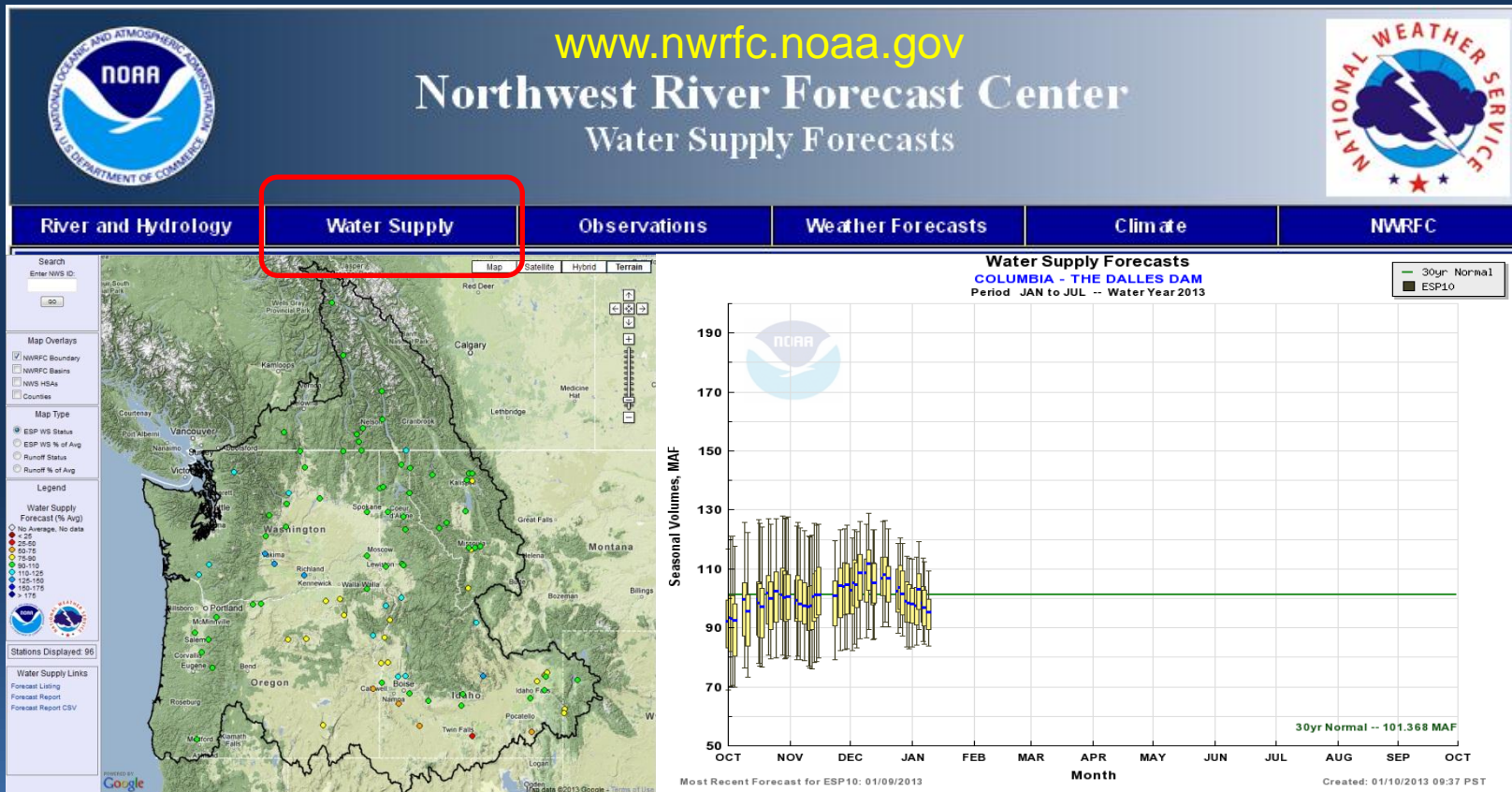


January 2013 Water Supply Briefing



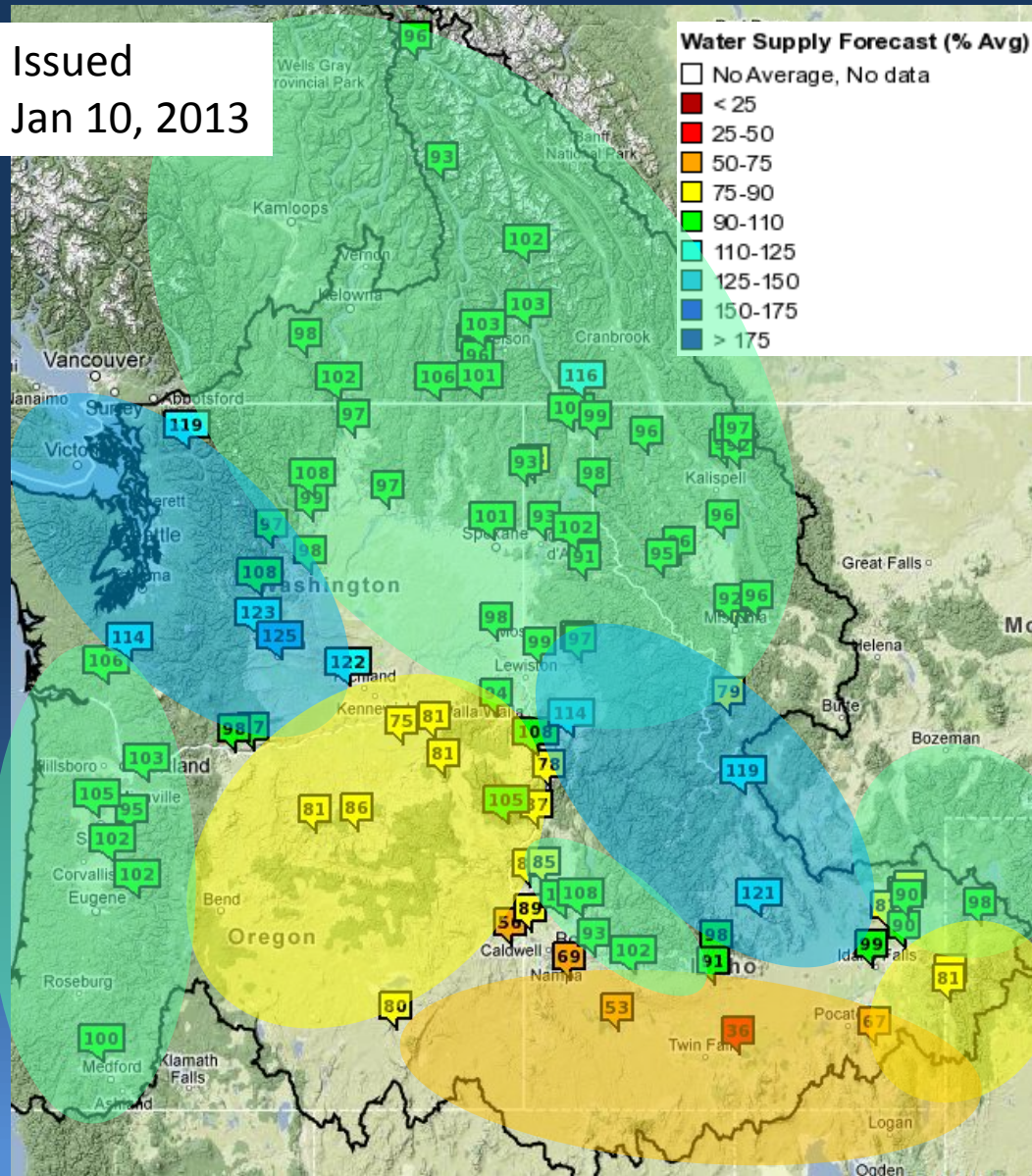
Steve King, NWRFC
Stephen.King@noaa.gov
(503)326-7291



Water Supply Summary



Issued
Jan 10, 2013



Most eastside Apr-Sep forecasts are near or below normal

Most forecasts have been on the decline due to current dry regime.

Conditions are generally driest in the south-eastern basins

Wettest forecasts (above 110%) are in western Washington and in the mid latitudes of Idaho.



Observed Conditions



Precipitation

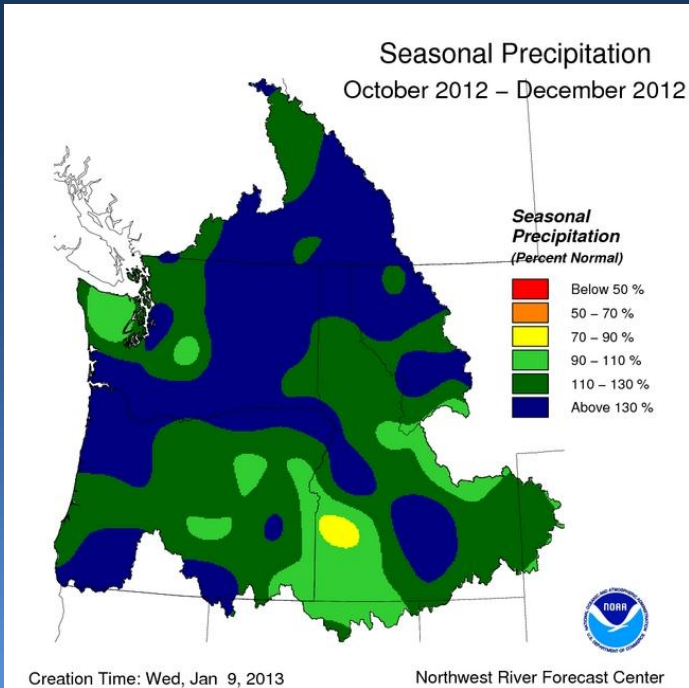
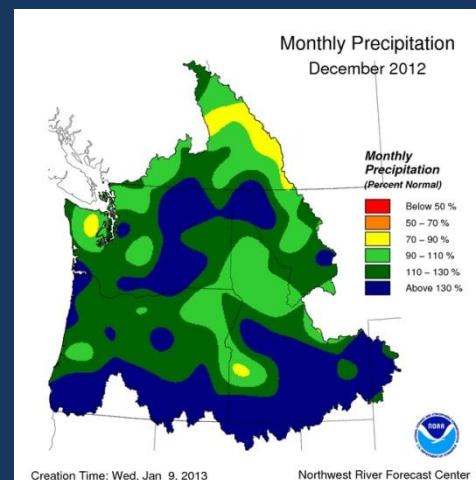
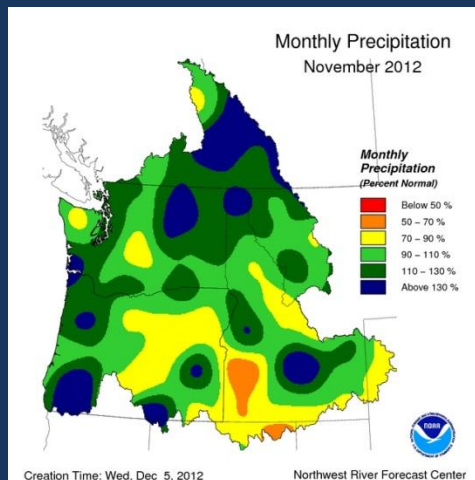
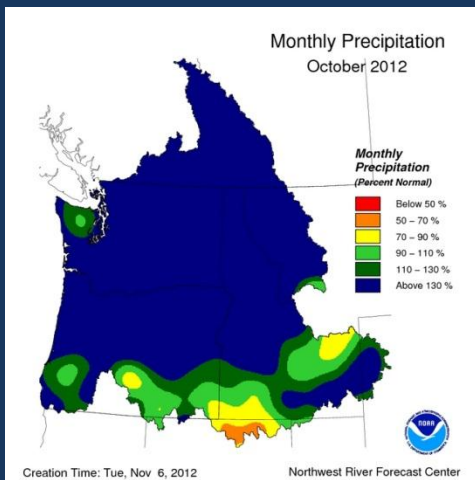
Temperature

Runoff

Snowpack



Observed Precipitation



Observed Precipitation Water Year to Date (Oct 12 - Dec 12)

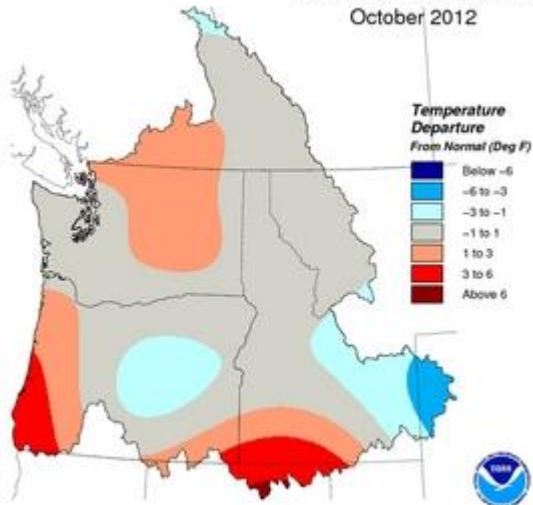
above Grand Coulee = 137%
above Ice Harbor = 128%
above The Dalles = 130%



Temperature Departures



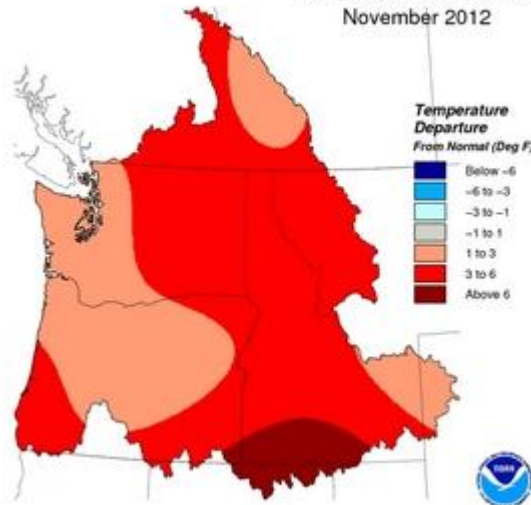
Temperature Departure
October 2012



Creation Time: Tue, Nov 6, 2012

Northwest River Forecast Center

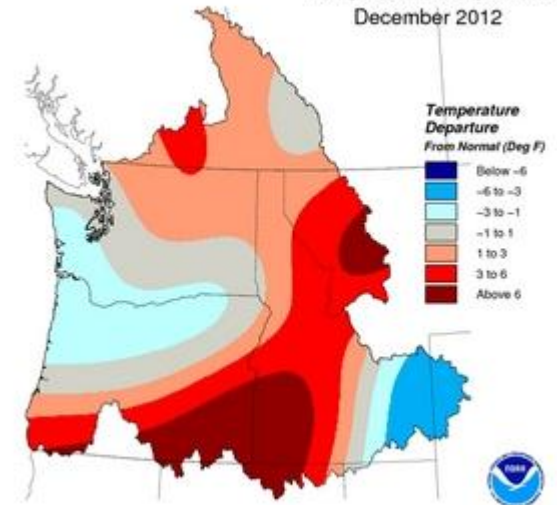
Temperature Departure
November 2012



Creation Time: Wed, Dec 5, 2012

Northwest River Forecast Center

Temperature Departure
December 2012



Creation Time: Wed, Jan 9, 2013

Northwest River Forecast Center



Runoff Normals Update



** 30 Year runoff normals representing 1981-2010 have replaced 1971-2000 set.

For all of the published locations, the updated normals are less than the 1971-2000 dataset. This is due to the relatively dry runoff period from 2001-2010 and is especially true for southeastern river basins.

For The Columbia River at the Dalles:

1981-2010 Jan-Jul normal is 101 MAF

1971-2000 was 107 MAF

1961-1990 was 106 MAF

Normals and Monthly Runoff is available from link on Water Supply Forecast Page:

Close Archive **Data/Normals** Rankings Adjustments Verification Verify All Years Help

(TDAO3) THE DALLES
Forecasts for Water Year 2013
Ensemble Date: 2013-01-09 Issue Date: 2013-01-10

Water Supply Forecasts
COLUMBIA - THE DALLES DAM
Period APR to SEP -- Water Year 2013

— 30yr Normal
■ ESP10



Current Adjusted Runoff Conditions



	Percent of 1981-2010 Normal	
	Jan 1-8	Oct1 -Jan8
MICA	83	106
LIBBY	94	119
HUNGRY HORSE	106	126
GRAND COULEE	104	128
DWORSHAK	72	134
LOWER GRANITE	63	100
THE DALLES	91	116

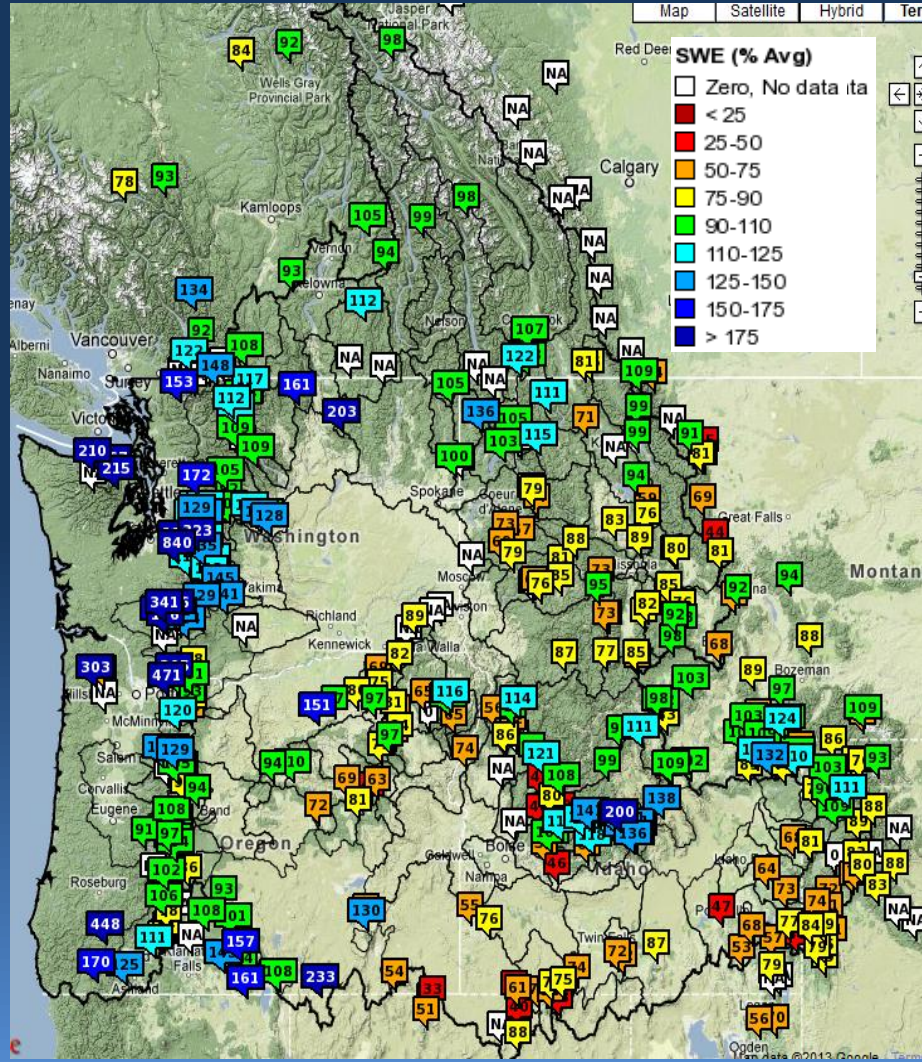
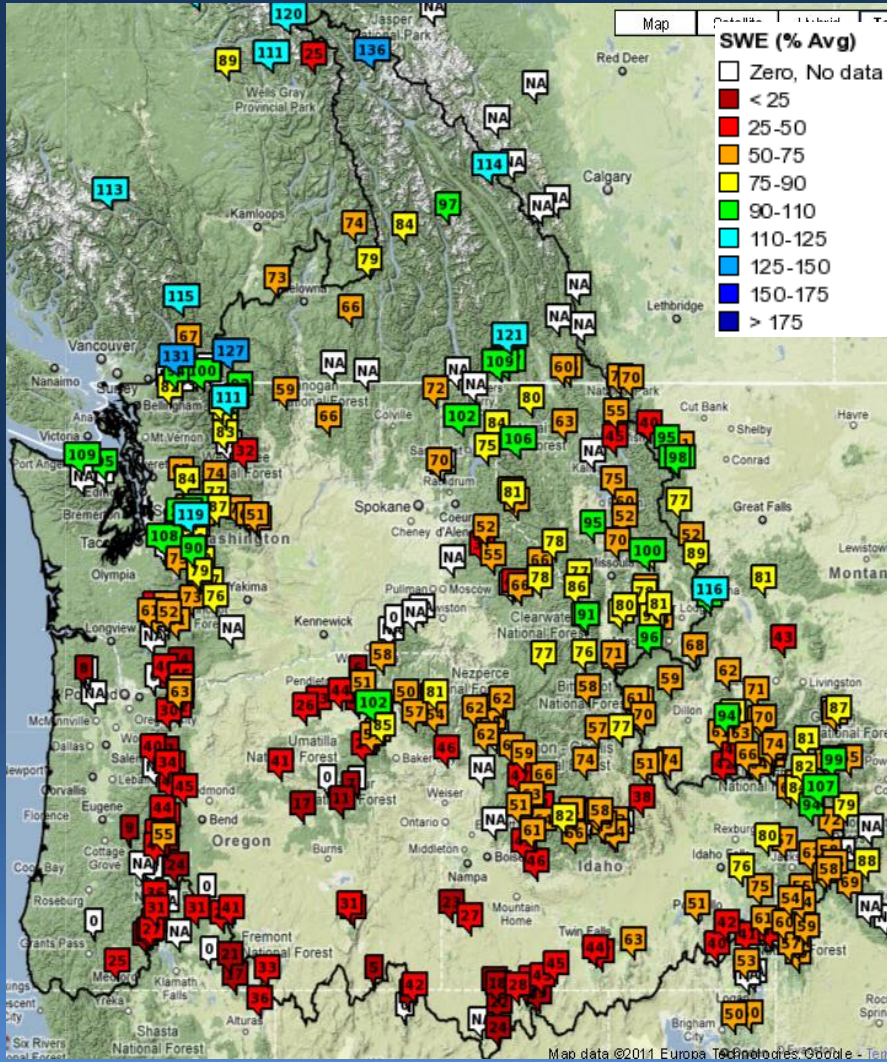


Current Snow Conditions



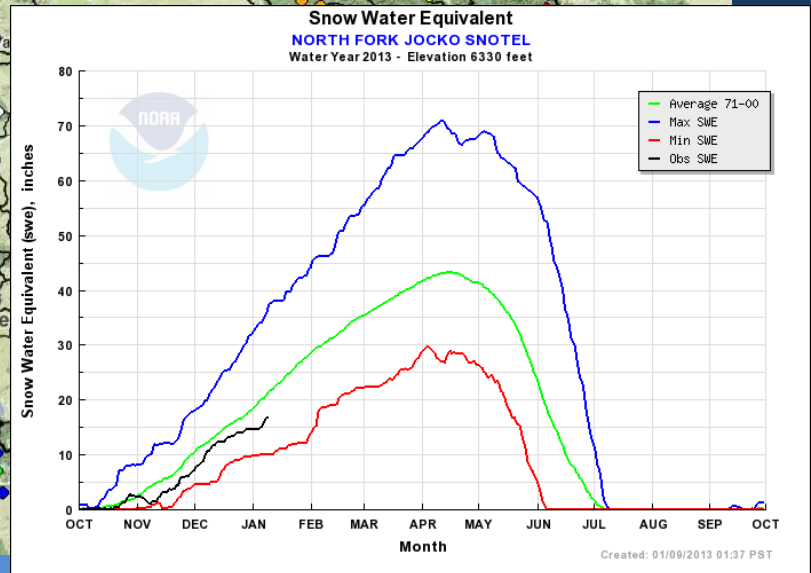
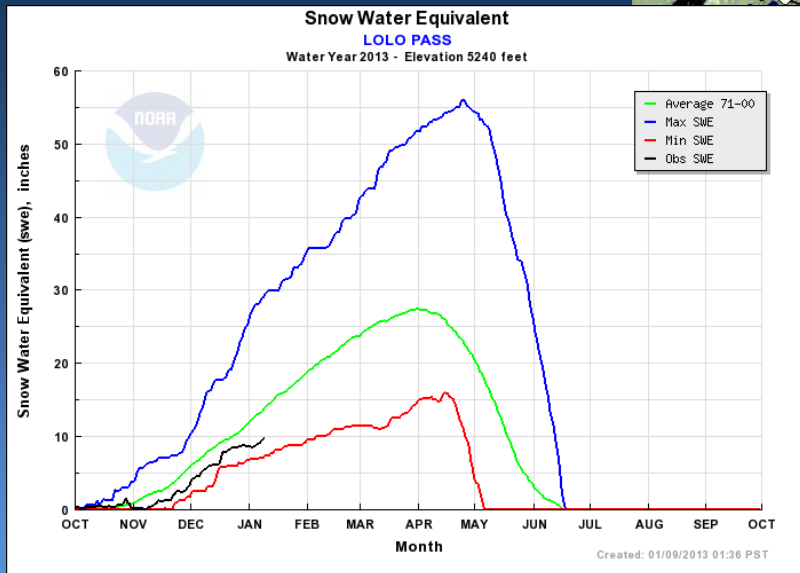
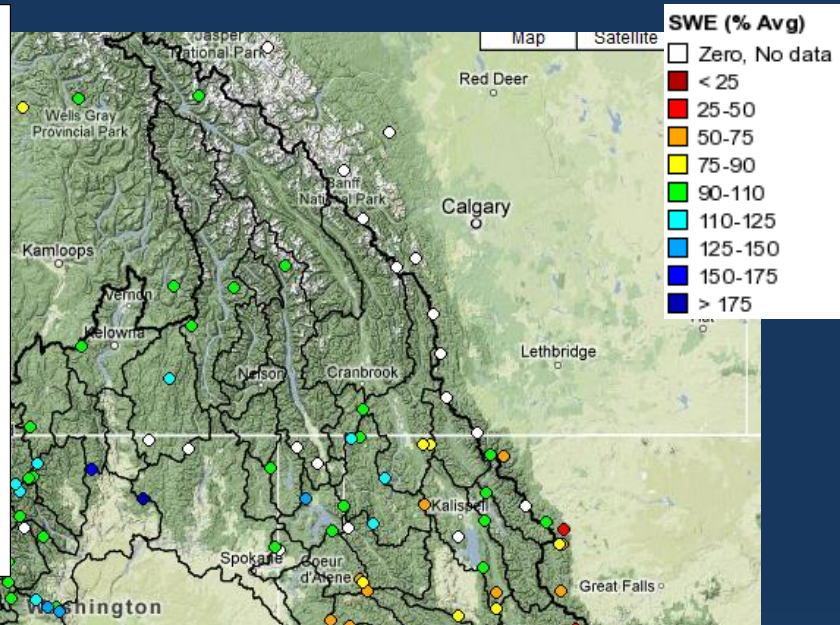
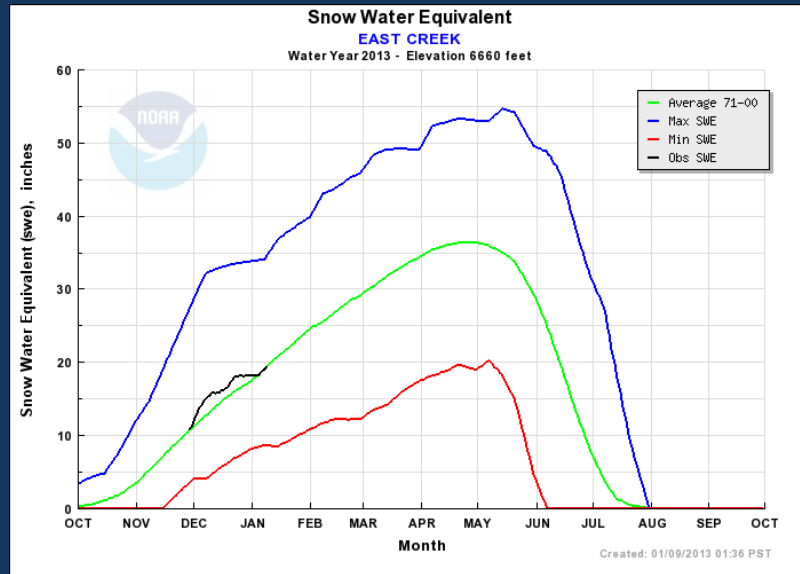
Jan 9, 2012

Jan 10, 2013



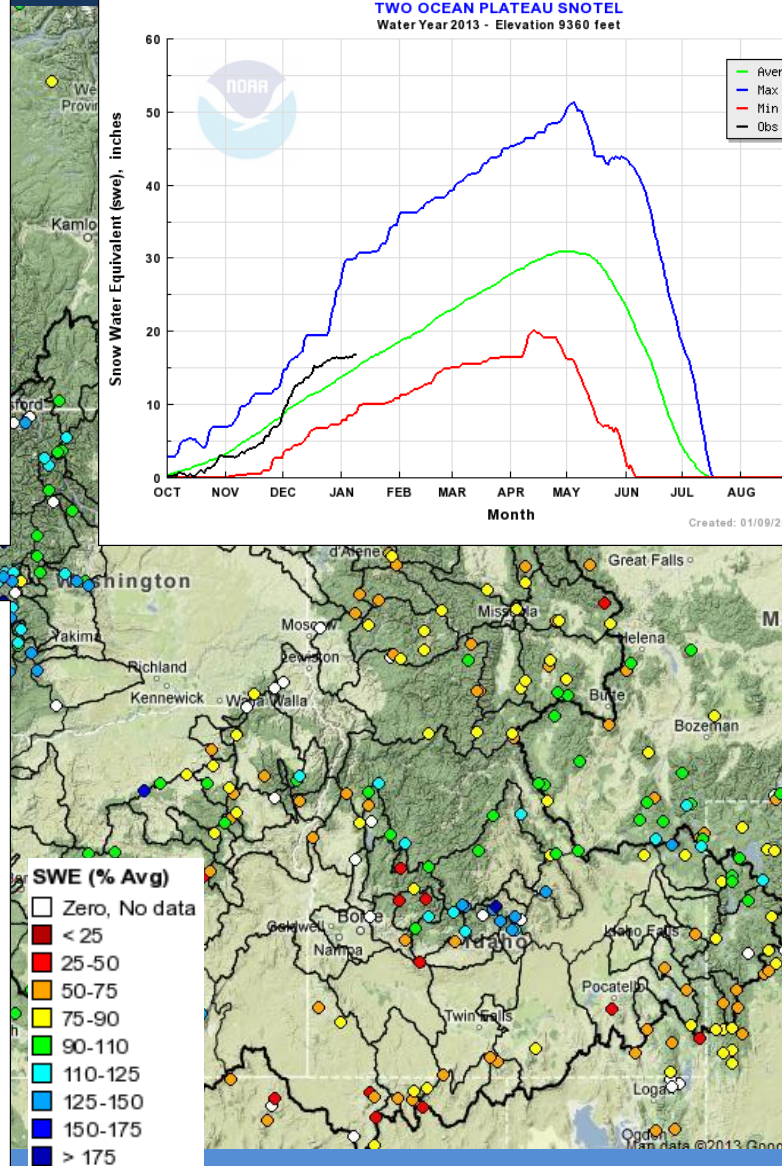
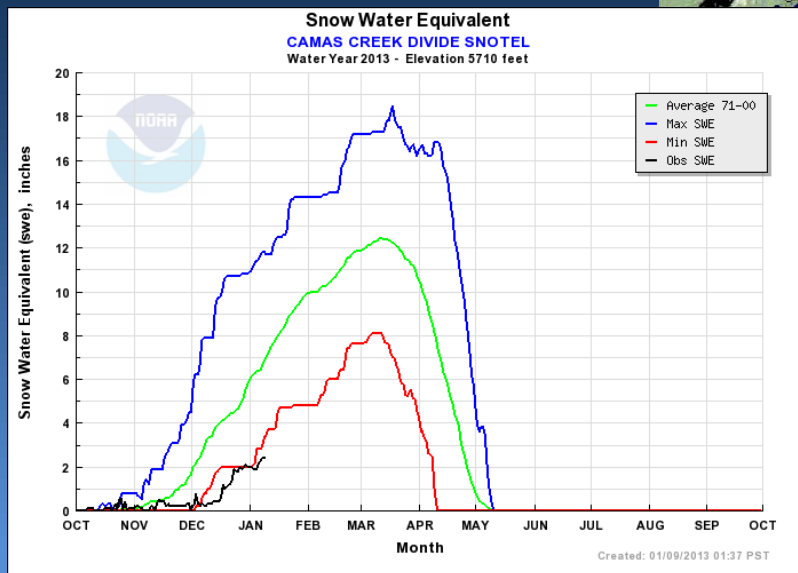
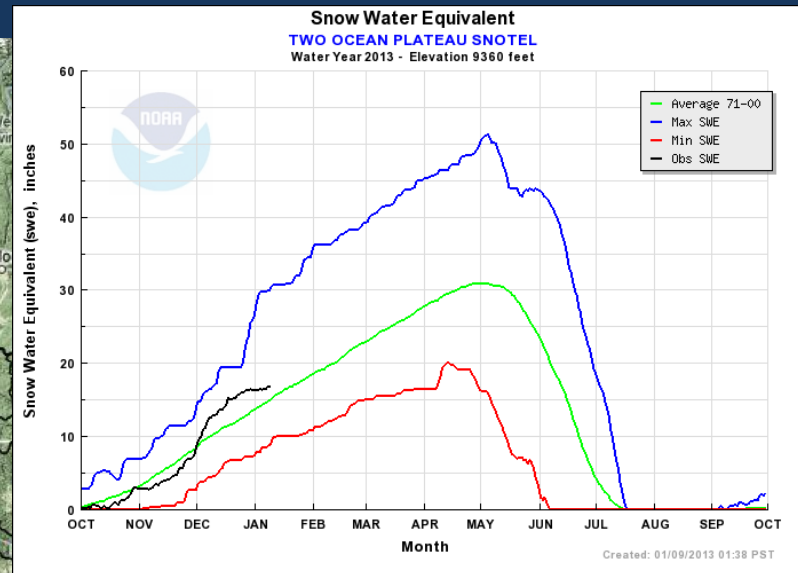
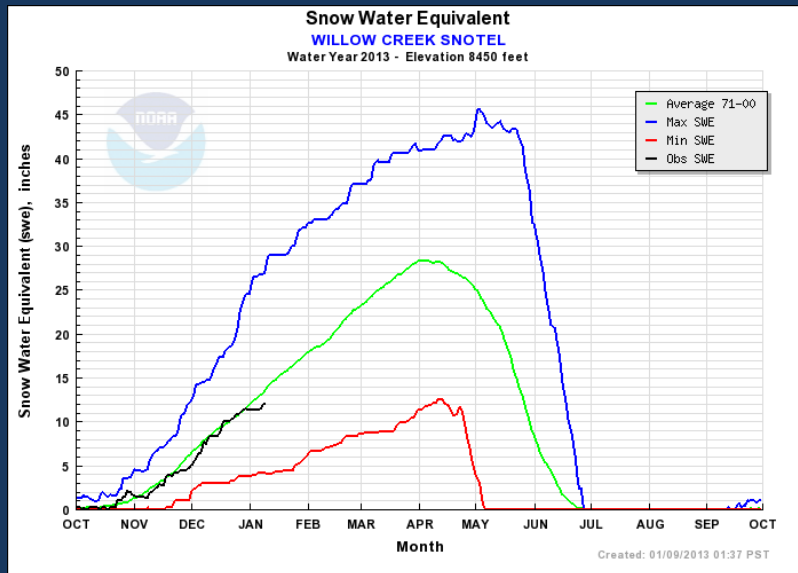


Upper Columbia Snow Conditions





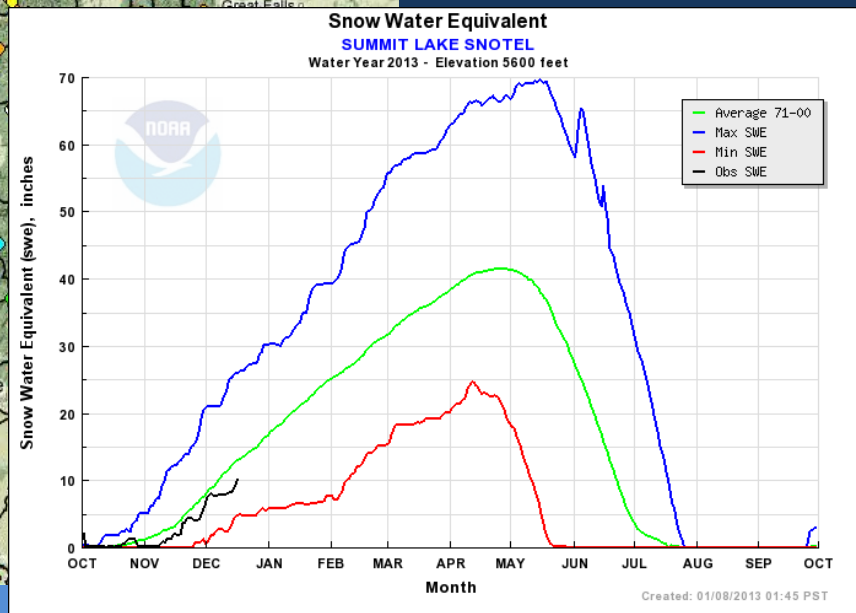
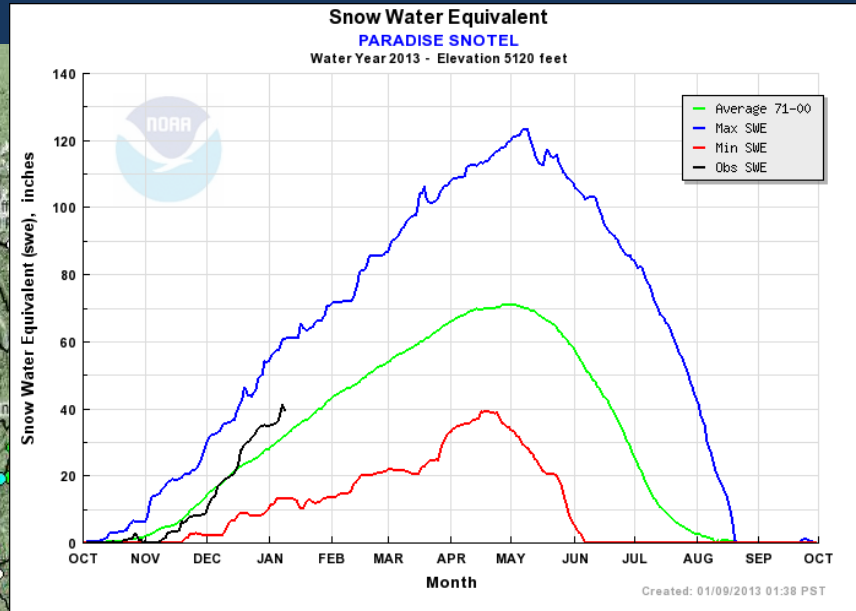
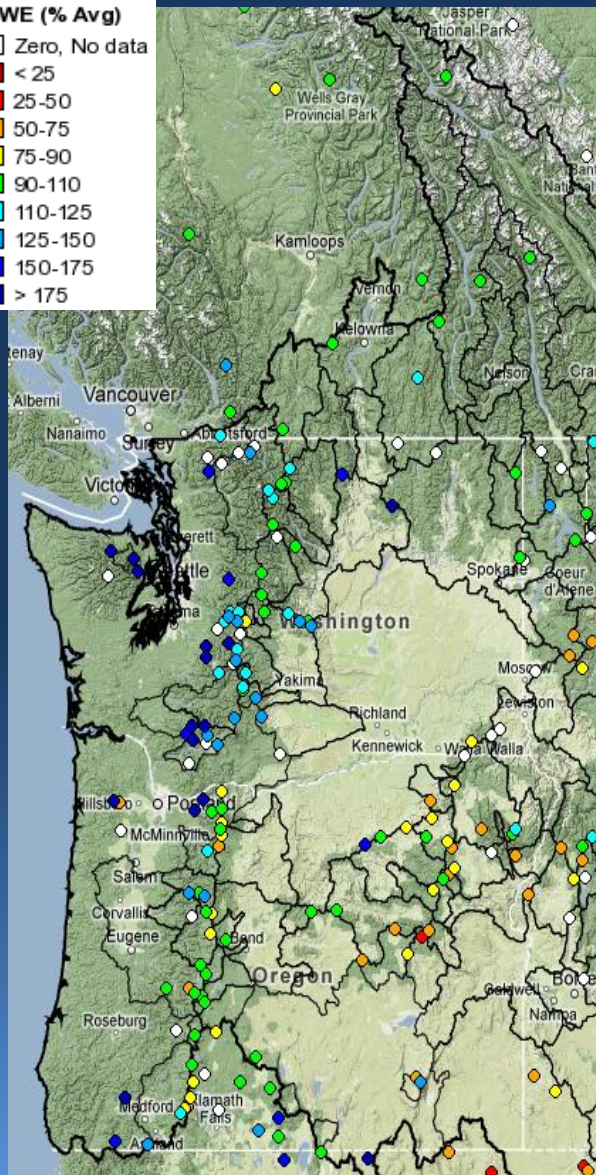
Snake River Snow Conditions



Lower Columbia Snow Conditions

SWE (% Avg)

- Zero, No data
- < 25
- 25-50
- 50-75
- 75-90
- 90-110
- 110-125
- 125-150
- 150-175
- > 175





Future Conditions



Climate Outlooks

10 Day Precipitation Forecast

Water Supply Forecasts

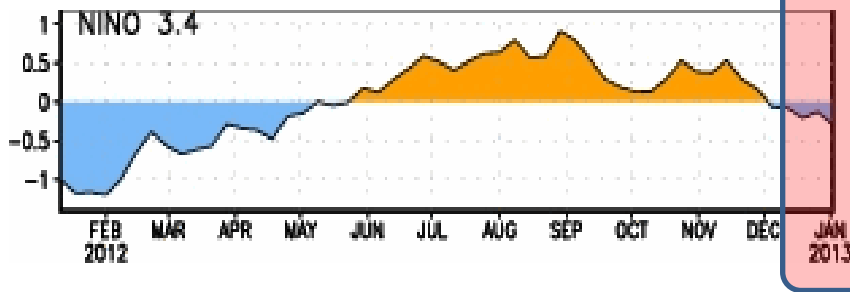


Enso: Observed and Forecast

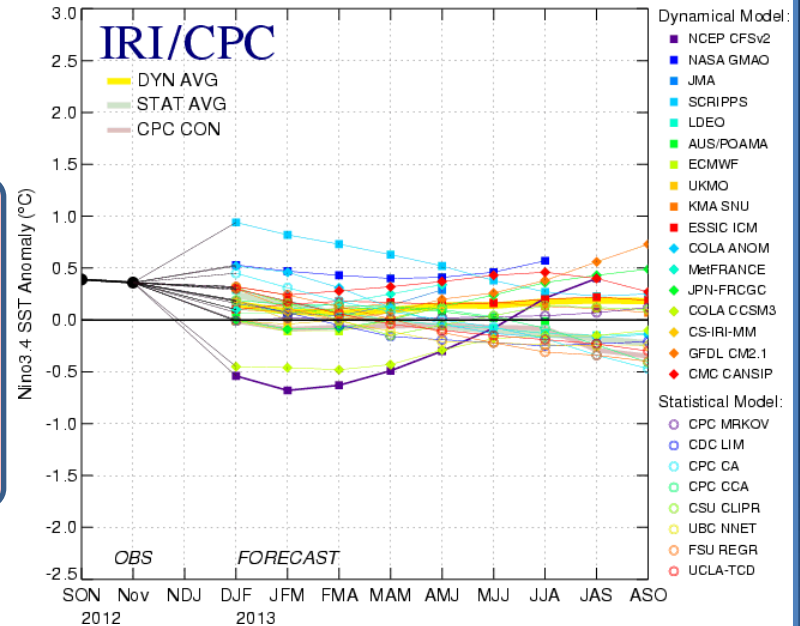
SST Anomaly (Deg C)



Latest observed: SST 3.4 ~ -0.3 Deg C



Mid-Dec 2012 Plume of Model ENSO Predictions



CPC Synopsis: ENSO-neutral conditions favored this winter and into spring 2013.

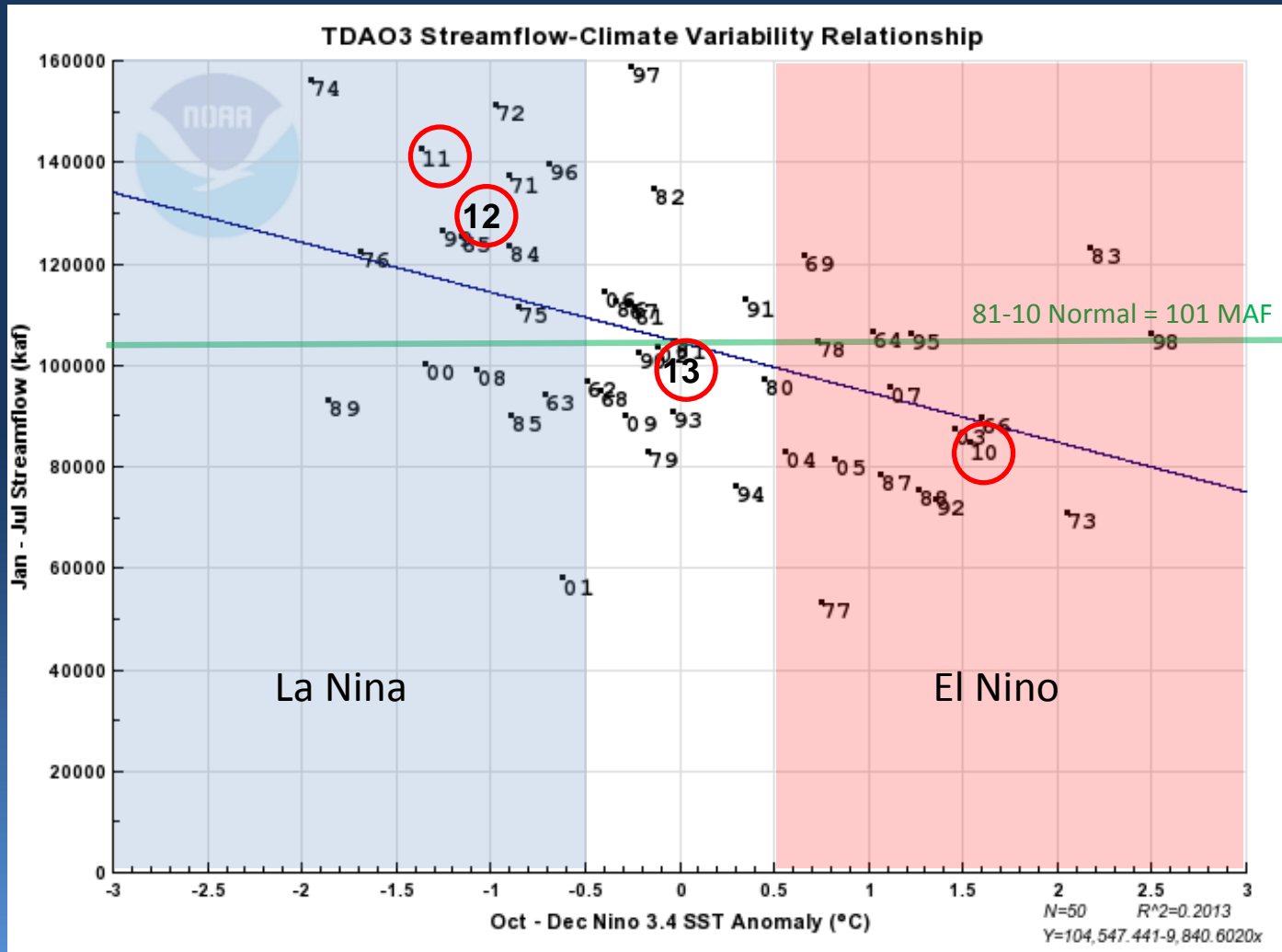
Source: Climate Prediction Center Weekly ENSO Update

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

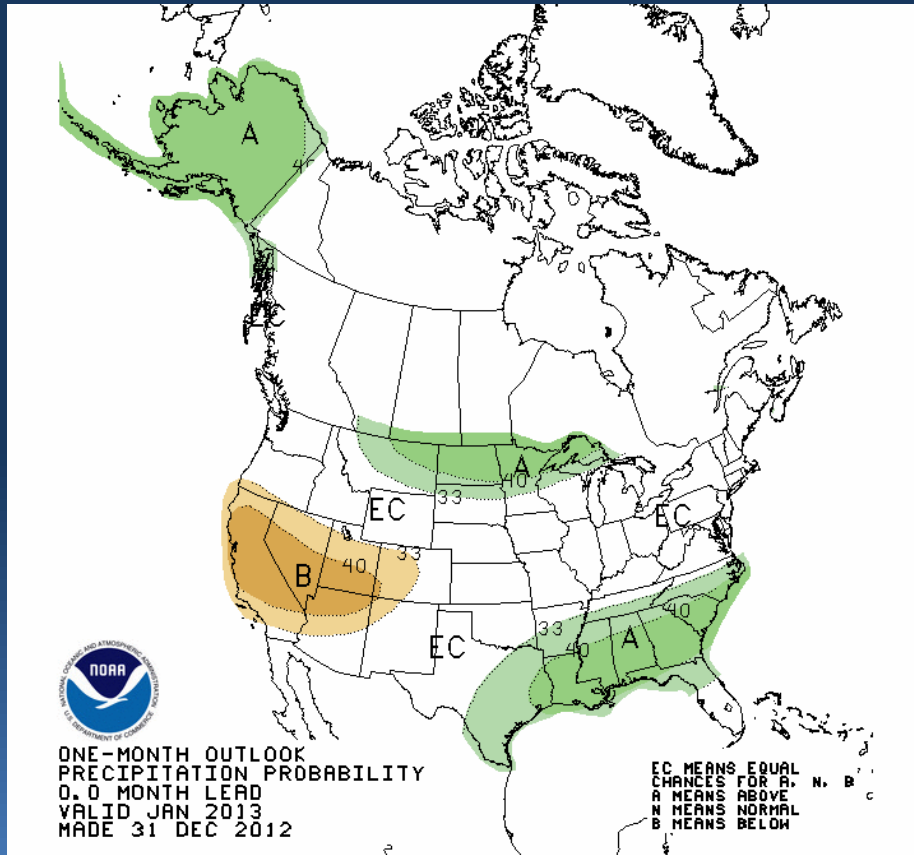




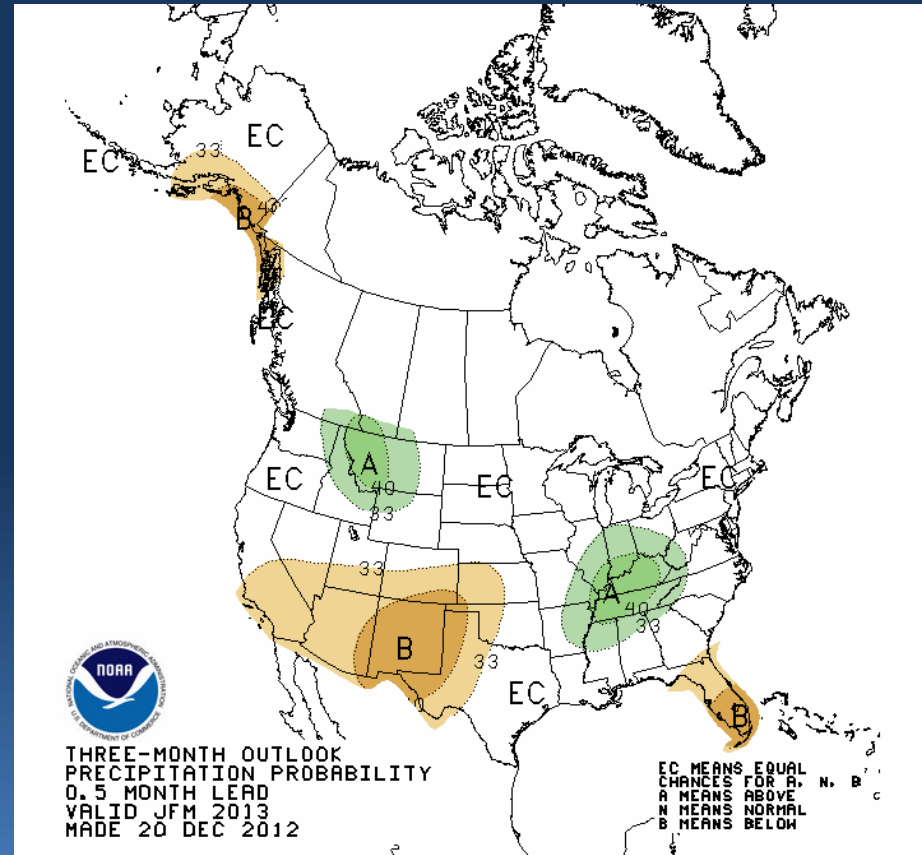
Climate Outlook: Precipitation



Current Month Outlook



Three Month Outlook

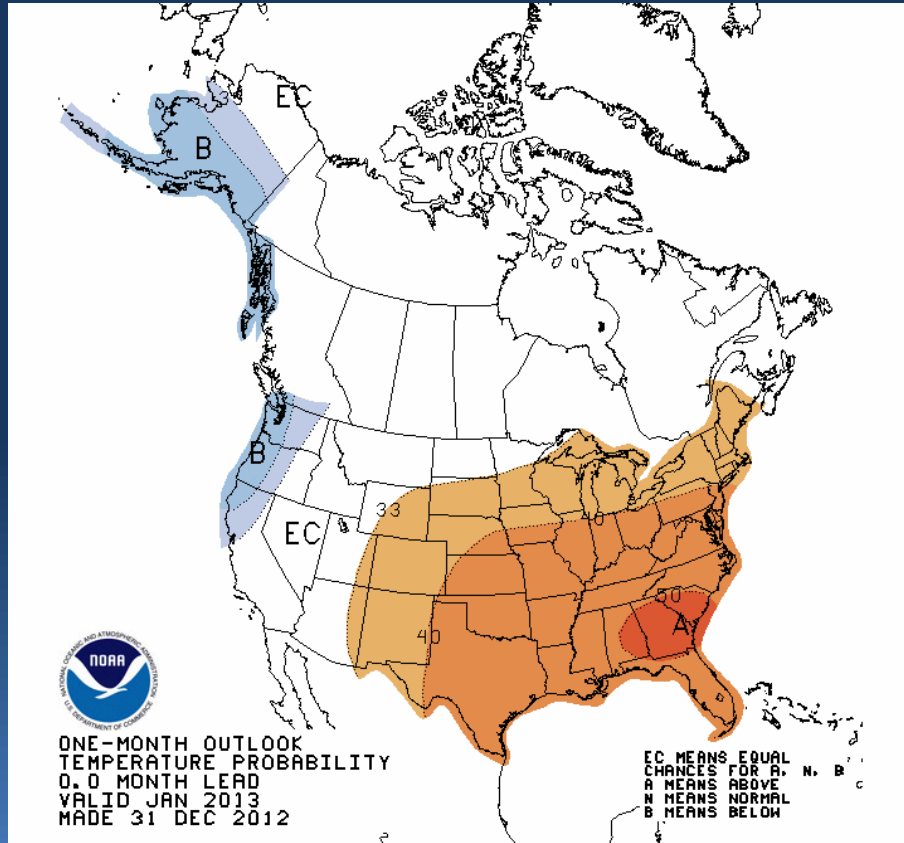




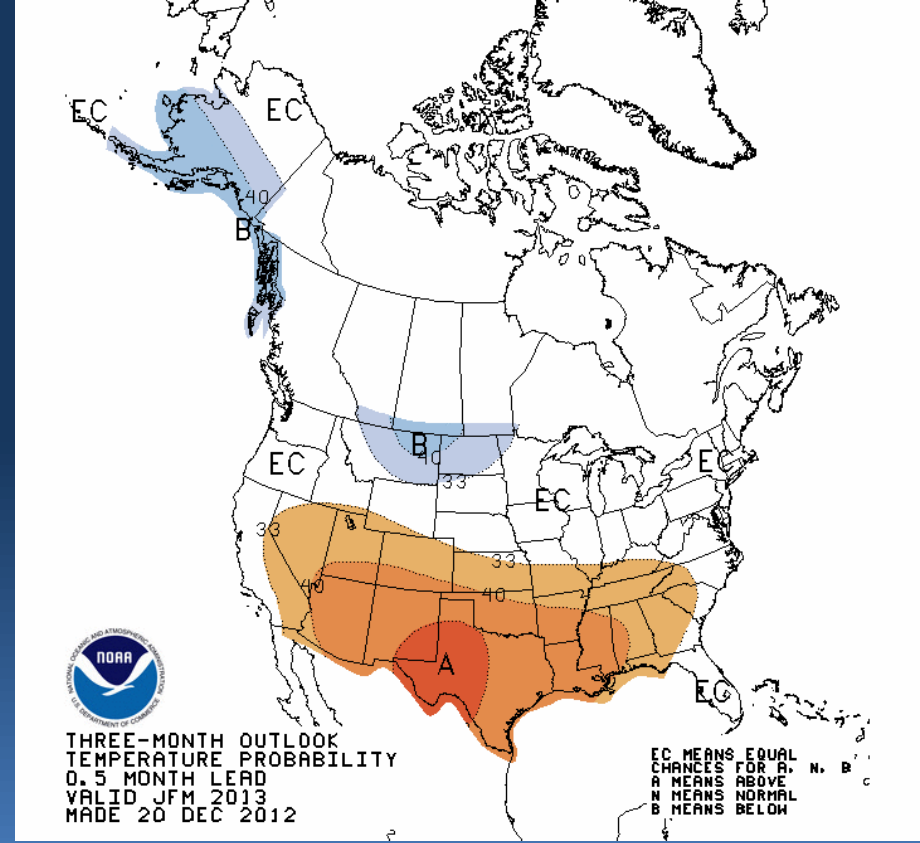
Climate Outlook: Temperature



Current Month Outlook



Three Month Outlook

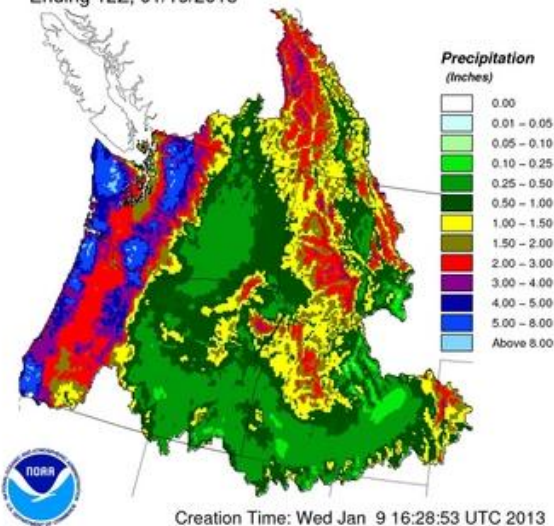




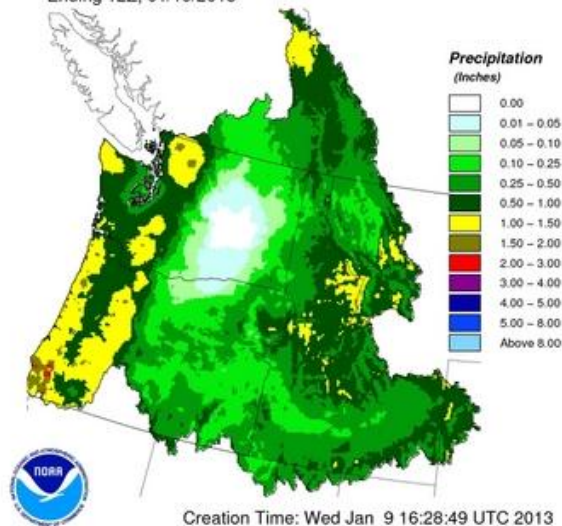
ESP 10 Day Precipitation Forecast



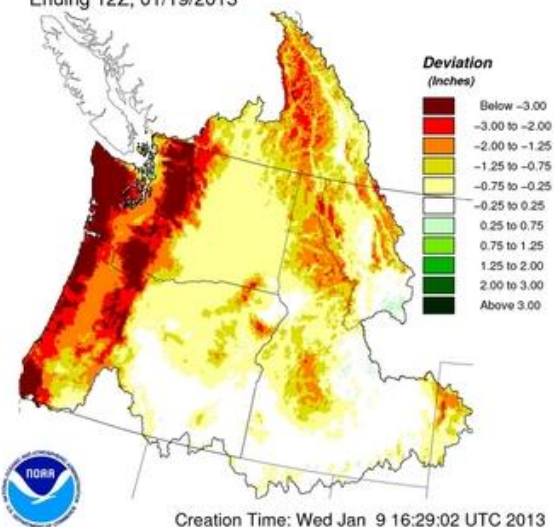
10 Day Precipitation Climatology
Ending 12Z, 01/19/2013



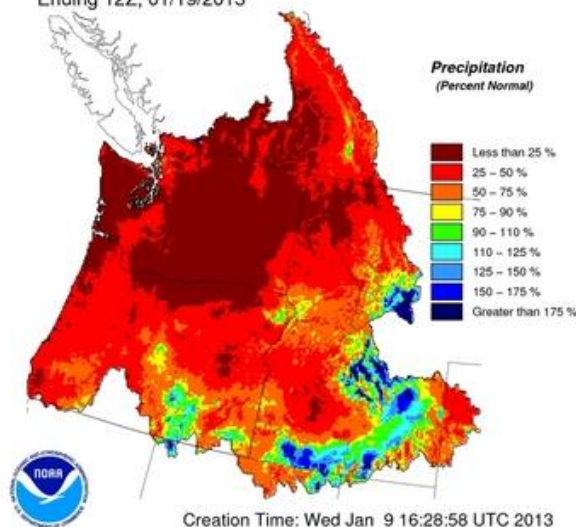
10 Day QPF
Ending 12Z, 01/19/2013



10 Day QPF (Deviation from Climatology)
Ending 12Z, 01/19/2013



10 Day QPF (Percent of Climatology)
Ending 12Z, 01/19/2013

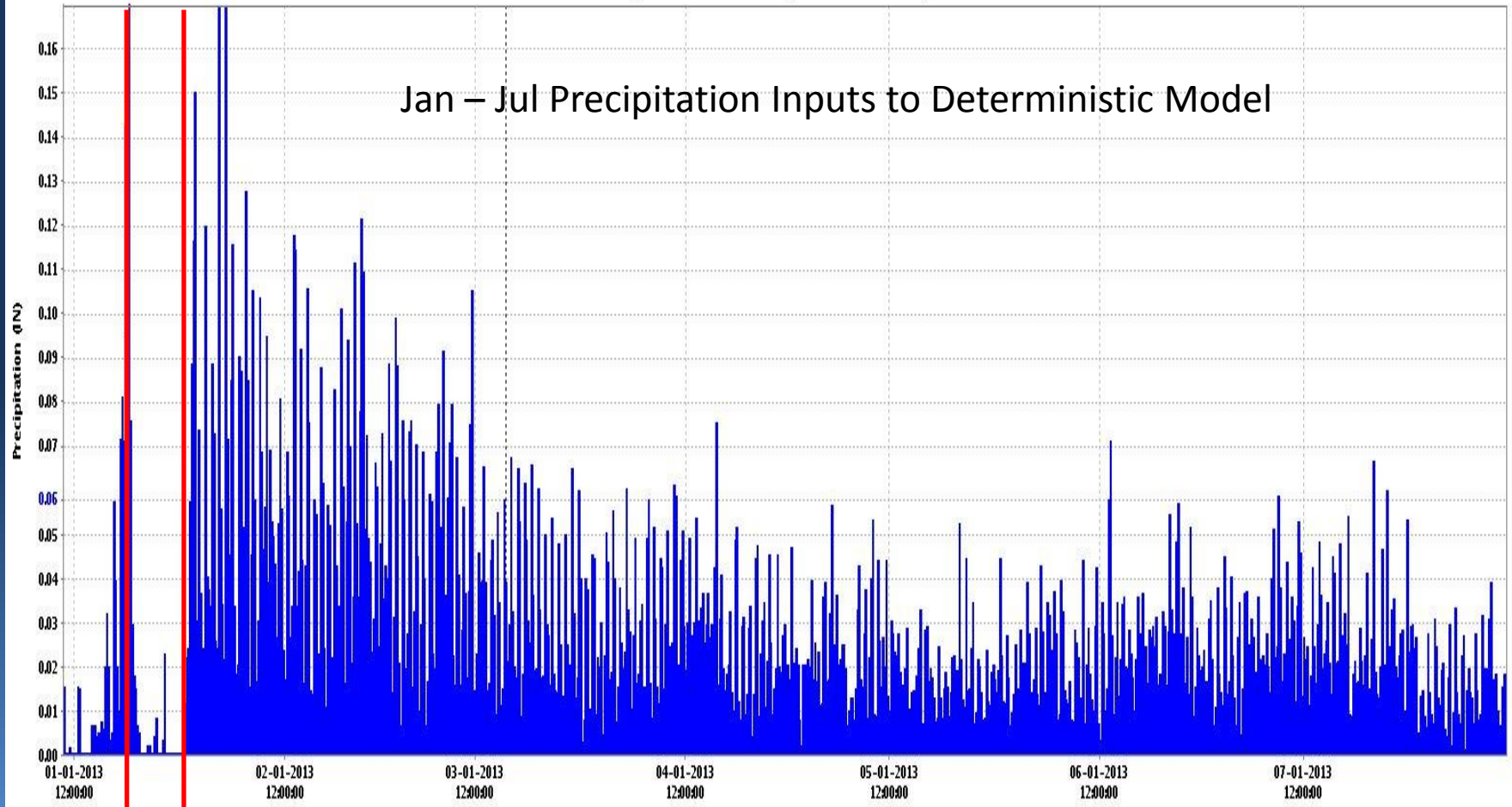




Precipitation Observed – Forecast - Climatology



MCDQ2IU - Mica Dam (INFLOW UPPER)



O F C



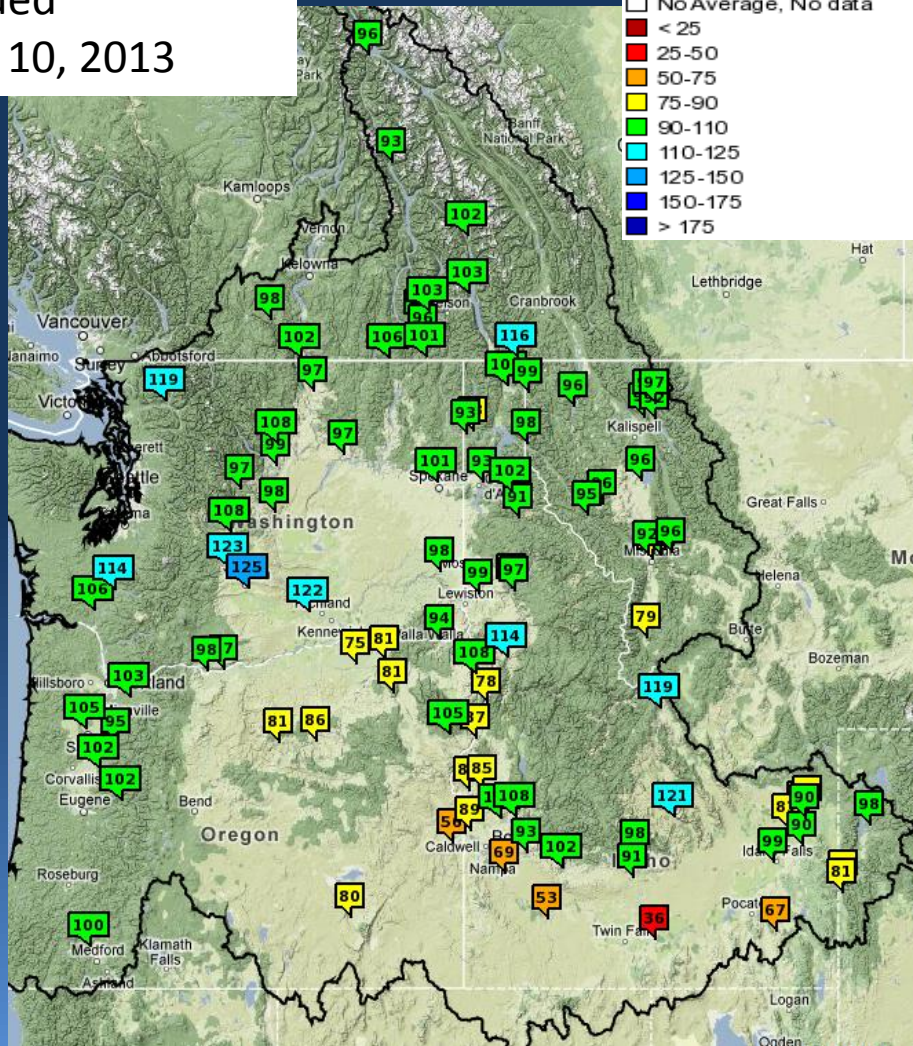
Water Supply Forecasts



Issued
Jan 10, 2013

Water Supply Forecast (% Avg)

- No Average, No data
- < 25
- 25-50
- 50-75
- 75-90
- 90-110
- 110-125
- 125-150
- 150-175
- > 175



Ensemble Streamflow Procedure
 Jan 10th Issuance Date
 Jan 9th Ensemble Date

Official Forecasts include 10 days
 of forecast precipitation

NWRFC offers 3 and 0 day QPF
 (limited network and releases)

Forecasts updated weekly/daily
All 10 day forecasts are 'official NWS'

Agency Collaborated

Model States/Snow/Runoff updated
 continuously through month

Compared to 30 yr Runoff Normal
 (1981-2010)



NWRFC Water Supply Product



Close Archive **Data/Normals** Rankings Adjustments Verification Verify All Years Help

(TDAO3) THE DALLES
Forecasts for Water Year 2013
 Ensemble Date: 2013-01-09 Issue Date: 2013-01-10

Official Forecast with 10 days of QPF

Forecast Period	Forecast Are in KAF				
	90 %	50 %	% Average	10 %	'81-'10 30 Year Average
APR-SEP	79427	90827	98	99989	92704
APR-JUL	66603	75990	95	86928	79855
APR-AUG	74073	85053	97	94673	87532
JAN-JUL	83856	95329	94	109379	101368

with 3 days of QPF

APR-SEP	81700	96624	104	107582	92704
APR-JUL	68027	80943	101	91545	79855
APR-AUG	75495	90425	103	100230	87532
JAN-JUL	86439	101198	100	116398	101368

with 0 days of QPF

APR-SEP	81287	96788	104	107507	92704
APR-JUL	67746	82700	104	91917	79855
APR-AUG	76224	91484	105	101612	87532
JAN-JUL	85186	100986	100	116492	101368

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

Overlay

ESP10 ESP3 ESP0

Data Files

CSV (ESP10 / APR-SEP)

Water Supply Forecasts
COLUMBIA - THE DALLES DAM
 Period APR to SEP -- Water Year 2013

Legend: 30yr Normal (green line), ESP10 (blue box)

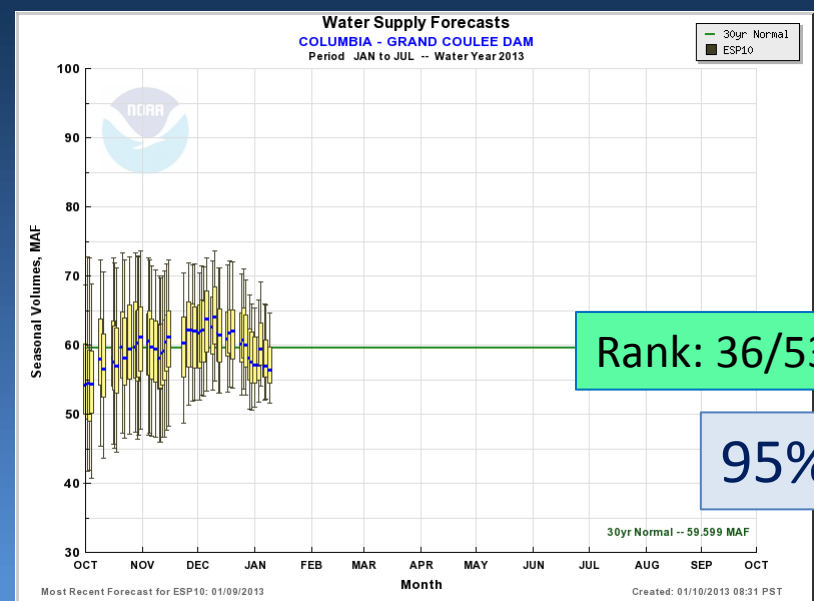
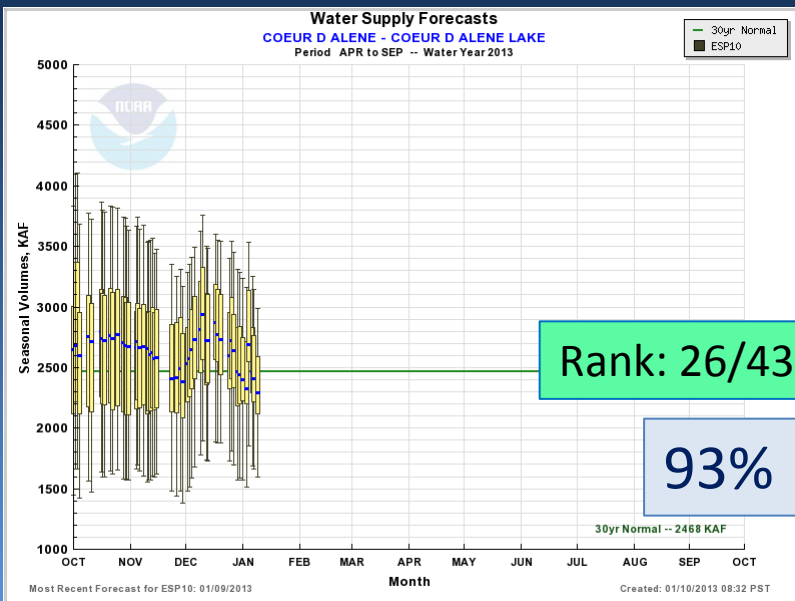
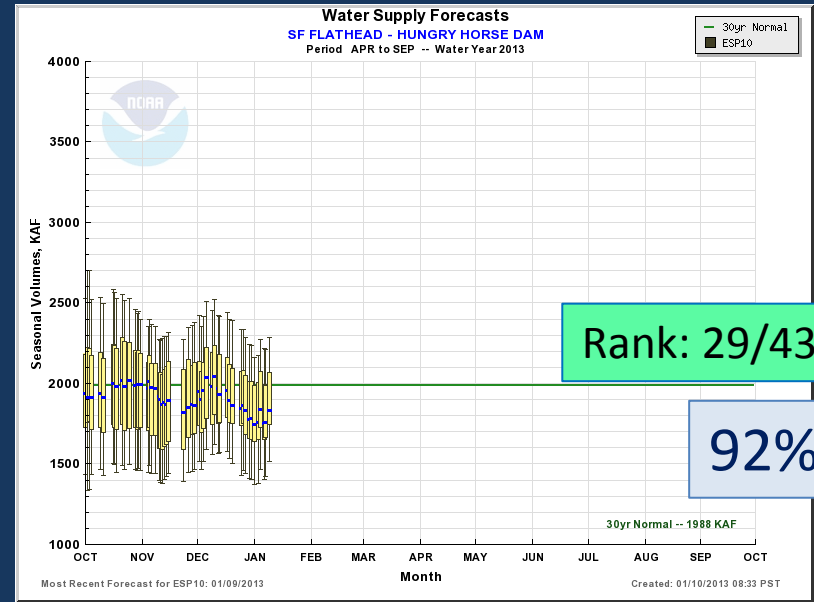
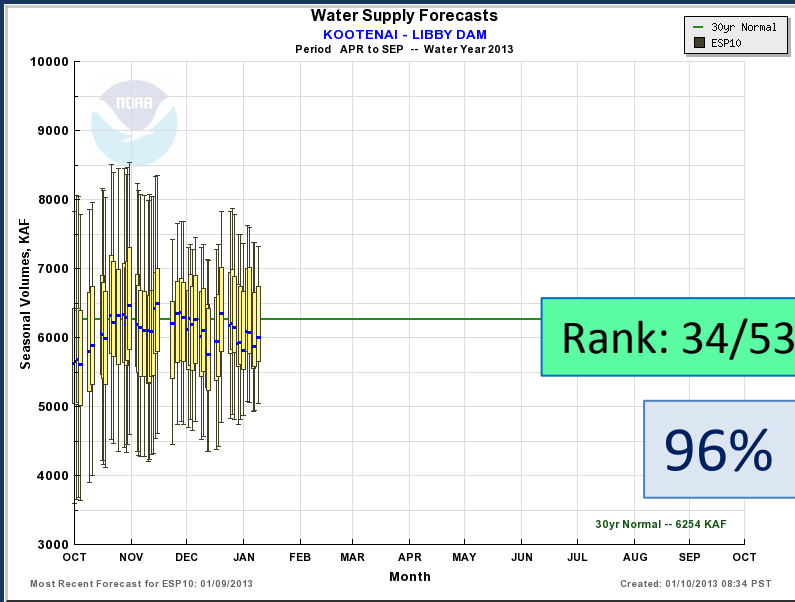
30yr Normal -- 92.704 MAF

Most Recent Forecast for ESP10: 01/09/2013
 Created: 01/10/2013 09:08 PST

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)

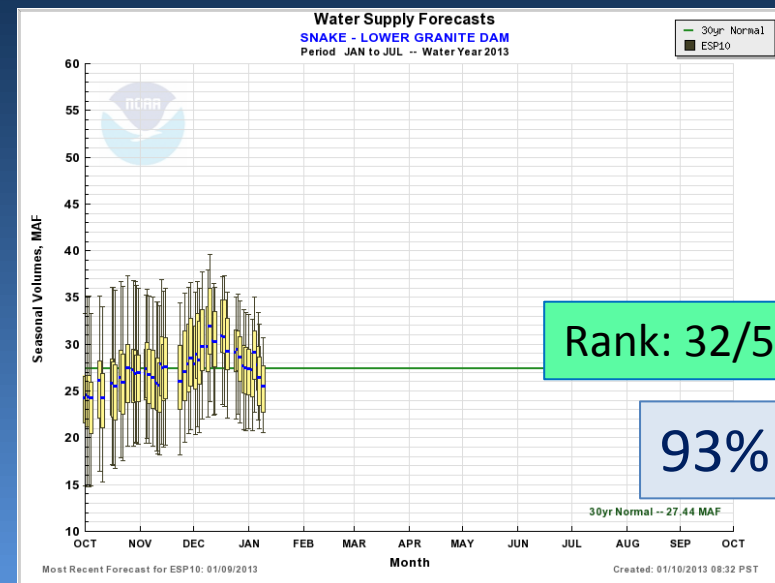
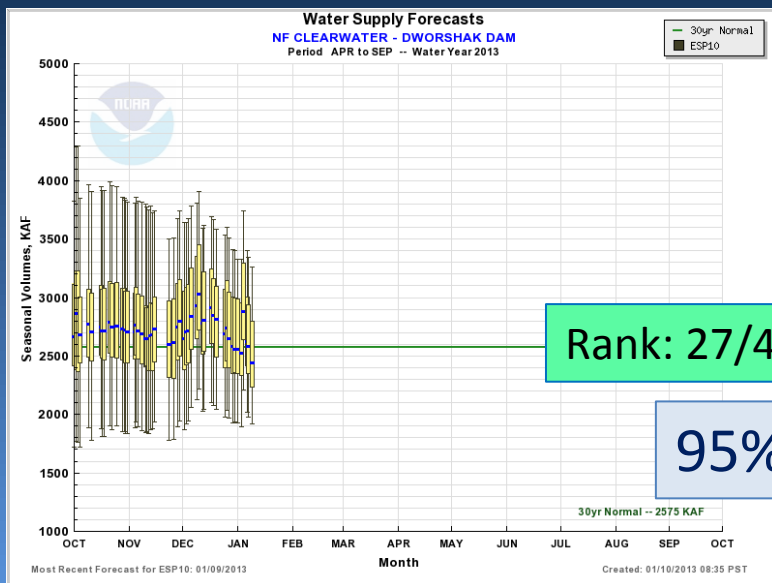
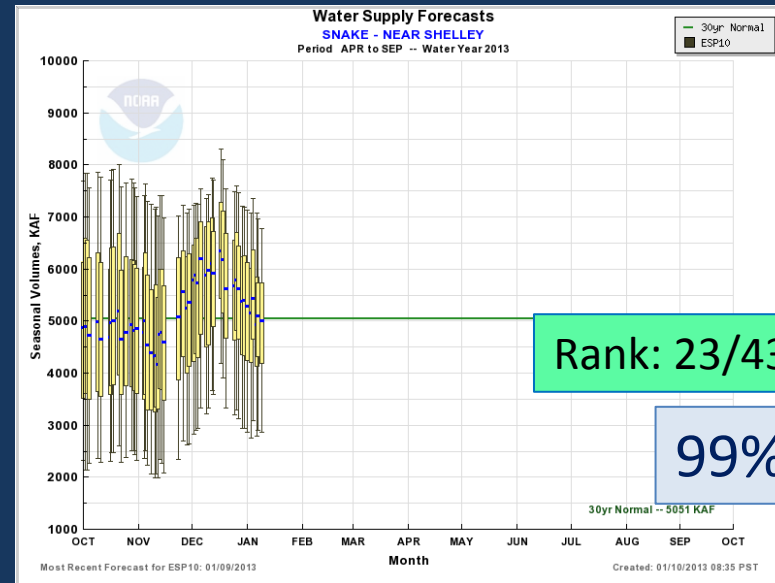
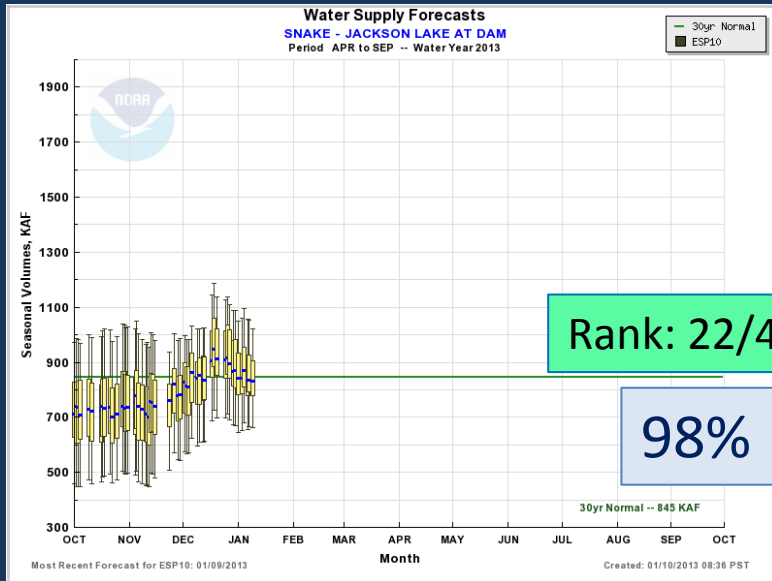


Water Supply Forecast: Upper Columbia



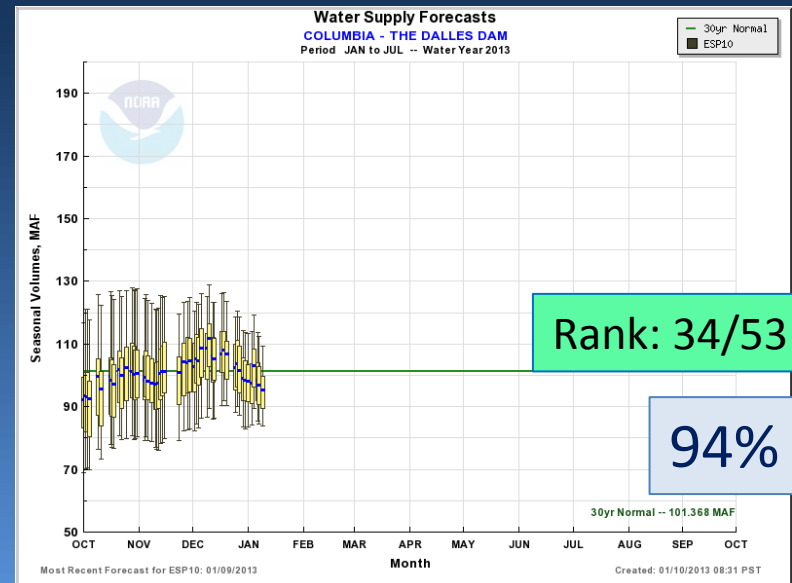
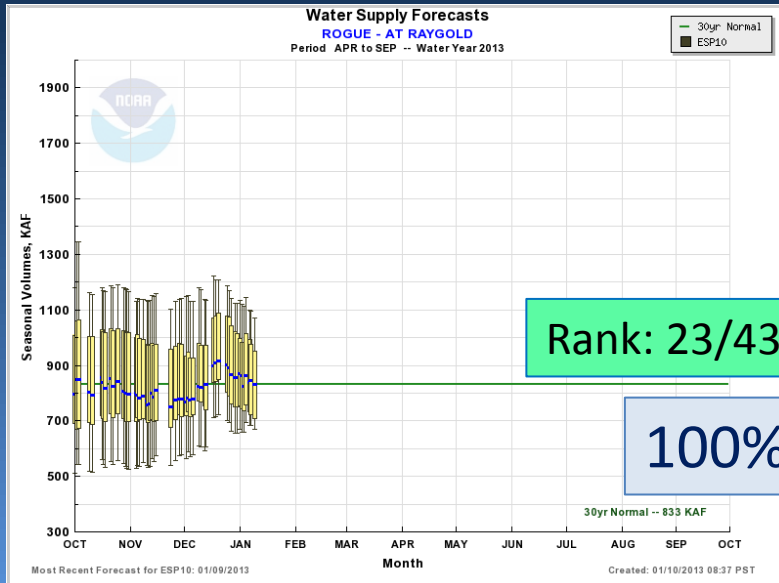
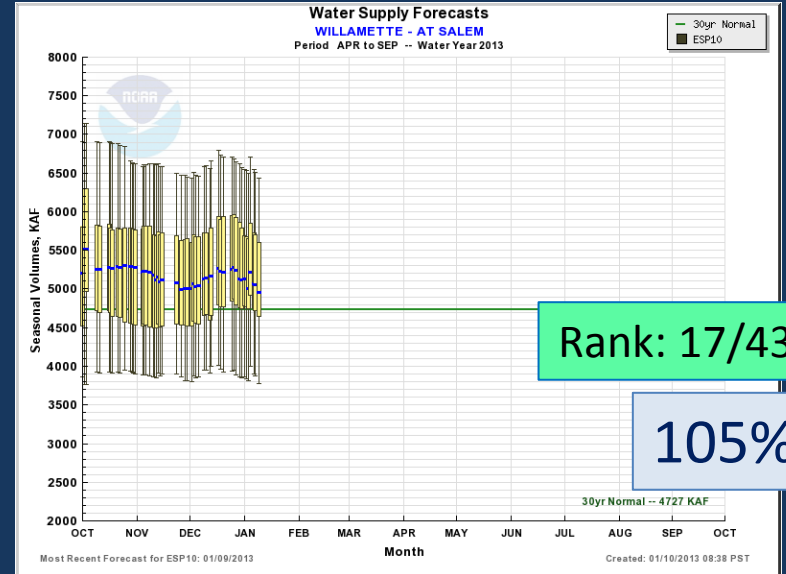
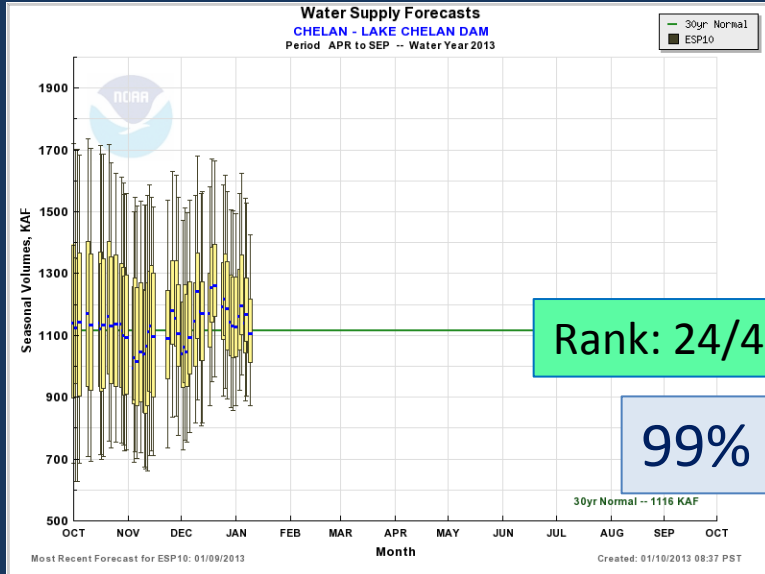


Water Supply Forecast: Snake





Water Supply Forecast: Lower Columbia





NWRFC Water Supply Webpage

http://www.nwrfc.noaa.gov/water_supply/ws_schd.cgi



2013 Schedule for *Live Water Supply Briefings*

Jan	Feb	Mar	Apr	May	Jun
10th	7th	7th	4th	9th	TBD

All presentations held at 10am PDT/PST, unless noted otherwise

[Click here for Registration Information](#)

[Archive of Previous Briefings](#)

<http://www.nwrfc.noaa.gov/presentations/presentations.cgi>

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