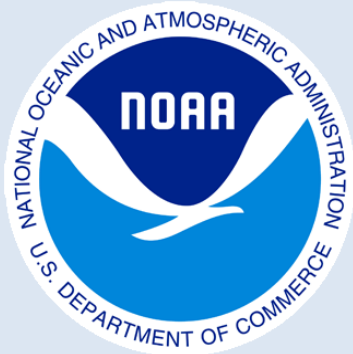


NOAA Climate Science & Services

Monthly Climate Update



Jessica Blunden

Climate Scientist, NOAA National Centers for
Environmental Information

Rick Thoman

Climate Science and Services Manager, NOAA
National Weather Service, Alaska Region

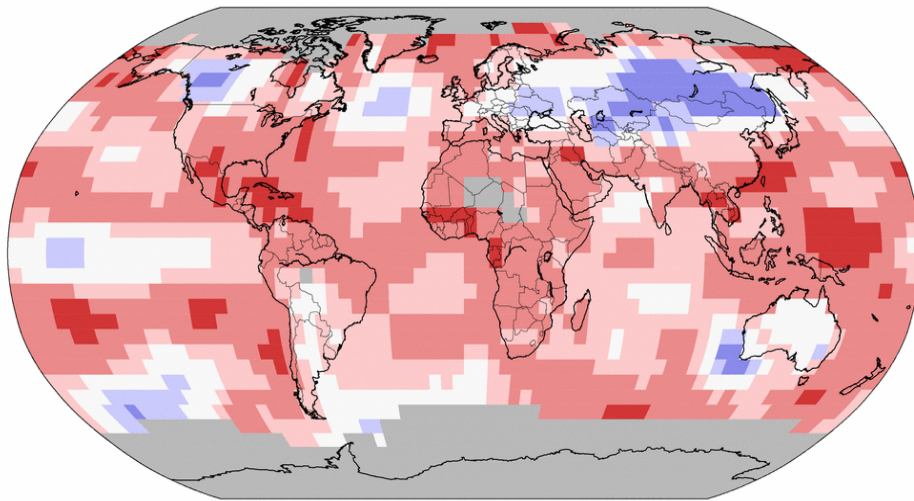
Stephen Baxter

Meteorologist & Seasonal Forecaster , NOAA Climate
Prediction Center, Operations Prediction Branch

Oct 2016: Global Temperature Anomalies

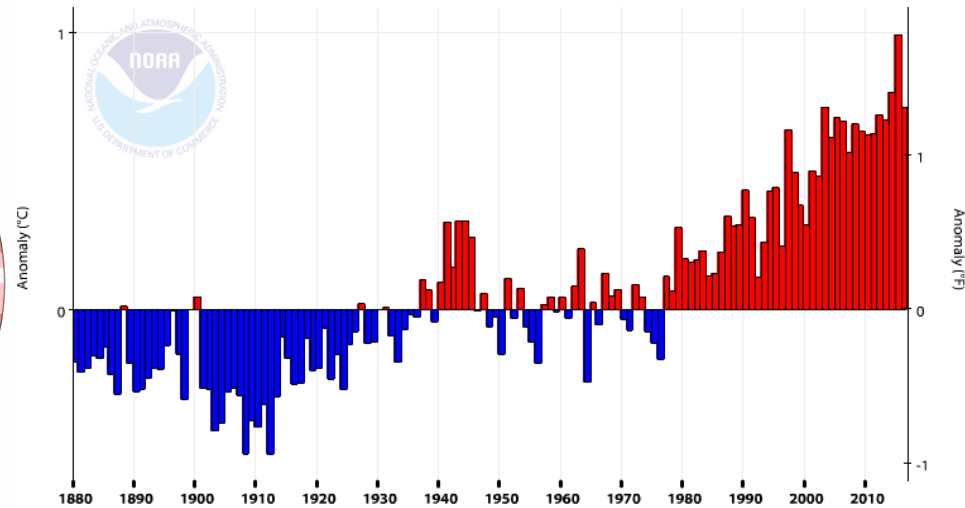
Land & Ocean Temperature Percentiles, October

NOAA's National Centers for Environmental Information
Data Source: GHCN-M version 3.3.0 & ERSST version 4.0.0

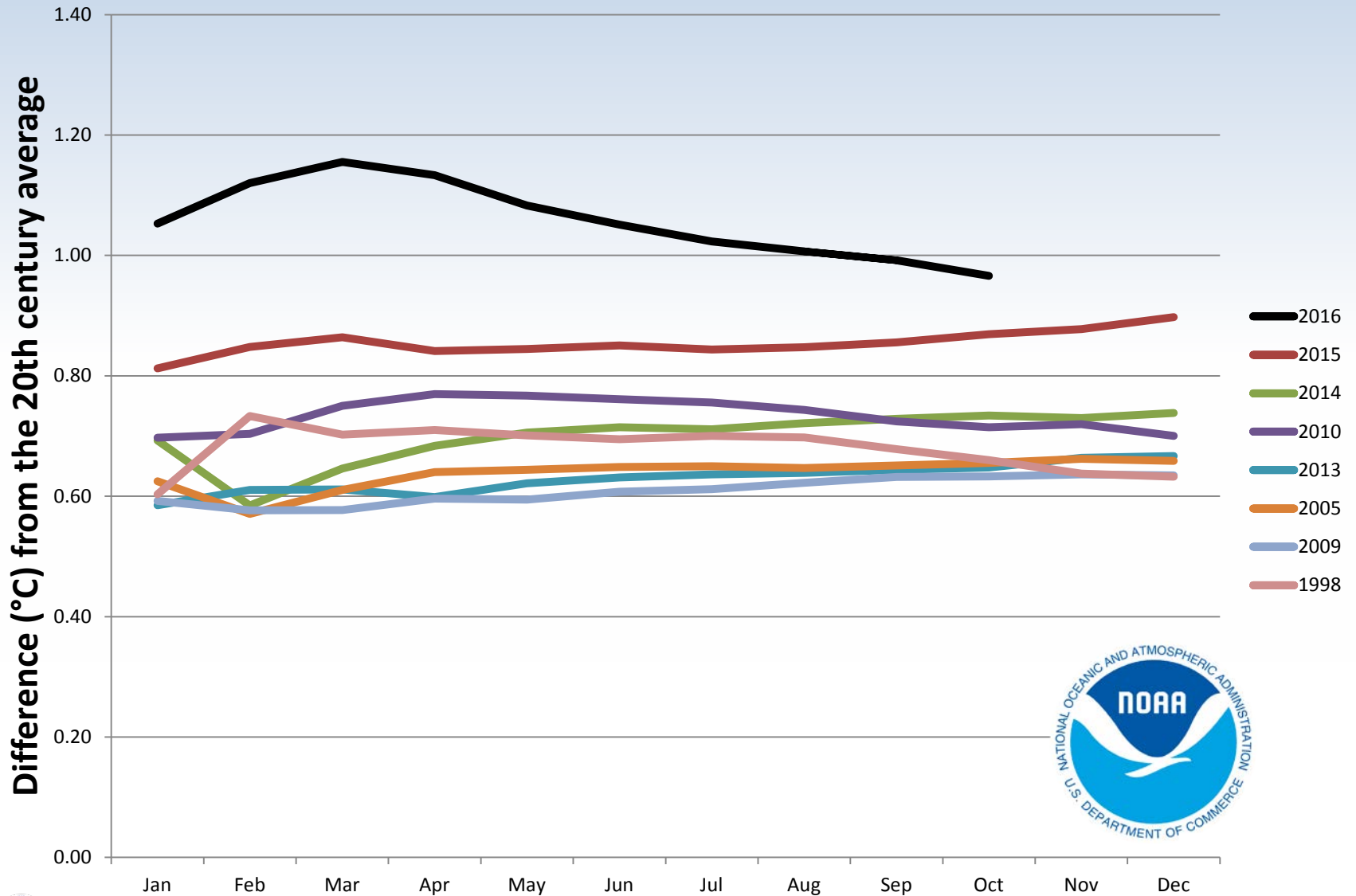


Mon Nov 14 07:06:20 EST 2016

Global Land and Ocean Temperature Anomalies, October



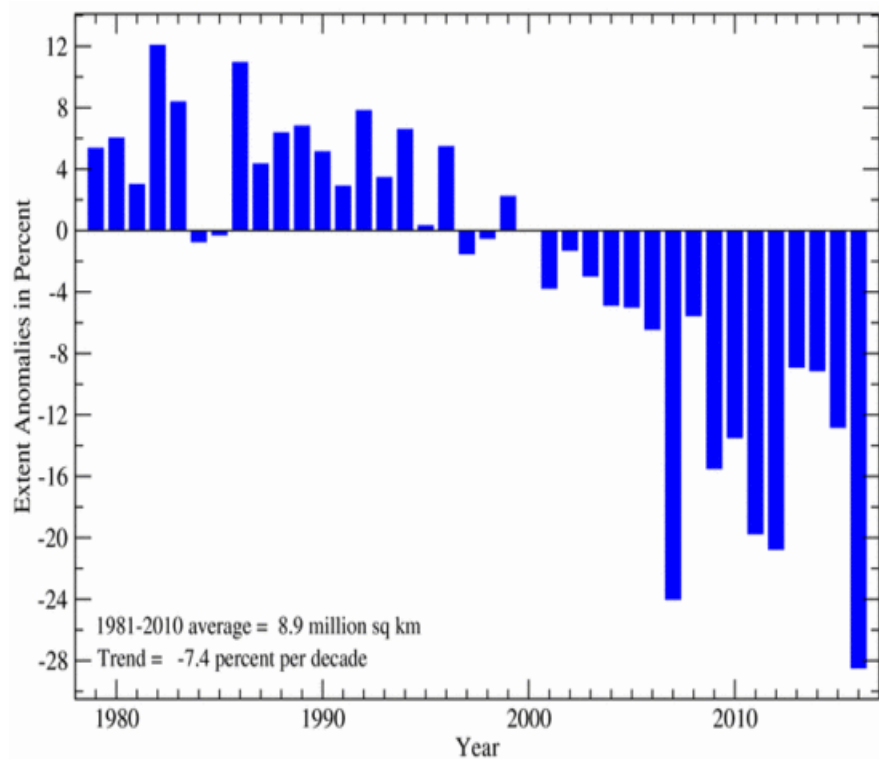
Year-to- Date: Temperature Anomalies



Oct 2016: Sea Ice Extent

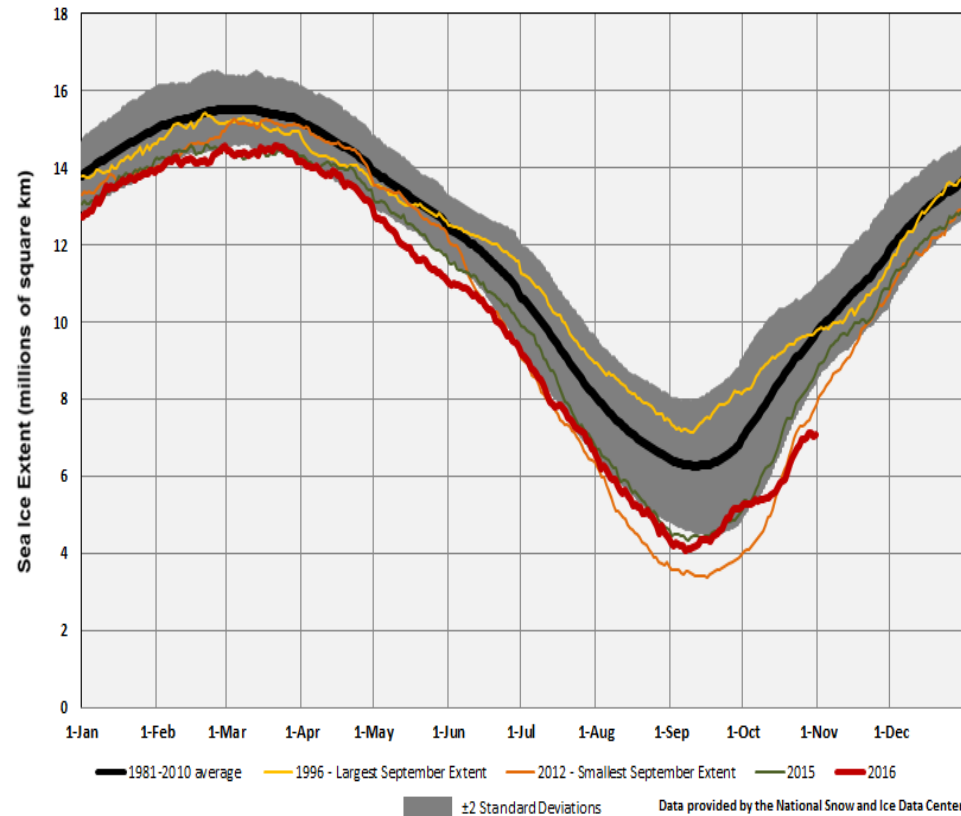
Record Low For October

Northern Hemisphere Sea Ice Extent
October Anomalies, 1979-2016



Data provided by the National Snow and Ice Data Center (NSIDC)

Arctic Sea Ice Extent – Daily
Data through October 31, 2016

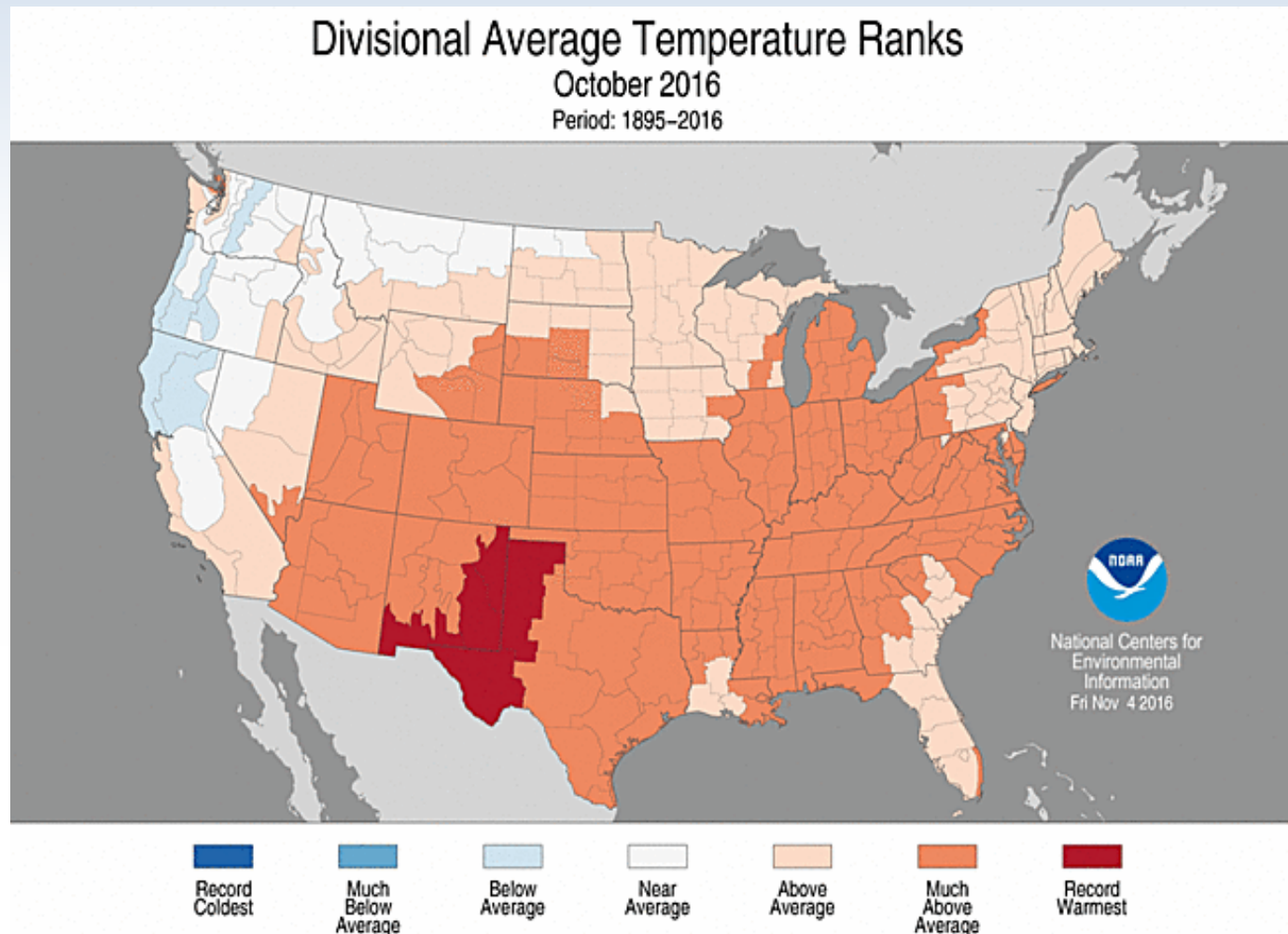


Data provided by the National Snow and Ice Data Center

Oct 2016: U.S. Temperatures

CONUS: 57.7°F; 3.6°F above 20th century average;
3rd warmest Oct in 122-year record

- Widespread warmth blankets USA
 - “much above normal” (top 10%) for most of the nation
- Daily temp records tied/broken: 7,025 warm; 508 cold
- New Mexico record warm

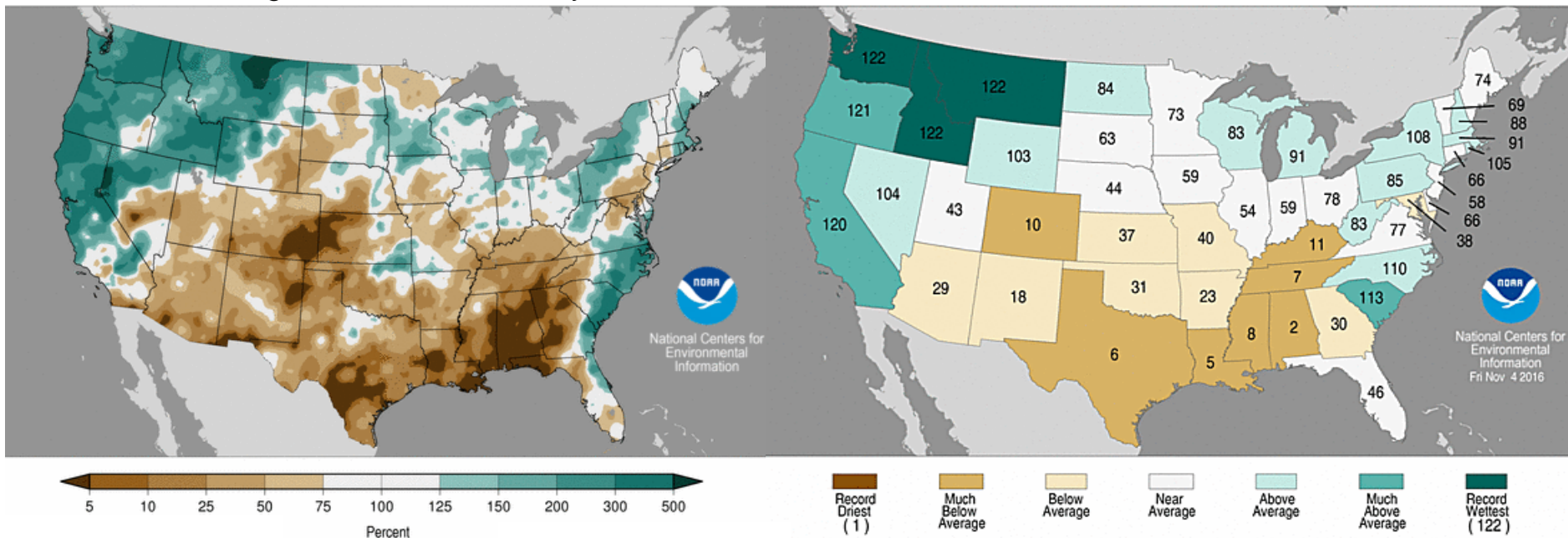


Oct 2016: U.S. Precipitation

CONUS: 2.33"; Near-normal, 0.17" above 20th century average

Precipitation Percent of Average
October 2016
Average Period: 20th Century

Statewide Precipitation Ranks
October 2016
Period: 1895-2016



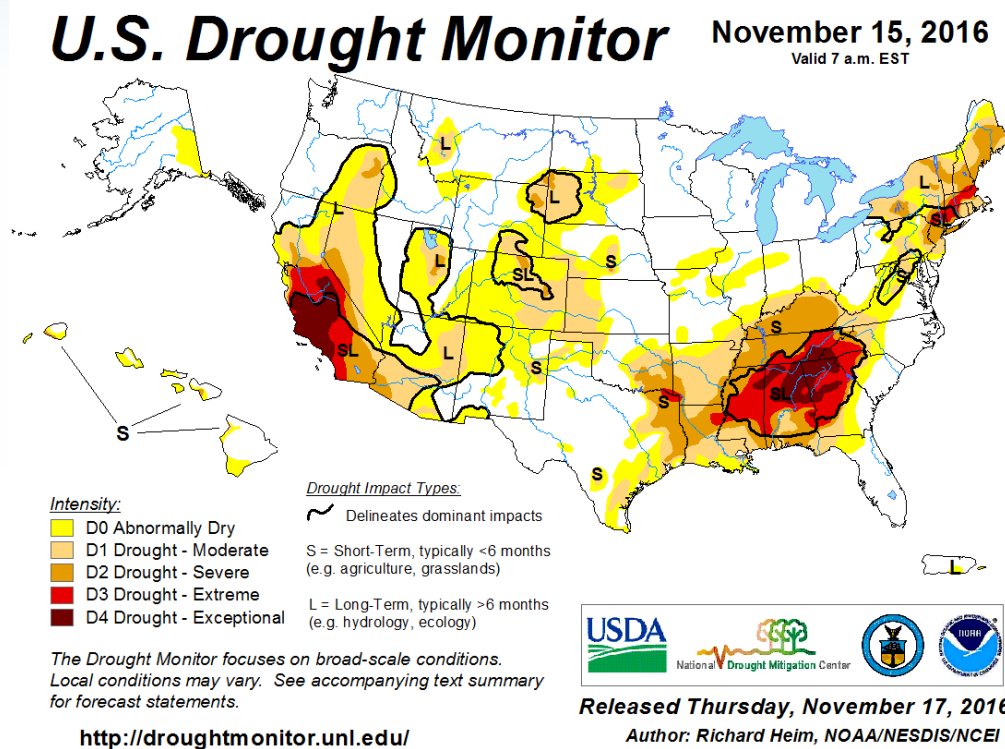
- Near normal average masks regional extremes
- Record and near-record wet in Northwest; Significant dryness in Southeast

Current U.S. Drought

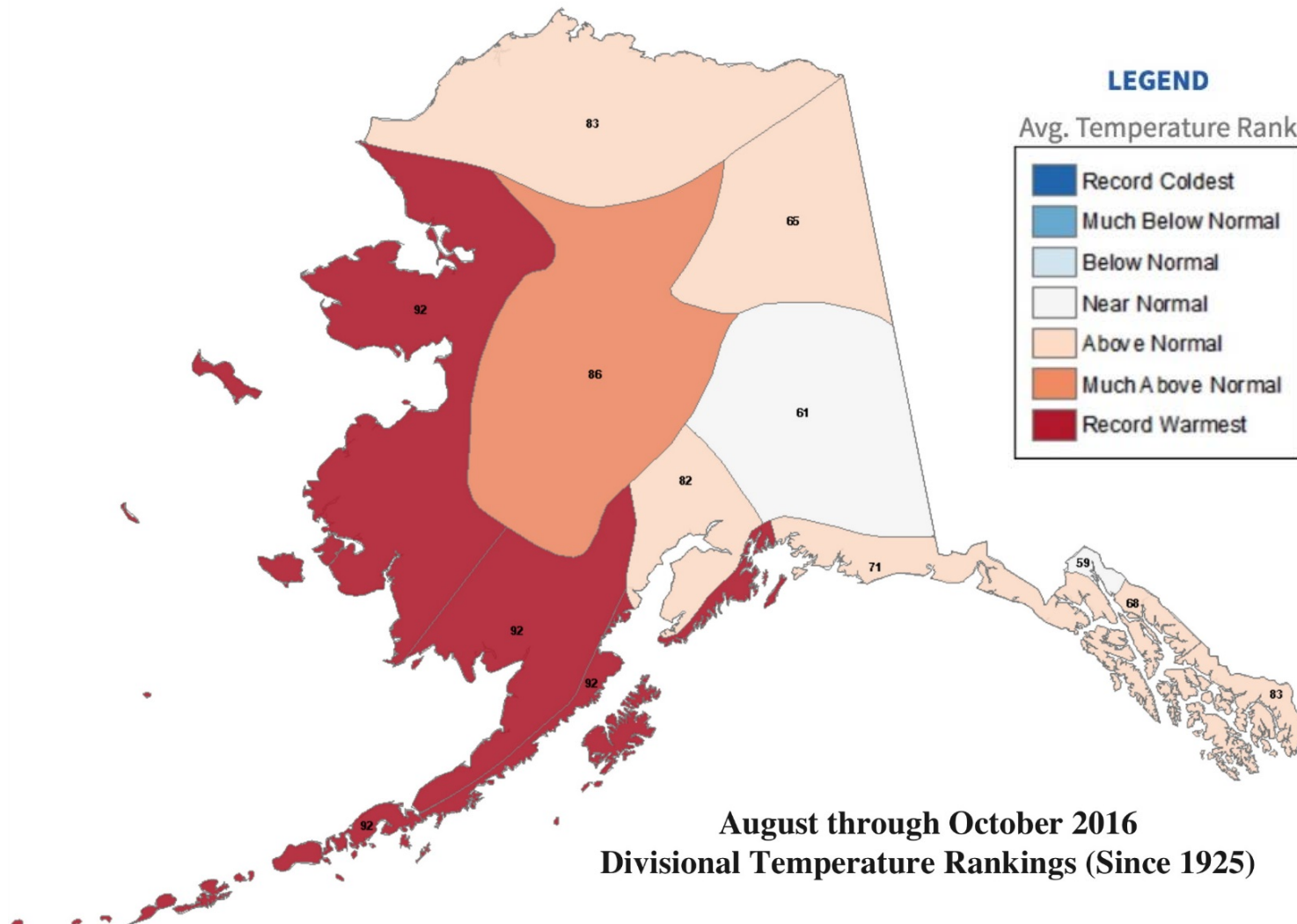
25.2% of Contiguous U.S. in Drought

(↑ ~10.7 percentage points since early October)

- **Degradation:** Tennessee Valley into lower Ohio Valley, Southern Appalachians, upper mid-Atlantic into Northeast, Central Plains into Southern and Central Rockies
- **Improvements:** Pacific Northwest, northern California, Northern Rockies and parts of Northern Plains

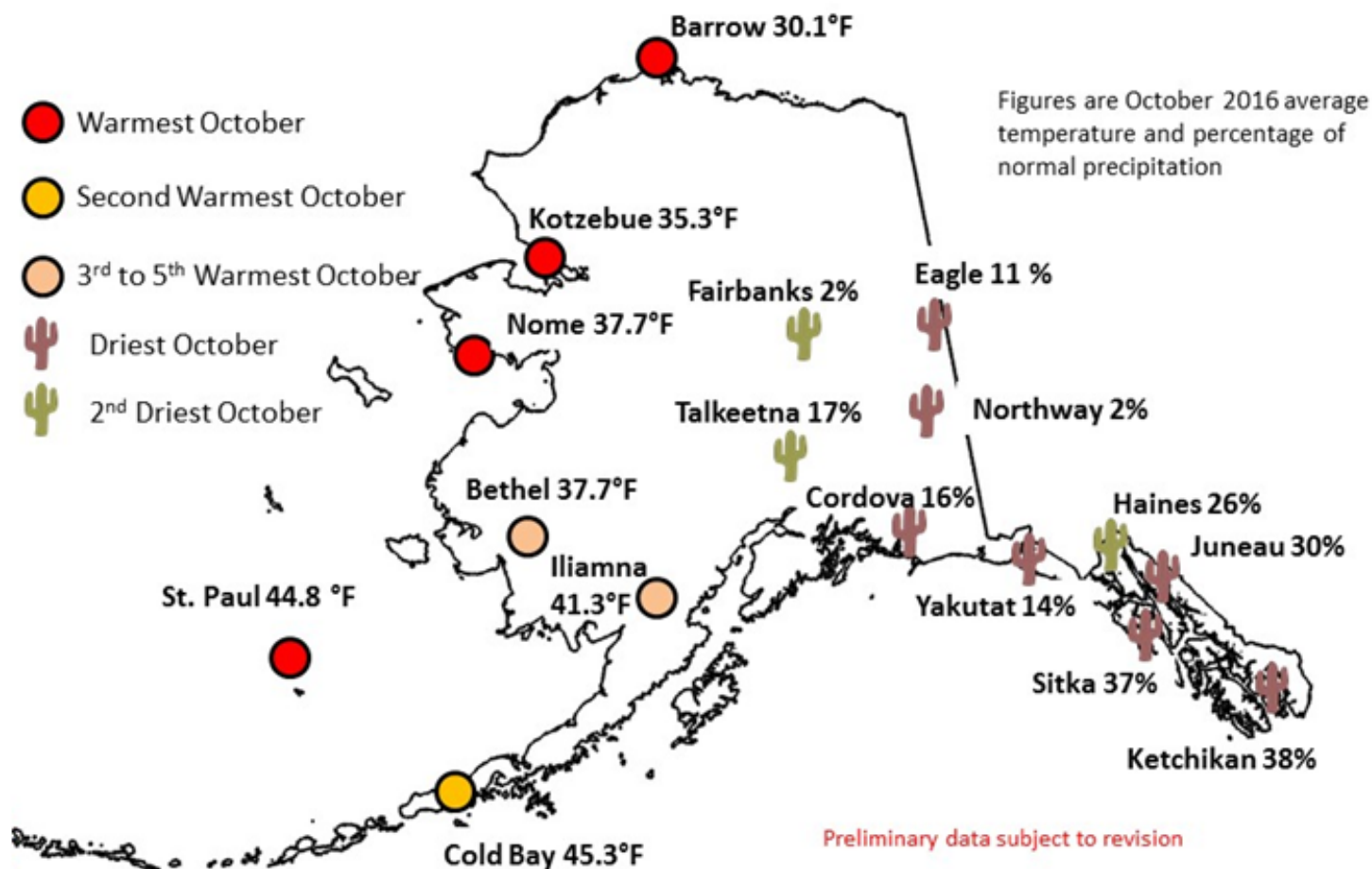


Alaska Remains Hot



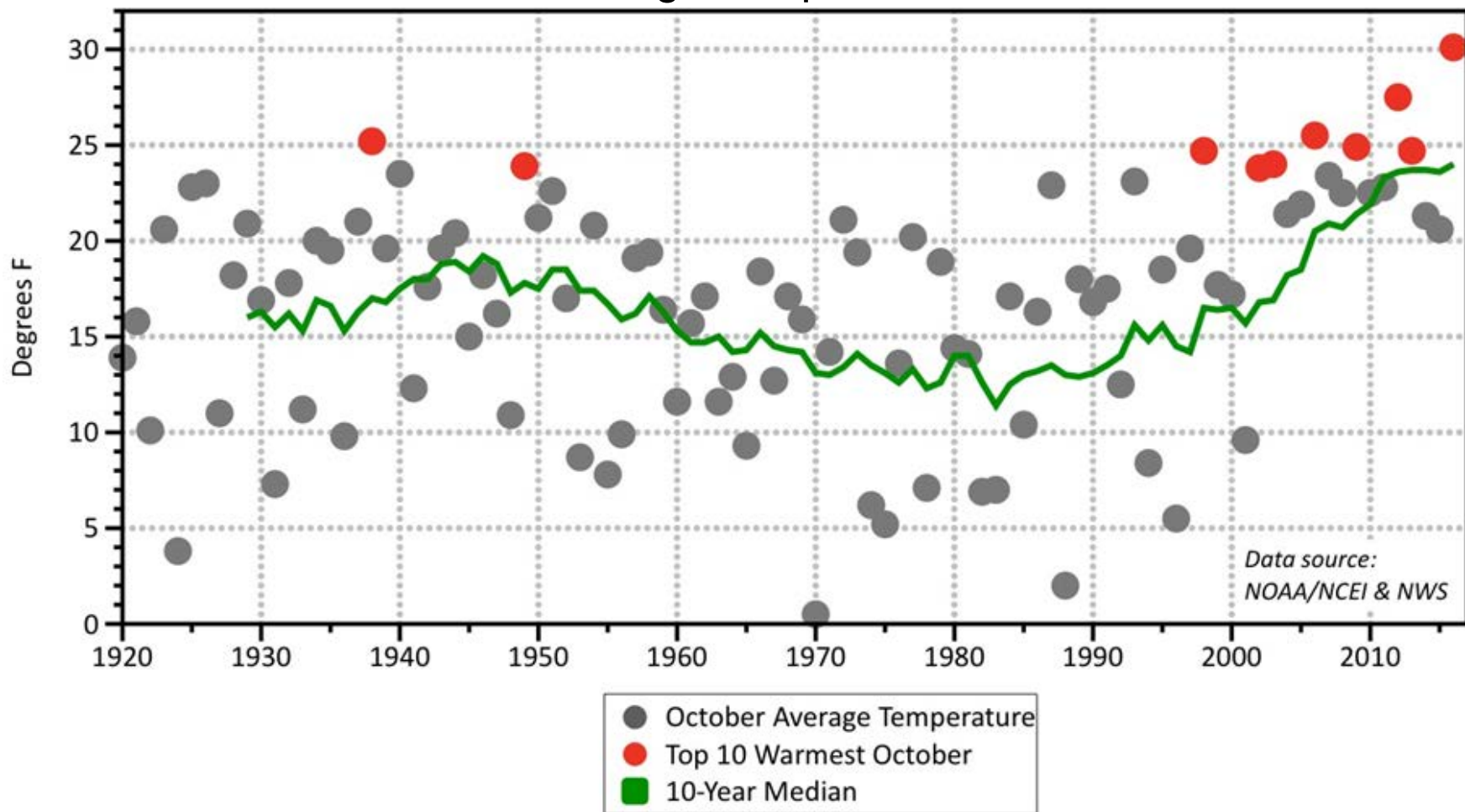
October Twist: Dry Southeast

October 2016 Climate Highlights



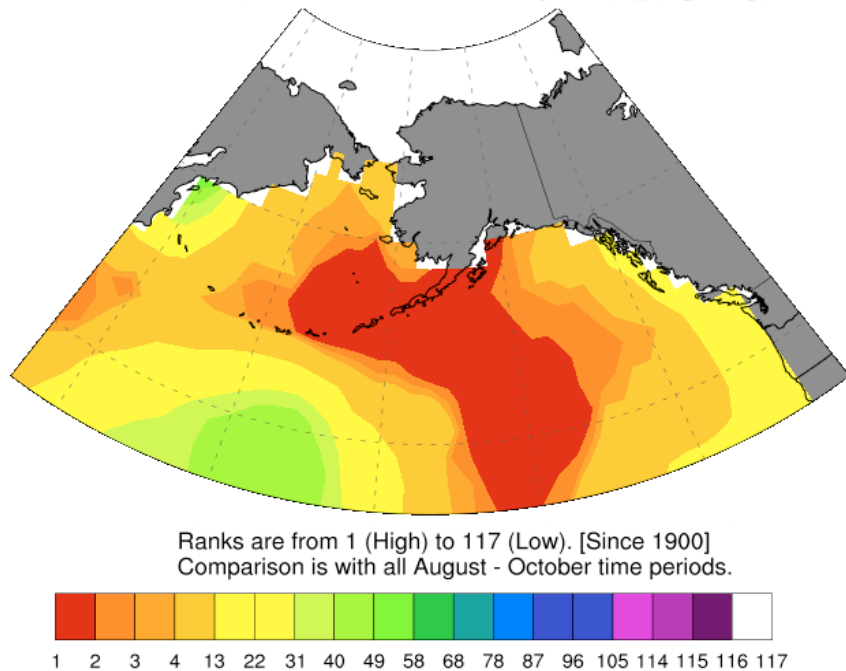
Alaska's Arctic has Changed

Barrow, Alaska
October Average Temperature, 1920-2016

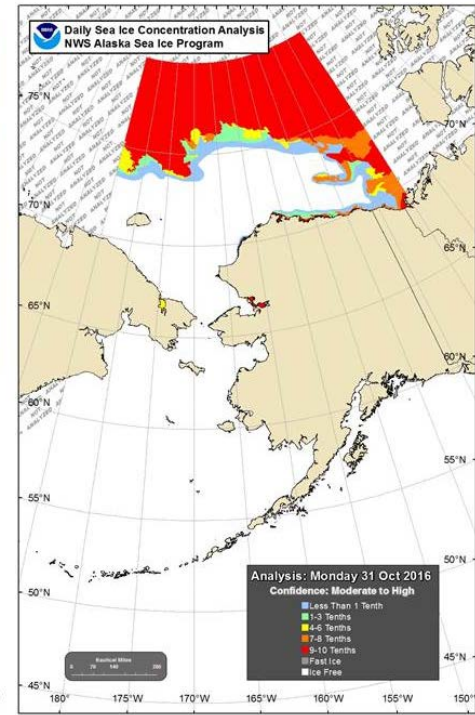
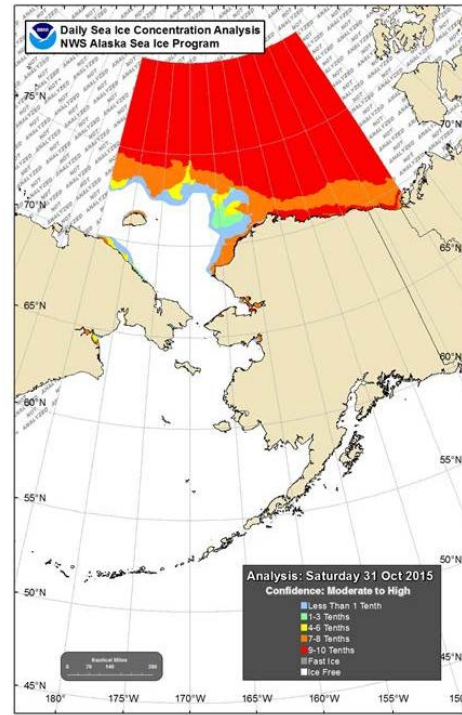


Oceans Gone Wild

ERSST v4 Temps: August 2016 - October 2016



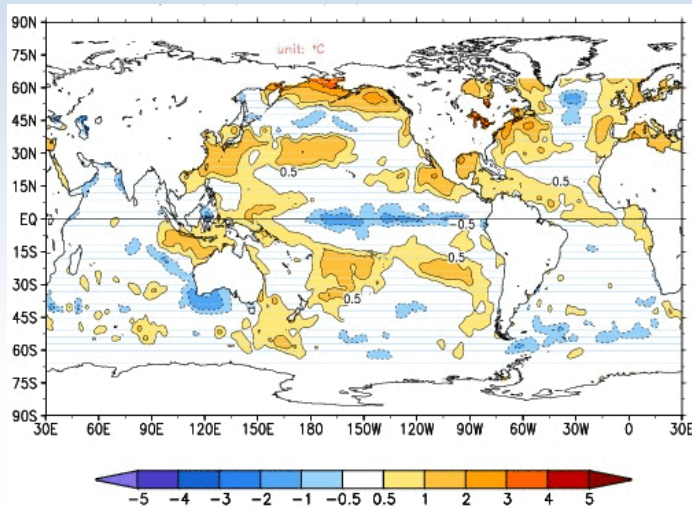
Data source: NOAA/NCEI
Analysis: B. Brettschneider/UAF



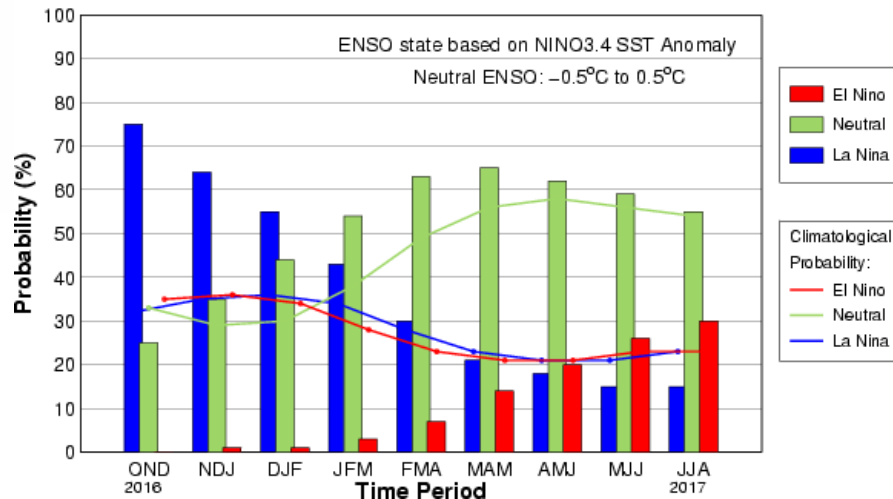
Source: NOAA/NWS Alaska Region Sea Ice Program

Sea Surface Temperatures and ENSO

Average SST Anomalies
15 Oct 2016 – 09 Nov 2016



Early–Nov CPC/IRI Official Probabilistic ENSO Forecast



• Sea surface temperatures

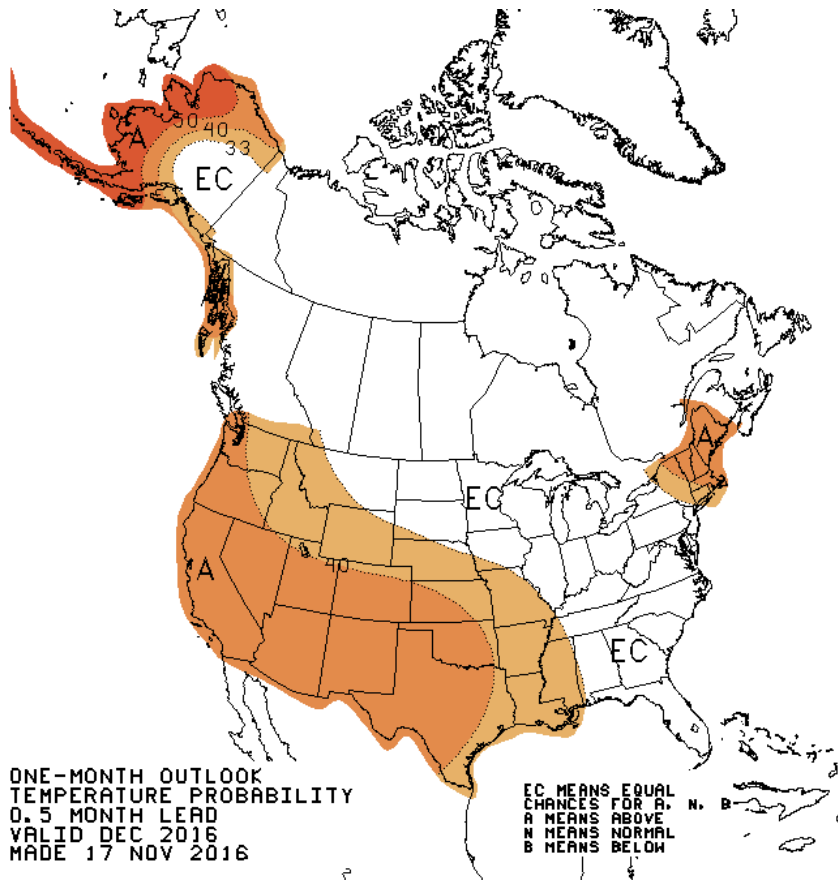
- Below-average SSTs are evident across the equatorial Pacific.
- North Pacific SST pattern has changed over the past couple of months in response to strong atmospheric forcing.
- La Niña Advisory is in place.

• ENSO forecast

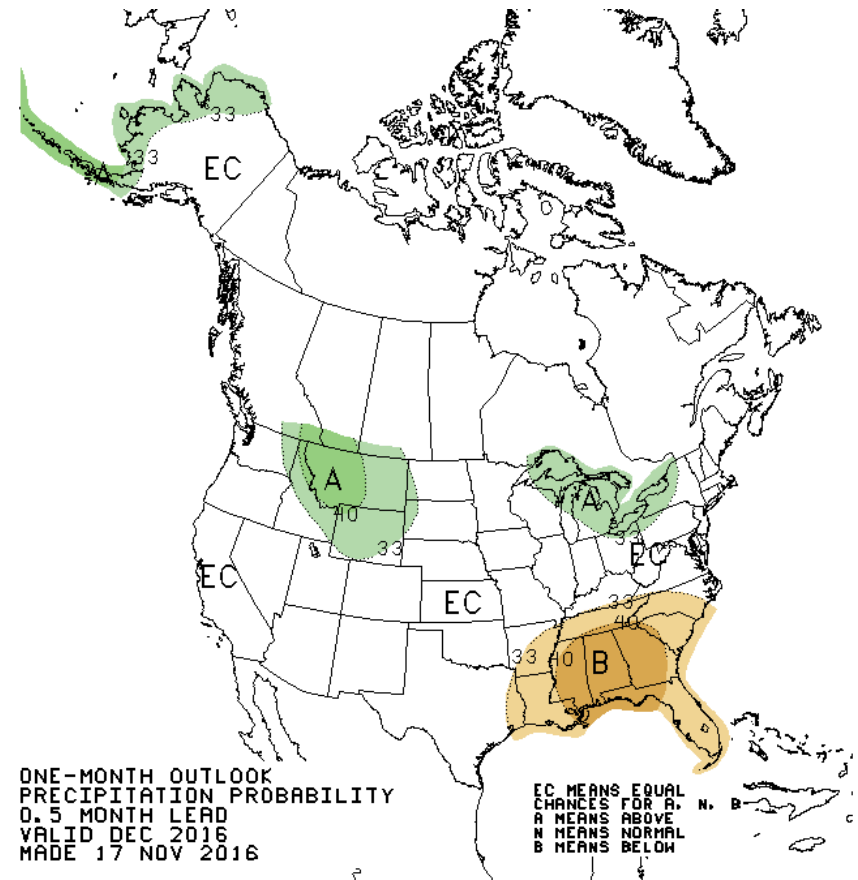
- La Niña is likely to persist through DJF.
- A transition to ENSO neutral is anticipated during late winter.
- By summer, a slight tilt toward El Niño development is indicated relative to climatology.

Monthly Forecast (December)

December Average Temperature Probability

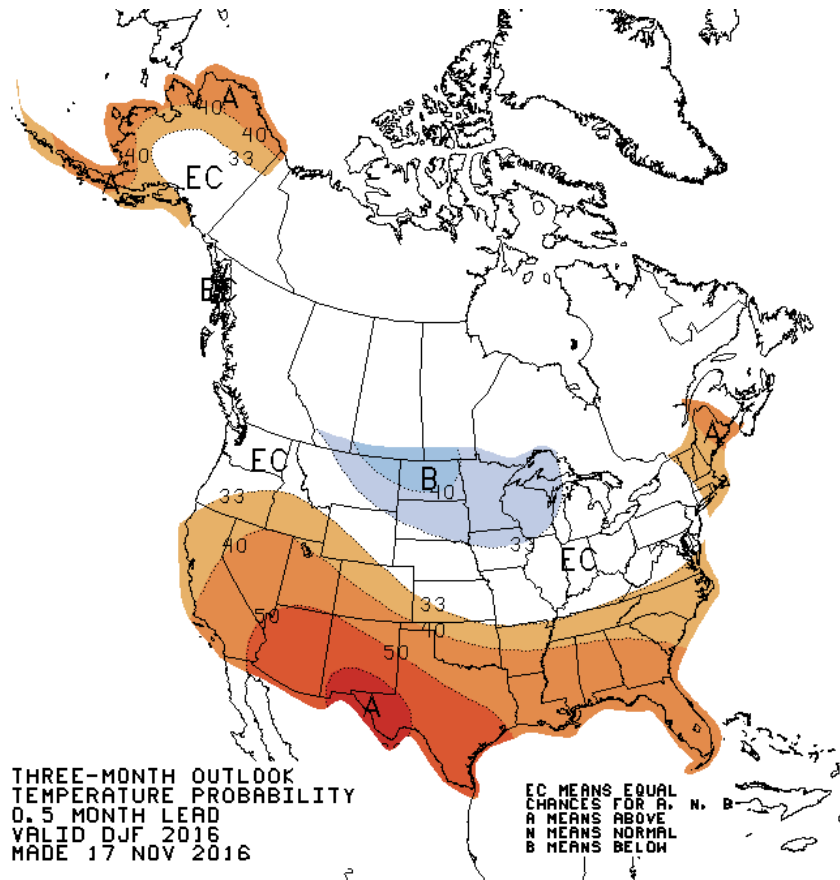


December Total Precipitation Probability

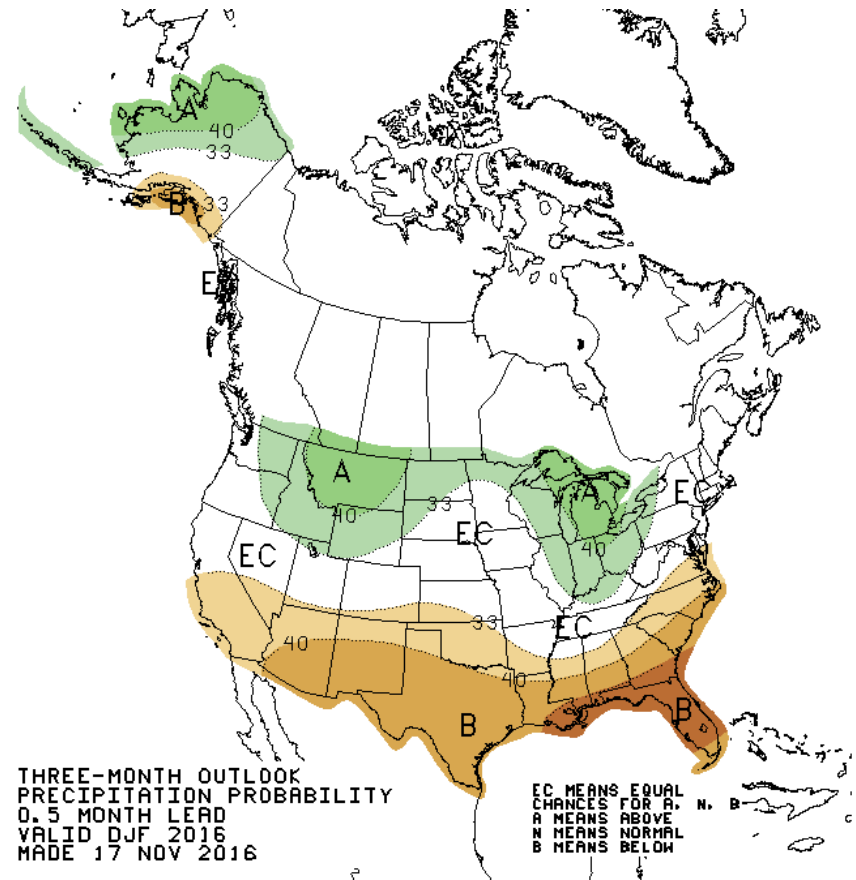


Seasonal Forecast (Dec–Jan–Feb)

Dec-Jan-Feb Average Temperature Probability

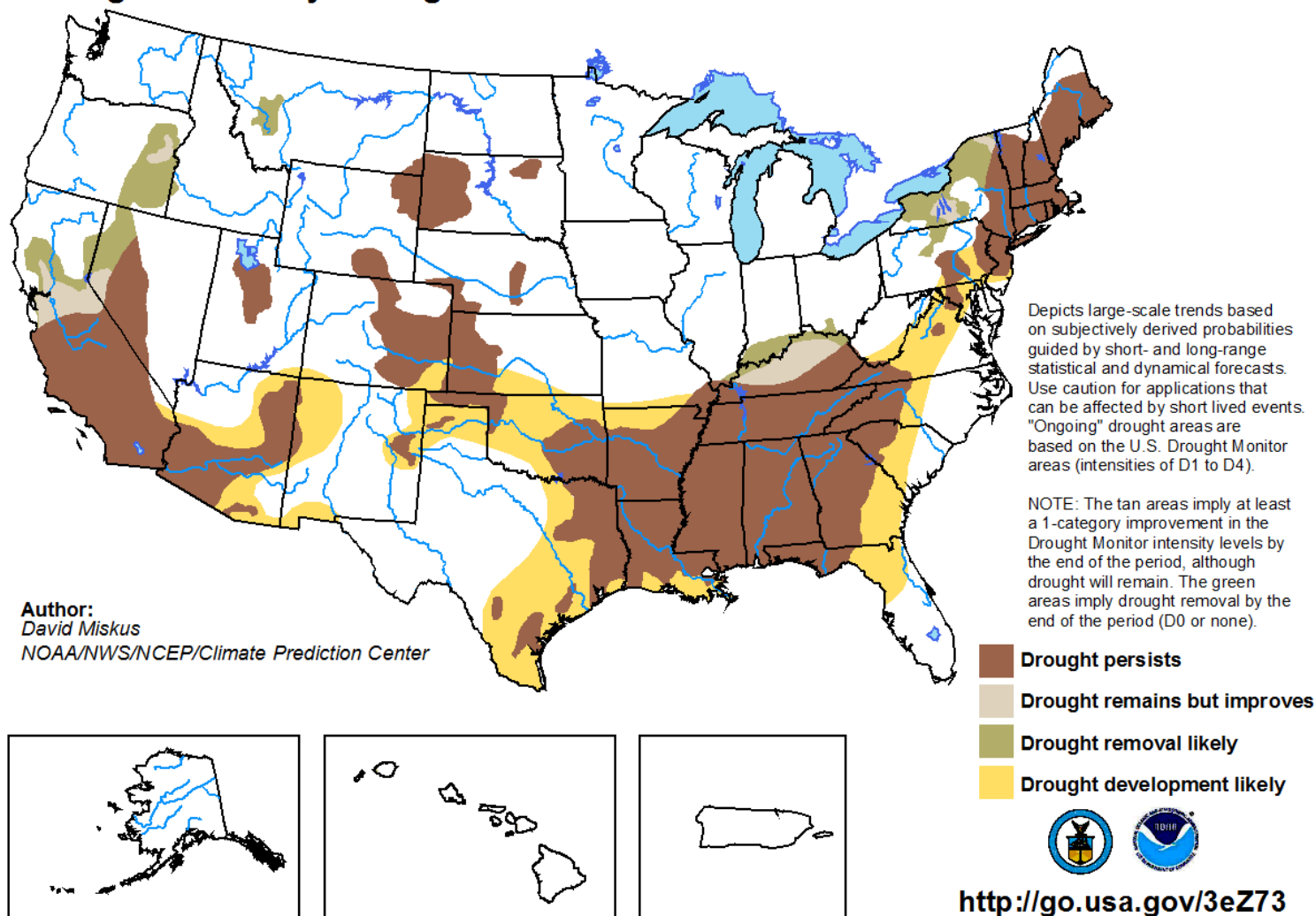


Dec-Jan-Feb Total Precipitation Probability



U.S. Drought Outlook

U.S. Seasonal Drought Outlook Valid for November 17 - February 28, 2017
Drought Tendency During the Valid Period Released November 17, 2016



For More Information



TODAY'S PRESENTATION:

- <http://www.ncdc.noaa.gov/sotc/briefings>

NOAA's National Centers for Environmental Information:

www.ncdc.noaa.gov

- Monthly climate reports (U.S. & Global): www.ncdc.noaa.gov/sotc/
- Dates for upcoming reports: <http://www.ncdc.noaa.gov/monitoring-references/dyk/monthly-releases>

NOAA's Climate Prediction Center: www.cpc.ncep.noaa.gov

National Weather Service Alaska Region: <http://www.weather.gov/arh/>

U.S. Drought Monitor: <http://drought.gov>

Climate Portal: www.climate.gov

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