

Memo

To: Bob Brueggeman, PE, Newman Lake Flood Control Zone District Administrator 

Via: Marianne Barrentine, PE, Environmental Programs Manager 

From: Jane Anderson, Environmental Programs

Date: March 1, 2011

Subject: Newman Lake Snow Pack/Lake Level Update – March 1st Data

The second snow course monitoring of the year was completed on February 23rd in the Newman Lake watershed. The snow pack is very close to average this year with snow pack at Quartz Peak at about 106% of average. As mentioned in the February 1st data, the 61.2% average measurement at Ragged Ridge may be due to a recent timber harvest and increased exposure of the site. Below is the comparison of Snow Water Equivalent readings (in inches) with previous year's data as of March 1:

	Thompson Creek	Ragged Ridge	Round Top	Quartz Peak
Date	Elev. 2500'	Elev. 3250'	Elev. 4020'	Elev. 4700'
1997	10.0	13.5	18.5	30.6
1998	3.4	8.2	13.1	19.2
1999	6.1	15.6	18.8	30.5
2000	6.9	10.6	14.0	23.8
2001	5.6	7.9	9.2	10.9
2002	7.4	12.2	17.2	26.2
2003	0.0	2.8	6.3	13.4
2004	6.4	8.8	13.1	20.5
2005	0.0	0.0	0.0	4.7
2006	3.0	7.1	12.2	23.1
2007	4.2	8.6	14.0	20.4
2008	11.3	17.2	20.4	26.0
2009	7.3	-	12.8	16.4
2010	0.0	0.1	8.0	14.6
2011	6.0	4.8	12.2	19.9
Average	5.1*	7.8	12.3*	18.7
2011 % of Average	117.3	61.2	98.9	106.4

*Average of previous years since 1997 (only available data)

The winter season so far has been a mixture of cold and warm weather with above average precipitation. The lake level in February remained much closer to the winter goal elevation of 2123.9 feet. As of yesterday afternoon, the lake level was 2123.84 feet with the outlet gates open 0.8 feet each.

The National Weather Service three month outlook is forecasting below average temperatures with average precipitation for our region.

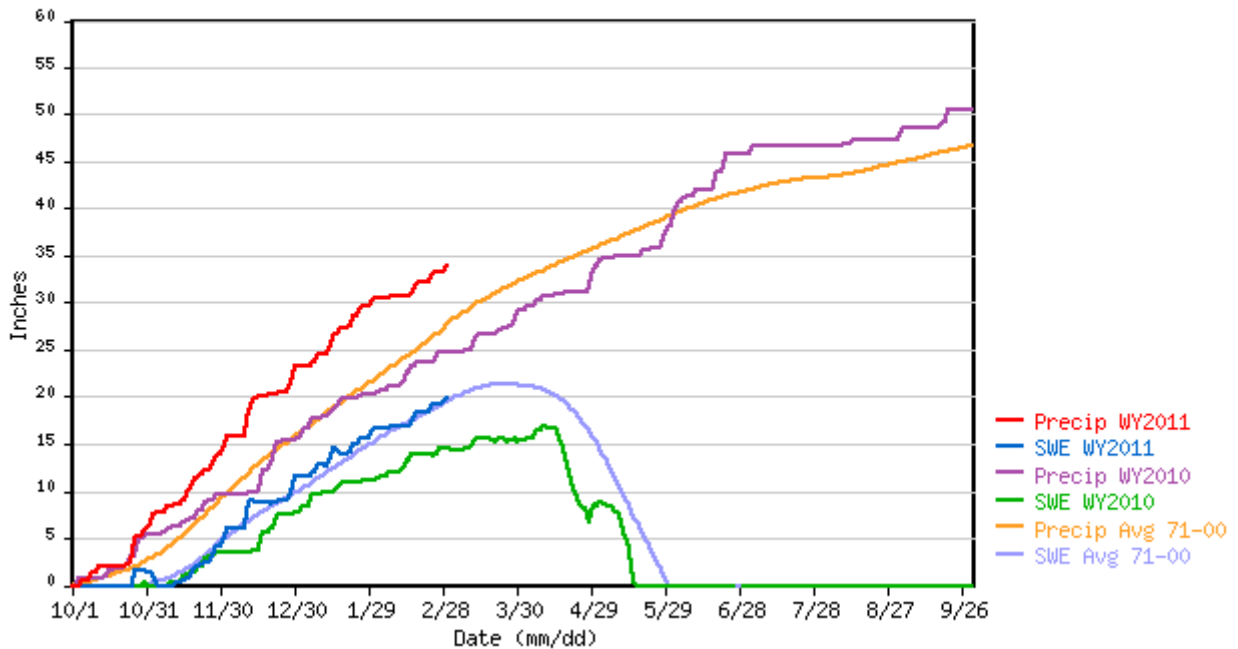
Per the HSPF model, assuming an average amount of precipitation (50 percentile) we estimate 5,500 acre-feet of runoff for the rest of the season. This 5,500 acre-feet of runoff equates to about 4.6 feet of water spread out over the lake surface. If assuming a very wet above average amount of precipitation (90 percentile) we estimate 9,700 acre-feet of runoff for the rest of the season. This equates to 8 feet of water spread out over the lake surface. These values are based on the 19.9-inch snow water equivalent at Quartz peak on March 1st.

Operational Recommendations:

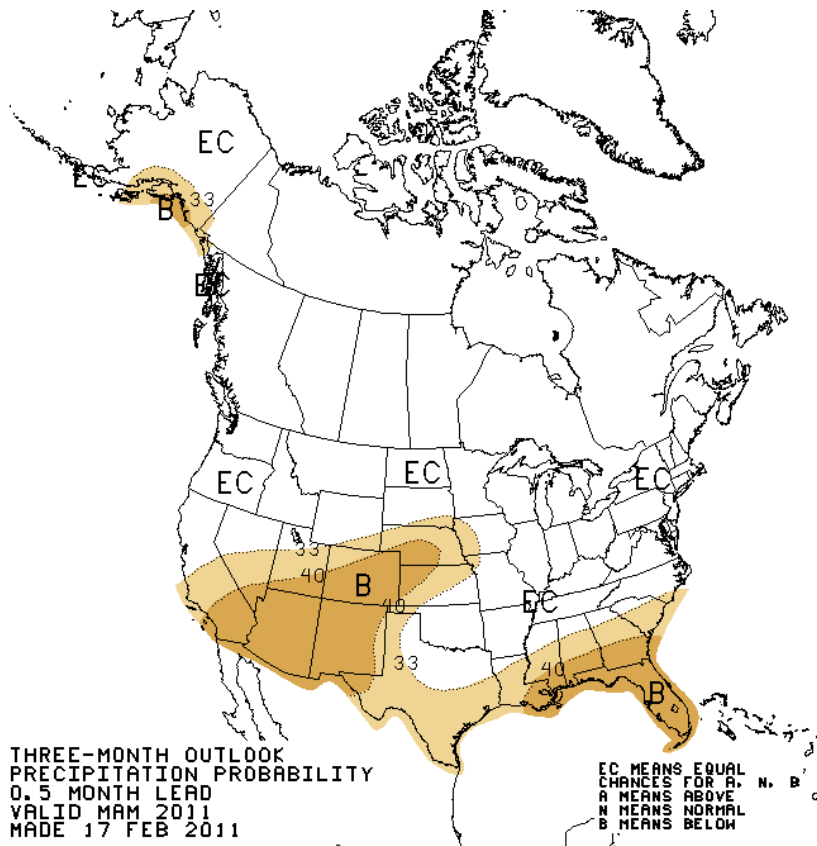
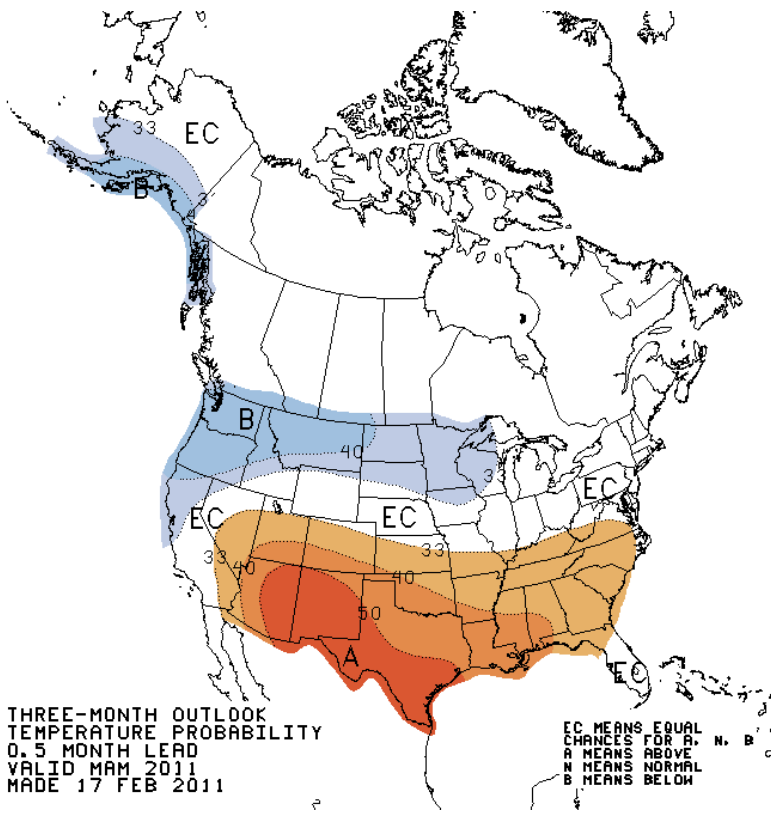
With the average snowpack and long range forecast still predicting cooler temperatures and average precipitation, we will continue to monitor the lake level closely and keep the lake level as near to normal winter elevation or slightly above as possible.

QUARTZ PEAK SNOTEL as of 03/01/2011

*** Provisional Data, Subject to Change ***



SWE = Snow Water Equivalent, Precip = Precipitation



Obtained from the National Weather Service Climate Prediction Center
http://www.cpc.ncep.noaa.gov/products/predictions/long_range/seasonal.php?lead=01