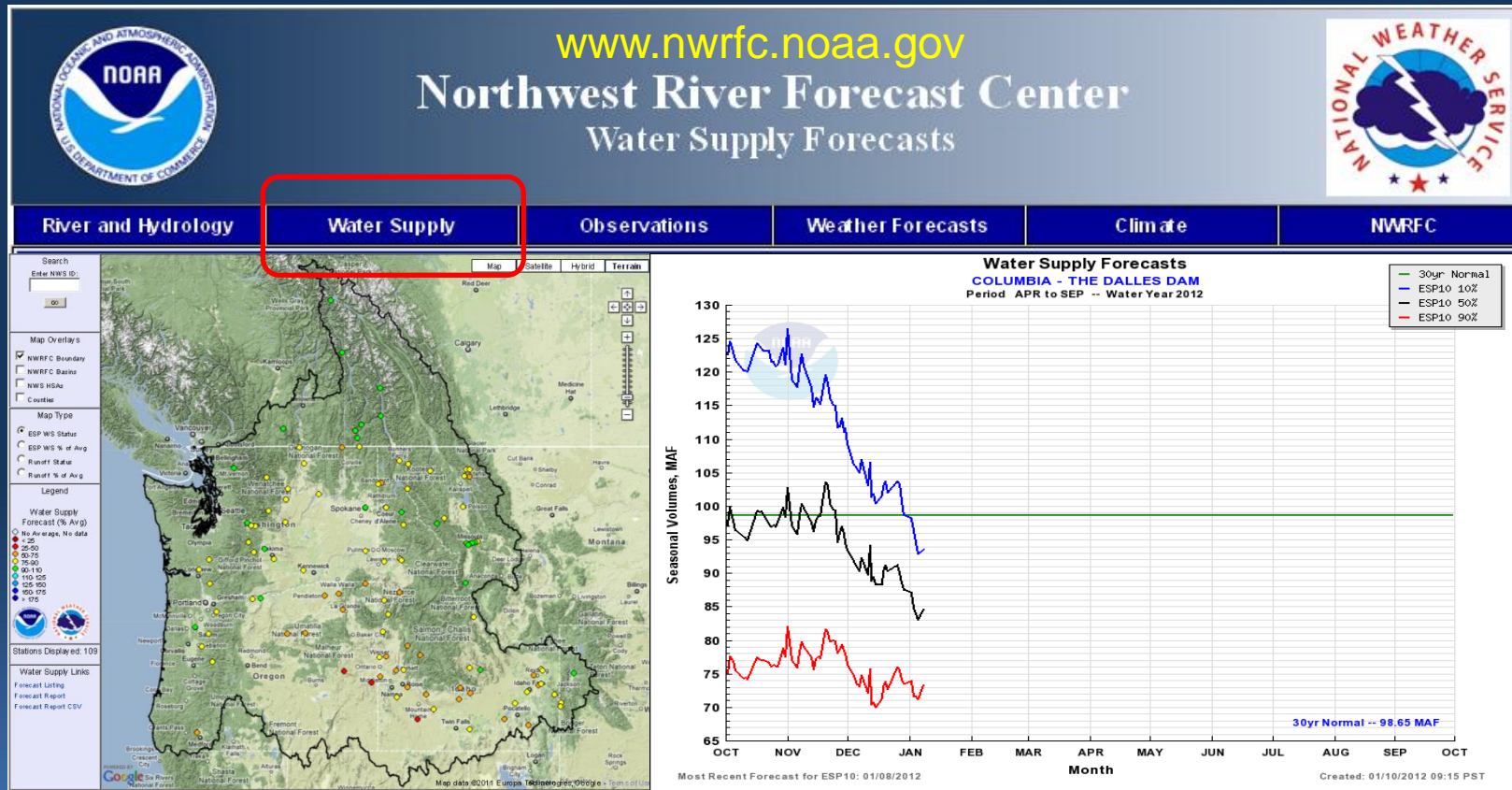


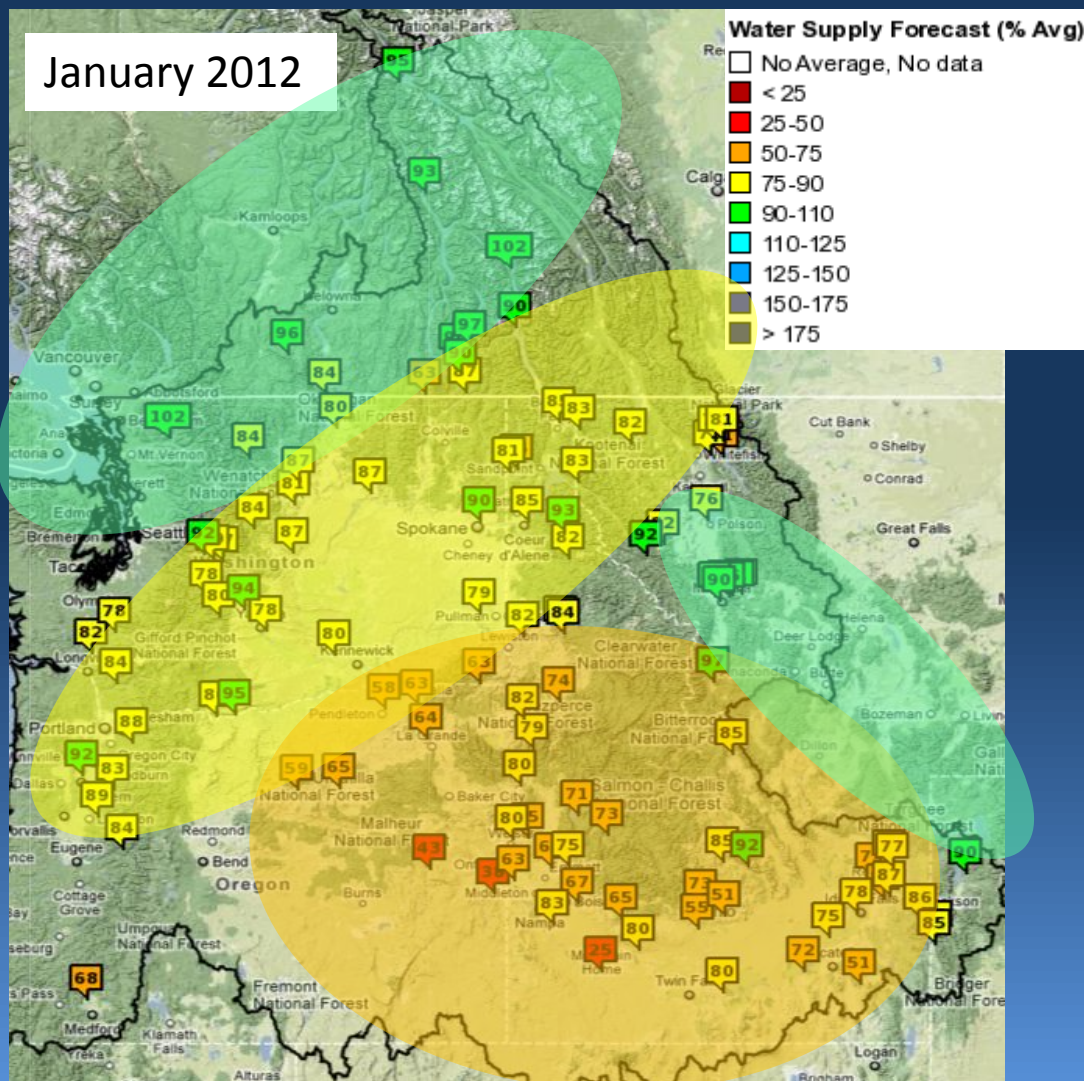
# NWRFC January 2012 Water Supply Briefing



Steve King, Sr. Hydrologist  
Stephen.King@noaa.gov  
(503)326-7291

# Water Supply Summary

January 2012



Most Apr-Sep forecasts are below normal

Conditions are generally closer to normal in the northern basins and in parts of the Rocky Mountains

Conditions are generally driest in the southern basins



# Observed Conditions



Precipitation

Snowpack

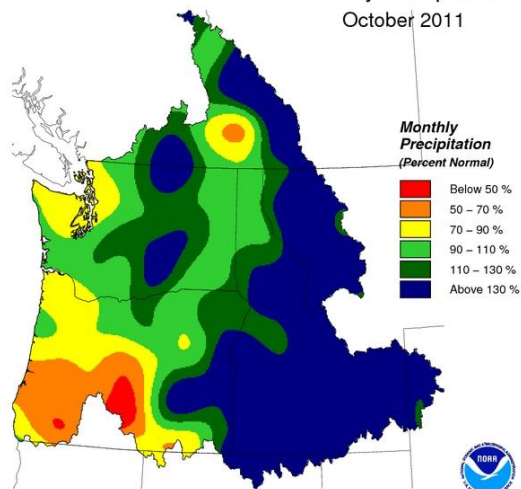
Runoff



# Observed Monthly Precipitation



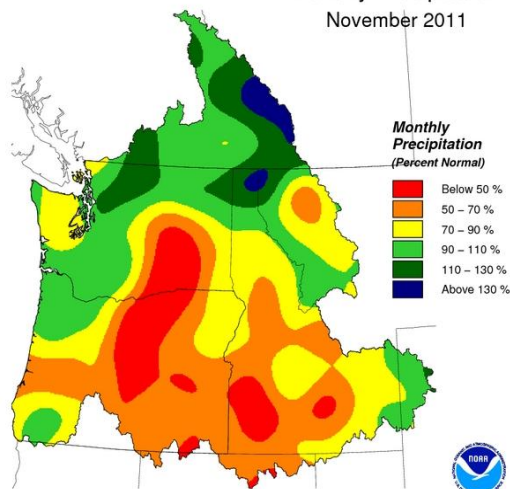
Monthly Precipitation  
October 2011



Creation Time: Mon, Nov 7, 2011

Northwest River Forecast Center

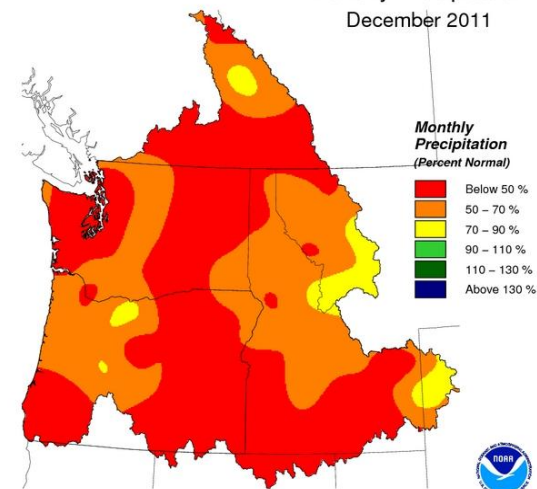
Monthly Precipitation  
November 2011



Creation Time: Wed, Dec 7, 2011

Northwest River Forecast Center

Monthly Precipitation  
December 2011



Creation Time: Tue, Jan 10, 2012

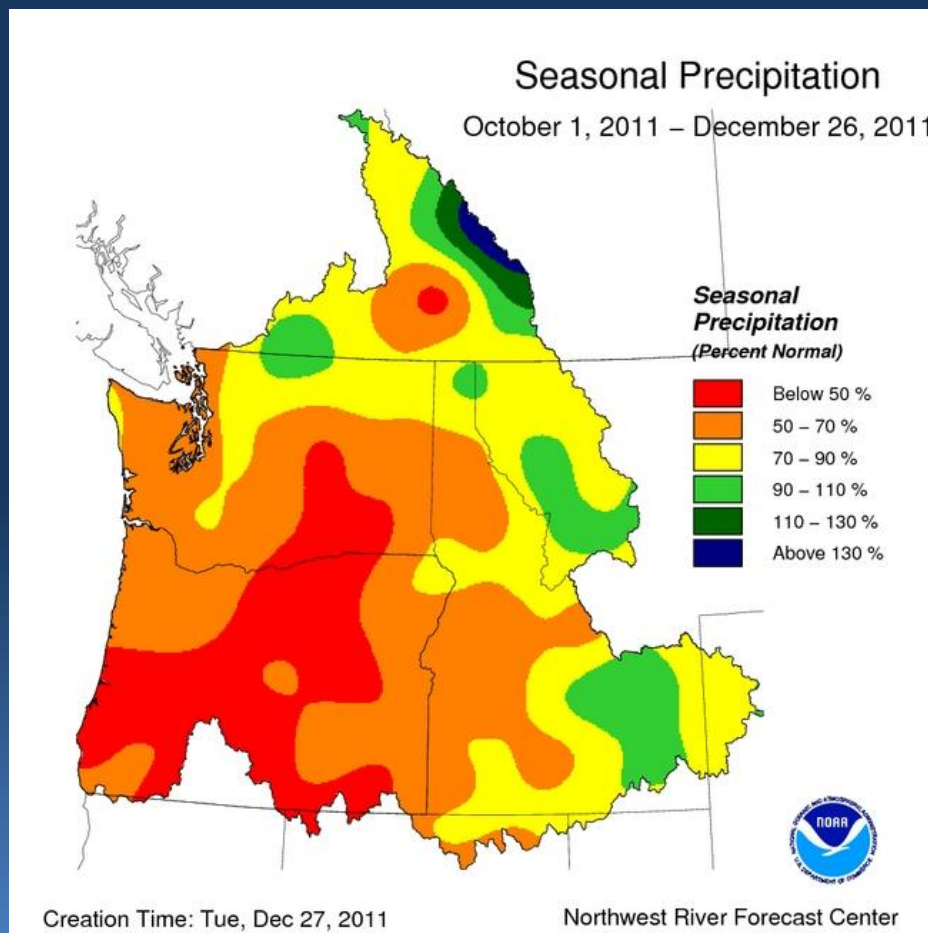
Northwest River Forecast Center

Observed December precipitation  
above Grand Coulee = 49%  
above Ice Harbor = 47%  
above The Dalles = 52%





# Observed Seasonal Precipitation



Observed Oct 1-Dec 31  
Precipitation

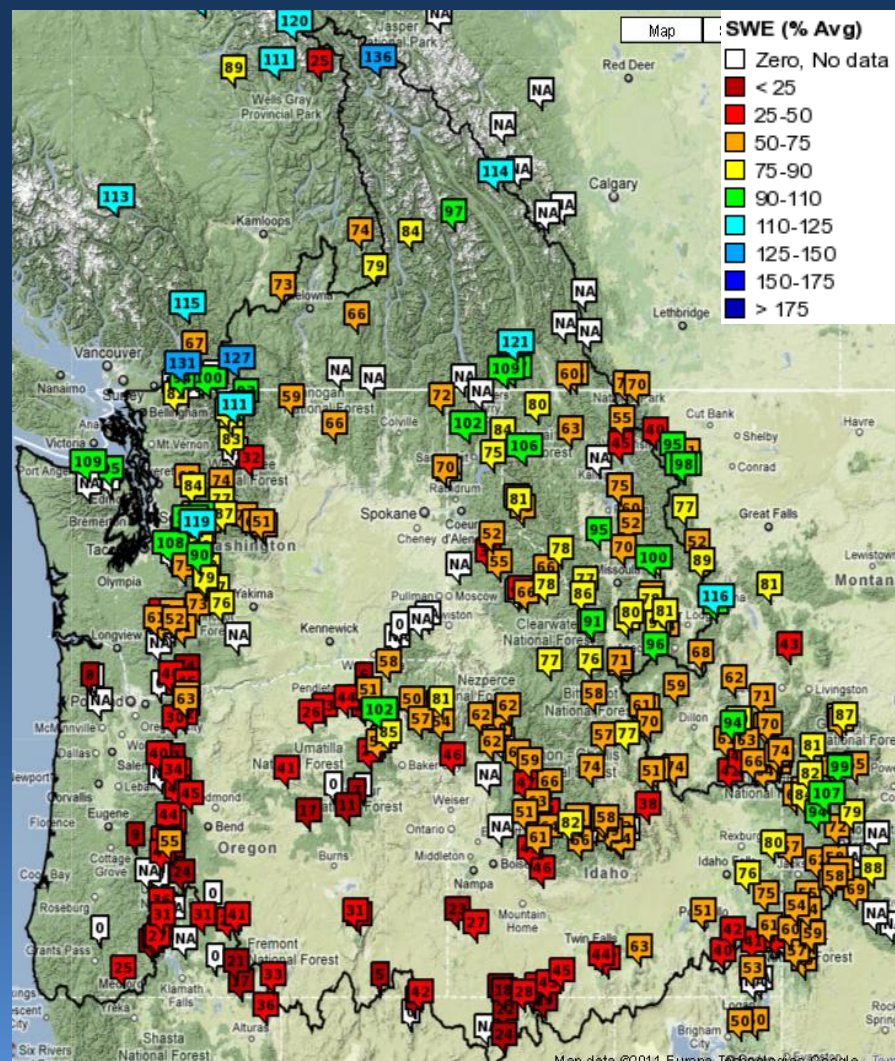
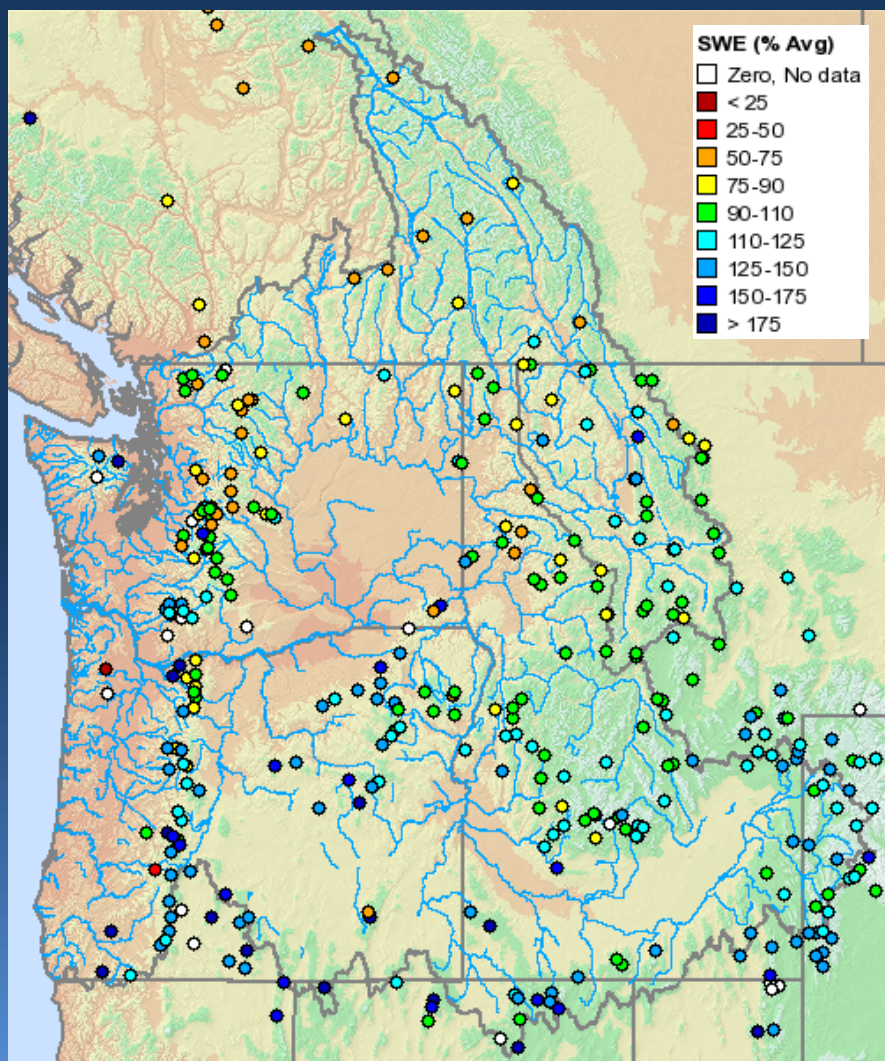
above Grand Coulee = 84%  
above Ice Harbor = 72%  
above The Dalles = 77%

Similar to WY's 2003, 2005, and 2010  
(all three of which were low runoff years  
for the region: 82, 76, and 79% at The  
Dalles, respectively)

# Current Snow Conditions

Jan 7, 2011

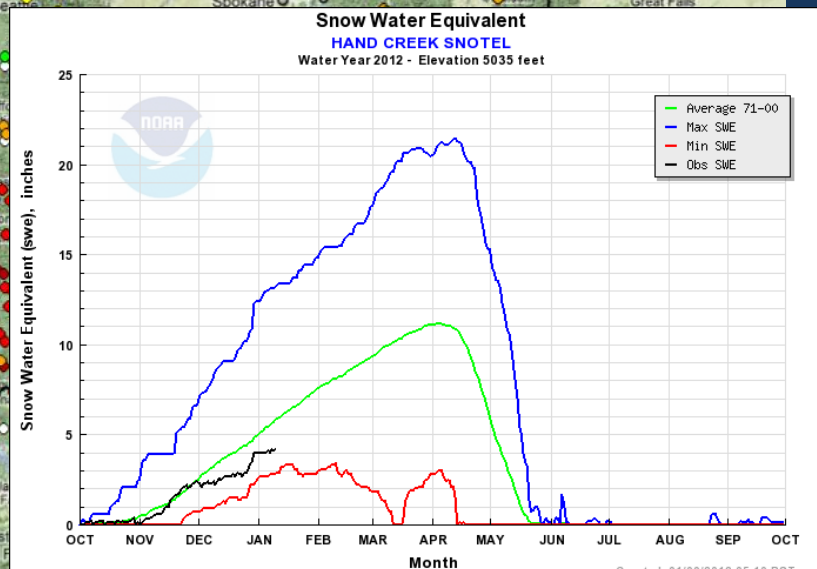
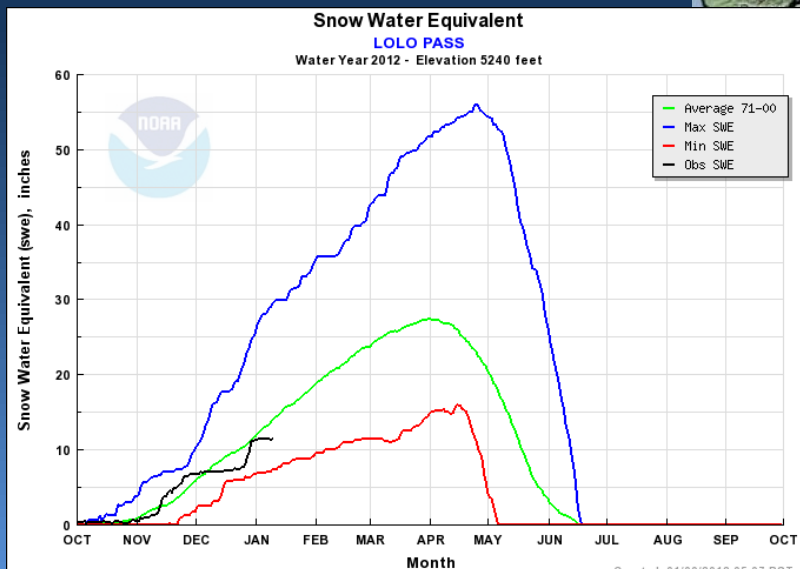
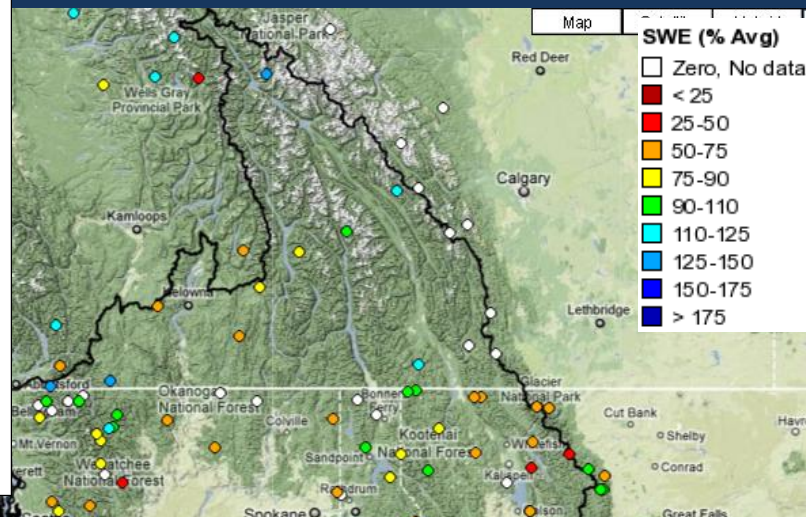
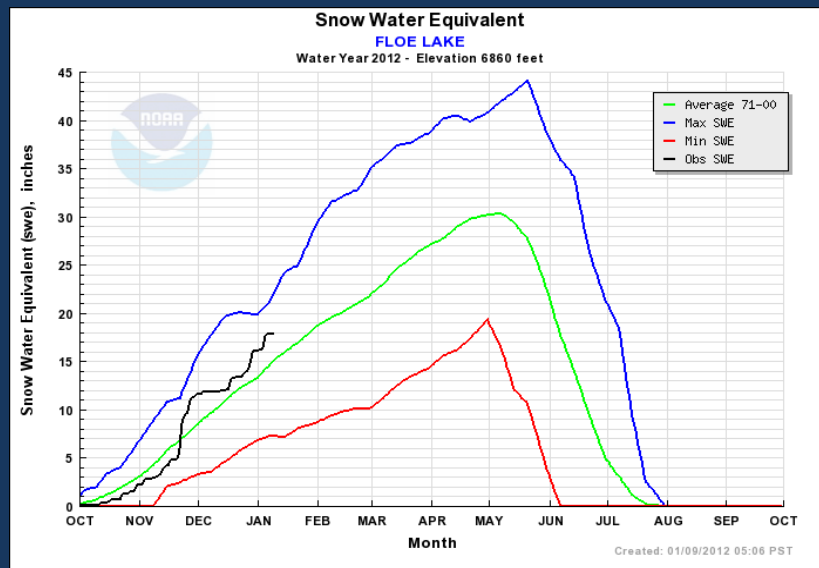
Jan 9, 2012





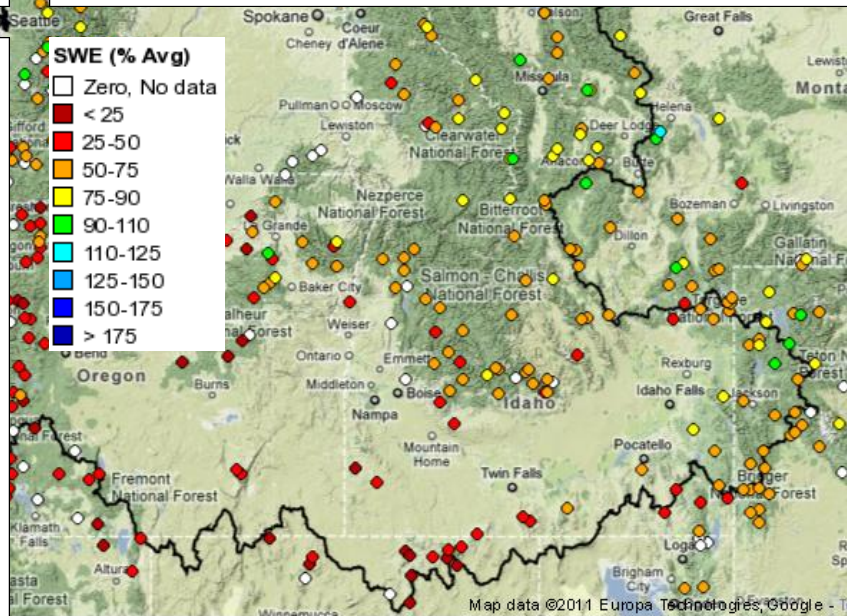
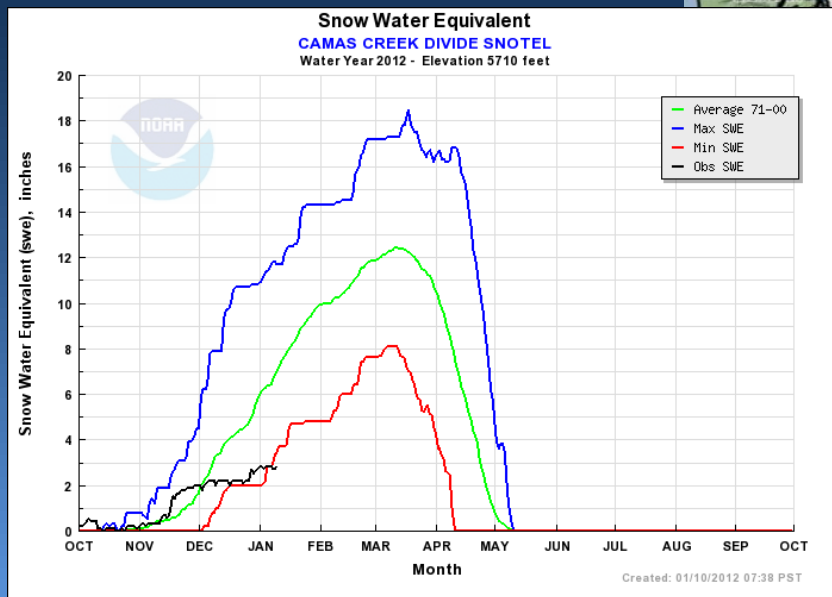
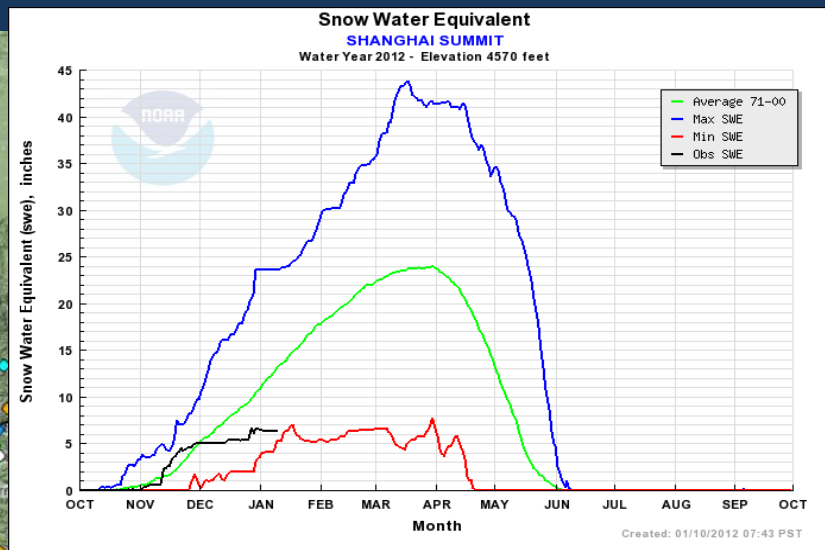
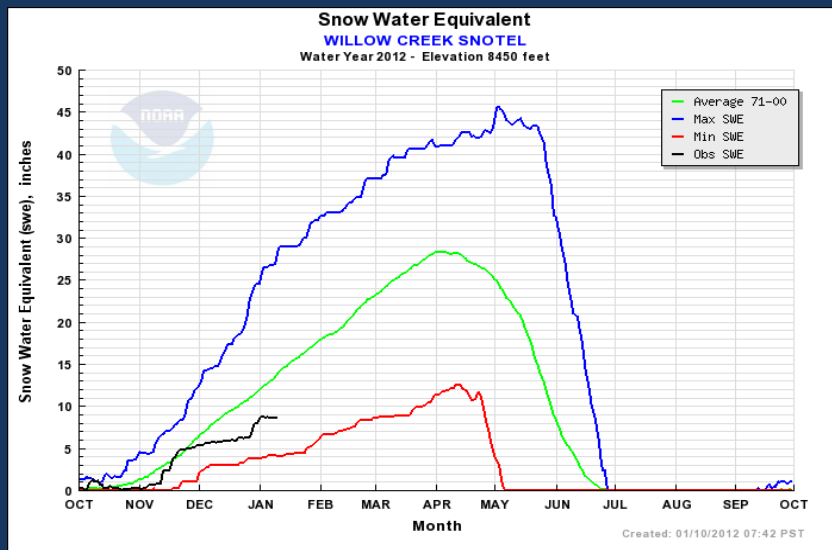


# Upper Columbia Snow Conditions



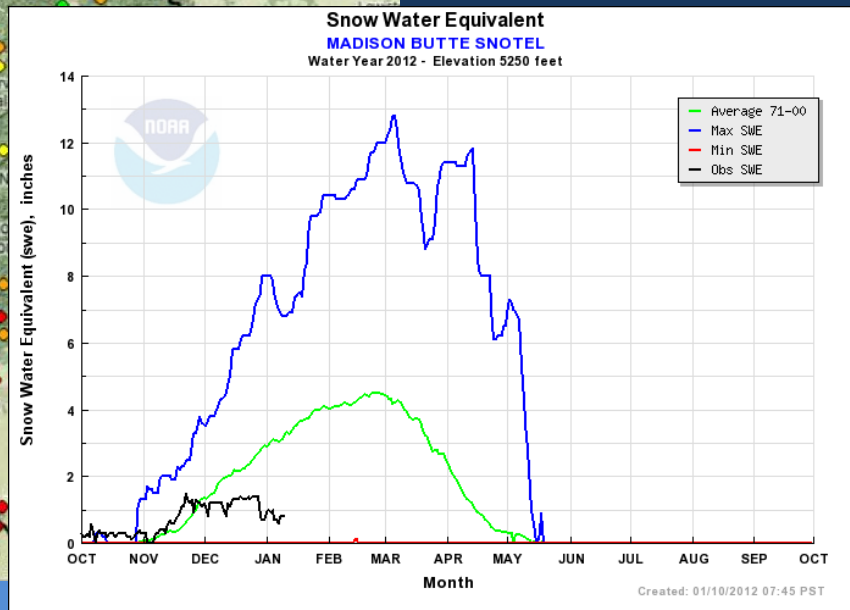
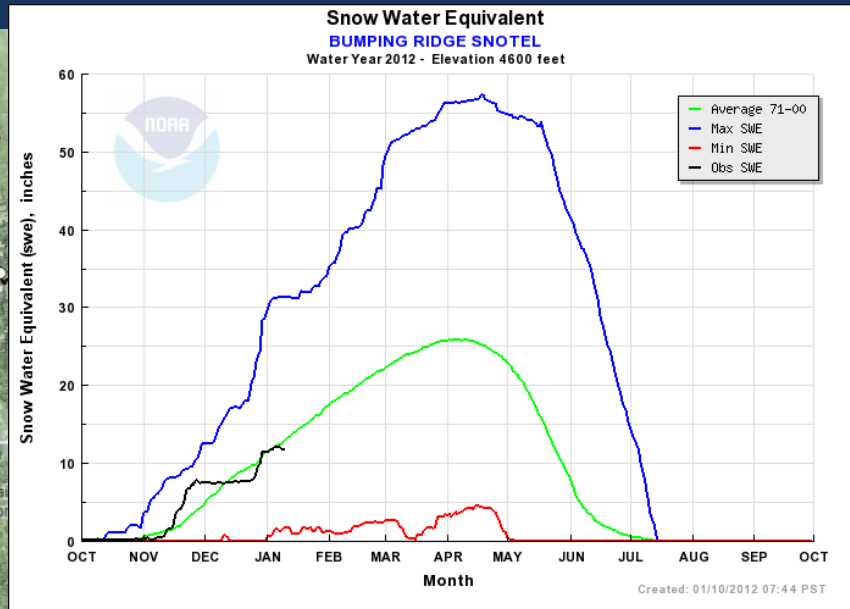
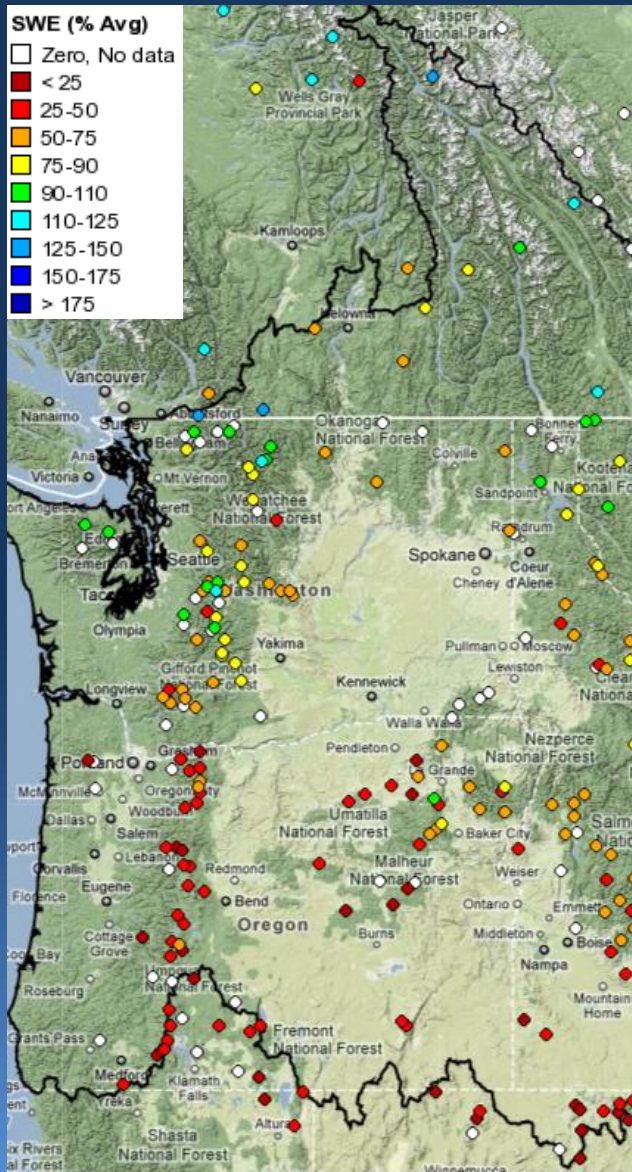


# Snake River Snow Conditions



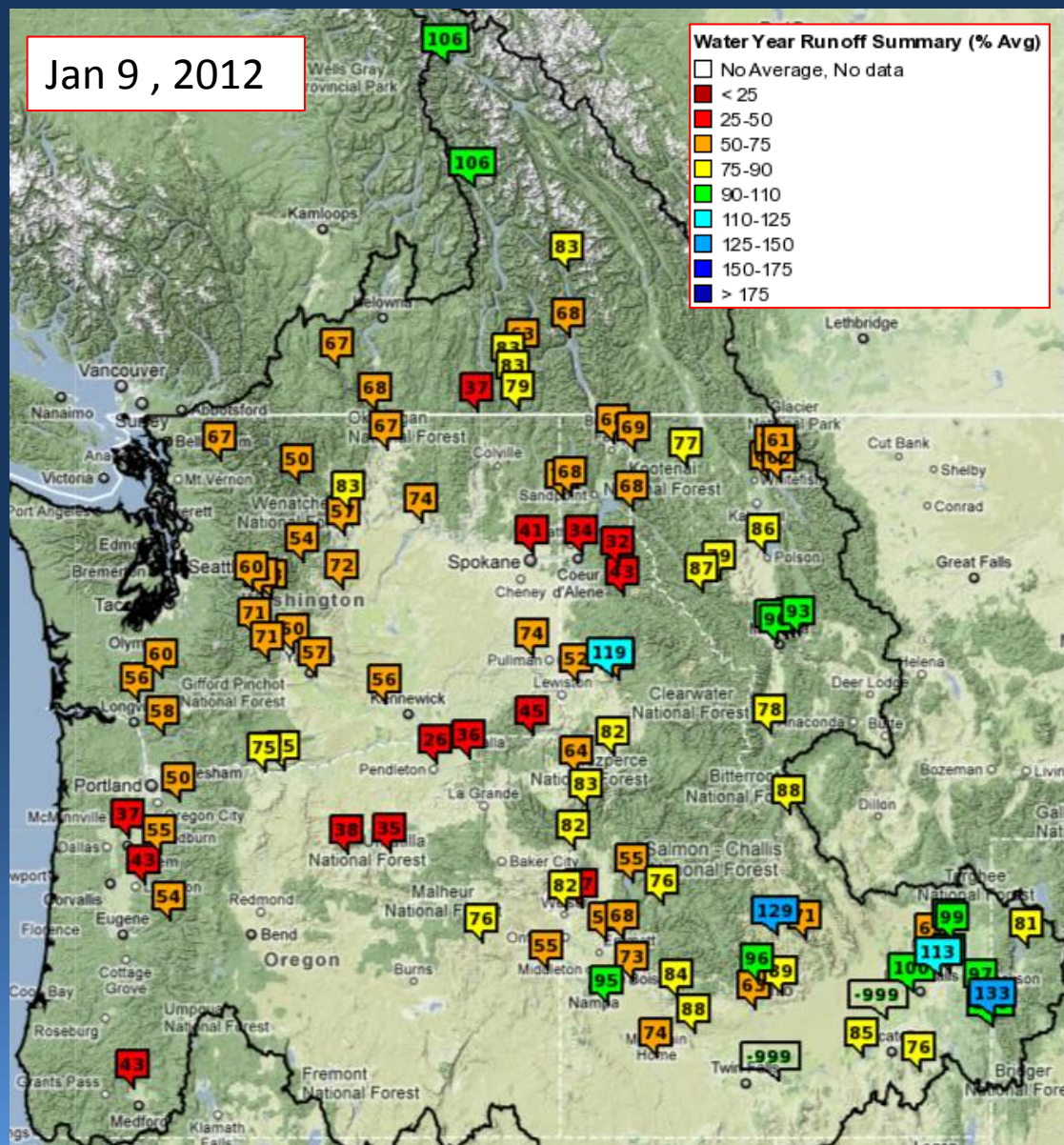


# Lower Columbia Snow Conditions



# Current Runoff Conditions

Jan 9 , 2012





# Future Conditions



Climate Outlooks

10 Day Precipitation Forecast

Water Supply Forecasts



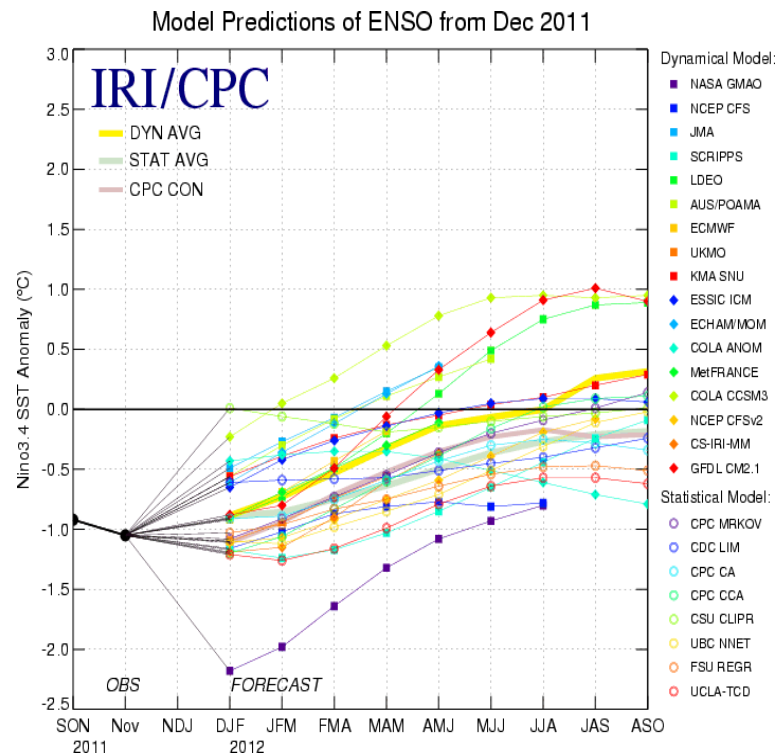
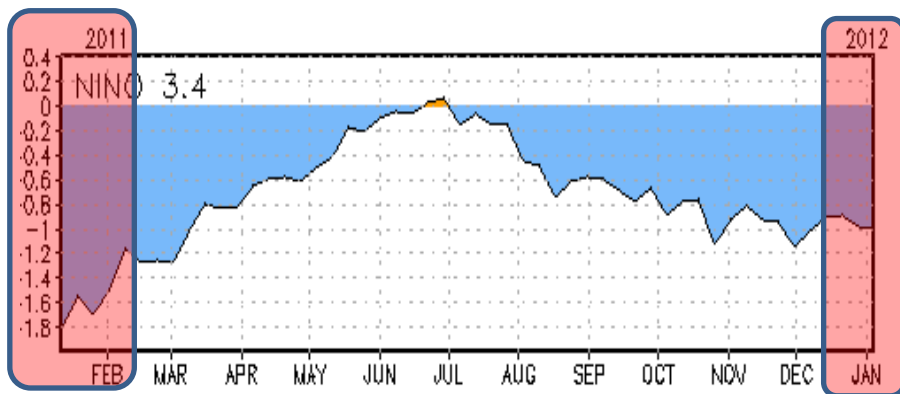


# Enso: Observed and Forecast

## SST Anomaly (Deg C)



Latest observed: SST 3.4 ~ -1.0 Deg C



**CPC Synopsis: La Niña is present and continues through winter 2012**

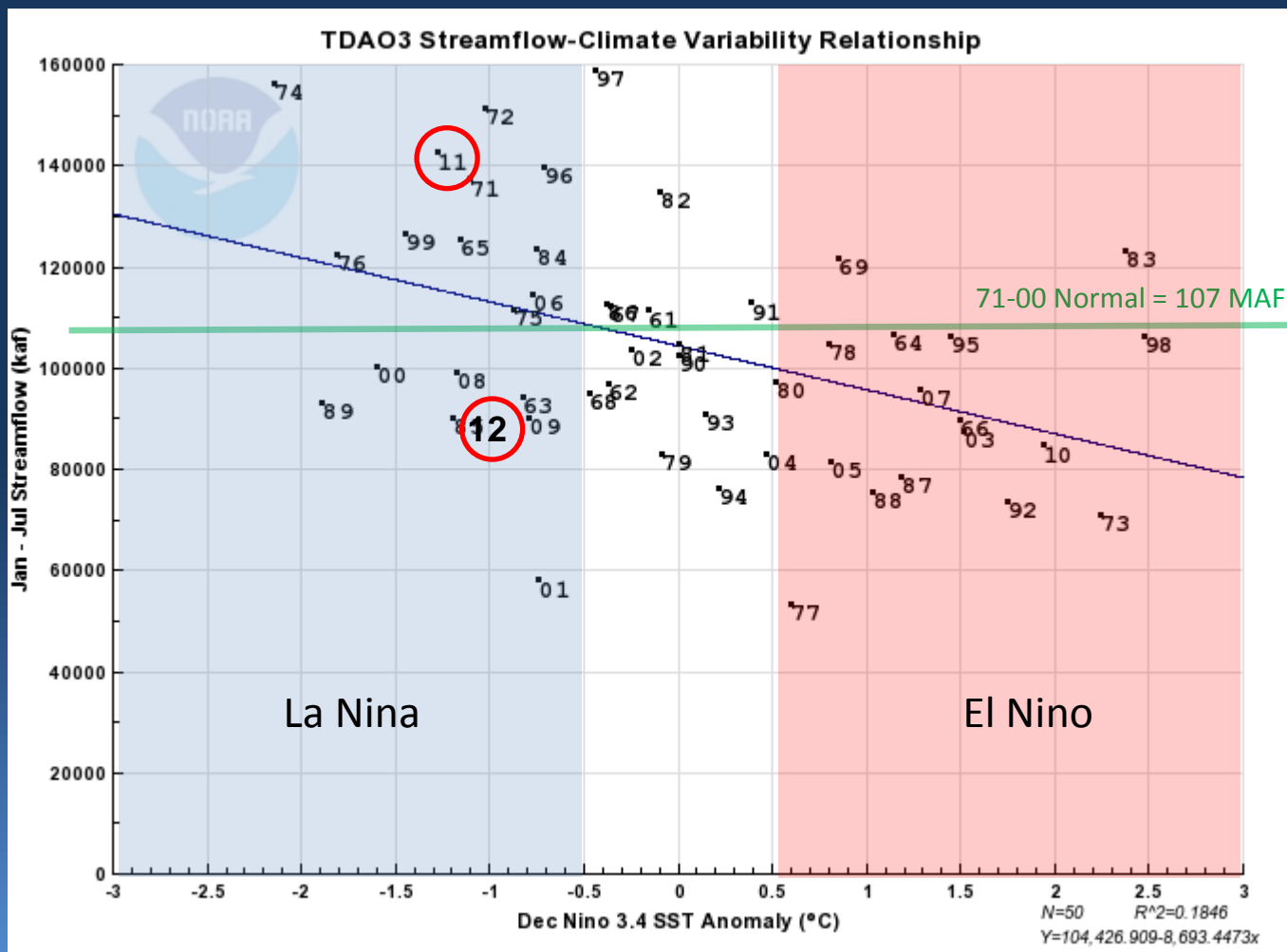
Source: Climate Prediction Center Weekly ENSO Update

[http://www.cpc.ncep.noaa.gov/products/analysis\\_monitoring/lanina/enso\\_evolution-status-fcsts-web.pdf](http://www.cpc.ncep.noaa.gov/products/analysis_monitoring/lanina/enso_evolution-status-fcsts-web.pdf)



# SST Anomaly vs Streamflow

## Columbia River near The Dalles

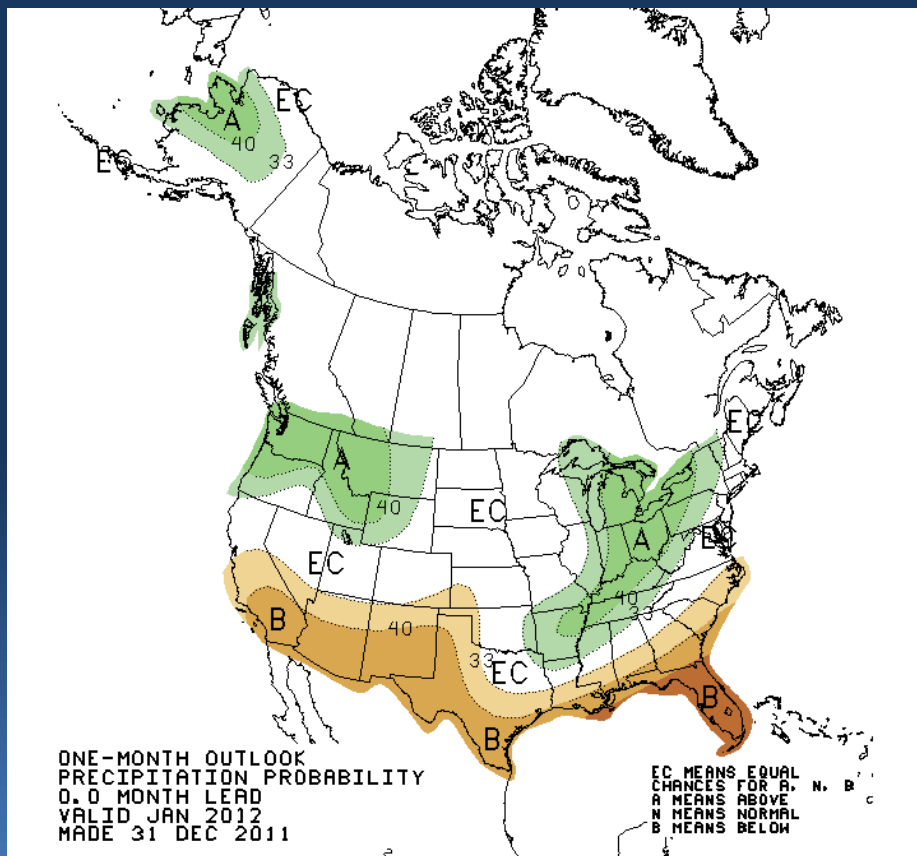




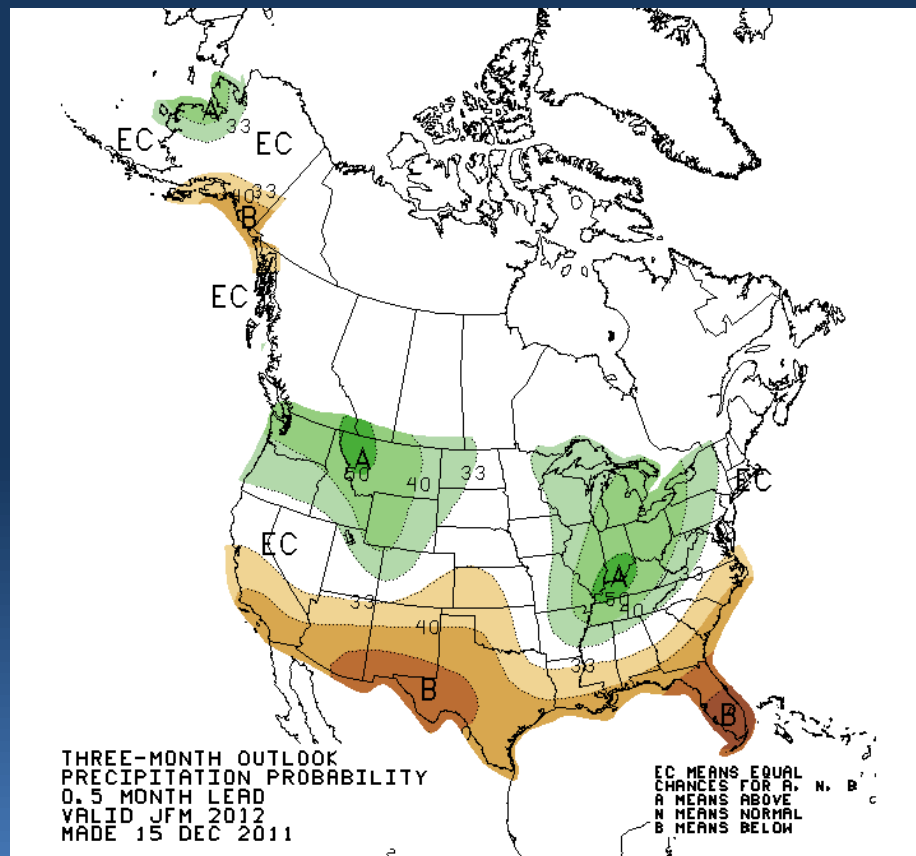
# Climate Outlook: Precipitation



## Current Month Outlook



## Three Month Outlook



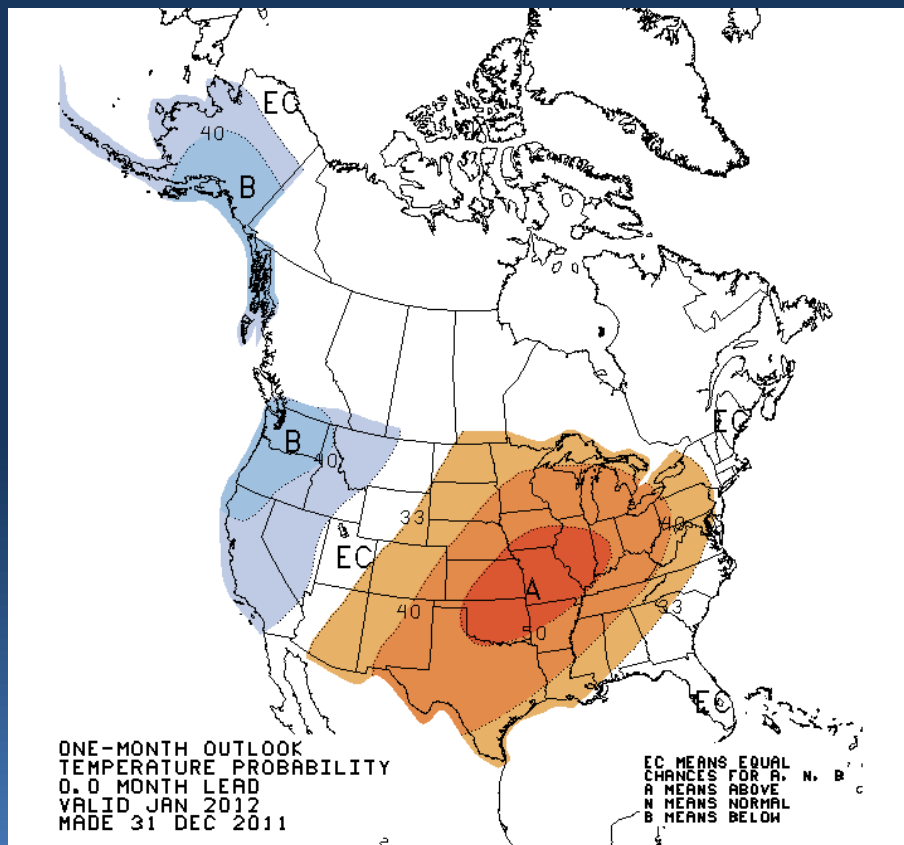




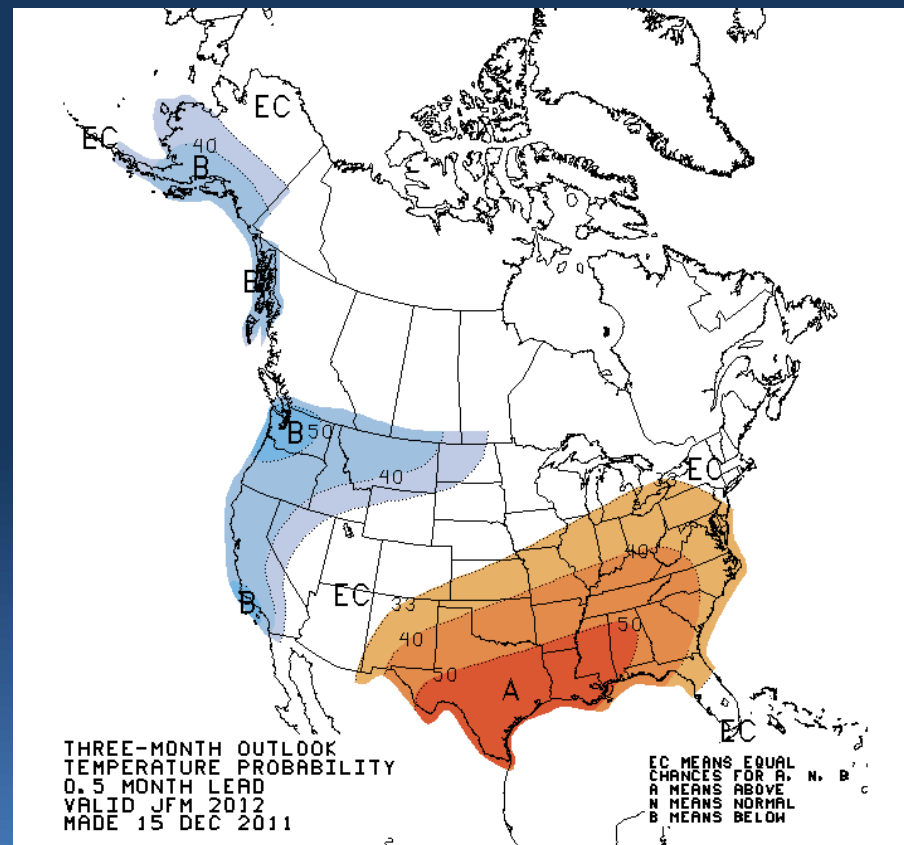
# Climate Outlook: Temperature



## Current Month Outlook



## Three Month Outlook

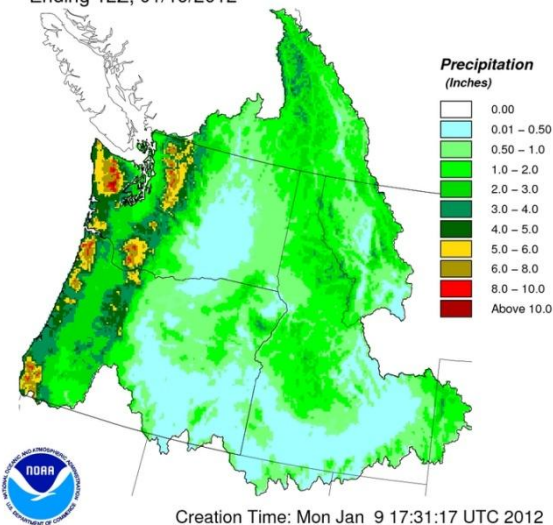




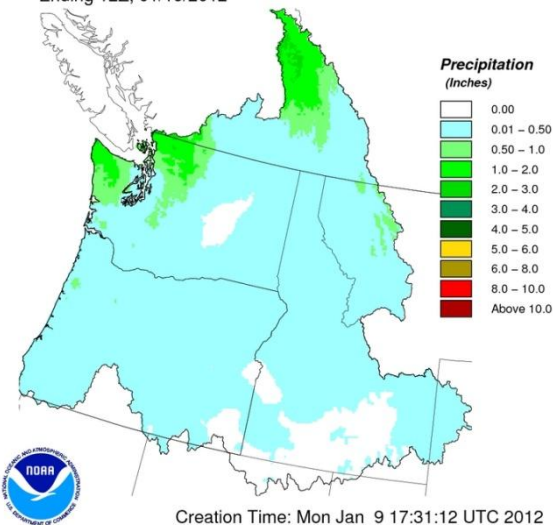
# ESP 10 Day Precipitation Forecast



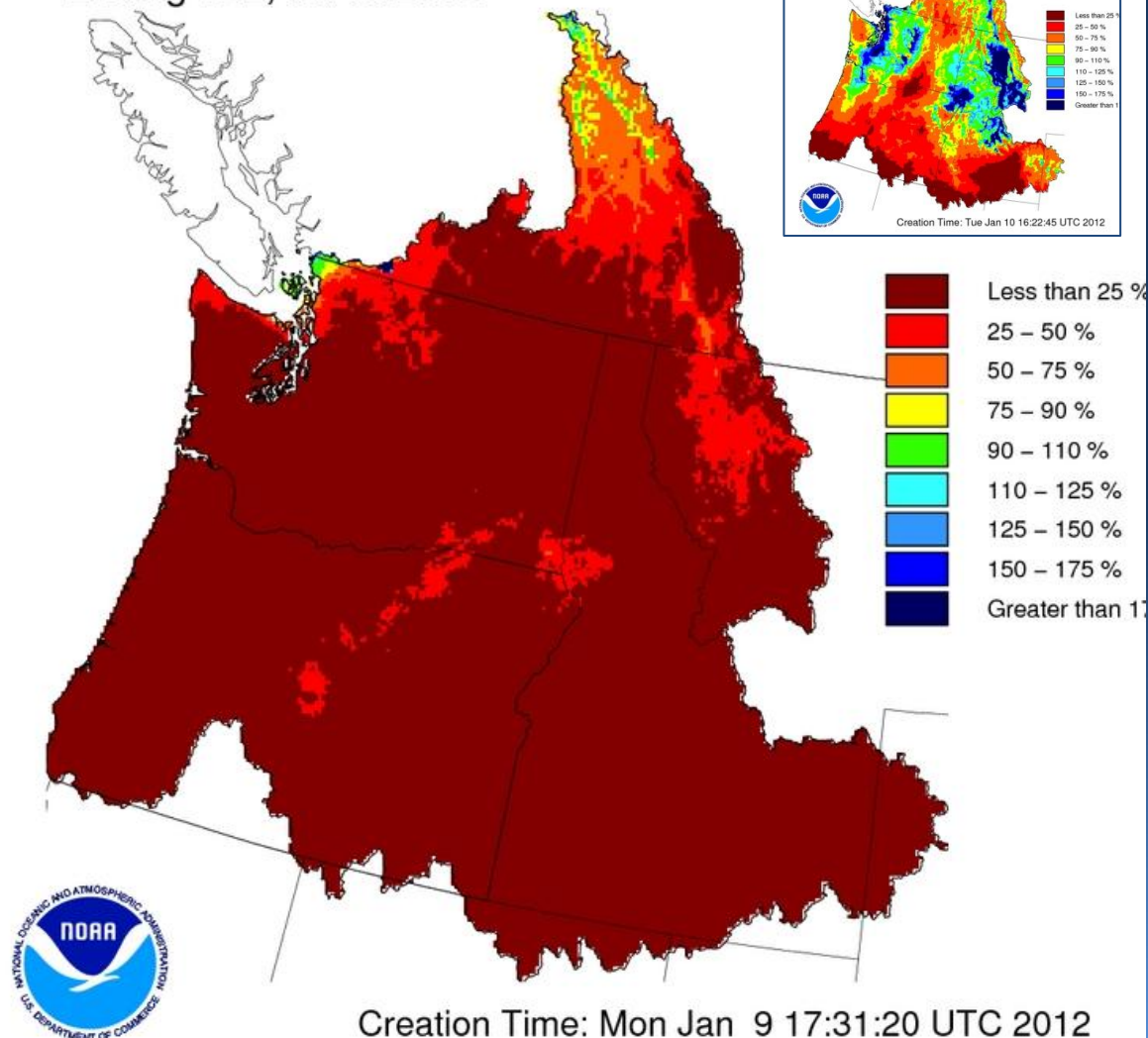
10 Day Precipitation Climatology  
Ending 12Z, 01/19/2012



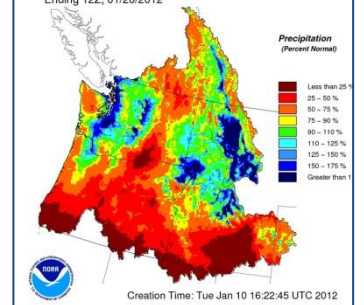
10 Day QPF  
Ending 12Z, 01/19/2012



10 Day QPF (Percent of Climatology)  
Ending 12Z, 01/19/2012

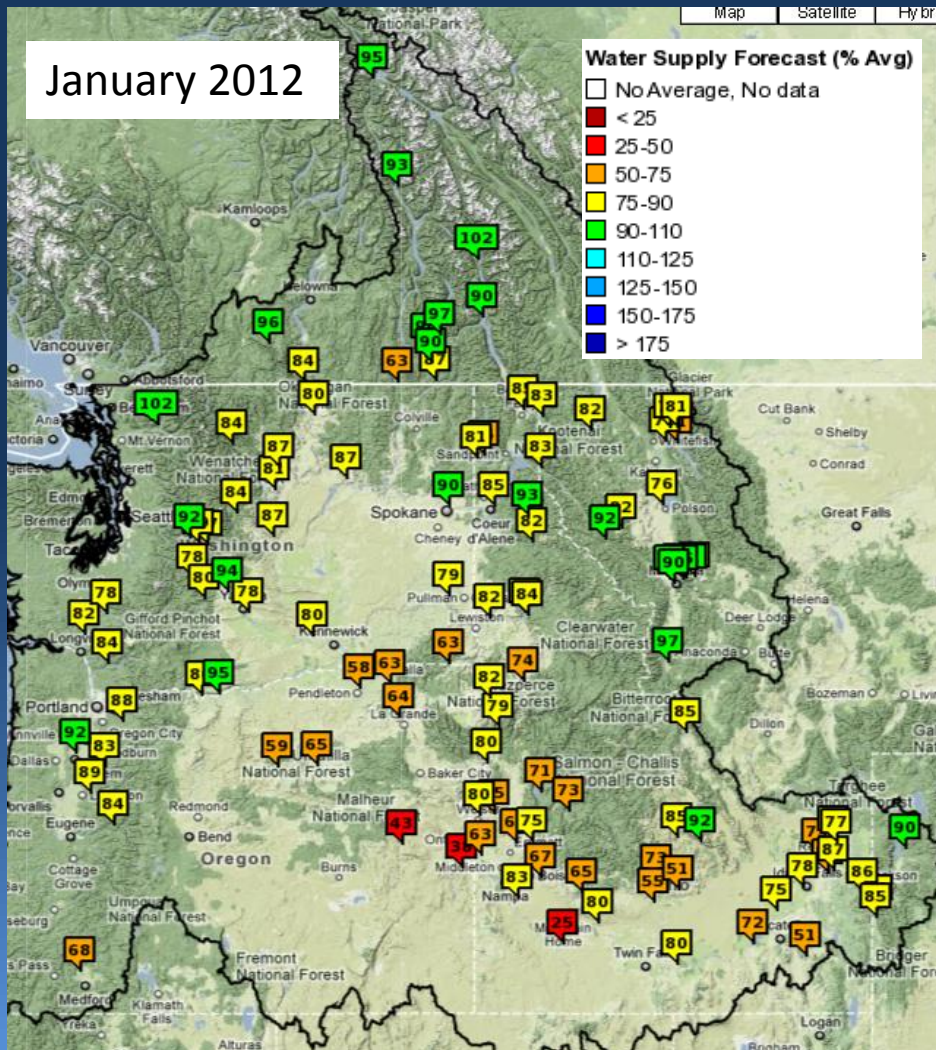


10 Day QPF (Percent of Climatology)  
Ending 12Z, 01/20/2012





# Water Supply Forecasts



NWRFC Forecasts  
Agency Collaborated

Ensemble Streamflow Procedure  
Jan 8<sup>th</sup> Ensemble Date  
Issued Jan 9<sup>th</sup>

Forecasts updated weekly/daily  
All forecasts are 'official'

Forecasts include 10 days for  
forecast precipitation

Model States/Snow/Runoff  
updated continuously through  
month



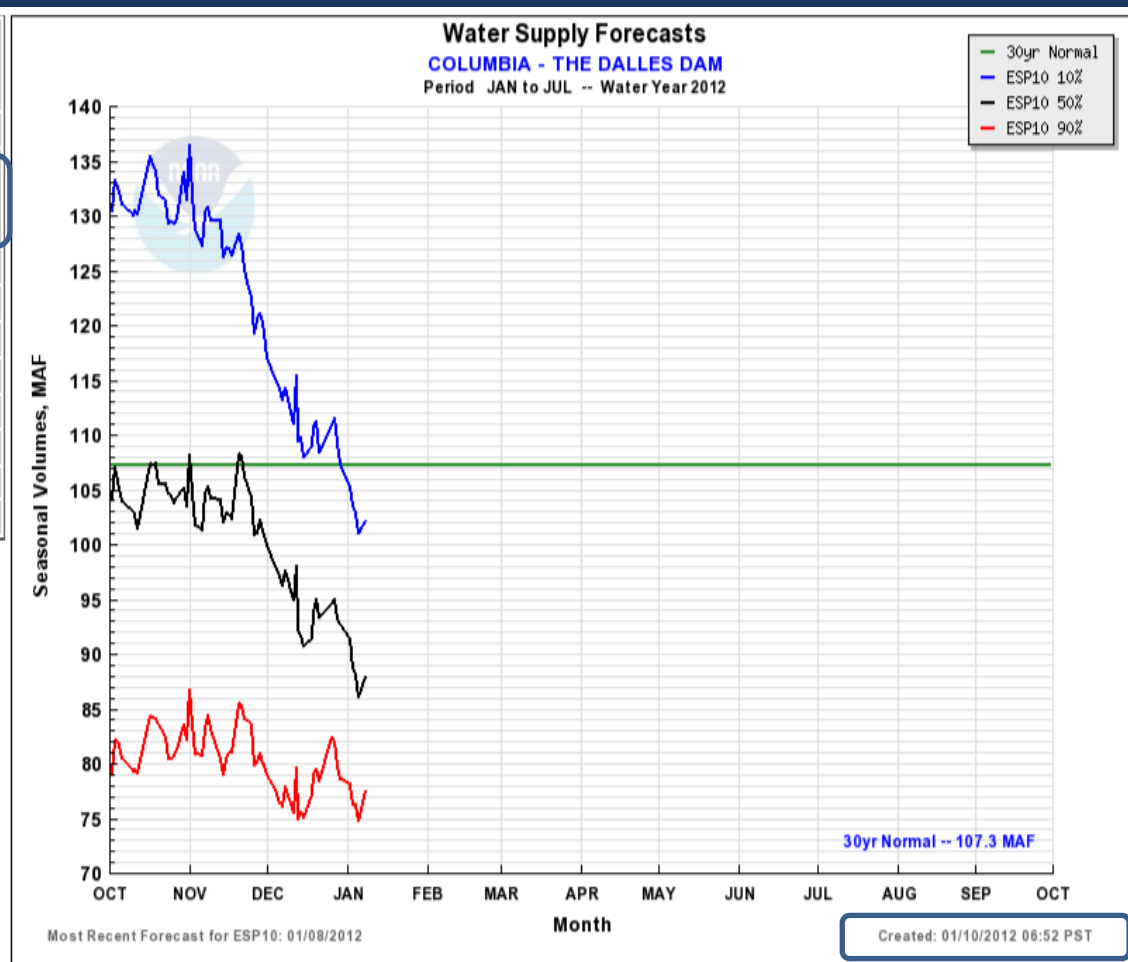


# NWRFC Water Supply Product



(TDA03) COLUMBIA - THE DALLES DAM					
Forecasts for Water Year 2012					
Ensemble Date: 2012-01-08 Issue Date: 2012-01-09					
Official Forecast with 10 days of QPF					
Forecast Period	Forecasts Are in KAF				'71-'00 30 Year Average
	90 %	50 %	% Average	10 %	
APR-SEP	73352	84710	86	93497	98650
APR-JUL	60868	69859	83	80137	84650
APR-AUG	68074	79061	85	88217	93090
JAN-JUL	77565	87915	82	102127	107300
with 3 days of QPF Forecast Not Available					
with 0 days of QPF Forecast Not Available					

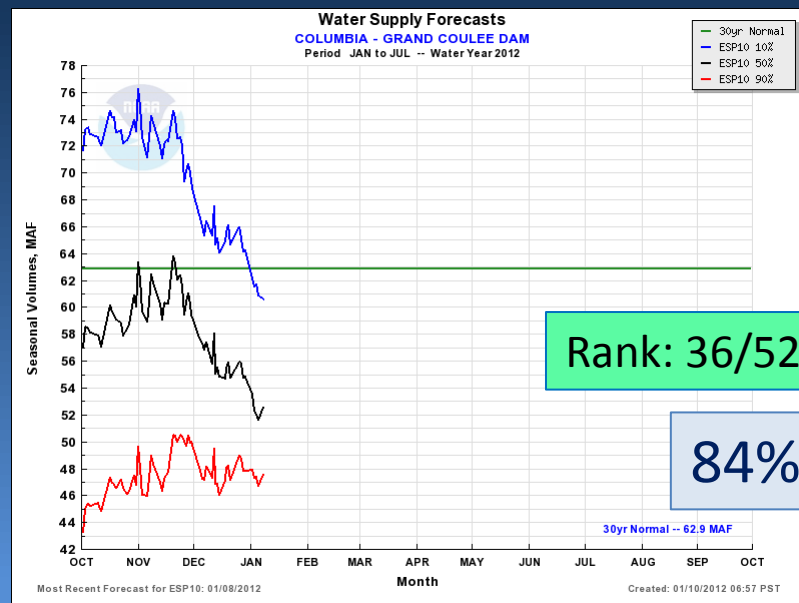
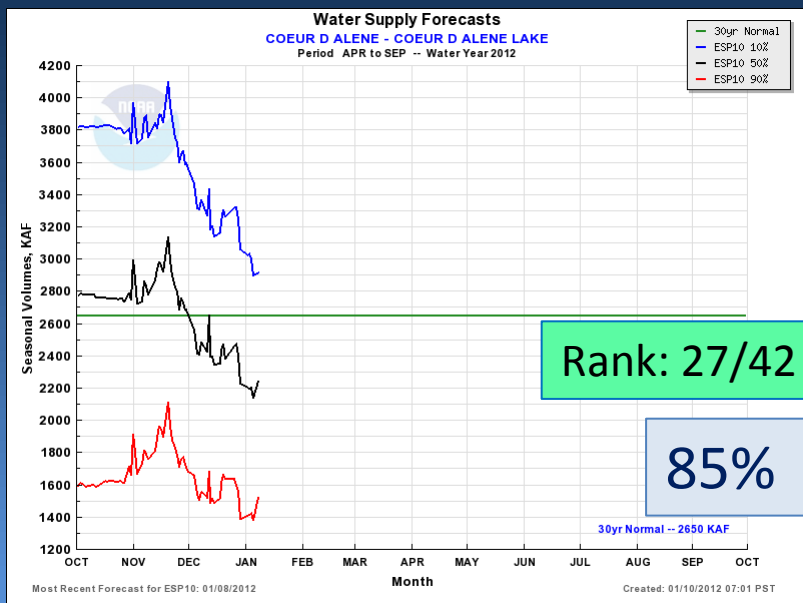
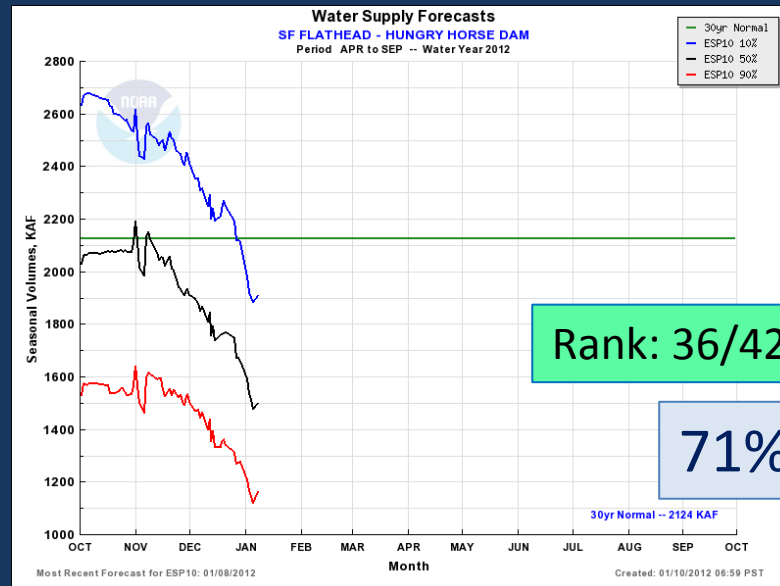
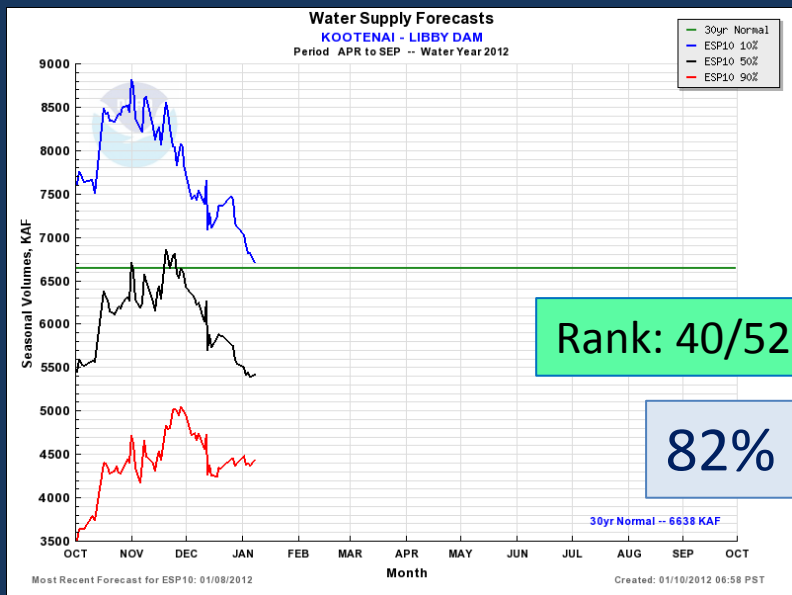
Move the mouse over the desired "Forecast Period" to display a graph.



90% -> 9 in 10 chance of volume being exceeded (quite likely)  
10% -> 1 in 10 chance of volume being exceeded (a possibility)  
50% -> 5 in 10 chance of volume being exceeded (most expected)

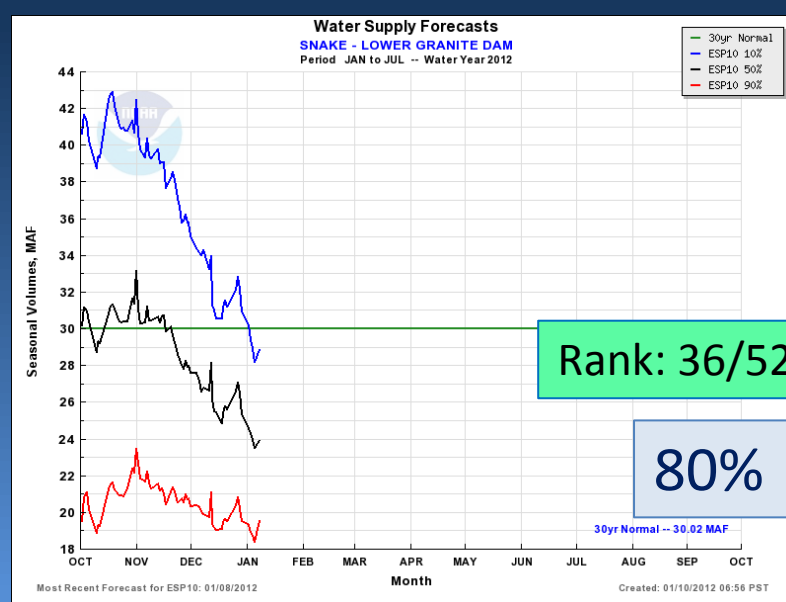
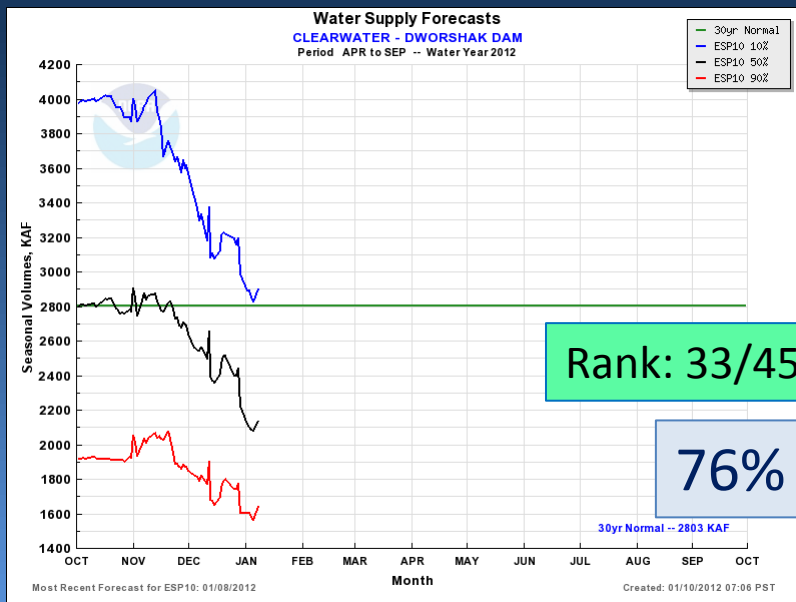
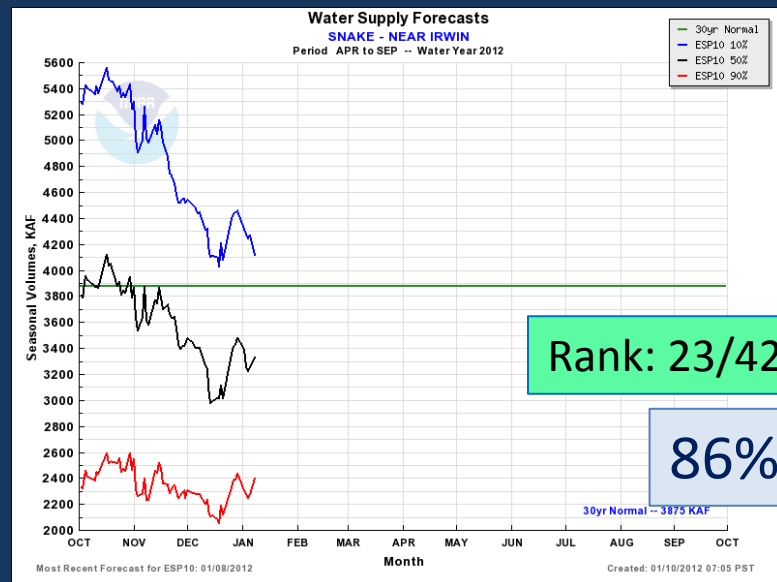
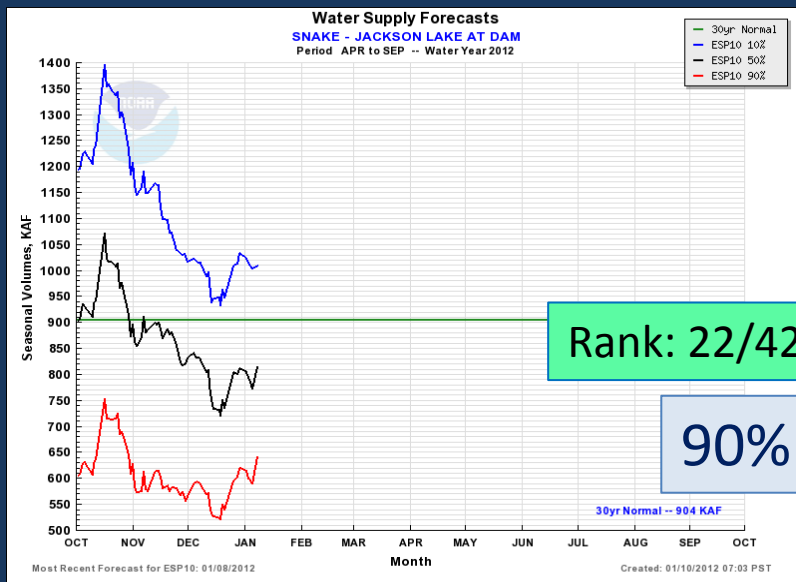


# Water Supply Forecast: Upper Columbia





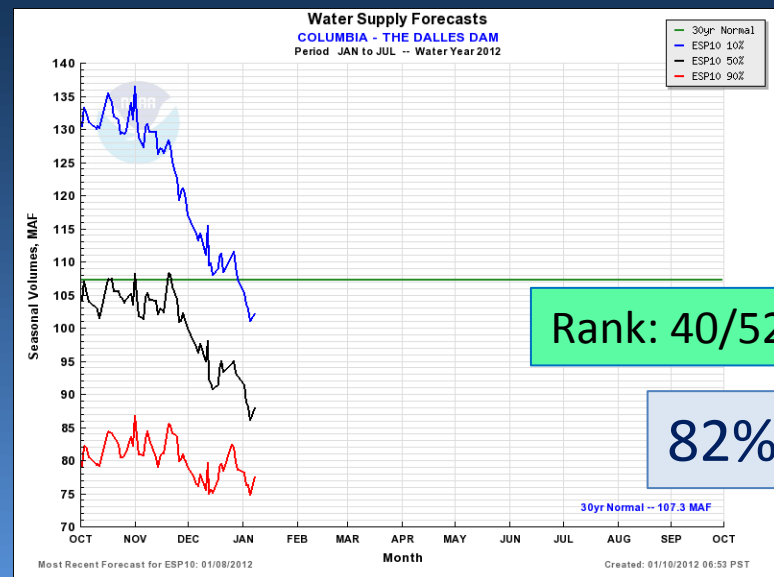
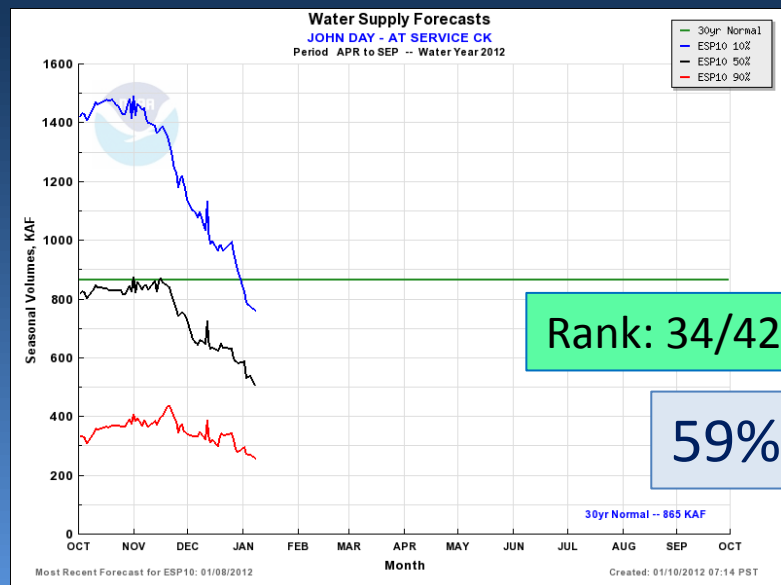
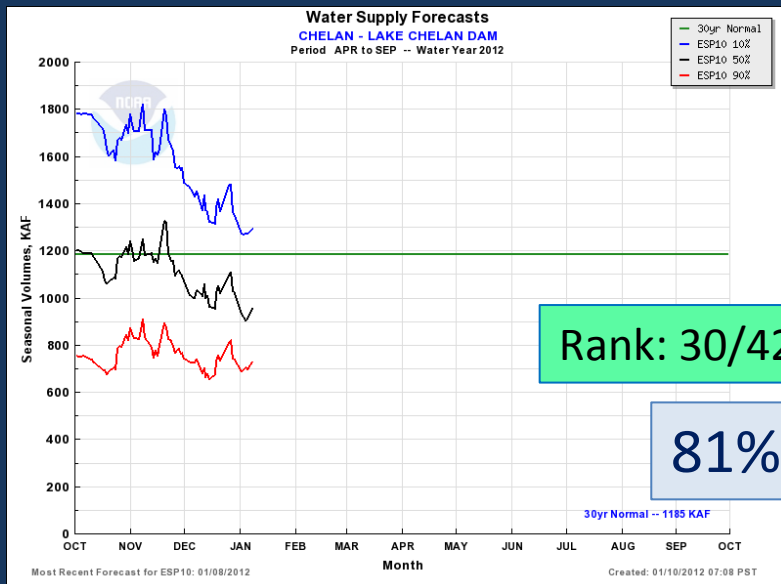
# Water Supply Forecast: Snake





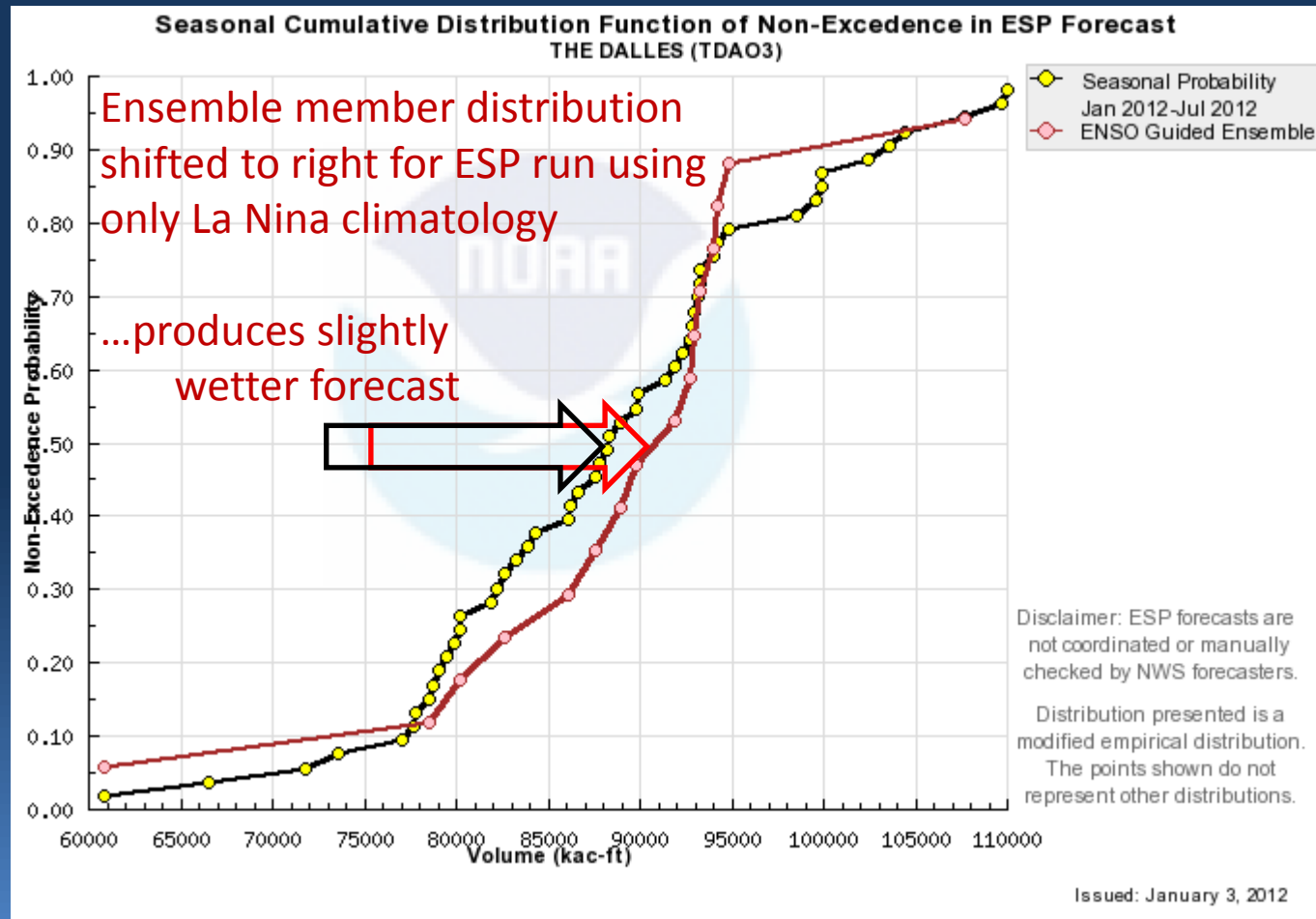


# Water Supply Forecast: Lower Columbia

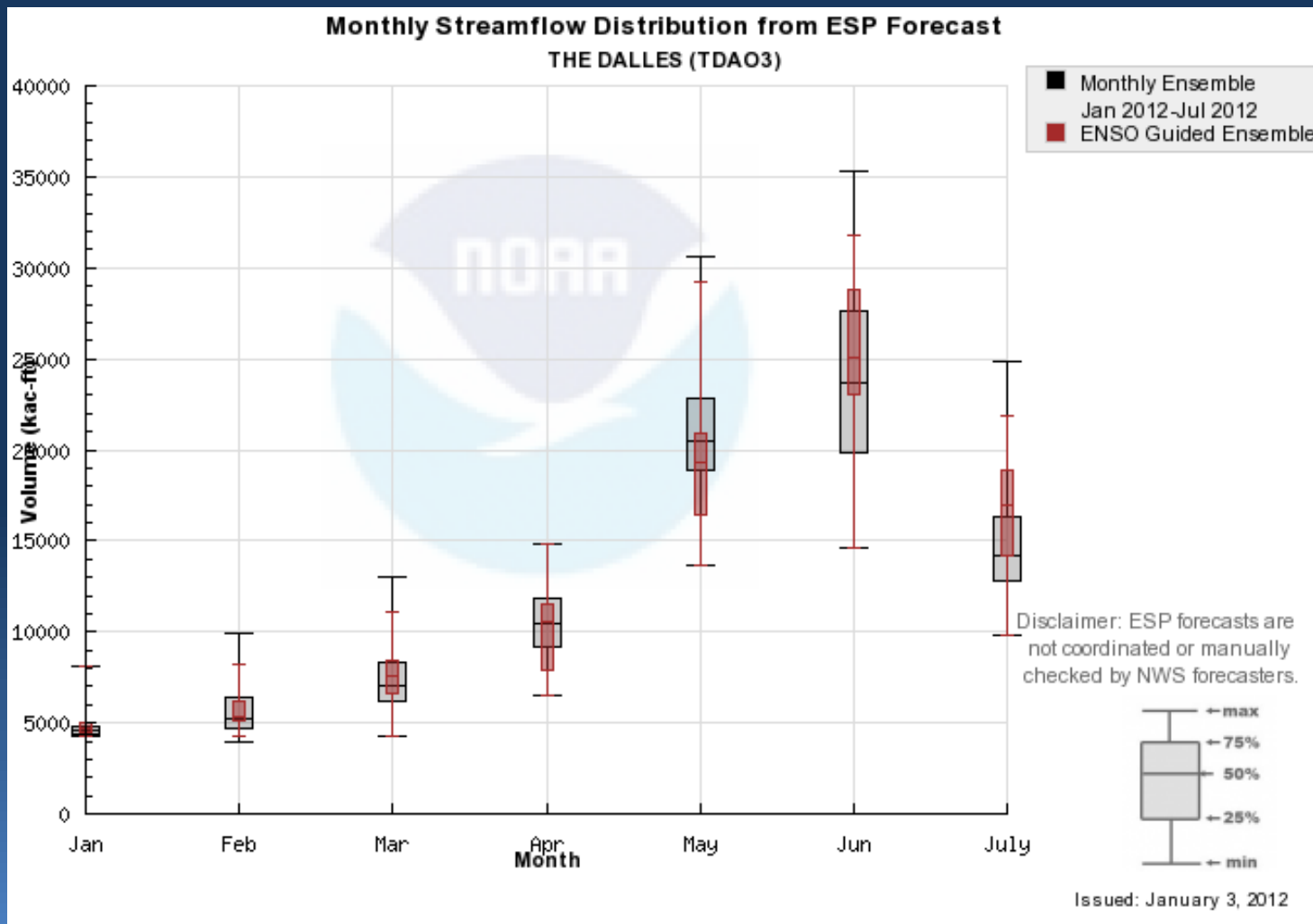




# ESP Analysis using La Nina Year Forcings



# ESP Analysis using La Nina Year Forcings







# Northwest River Forecast Center

## Water Supply Forecasts

[Close](#) [Archive](#) [Data/Normals](#) [Rankings](#) [Adjustments](#) [Verification](#) [Verify All Years](#) [Help](#)

### January 2012 Water Supply Briefing

(Posted: Thursday, January 5, 2012 to Wednesday, January 11, 2012)

The first water supply briefing for water year 2012 will be held on Tuesday, January 10 at 10:00 am Pacific Time. Click [here](#) for more information.

#### (TDA03) COLUMBIA - THE DALLES DAM

##### Forecasts for Water Year 2012

Ensemble Date: 2012-01-08 Issue Date: 2012-01-09

#### Official Forecast with 10 days of QPF

Forecast Period	Forecasts Are in KAF				30 Year Average
	90 %	50 %	% Average	10 %	
APR-SEP	73352	84710	86	93497	98650
APR-JUL	60868	69859	83	80137	84650
APR-AUG	68074	79061	85	88217	93090
JAN-JUL	77565	87915	82	102127	107300

with 3 days of QPF [Forecast Not Available](#)

with 0 days of QPF [Forecast Not Available](#)

Move the mouse over the desired "Forecast Period" to display a graph.

# Water Supply Forecast for COLUMBIA - THE DALLES DAM  
# ESP Generated Forecasts with 10 day QPF  
ID,Forecast Date,Start Month,End Month,90% FCST,50% FCST,10% FCST  
TDA03,2012-01-08,APR,SEP,73351.6,84710.3,93496.6  
TDA03,2012-01-05,APR,SEP,71200.9,83046.7,92912.1  
TDA03,2012-01-04,APR,SEP,71539.9,83954.9,94581.7  
TDA03,2012-01-03,APR,SEP,71622.8,84787.8,96321.2  
TDA03,2012-01-02,APR,SEP,73864.4,87080.9,98048.7  
TDA03,2011-12-29,APR,SEP,73539.8,87499.4,98698.4  
TDA03,2011-12-28,APR,SEP,74158.1,88601.1,100674.6  
TDA03,2011-12-27,APR,SEP,75483.2,90021.8,103335

#### Water Supply Forecasts

##### COLUMBIA - THE DALLES DAM

Period **JAN to JUL** Water Year 2012



For Data Used In Plot Click Here: [CSV](#)



# NWRFC Water Supply Webpage

[http://www.nwrfc.noaa.gov/water\\_supply/ws\\_schd.cgi](http://www.nwrfc.noaa.gov/water_supply/ws_schd.cgi)



## Schedule for *Live* Water Discussion

Jan	Feb	Mar	Apr	May	Jun
10	8	8	9	8	8