



# January 2014 Water Supply Briefing

National Weather Service/Northwest River Forecast Center



[http://www.nwrfc.noaa.gov/misc/NWRFC\\_WS\\_Monthly\\_Briefing.html](http://www.nwrfc.noaa.gov/misc/NWRFC_WS_Monthly_Briefing.html)

Telephone Conference Call Number : 1-888-455-2990

Pass Code : 60696

2014 Briefing Dates:

January 9 - 10am Pacific

February 6 - 10am Pacific

March 6 - 10am Pacific

April 10 - 10am Pacific

May 8 - 10am Pacific

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# January 2014 Water Supply Briefing



## Northwest River Forecast Center Water Supply Forecasts

[www.nwrfc.noaa.gov](http://www.nwrfc.noaa.gov)



River and Hydrology

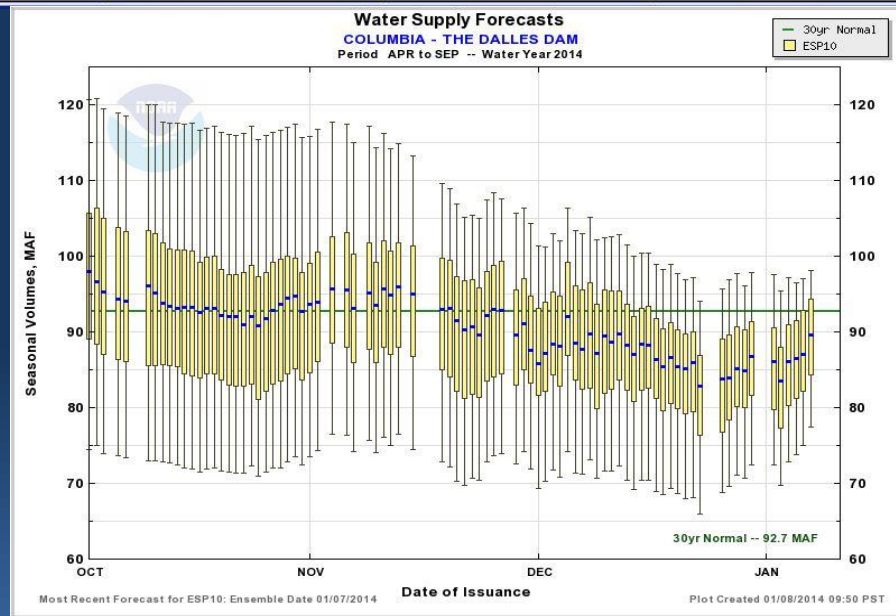
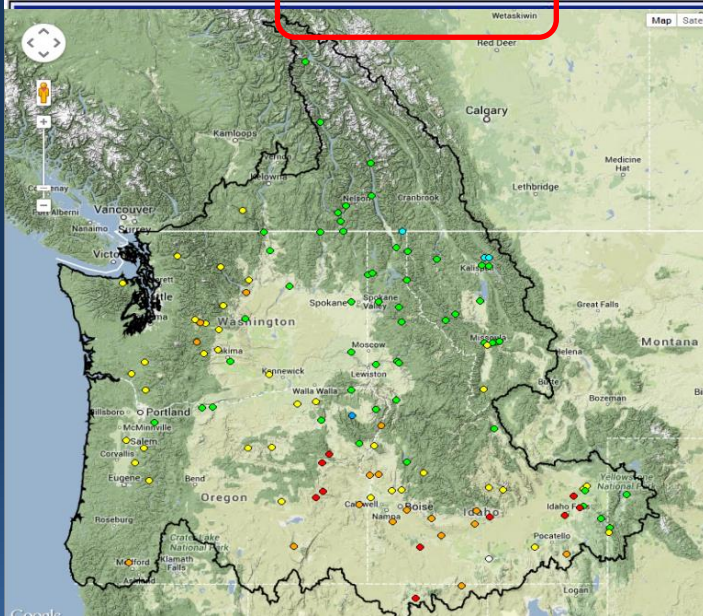
**Water Supply**

Observations

Weather Forecasts

Climate

NWRFC



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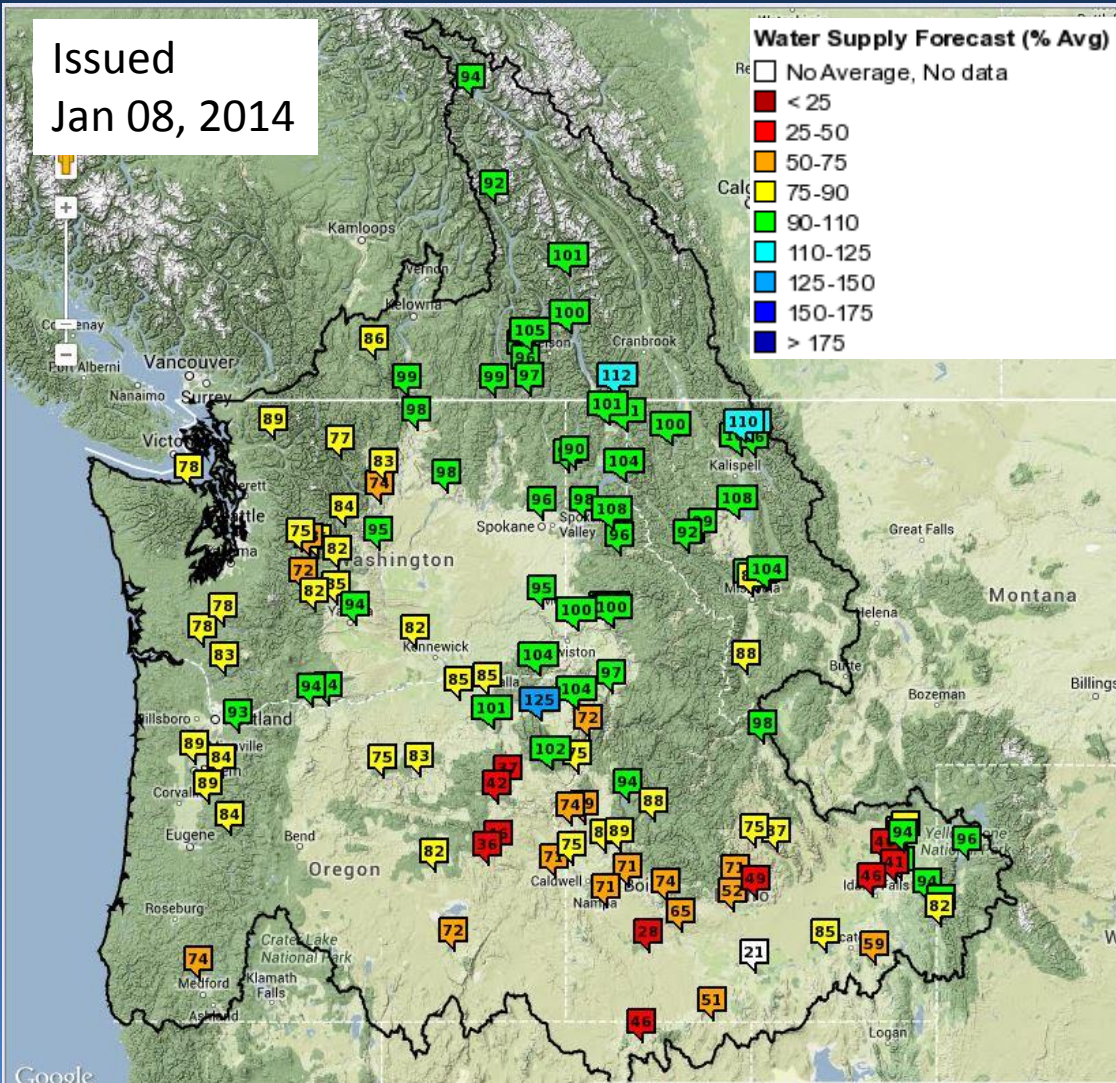
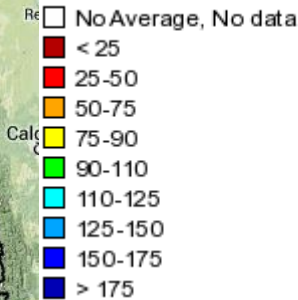


# Water Supply Summary



Issued  
Jan 08, 2014

## Water Supply Forecast (% Avg)



Most eastside Apr-Sep forecasts are below or well below normal

Upper Columbia near normal  
Middle –Lower Snake well below normal

Westside basins 70%-90% range



# Observed Conditions



Precipitation

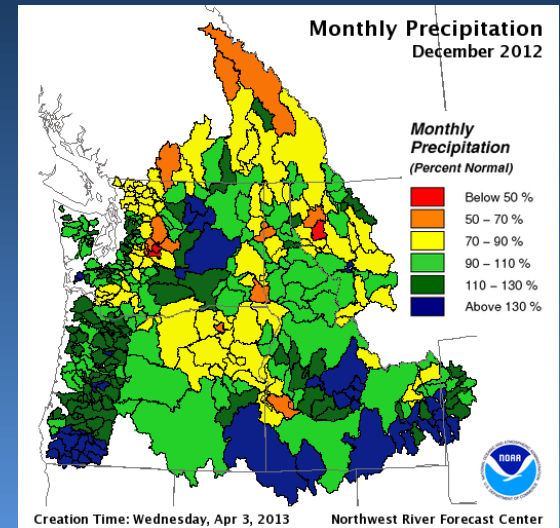
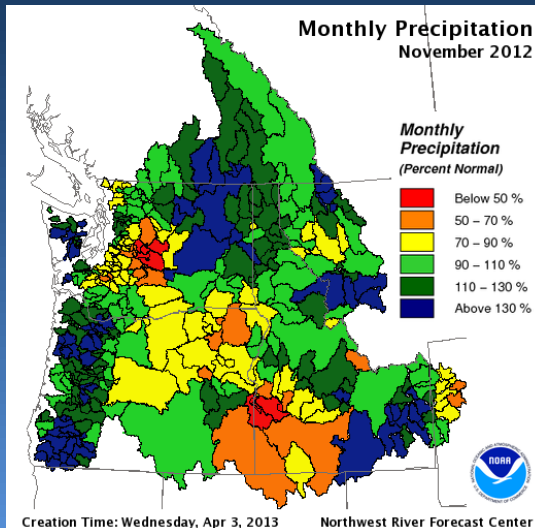
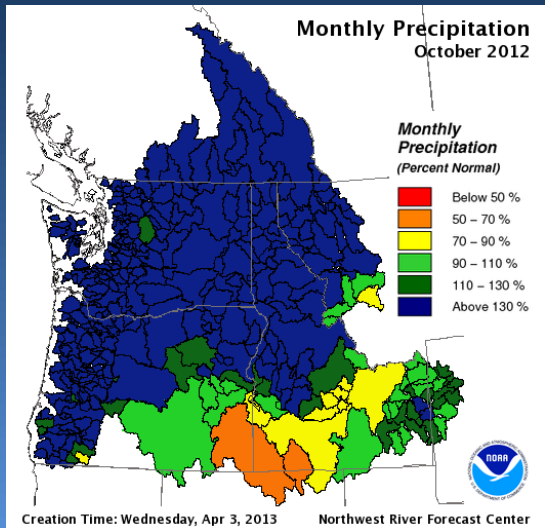
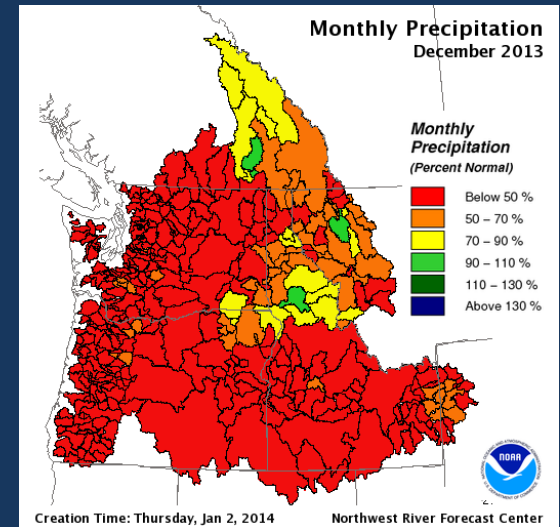
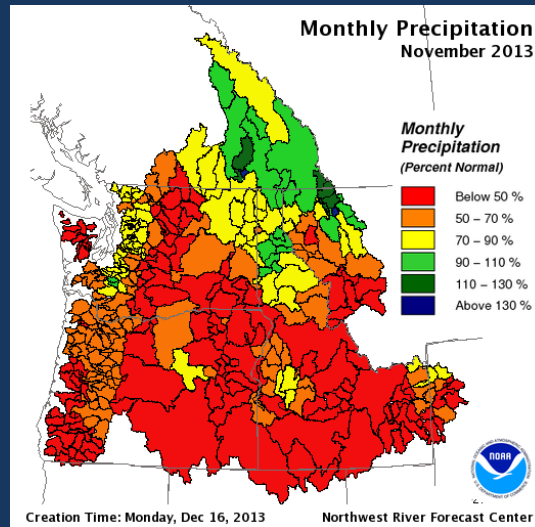
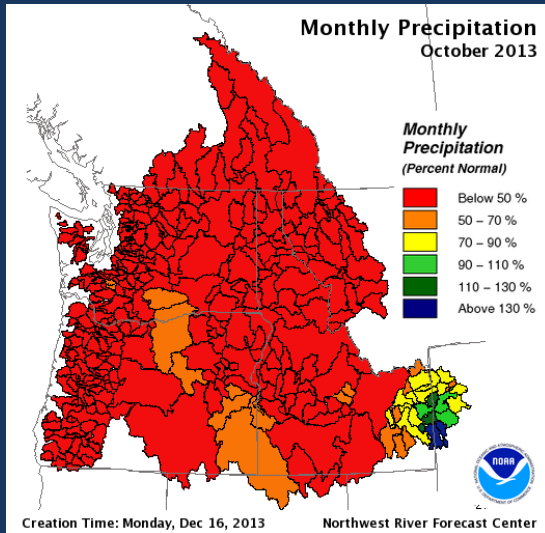
Temperature

Runoff

Snowpack

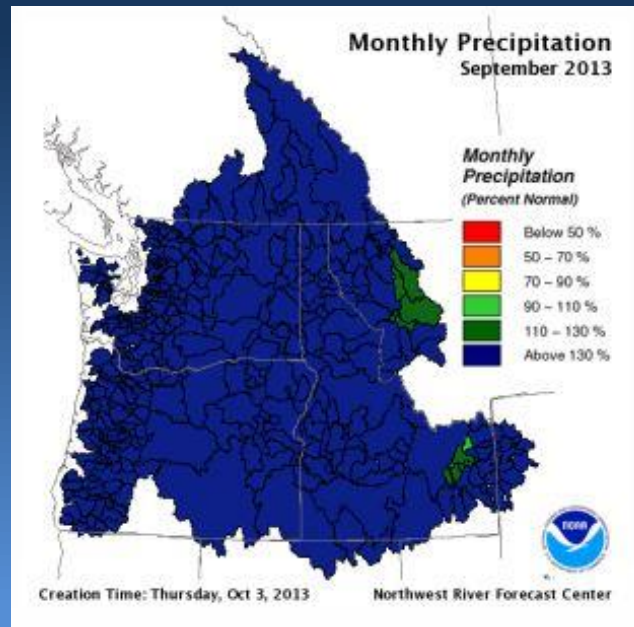
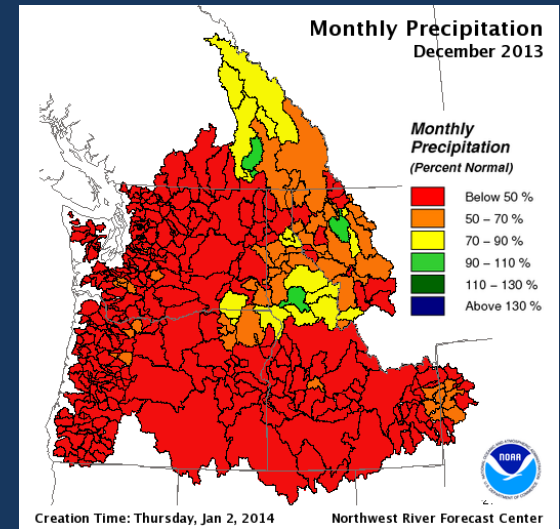
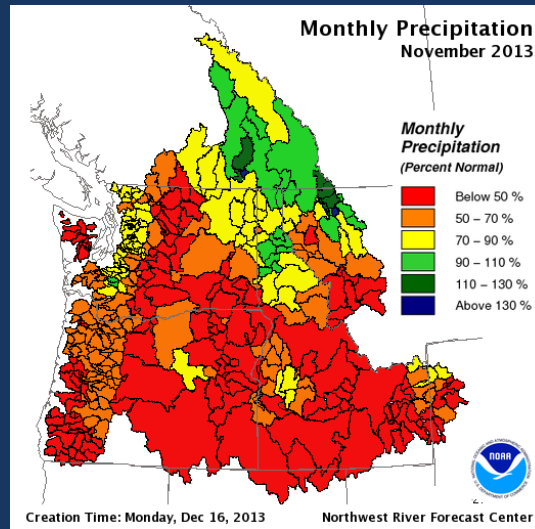
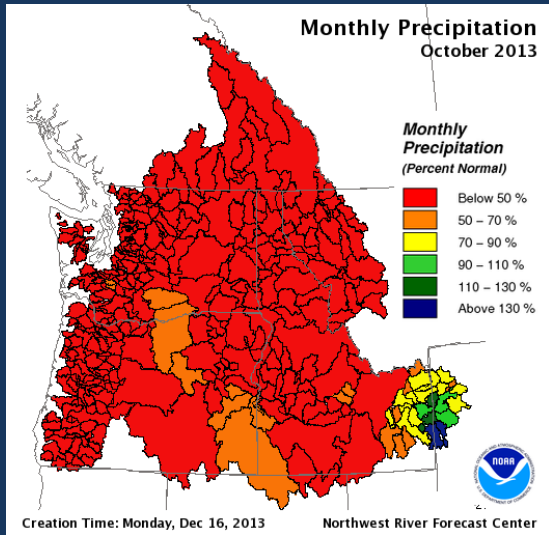


# Observed Monthly Precipitation





# Observed Monthly Precipitation

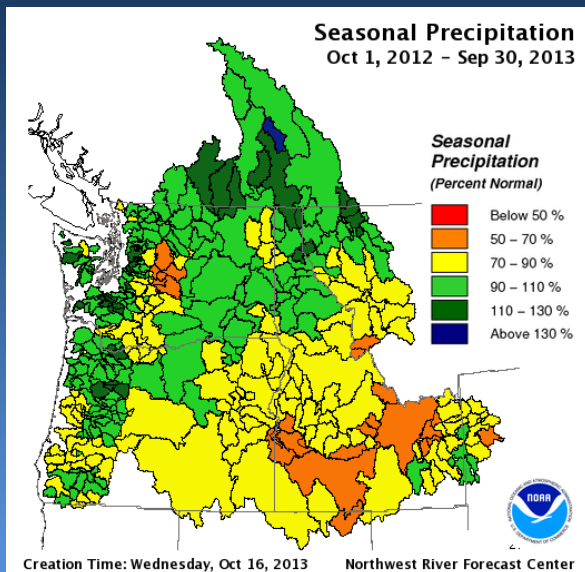
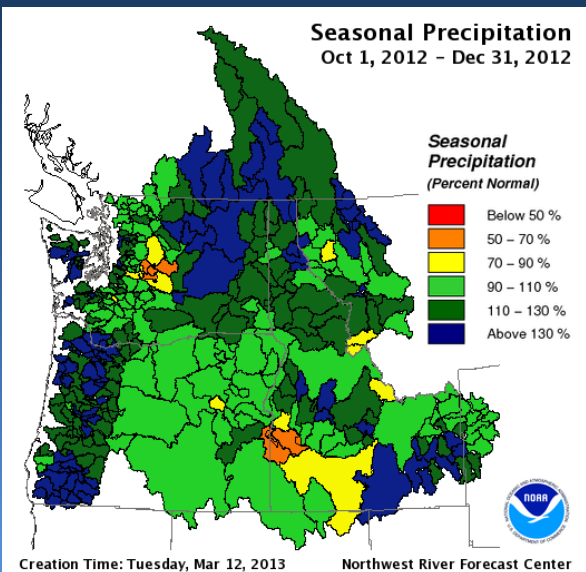
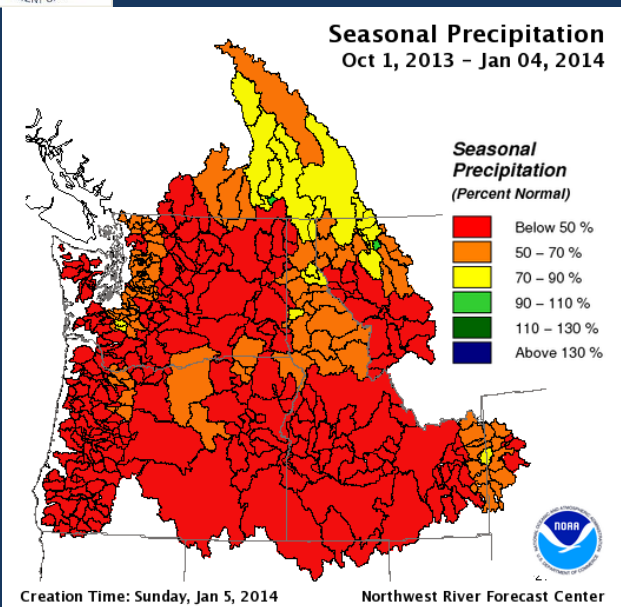




# Observed Seasonal Precipitation



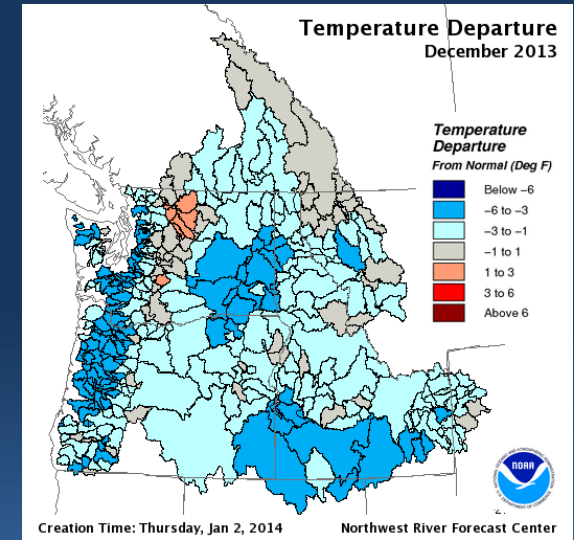
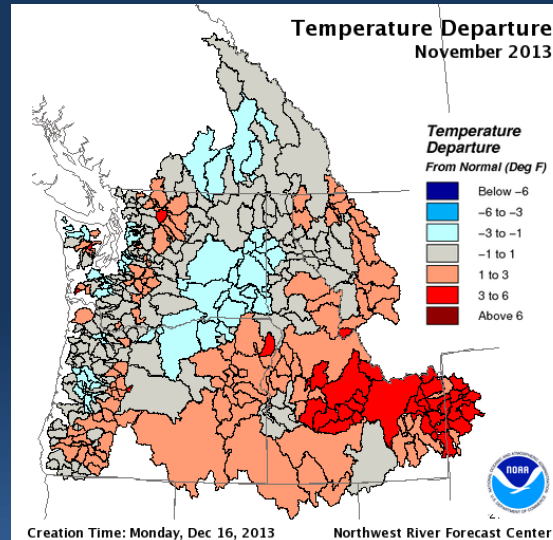
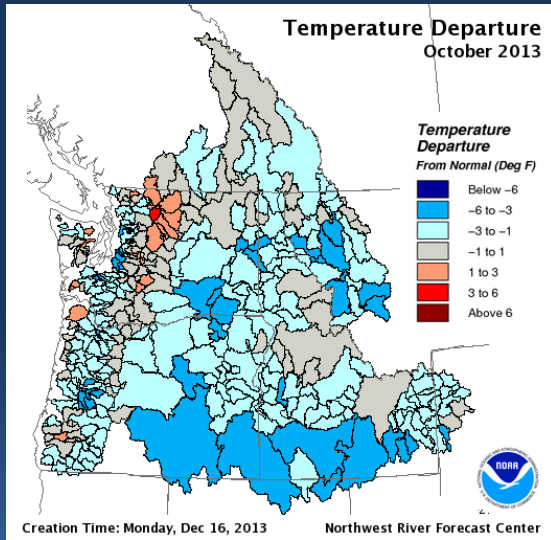
## Observed Precipitation – Water Year to Date



DIVISION NAME	2014 OBS (in)	2013 % Norm Oct-dec   wy2013	
			2014 % Norm
Snake River abv Ice Harbor Dam	3.0	42	128   80
Columbia River abv Grand Coulee	7.9	63	137   100
Columbia River abv The Dalles	4.6	49	130   90



# Temperature Departures



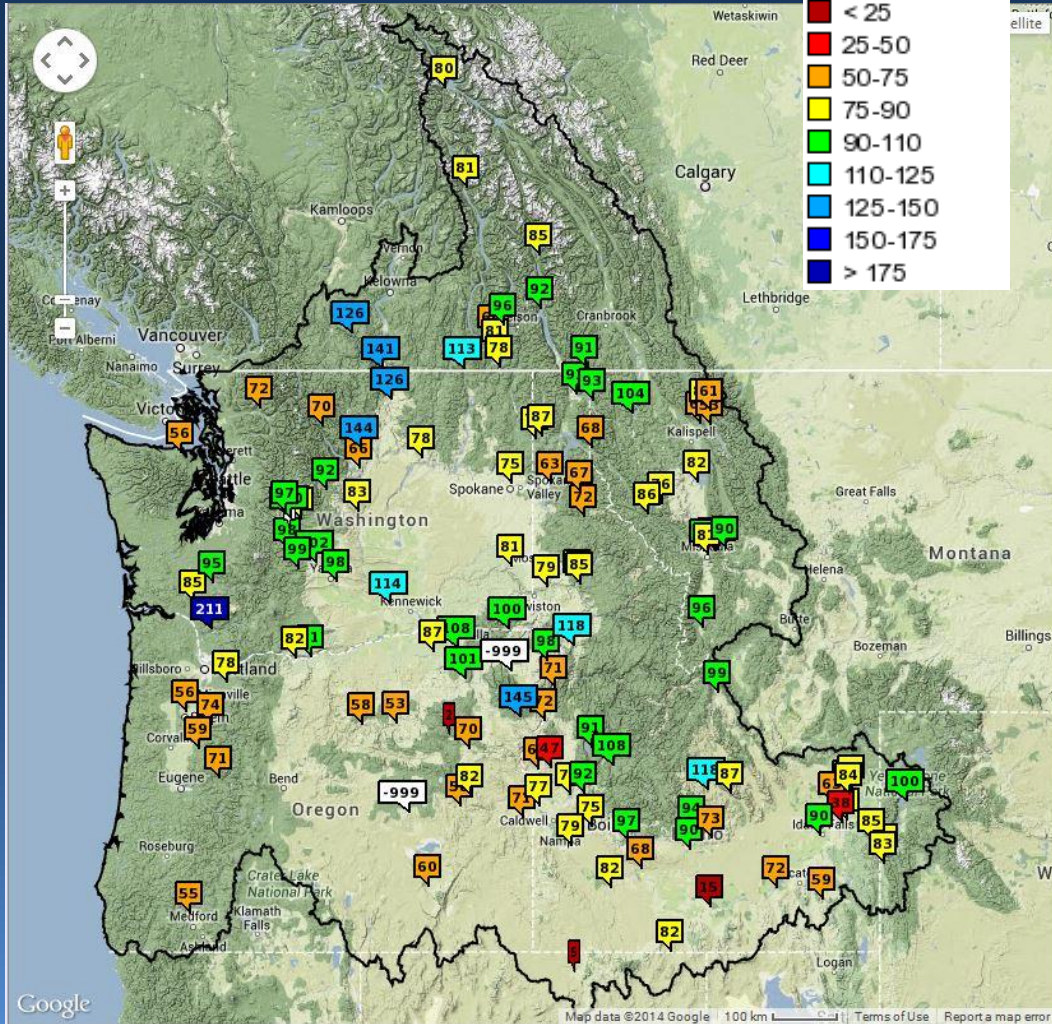
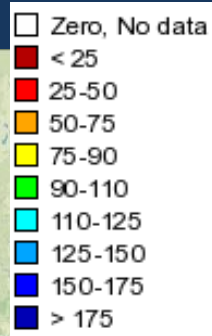




# Current Adjusted Runoff Conditions



Seasonal Runoff, Oct 1<sup>st</sup> – Jan 7<sup>th</sup>



Percent of Normal

Oct – Jan7

Basin	Percent of Normal
UPPER COLUMBIA BASIN	
MICA	80
DUNCAN	85
QUEENS BAY	92
LIBBY	104
HUNGRY HORSE	54
GRAND COULEE	79
SNAKE RIVER BASIN	
JACKSON LAKE	101
PALISADES	86
DWORSHAK	76
LOWER GRANITE	82
LOWER COLUMBIA BASIN	
THE DALLES	83



# New Adjusted Runoff Webpage

[http://www.nwrfc.noaa.gov/runoff/runoff\\_summary.php](http://www.nwrfc.noaa.gov/runoff/runoff_summary.php)



## Northwest River Forecast Center Runoff Summary

[Home](#)

[Previous Page](#)

Choose Date:

[Current](#)

Wednesday, January 8, 2014

[Archive \(2000 - 2013\)](#)

[Click to show comma delimited Runoff Data](#) [Click to download csv file](#)

### Columbia Basin RUNOFF - Water Year 2014

KAF (Thousand Acre-Feet)

#### Columbia River - Mica Dam (MCDQ2W) [122280000 Adjusted Runoff]

	HB5 ID	OBS DATE	WY	CURR	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	Oct1-Jan8	Jan1-Jan8	Apr1-Jan8
RUNOFF	MCDQ2W	2014/01/08	2014	62	502	310	264	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1138	62	N/A
AVERAGE	MCDQ2W	2014/01/08	2014	61	636	415	301	210	232	261	510	1745	3219	3273	2221	1118	1413	61	N/A
PCT AVG	MCDQ2W	2014/01/08	2014	101	79	75	88	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	80	101	N/A

#### Columbia River - Revelstoke Dam (REVQ2W) [122300001 Adjusted Runoff]

	HB5 ID	OBS DATE	WY	CURR	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	Oct1-Jan8	Jan1-Jan8	Apr1-Jan8
RUNOFF	REVQ2W	2014/01/08	2014	87	729	451	418	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1686	87	N/A
AVERAGE	REVQ2W	2014/01/08	2014	83	916	629	431	285	304	366	821	2732	4645	4430	2876	1475	2058	83	N/A
PCT AVG	REVQ2W	2014/01/08	2014	105	80	72	97	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	82	105	N/A

#### Columbia River - Arrow Lakes-Hugh Keenleyside Dam (ARDQ2W) [122410001 Adjusted Runoff]

	HB5 ID	OBS DATE	WY	CURR	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	Oct1-Jan8	Jan1-Jan8	Apr1-Jan8
RUNOFF	ARDQ2W	2014/01/08	2014	127	981	563	527	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2199	127	N/A
AVERAGE	ARDQ2W	2014/01/08	2014	162	1358	1043	761	556	593	732	1499	4411	6609	5812	3635	1968	3323	162	N/A
PCT AVG	ARDQ2W	2014/01/08	2014	79	72	54	69	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	66	79	N/A

#### Kootenai River - Libby Dam (LYDM8W) [123019330 Adjusted Runoff]

	HB5 ID	OBS DATE	WY	CURR	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	Oct1-Jan8	Jan1-Jan8	Apr1-Jan8
RUNOFF	LYDM8W	2014/01/08	2014	45	452	274	214	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	985	45	N/A
AVERAGE	LYDM8W	2014/01/08	2014	51	332	311	249	173	189	247	521	1580	2080	1159	543	370	942	51	N/A
PCT AVG	LYDM8W	2014/01/08	2014	89	136	88	86	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	104	89	N/A

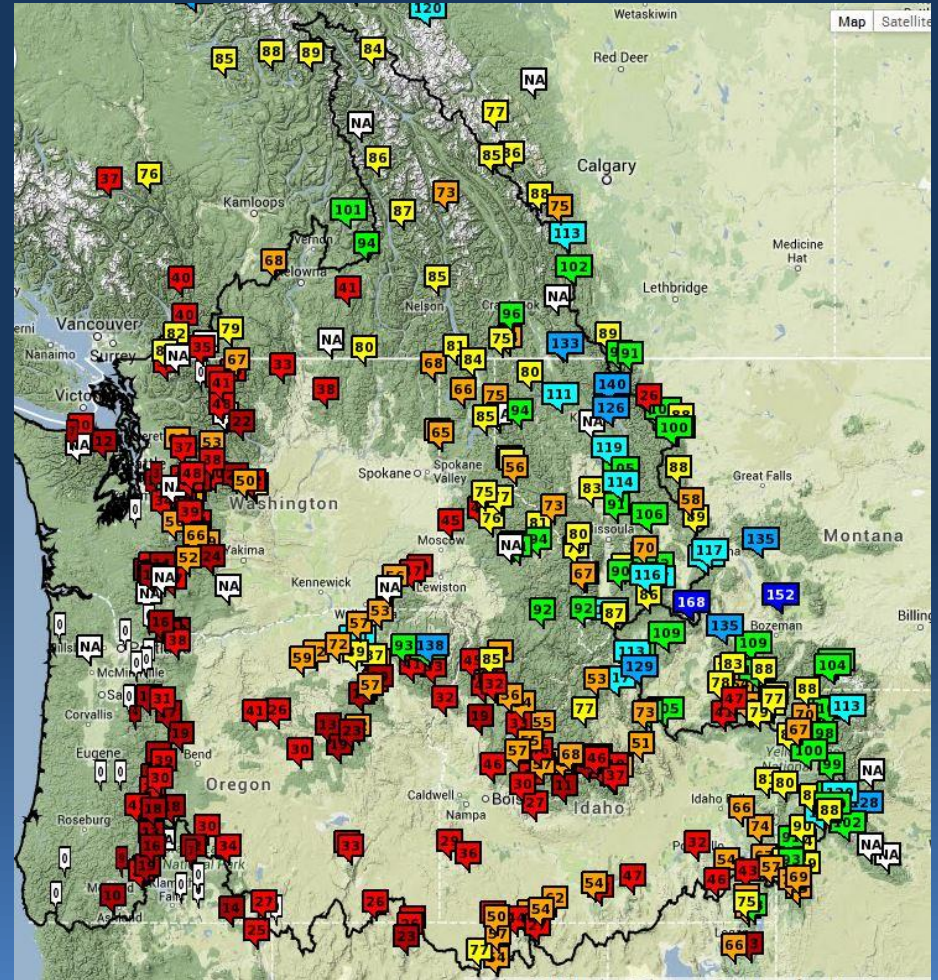
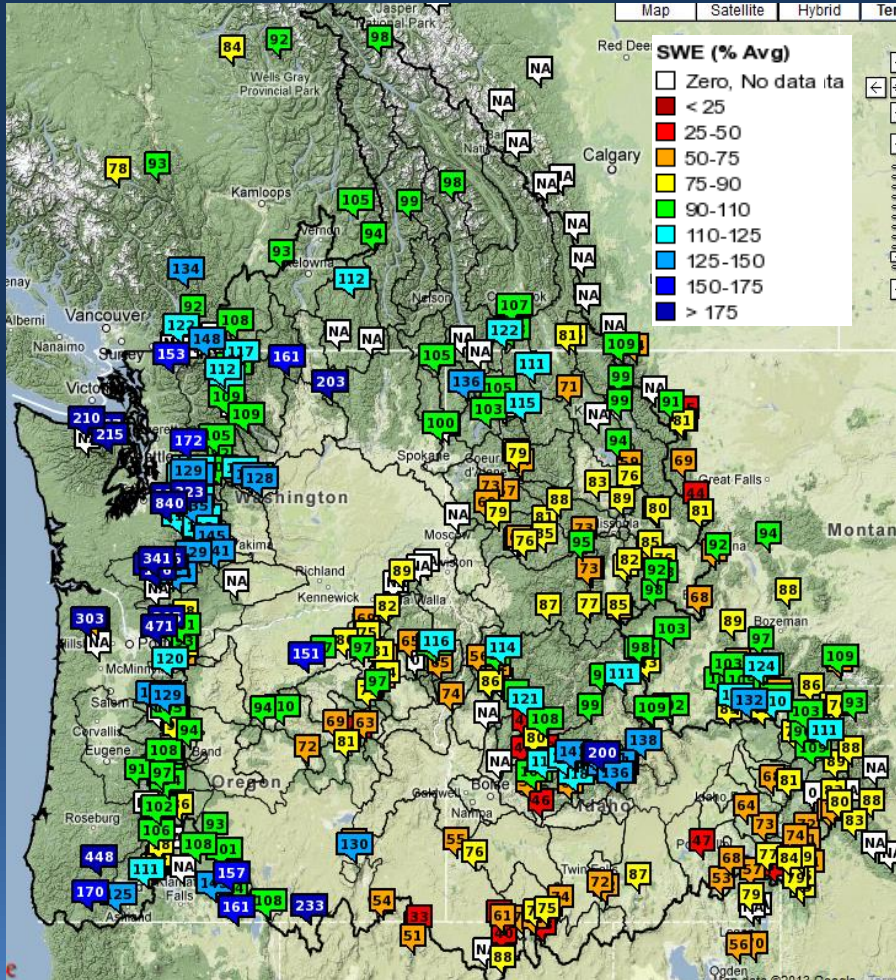


# Current Snow Conditions



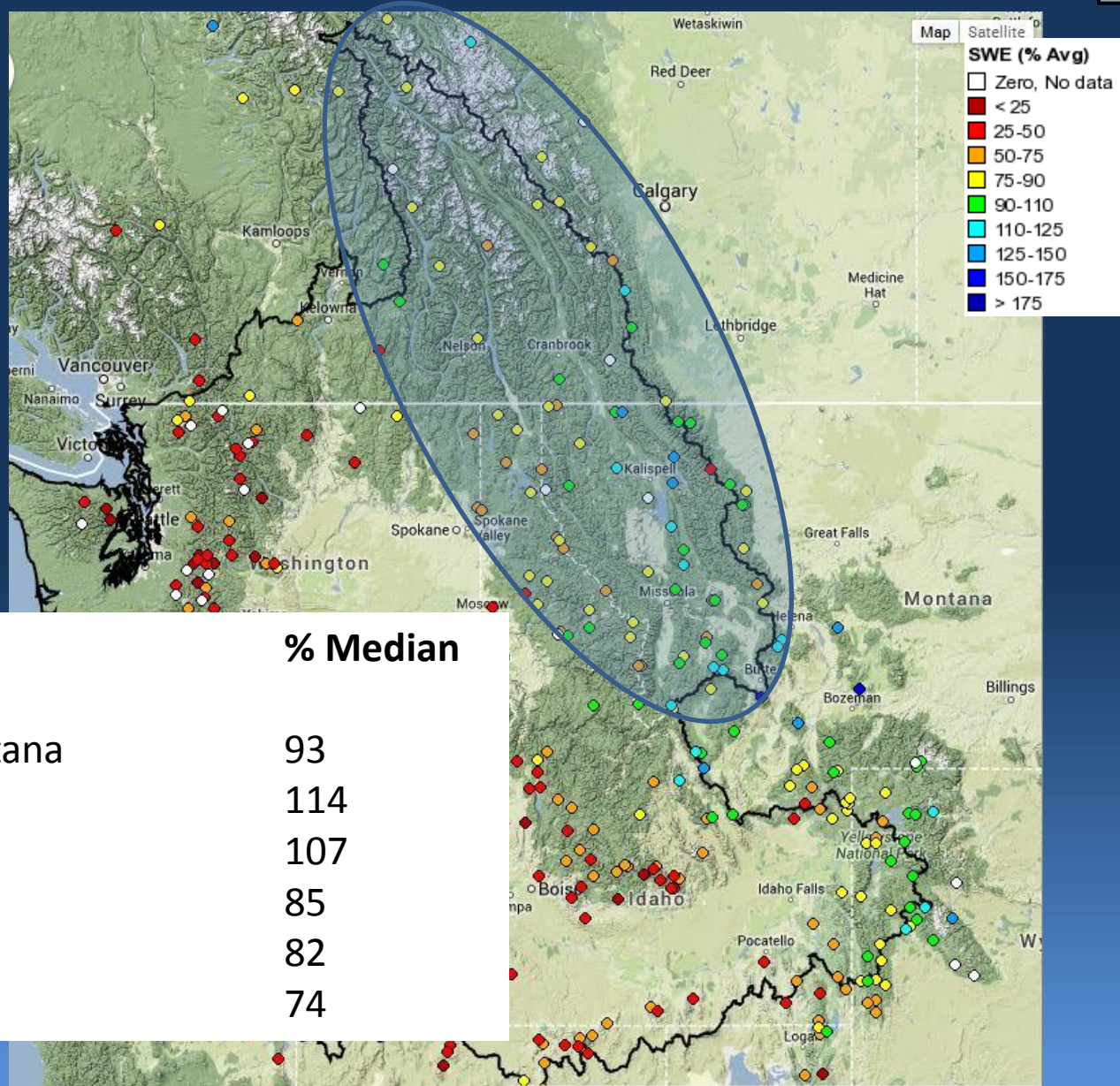
Jan 10, 2013

Jan 7, 2014





# Upper Columbia Snow Conditions



## River Basin

## % Median

Kootenai River in Montana

93

Flathead River Basin

114

Upper Clark Fork

107

Bitterroot

85

Lower Clark Fork

82

Idaho Panhandle

74



# Snake River Snow Conditions



## River Basin

## % Median

Upper Snake

Above Palisades Dam

96

Henry's Fork, Teton, Willow,  
Blackfoot, Portneuf

77

Middle Snake

Big and Little Wood

47

Weiser, Payette, Boise

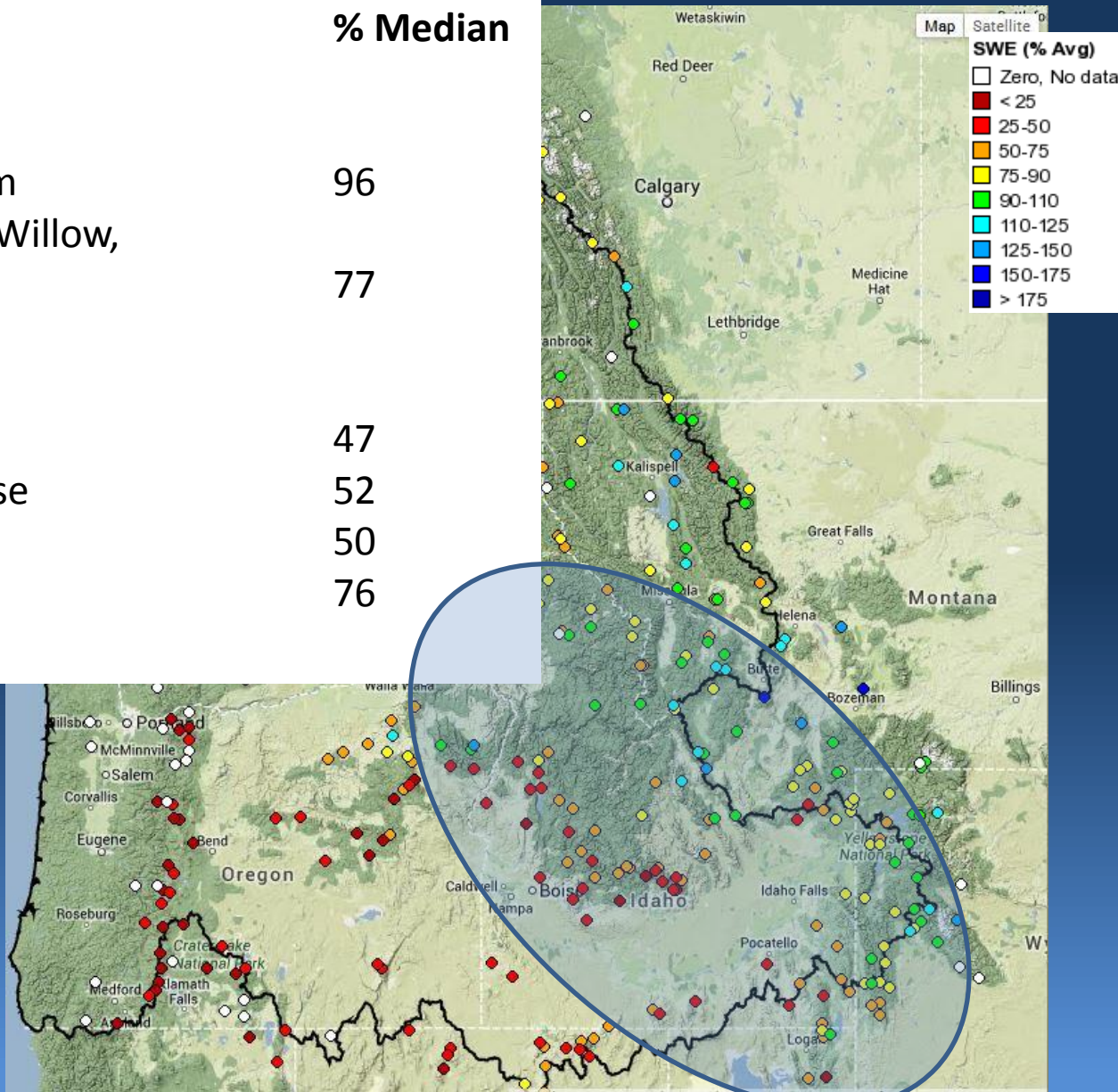
52

Owyhee, Malheur

50

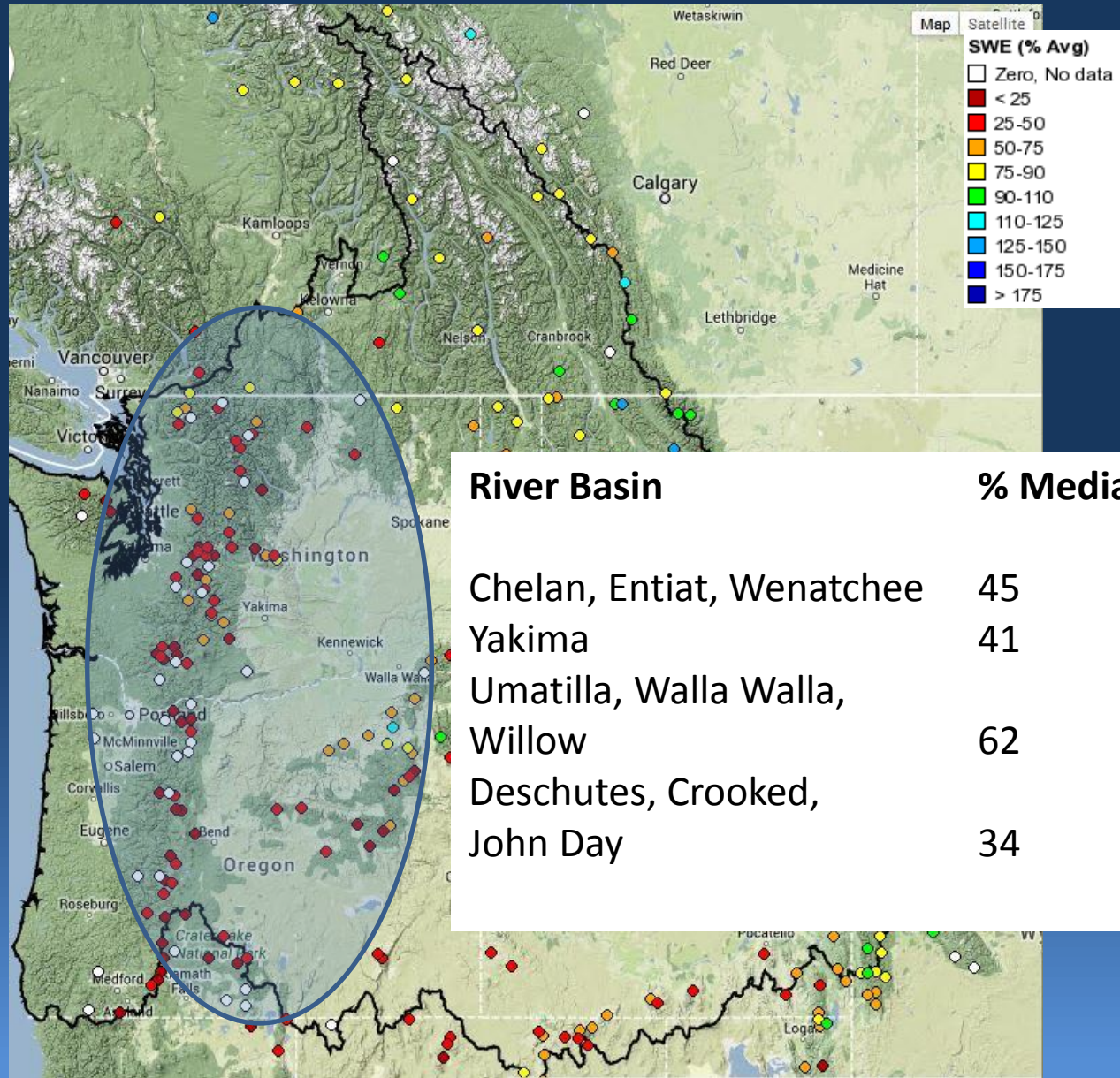
Clearwater, Salmon

76





# Lower Columbia Snow Conditions





# Future Conditions



Climate Outlooks

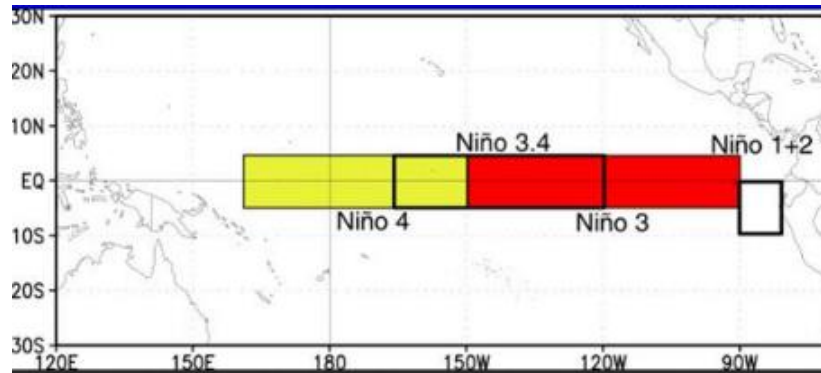
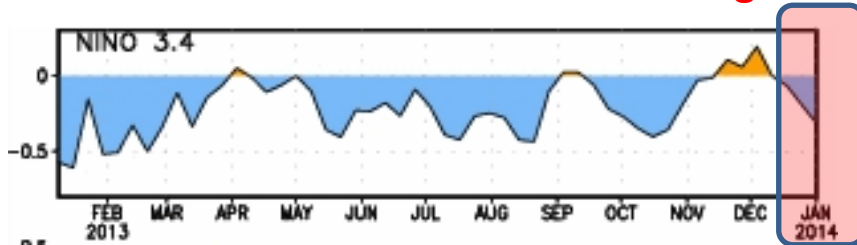
10 Day Precipitation Forecast

Water Supply Forecasts

# ENSO: Observed and Forecast

## SST Anomaly (Deg C)

Latest observed: SST 3.4 -0.3 Deg C



Recent Pacific warm (red) and cold (blue) episodes based on a threshold of  $\pm 0.5^\circ\text{C}$  for the Oceanic Niño Index (ONI) [3 month running mean of ERSST.v3b SST anomalies in the Niño 3.4 region (5N-5S, 120-170W)]. For historical purposes El Niño and La Niña episodes are defined when the threshold is met for a minimum of 5 consecutive over-lapping seasons. The complete table going back to DJF 1950 can be found by clicking: [Historical ONI Values](#)

Year	DJF	JFM	FMA	MAM	AMJ	MJJ	JJA	JAS	ASO	SON	OND	NDJ
2002	-0.2	0.0	0.1	0.3	0.5	0.7	0.8	0.8	0.9	1.2	1.3	1.3
2003	1.1	0.8	0.4	0.0	-0.2	-0.1	0.2	0.4	0.4	0.4	0.4	0.3
2004	0.3	0.2	0.1	0.1	0.2	0.3	0.5	0.7	0.8	0.7	0.7	0.7
2005	0.6	0.4	0.3	0.3	0.3	0.3	0.2	0.1	0.0	-0.2	-0.5	-0.8
2006	-0.9	-0.7	-0.5	-0.3	0.0	0.1	0.2	0.3	0.5	0.8	1.0	1.0
2007	0.7	0.3	-0.1	-0.2	-0.3	-0.3	-0.4	-0.6	-0.8	-1.1	-1.2	-1.4
2008	-1.5	-1.5	-1.2	-0.9	-0.7	-0.5	-0.3	-0.2	-0.1	-0.2	-0.5	-0.7
2009	-0.8	-0.7	-0.5	-0.2	0.2	0.4	0.5	0.6	0.8	1.1	1.4	1.6
2010	1.6	1.3	1.0	0.6	0.1	-0.4	-0.9	-1.2	-1.4	-1.5	-1.5	-1.5
2011	-1.4	-1.2	-0.9	-0.6	-0.3	-0.2	-0.2	-0.4	-0.6	-0.8	-1.0	-1.0
2012	-0.9	-0.6	-0.5	-0.3	-0.2	0.0	0.1	0.4	0.5	0.6	0.2	-0.3
2013	-0.6	-0.6	-0.4	-0.2	-0.2	-0.3	-0.3	-0.3	-0.3	-0.2	-0.3	

## CPC Synopsis: ENSO-neutral conditions are expected to continue into the Northern Hemisphere summer 2014

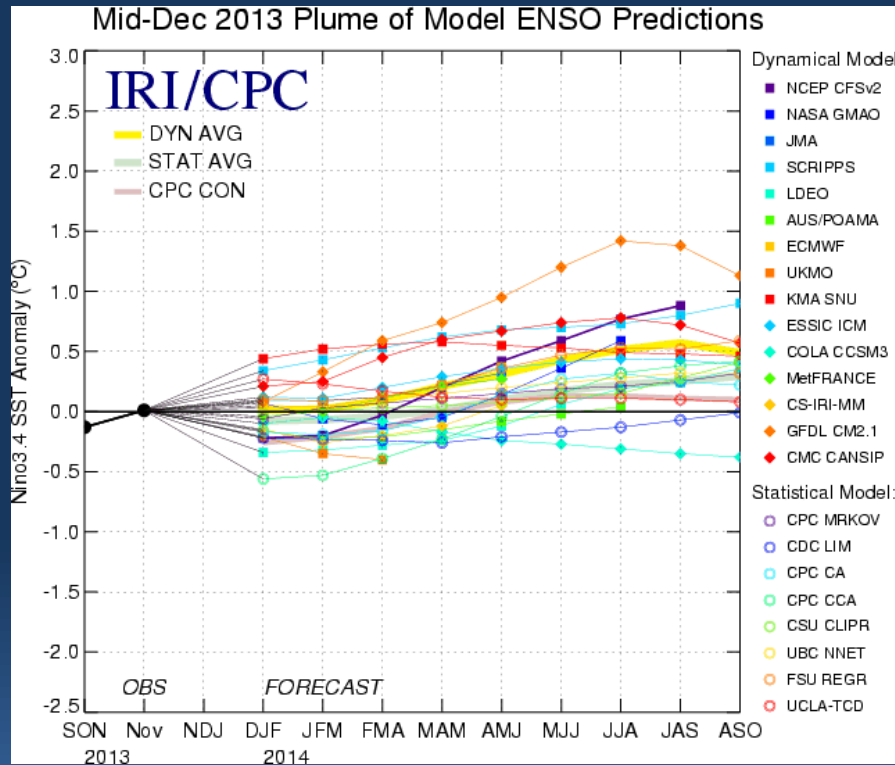
- Source: Climate Prediction Center Weekly ENSO Update  
[http://www.cpc.ncep.noaa.gov/products/analysis\\_monitoring/lanina/enso\\_evolution-status-fcsts-web.pdf](http://www.cpc.ncep.noaa.gov/products/analysis_monitoring/lanina/enso_evolution-status-fcsts-web.pdf)





# NINO 3.4 SST Outlook

## SST Anomaly (Deg C)



• Most models predict ENSO-neutral (-0.5°C to +0.5°C) to continue through the Northern Hemisphere spring. After that, models predict either ENSO-neutral or El Niño (greater or equal to +0.5°C) during the Northern Hemisphere summer 2014.

Source: Climate Prediction Center Weekly ENSO Update

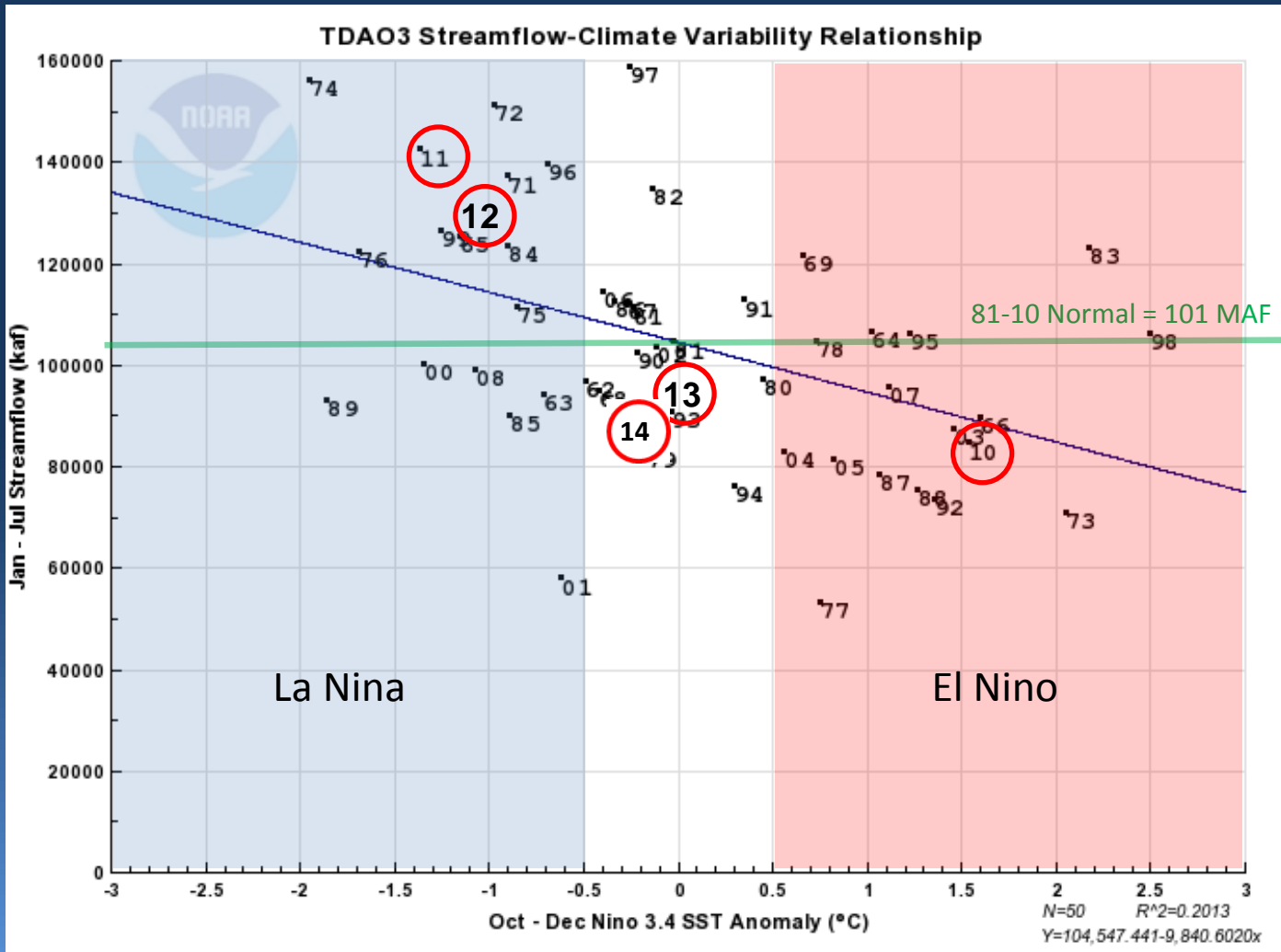
[http://www.cpc.ncep.noaa.gov/products/analysis\\_monitoring/lanina/enso\\_evolution-status-fcsts-web.pdf](http://www.cpc.ncep.noaa.gov/products/analysis_monitoring/lanina/enso_evolution-status-fcsts-web.pdf)

Graphic provided by International Research Institute for Climate and Society – updated Dec 17, 2013



# SST Anomaly vs Streamflow

## Columbia River near The Dalles

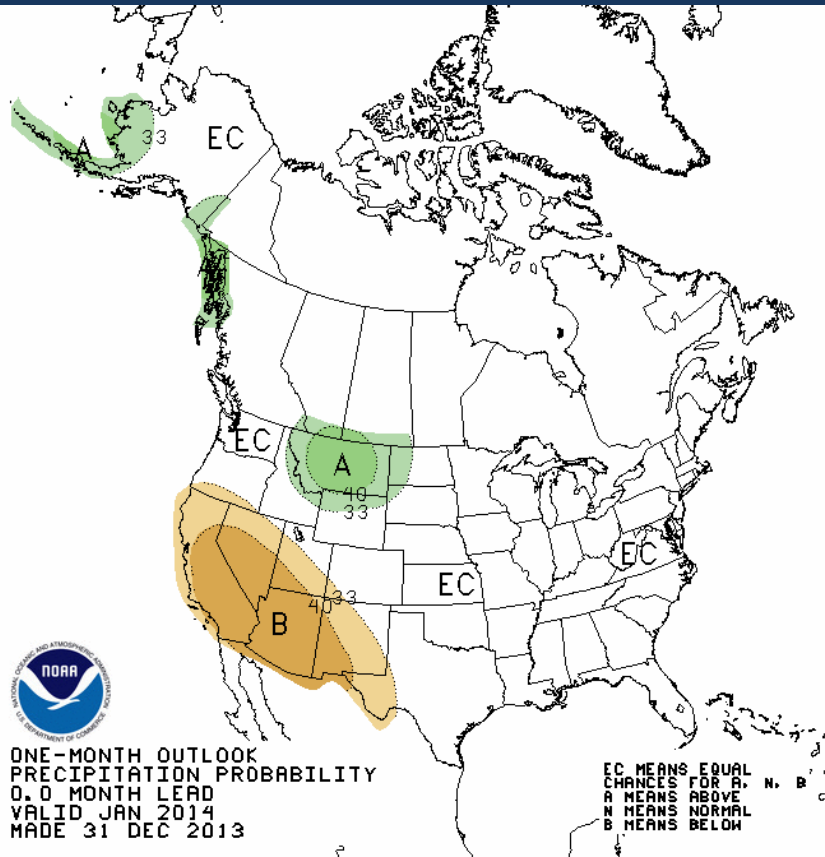




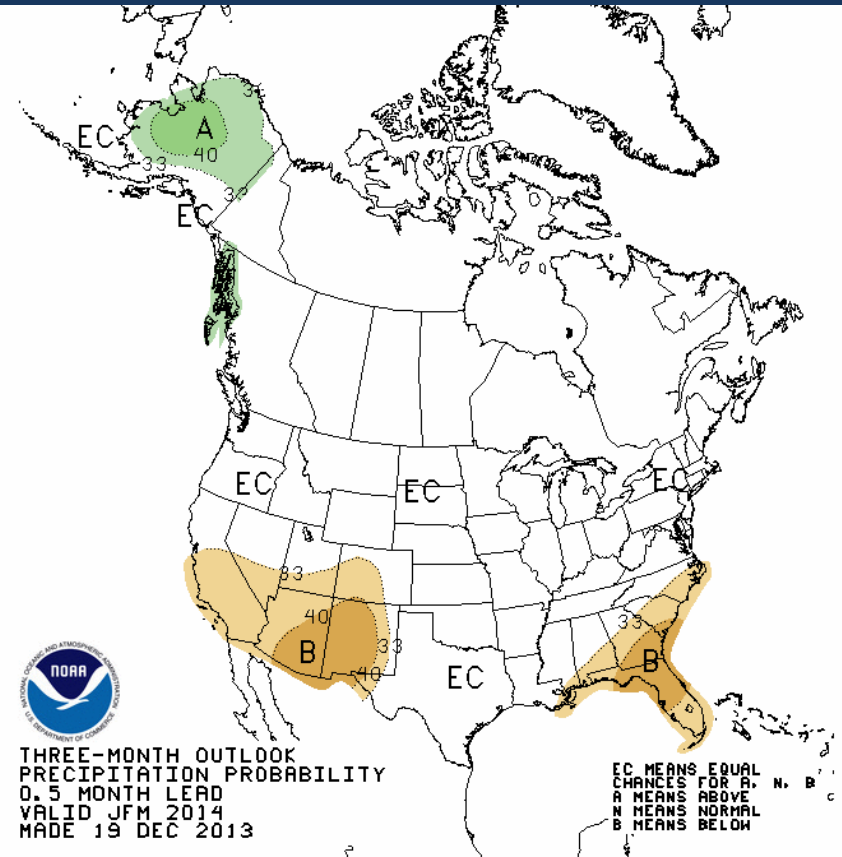
# Climate Outlook: Precipitation



## Current Month Outlook



## Three Month Outlook

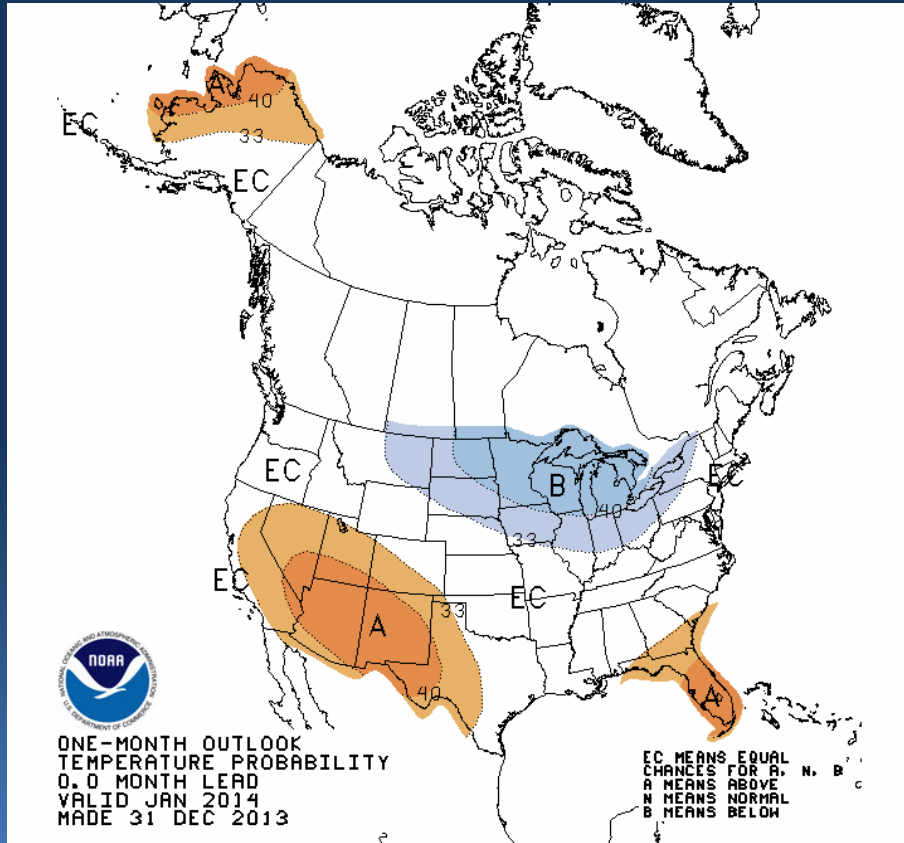




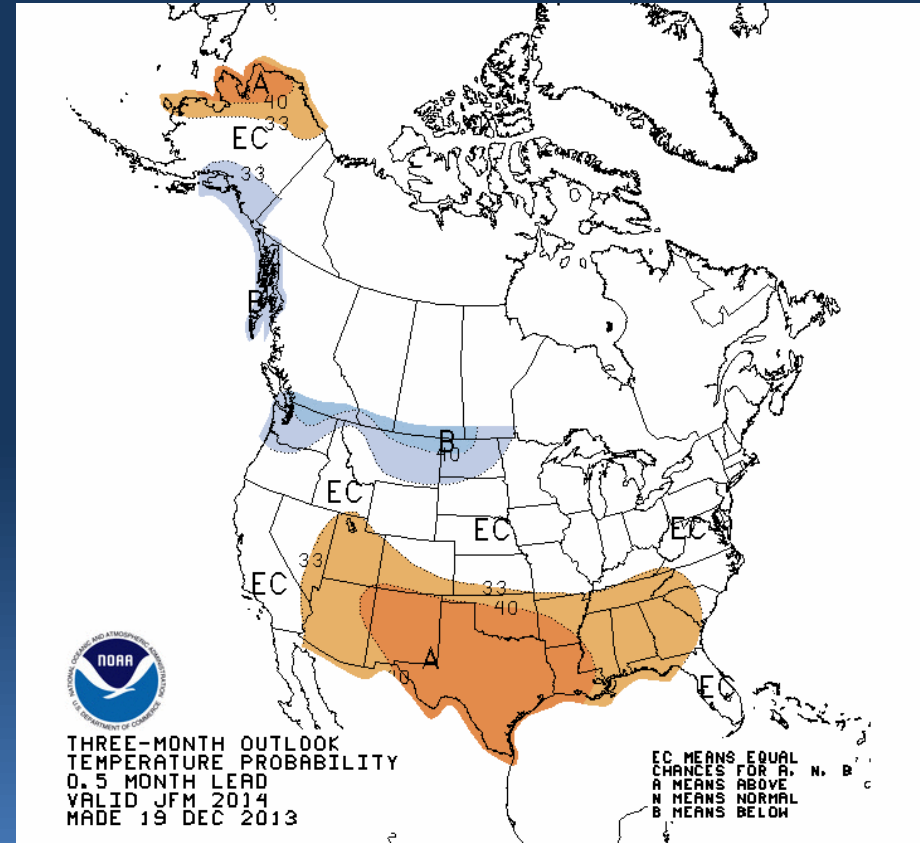
# Climate Outlook: Temperature



## Current Month Outlook



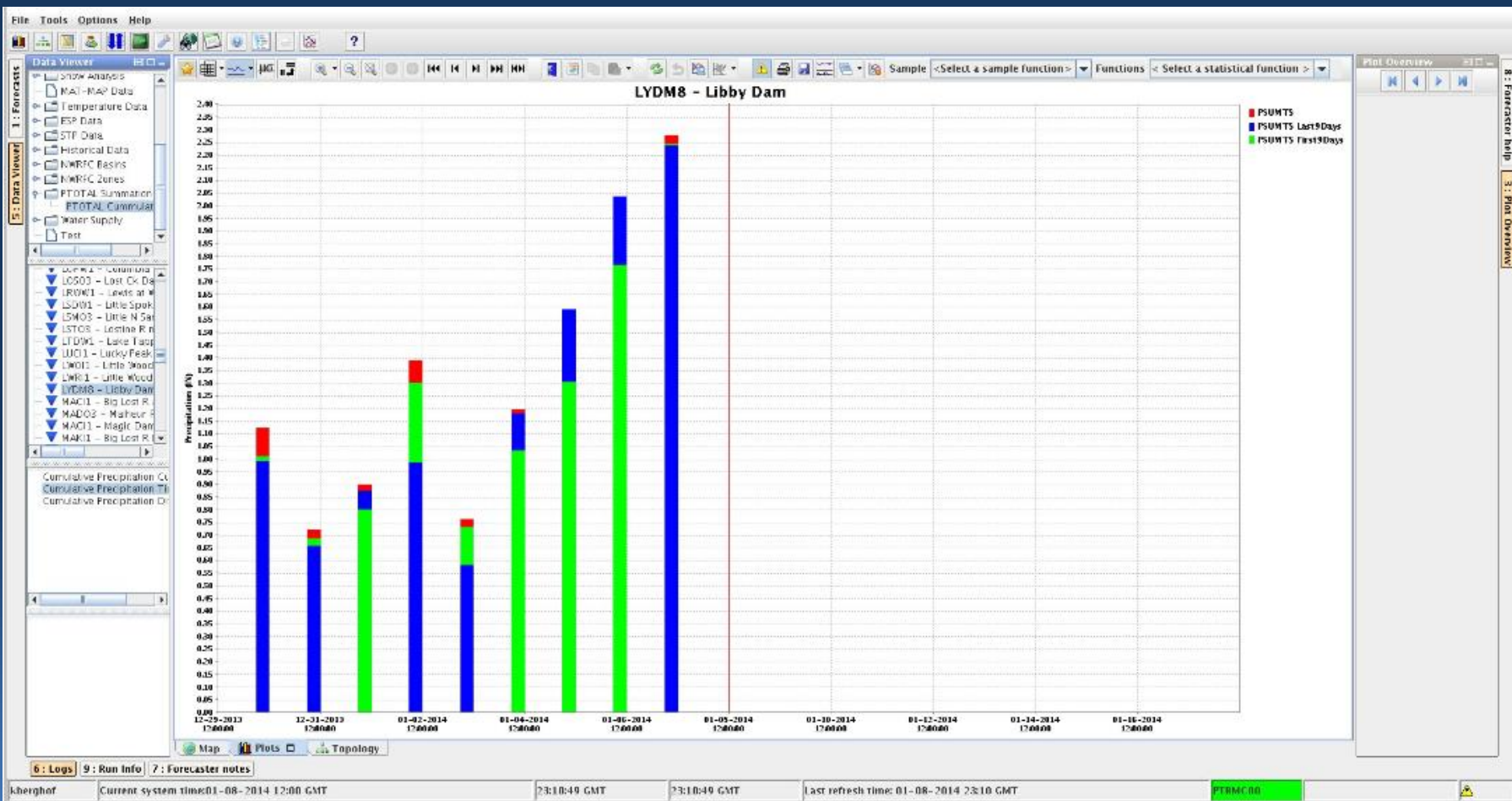
## Three Month Outlook







# 10 Day Precip Forecast





# NWRFC Water Supply Product



## COLUMBIA - THE DALLES DAM (TDAO3) Forecasts for Water Year 2014

### Official Forecast

10 days QPF: Ensemble: 2014-01-07 Issued: 2014-01-08

Forecast Period	Forecasts Are in KAF				30 Year Average (1981-2010)
	90 %	50 %	% Average	10 %	
APR-SEP	77439	89632	97	98043	92704
APR-JUL	65166	75130	94	85035	79855
APR-AUG	72036	84135	96	92706	87532
<b>JAN-JUL</b>	<b>82252</b>	<b>94010</b>	<b>93</b>	<b>108988</b>	<b>101368</b>

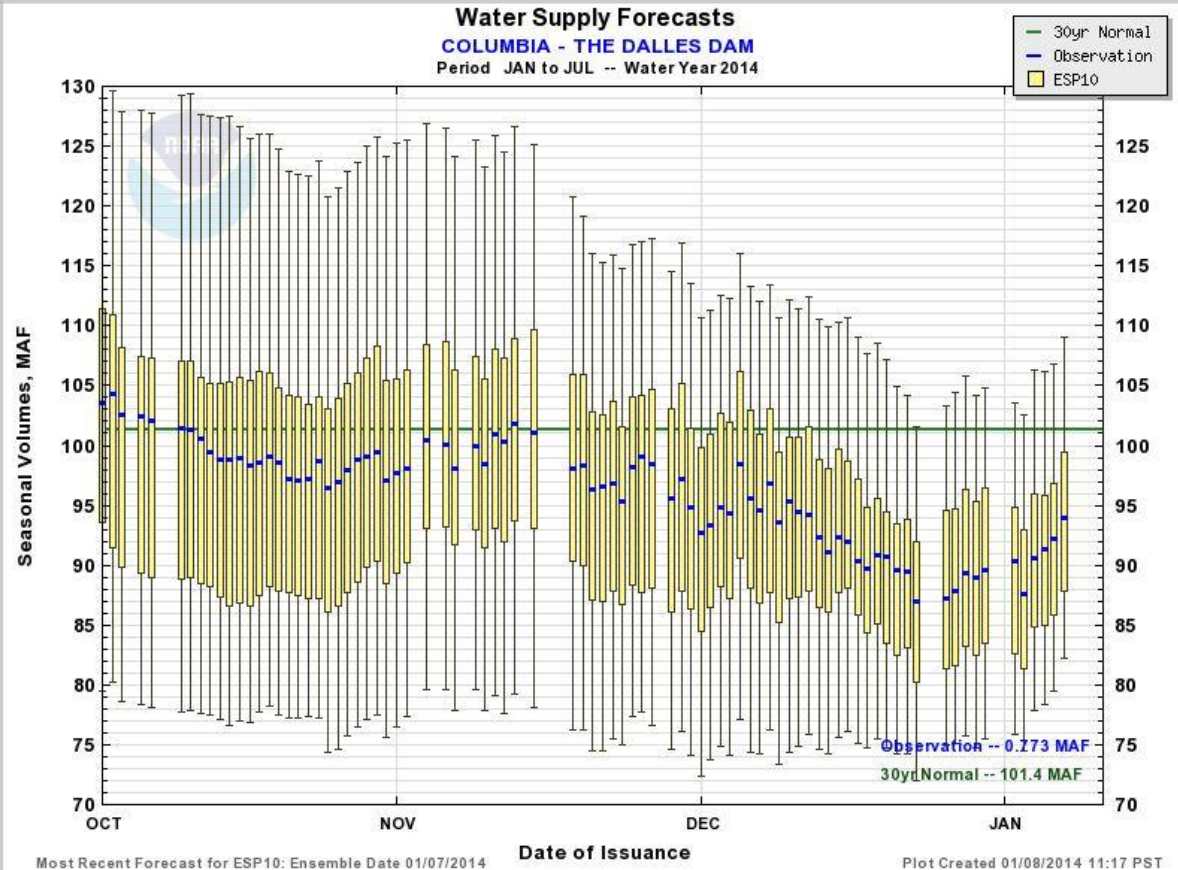
5 days QPF: Ensemble: 2014-01-07 Issued: 2014-01-08

APR-SEP	76437	90355	97	101862	92704
APR-JUL	63586	76177	95	86421	79855
APR-AUG	70491	84888	97	94991	87532
JAN-JUL	81356	96105	95	109926	101368

0 days QPF: Ensemble: 2014-01-07 Issued: 2014-01-08

APR-SEP	70370	84388	91	96936	92704
APR-JUL	59004	72331	91	82074	79855
APR-AUG	65928	79468	91	90320	87532
JAN-JUL	75004	88313	87	104676	101368

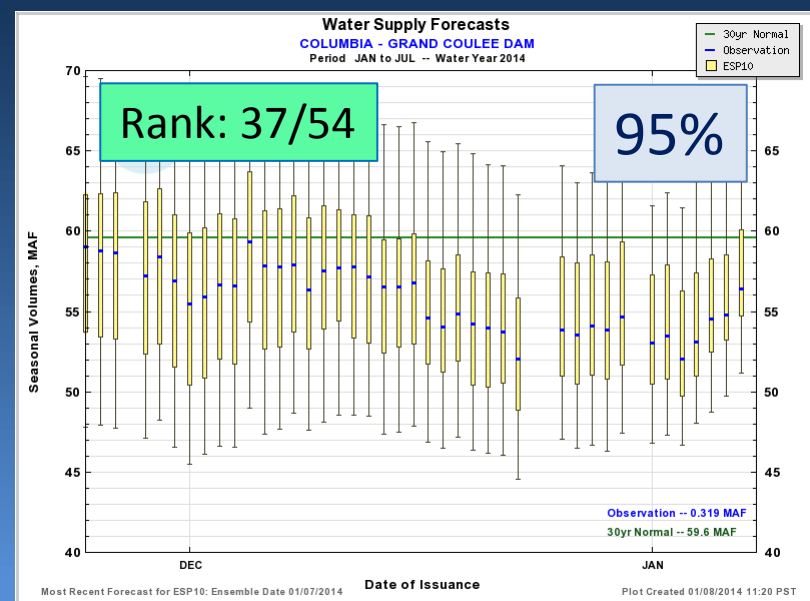
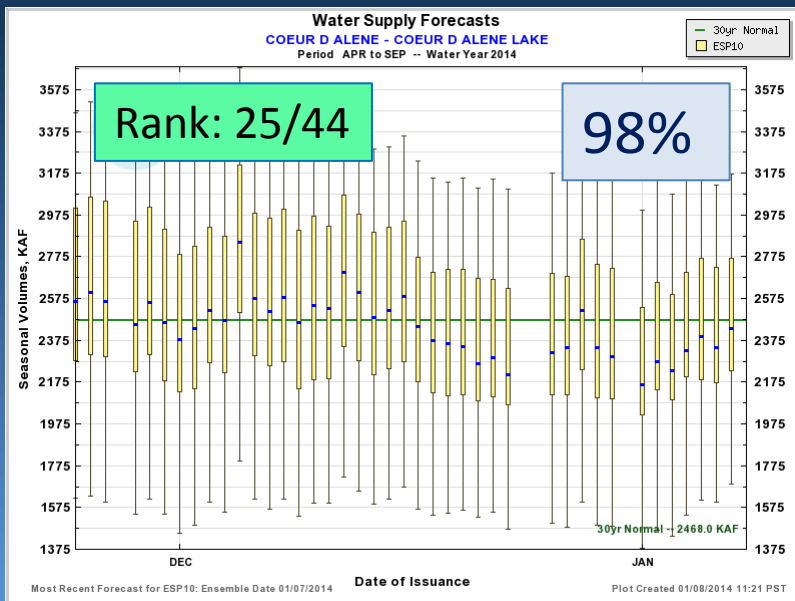
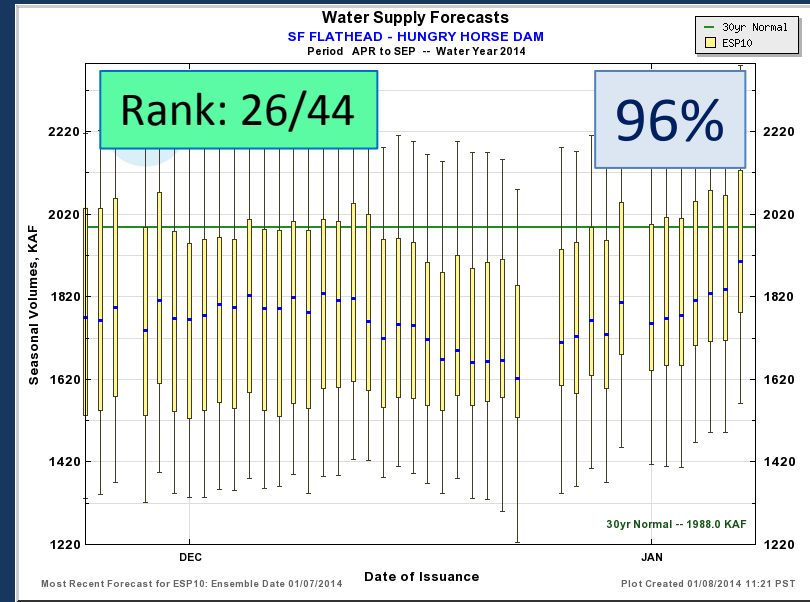
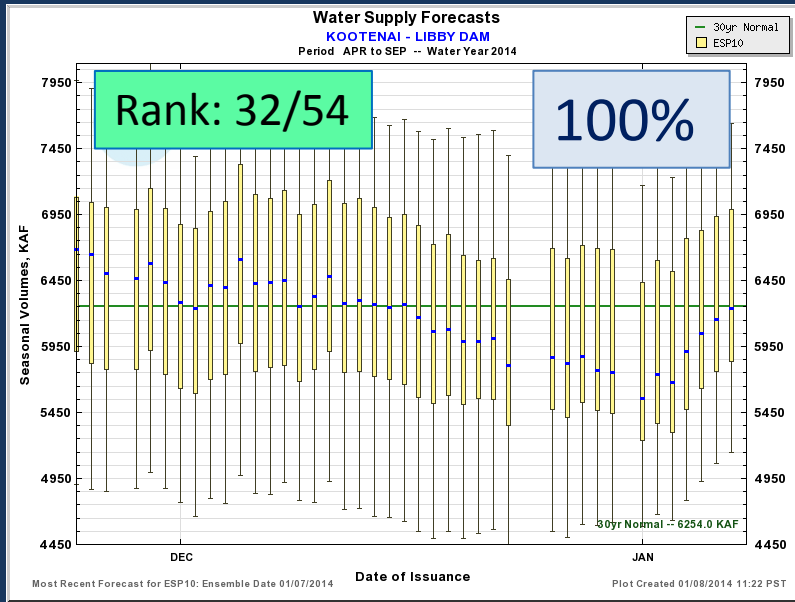
Move the mouse over the desired "Forecast Period" to display a graph.



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)



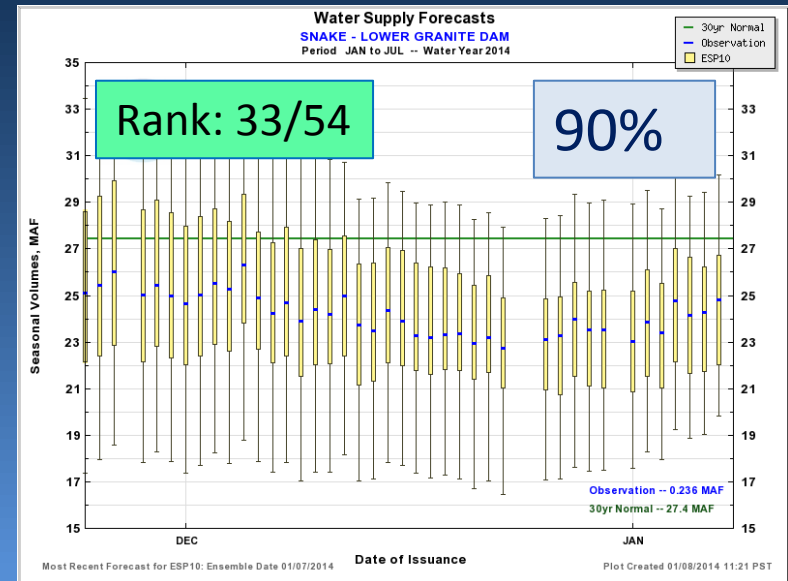
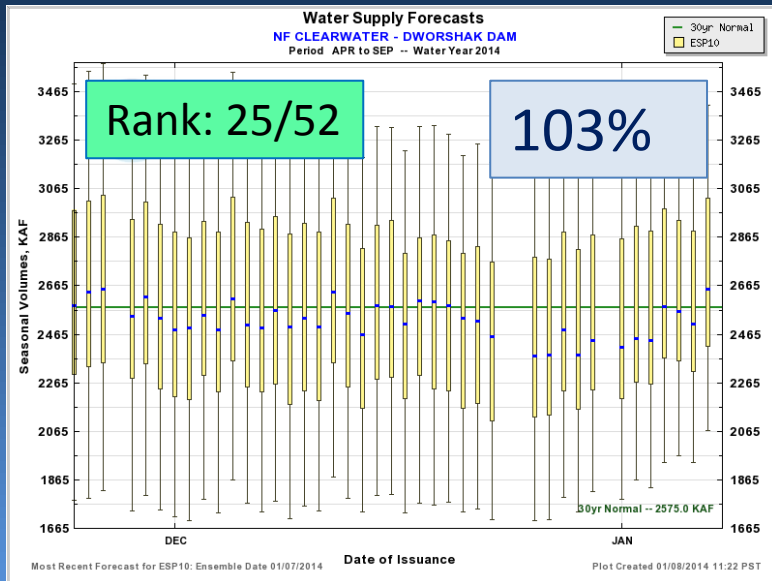
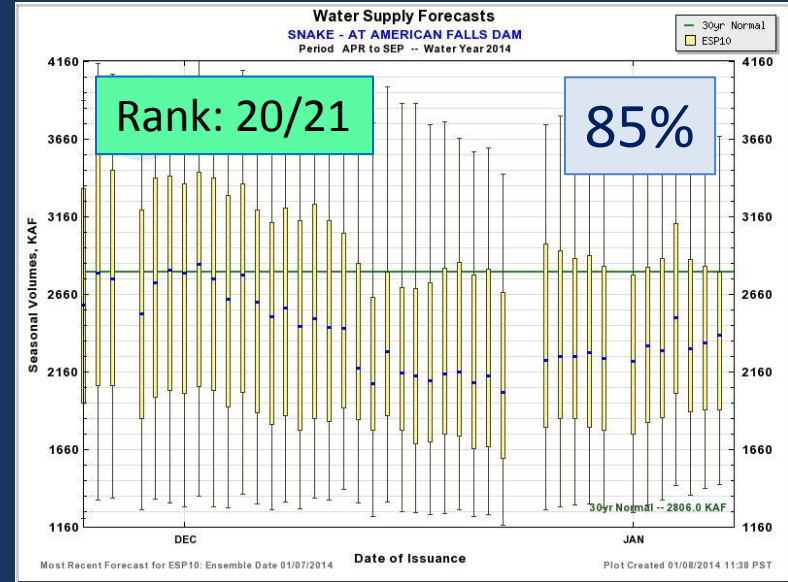
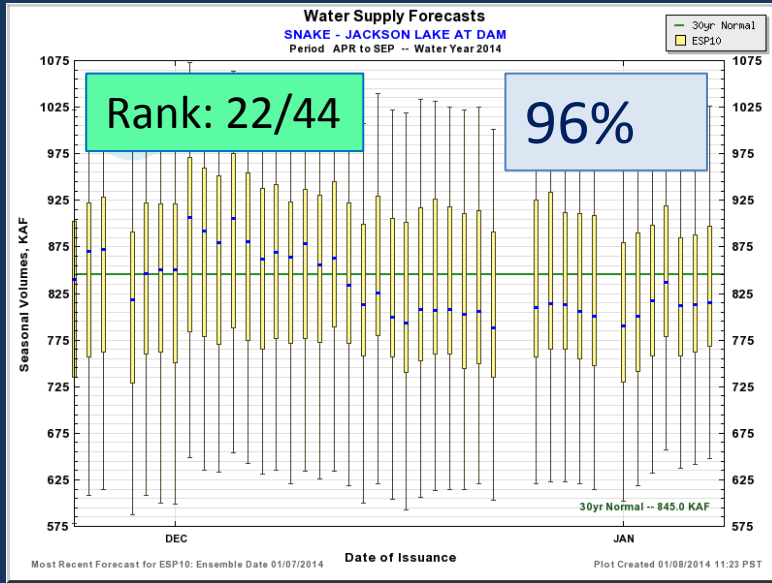
# Water Supply Forecast: Upper Columbia





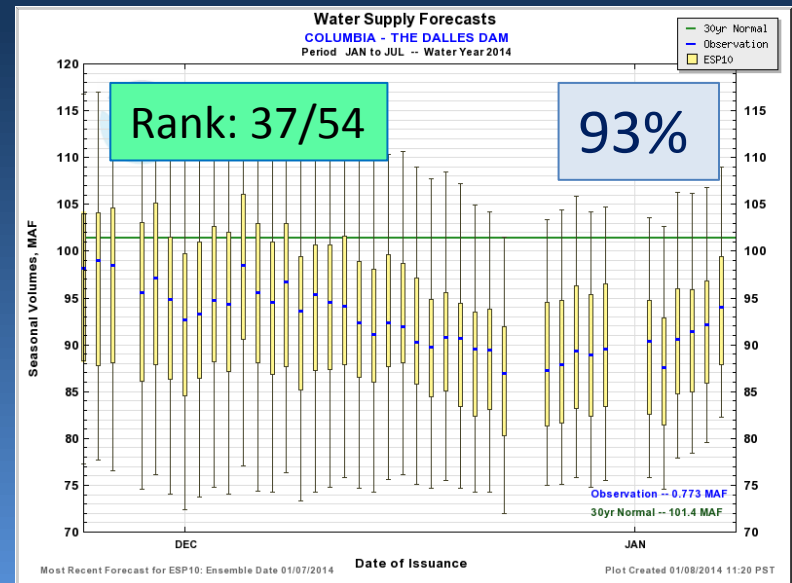
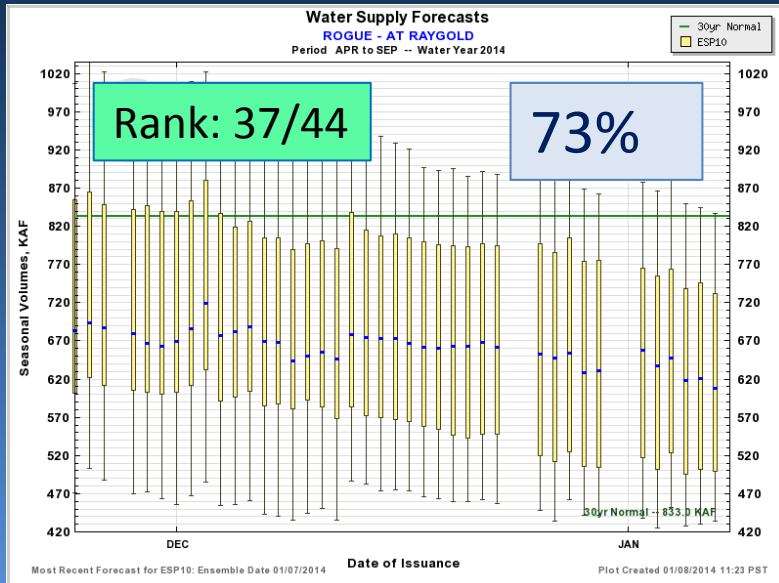
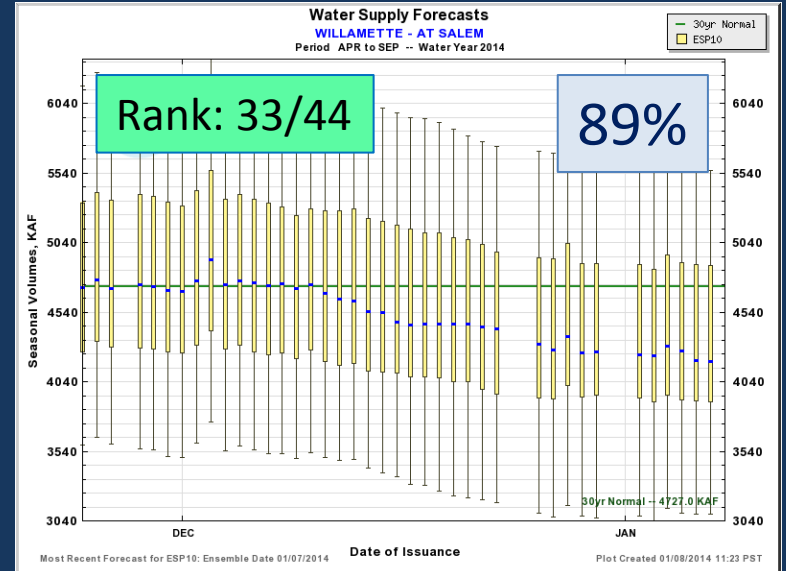
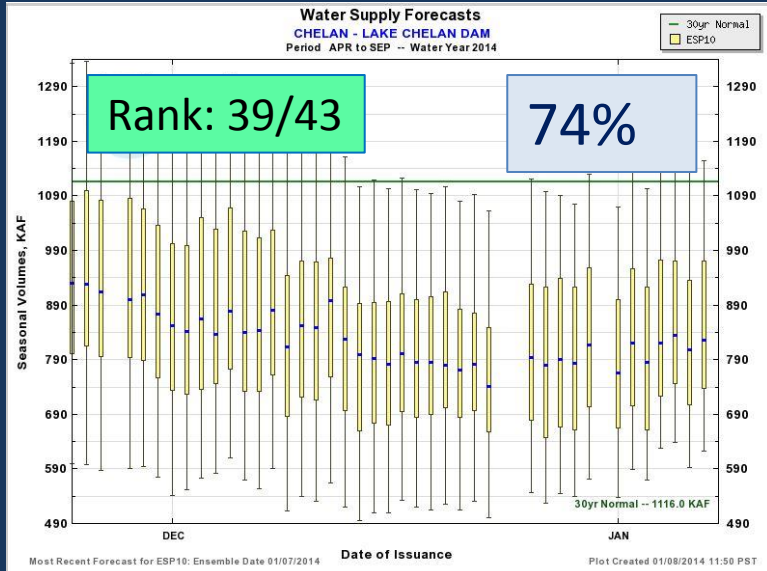


# Water Supply Forecast: Snake





# Water Supply Forecast: Lower Columbia





# NWRFC Water Supply Webpage

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



2014 Schedule for <i>Live Water Supply Briefings</i>					
Jan	Feb	Mar	Apr	May	Jun
9	6	6	10	8	TBD
<i>All presentations held at 10am PDT/PST, unless noted otherwise</i>					
<a href="#"><i>Click here for Registration Information</i></a>					
<a href="#"><i>Archive of Previous Briefings</i></a>					

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

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