

NOAA Climate Science & Services

Monthly Climate Update

A look back at August, Summer, and the Year-to-Date

A preview of October-December



Jake Crouch

Climate Scientist

NOAA's National Climatic Data Center

Alan Haynes

Service Coordination Hydrologist

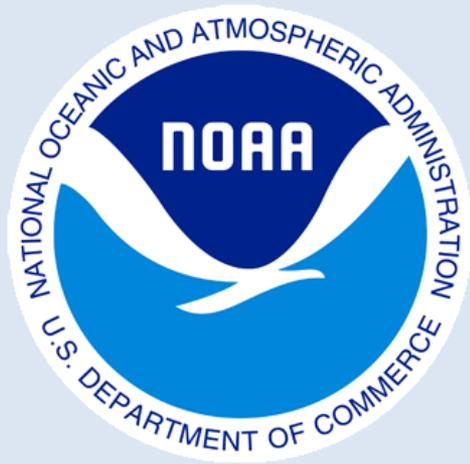
NOAA's National Weather Service

California/Nevada River Forecast Center

Dan Collins

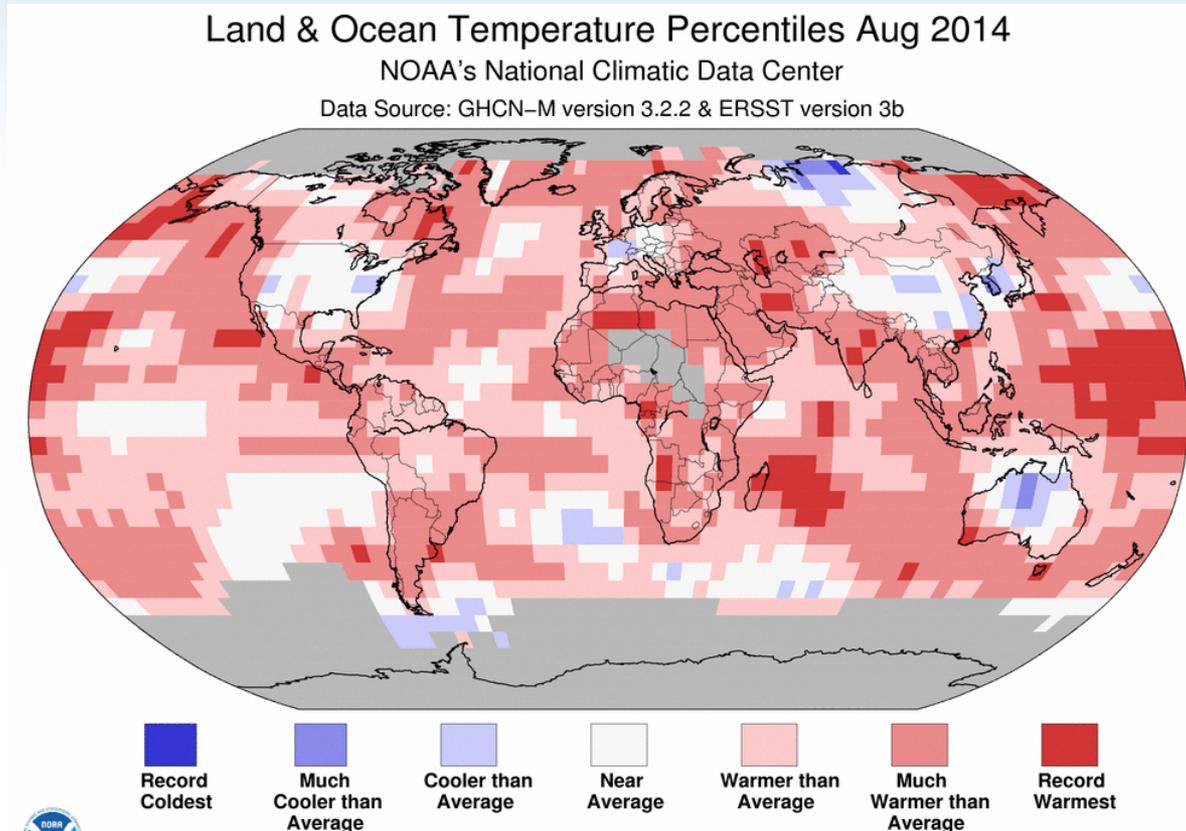
Seasonal Forecaster

NOAA's Climate Prediction Center



Global Climate: August 2014

- **Global** temperature +1.35°F warmer than 20th century average:
Record warmest August on record (135 years)
- **Land:** +1.78°F (2nd warmest); **Ocean:** +1.17°F (warmest for any month)



Sun Sep 14 08:24:49 EDT 2014

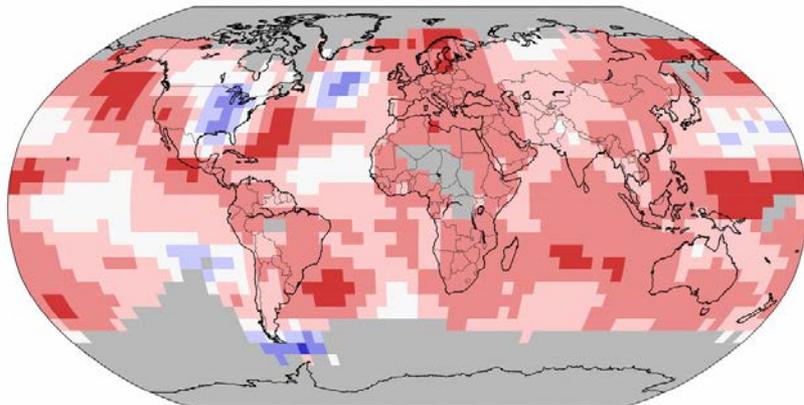
Global Climate: January-August 2014

- **Global** temperature $+1.22^{\circ}\text{F}$ warmer than 20th century average: 3rd warmest Jan-Aug on record (135 yrs)
- **Land:** $+1.82^{\circ}\text{F}$ (5th warmest); **Ocean:** $+0.99^{\circ}\text{F}$ (2nd warmest)

Land & Ocean Temperature Percentiles Jan–Aug 2014

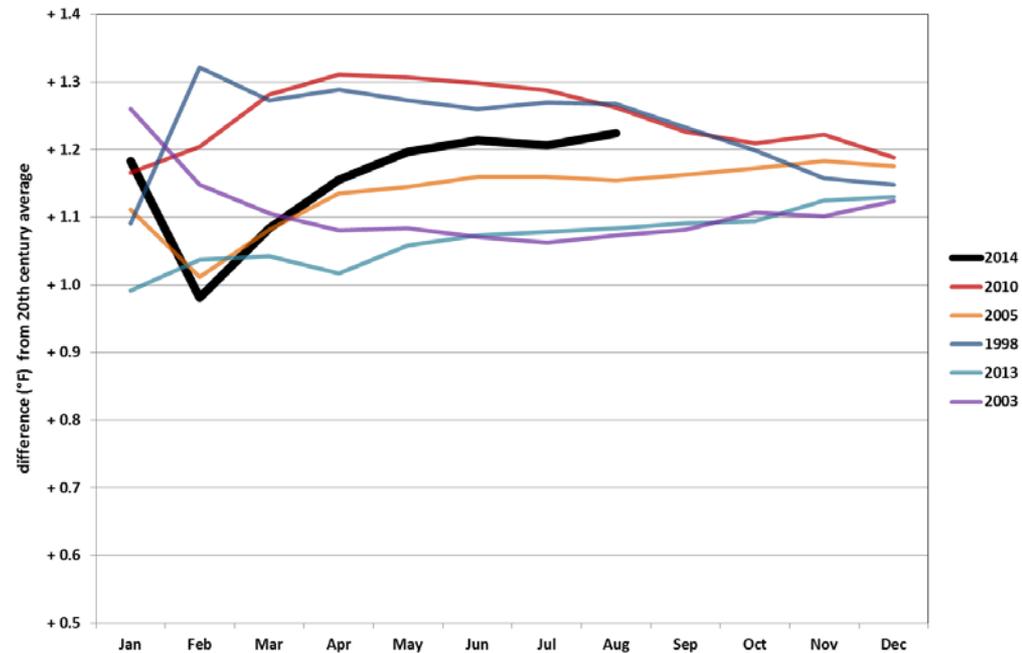
NOAA's National Climatic Data Center

Data Source: GHCN–M version 3.2.2 & ERSST version 3b



Sun Sep 14 08:24:49 EDT 2014

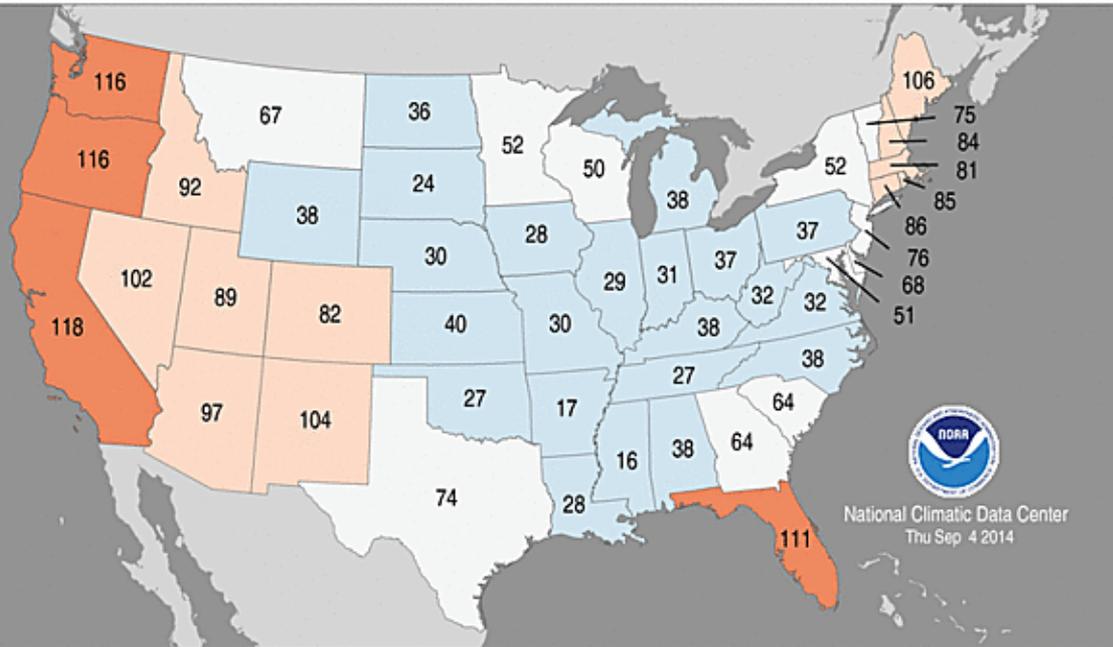
Year-to-Date Global Temperature
for 2014 and the five warmest years on record



Summer 2014 Average Temperatures

CONUS: 71.7°F, 0.3°F above 20th century average
Ranked “near average” and was the coolest summer since 2009

Statewide Temperature Ranks, June-August 2014
Period: 1895-2014 (120 years)

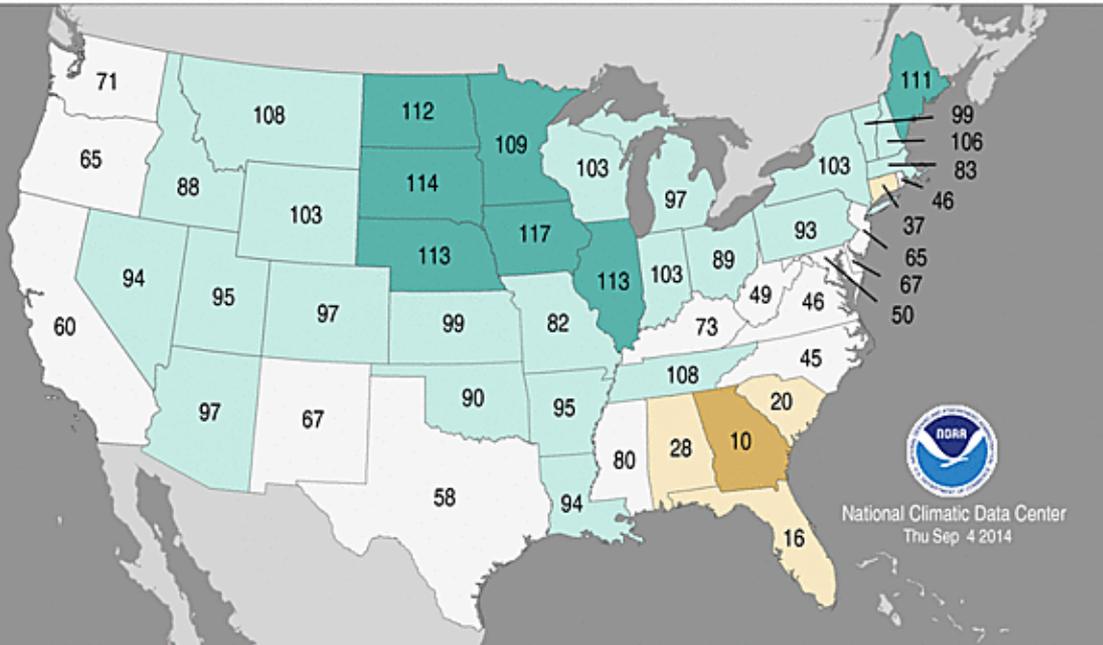


- Above-average across West
 - Much above average along West Coast
- Below-average most of eastern CONUS:
 - Plains to Mid-Atlantic were cooler than average
 - New England and FL were warmer than average

Summer 2014 Precipitation

CONUS: 9.39 inches, 1.07 inches above 20th century average
The 9th wettest summer on record for the CONUS – wettest since 2004

Statewide Precipitation Ranks, June-August 2014
Period: 1895-2014 (120 years)



National Climatic Data Center
Thu Sep 4 2014

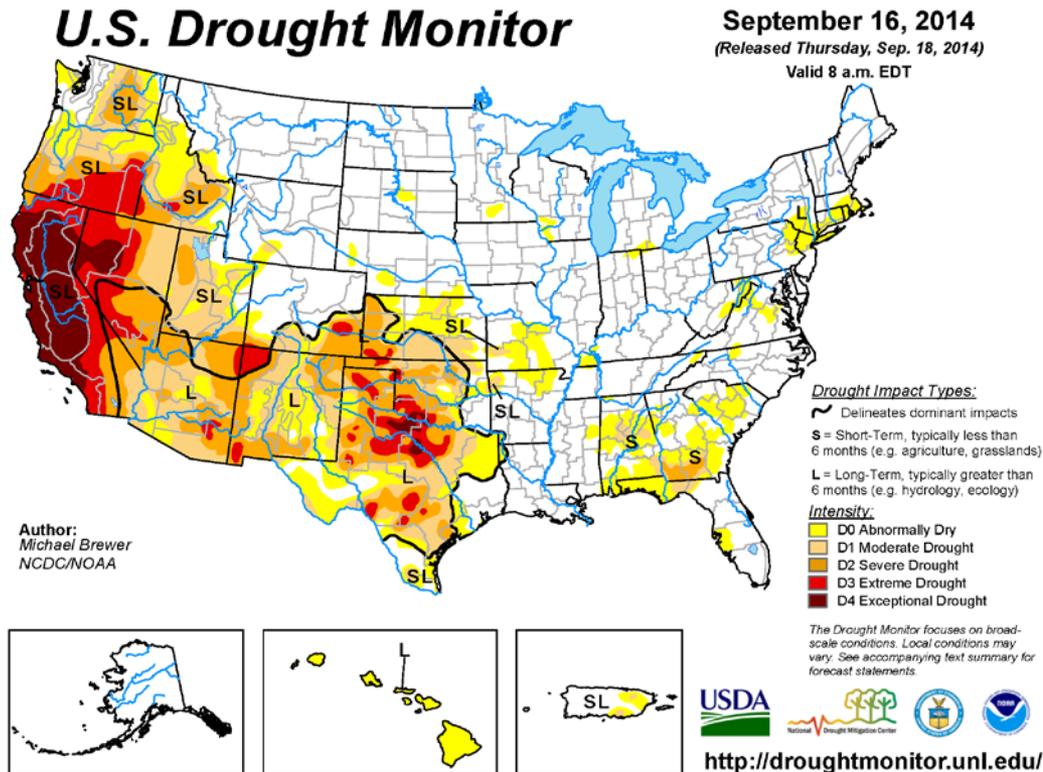


- Wet across northern tier, Plains, and Southwest
 - North American Monsoon brought beneficial rains to SW
 - Midwest and New England much wetter than average
- Dry in the Southeast
 - GA had its 10th driest summer

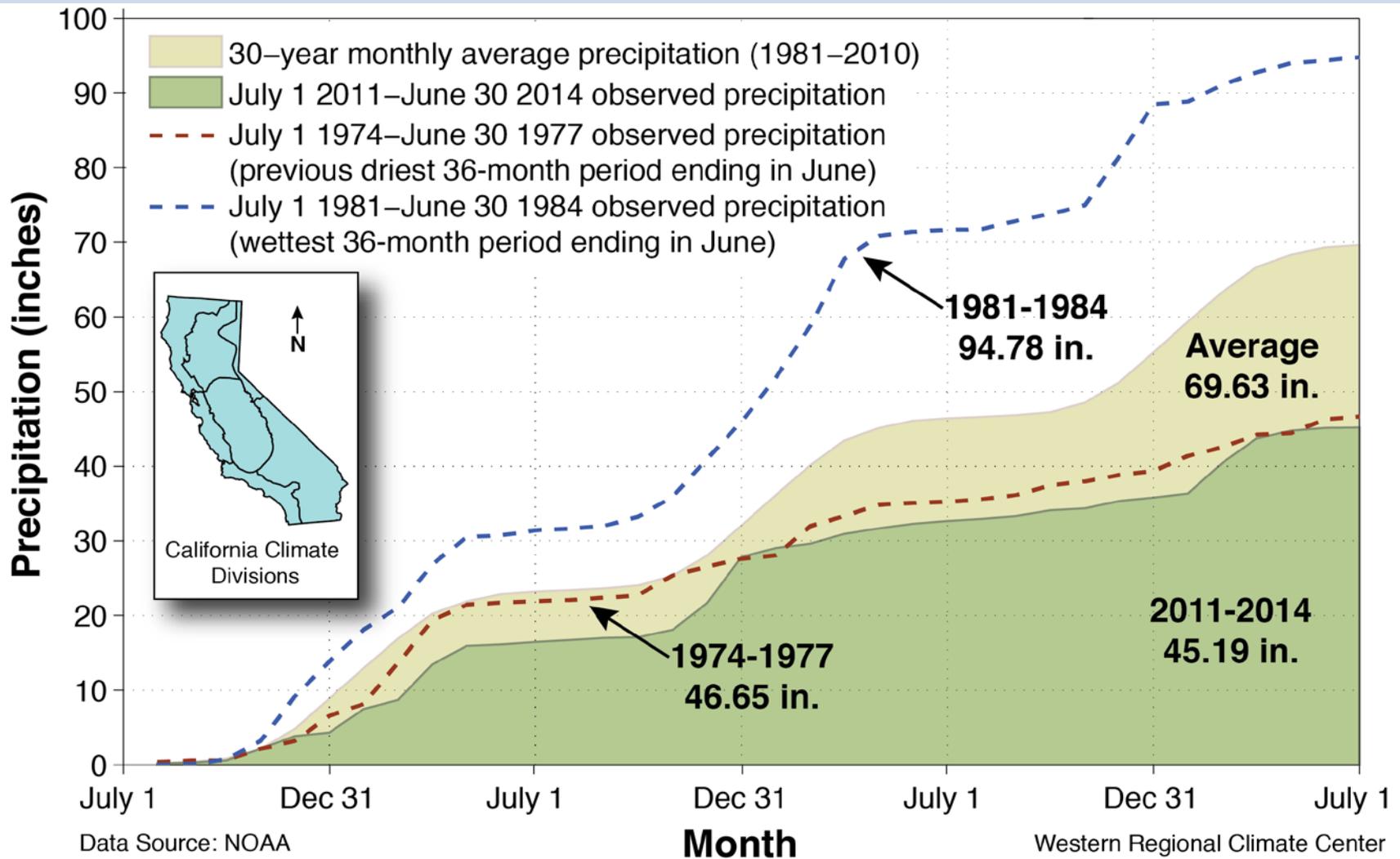
Current US Drought

31.1% of CONUS in Drought (↓ 6% since beginning of summer)

- **Improvement:** Central Plains, Southwest, parts of the Midwest and Great Basin
- **Degradation:** Southeast – particularly southern Georgia (16% of state in drought)
- **Status quo:** The West – nearly 100% of California and Nevada in drought

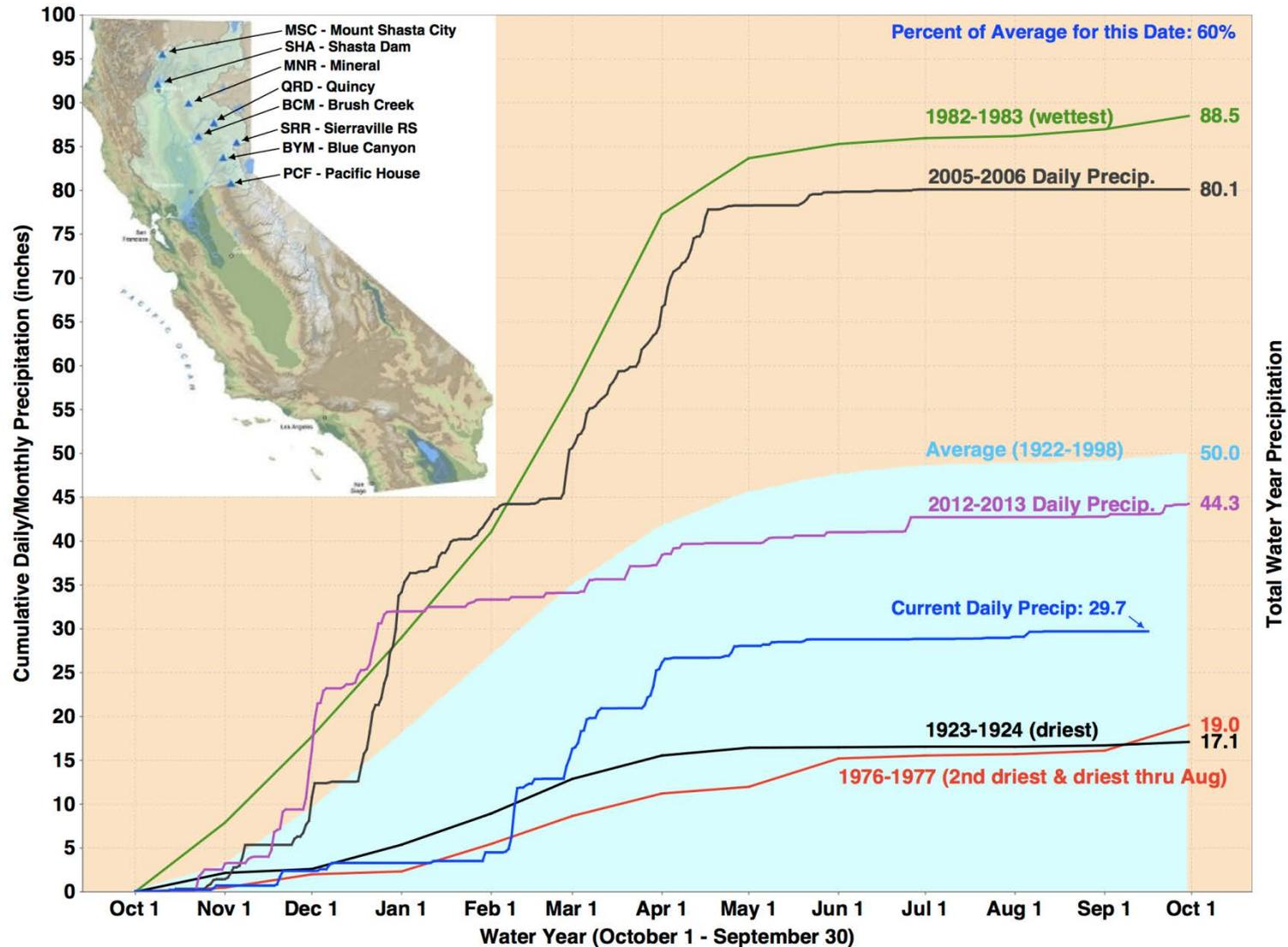


36 Month CA Statewide Precipitation Accumulation

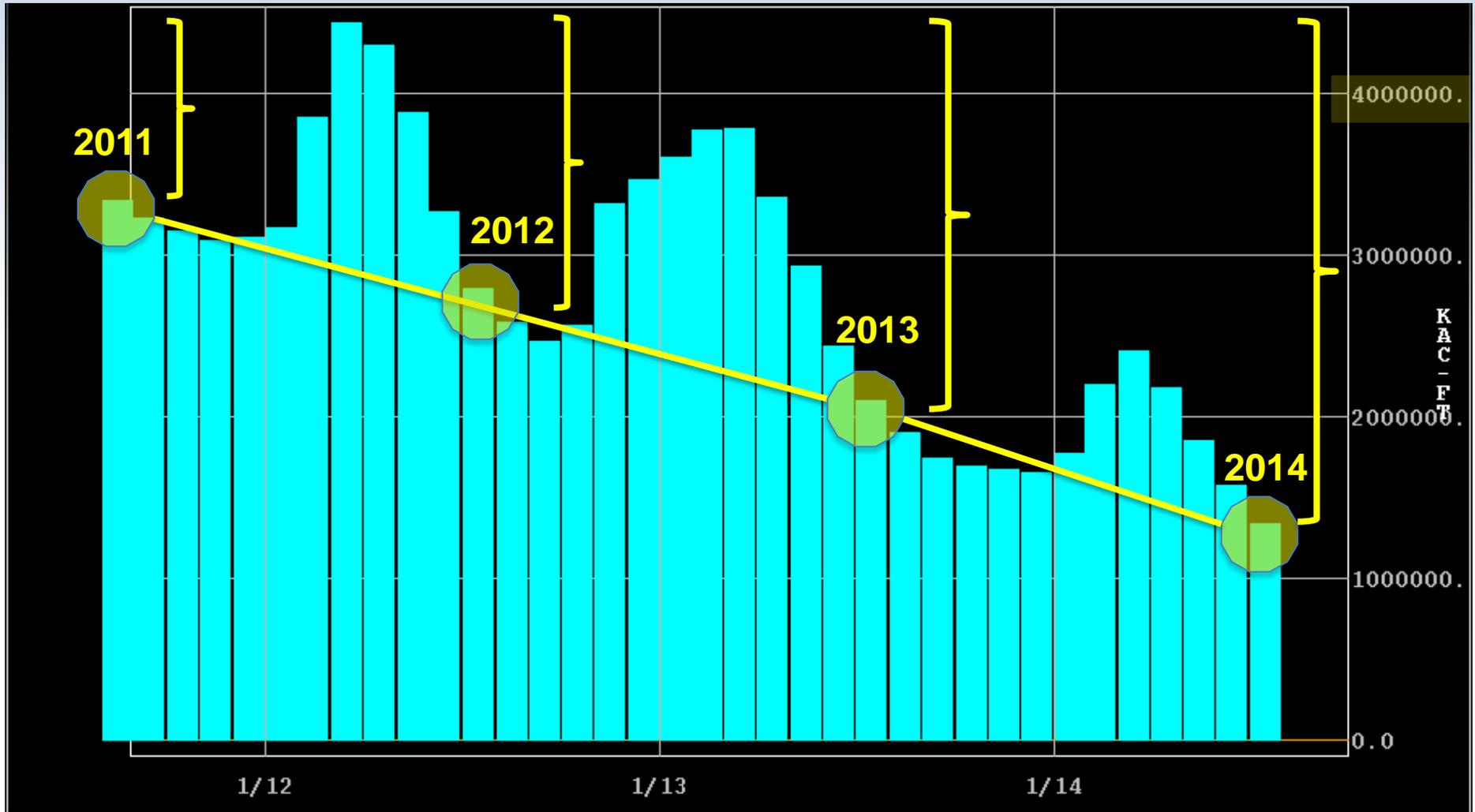


Northern Sierra Precipitation: 8-Station Index

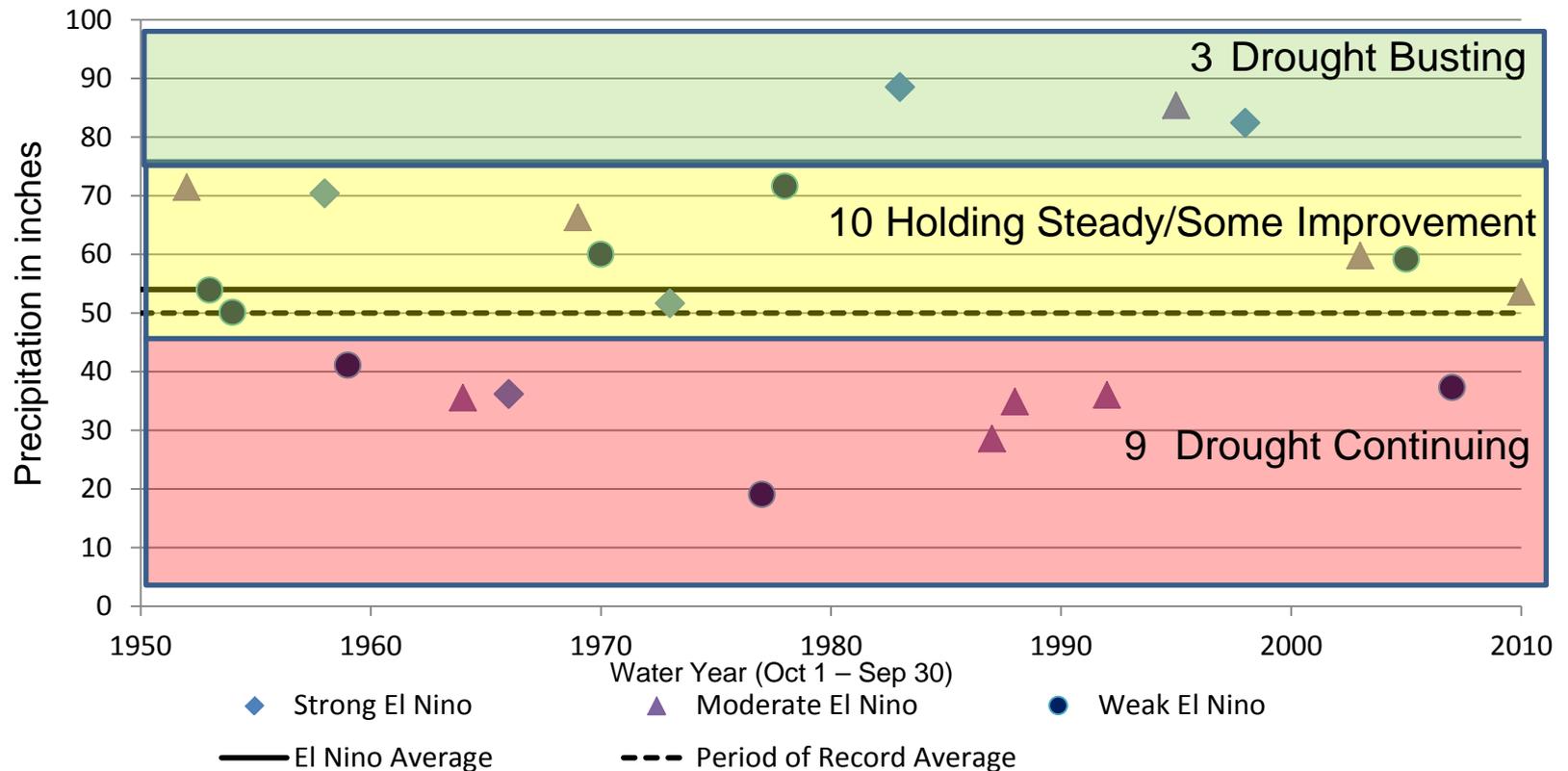
September 16, 2014



Lake Shasta Monthly Storage 2011 - 2014



8 Station Index Water Year Totals

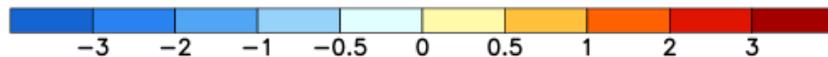
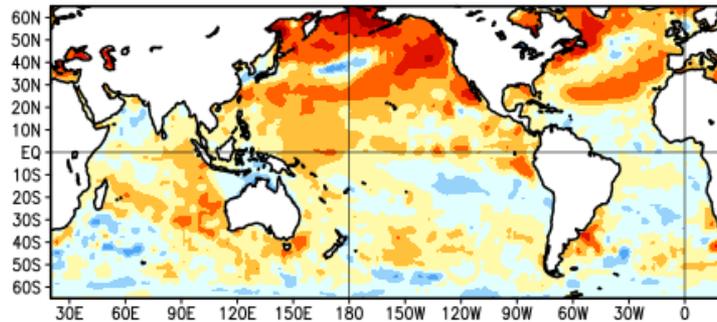


Summary

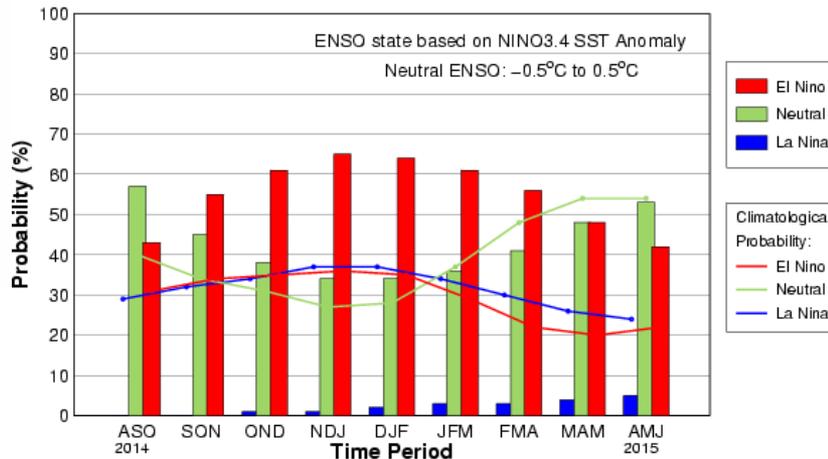
- Precipitation in CA has large year to year variability
- Most precipitation in CA occurs in the winter
 - Must be stored in reservoirs for use in summer
 - Reservoir storage must be carried over year to year to protect against variability
 - Precipitation falls mostly in the north; gets transported south
- After three dry years in a row, large reservoirs are depleted
- El Niño brings higher than normal precipitation to Southern CA, but only when strong
- El Niño is an unreliable pattern for bringing above normal precipitation to Northern CA where most water is stored

Sea Surface Temperatures and ENSO

Average SST Anomalies
17 AUG 2014 – 13 SEP 2014



Early–Sep CPC/IRI Consensus Probabilistic ENSO Forecast



Sea surface temperatures

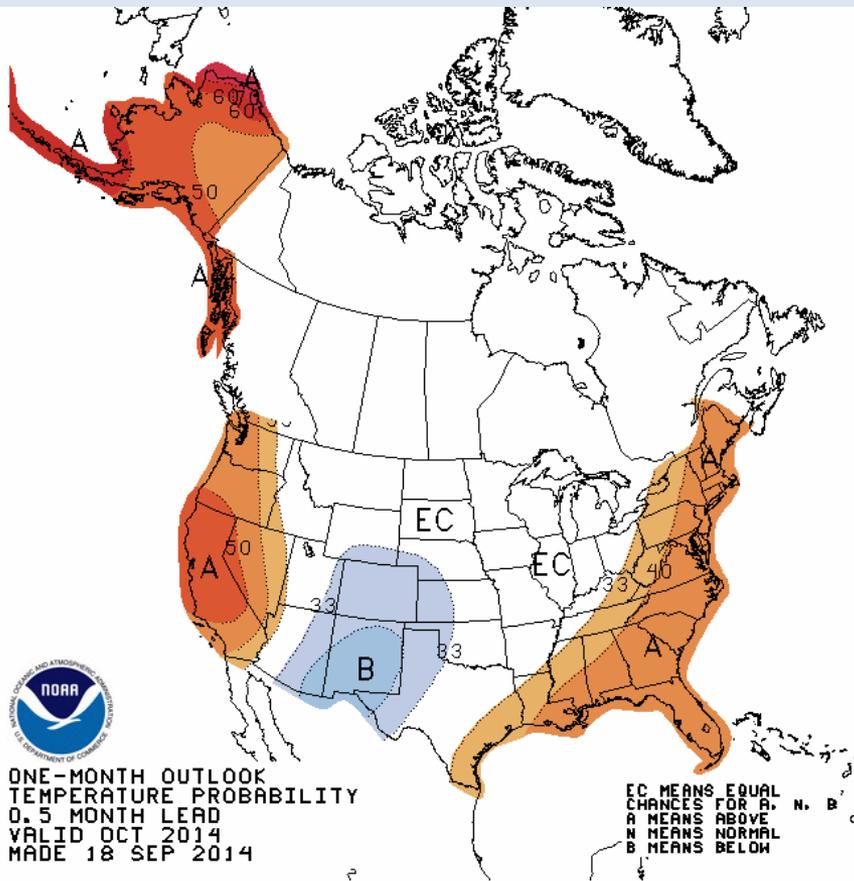
- Warmed to about 0.5°C above normal in the east-central tropical Pacific in recent weeks
- Large area of above normal sea surface temperatures in the North Pacific has persisted for months
- North Pacific sea surface temperatures likely impacting seasonal climate

ENSO forecast

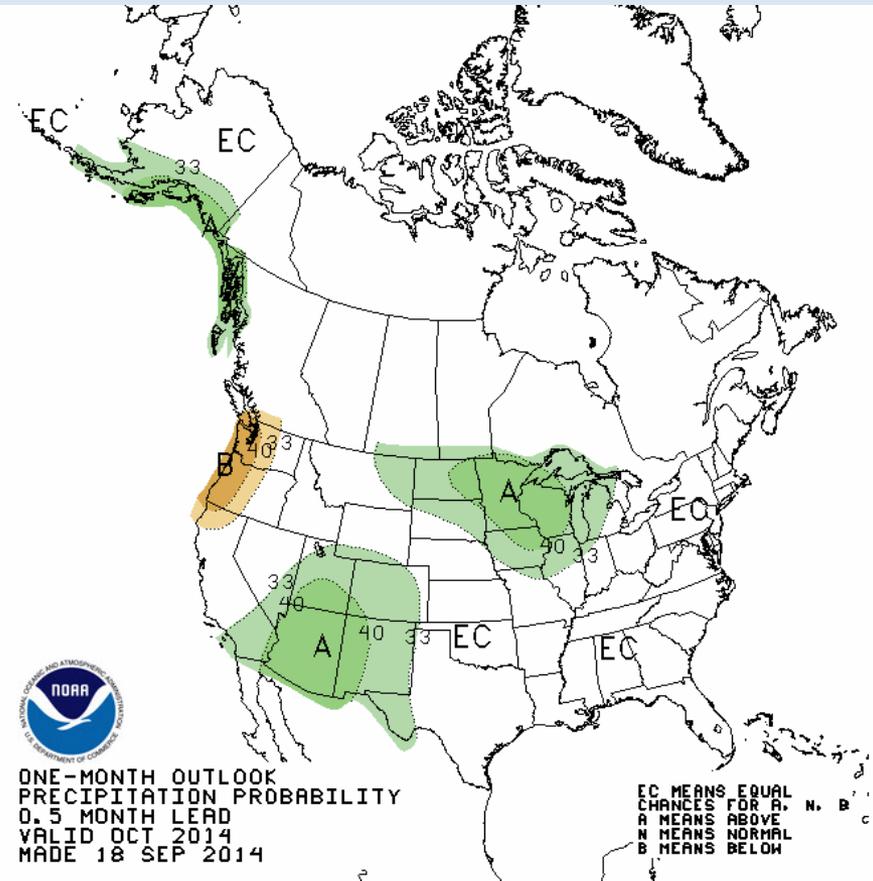
- About a 60 to 65% chance of El Niño development by winter
- Possible impacts in autumn and winter
- Weak event most likely
- Stronger event or no development still possible

Monthly Forecast (October)

October Average Temperature Probability

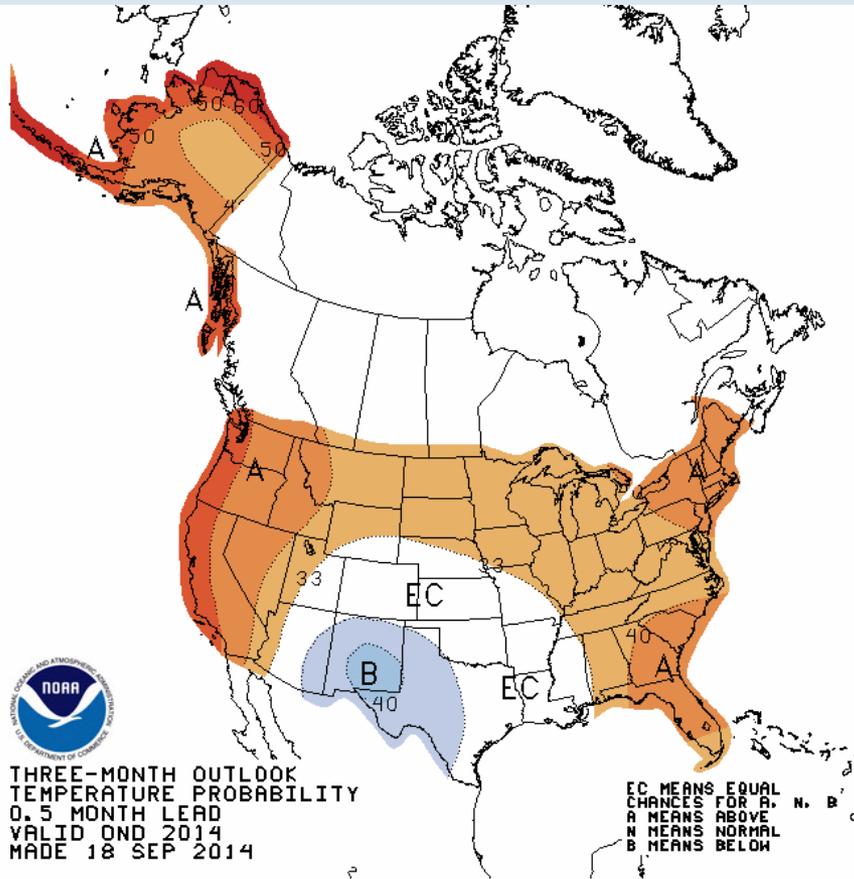


October Total Precipitation Probability

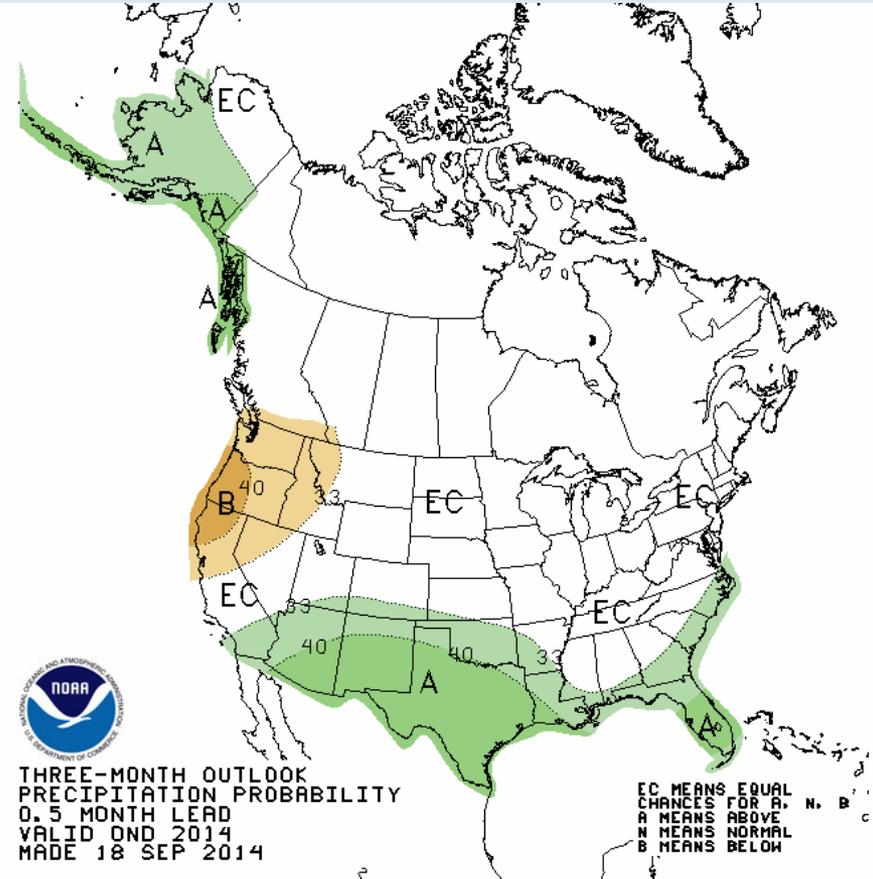


Seasonal Forecast (Oct-Nov-Dec)

Oct-Nov-Dec Average Temperature Probability

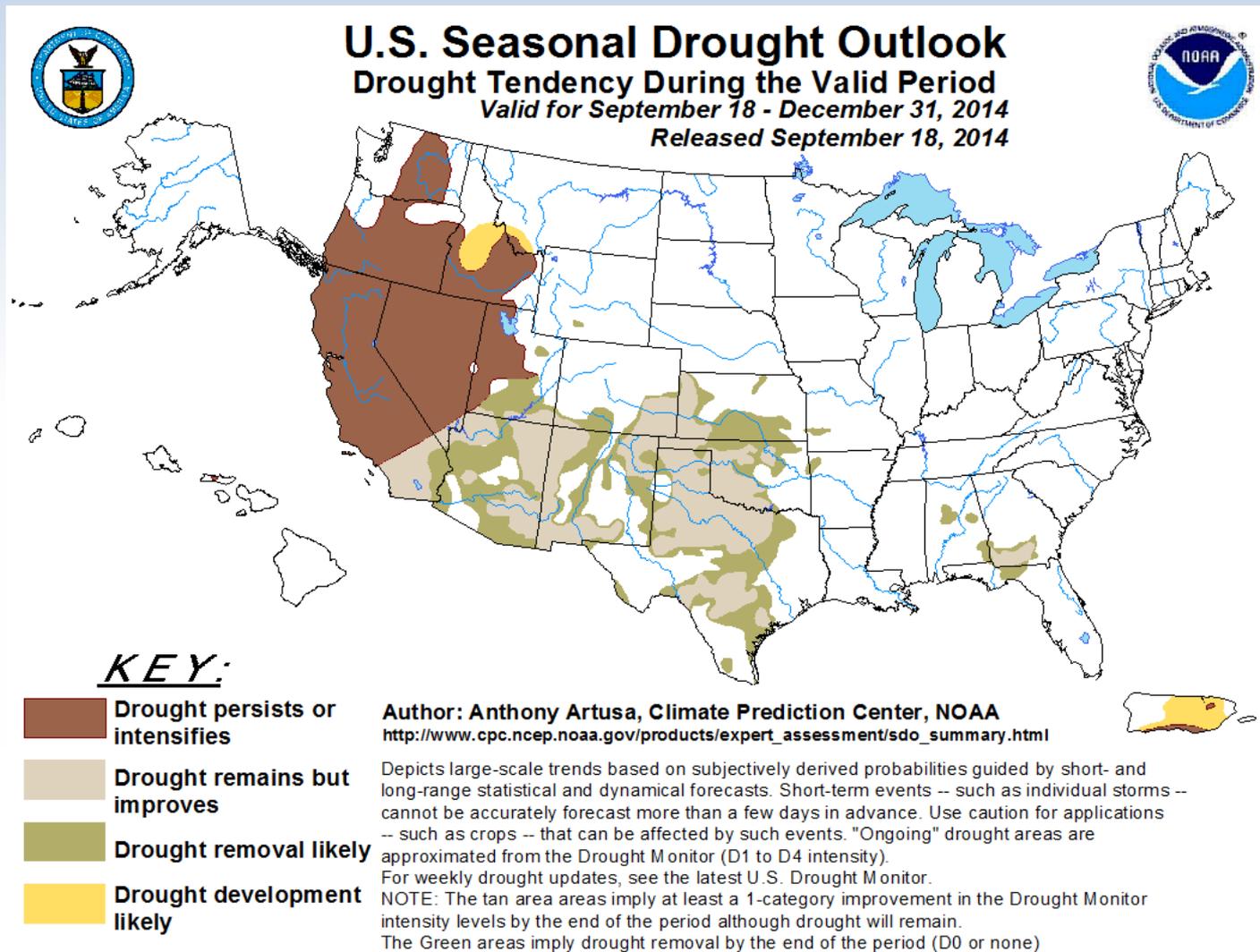


Oct-Nov-Dec Total Precipitation Probability



U.S. Drought Outlook

3-month forecast



For More Information



TODAY'S PRESENTATION:

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

NOAA's National Climatic Data Center: 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

California Nevada River Forecast Center: <http://www.cnrfc.noaa.gov/>

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

Climate Portal: www.climate.gov

Media Contacts:

- Katy.Vincent@noaa.gov, 828-257-3136 (NOAA/NCDC)
- John.Ewald@noaa.gov, 202-482-3978 (NOAA Office of Communications)