

# The Year of Living Snowlessly Washington State 2015

# Most Recent Drought Declarations Washington State



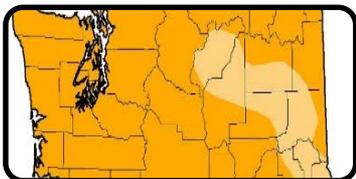
2001 (Statewide)



2005 (Statewide)



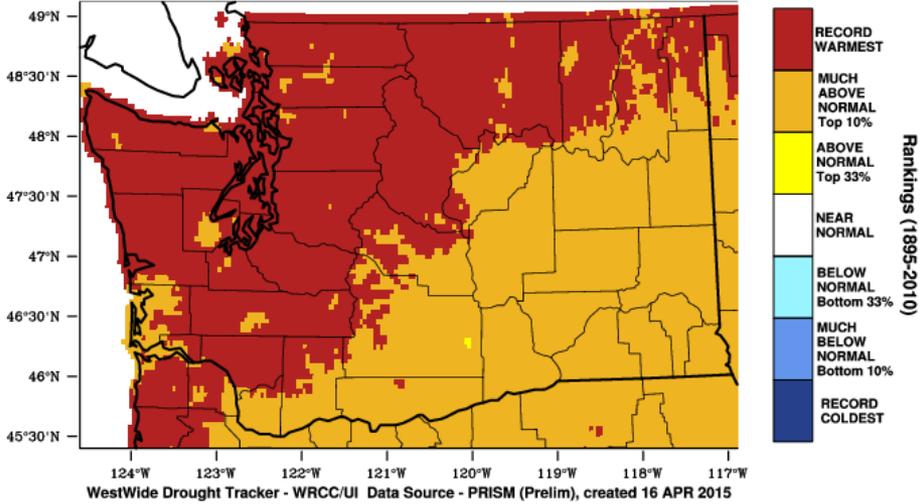
2006 (NW Olympic Peninsula)



2015 (Statewide)

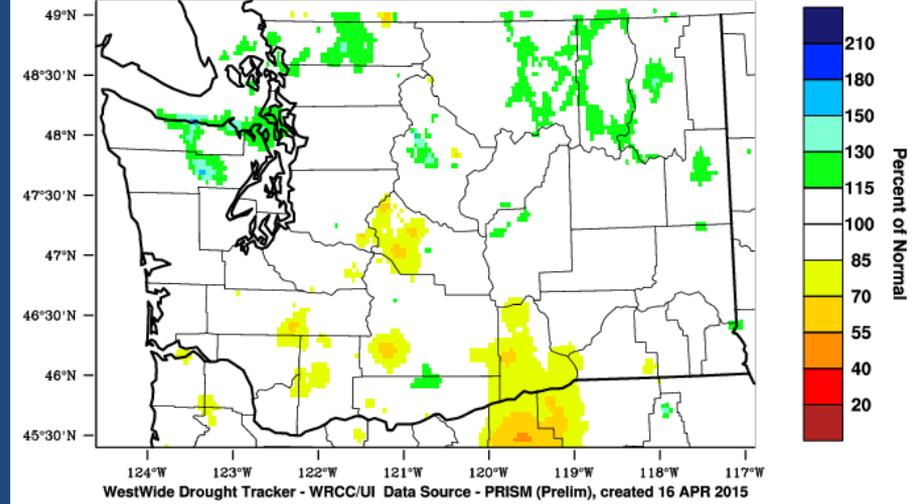
# October thru March 2015

Washington - Mean Temperature  
October-March 2015 Percentile



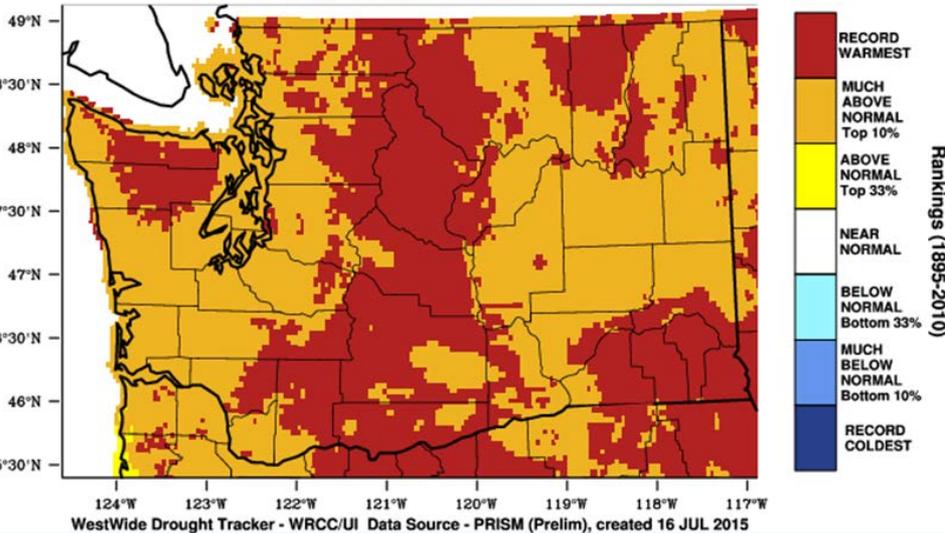
Washington - Precipitation

October-March 2015 Percent of 1981-2010 Normal



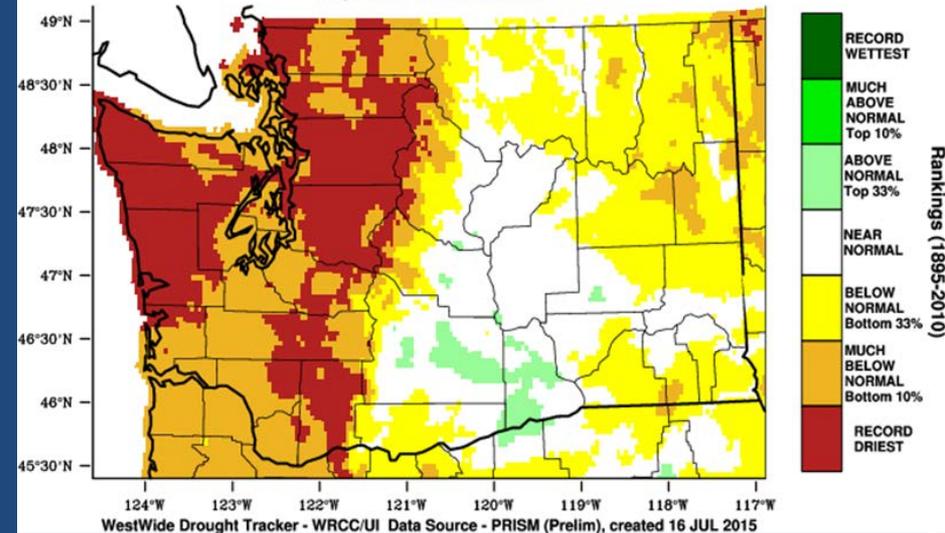
# May thru June 2015

Washington - Mean Temperature  
May-June 2015 Percentile

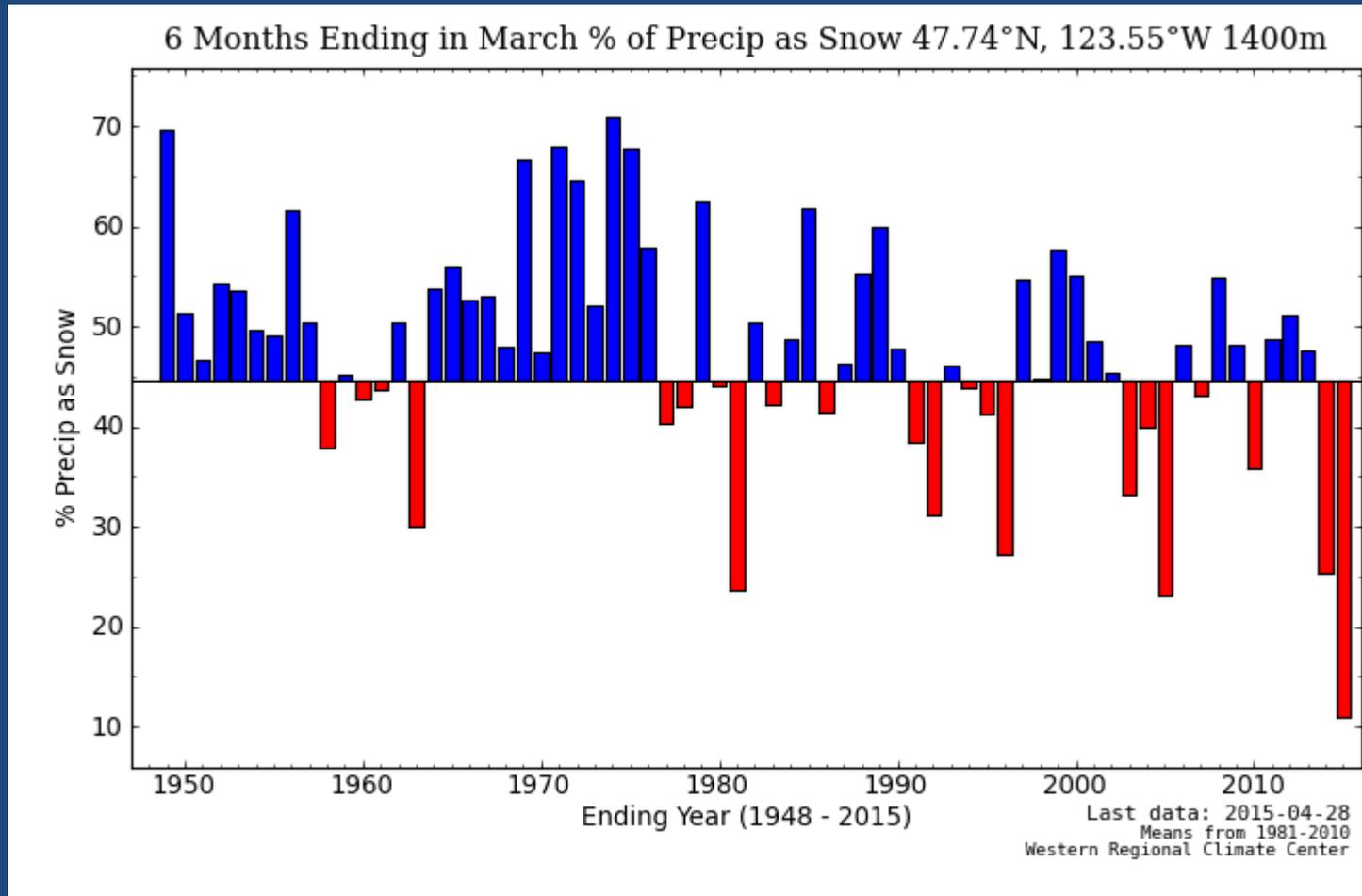


Washington - Precipitation

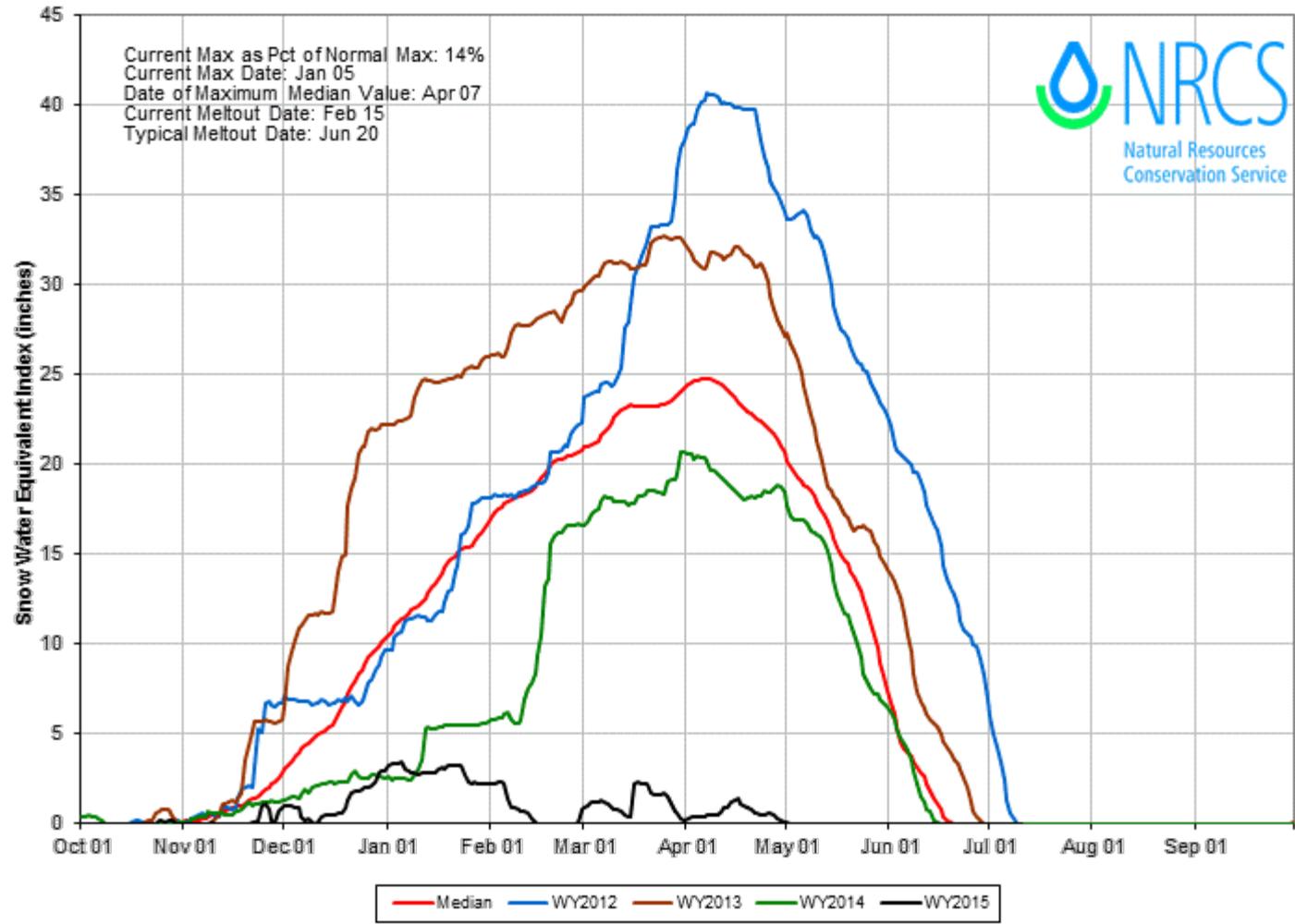
May-June 2015 Percentile



# Greatest Percentage of Precipitation falling as Rain instead of Snow in the last 65 years (Olympic Mountains, elev 1400 m)



**OLYMPIC Time Series Snowpack Summary**  
Based on Provisional SNOTEL data as of Jul 10, 2015



# Bogachiel Peak, Olympic Mountains



← June 5, 2014



→ June 6, 2015



# Lunch Lake, Olympic Mountains

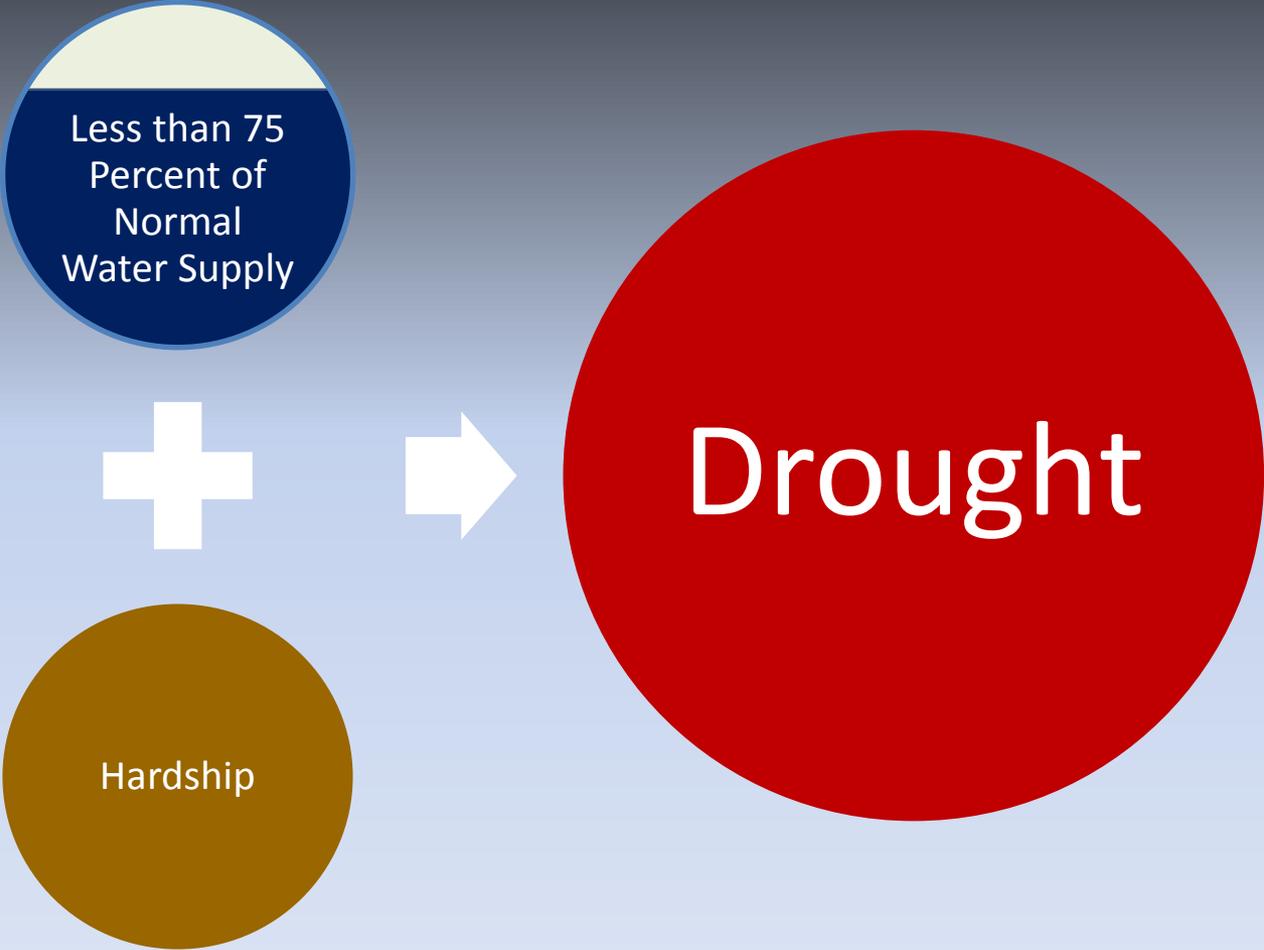


← June 5, 2014



June 6, 2015 →

# Washington State's Drought Trigger



# Three Waves of Drought Declarations

March 17

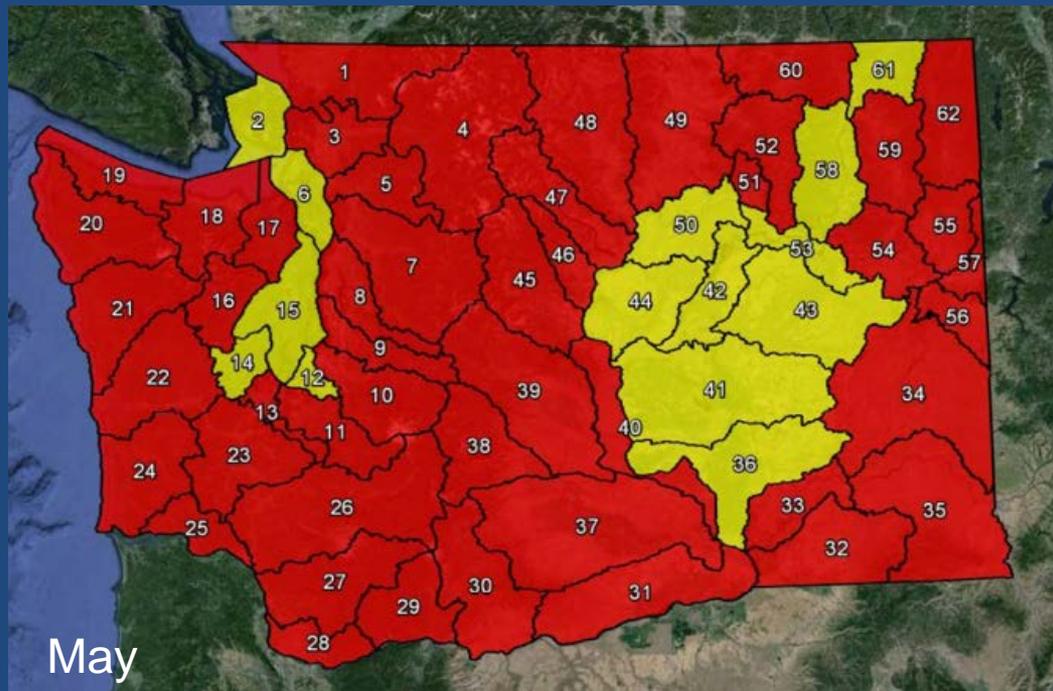
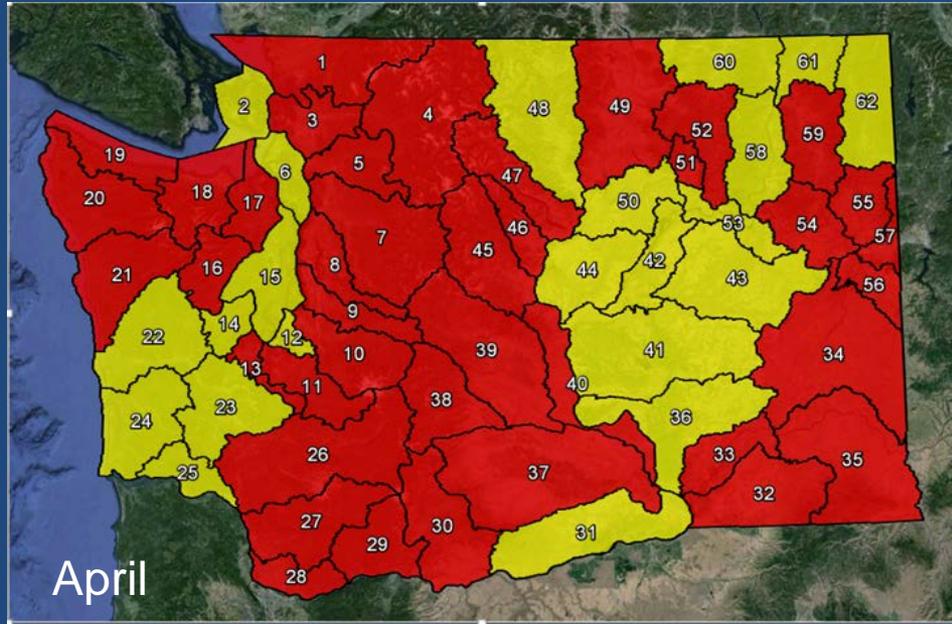
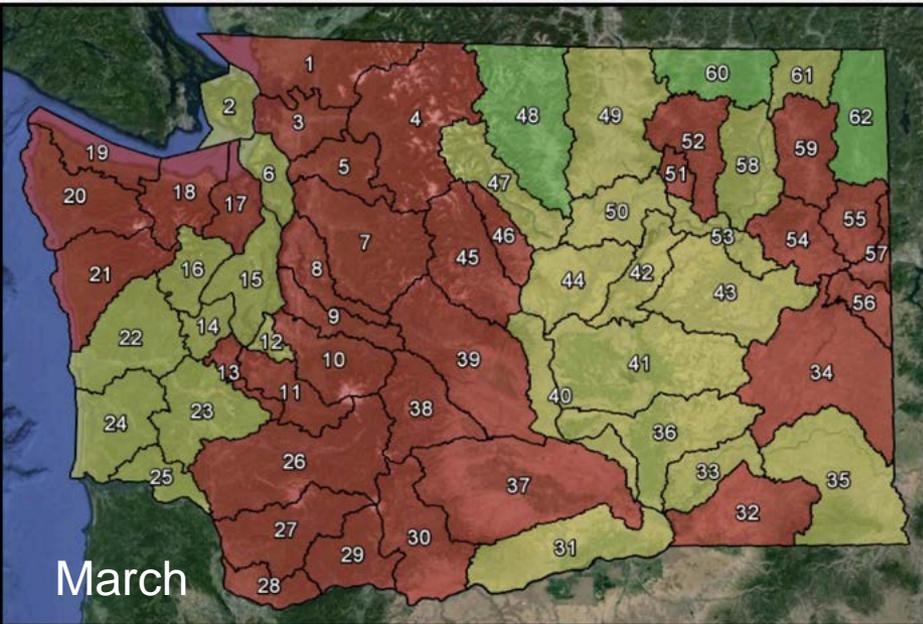
- 11 watersheds
- Clearest cases of potential hardship (irrigation, fisheries)
- Most time-sensitive for getting drought mitigation tools into play (agriculture)

April 22

- 13 additional watersheds
- Further declines in forecasted runoff
- Puget Sound Basins needed additional evaluation

May 21

- 48 of 62 watersheds expected to fall below drought water supply criteria
- Precipitation deficit starting to show



Watersheds  
Expected to be  
Below 75  
Percent of  
Normal Water  
Supply



# Northwest River Forecast Center ESP Natural Volumes



River and Hydrology	Water Supply	Observations	Weather Forecasts	Climate	NWRFC
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[Home](#)[Zoom Out](#)

--- Quick Zooms ---

ESP Issued: 2015-05-11

Ensemble Date: 2015-05-11

[Permalink](#)

Search  
Enter NWS ID:

Map Overlays

NWRFC Boundary  
 NWRFC Basins  
 NWS HSAs  
 Counties

Map Type

ESP Natural Status  
 ESP Natural % of Avg

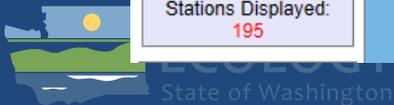
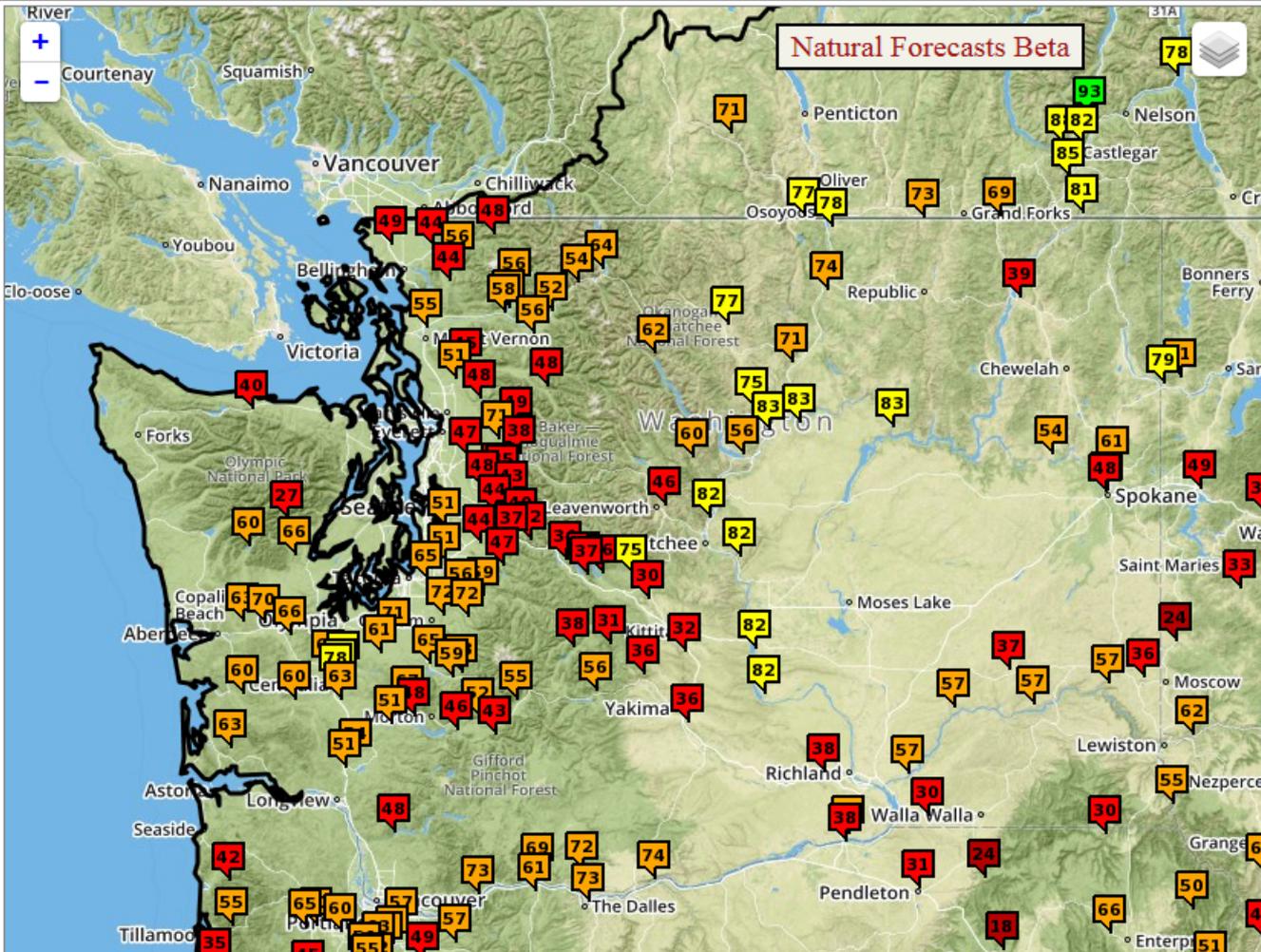
Legend

ESP Natural Volumes  
Period: APR-SEP  
Forecast (% Avg)

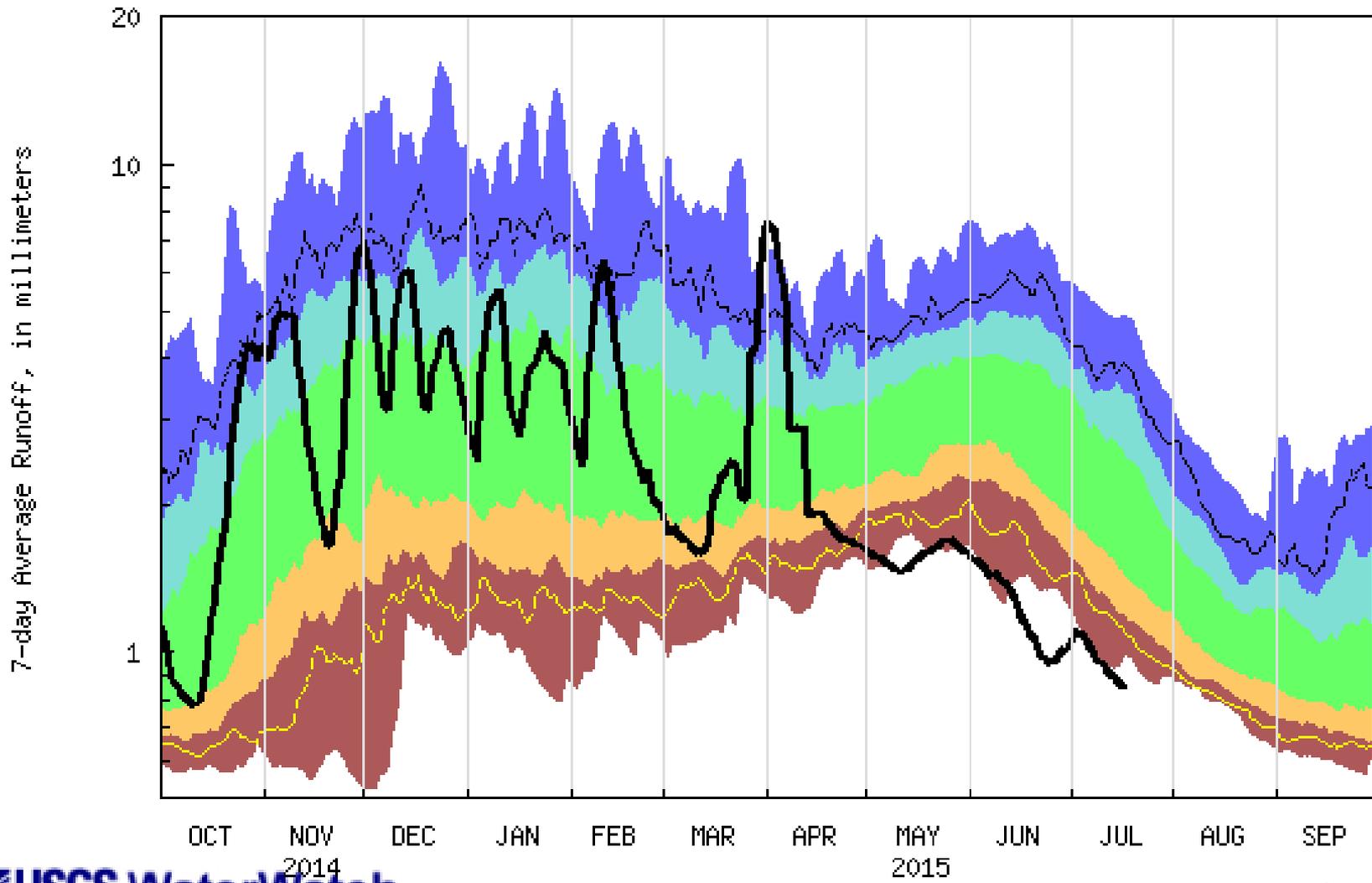
- No Average, No data
- < 25
- 25-50
- 50-75
- 75-90
- 90-110
- 110-125
- 125-150
- 150-175
- > 175



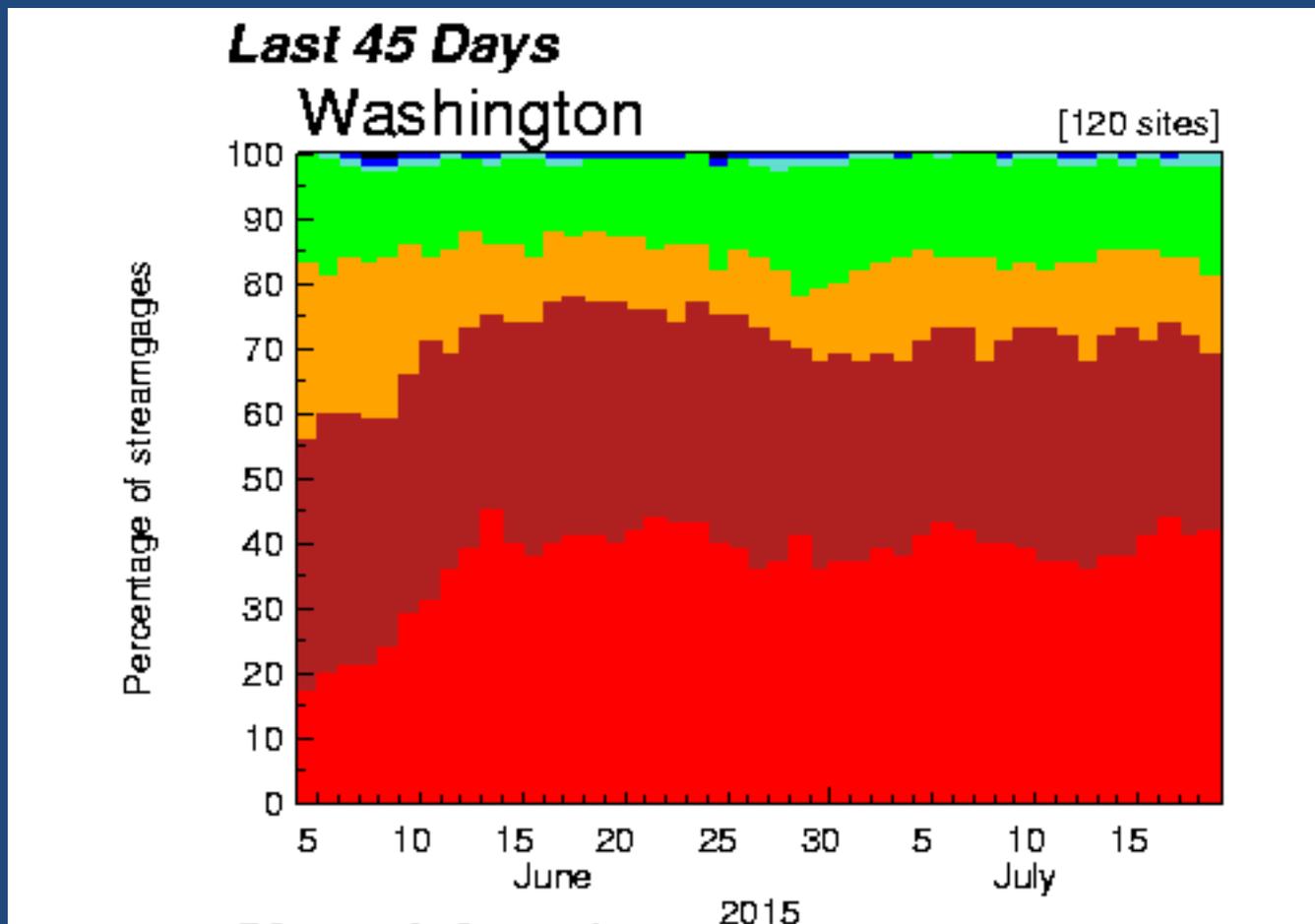

Stations Displayed:  
**195**



# Duration hydrograph of 7-day average runoff for Washington



# Daily streamflow compared to historical streamflow for 45 days prior to July 19, 2015

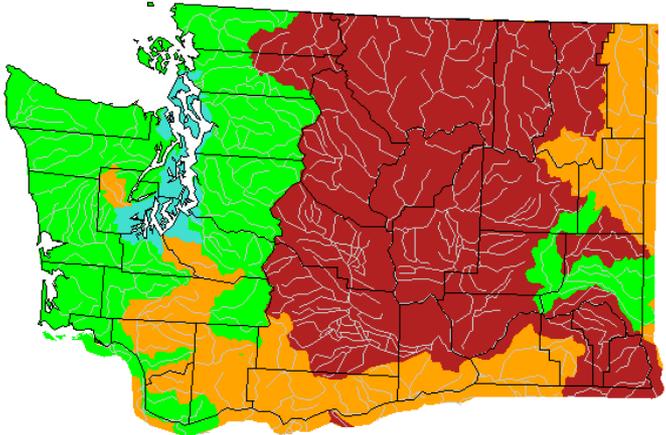


Explanation - Percentile classes						
Low	<10	10-24	25-75	76-90	>90	High
	Much below normal	Below normal	Normal	Above normal	Much above normal	

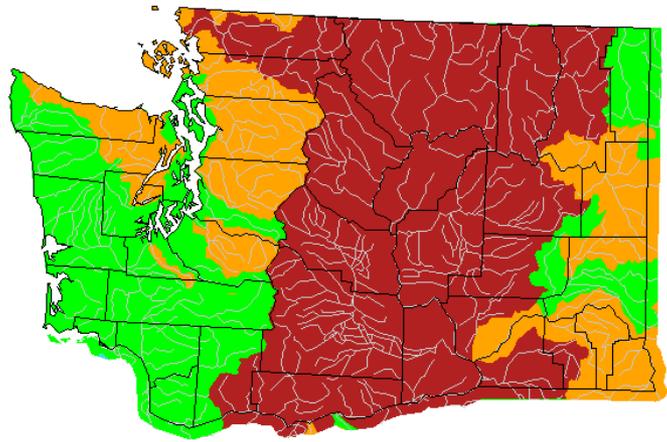
# Average June 2001, 2005 and 2015 Streamflow

(2001 & 2005 were previous years of statewide drought in Washington)

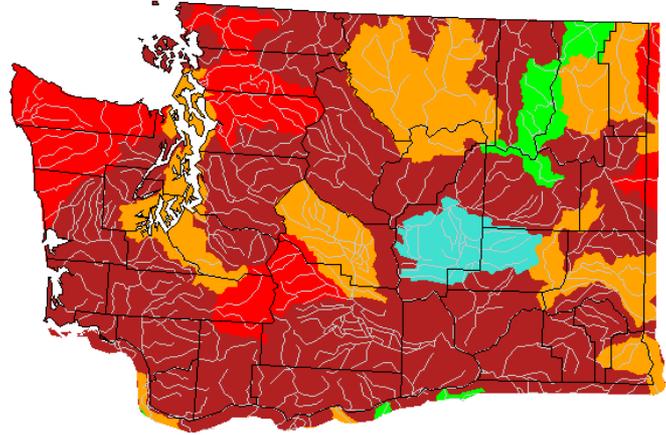
June 2001



June 2005



June 2015



Explanation - Percentile classes						
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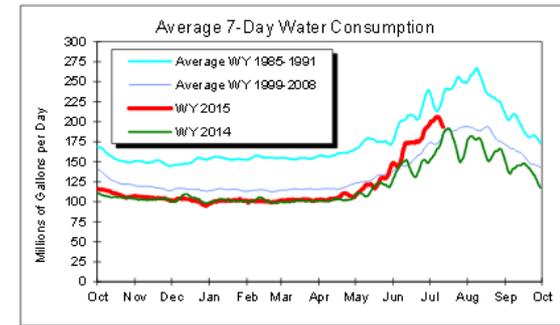
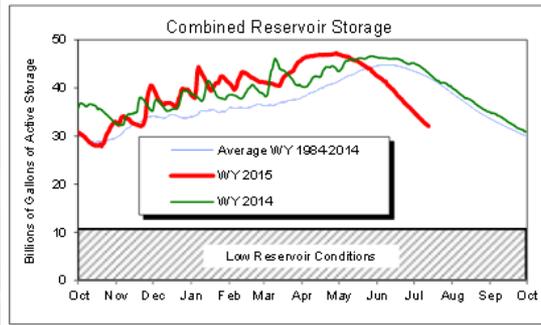
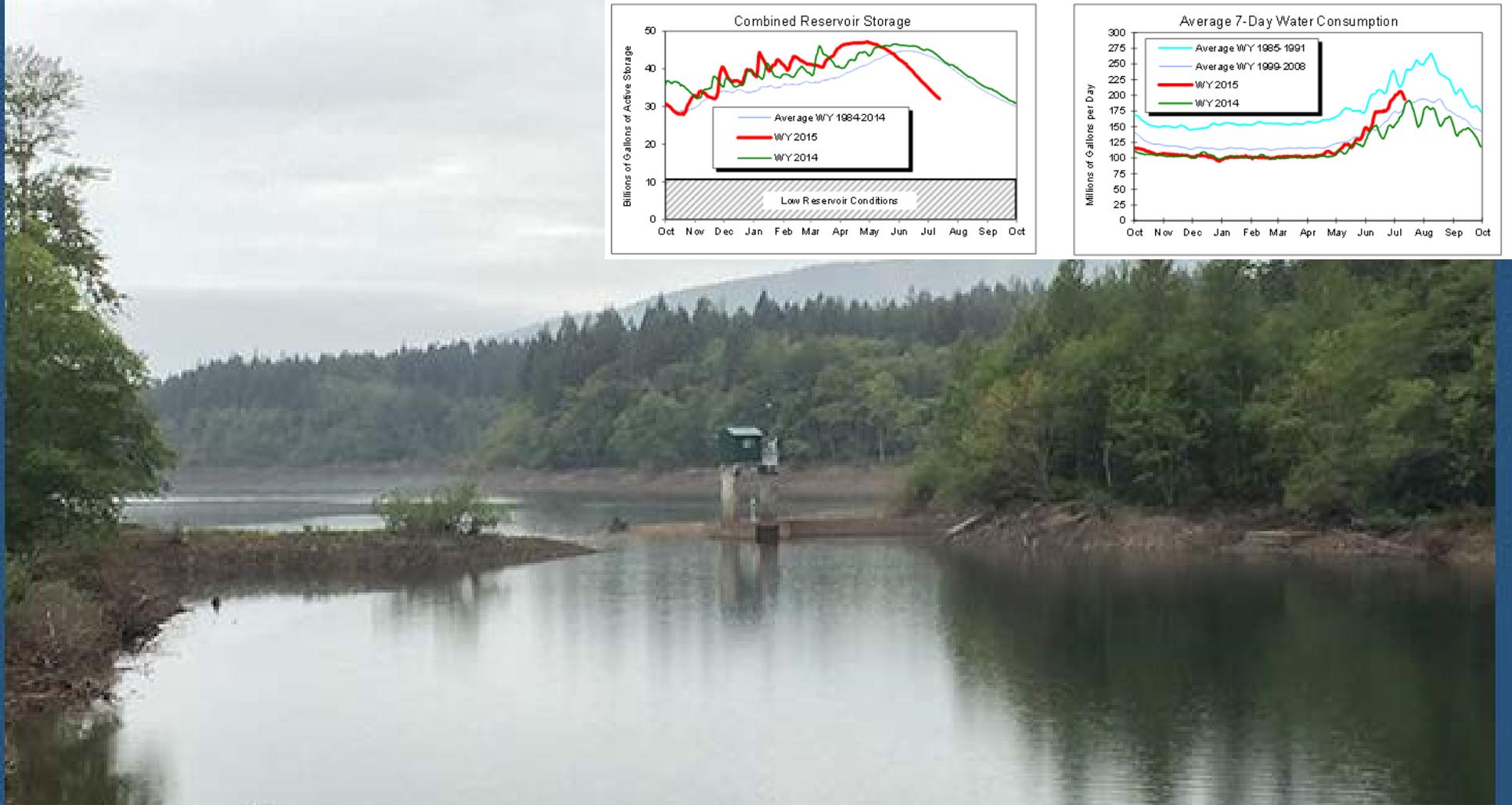
# Drought Impacts So Far



- Progressively reduced allocations in the Yakima Basin
- Reports of crop losses and crop stress, lower fruit quality
- Curtailment in some watersheds to protect senior water rights



- Reports of fish stranding in some rivers
- High water temperatures: WDFW Hatcheries letting fish go early, fish mortality in Columbia river
- Widespread fishing closures



- Large Municipalities with Storage are in Good to Fair Shape
- Hydropower Projects are working hard to manage for multiple objectives (e.g., power, recreation pool levels, downstream flow requirements)
- Some communities resorting to backup wells
- Some communities asking or requiring customers to conserve

# Summary of Drought Response Actions

- **Leasing of water rights** in Yakima and Dungeness Basins to benefit instream flow
- Facilitating Pulse Flows in the Walla Walla Basin
- Authorization of ~40 **mitigated emergency wells** in Yakima Basin
- **Curtailment Orders** issued to 300+ Water Right Holders Statewide in various basins to protect senior water rights
- Facilitating **emergency water right transfers** (e.g., Skagit Basin)
- Public **outreach** and water system coaching

# Emergency Rule for Drought Relief Funding

- Purpose is to reduce hardship where water supplies are less than 75 percent of normal
  - Improve public drinking supplies
  - Restore water for irrigating commercial crops
  - Protect fish and wildlife



# Drought Funding Eligibility

- The applicant must be a public entity
- The applicant must be capable of implementing the proposal in a timely manner
- The associated water use must be an existing use under a legal water right
- The applicant must provide a 50 percent funding match, unless “fiscally disadvantaged.”

<http://www.ecy.wa.gov/drought/>

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