cold front with scattered showers and thunderstorms on the morning of May 21<sup>st</sup> diminished the fires significantly and allowed fire fighters to achieve containment of the fires by May 22<sup>nd</sup>. Mop up and restoration duties continued on the fire sites through May 26<sup>th</sup>. In support of fire suppression, Spot forecasts were issued by the National Weather Service Office in Marquette from the evening of May 20<sup>th</sup> through May 24<sup>th</sup>.