

# 2014 Water Year in Review

**Jason M. Ward, P.H.**

Hydrologist

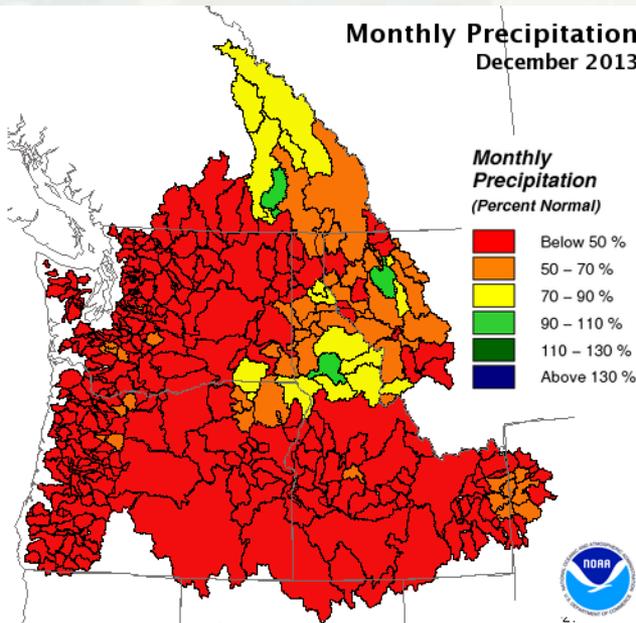
Columbia Basin Water Management  
Division, Northwestern Division

December 3, 2014

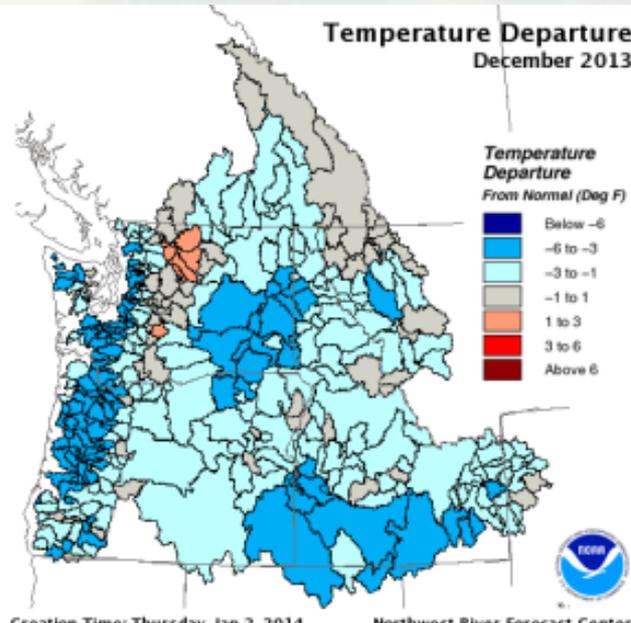


US Army Corps of Engineers  
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**Monthly Precipitation  
December 2013**



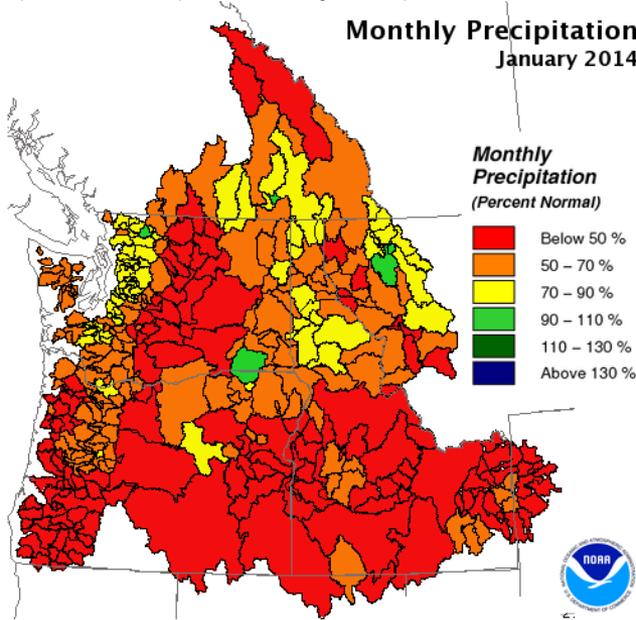
**Temperature Departure  
December 2013**



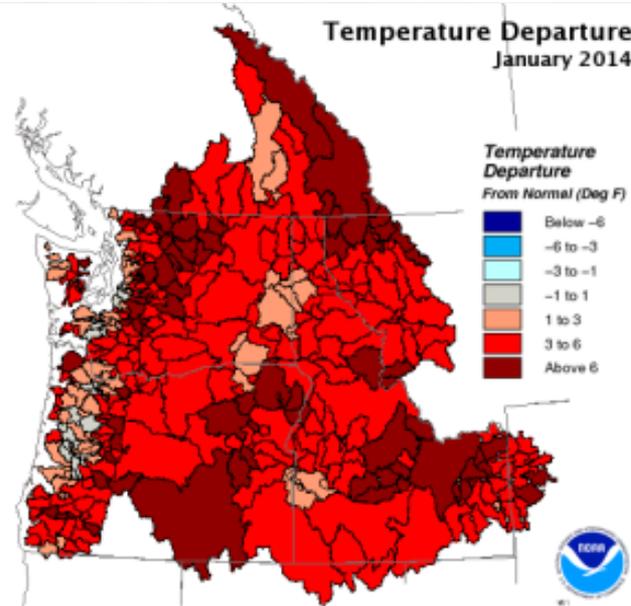
Creation Time: Thursday, Jan 2, 2014

Northwest River Forecast Center

**Monthly Precipitation  
January 2014**



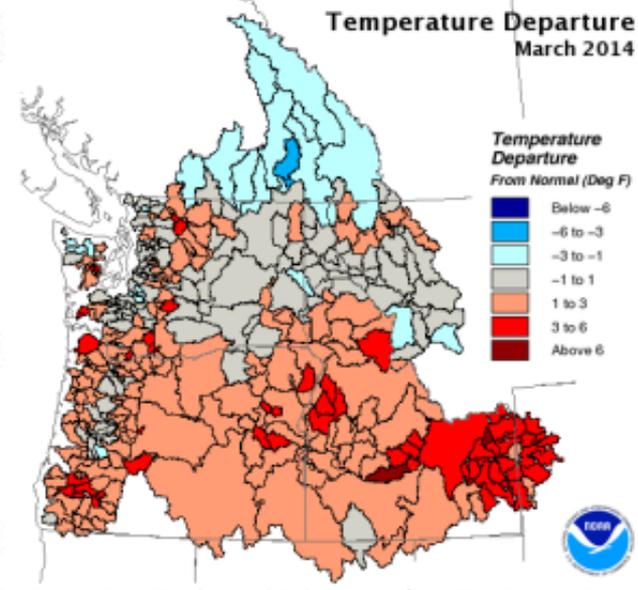
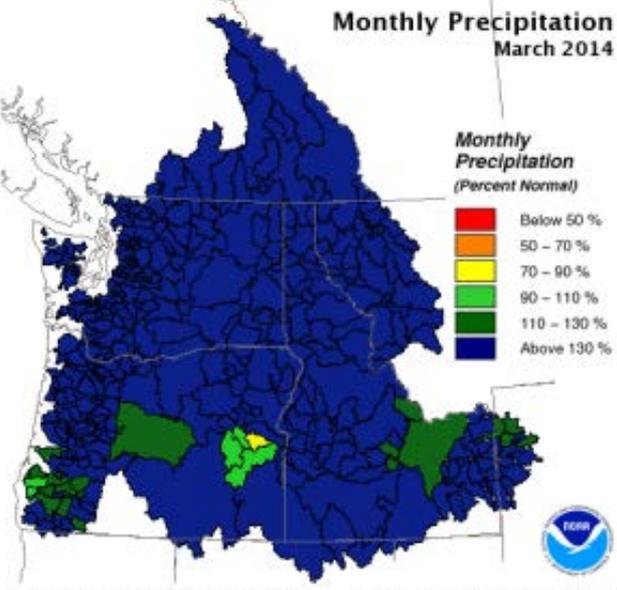
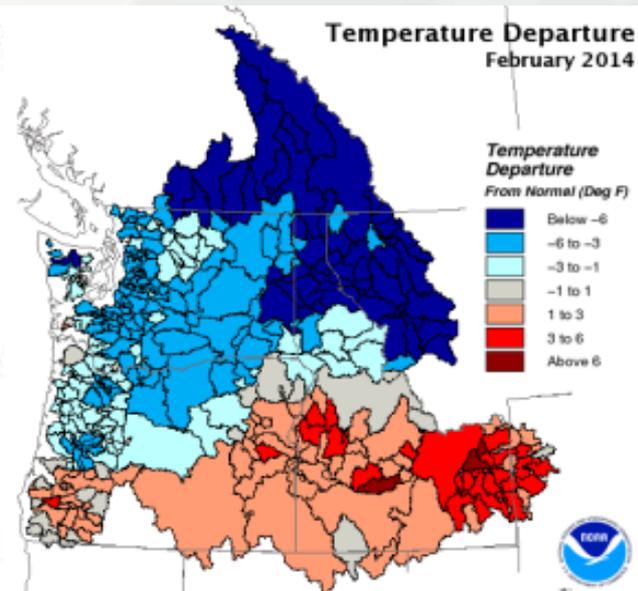
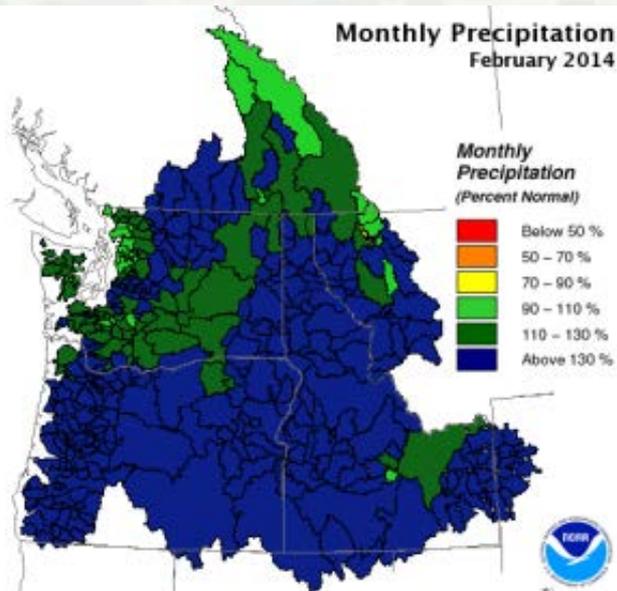
**Temperature Departure  
January 2014**

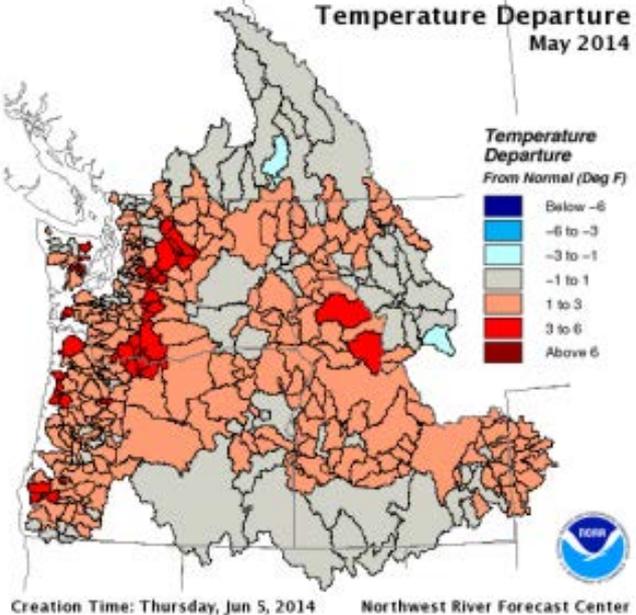
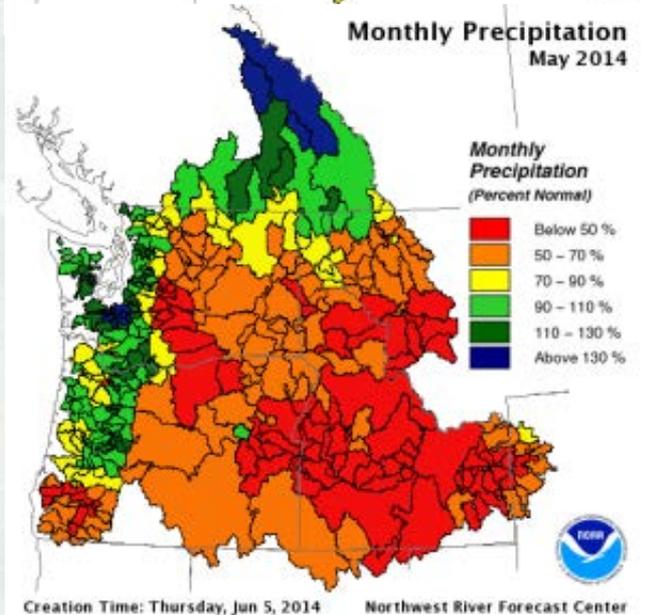
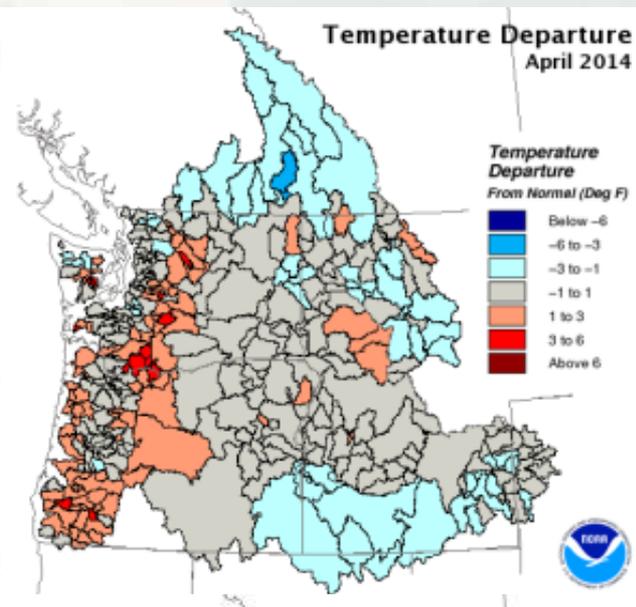
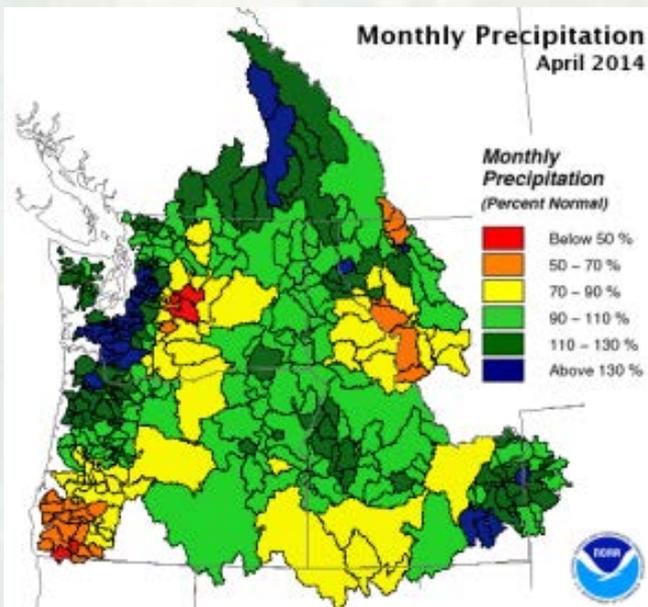


Creation Time: Sunday, Feb 2, 2014

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Creation Time: Thursday, Jun 5, 2014 Northwest River Forecast Center

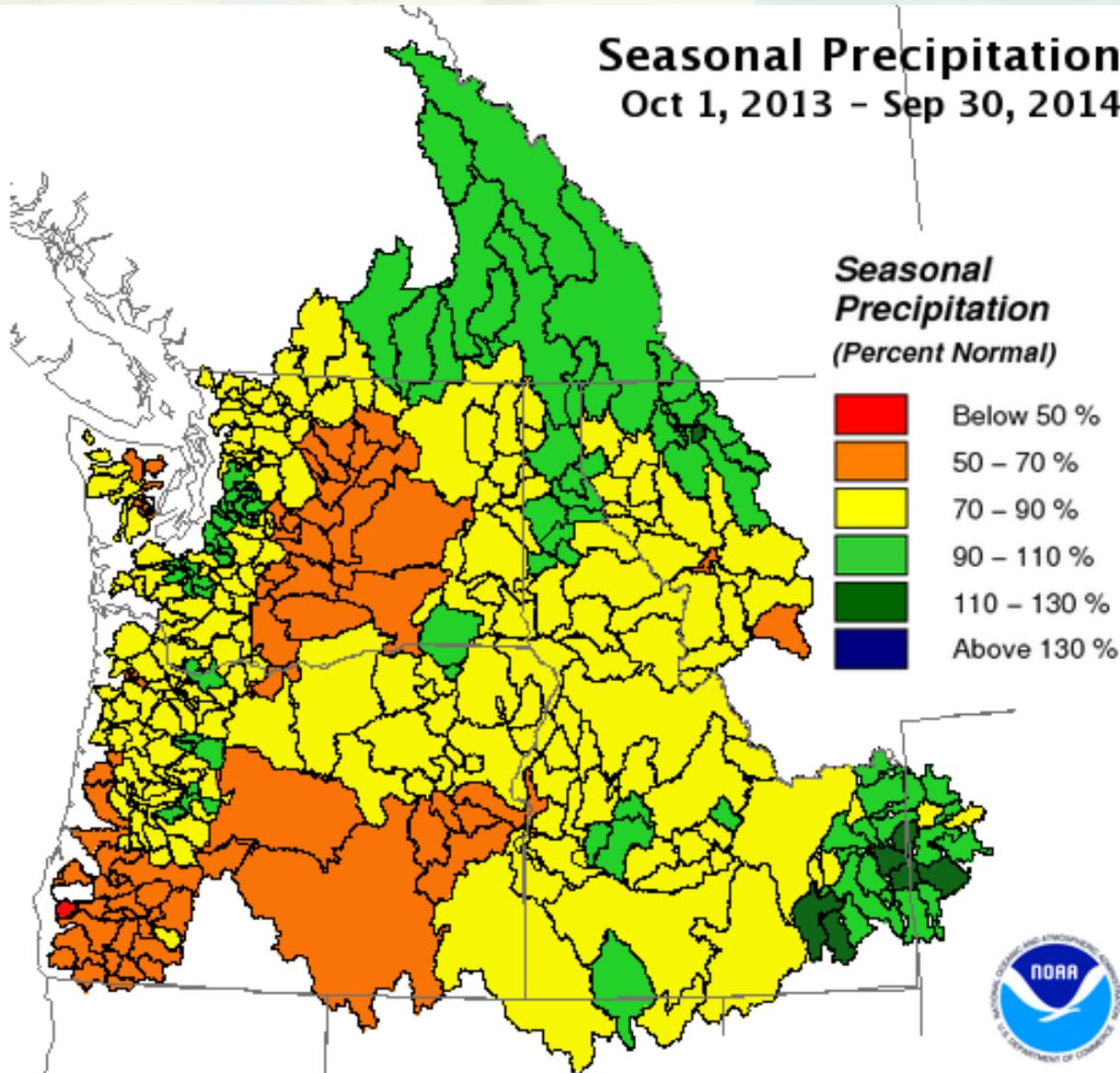
Creation Time: Thursday, Jun 5, 2014 Northwest River Forecast Center



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# Seasonal Precipitation

Oct 1, 2013 - Sep 30, 2014



Creation Time: Wednesday, Oct 1, 2014

Northwest River Forecast Center

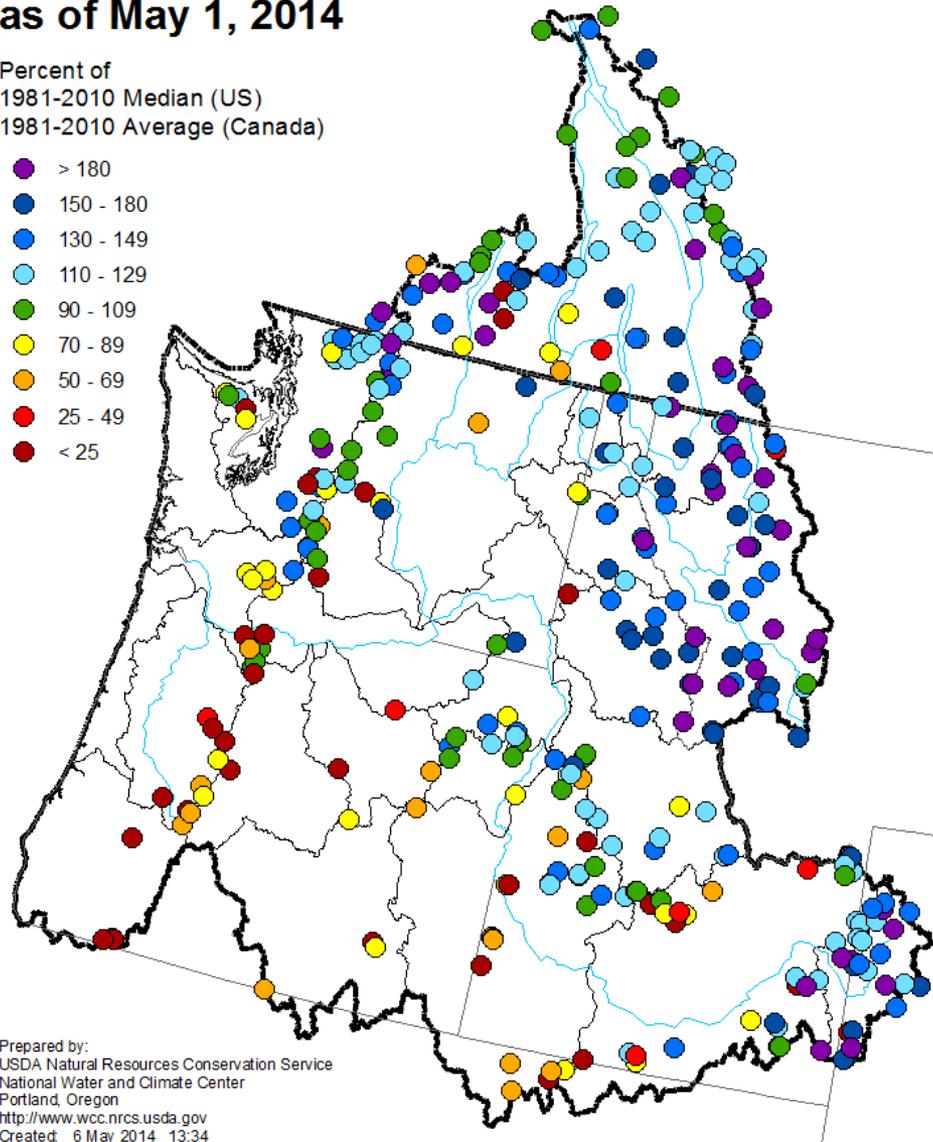


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# Columbia River and Pacific Coastal Basins Mountain Snowpack as of May 1, 2014

Percent of  
1981-2010 Median (US)  
1981-2010 Average (Canada)

- > 180
- 150 - 180
- 130 - 149
- 110 - 129
- 90 - 109
- 70 - 89
- 50 - 69
- 25 - 49
- < 25



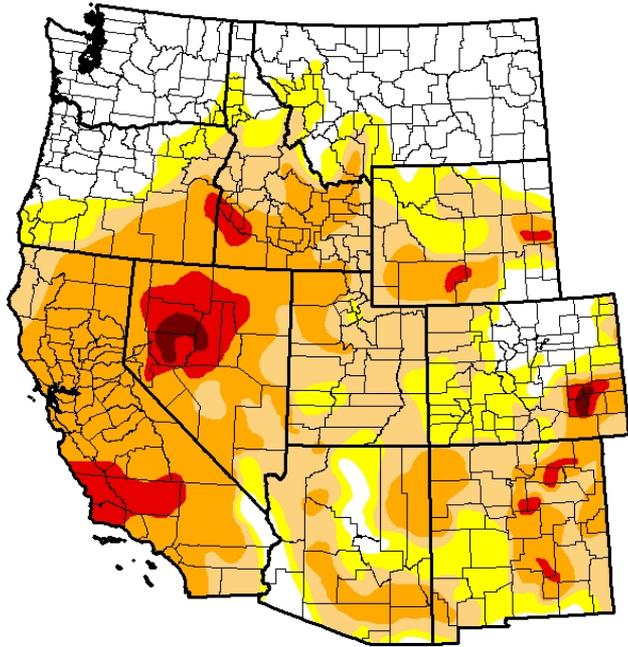
Prepared by:  
USDA Natural Resources Conservation Service  
National Water and Climate Center  
Portland, Oregon  
<http://www.wcc.nrcs.usda.gov>  
Created: 6 May 2014 13:34



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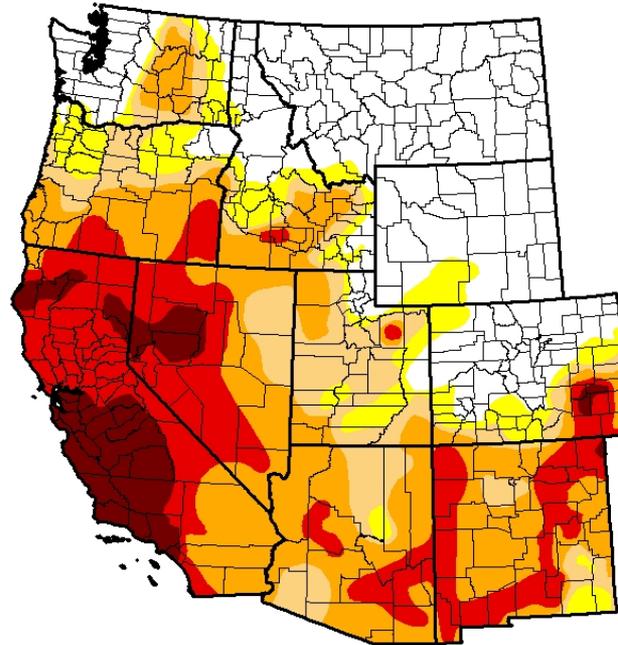
# U.S. Drought Monitor West

October 1, 2013  
(Released Thursday, Oct. 3, 2013)  
Valid 7 a.m. EDT



# U.S. Drought Monitor West

July 1, 2014  
(Released Thursday, Jul. 3, 2014)  
Valid 8 a.m. EDT



### Intensity

- D0 Abnormally Dry
- D1 Moderate Drought
- D2 Severe Drought
- D3 Extreme Drought
- D4 Exceptional Drought

*The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements.*

Author:  
Anthony Artusa  
NOAA/NWS/NCEP/CPC



<http://droughtmonitor.unl.edu/>

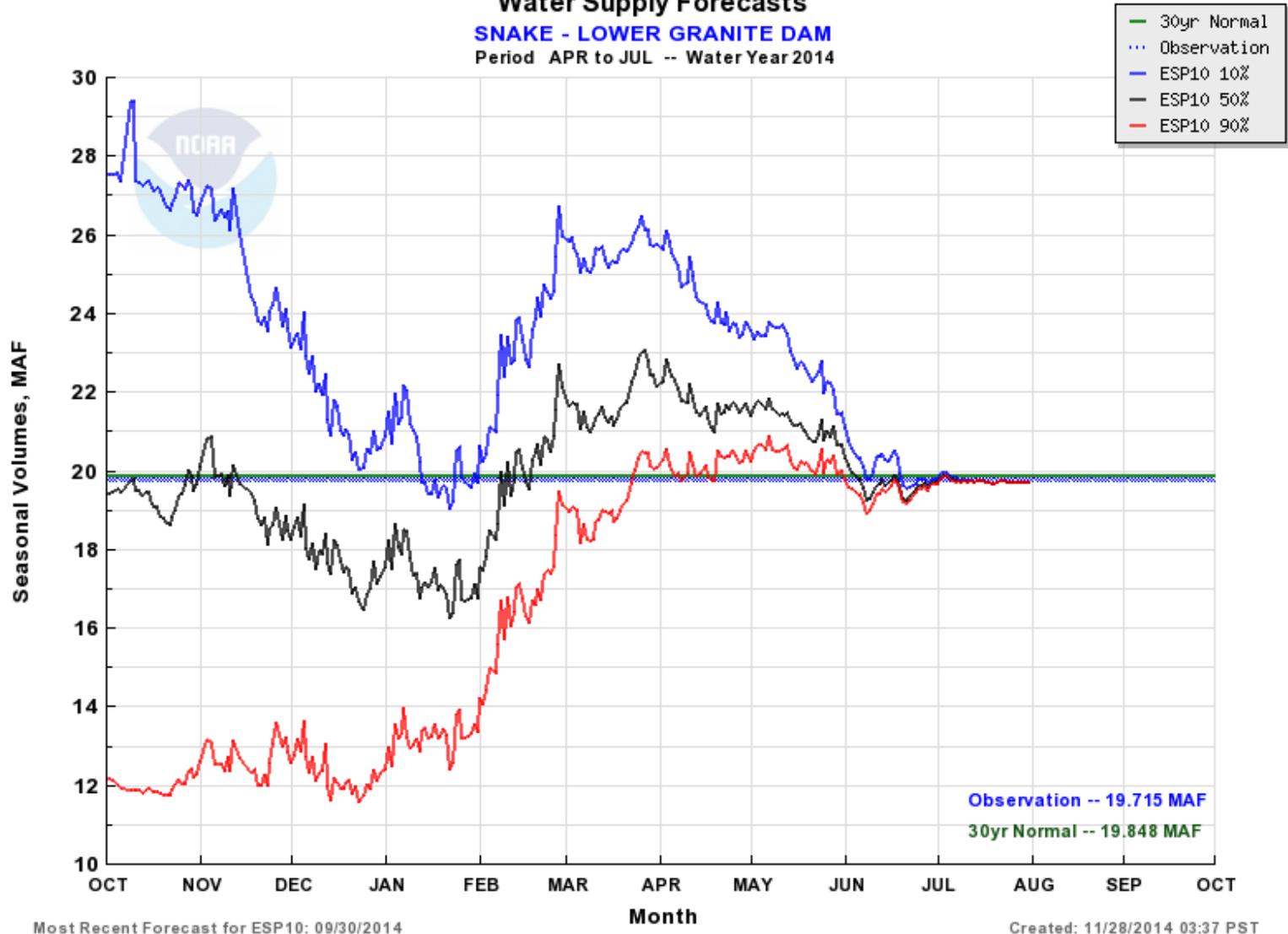


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# Water Supply Forecasts

## SNAKE - LOWER GRANITE DAM

Period APR to JUL -- Water Year 2014



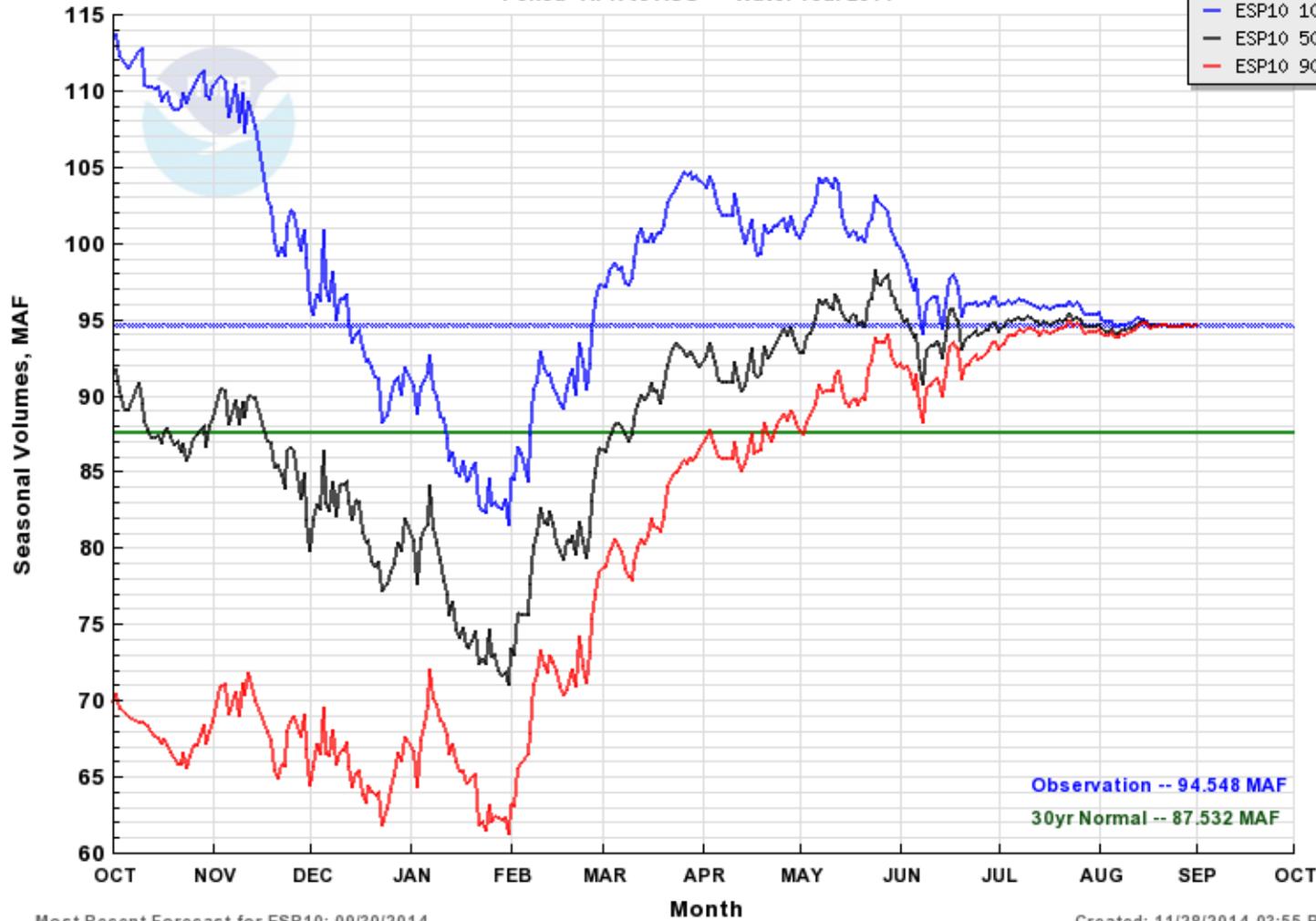
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# Water Supply Forecasts

## COLUMBIA - THE DALLES DAM

Period APR to AUG -- Water Year 2014

- 30yr Normal
- Observation
- ESP10 10%
- ESP10 50%
- ESP10 90%



Most Recent Forecast for ESP10: 09/30/2014

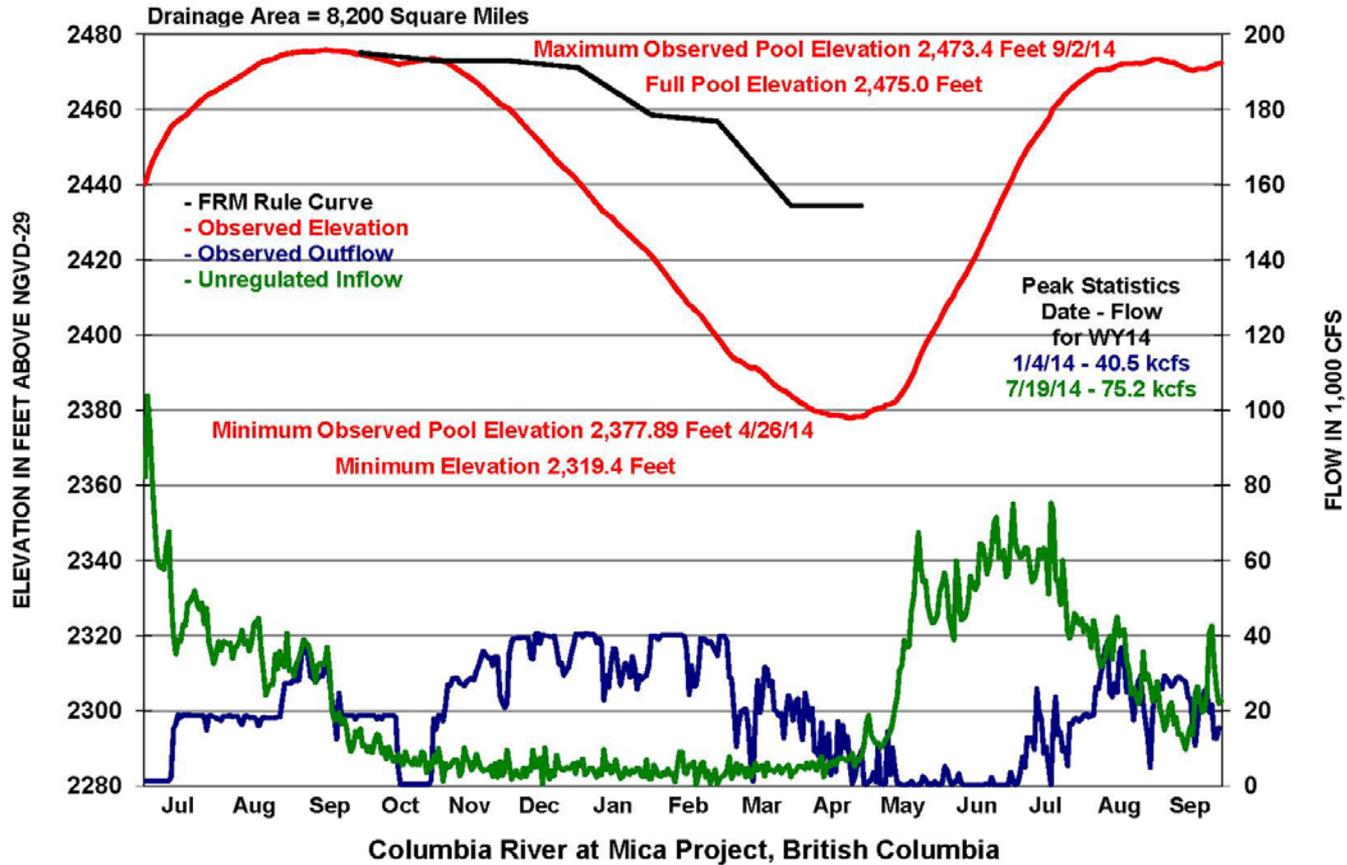
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# MICA

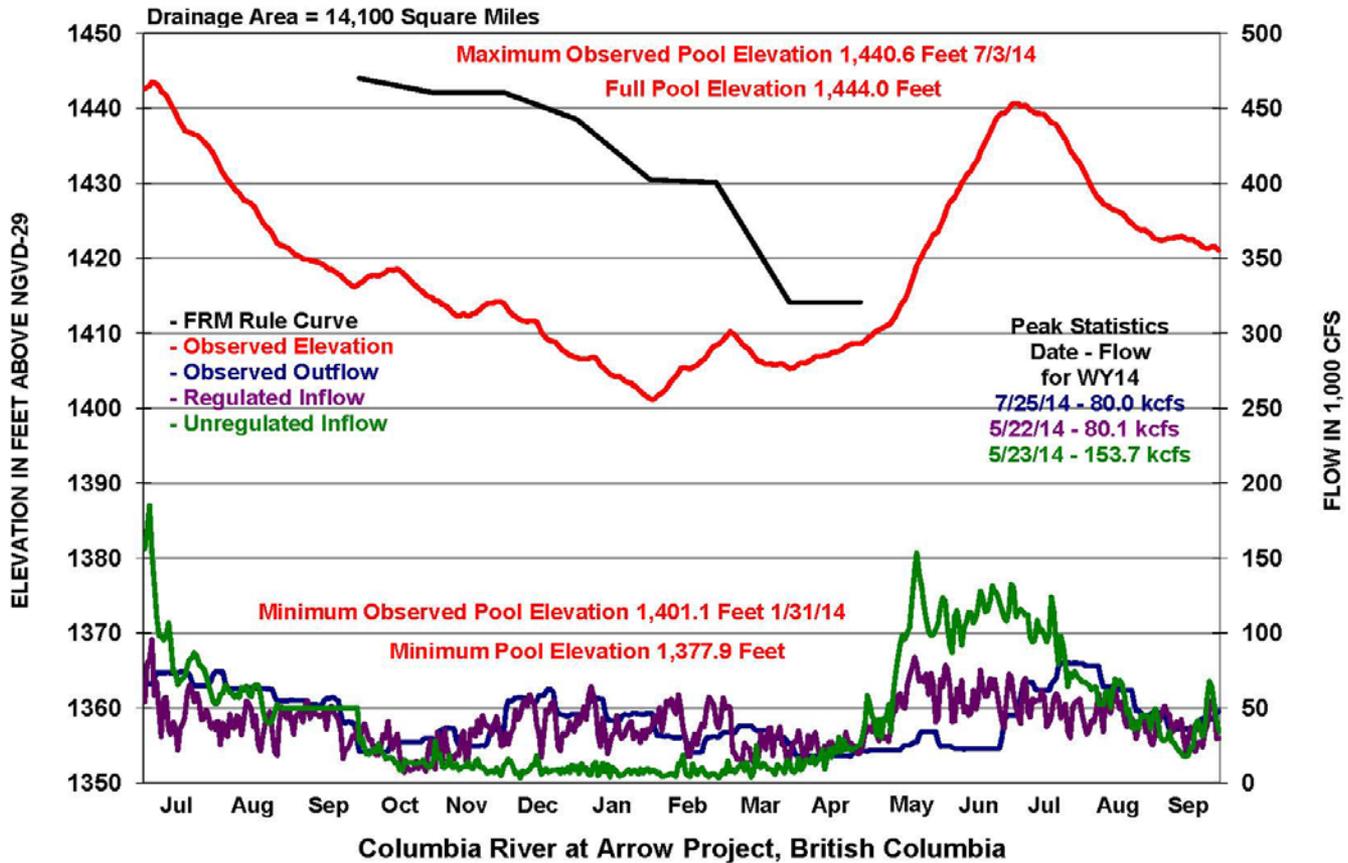
Elevation and Streamflow Hydrographs  
July 1, 2013 to September 30, 2014



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# ARROW

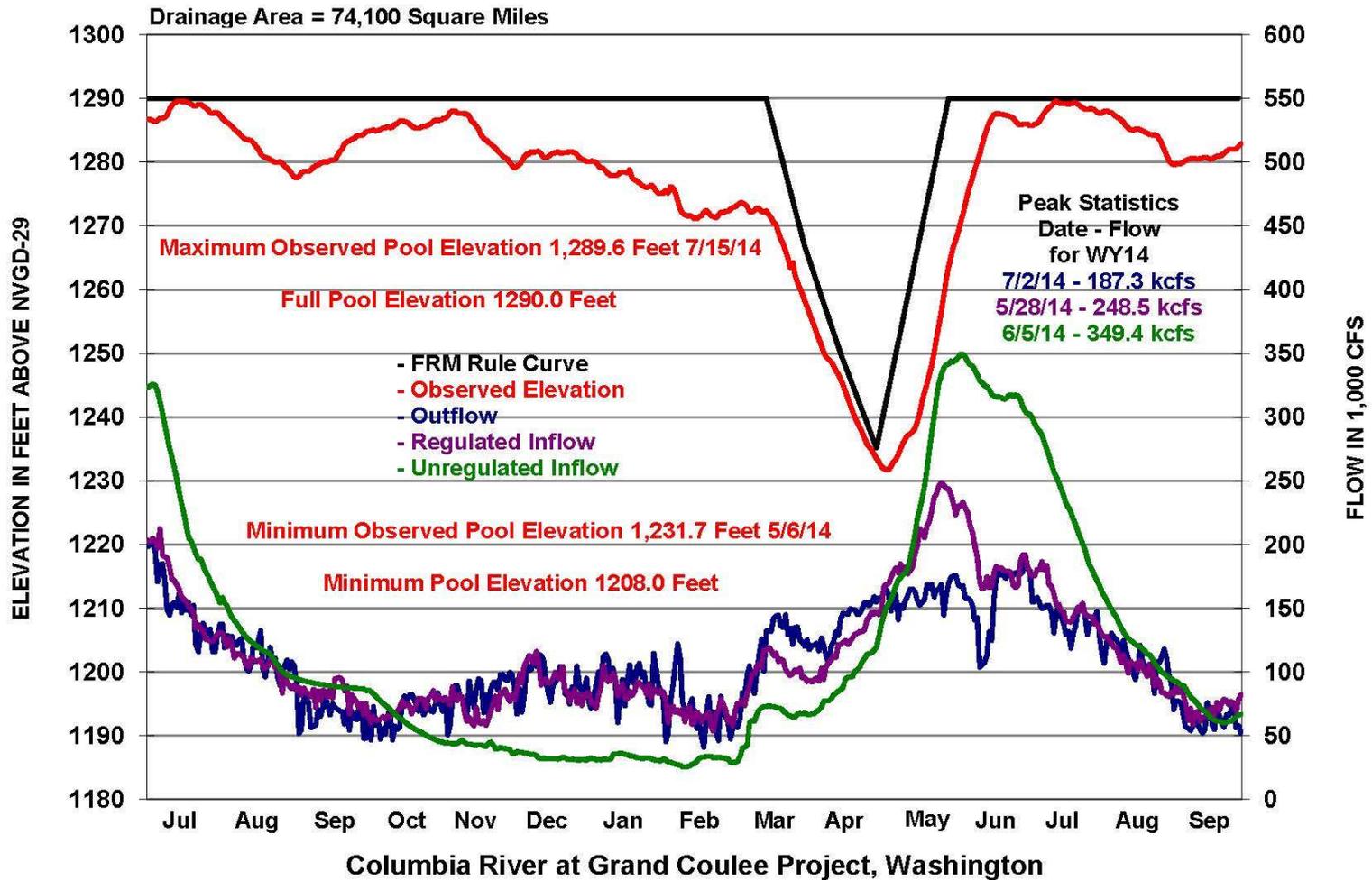
Elevation and Streamflow Hydrographs  
July 1, 2013 to September 30, 2014



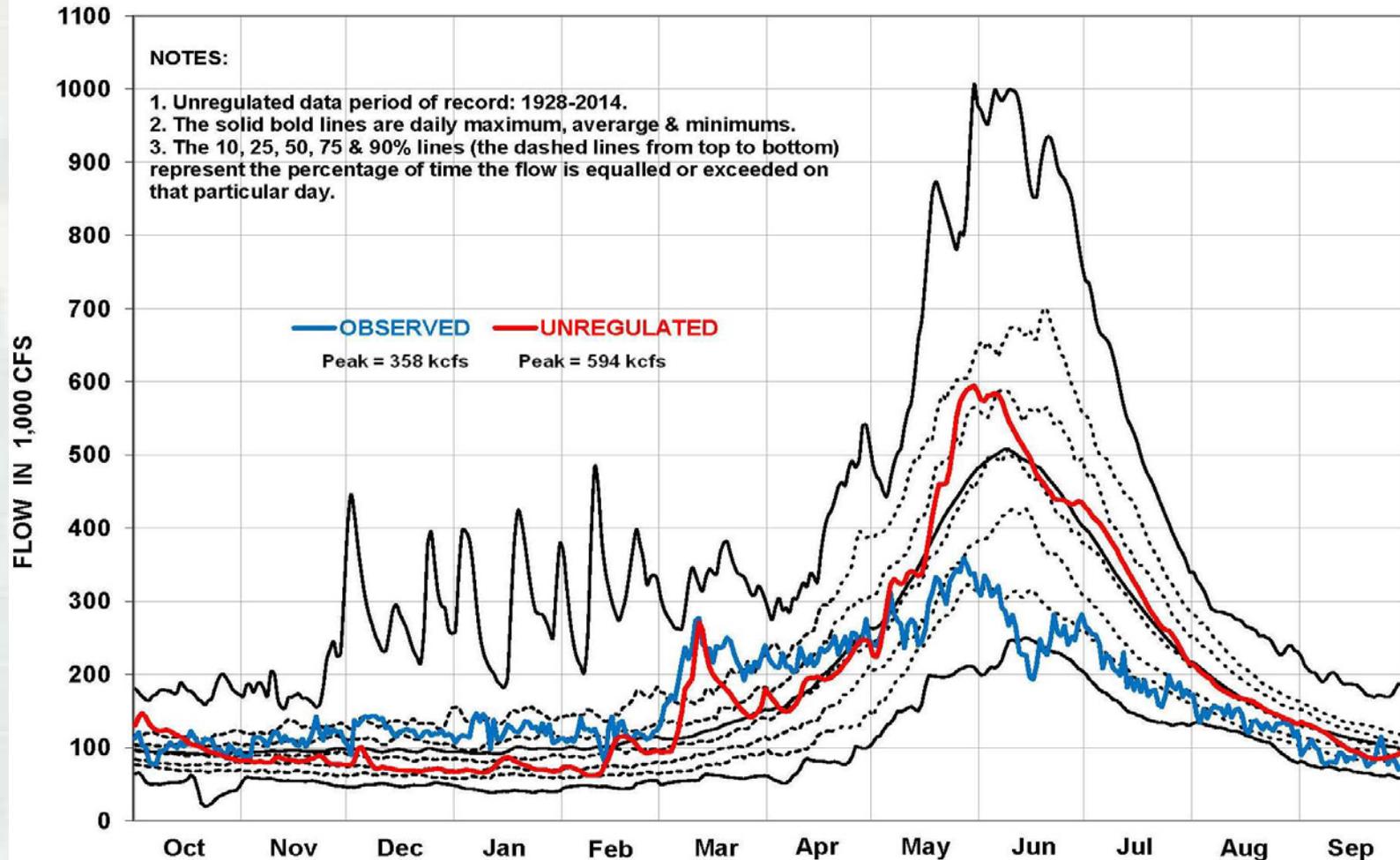
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# GRAND COULEE

Elevation and Streamflow Hydrographs  
July 1, 2013 to September 30, 2014



# Reg/Unreg Flow at The Dalles



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# Water Year 2014

- Columbia River at the Dalles- 22<sup>nd</sup> wettest (1960-2015) at 108 % of normal Apr-Aug volume of 94.5 Maf
- Snake Basin saw an improvement in 2014 (Jan-Jul 98 % of normal vs 69% in 2013)
- Healthy snowpack in the US Rockies and Canadian portion of the basin



# Questions?



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