

# Flaming Gorge Working Group

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*NWS Colorado Basin River Forecast Center*



**Vernal, UT**  
**August 23, 2011**



# Outline

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2011 Recap

Forecast Performance

3-Month Forecast

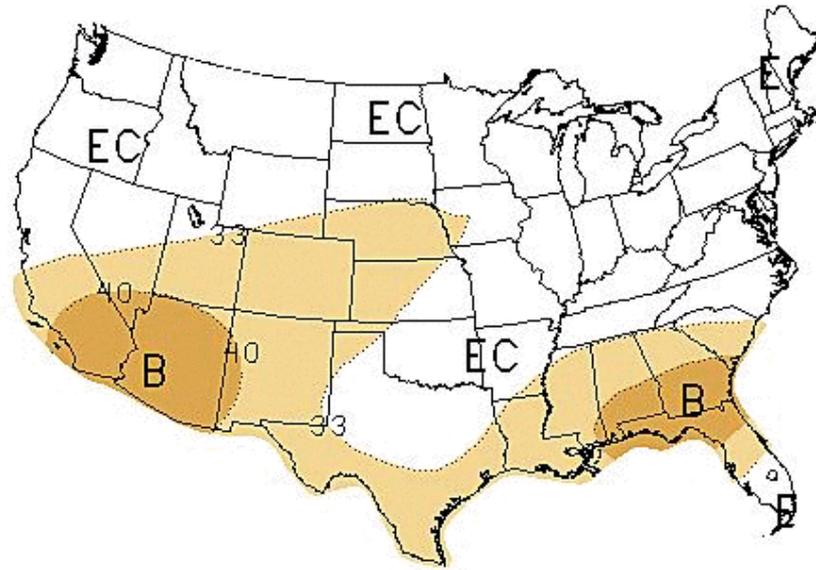
# 2011 Hydrology

Winter and Spring 2011 were much wetter than r especially the mont March/April/May

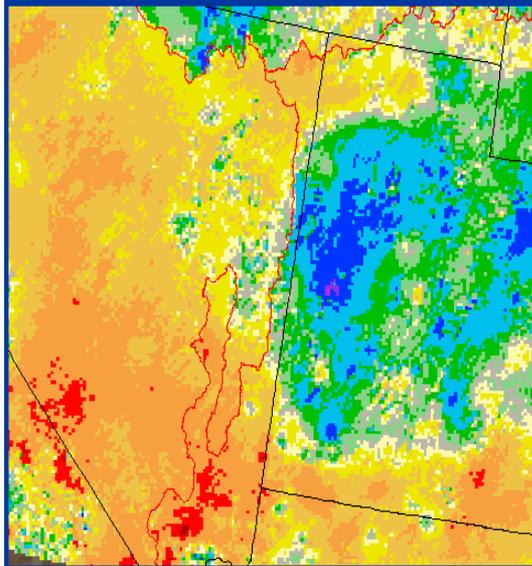
Seasonal Precipitation, October 2010 - July 2011  
(Averaged by Hydrologic Unit)

% Average  
March - May 2011  
Precipitation

Nov 2011 CPC Forecast



Utah: Current 90-Day Percent of Normal Precipitation  
Valid at 7/27/2011 1200 UTC - Created 7/27/11 20:18 UTC

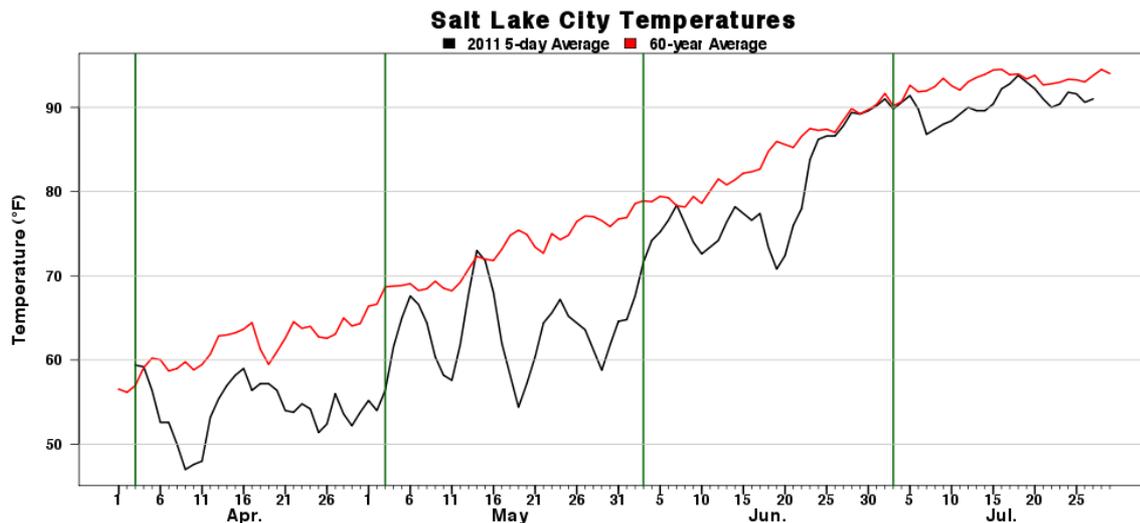


Topo 
  Pcpn Amount 
  Counties 
  Rivers 
  States 
  Highway/City 
  RFC Boundary

Prepared by  
 NOAA, National Weather Service  
 Colorado Basin River Forecast Center  
 Salt Lake City, Utah  
[www.cbrfc.noaa.gov](http://www.cbrfc.noaa.gov)

# 2011 Hydrology

- Spring was VERY cold across Utah
- 92 Days Below Normal from April 1–July 29

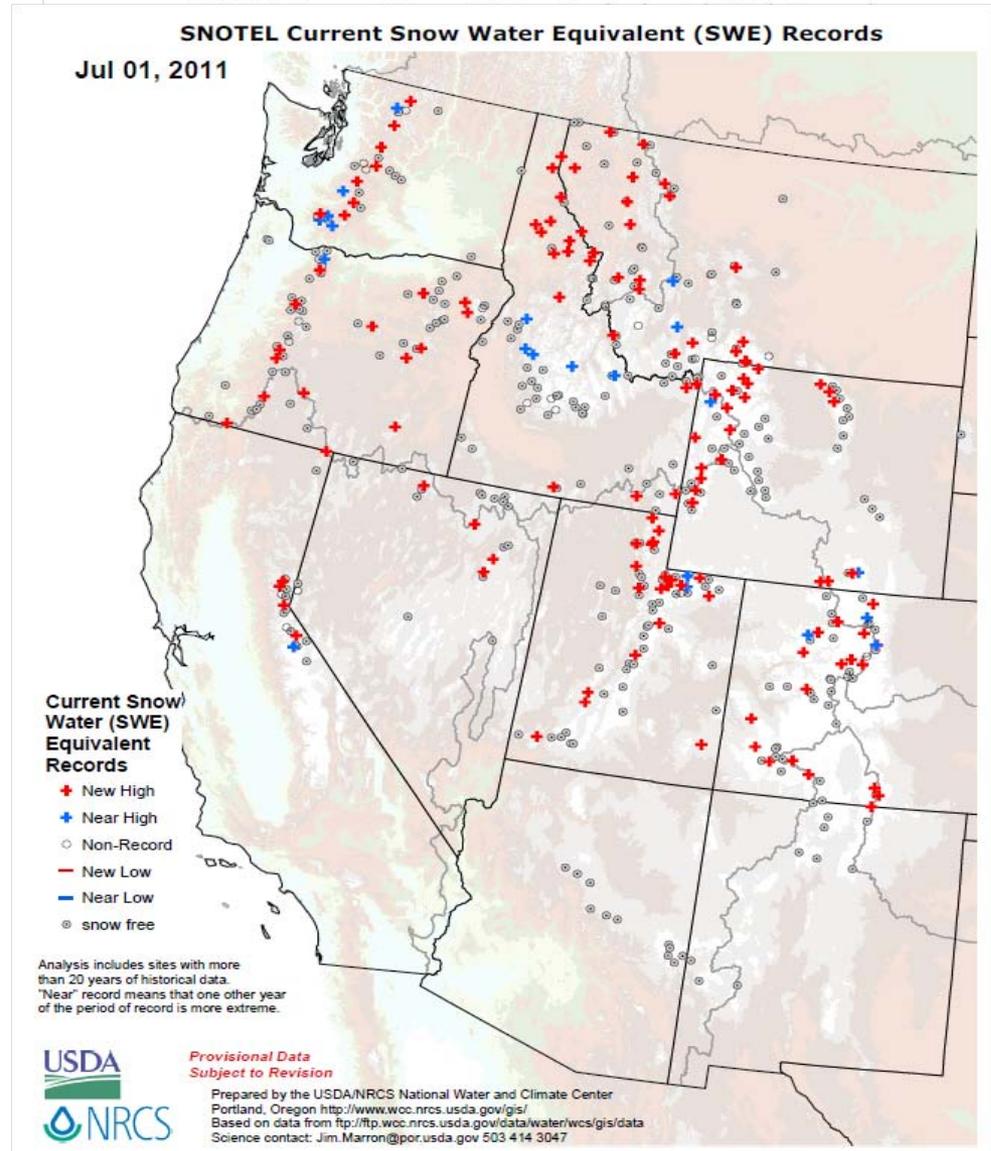


Year	Number of Days Below Normal	Standard Deviation of Below Normal Days
2011	92	-2.55
1998	84	-1.88
1996	82	-1.84
1983	79	-1.62
1953	77	-1.48
1959	76	-1.51
1991	75	-1.34
1975	75	-1.54
1983	73	-1.19
1982	73	-1.19
2010	71	-1.05
1988	71	-1.05

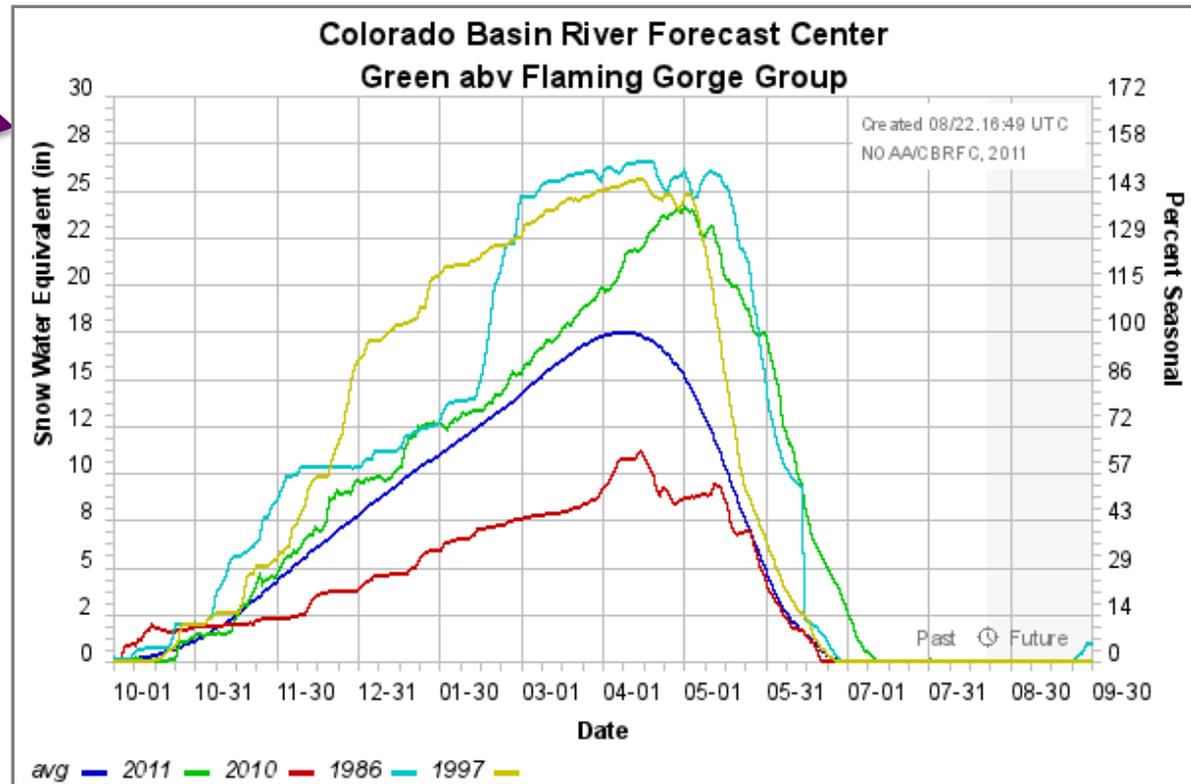
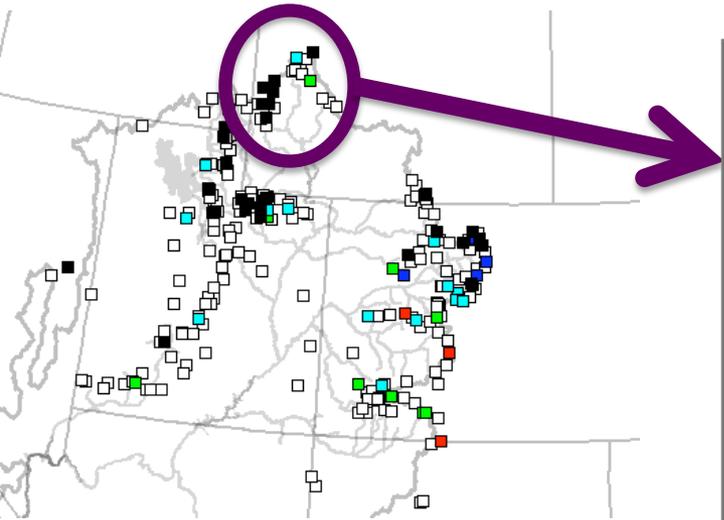
Average number of days below 60-year average: 26.32 days  
Standard deviation of days below 60-year average: 13.97 days

# 2011 Hydrology

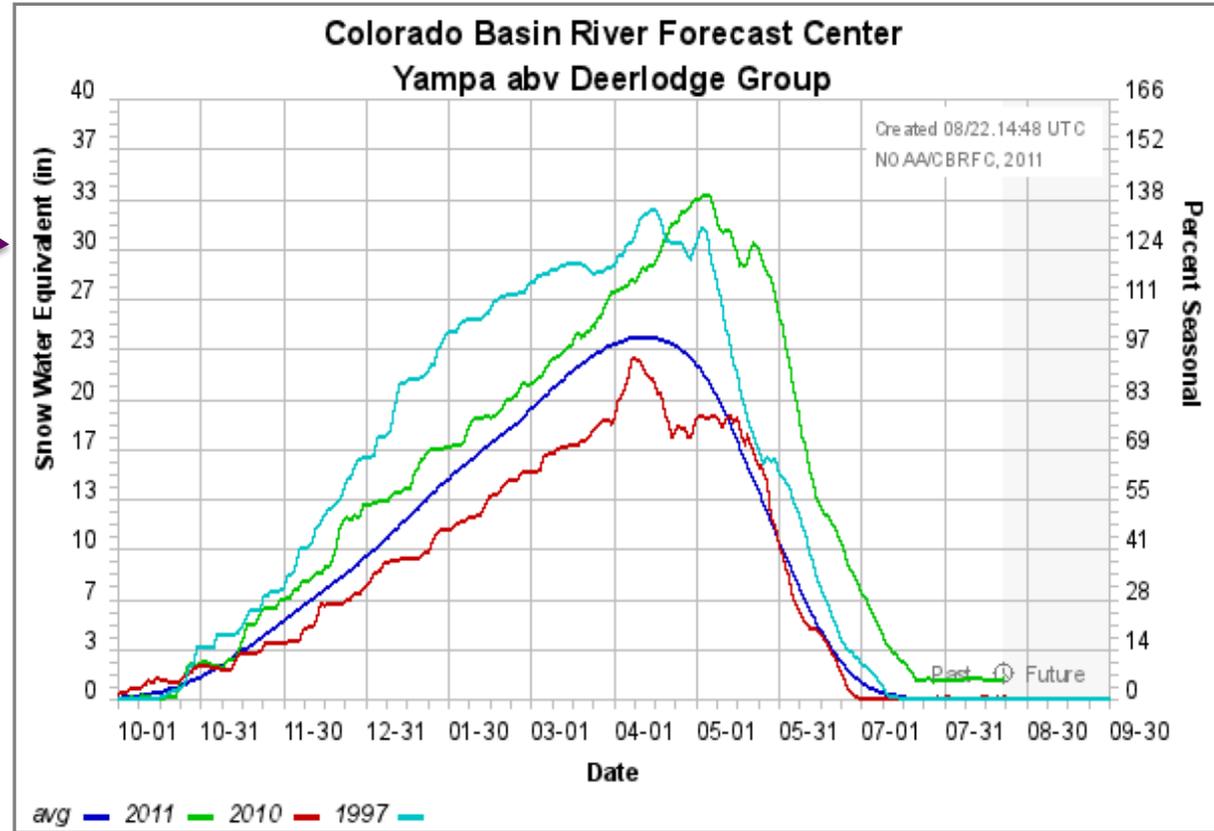
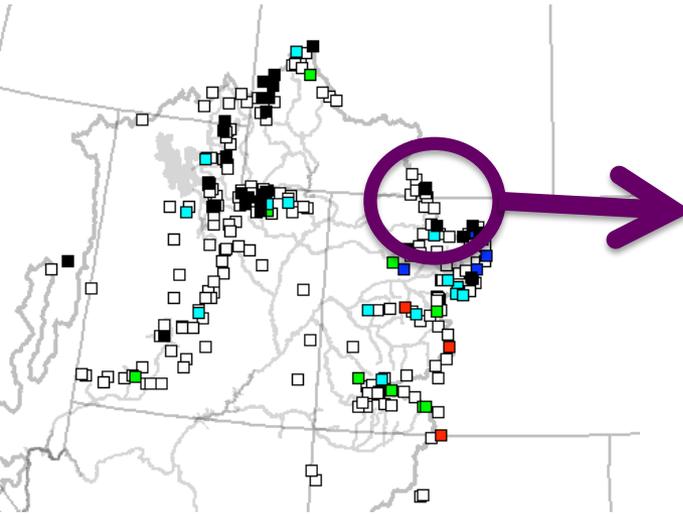
- 
 Snowpack accumulated to record or near record amounts at most SNOTEL sites
  
- 
 Snow melt was delayed – and largely tempered by cool May/June weather
  
- 
 Flooding occurred in low elevation basins (May/June) and high elevation basins (late June/July)



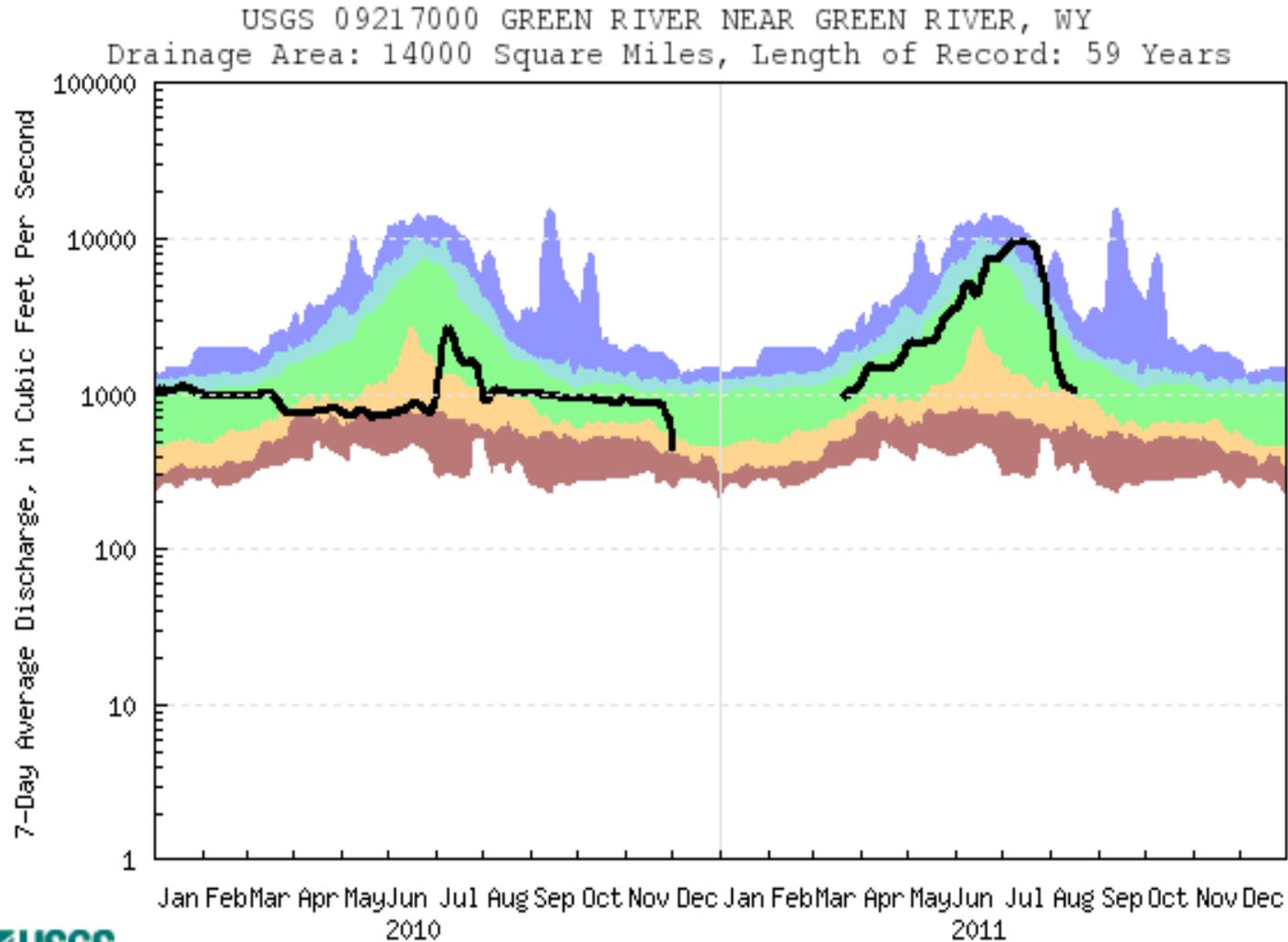
# Snow: Upper Green Basin (above Flaming Gorge)



# Snow: Yampa

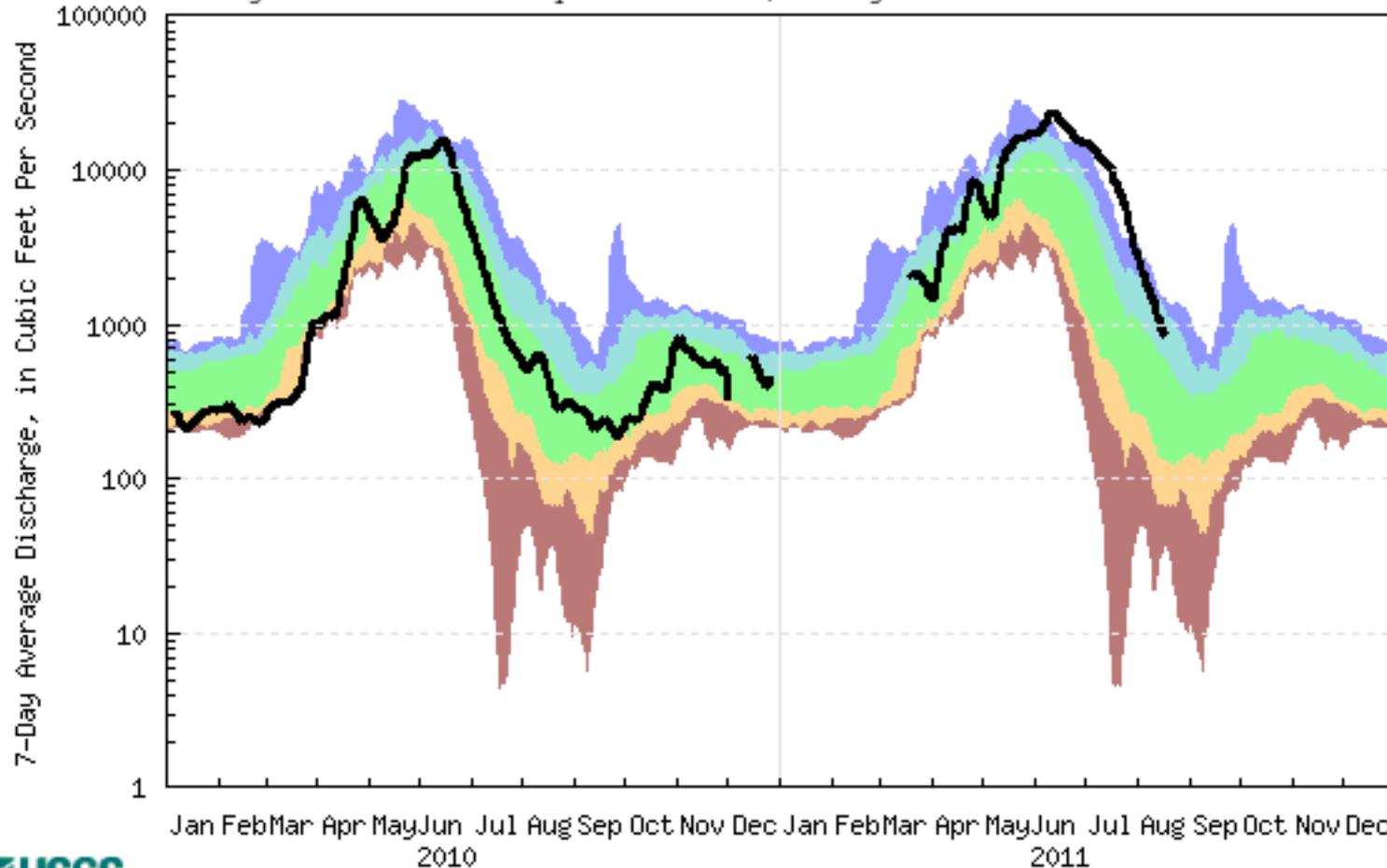


# Streamflow: Green



# Streamflow: Yampa

USGS 09260050 YAMPA RIVER AT DEERLODGE PARK, CO  
Drainage Area: 7660 Square Miles, Length of Record: 26 Years





# CBRFC Forecasts

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**Water Supply forecasts** predict total runoff during April-July melt period. Issued monthly starting January 1

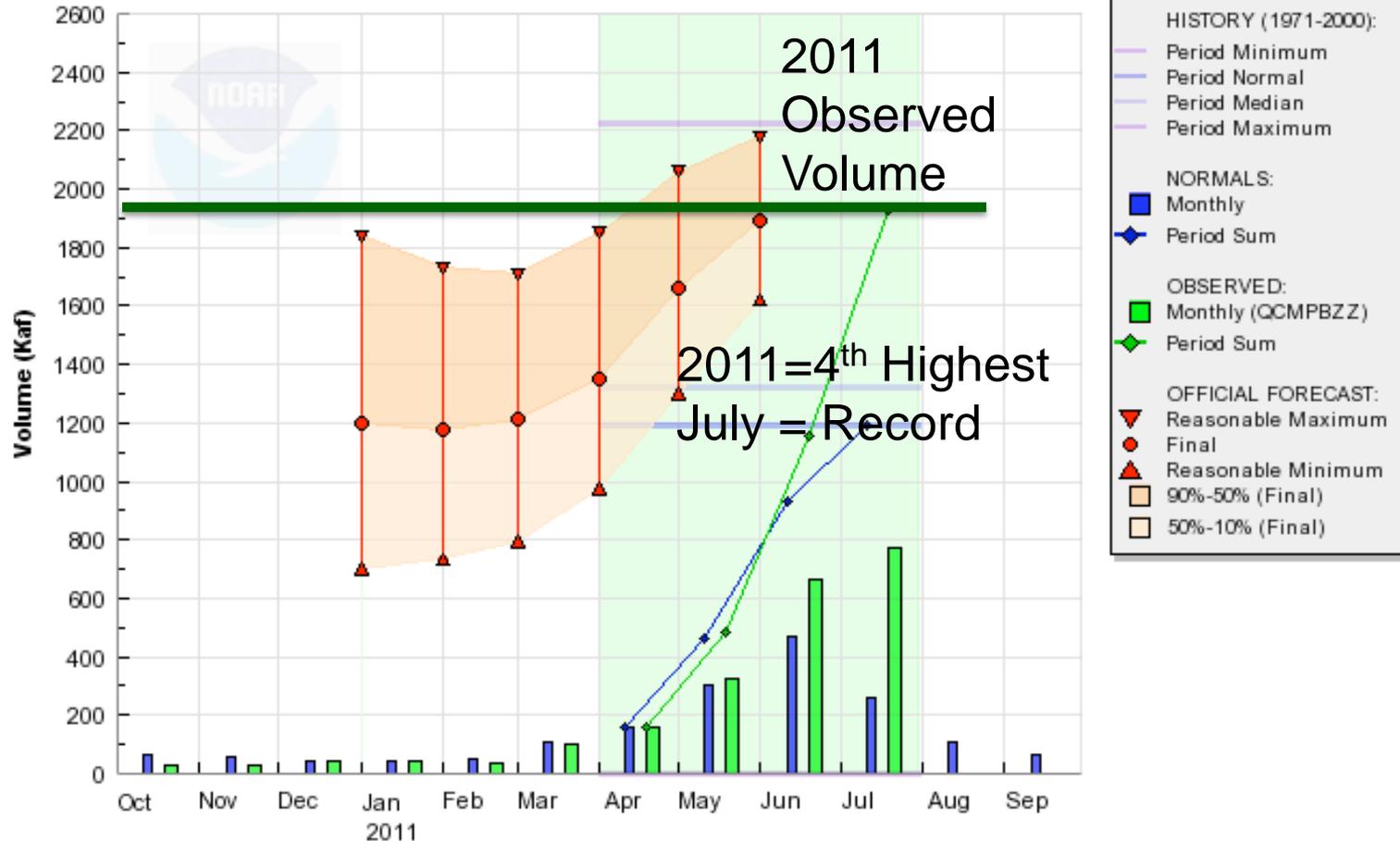
Long lead **peak flow forecasts** predict the maximum daily (and now instantaneous) flow at key locations. Issued monthly (weekly this year) starting March 1.

**Daily forecasts** predict the hydrograph time series out 10 days into the future. Issued at least daily by 10am MT.

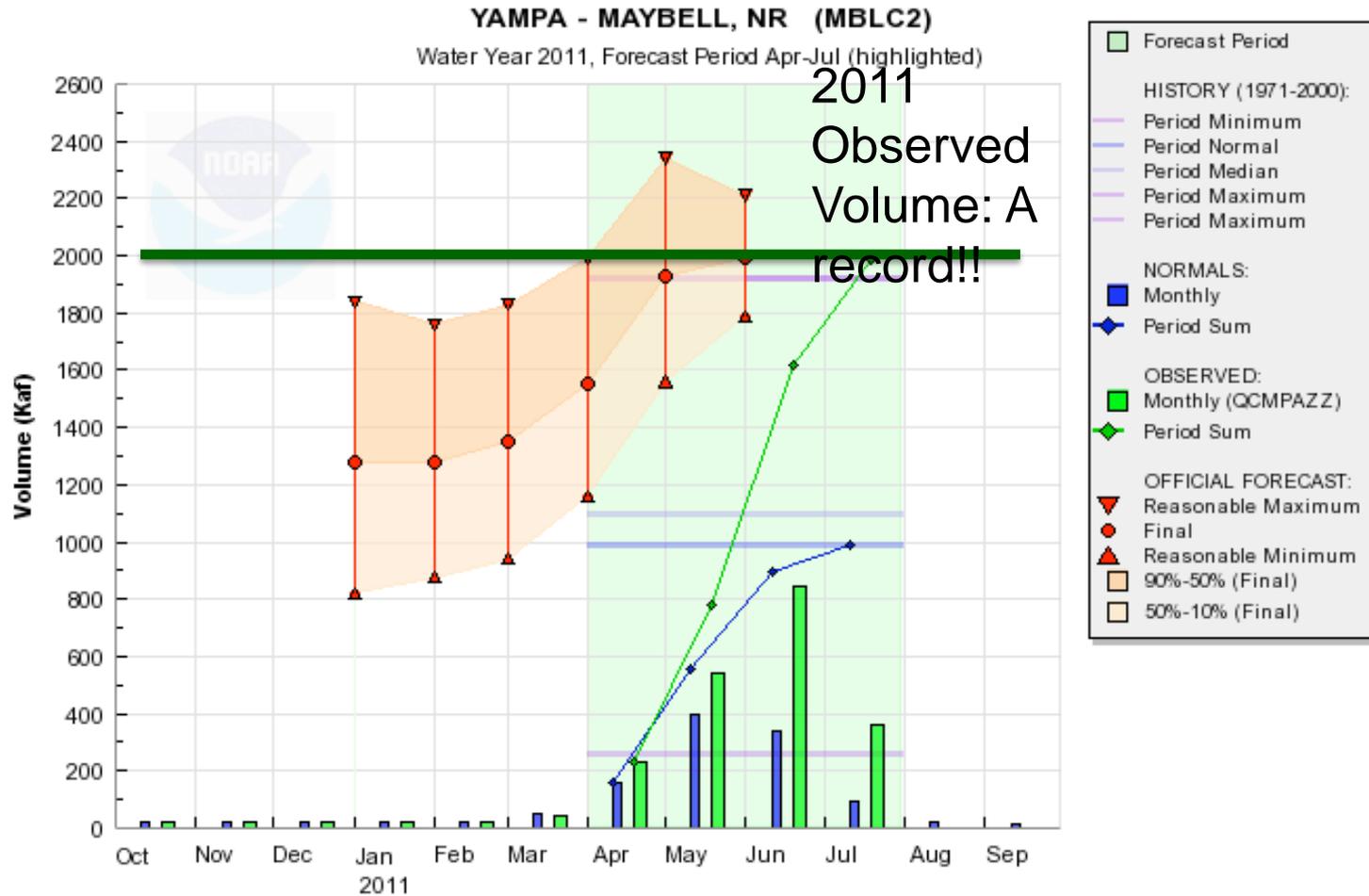
# Water Supply: Green

**GREEN - FLAMING GORGE RES, FLAMING GORGE DAM, AT (GRNLI1)**

Water Year 2011, Forecast Period Apr-Jul (highlighted)



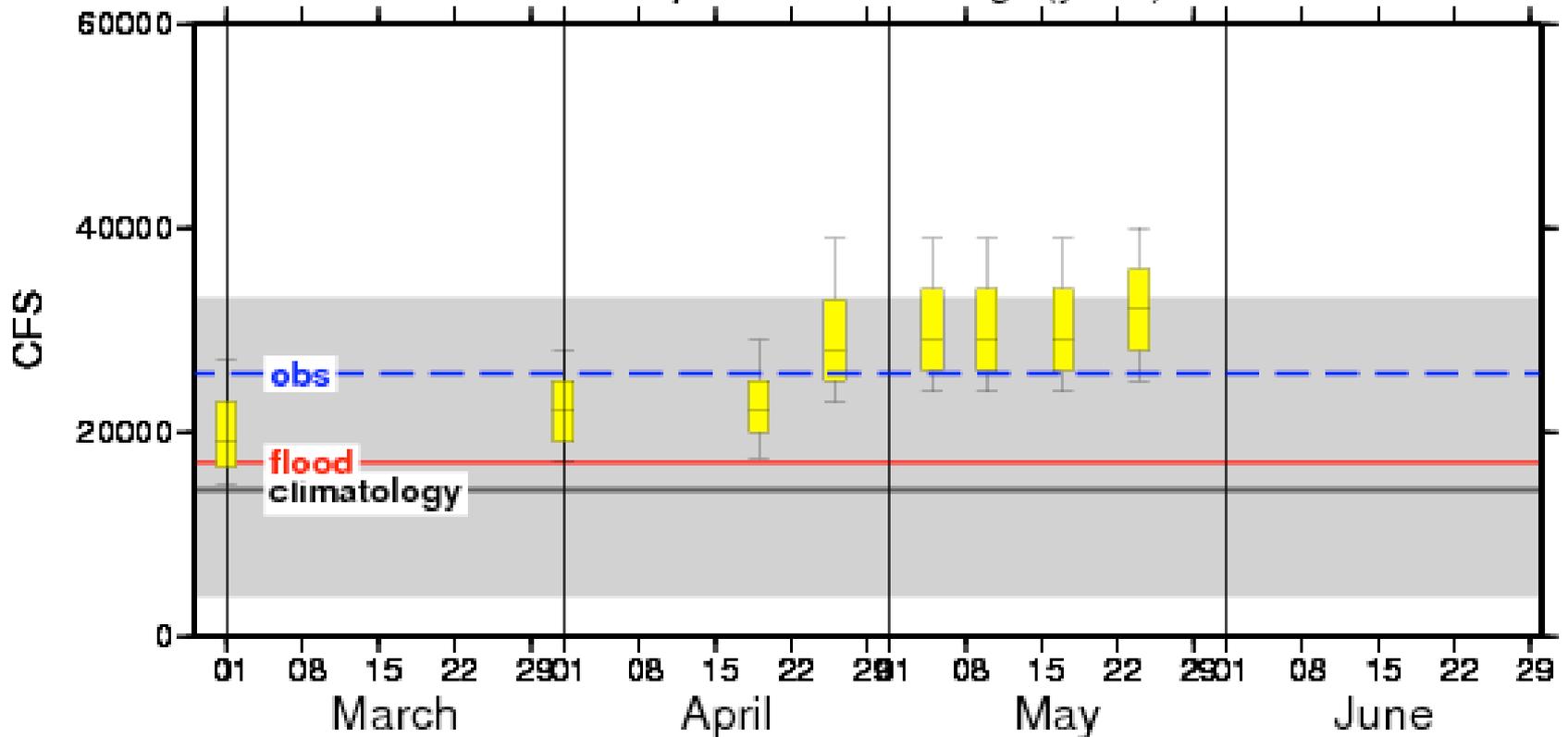
# Water Supply: Yampa



# Peak Flow Forecast

## Peak Flows Forecast Ranges, WY 2011

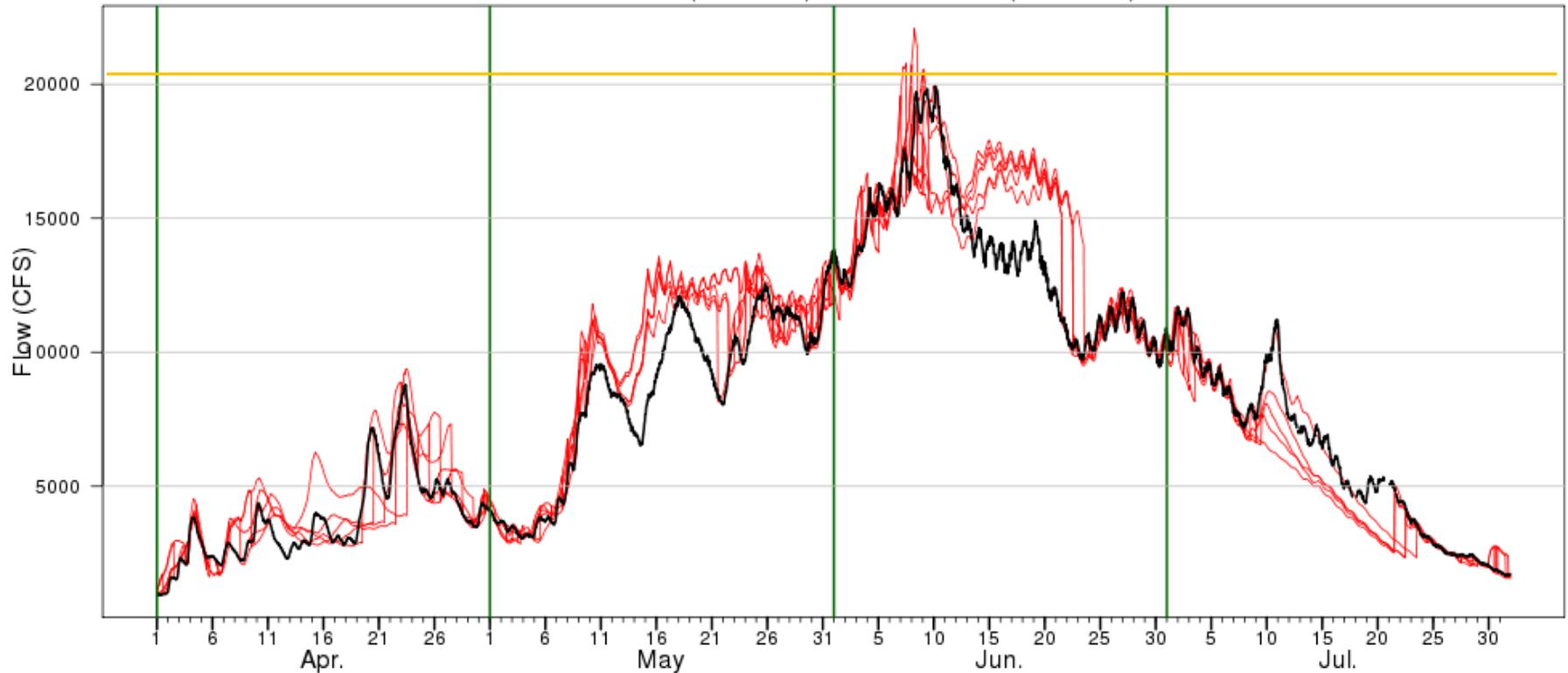
*Yamap R. near Deerlodge (ydlc2)*



# Daily Forecast

**April-July Forecasts for YAMPA - MAYBELL, NR (MBLC2)**

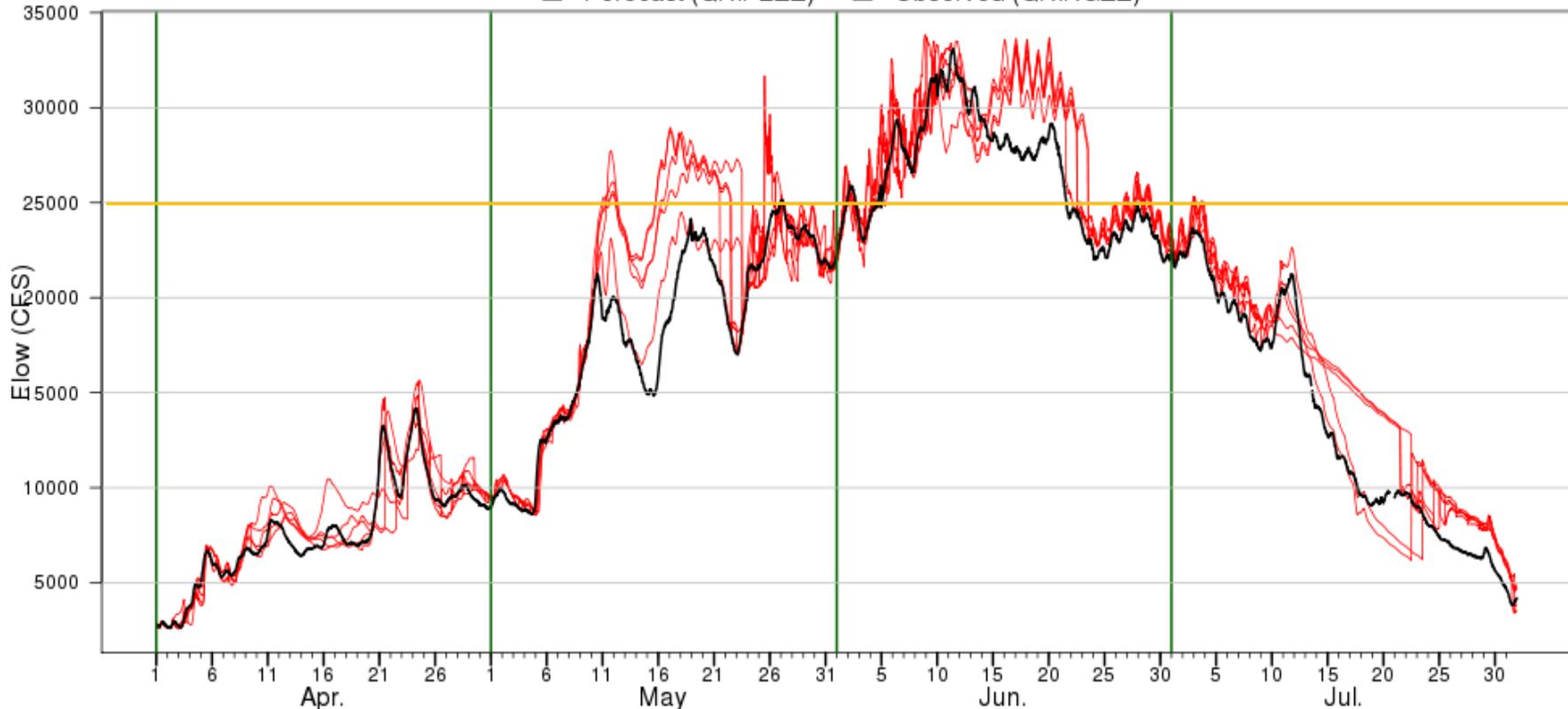
■ Forecast (QRIFEZZ) ■ Observed (QRIRGZZ)



# Daily Forecast

**April-July Forecasts for GREEN - JENSEN, NR (JESU1)**

■ Forecast (QRIFEZZ) ■ Observed (QRIRGZZ)

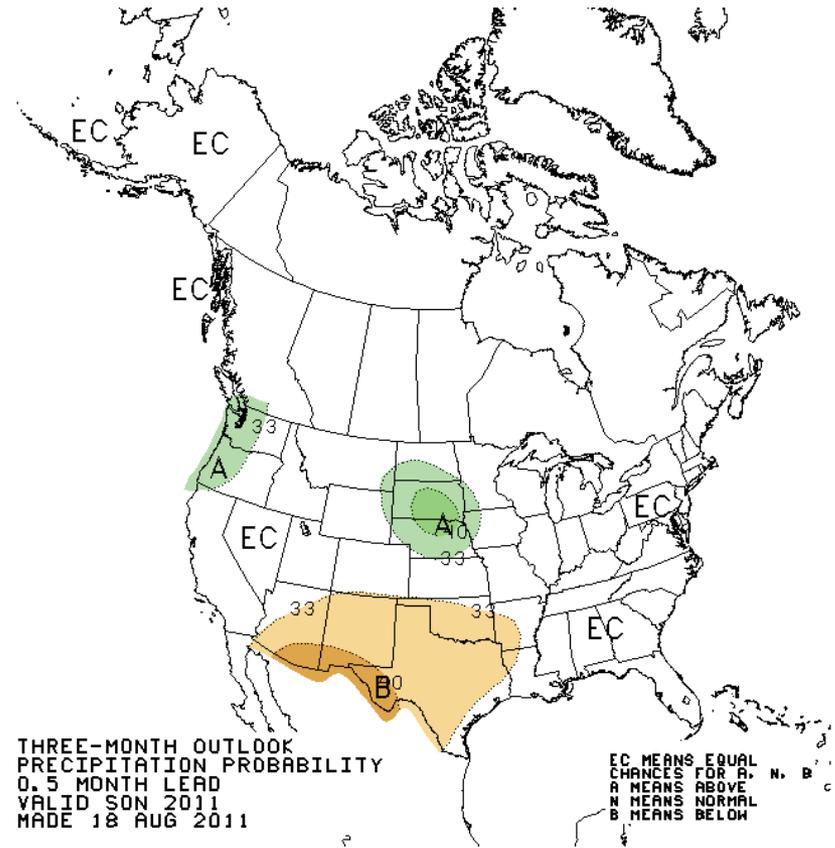


# 3-Month Forecasts

September	October	November
160 148%	90 138%	73 112%

Forecasts based on current conditions:

- Above average baseflow
- Above average soil moisture





# Questions?

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