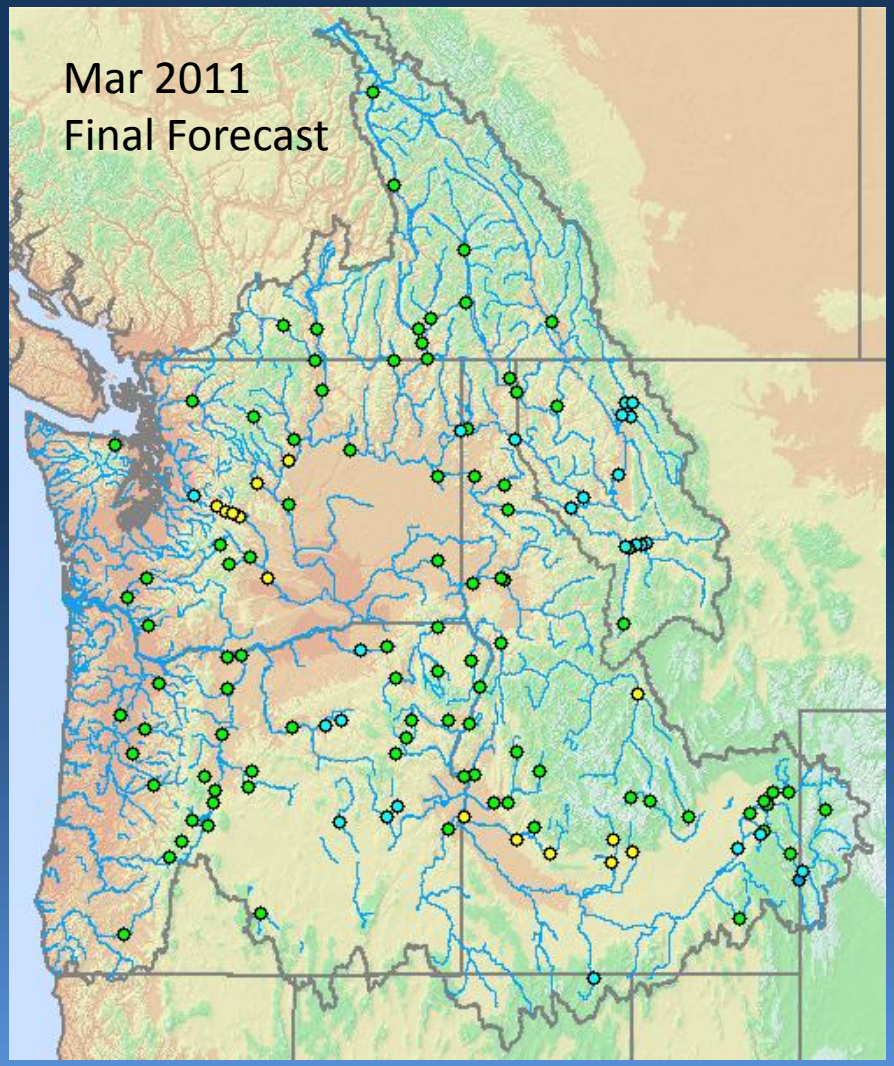
Northwest River Forecast Center Water Supply Briefing



Water Supply Forecast (% Avg)

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

March 1st "Final" Forecast
Legacy Regression Technique

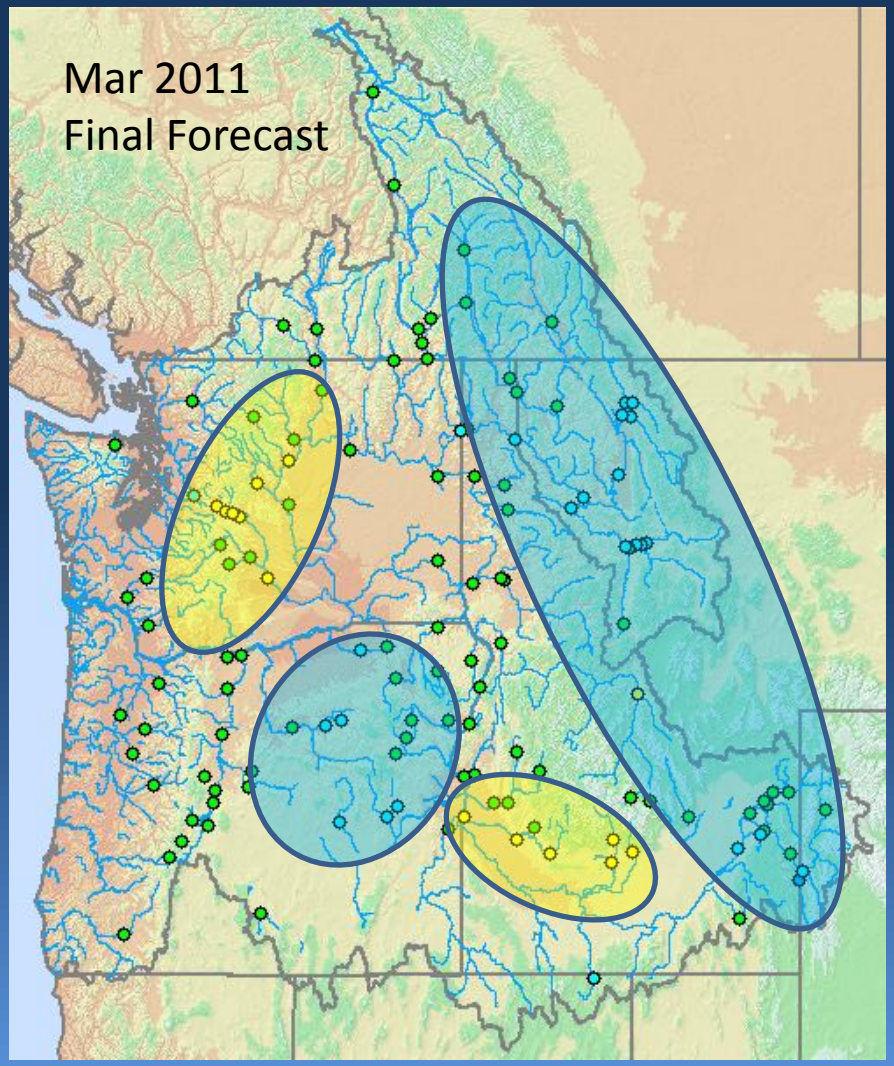
Ensemble Streamflow Procedure (ESP)

Precipitation Forecast:
110% of Normal for March

Agency Coordinated

BC Hydro input for Canadian Forecasts

Northwest River Forecast Center Water Supply Briefing



Water Supply Forecast (% Avg)

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

General Outlook:

Above Normal Forecasts

- Upper Columbia
- Western Montana
- Upper Snake
- Central Oregon

Below Normal Forecasts

- Central Washington
- Middle Snake

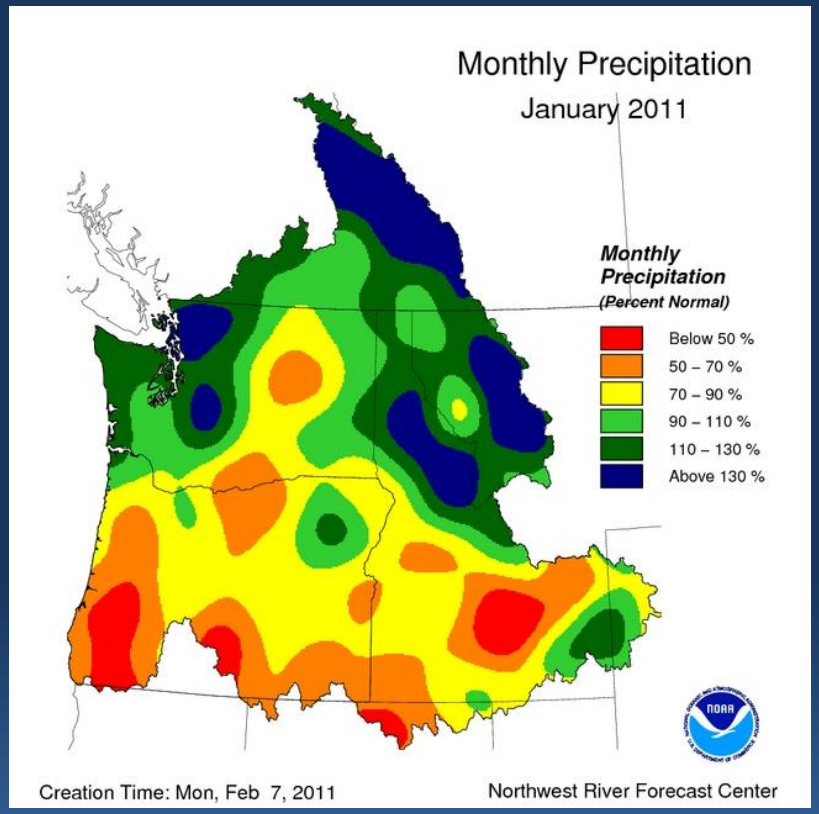
Observed Conditions

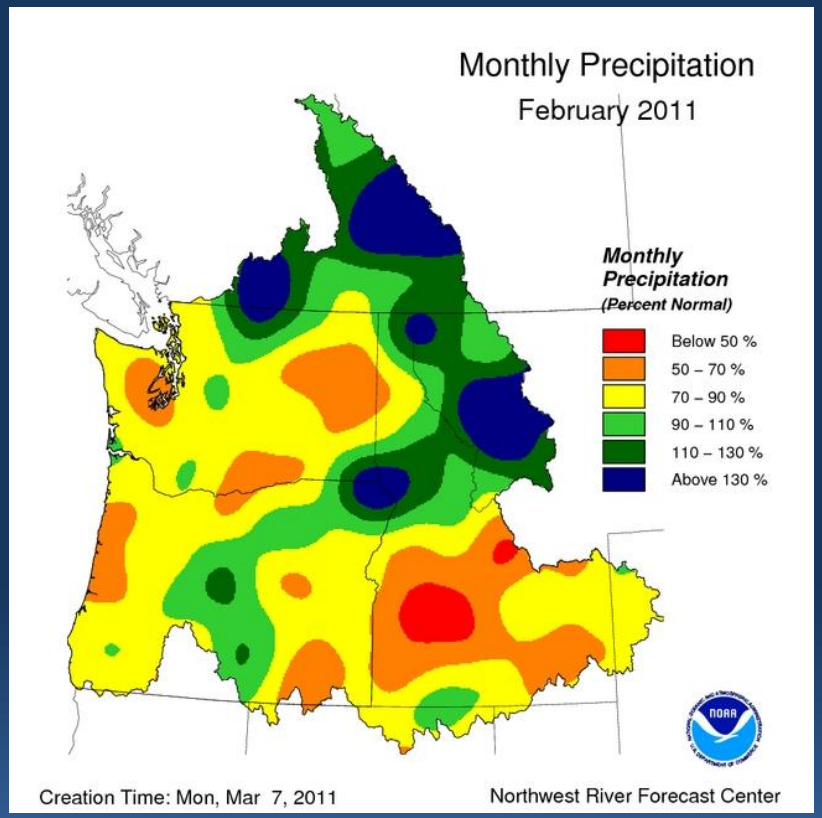
Precipitation

Runoff

Snowpack

Observed Monthly Precipitation

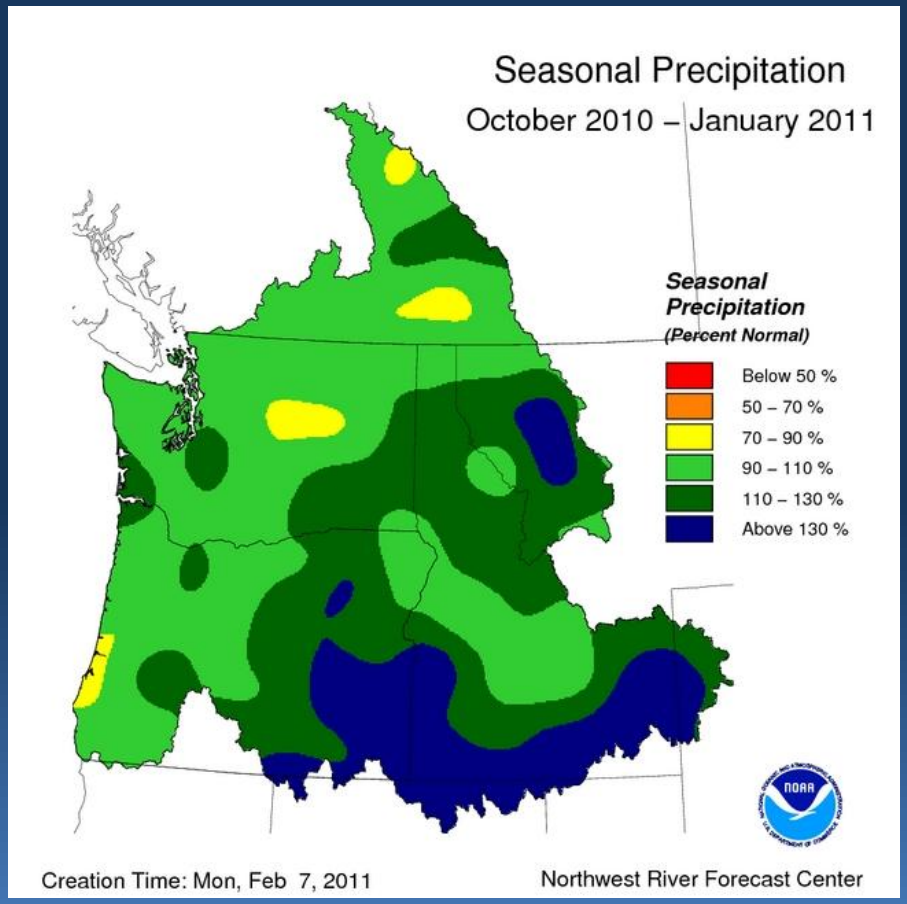


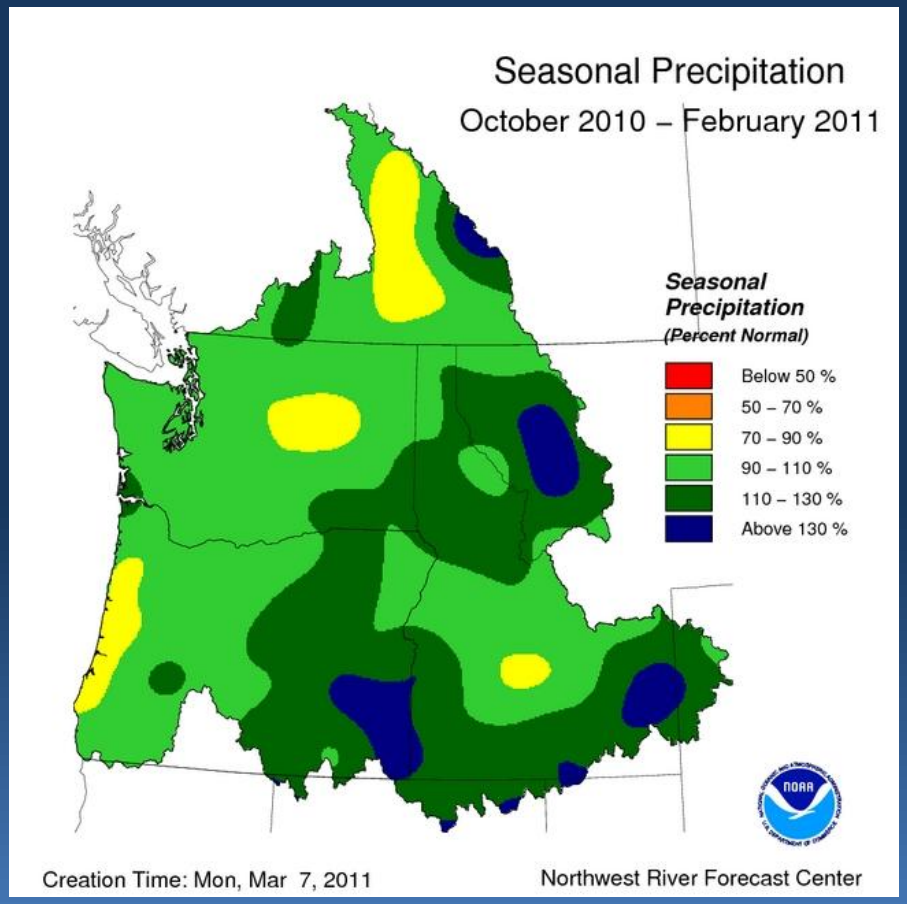


Feb Final Forecast precipitation assumption
= 105% of Normal

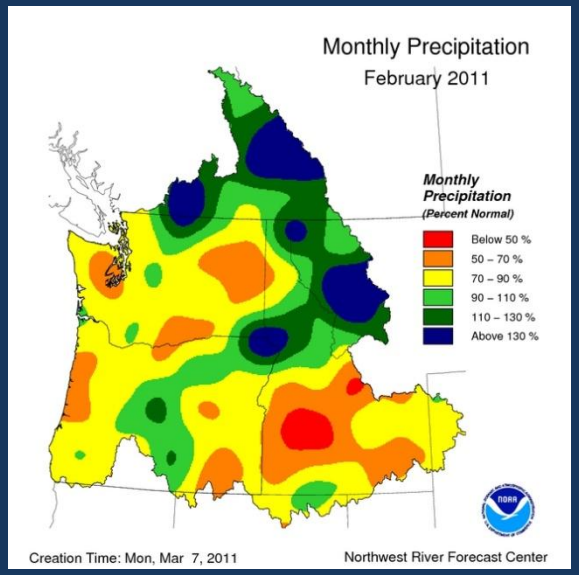
Observed January precipitation
above Ice Harbor = 75%
above Grand Coulee = 122%
above The Dalles = 100%

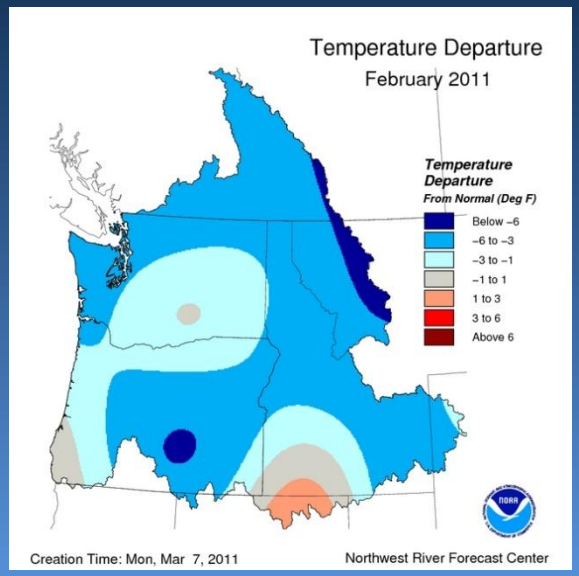
Observed Seasonal Precipitation

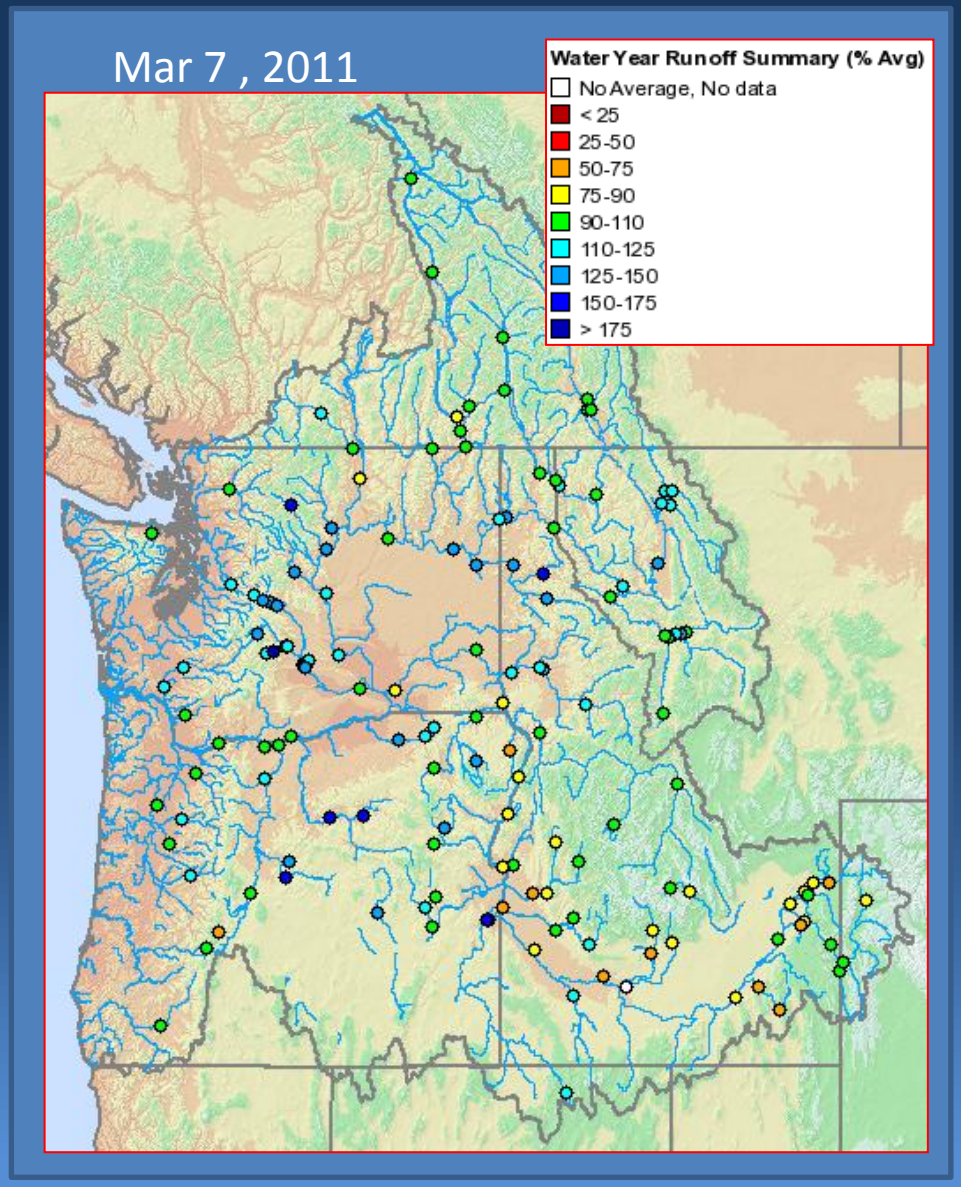




Current Runoff Conditions

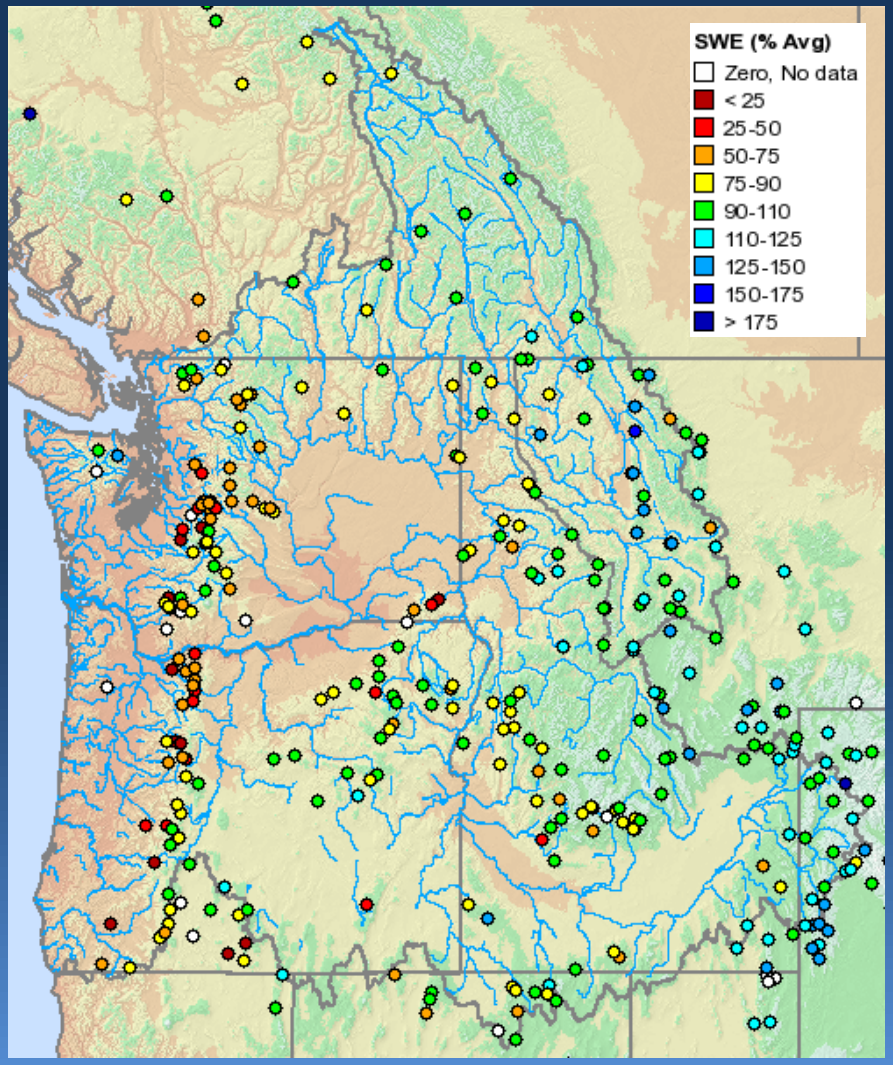




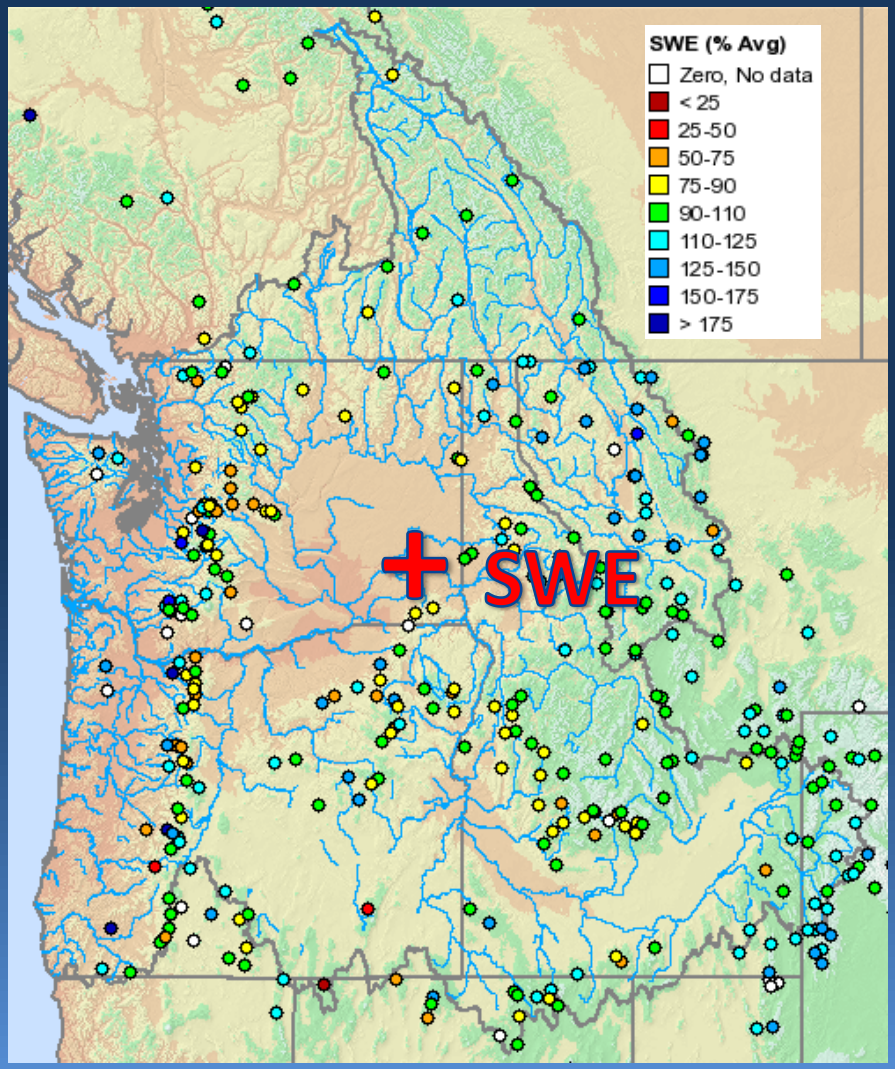


Current Snow Conditions

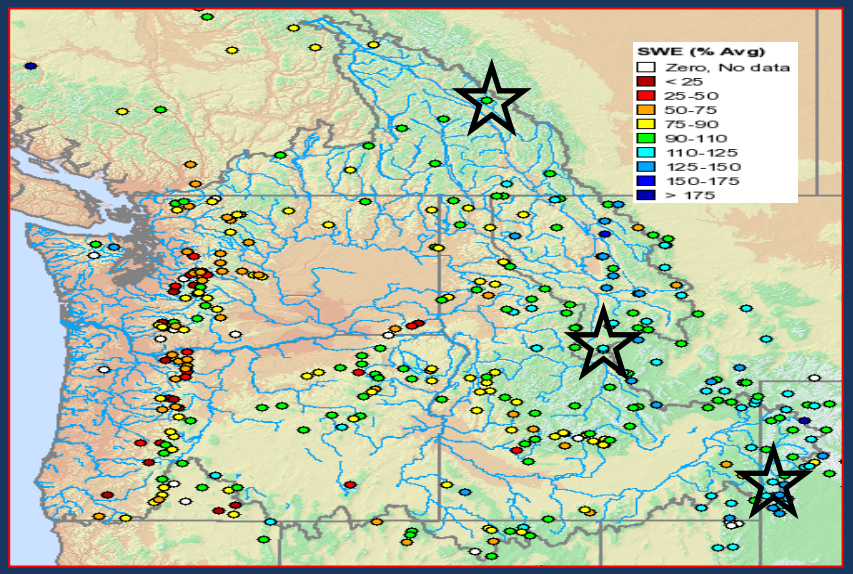
Feb 6, 2010

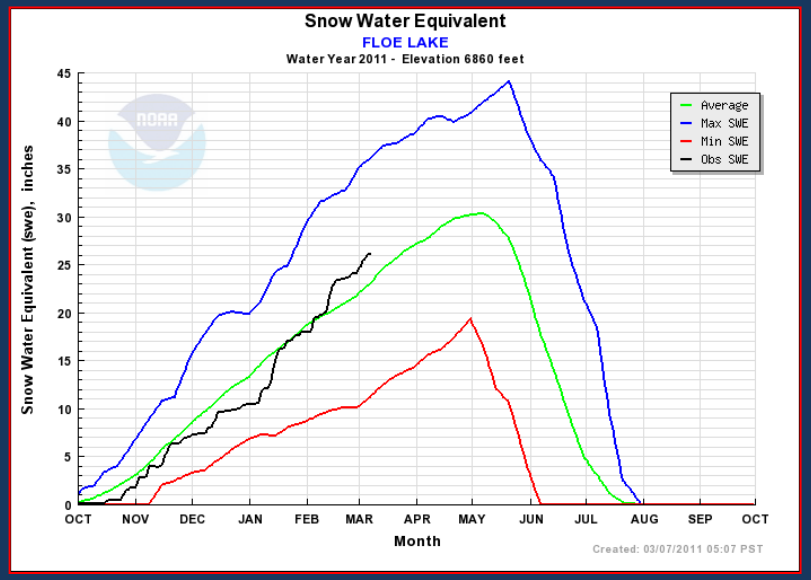


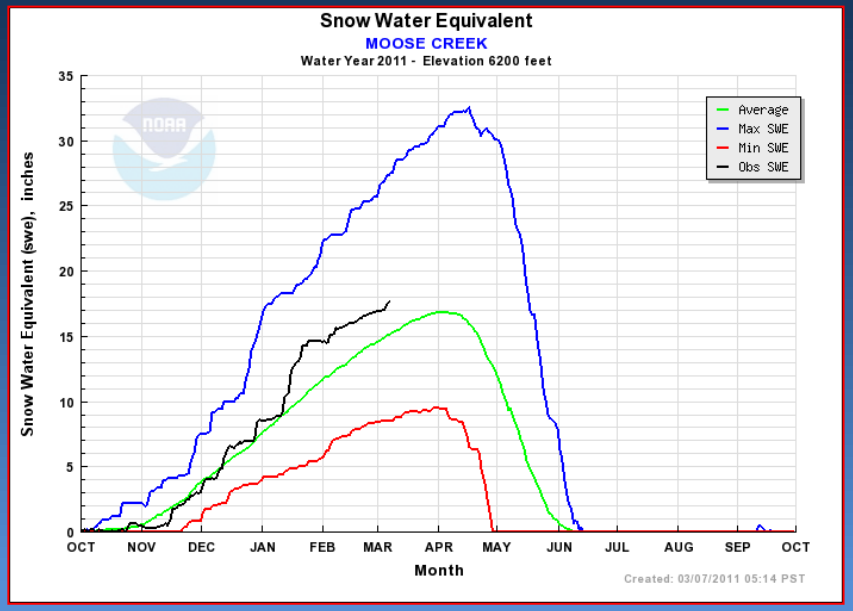
Mar 7, 2011

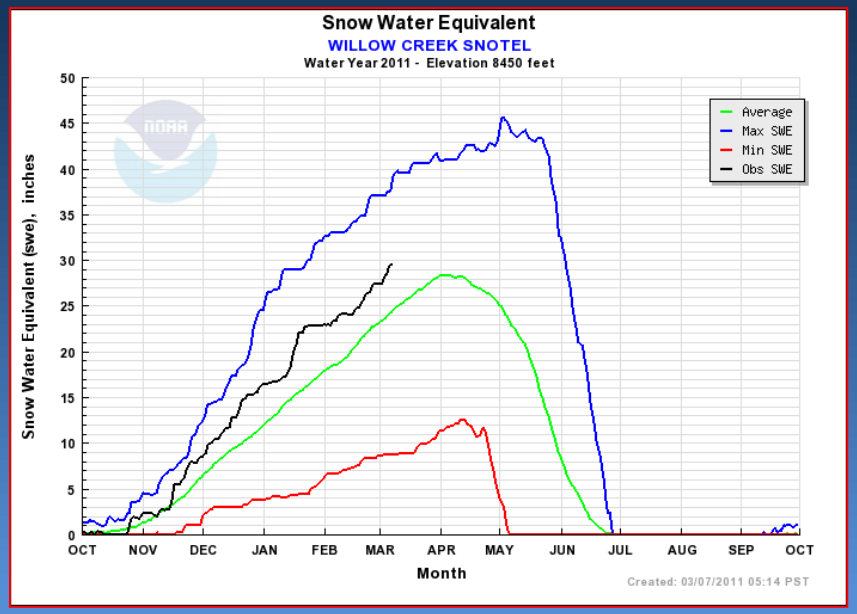


Current Snow Conditions

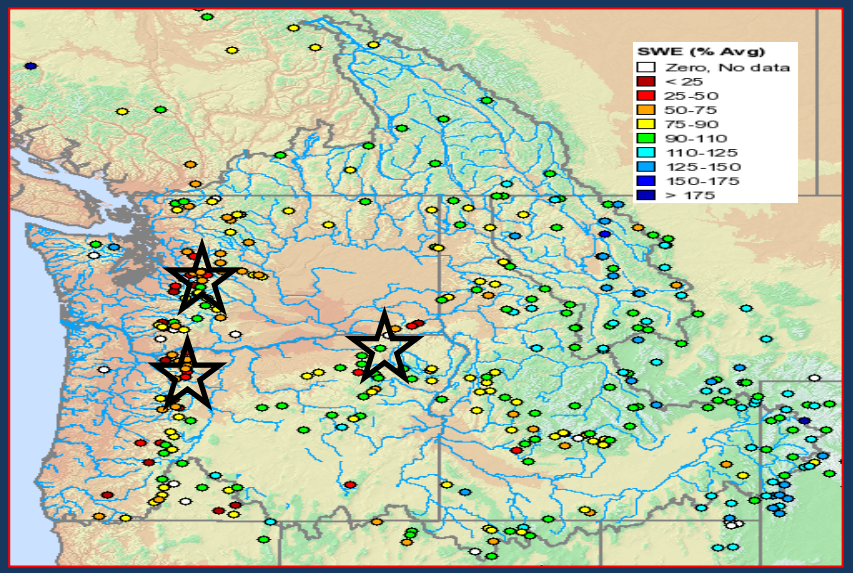


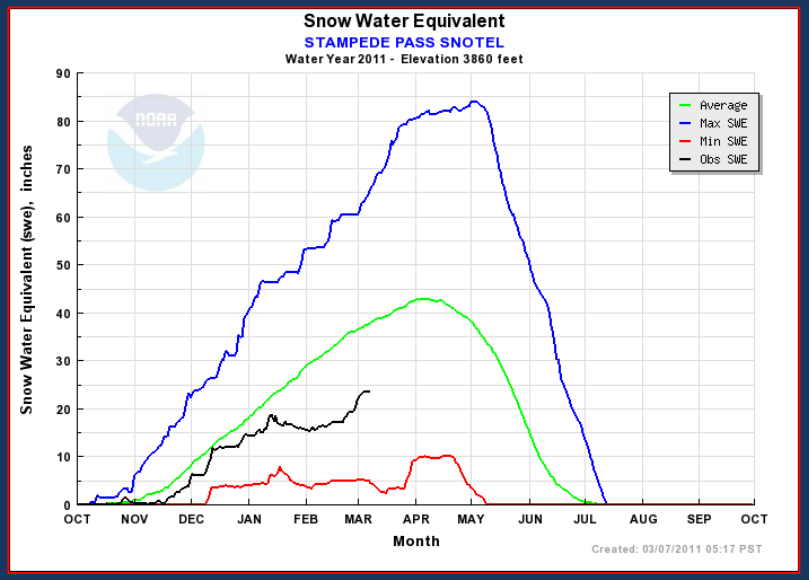


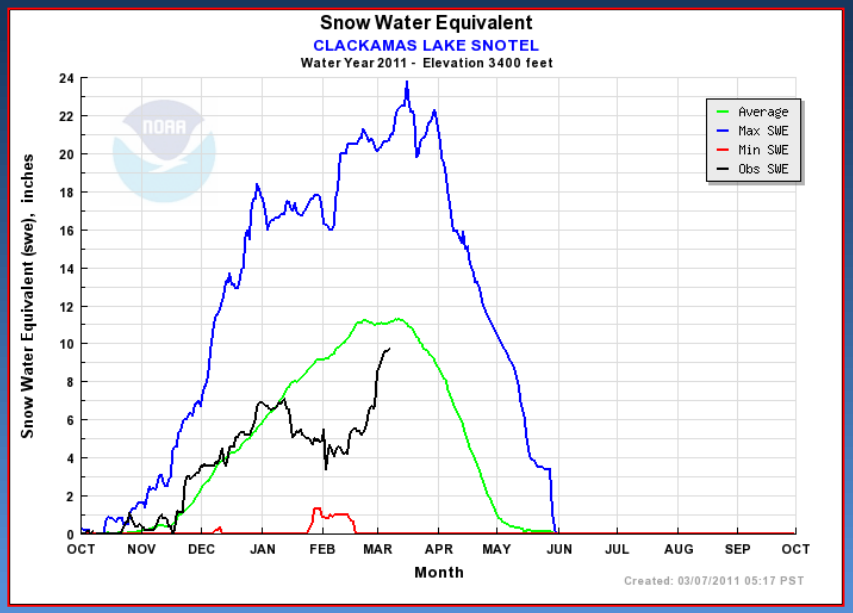


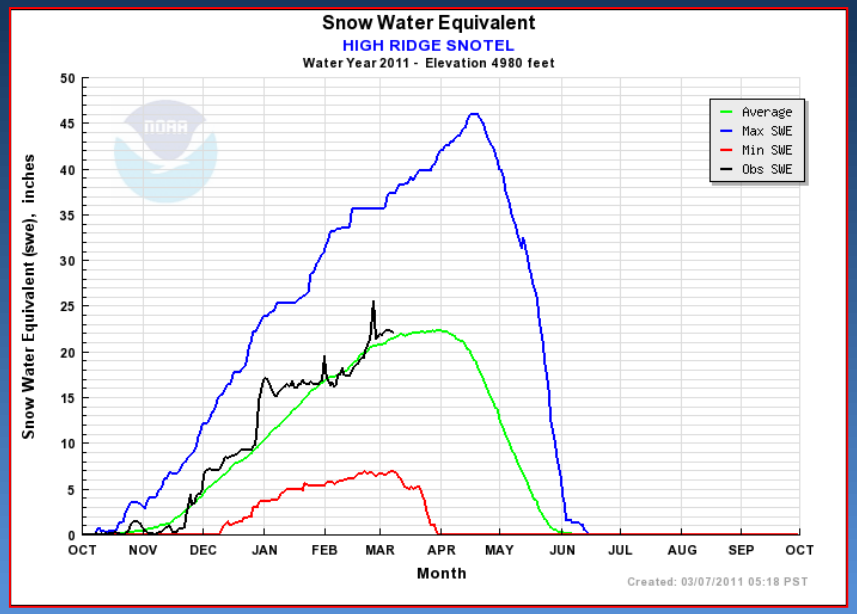


Current Snow Conditions









Future Conditions

Climate Outlooks

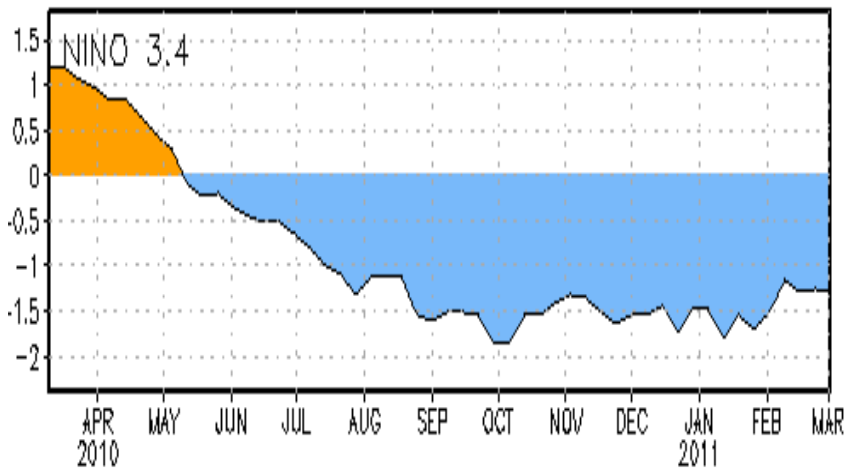
Precipitation Assumptions

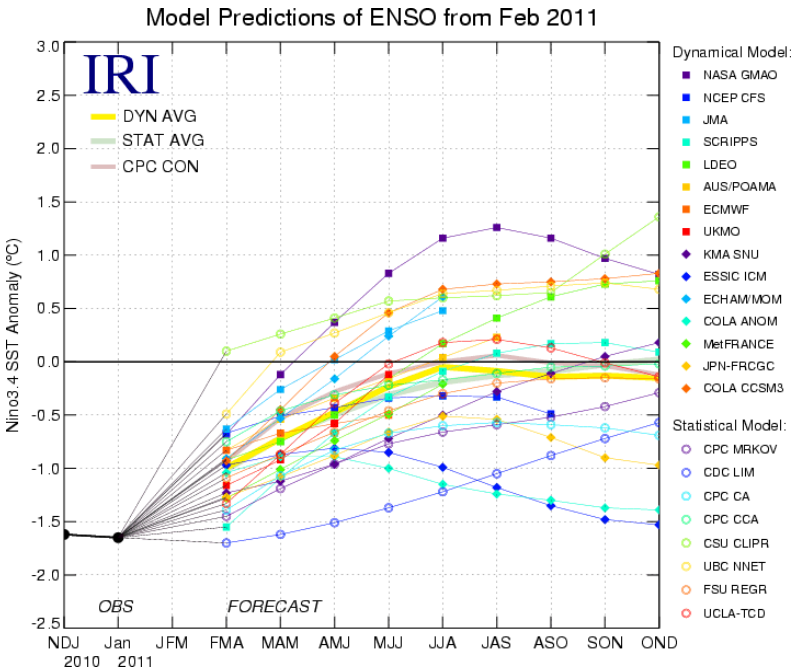
Water Supply Forecasts

Enso: Observed and Forecast

SST Anomaly (Deg C)

Observed: SST 3.4 ~ 1.0 Deg C



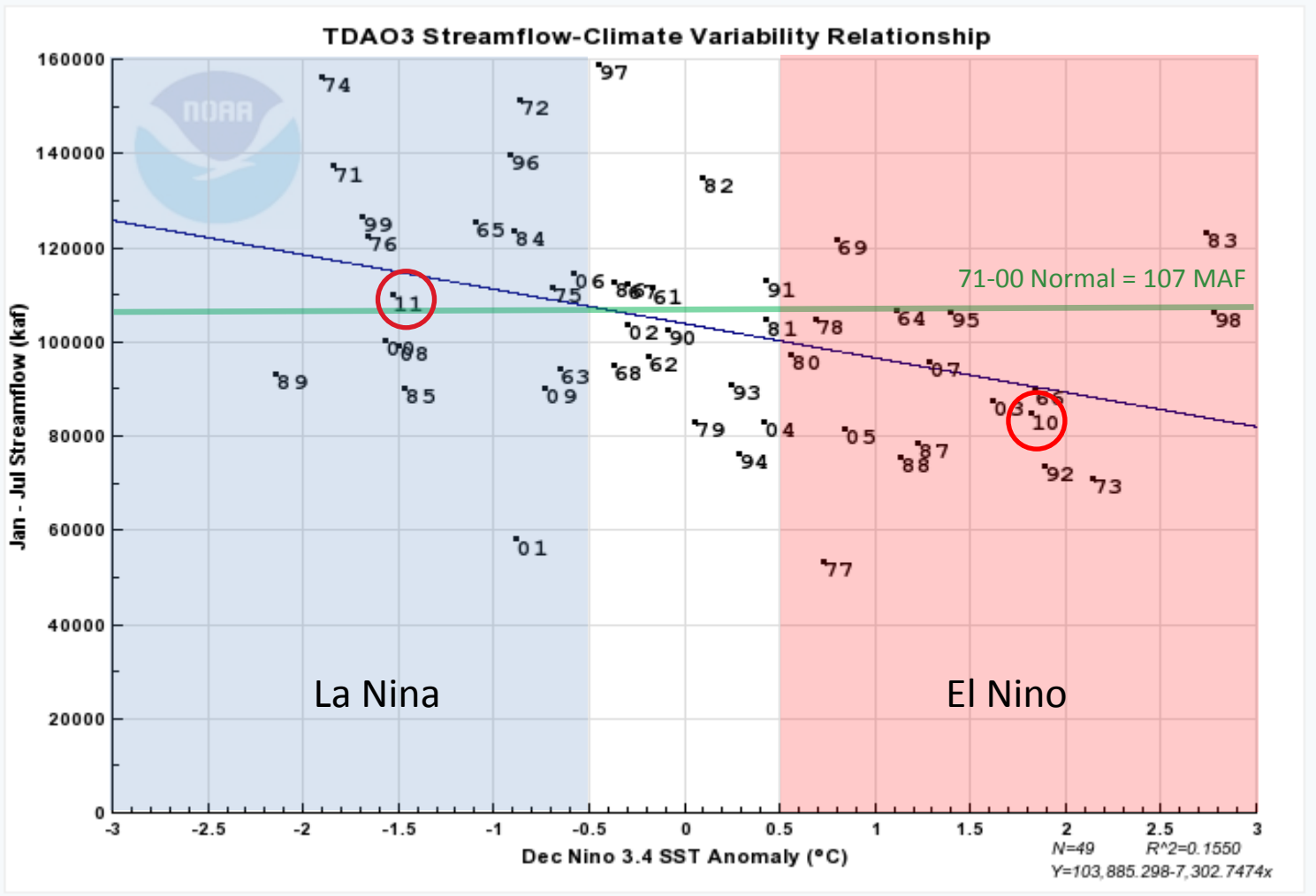


CPC Synopsis: La Niña is expected to continue through spring of 2010.

Source: **Climate Prediction Center Weekly ENSO Update**
http://www.cpc.ncep.noaa.gov/products/analysis_monitoring/lanina/enso_evolution-status-fcsts-web.pdf

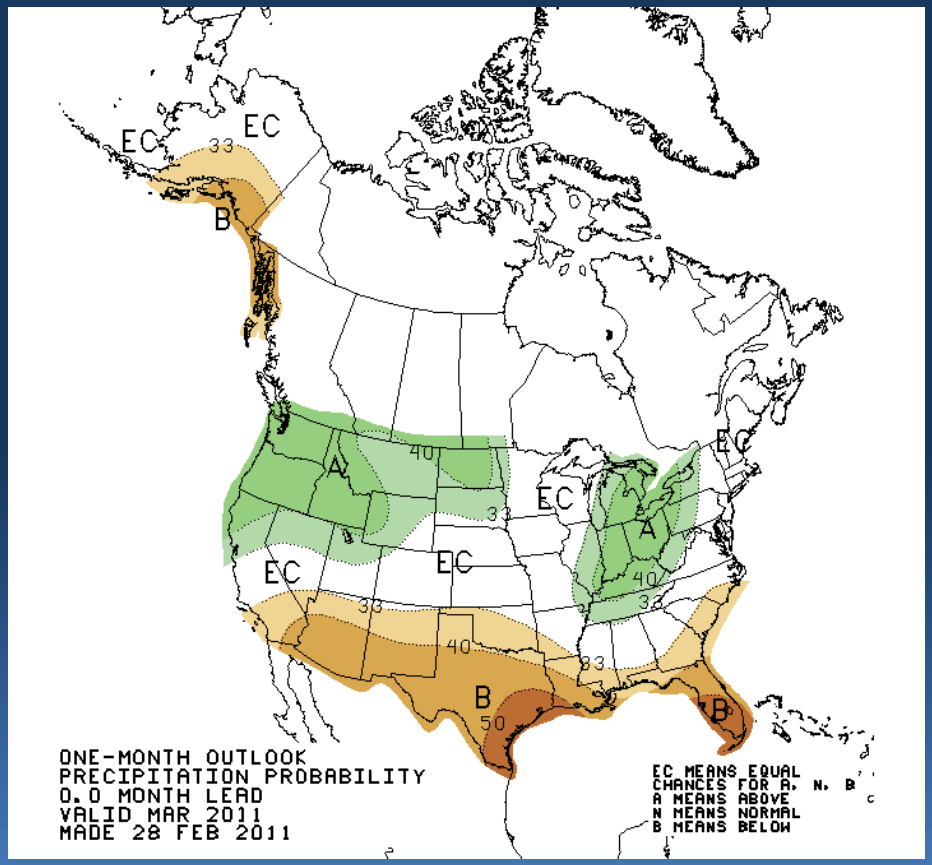
SST Anomaly vs Streamflow

Columbia River near The Dalles

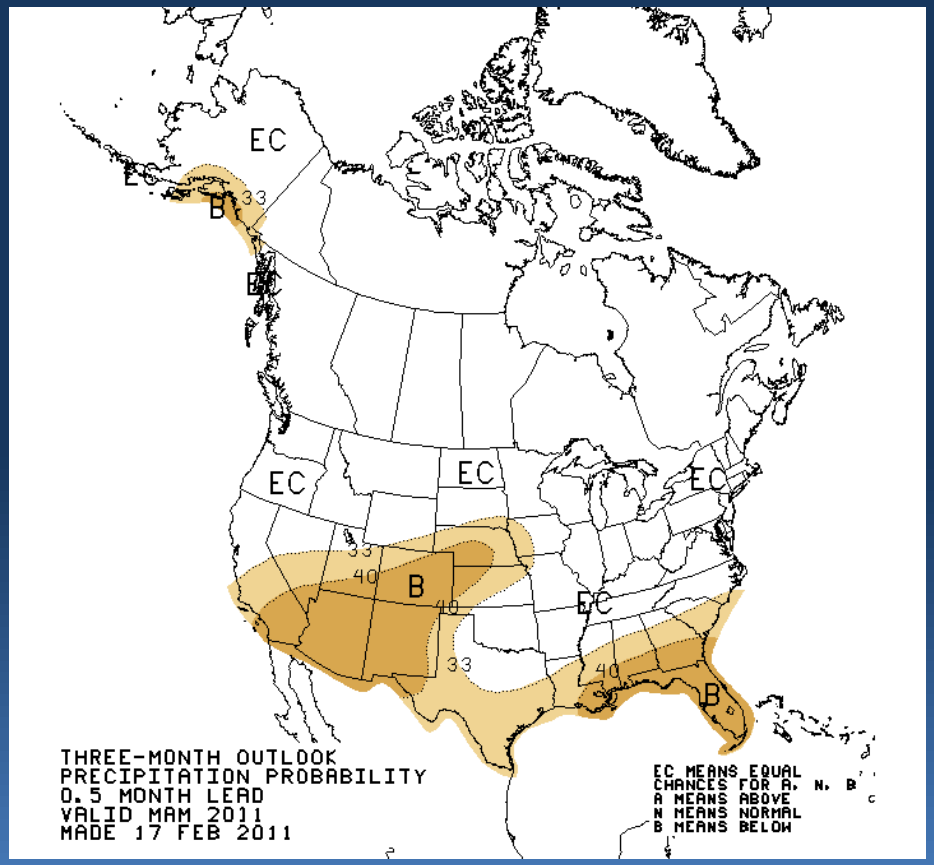


Climate Outlook: Precipitation

Current Month Outlook

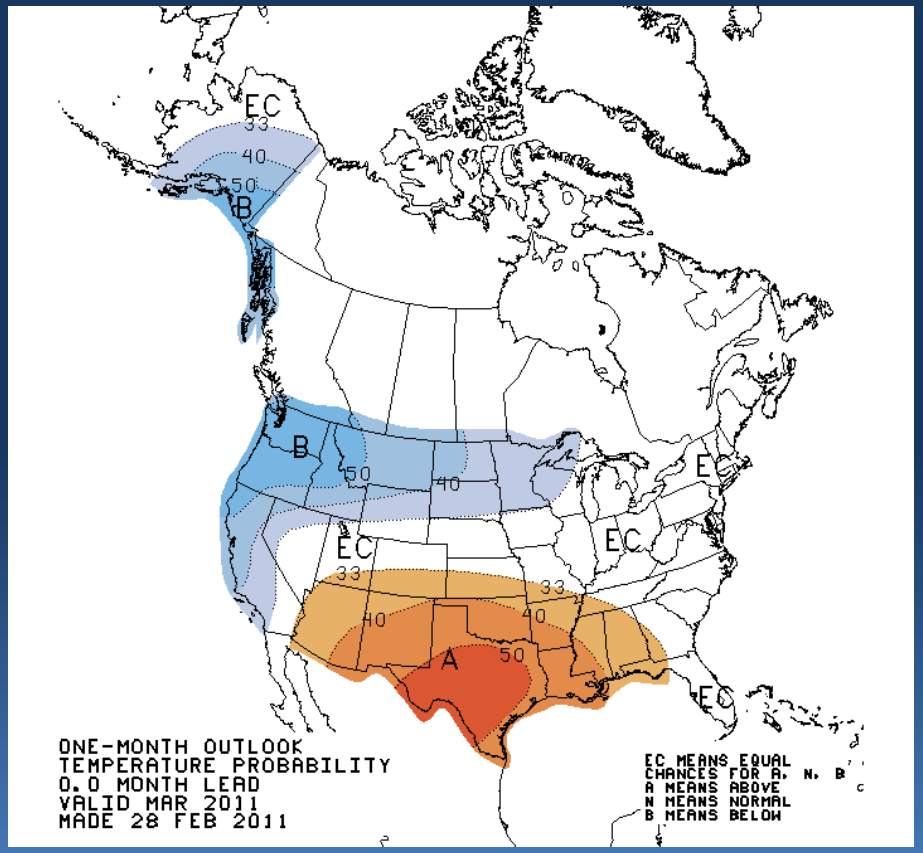


Three Month Outlook

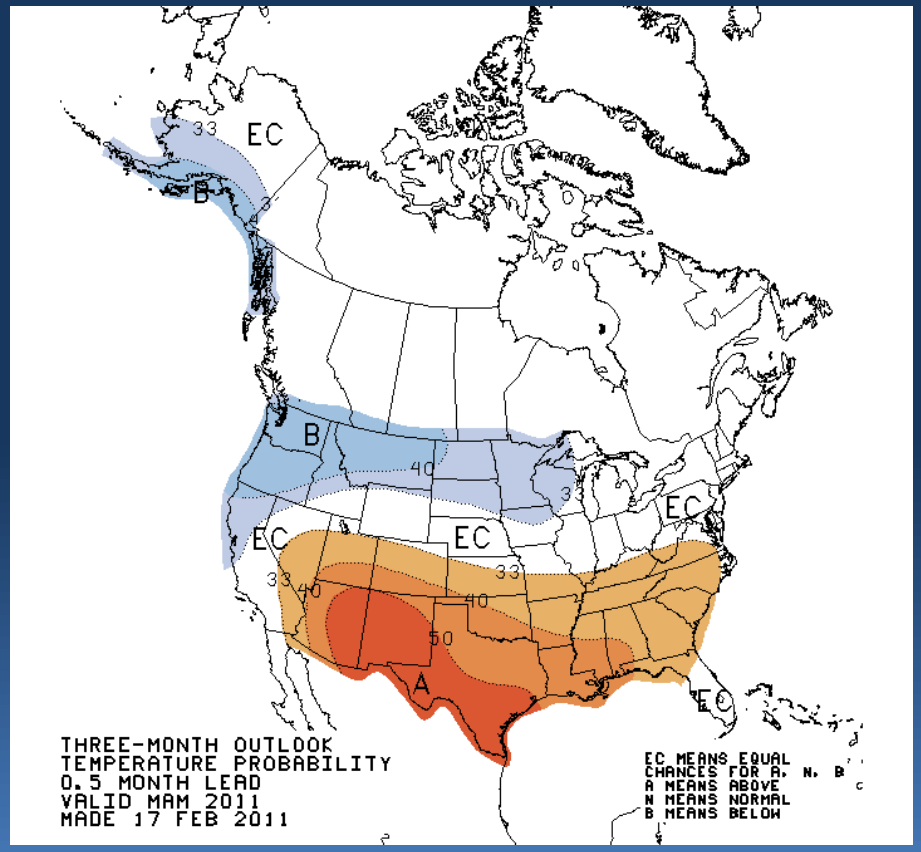


Climate Outlook: Temperature

Current Month Outlook



Three Month Outlook



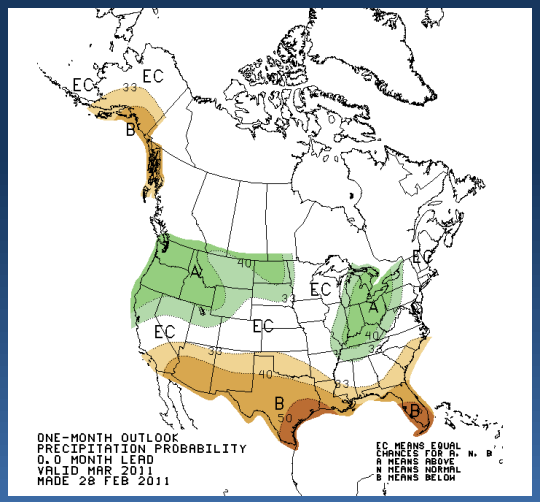
Model Precipitation Assumptions

Mar Final Water Supply Forecast:

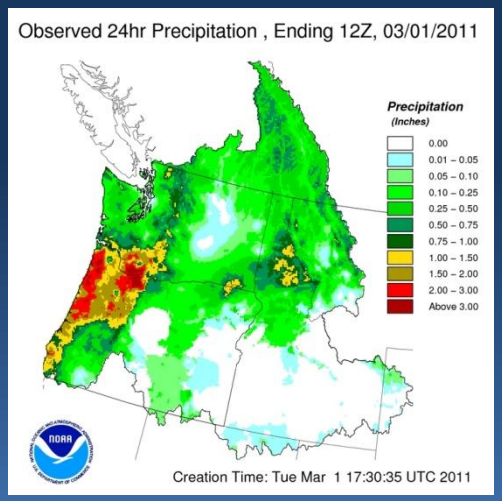
Mar Precipitation 110% of Normal

Apr – Jul Precipitation 100% of Normal

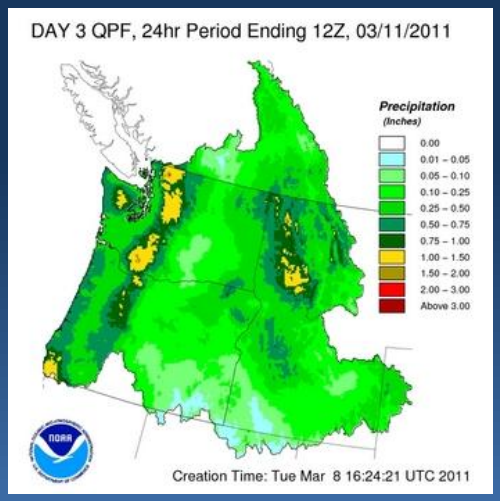
CPC Monthly Outlook



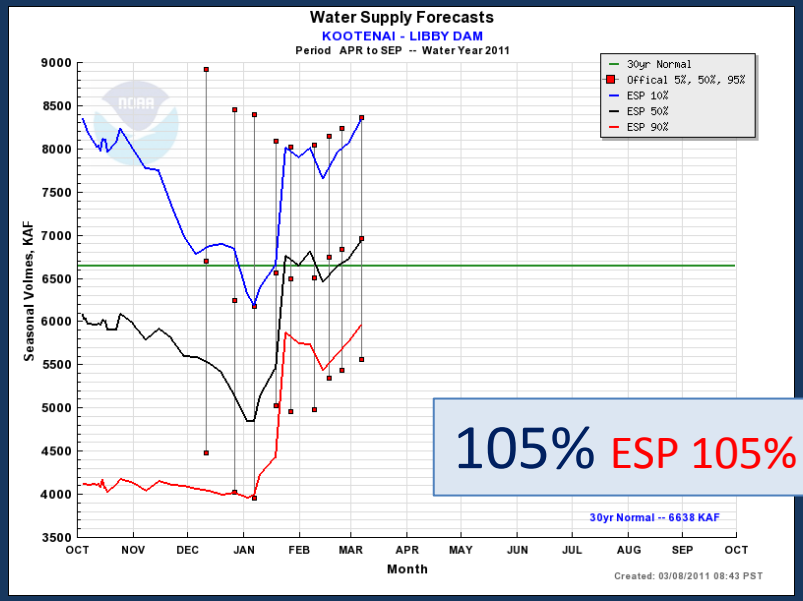
Observed Precip Days 1-5

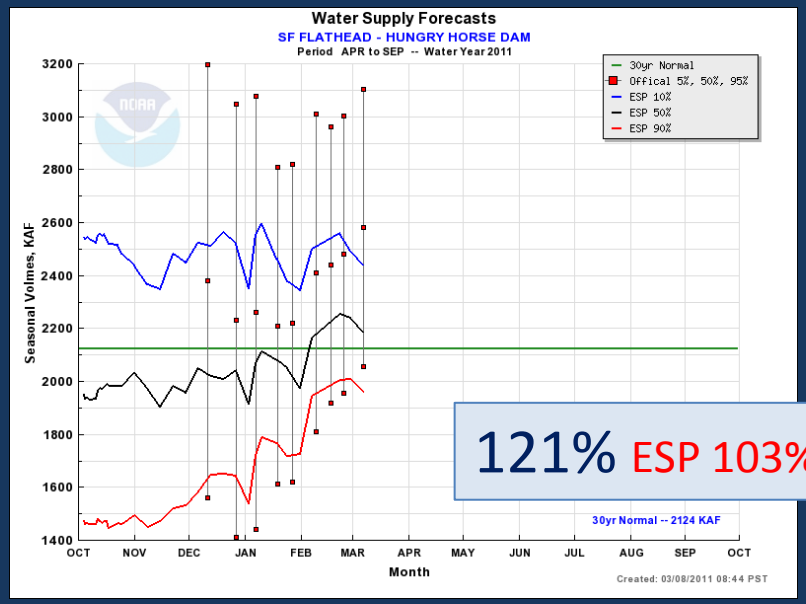


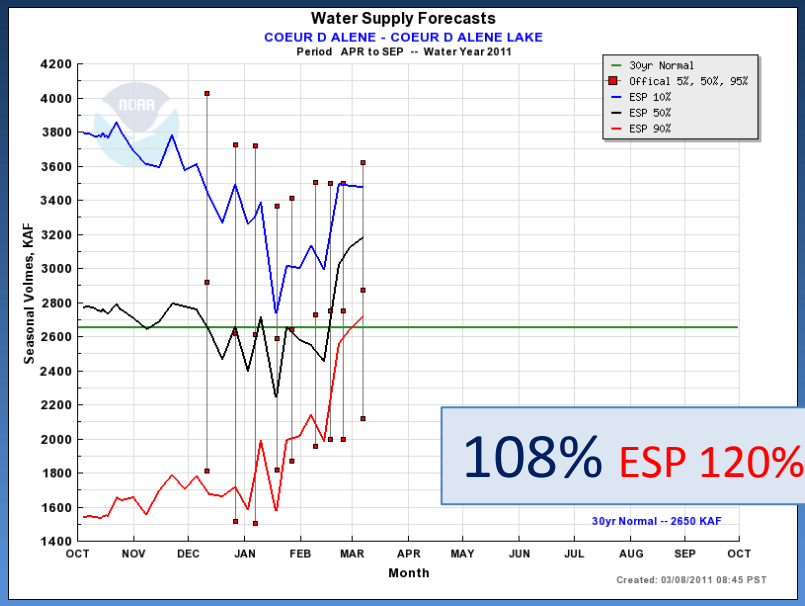
Forecast Precip Days 6-15

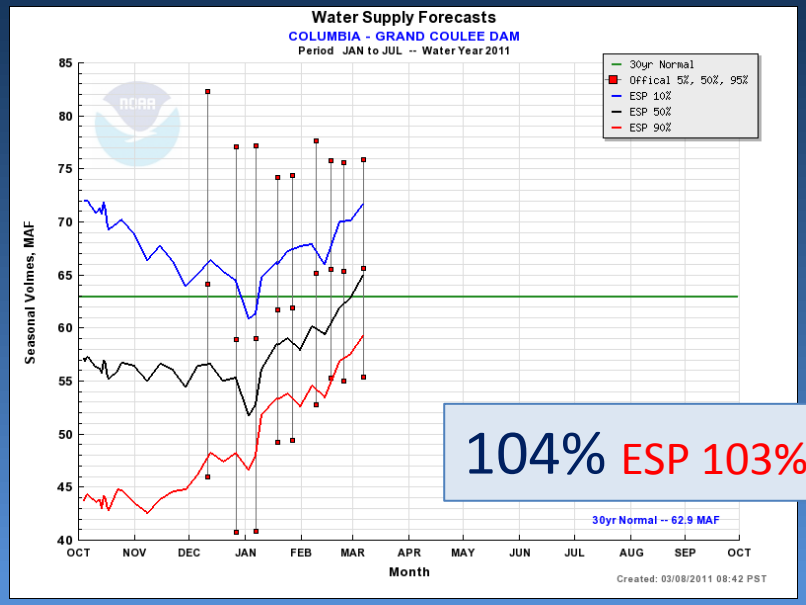


Water Supply Forecast: Upper Columbia

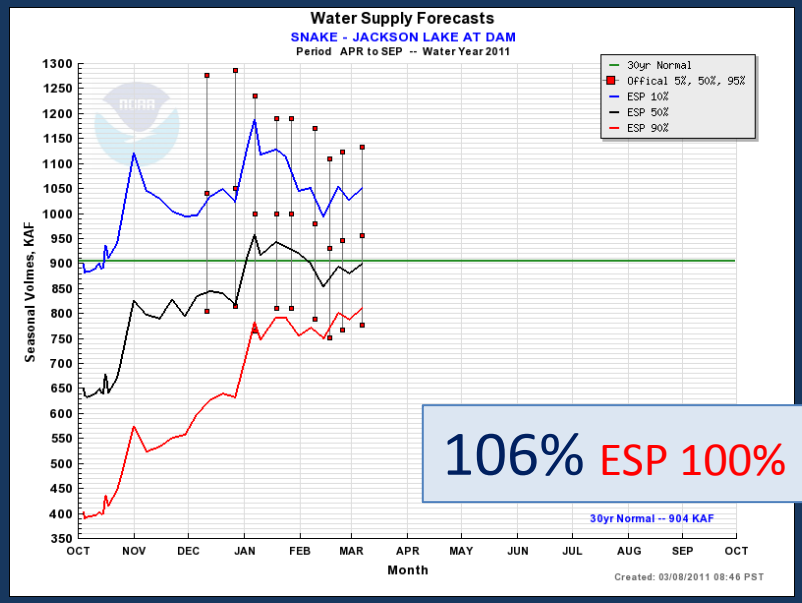


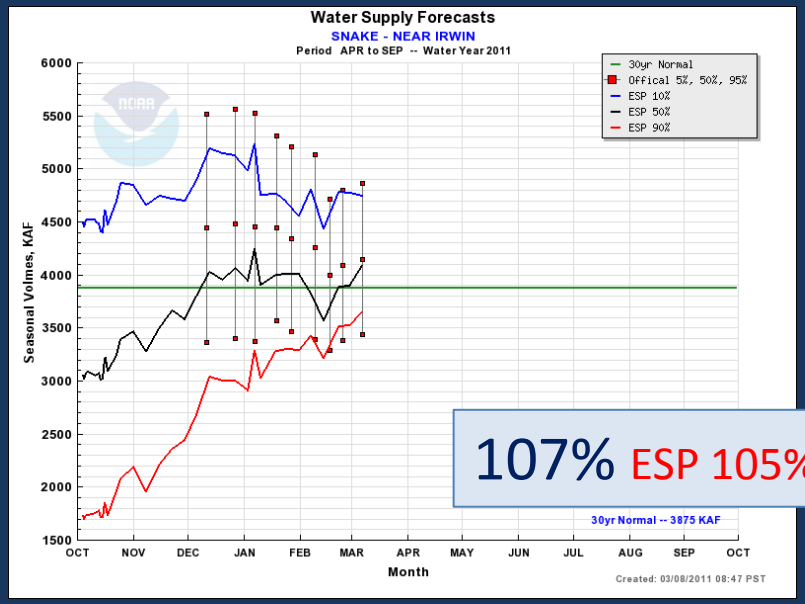


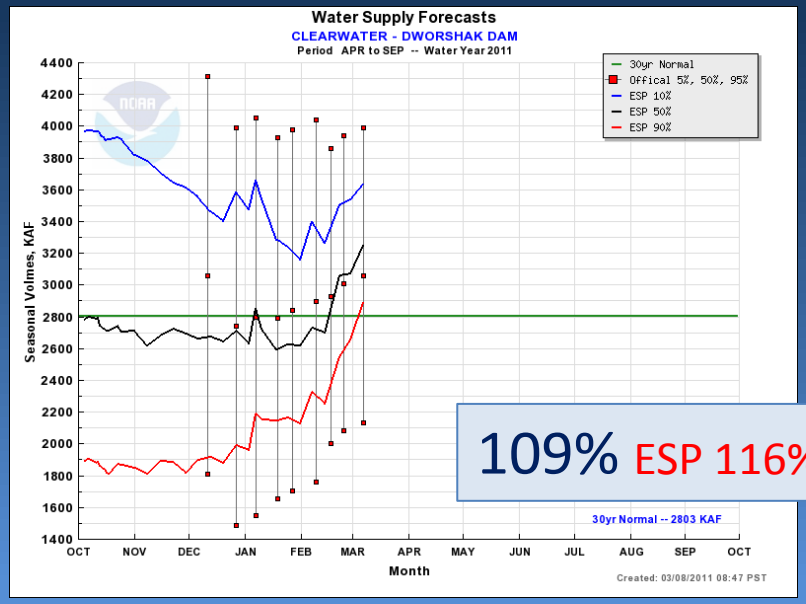


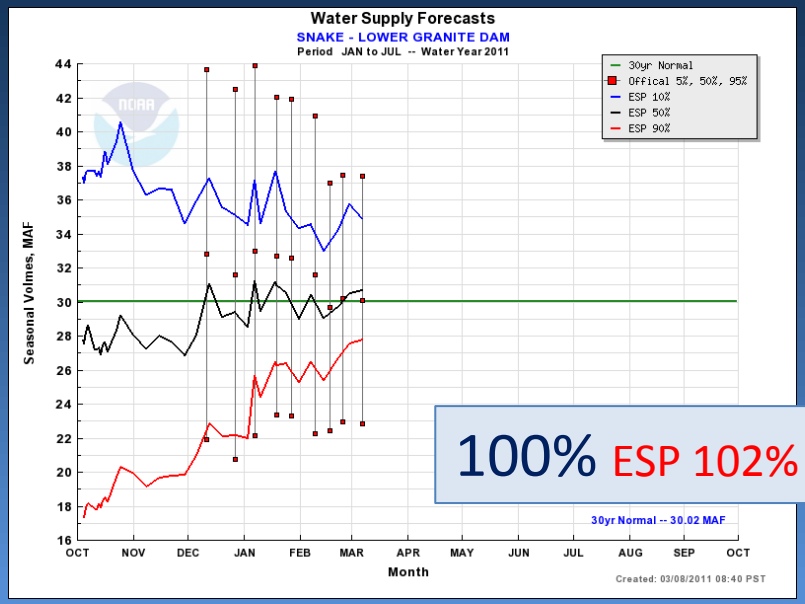


Water Supply Forecast: Snake

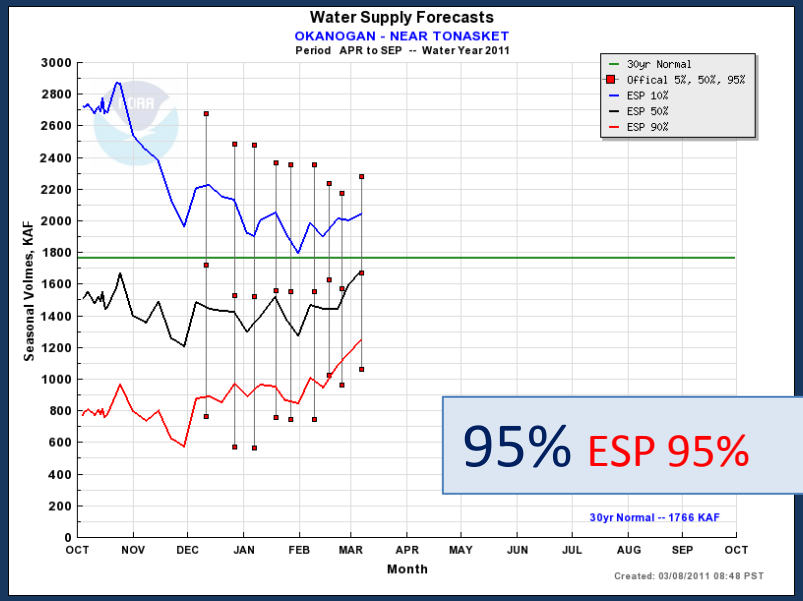


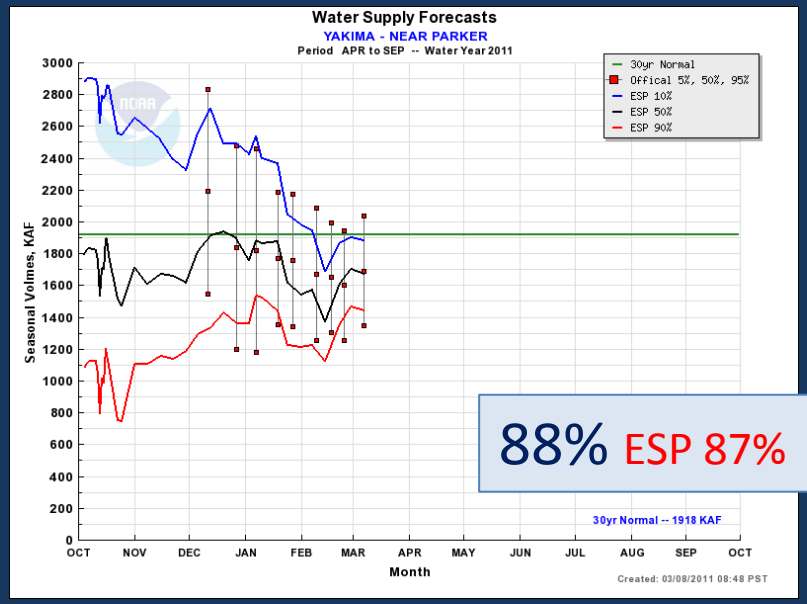


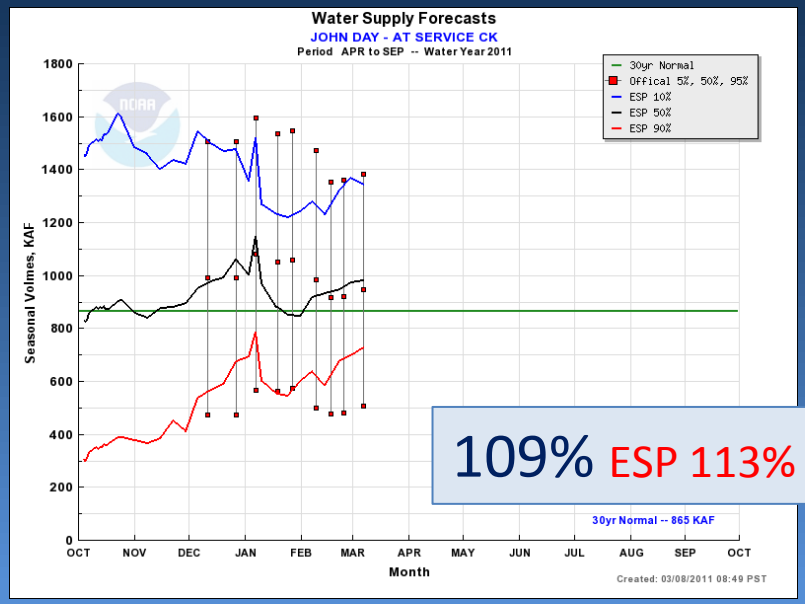


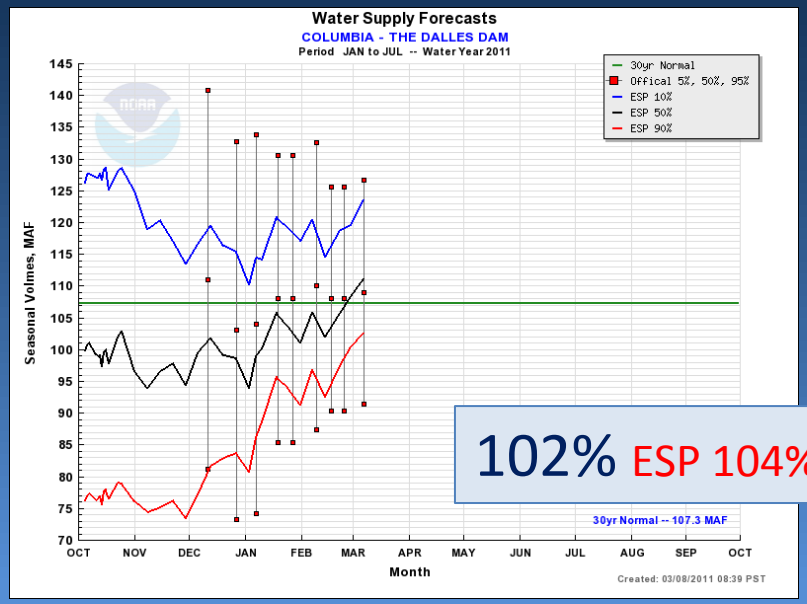


Water Supply Forecast: Lower Columbia









Water Supply Forecast: ESP Comparison

SNAKE - LOWER GRANITE DAM (LGDW1)
Forecasts for Water Year 2011

Offical Water Supply Forecast *Issued: 2011-03-07*					ESP Water Supply Forecast *Issued: 2011-03-07*				
	Forecasts Are in KAF				Forecasts Are in KAF				
Forecast Period	95 %	50 %	% Normal	05 %	90 %	50 %	% Normal	10 %	30 Year Normal
APR-SEP	16930	24200	100	31470	22146	25074	104	29425	24140
APR-JUL	14330	21600	100	28870	19458	22331	104	26696	21550
APR-AUG	15630	22900	100	30170	20822	23728	104	28150	22870
JAN-JUL	22830	30100	100	37370	27784	30676	102	34911	30020

COLUMBIA - GRAND COULEE DAM (GCDW1)
Forecasts for Water Year 2011

Offical Water Supply Forecast *Issued: 2011-03-07*					ESP Water Supply Forecast *Issued: 2011-03-07*				
	Forecasts Are in KAF				Forecasts Are in KAF				
Forecast Period	95 %	50 %	% Normal	05 %	90 %	50 %	% Normal	10 %	30 Year Normal
APR-SEP	55844	66100	103	76356	60233	67921	106	73768	63990
APR-JUL	45244	55500	103	65756	50266	55814	104	62204	53850
APR-AUG	51944	62200	103	72456	56535	63171	105	69380	60290
JAN-JUL	55344	65600	104	75856	59299	65014	103	71663	62900

COLUMBIA - THE DALLES DAM (TDAO3)
Forecasts for Water Year 2011

Offical Water Supply Forecast *Issued: 2011-03-07*					ESP Water Supply Forecast *Issued: 2011-03-07*				
	Forecasts Are in KAF				Forecasts Are in KAF				
Forecast Period	95 %	50 %	% Normal	05 %	90 %	50 %	% Normal	10 %	30 Year Normal
APR-SEP	80166	97800	99	115434	94134	102490	104	113350	98650
APR-JUL	66266	83900	99	101534	78779	86934	103	99018	84650
APR-AUG	74666	92300	99	109934	87874	96426	104	107636	93090
JAN-JUL	91366	109000	102	126634	102565	111213	104	123531	107300

NWRFC Water Supply Webpage

www.nwrfc.noaa.gov

Water Supply Forecast Release Schedule for 2011 WY								
Type of Forecast	Month							
	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul
Early Bird (Prelim Forecast)	30	27	24	31	28		2,30	
Offical Forecast (Final)		7	7	7	7	6	7	8
Peak Flow Forecast		10	8	8	8	9	8	11
Mid-month Update	16	20	17	17	21	19	16	
Live Call		10	8	8	8	9		

Normal Release Time is in the Afternoon on Days Listed

Northwest River Forecast Center

Water Supply Period Rankings

Home | Previous Page

Select Period:
JAN-JUL Select

COLUMBIA - THE DALLES DAM (TDAO3)
Period Rankings - 1970 to 2011
JAN-JUL Normal -- 107300 (KAF)

Rank	Year	Period Volume (KAF)	Percent of Normal	Exceedance Probability*
1	1997	158865.92	148	2.381 %
2	1974	156294.51	146	4.762 %
3	1972	151370.51	141	7.143 %
4	1996	139645.26	130	9.524 %
5	1971	137346.04	128	11.905 %
6	1982	134820.51	126	14.286 %
7	1999	126730.05	118	16.667 %
8	1984	123595.61	115	19.048 %
9	1983	123376.79	115	21.429 %
10	1976	122449.32	114	23.810 %
11	2006	114672.00	107	26.190 %
12	1991	112959.91	105	28.571 %
13	1986	112488.48	105	30.952 %
14	1975	111495.75	104	33.333 %
15	2011	109000.00	102	35.714 %
16	1998	106175.05	99	38.095 %
17	1995	106155.22	99	40.476 %
18	1978	104825.78	98	42.857 %
19	1981	104791.23	98	45.238 %
20	2002	103753.00	97	47.619 %
21	1990	102371.51	95	50.000 %
22	2000	100346.00	94	52.381 %
23	2008	99209.00	92	54.762 %
24	1980	97366.22	91	57.143 %
25	2007	95738.00	89	59.524 %
26	1989	93021.28	87	61.905 %
27	1993	90818.70	85	64.286 %
28	1985	90324.80	84	66.667 %
29	2009	90244.00	84	69.048 %
30	2003	87688.00	82	71.429 %
31	2010	84718.00	79	73.810 %
32	1979	83024.92	77	76.190 %
33	2004	82954.00	77	78.571 %
34	2005	81349.00	76	80.952 %
35	1987	78634.71	73	83.333 %
36	1994	76398.88	71	85.714 %
37	1988	75538.46	70	88.095 %
38	1992	73544.84	69	90.476 %
39	1973	70991.94	66	92.857 %
40	2001	58187.00	54	95.238 %
41	1977	53293.33	50	97.619 %

*Exceedance Probability: The probability that a specific seasonal volume will be exceeded.

Ranking tool places current 'official' forecast in historical context

Feb forecast volume for The Dalles:
102% of Normal (Jan-Jul)
Rank of 15 out of 40 years