Alaska Fire Season 2016 Forecast

Brought to you by:
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Overview

- General Factors
  - Snowpack and Fuels
  - Four-month outlook
- Teleconnections
  - El Nino Southern Oscillation Index
  - Pacific Decadal Oscillation
- Confidence Level / What Is Normal?
- Alaska Forecast

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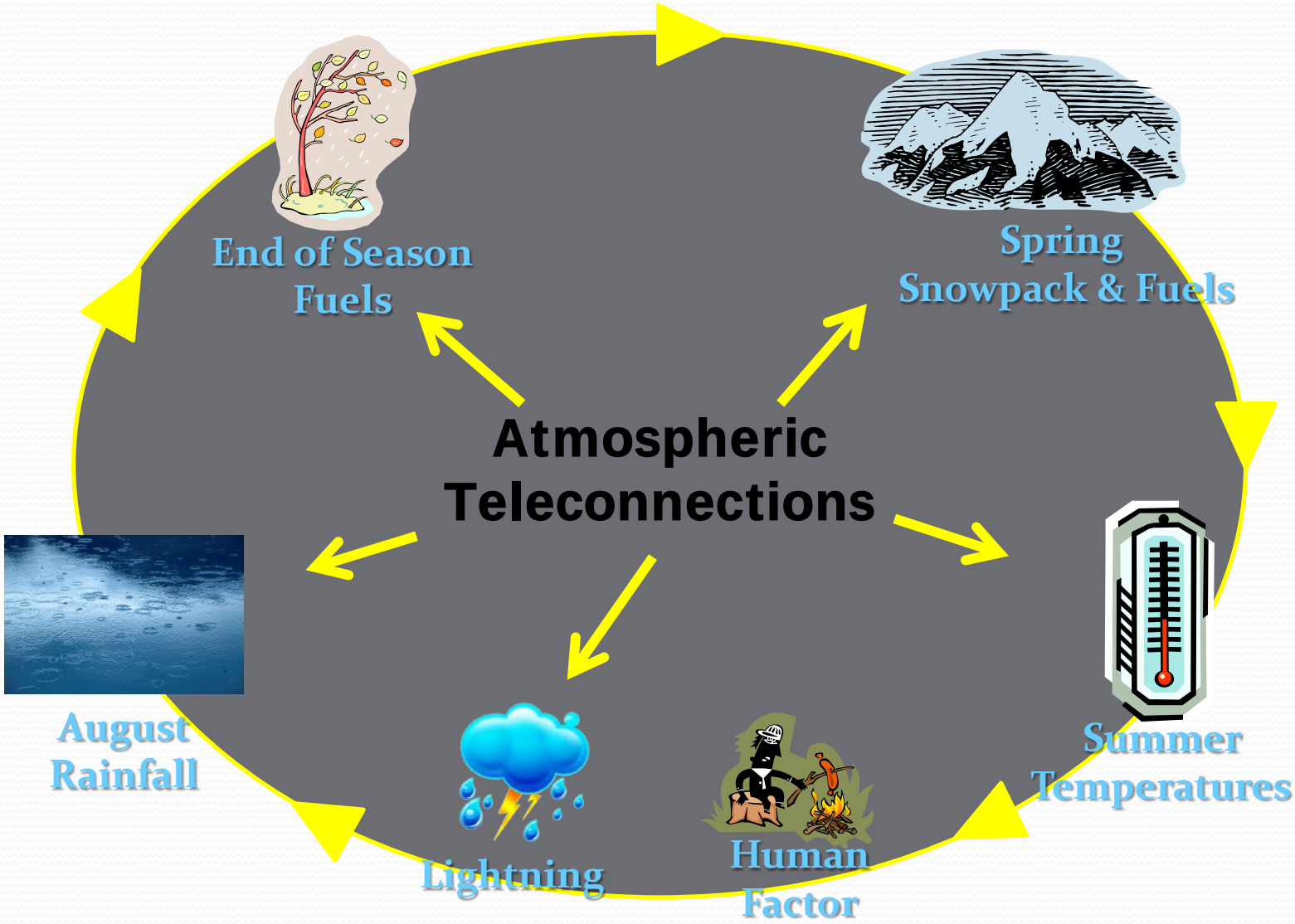
Factors Determining Fire Season



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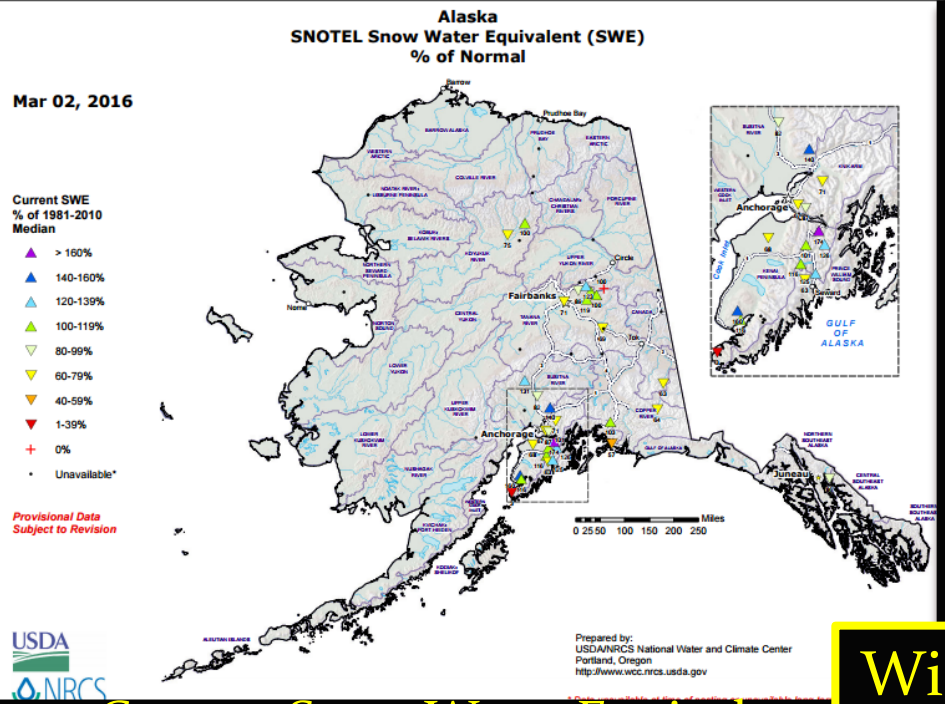
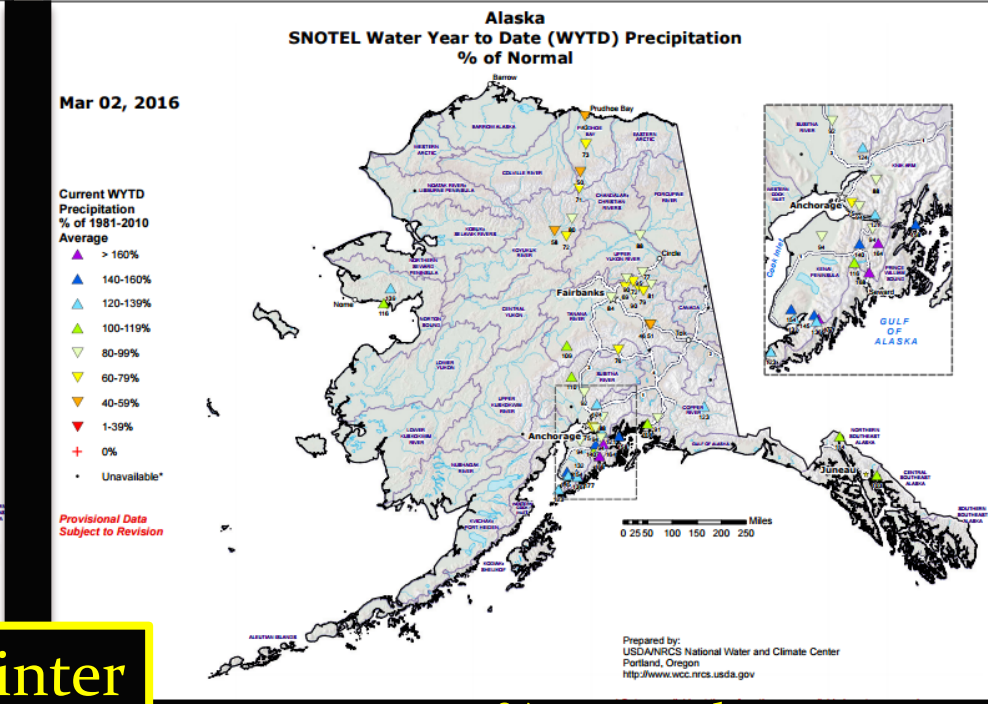
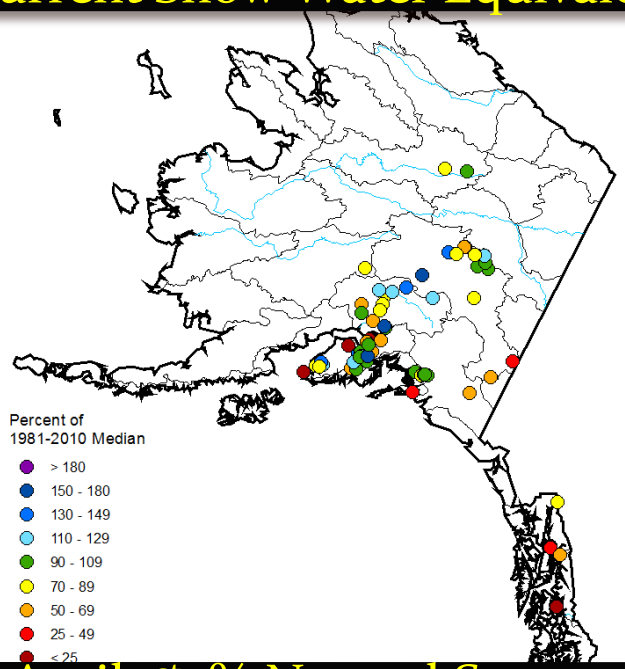


Current Snow Water Equivalent



Water Year % Normal Precip

Winter Precip

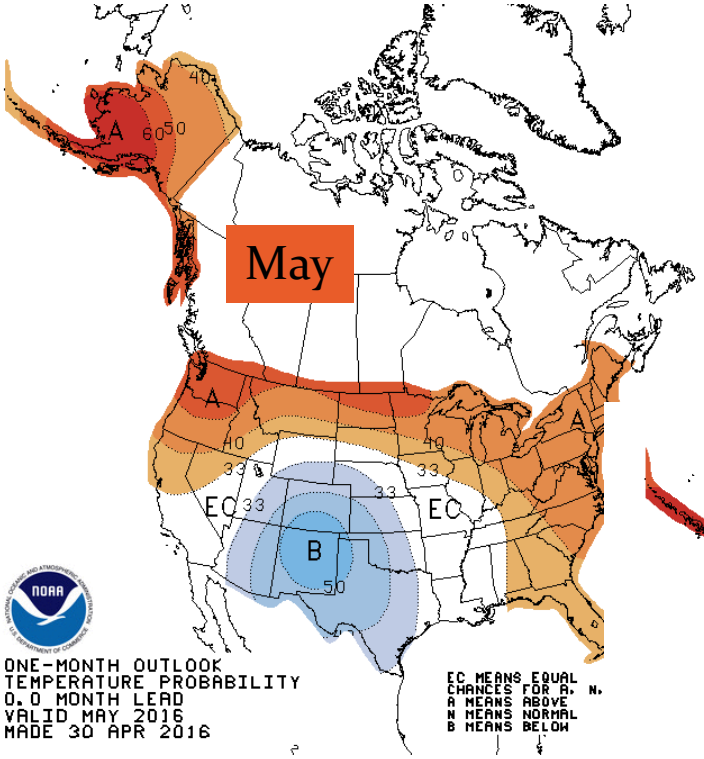


April 1st % Normal Snowpack

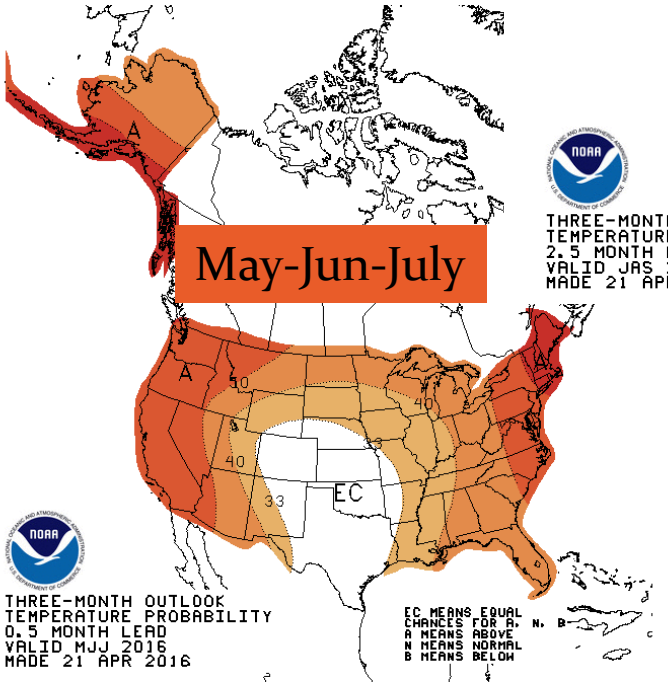
Notes

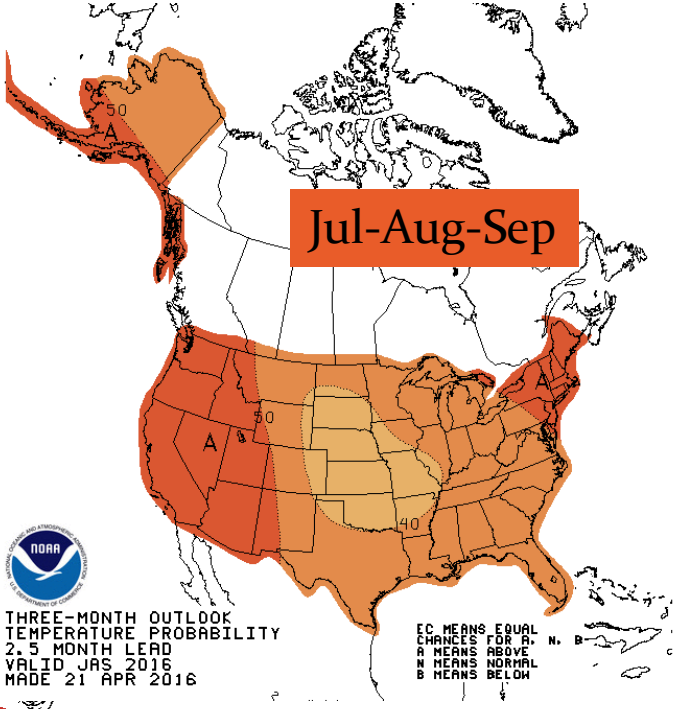
- Variable snowfall in southern AK, but enough rain to keep winter precip totals near normal.
- Though winter has been dry north of the Alaska Range, early season snows have held snowpack near normal
- West/southwest have a significant snow deficit, but better than 2015!

Temperature Forecast

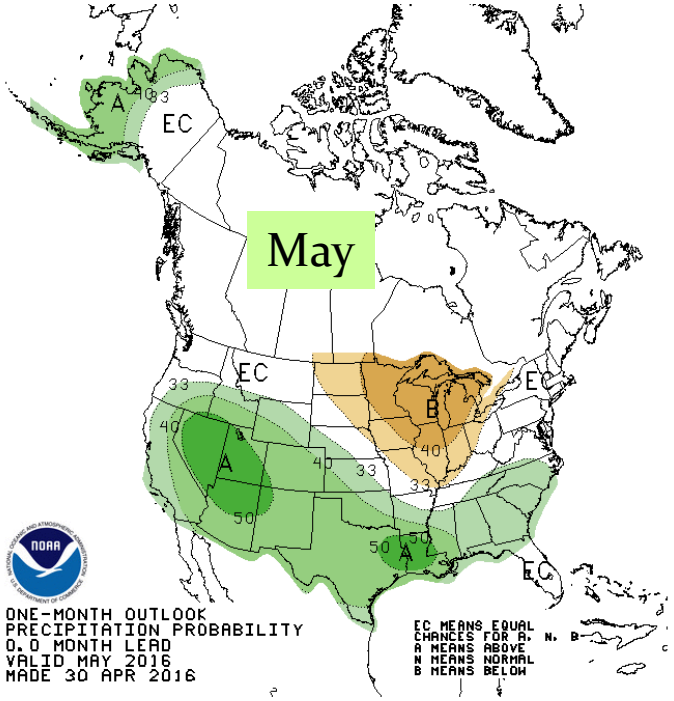


Still warm, fading a bit with El Niño

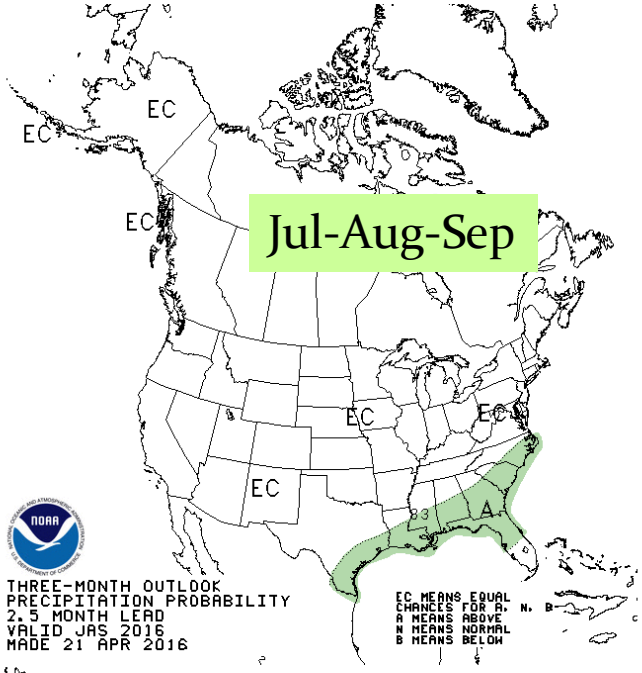


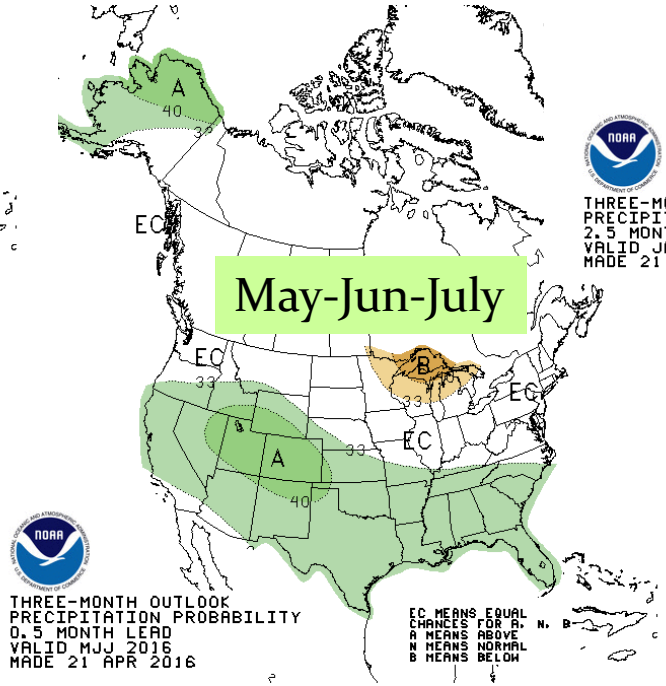


Precipitation Forecast



Low skill with precip, so take cautiously.





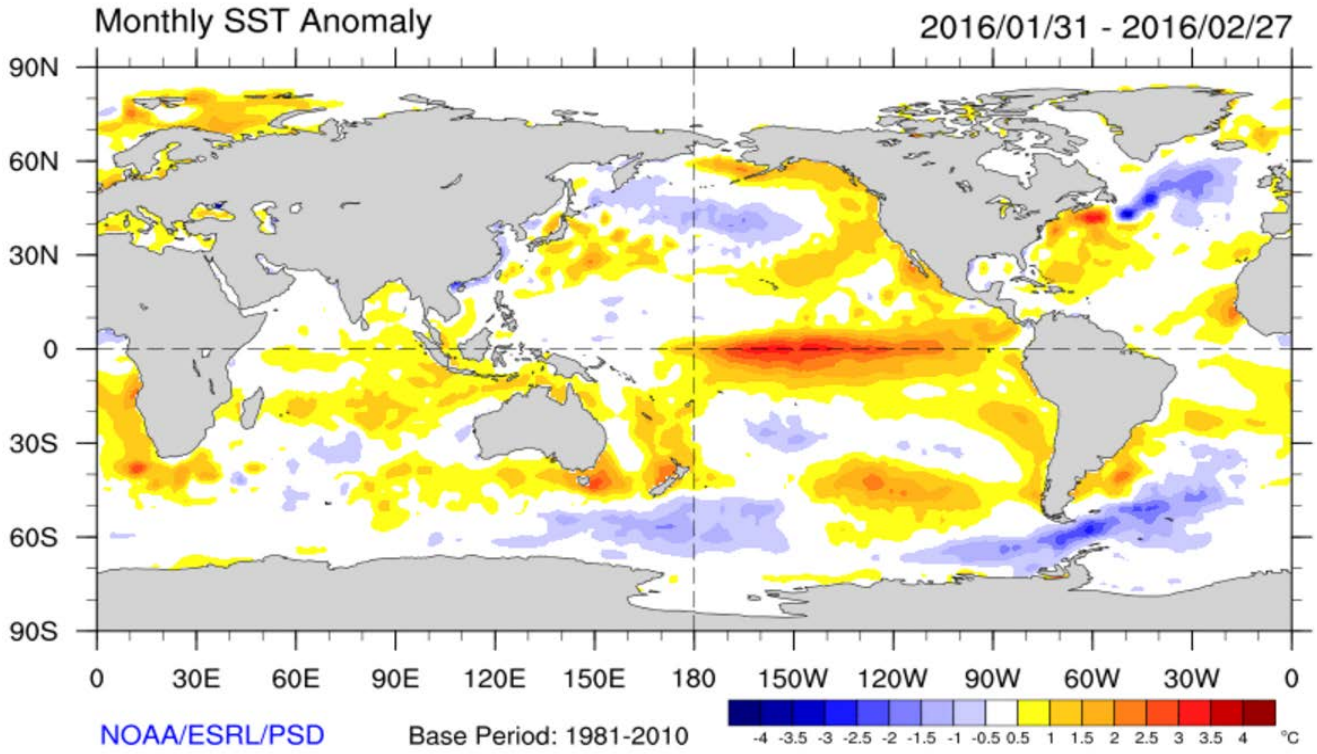
Teleconnection (s)

Definition:

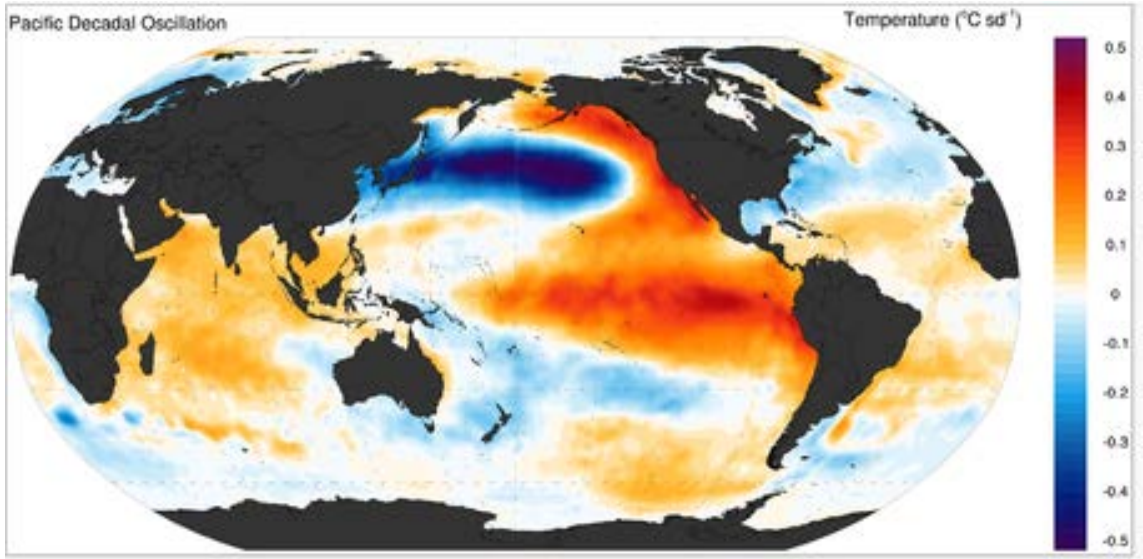
A linkage between weather patterns or changes occurring in widely separated regions of the globe.

El Niño

- 2015 has been an exceptionally strong (warm) event. Expected to continue into summer, but moderating by fall.



Pacific Decadal Oscillation

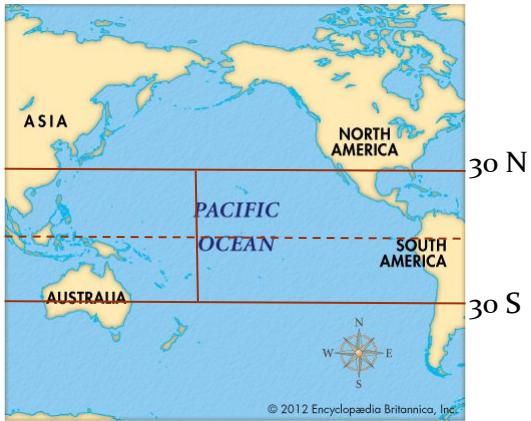


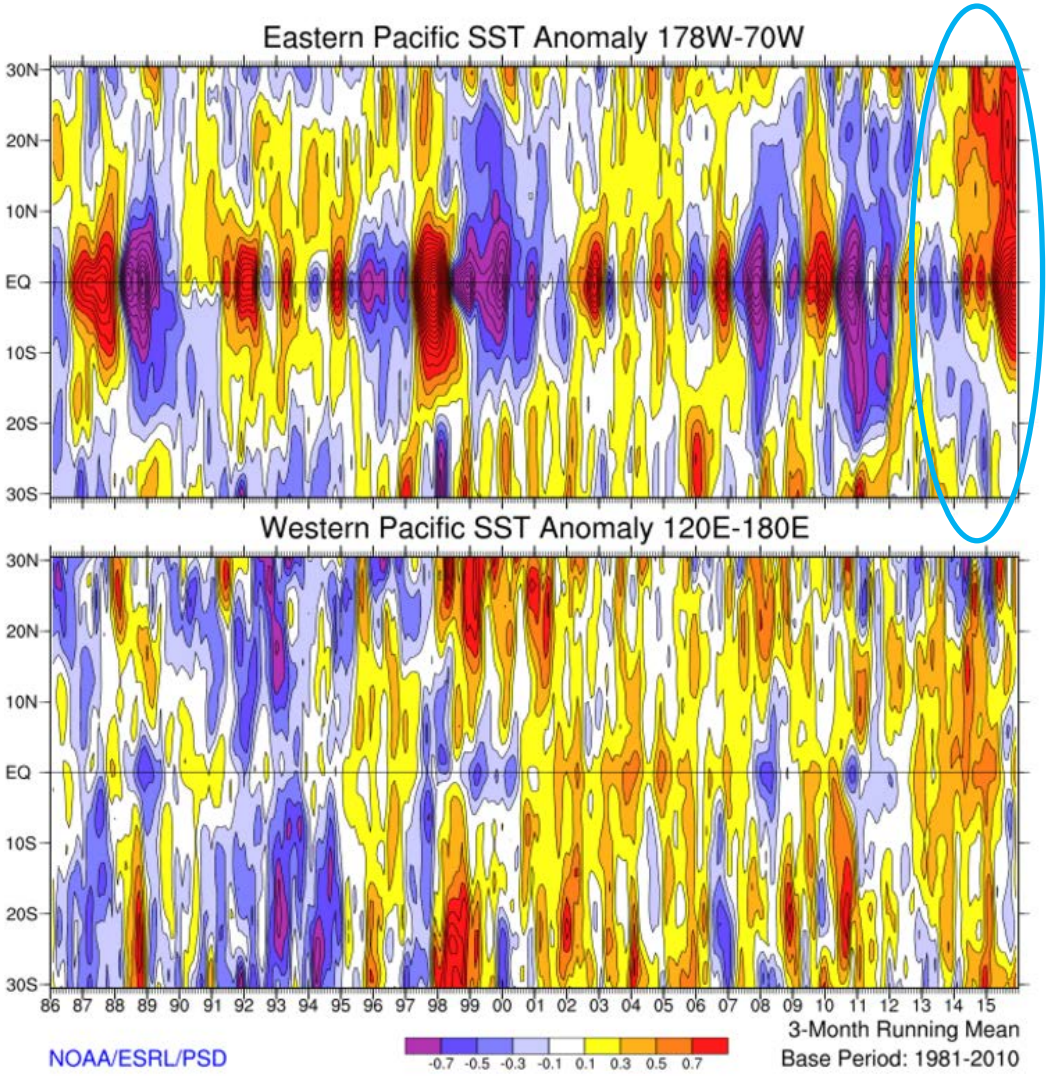
PDO positive phase global pattern

- The warm phase keeps very warm sea surface temps in the Gulf of Alaska.
- This has likely contributed to the warm winter in AK, and may help keep a warm, maritime air mass along the coast through spring, moderating fuels.
- Recently, many long-held PDO correlations have been challenged, so we will be are wary of any assumptions based on this teleconnection

Tropical SSTs

- This graph shows sea surface temps around the tropical Pacific for 30 yrs
- Note the intensity of the warm water since 2014
- Many factors here, but the intense warm signal is clear!





So, about our fire season…

- With low snowpack in southern Alaska, we expect a busy early season there again, particularly along the populated corridors of South Central.
- Warm, dry weather will continue to dominate.
- By June, we have no indicators to tell us whether the season will be busy. Lightning is the biggest player at that time, and difficult to forecast more than a few days out.

Confidence: Moderate

- Many factors are hard to forecast before the fire season
  - Difficult to pinpoint lightning intensity and location
  - Timing and duration of precipitation- showers
- High confidence on the forecast of an above normal May in the southern and western portions of the state.
- Otherwise, there is little to indicate trends for the rest of the summer.

What is a Normal Fire Season?

- Intensity of a fire season is determined by many parameters:
  - Number of acres burned for season 
  - Geographic distribution of fire activity
    - Portion of the state involved
    - Proximity to populated areas
  - Chronological distribution of fire activity
    - Day length determines potential burn period
    - Fires occurring simultaneously
  - Amount of resources available or in use at any time
- Predictive Services focuses on the first item on this list!

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Then what is Normal Acreage Burned?

- 1950-2012, the annual average is .91M (911,060) acres burned.
- **We've determined "Normal" to be about 1 M acres.**
- 10-yr (2006-2015) average is 1.2M acres burned annually.
- In the last decade, 2 years appear close to "normal"

Year	# Fires	# Acres
2006	307	266,268
2007	509	649,411
2008	367	103,649
2009	527	2,951,593
2010	688	1,125,419
2011	515	293,018
2012	416	286,888
2013	612	1,316,288
2014	377	233,544
2015	772	5,146,541
Mean	509	1,237,262
Median	512	471,215

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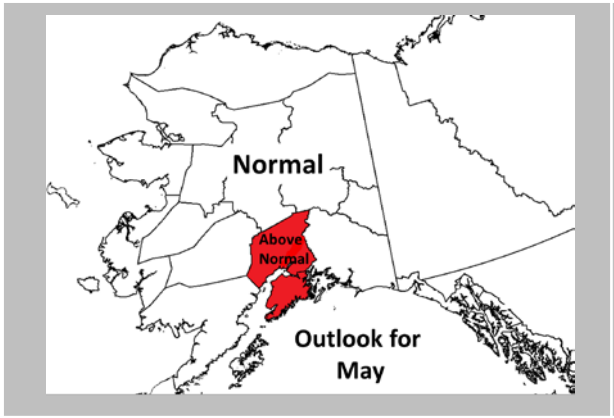
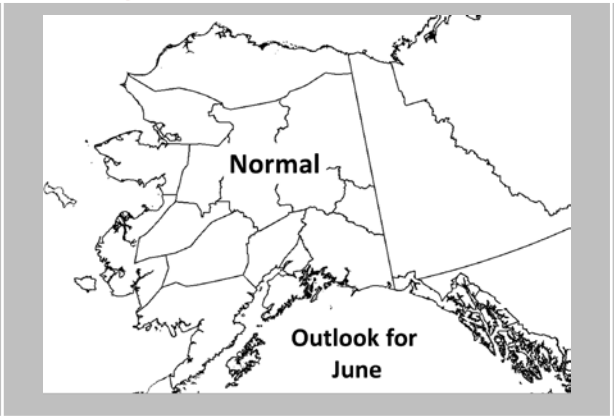
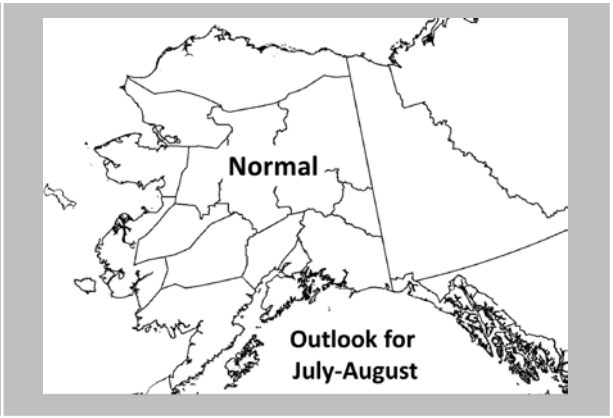
Alaska Monthly Fire Potential Outlook







Forecast:

- The forecast for May is for above normal fire activity around South Central, particularly around the Anchorage Bowl, Kenai Peninsula and the Matanuska-Susitna Valley. Fire potential will return to normal in June through August.

Factors:

- Climate Prediction Center (CPC) outlook maps continue to indicate a high likelihood of warmer than normal conditions across the all of Alaska this spring and summer. The warm temperatures contributed to low snowpack in southern Alaska this past winter, particularly around the Matanuska Valley, Anchorage Bowl and Kenai Peninsula. Much like last spring, this has lead to early exposure of burnable fuels and increasing fire activity 2 to 3 weeks earlier than normal. This could create increased fire potential particularly in the fine fuels along the populated corridors of southern Alaska. Snow melt is moving northward about 1-2 weeks earlier than normal. The warm spring is also bringing green-up about 1-2 weeks early as well.
- Though late-season snows did help the situation somewhat in April, the last two years have had similar external factors, such as a warm water pool in the Gulf of Alaska and a forcing of colder air farther north. If this spring continues at these warmer temperatures, this spring may emerge in much the same way as last year's.
- The Canadian Fuels and Fire Danger Rating System (CFFDRS) Fire Weather Indices are being calculated across the southern half of Alaska at this time. Calculations will resume over most of the state in the next 2-3 weeks as the ground rapidly becomes snow-free.

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Keep up to date with monthly updates and the national forecast at

http://fire.ak.blm.gov/predsvcs/outlooks.php

Have a good and safe 2016 Fire Season!

Questions?
Call 907-356-5691

Bird Ridge,
Turnagain Arm
April 16, 2016

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