**This recorded presentation is in lieu of the canceled Jan 28th webinar.**

NIDIS realizes its mission of establishing a national drought early warning system through the following activities:

- Regional Drought Early Warning Information Systems
- Prediction and Forecasting
- Integrated Research and Monitoring
- Drought Planning and Preparedness
- Collaboration with Existing Programs and Partners
- The U.S. Drought Portal (www.drought.gov)
What is a Regional DEWS?

A DEWS utilizes new and existing partner networks to optimize the expertise of a wide range of federal, tribal, state, local and academic partners in order to make climate and drought science and impact data readily available, easily understandable and usable for decision makers; and to improve the capacity of stakeholders and economic sectors to better monitor, forecast, plan for and cope with the impacts of drought at all spatial and time scales.

https://www.drought.gov/drought/dews/california-nevada
California-Nevada Drought Early Warning System (DEWS)

Workshop: Data & Tools for Weathering Nevada’s Variable Climate
Please join us March 19th at the University of Nevada Reno for an interactive workshop designed for who want to learn how to interpret climate data, use online resources and tools, and report drought impacts to stakeholders. Participants will learn about: interpreting long range weather forecast products, the Nevada Climate Tracker, Climate Engine, the National Drought Mitigation Center's Drought Impact Reporter, NIDIS Drought Resources and CoCoRaHS.
Space is limited, register here: https://bit.ly/2TiAUNe

New web-based form makes submitting drought observations easier
The National Drought Mitigation Center (NDMC) in January 2019 switched to a streamlined method for reporting local drought conditions, and is working with state agencies and other partners across the country, including NIDIS, to promote use of the new form. For more information: https://drought.unl.edu/Publications/News.aspx?id=334
CA-NV DEWS
Drought and Climate Update
January 30, 2019

Jordan Goodrich
Scripps Institution of Oceanography

Stampede Reservoir, NV
Photo: J. Kalansky, 30 Jan. 2019
Moderate drought conditions remain in southern CA and north/east NV.

Most of CA-NV is considered abnormally dry (non-drought) or at average conditions.
Much of the west saw improvements in drought conditions

Central NV has degraded by one drought class but much of CA saw a one or two class improvement over the last three months
Percent of normal for the last three months shows mixed conditions but much of the region approaches or exceeds 100%.

Percent of normal for the last 30 days: Much of the CA-NV precipitation for this water year has come in the last month.
Regional precipitation resembles a typical El Niño pattern – generally wetter to the south, drier in the north. However, the spatial distribution remains mixed.

Sierra Nevada region is close to normal thanks to recent storms.
The water year to date has been very warm CA and much of NV.

Larger anomalies over the last 30 days across the west but specifically interior CA-NA.
Despite the warmth, close-to-normal water year precipitation has allowed storage in reservoirs and snowpack to climb toward the long-term normal to date.
Snow water content is just above normal (101-106%) for this point in the water year throughout the Sierra.

Near-normal reservoir supply and precipitation has resulted in very few streamflow stations in drought classification in the region.

Lake Tahoe is currently 2 ft above full pool (6225 ft).

CA-NV streamflow

Below normal 7-day streamflow compared to historical streamflow for the day of year.
SST anomalies continue to indicate neutral to weak El Niño, which has been the case for the last few months.

Despite this weak development and lack of atmospheric coupling, precipitation anomalies across the west generally resemble El Niño signature.

Remaining water year conditions may depend on how these conditions progress.
California-Nevada Drought & Climate Outlook

U.S. Monthly Drought Outlook
Drought Tendency During the Valid Period

Valid for February 2019
Released January 31, 2019

Valid Areas
Drought persists
Drought remains but improves
Drought removal likely
Drought development likely

Author:
David Mckluski
NOAA/NWS/NC/Climate Prediction Center

http://go.usa.gov/3eZGd

Amanda M. Sheffield, PhD
NIDIS | Scripps Institution of Oceanography
February 5, 2019
Odds of Water Year 2019 Reaching % of Water Year Normal Precipitation Totals

Below shows the odds of reaching % of normal precipitation by the end of the water year based on how much precipitation has been observed so far this water year and how much has historically been observed during the remaining months in the water year. The left image shows the odds using data through January, and the right images show how these odds have developed throughout the water year. These odds are calculated based on historical data, not a forecast model.

http://cw3e.ucsd.edu/odds-of-normal-water-year-precipitation/
Recent Pacific warm (red) and cold (blue) periods based on a threshold of +/- 0.5 °C for the Oceanic Nino Index (ONI) [3 month running mean of ERSST.v5 SST anomalies in the Nino 3.4 region (5N-5S, 120-170W)]. For historical purposes, periods of below and above normal SSTs are colored in blue and red when the threshold is met for a minimum of 5 consecutive overlapping seasons.

The ONI is one measure of the El Niño-Southern Oscillation, and other indices can confirm whether features consistent with a coupled ocean-atmosphere phenomenon accompanied these periods. The complete table going back to DJF 1950 can be found [here](http://www.cpc.ncep.noaa.gov/products/analysis_monitoring/ensostat/ensolat演变，状况-FCSTS.web.ppt).
Since early June 2018, near-to-above average SSTs have been present across most of the Pacific Ocean. Since mid-December 2018, positive SST anomalies have weakened across most of the equatorial Pacific. During the last four weeks, equatorial SSTs were above average across the Pacific Ocean.
### Early-January 2019 CPC/IRI Official Probabilistic ENSO Forecasts

ENSO state based on NINO3.4 SST Anomaly
Neutral ENSO: -0.5 °C to 0.5 °C

<table>
<thead>
<tr>
<th>Season</th>
<th>La Niña</th>
<th>Neutral</th>
<th>El Niño</th>
</tr>
</thead>
<tbody>
<tr>
<td>DJF, 2019</td>
<td>0%</td>
<td>10%</td>
<td>90%</td>
</tr>
<tr>
<td>JFM, 2019</td>
<td>0%</td>
<td>18%</td>
<td>82%</td>
</tr>
<tr>
<td>FMA, 2019</td>
<td>0%</td>
<td>26%</td>
<td>74%</td>
</tr>
<tr>
<td>MAM, 2019</td>
<td>1%</td>
<td>33%</td>
<td>66%</td>
</tr>
</tbody>
</table>

**Summary**

**ENSO Alert System Status:** **El Niño Watch**

ENSO-neutral conditions are present.*

Equatorial sea surface temperatures (SSTs) are above average across most of the Pacific Ocean.

The patterns of convection and winds are mostly near average over the tropical Pacific.

El Niño is expected to form and continue through the Northern Hemisphere spring 2019 (~65%).


**ENSO Blog:** [http://www.climate.gov/news-features/department/enso-blog](http://www.climate.gov/news-features/department/enso-blog)

*Note: These statements are updated once a month (2nd Thursday of each month) in association with the ENSO Diagnostics Discussion, which can be found by clicking [here](http://www.cpc.ncep.noaa.gov/products/analysis_monitoring/enso_advisory/index.shtml).*
What if El Niño forms?

Monthly Drought Outlook Summary:

“...An El Nino Watch remained in effect (as of Jan. 10), with El Nino expected to form and continue through the Northern Hemisphere spring 2019 (a 65% chance). However, regardless of the above normal SSTs, the atmospheric circulation over the tropical Pacific has yet shown clear evidence of coupling to the ocean, but late winter and early spring tend to be the most favorable months for coupling, so forecasters still believe weak El Nino conditions will emerge shortly. But given the timing and that a weak event is forecast, significant global impacts are not anticipated during the rest of the winter, even if conditions were to form. The next ENSO update will be available on Feb. 14...”
Weather Forecast

U.S. West Coast AR Landfall Tool Courtesy Jason Cordeira, Plymouth State University
The probability CW3E AR Landfall Tool displays the likelihood and timing of AR conditions at each point on the map in a line along the U.S. West Coast or inland derived from the NCEP GEFS model over the next 7 or 16 days. The probability of AR conditions represents the number of ensemble members that predict IVT to be greater than the chosen threshold at the given location and time. To see how each forecast type has changed over the previous seven days click on dProp/dT.

http://cw3e-web.ucsd.edu/iwv-and-ivt-forecasts/
Weather Forecast

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http://cw3e-web.ucsd.edu/iwv-and-ivt-forecasts/
February-March-April Temperature Outlook

Above 53%
Normal 33%
Below 14%

Reno
Normal Max (Min): 56 (31)

Below 23%
Above 44%
Normal 33%

Los Angeles
Normal Max (Min): 70 (51)

ENSO Neutral Conditions are present and **El Nino is expected to form** and continue through the Northern Hemisphere spring 2019 (~65%). However, CPC says “... But given the timing and that a weak event is forecast, **significant global impacts are not anticipated during the rest of the winter**, even if conditions were to form...”

- Monthly Drought Outlook shows **drought removal likely** in Southern California and Nevada due to the short term forecast.

- Seasonal outlooks show **above normal temperatures** across the West with higher odds further north and **equal chances to below normal precipitation** over CA-NV.

Amanda M. Sheffield, PhD  
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NIDIS | SIO/UC San Diego  
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California-Nevada Drought & Climate Outlook
February 5, 2019

Drought & Climate Update
Jordan Goodrich | CNAP-RISA, SIO/UC San Diego

Drought & Climate Outlook
Amanda Sheffield | NOAA/NIDIS

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