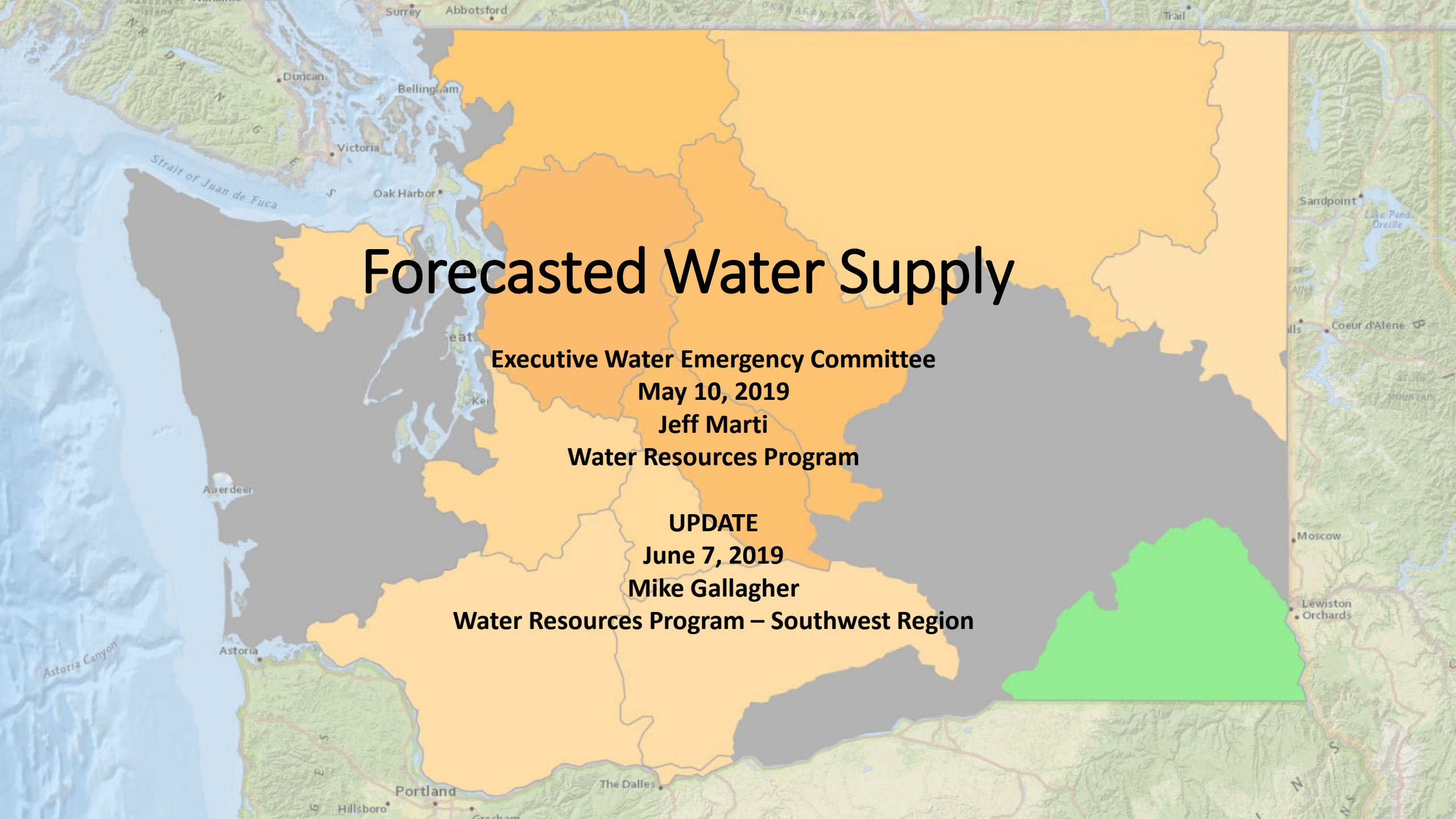


Forecasted Water Supply

Executive Water Emergency Committee
May 10, 2019
Jeff Marti
Water Resources Program

UPDATE
June 7, 2019
Mike Gallagher
Water Resources Program – Southwest Region

173-166-030
Definitions.

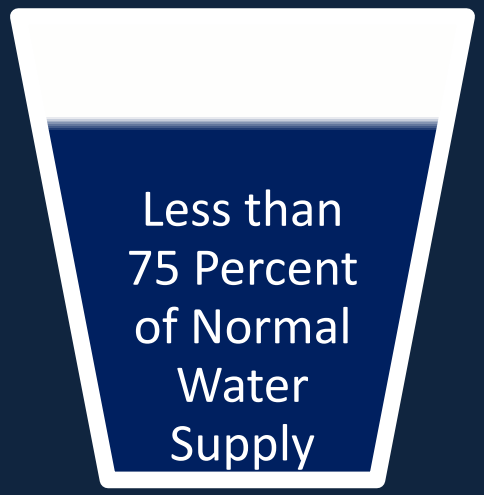
(2) **"Drought conditions"** are water supply conditions where a geographical area or a significant part of a geographical area is receiving, or is projected to receive, less than seventy-five percent of normal water supply as the result of natural conditions and the deficiency causes, or is expected to cause, undue hardship to water users within that area.

(5) **"Geographical area"** is an area within the state of Washington which can be described either by natural or political boundaries and which can be specifically identified in an order declaring a drought emergency. Examples of specific geographical areas include, but are not limited to:

(a) The state of Washington.
(b) Counties.
(c) Water resource inventory areas (WRIAs) as defined in chapter 173-500 WAC.
(d) Individual watersheds which constitute only a portion of a WRIA but whose boundaries can be topographically described.
(e) Groundwater management areas and subareas as defined in chapter 173-100 WAC.
(f) Designated sole source aquifers.
(g) Combinations of the above areas.

(6) **"Normal water supply"** is for the purpose of determining drought conditions, the median amount of water available to a geographical area, relative to the most recent thirty-year base period used to define climate normals. The determination of drought conditions will consider seasonal water supply forecasts, other relevant hydro-meteorological factors (e.g., precipitation, snowpack, soil moisture, streamflow, and aquifer levels) **and also may consider extreme departures from normal conditions over subseasonal time frames. (emphasis added)**

Washington State's Drought Trigger



Hardship

Drought

RCW 43.83B.400

Northwest River Forecast Center
ESP Natural Forecast

River and Hydrology | Water Supply | Observations | Weather Forecasts | Climate | NWRFC

Home | Zoom Out | --- Quick Zooms --- | ESP Issued: 2019-05-09 | Ensemble Date: 2019-05-09 | Permalink

Search

Enter NWS ID:

GO

Map Overlays

- [x] NWRFC Boundary
- [ ] NWRFC Basins
- [ ] NWS HSAs
- [ ] Counties

ESP Natural Forecast

- Natural Status
- (•) Natural % of Normal
- Rank (ASC)
- Rank (DESC)
- Exceedance (%)
- Percentile (%)

Natural Runoff

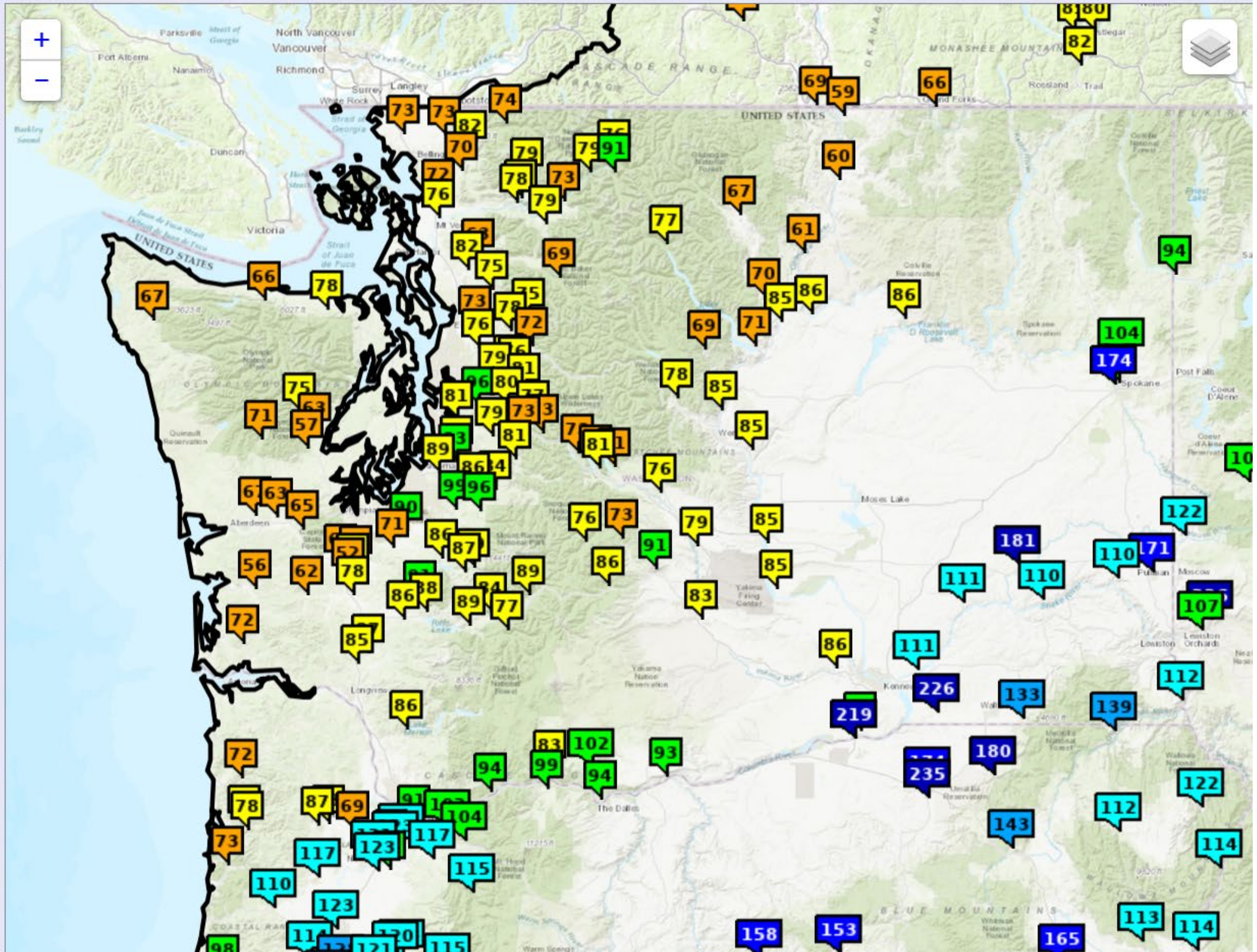
- Runoff Status
- Runoff % of Normal

ESP Natural Forecast

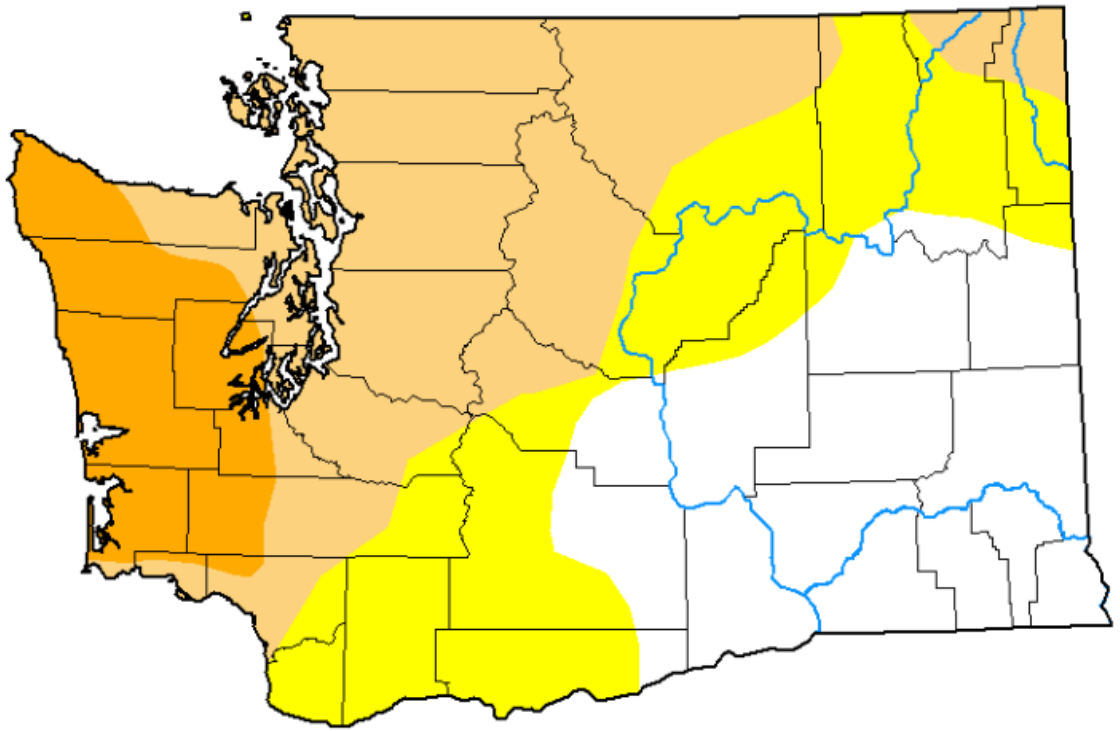
Period: APR-SEP

Forecast (% Normal)

- No Normal, No Data
- < 25
- 25-50
- 50-75
- 75-90
- 90-110
- 110-125
- 125-150
- 150-175
- > 175



United States Drought Monitor



Map released: Thurs. June 6, 2019

Data valid: June 4, 2019 at 8 a.m. EDT

Intensity:

- None
- D0 (Abnormally Dry)
- D1 (Moderate Drought)
- D2 (Severe Drought)
- D3 (Extreme Drought)
- D4 (Exceptional Drought)
- No Data

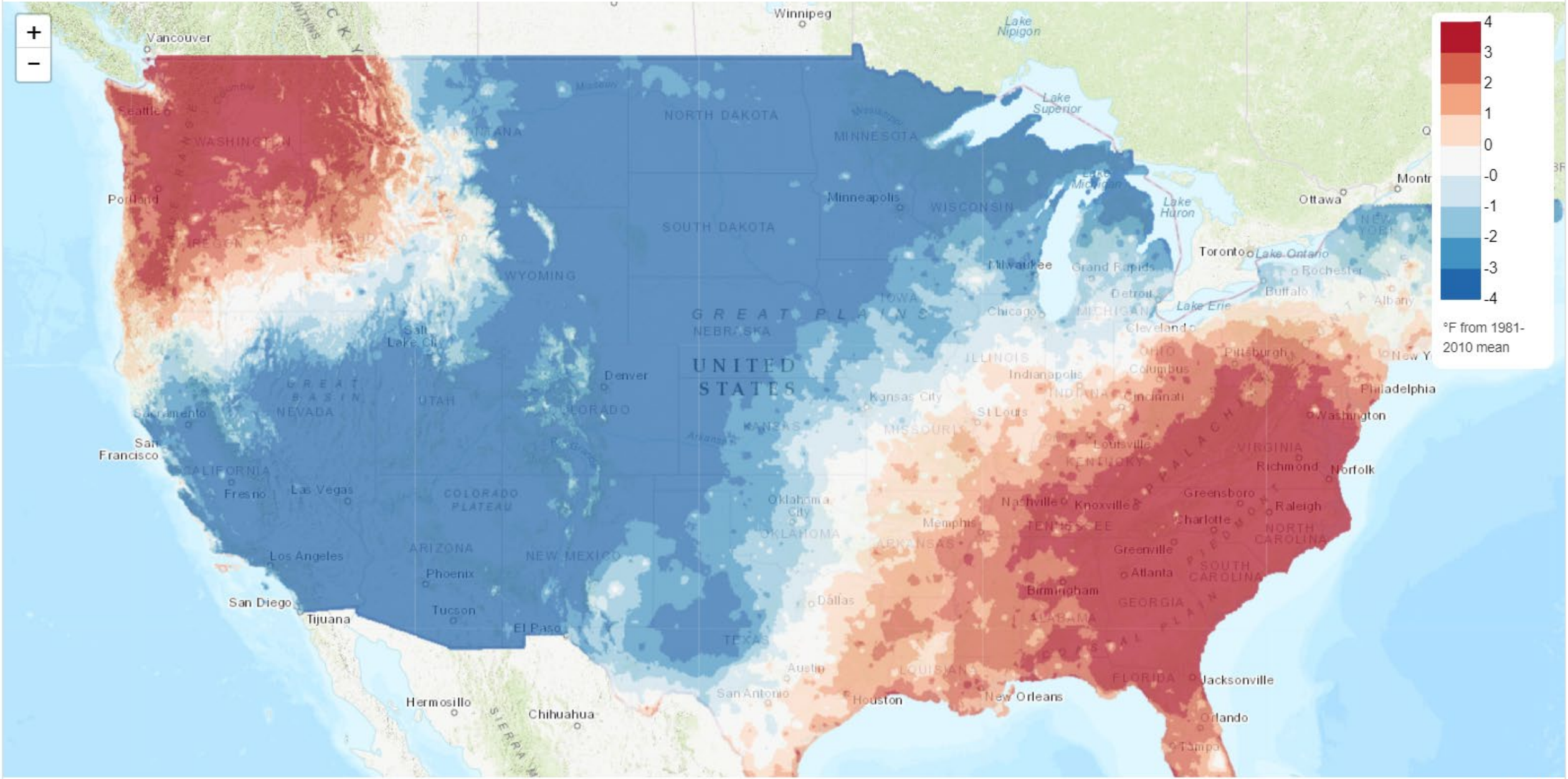
Author(s):

David Simeral, Western Regional Climate Center

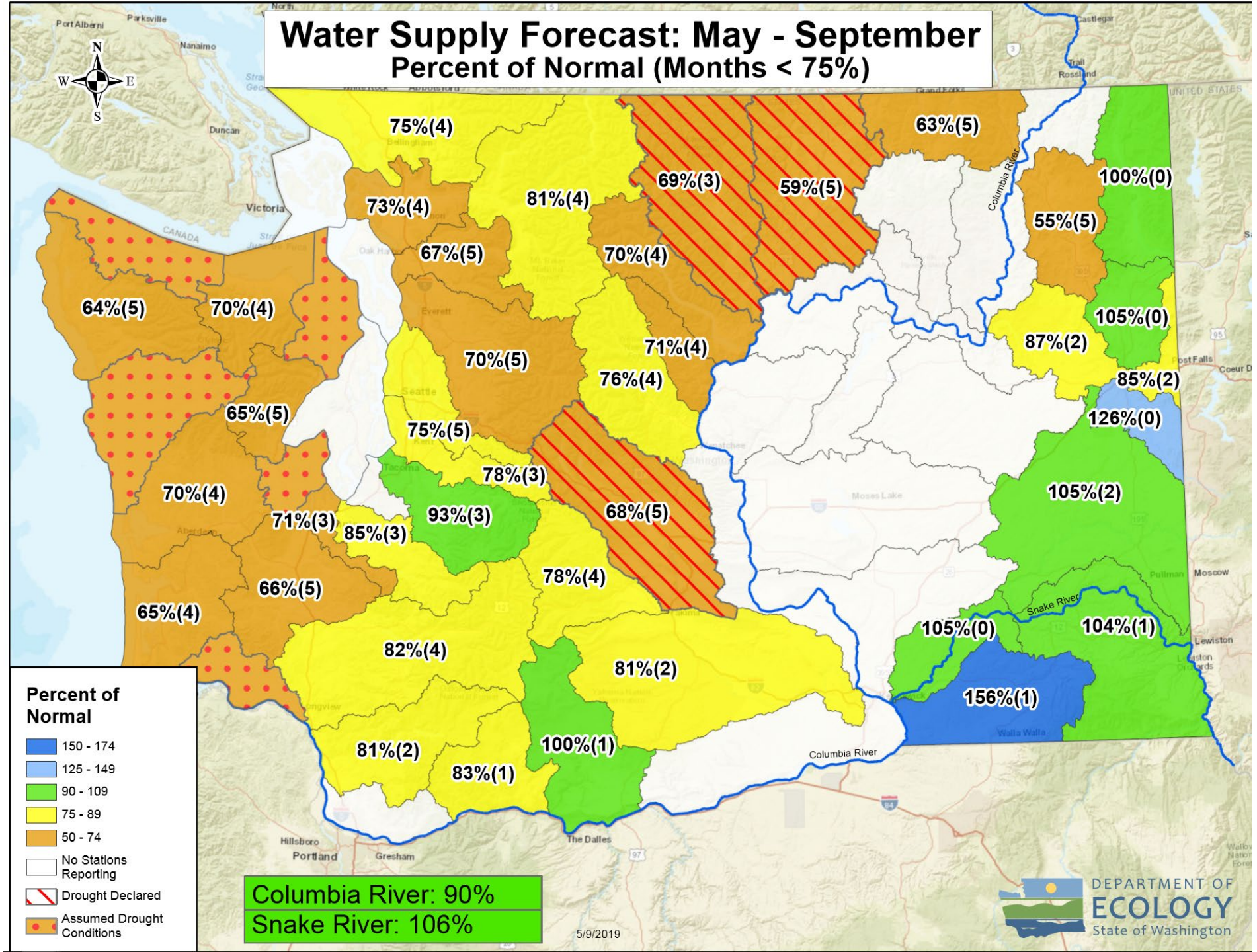
*The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying **text summary** for forecast statements.*

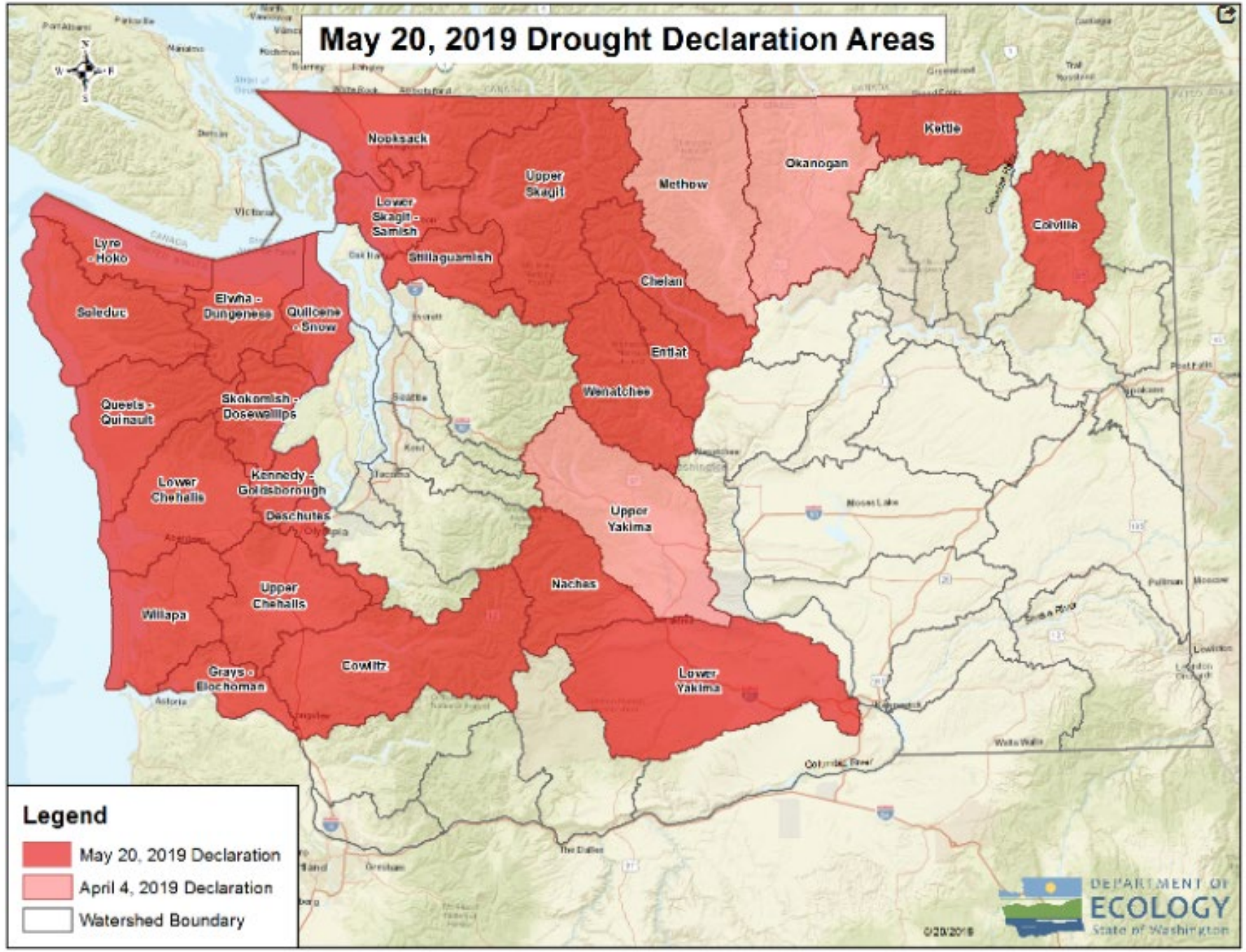
Mean Daily Temperature Anomaly, Last 30 Days

2019/05/04 - 2019/06/02



NW Climate Toolbox, Data: gridMET


Water Supply Forecast: May - September
Percent of Normal (Months < 75%)
75%(4)
73%(4)
81%(4)
69%(3)
59%(5)
63%(5)
100%(0)
55%(5)
67%(5)
70%(4)
64%(5)
70%(4)
105%(0)
87%(2)
71%(4)
70%(5)
76%(4)
85%(2)
65%(5)
126%(0)
75%(5)
78%(3)
70%(4)
105%(2)
93%(3)
68%(5)
71%(3)
85%(3)
78%(4)
66%(5)
65%(4)
105%(0)
104%(1)
82%(4)
81%(2)
156%(1)
81%(2)
100%(1)
83%(1)
Columbia River
Snake River
Columbia River: 90%
Snake River: 106%
5/9/2019
Percent of Normal
150 - 174
125 - 149
90 - 109
75 - 89
50 - 74
No Stations Reporting
Drought Declared
Assumed Drought Conditions
DEPARTMENT OF ECOLOGY
State of Washington


May 20, 2019 Drought Declaration Areas
Nooksack
Upper Skagit
Lower Skagit - Samish
Stillaguamish
Methow
Okanogan
Kettle
Colville
Chelan
Entiat
Wenatchee
Lyre - Hoko
Soleduc
Elwha - Dungeness
Quilcene - Snow
Queets - Quinault
Skokomish - Dosewallips
Lower Chehalis
Kennedy - Goldsborough
Deschutes
Upper Yakima
Nachas
Upper Chehalis
Willapa
Cowlitz
Grays - Elochoman
Lower Yakima
Legend
May 20, 2019 Declaration
April 4, 2019 Declaration
Watershed Boundary
DEPARTMENT OF ECOLOGY
State of Washington

Funding now available to public agencies for drought relief - June 4, 2019

OLYMPIA – Public agencies experiencing hardships related to drought conditions may now be eligible for funds to ease drought-related effects.

Beginning today, the Washington Department of Ecology is accepting applications for grants. Public agencies, such as towns or irrigation districts, can apply for up to $350,000 which must be matched by the applicant. The grants could be used for projects such as emergency standby wells for rural communities, or help for hatcheries to maintain cool clean water for fish.

The 2019 Legislature appropriated $2 million for drought response.

“This funding is meant to help our communities be more resilient,” said Mary Verner, Ecology’s Water Resources Program manager. “Conditions are expected to worsen over the summer and we want to be able to act quickly if needed.”

Last month, the state expanded the drought emergency that was declared in April and now includes a total of 27 watersheds. This designation allows Ecology to expedite emergency water right permitting, as well as making funds available to address hardships caused by drought conditions.

“We’re coming out of a mediocre snowpack winter with lower-than-normal precipitation,” said Jeff Marti, Ecology’s drought coordinator. “Additionally, we’re seeing some of the driest conditions on record in the northwest part of the state, while locations in the southeast have experienced recent flood watches.”

There are two factors considered for the state to issue an emergency drought declaration: Water supply conditions that are currently or projected to be at or below 75 percent of average, and a projection of undue hardships.

For more information about the grants or to apply, please visit Ecology’s drought website.

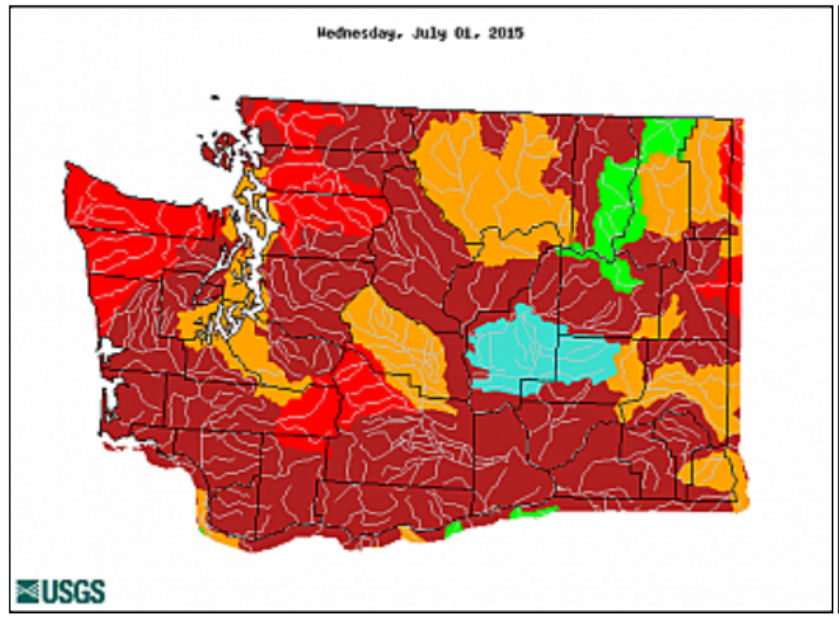
Comparison of Streamflow Maps

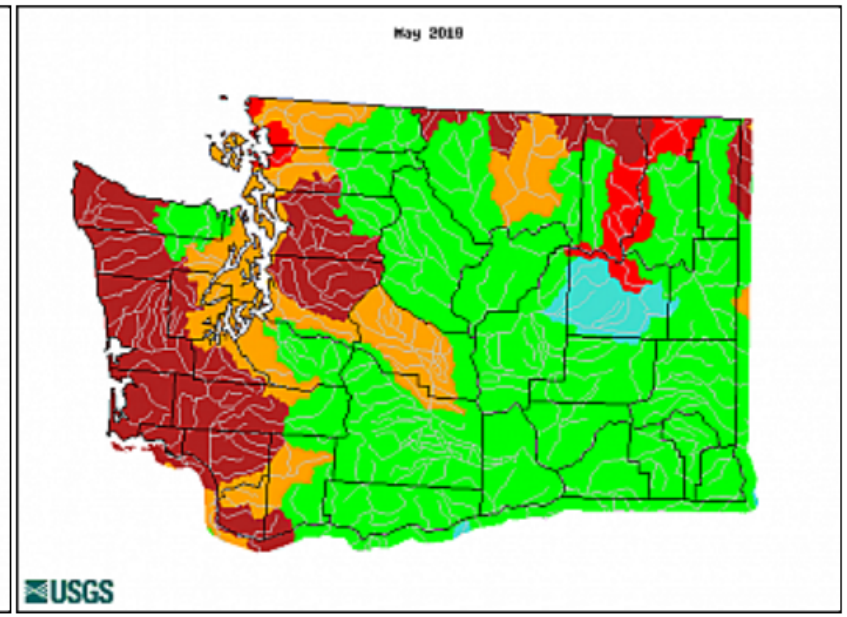
Geographic area: Washington **Water resource region:** GO

Map type: Monthly Streamflow (month of year) **Sub type:** HUC Streamflow Map

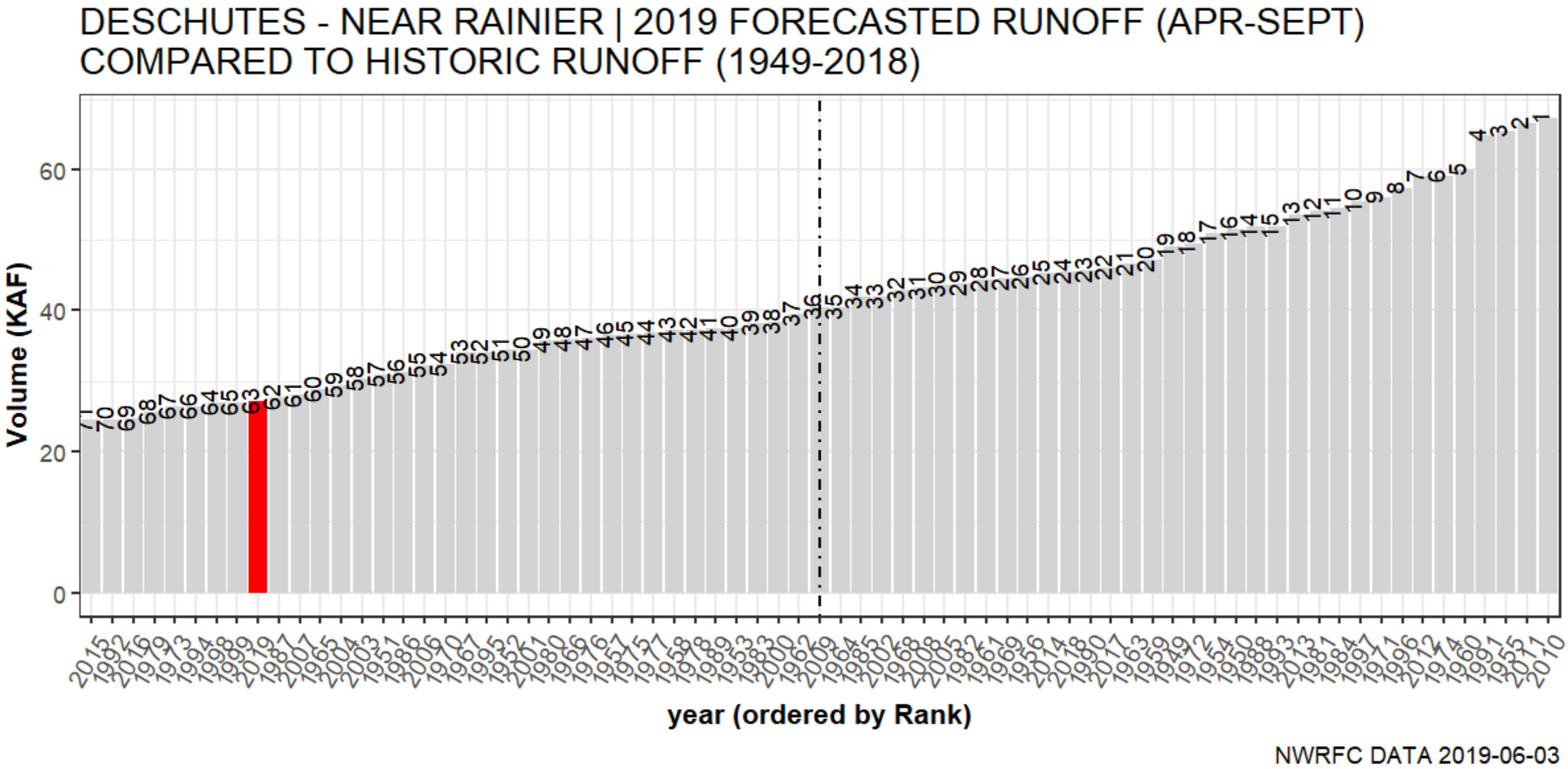
Date (YYYYMM): 201506

Date (YYYYMM): 201905





Explanation - Percentile classes							
Low	<10	10-24	25-75	76-90	>90	High	No Data
	Much below normal	Below normal	Normal	Above normal	Much above normal		


DESCHUTES - NEAR RAINIER | 2019 FORECASTED RUNOFF (APR-SEPT)
COMPARED TO HISTORIC RUNOFF (1949-2018)
Volume (KAF)
0
20
40
60
year (ordered by Rank)
NWRFC DATA 2019-06-03

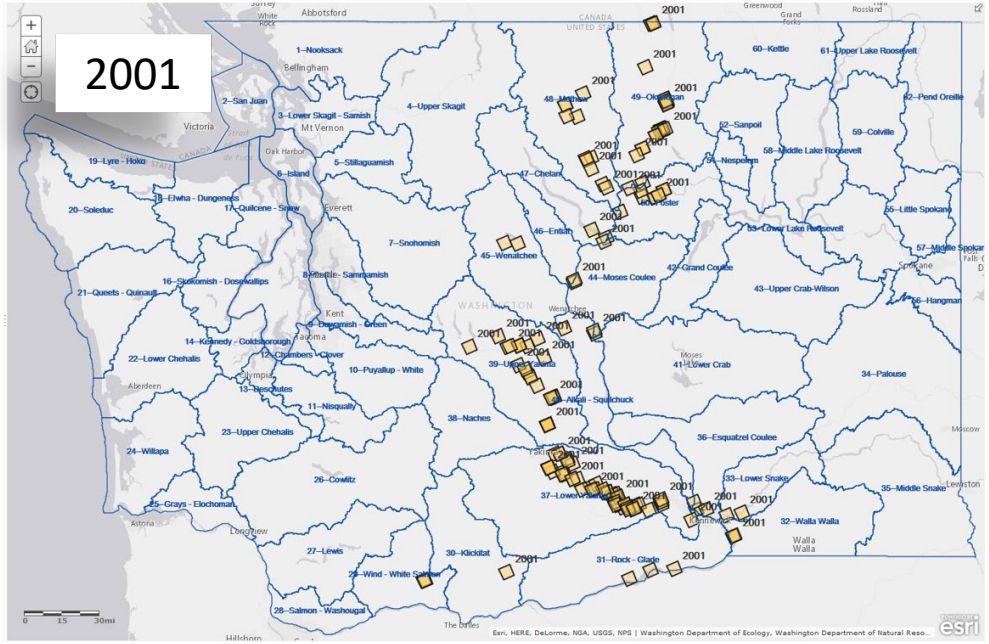


Figure 25 Emergency Drought Permit Authorizations 2001 (169 total)

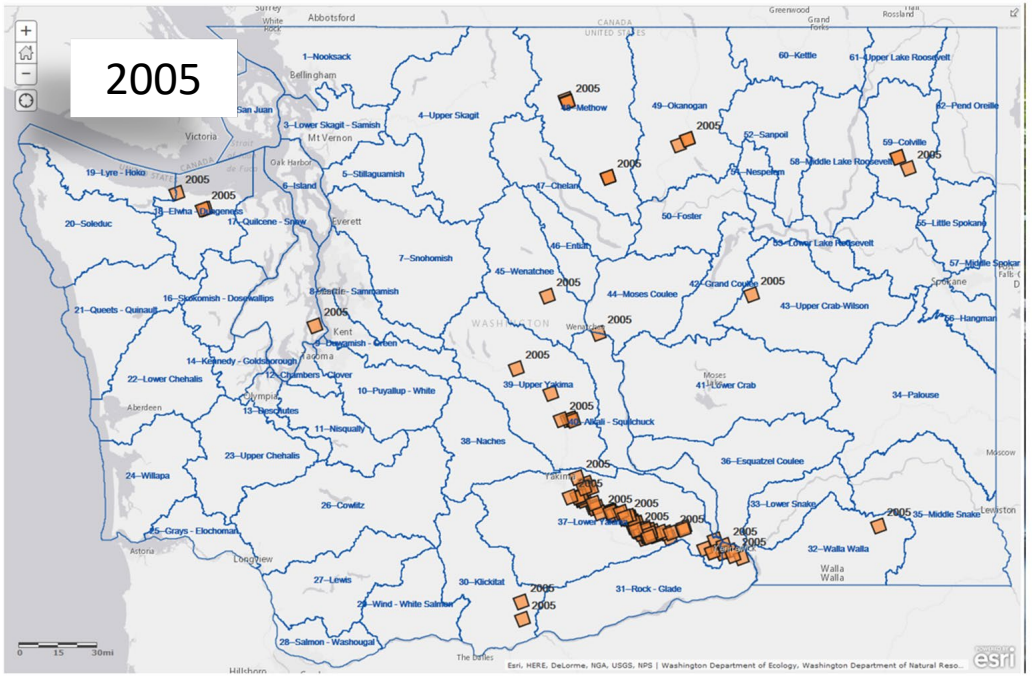


Figure 26 Emergency Drought Authorizations 2005 (119 total)

Count of emergency drought Permits during previous statewide drought years

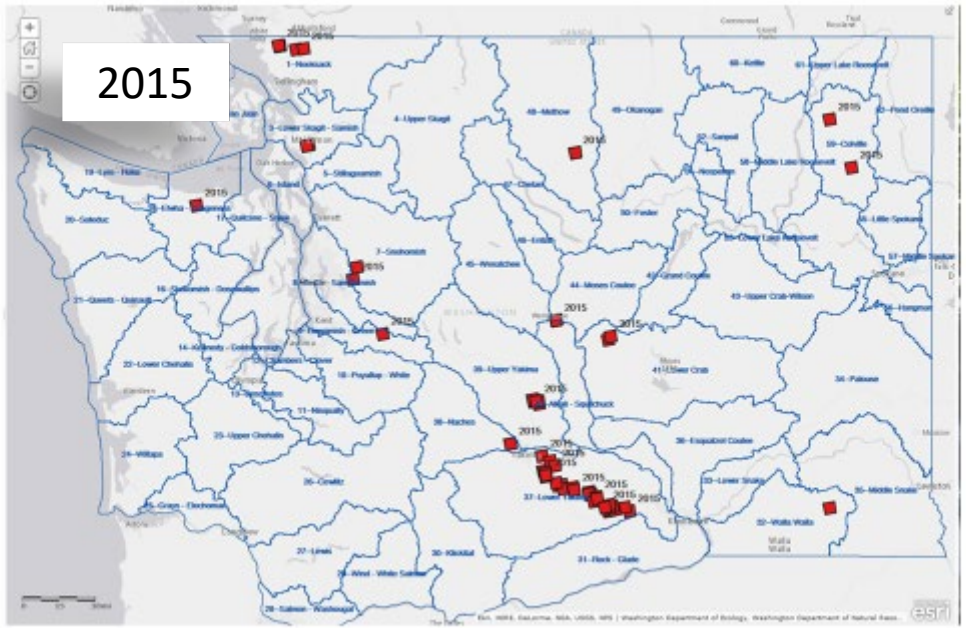


Figure 27 Emergency Drought Authorizations 2015 (71 total)