

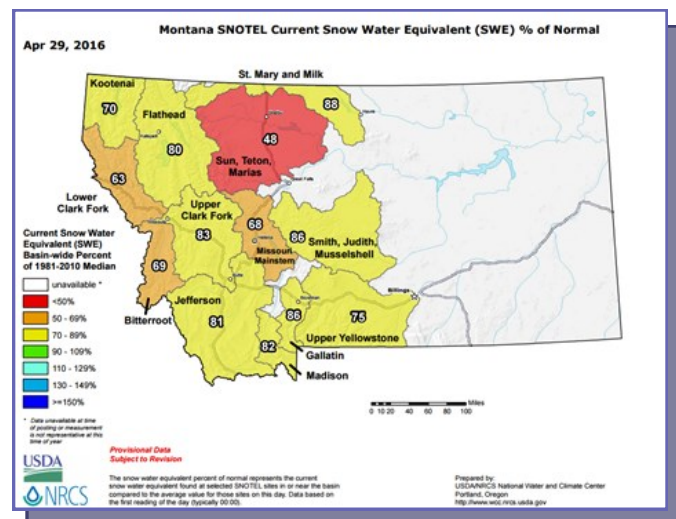
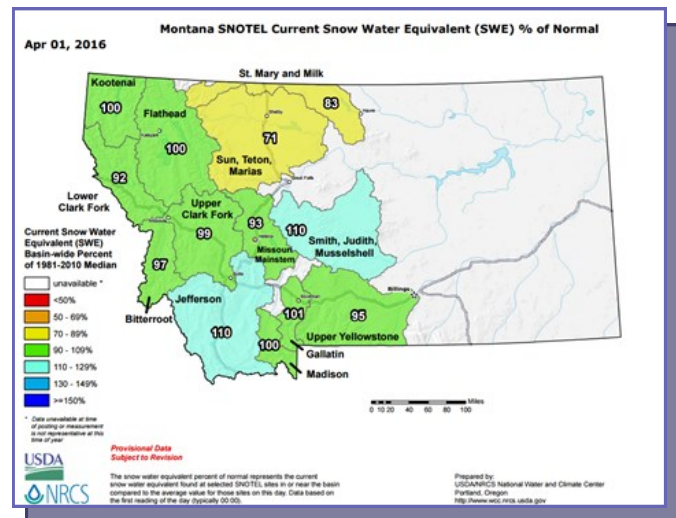
Normal snowpack melting quickly in western Montana & north central Idaho

Submitted by Ray Nickless

The winter of 2015-2016 produced an average snowpack for western Montana and north central Idaho, however, near record warmth for the month of April has melted much of that snow.

April 1 snowpack percentages were near normal but by the time we reached the end of April, most of the snowpack was far below normal.

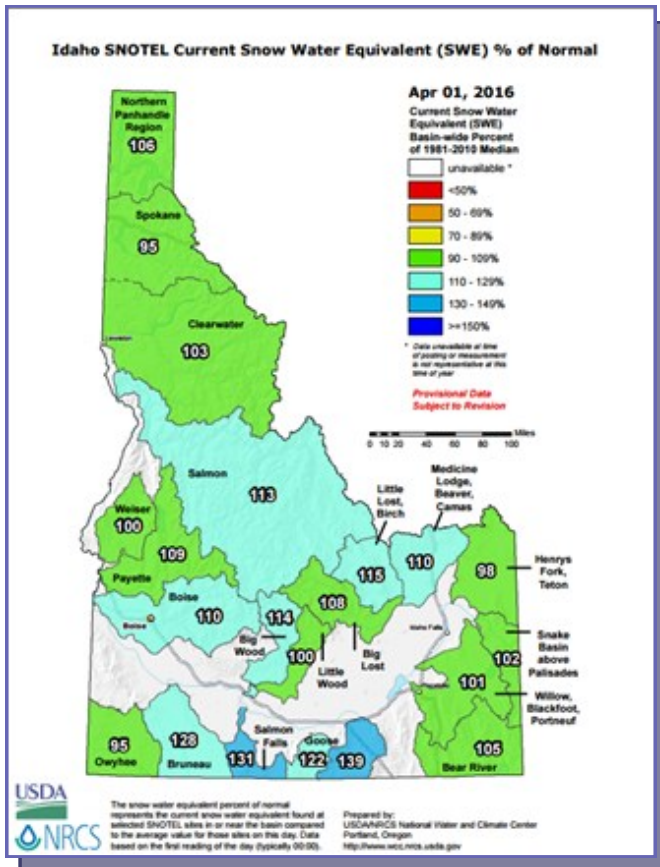
What does the early snowmelt runoff mean for MT & ID rivers and streams? Most rivers and streams that have been flowing at well above average flows for the month of April will now be transitioning to a more normal flow for the month of May.



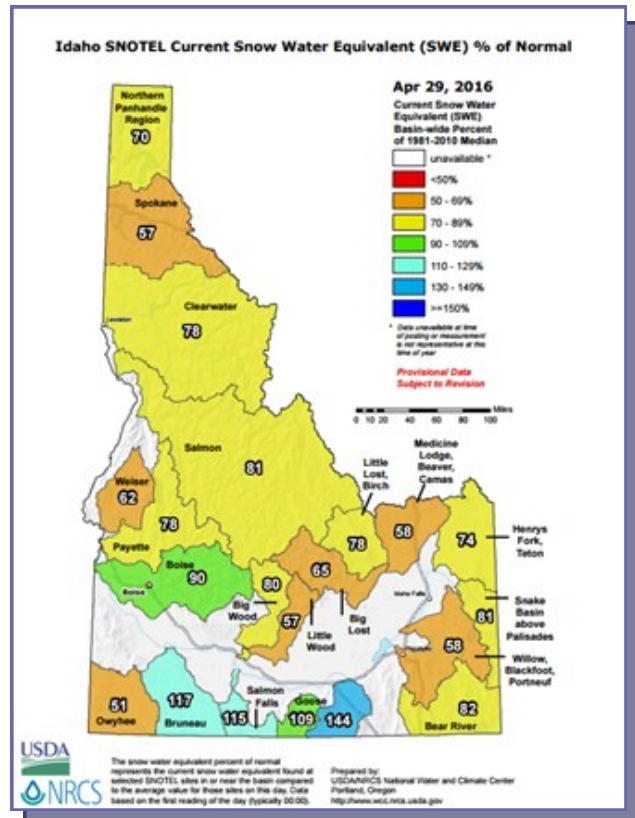
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Normal snowpack melting quickly in western Montana & north central Idaho continued..




The summer months of June, July and August should produce below normal stream flows and will be heavily dependent on rainfall to keep the streams from getting too low during the later summer months.



Western Montana & North Central Idaho Forest Fires of 2015 leave Flash Flood Concern for Summer of 2016

Contributed by: Ray Nickless


The forest fires that occurred during the summer of 2015 in parts of western Montana and north central Idaho have now left barren landscapes that are susceptible to flash floods when summer thunderstorms occur. The National Weather Service teamed up with the United States Forest Service to assess flash flooding potential in the forest fire burn areas of western Montana and north central Idaho. The findings from their efforts have led to concerns for flash floods and debris flows in the following burn areas: Municipal Complex near Orofino, Woodrat Complex near Syringa, Tepee Springs Complex east of Riggins and the West Fork Fish Creek Complex west of Missoula. For more information click on the following link: <http://www.wrh.noaa.gov/mso/hydrology/FFBurnSite/>




National Weather Service
Missoula, Montana

Wildfires and Flash Flooding Potential

Click on the burn area on the map to access flash flood information







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Submit a Report on Our Website

The image shows a screenshot of the National Weather Service website for Missoula, MT. The page is divided into two main sections. The left section is a navigation menu with various links such as 'Home', 'News', 'Observations', 'Forecast', and 'Submit Report'. A red arrow points from the 'Submit Report' link in the sidebar to the right section. The right section is titled 'Submit a Storm Report' and contains a form for reporting weather events. The form includes fields for 'Event Location', 'Event Time', 'Event Date', 'County', and 'Location (if NW Region)'. Below these fields is a section for 'Event Type (Select all that apply)' with checkboxes for 'Flood', 'Hail', 'High Wind Speed', 'Tornado/hurricane Cloud', 'Wind Damage', 'Snow', 'Freezing Rain/Icing', and 'Heavy Rain'. Each checkbox has a corresponding dropdown menu for further details. At the bottom of the form is an 'Additional Details' section with a text area for providing more information.

2016 Predictive Services Northern Rockies Geographical Area (NRGA) Fire Season Outlook

Contributed by Bryan Henry/Michael Richmond, Meteorologists, USFS Northern Rockies Coordination Center, Missoula MT

Annual wildfire acreages in the NRGAs vary significantly from year to year, driven by different climatic and fuels characteristics. As we see in **image 1**, the 1998-2015 NRGAs fire season acreages plot, since 1998 (when NRGAs records became the most accurate), there have been six peak seasons of 746,000 to 1.5 million acres, separated by 2-4 years of quieter seasons of 250,000 acres or less. With the exception of 2006/07, when there were two large seasons back to back. There also appears to be a six-year cycle in play, dating from at least 1988, with large seasons (1988/1994/2000/2006/2012...). 2015's total of 746,000 acres was the smallest of the six post-1998 peak seasons, and was driven largely by the severe drought that occurred west of the Continental Divide in last year's spring and summer.

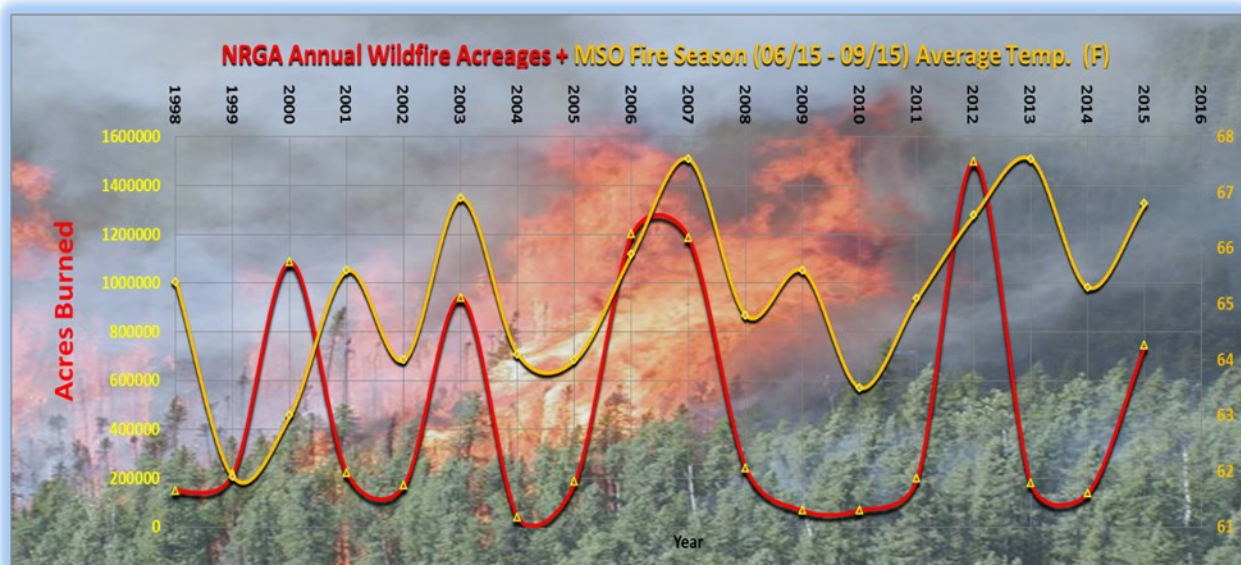
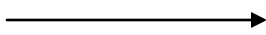


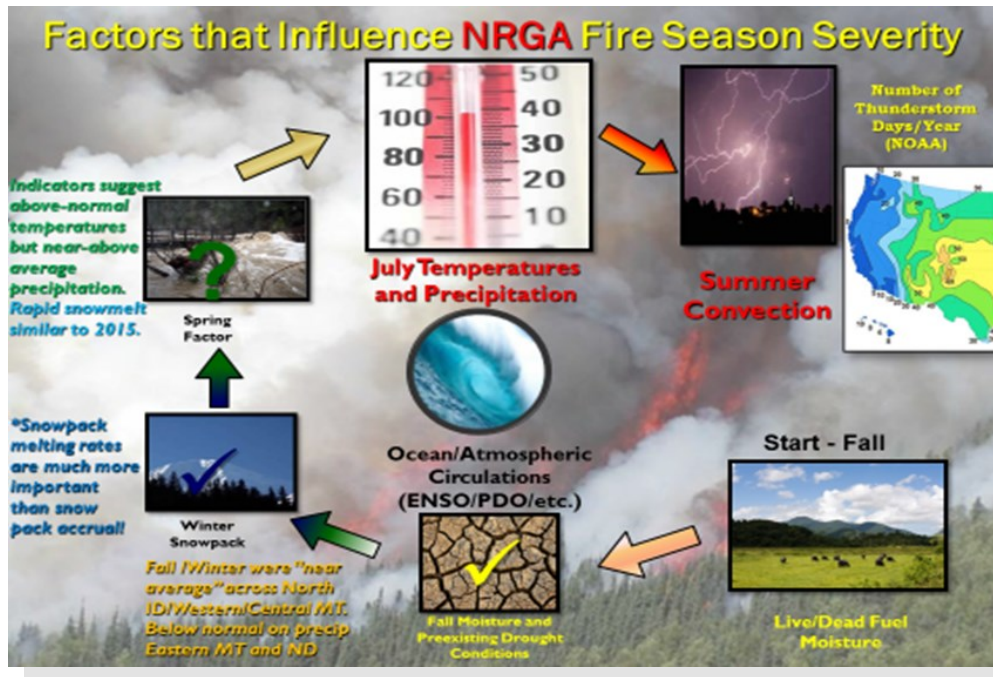
Image 1: 1998-2015 NRGAs Fire Season Acreages and Missoula Fire Season Average Temp. Plot

For our outlook this year, there are some similarities to last year, as we head into the later spring and summer, but also significant differences that will be guiding us, which are illustrated in **image 2**. Starting with last fall, the region entered into it with severe drought conditions west of the Continental Divide, and also as the strongest ever measured El Niño (ENSO) conditions were occurring in the eastern Pacific.

Continued 

2016 Predictive Services Northern Rockies Geographical Area (NRGA) Fire Season Outlook continued...

Image 2: NRGAs Fire Season Severity Factors



El Nino falls/winters tend to be somewhat drier, and usually much warmer than average for our region, but this past one brought average to near-average precipitation amounts to most areas, as we see in **image 3**, our water-year precipitation (Oct 01 to present). In fact, drought conditions have been largely eliminated

throughout the region, and latest official long-range projections (**image 4**) keep the region drought-free through the end of July. A significant difference from last year, west of the divide.

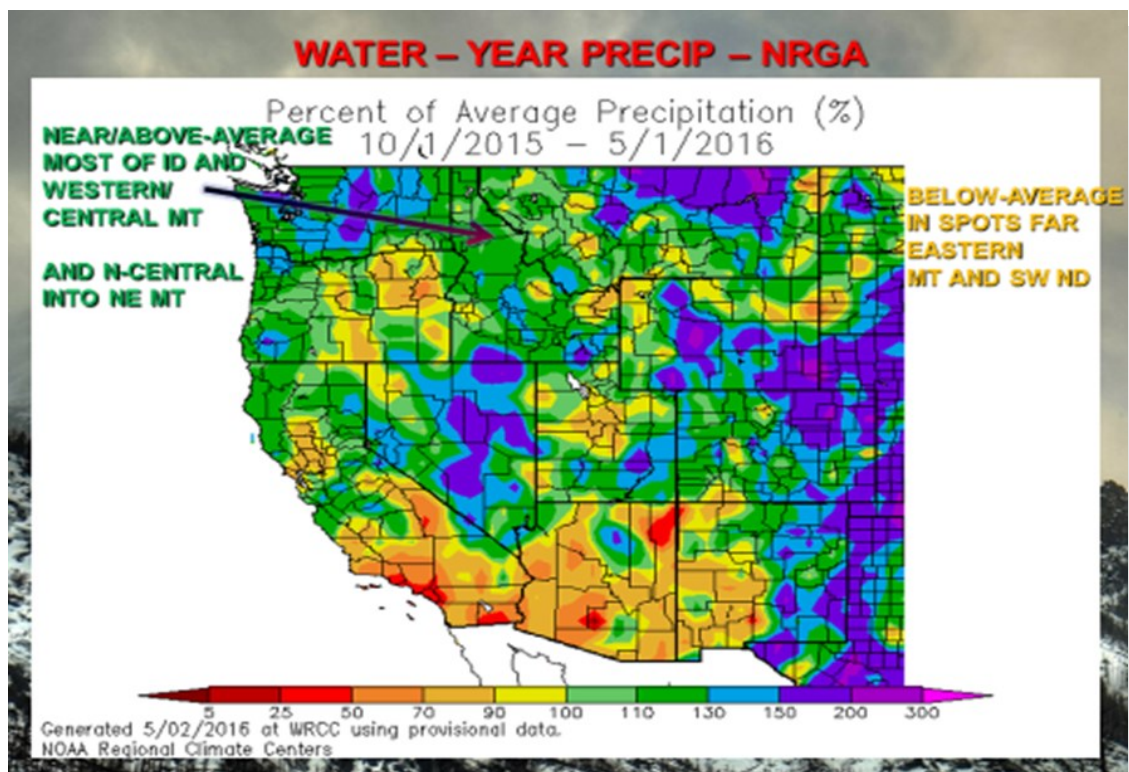


Image 3: Western US Water-Year (Oct.01 to Present) Precipitation, NOAA/Western Region Climate Center

2016 Predictive Services Northern Rockies Geographical Area (NRGA) Fire Season Outlook continued...

Image 4: Current NOAA/Climate Prediction Center Drought Outlook Through July

One unfortunate similarity to last year, this year has seen an early melt-out of our lower and middle elevation mountain snowpack's, which was a factor in last year's fire season severity. El Nino winter/springs in the NRGAs tend to exhibit well above-average temperatures, and this year has been no exception, as a greater frequency of weather systems entering into the region from the southwest and west occurs, bring very mild Pacific air inland, and limiting incursions of colder air from Canada. However, one key difference, and very likely the most significant for our season this

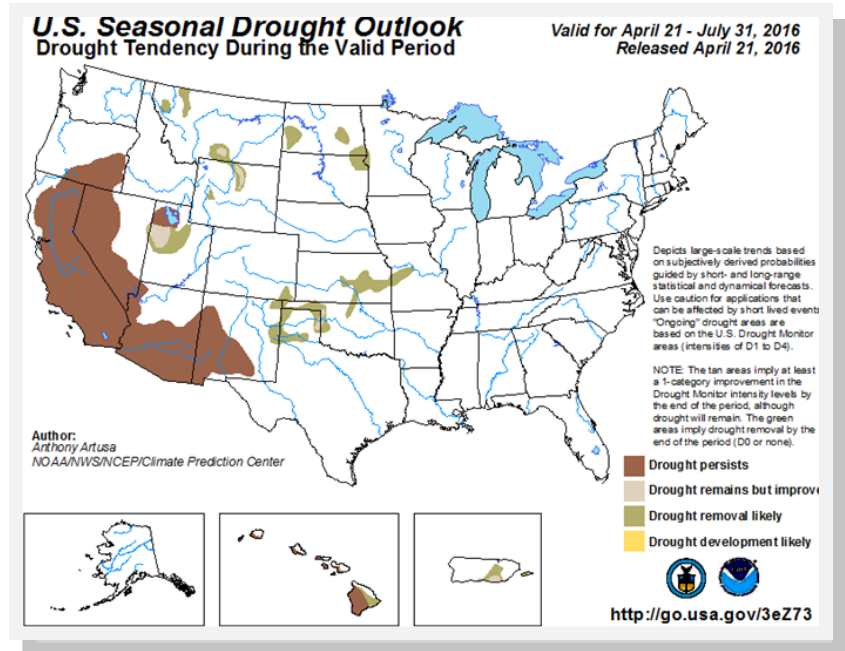
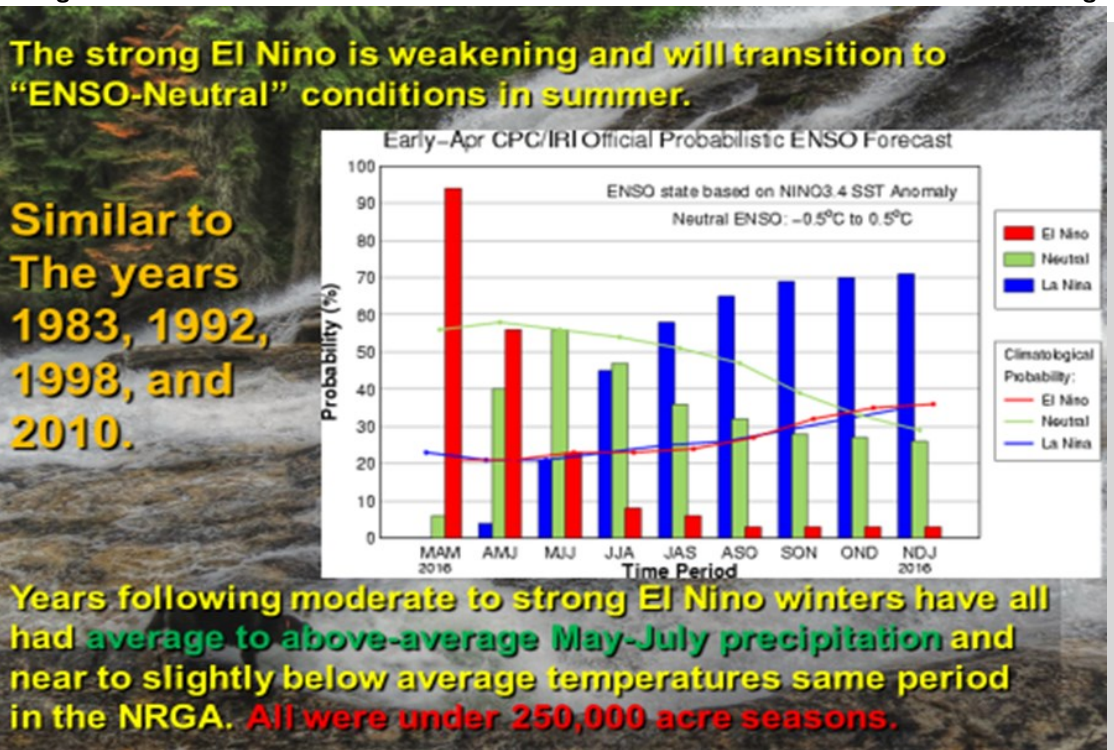


Image 5: NOAA/Climate Prediction Center El Nino Status/Forecast and Previous NRGAs Analog Years



year, is that our region tends to receive somewhat greater than average precipitation in the May through at least the mid-July period, along with near to slightly below average temperatures.

2016 Predictive Services Northern Rockies Geographical Area (NRGA) Fire Season Outlook continued...

While our temperatures have been much warmer than average so far this spring region wide, we are anticipating these to trend closer to average levels as we move forward toward summer. This is what has occurred in our previous analog years, 1983/1992/1998/2010, when we had moderate to strong El Nino conditions over the preceding fall/winter (image 5). These years had quieter seasons in the 250,000 acre or less category, in spite of the fact that these years also had relatively skimpy, and earlier melting mountain snowpack's, as we have this year.

Thus, our official projection of “normal” conditions, image 6, for July and August. However, this does not mean that there won't be significant large fire occurrence, with several Type 1 and 2 suppression teams deployed at times. But that the likelihood of lengthy extended periods of this is much lower this year, than in 2015 and other peak years. Areas of possible concern for enhanced activity this year are near and along the Front Range, in our Predictive Service Areas (PSAs) 07/08/10/11 and possibly far North Idaho and Northwest Montana (PSAs 01 through 06), where drought-stressed vegetation from last year could be a factor.

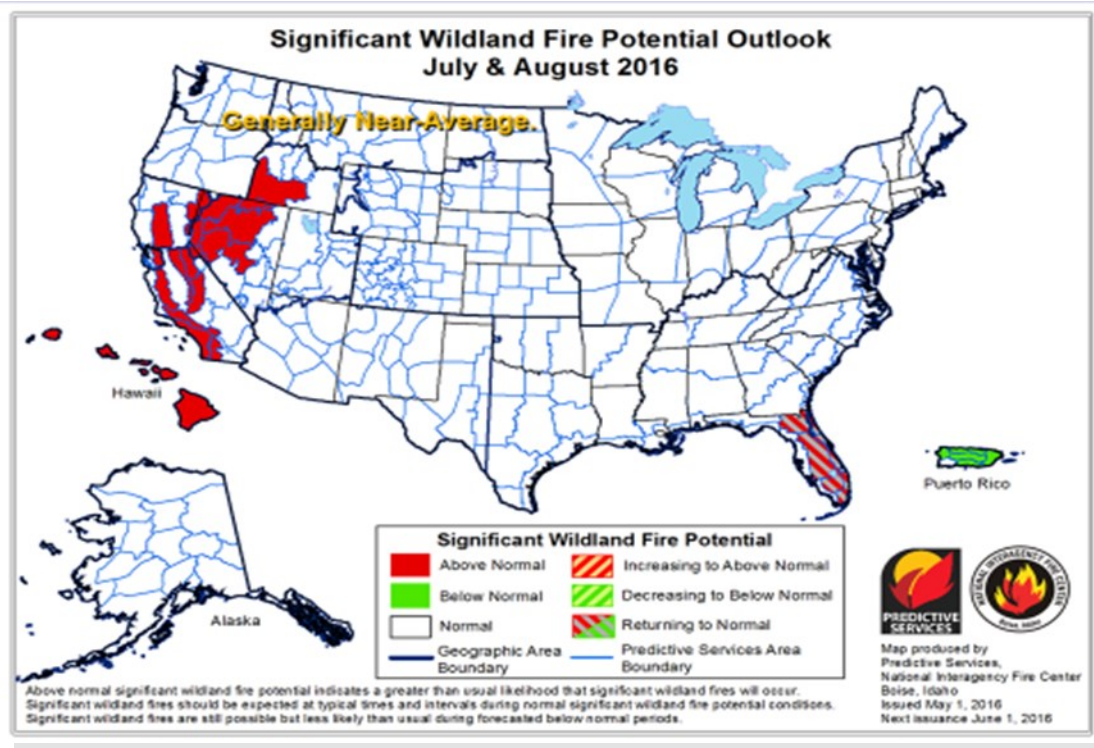


Image 6: Official Significant Wildland Fire Potential July/August 2016

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HAIL
 SNOW
 RAIN
 SLEET
 GRAUPEL
 THUNDER
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