# NIDIS Workshop Water Year Perspectives

Folsom – January 2014

### **Talk Overview**

• Antecedent Conditions

• Current Conditions

• WY2015 Outlook

#### Northern Sierra Precipitation: 8-Station Index, September 30, 2014



#### San Joaquin Precipitation: 5-Station Index, September 30, 2014



**Total Water Year Precipitation** 





#### Statewide WY Precipitation/Max Temperature 1895-2014



Statewide Average Maximum Temperature (degrees F)

Data from WRCC CA Climate Tracker

#### Statewide WY Precipitation/Min Temperature 1895-2014



Statewide Average Minimum Temperature (degrees F)

Data from WRCC CA Climate Tracker

## **Current Conditions**







# Arctic Snow/Ice Cover 2014



#### Global SST Departures (°C) During the Last Four Weeks

During the last four weeks, equatorial SSTs were above-average across the Pacific and western Indian Ocean and below-average north of Australia (the Maritime Continent).



#### Niño Region SST Departures (°C) Recent Evolution

## The latest weekly SST departures are:

Niño 4	0.8°C
Niño 3.4	0.6°C
Niño 3	0.9°C
Niño 1+2	0.6°C





Atmospheric anomalies over the North Pacific and North America During the Last 60 Days

During early September-late October, the pattern generally featured an anomalous ridge over the western N. America and an anomalous trough over the eastern N. America. This pattern often led to abvoeaverage temperatures in the West and below average temperatures in the East.



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### Looking Ahead to 2015

## **Forecast of Weak El Nino**

#### Probability of Week2 total precip exceeding 50mm US NOAA NWS NCEP Week2 ODZ GFS forecast valid ODZ 20141109





Drought persists or intensifies

Drought remains but improves

Drought removal likely

Drought development likely Authors: Adam Allgood & David Miskus, Climate Prediction Center, NOAA http://www.cpc.ncep.noaa.gov/products/expert\_assessment/mdo\_summary.html

Depicts large-scale trends based on subjectively derived probabilities guided by short- and long-range statistical and dynamical forecasts. Short-term events -- such as individual storms -cannot be accurately forecast more than a few days in advance. Use caution for applications -- such as crops -- that can be affected by such events. "Ongoing" drought areas are approximated from the Drought Monitor (D1 to D4 intensity). For weekly drought updates, see the latest U.S. Drought Monitor. NOTE: The tan areas imply at least a 1-category improvement in the Drought Monitor intensity levels by the end of the period although drought will remain. The green areas imply drought removal by the end of the period (D0 or none)

#### U. S. Seasonal Outlooks

November 2014 - January 2015

The seasonal outlooks combine the effects of long-term trends, soil moisture, and, when appropriate, ENSO.



**CPC Slide** 

SST Outlook: NCEP CFS.v2 Forecast (PDF corrected) Issued: 3 November 2014

#### The CFS.v2 ensemble mean (black dashed line) predicts warm-neutral conditions into early 2015.





















### International Multi-Model Ensemble



### International Multi-Model Ensemble



### International Multi-Model Ensemble



## North American Multi-Model Ensemble



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## North American Multi-Model Ensemble



#### **8-Station Index**

#### Oct 2014: 2.7 inches (90% of average)

—1978 —1992 —Average



#### **5-Station Index**

#### Oct 2014: 0.1 inches (5% of average)



#### **Oroville Storage**



### **Take Home Points**

• El Nino years are the most variable of the ENSO groupings on water year outcomes

 Jet Stream's development of zonal flow or a split flow and split flow location will help determine how the water year plays out

## **Questions**?

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