

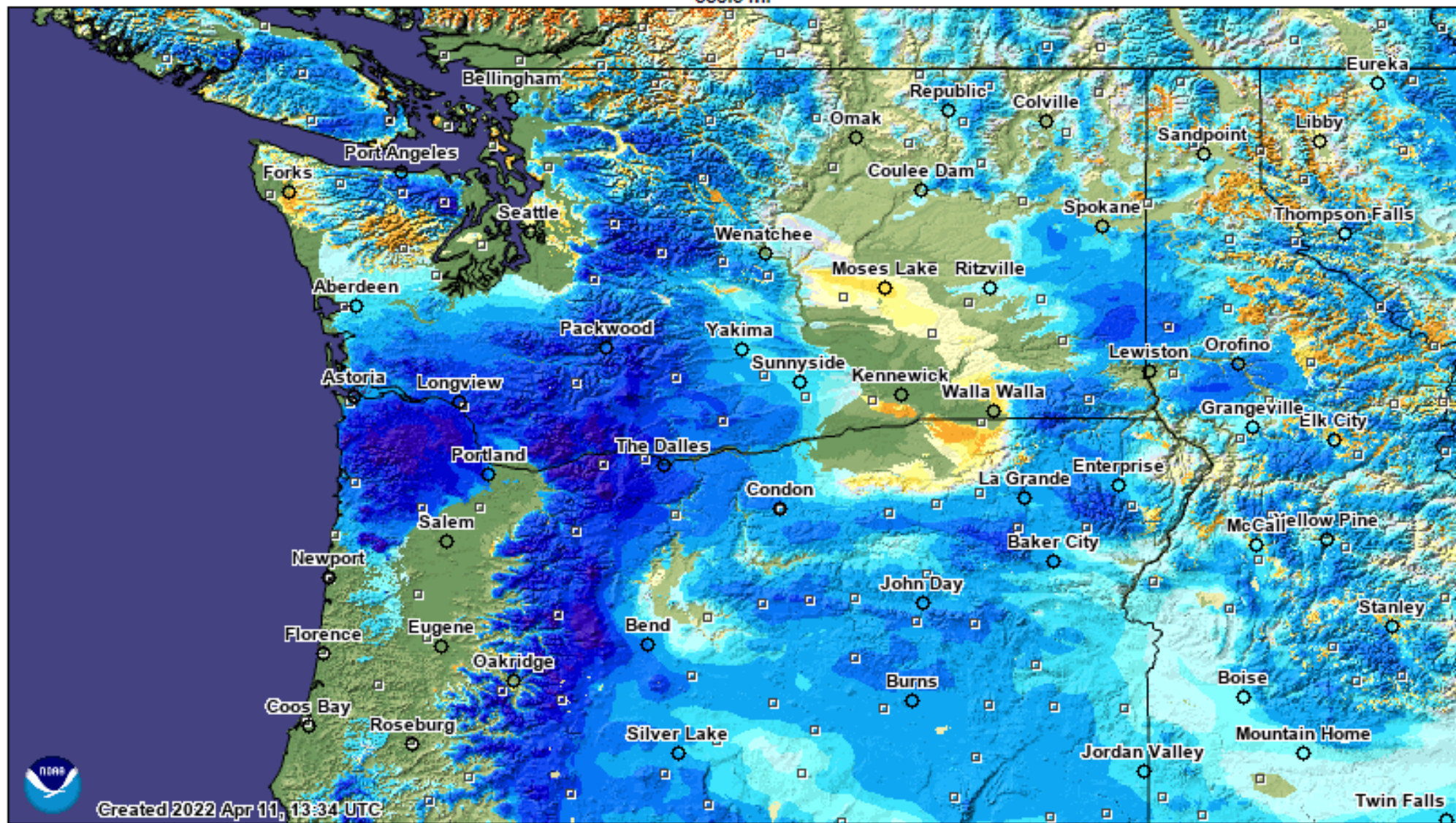
Water Supply Update a.k.a. “Curb Your Enthusiasm”

Jeff Marti, Water Resources Program

April 11, 2022

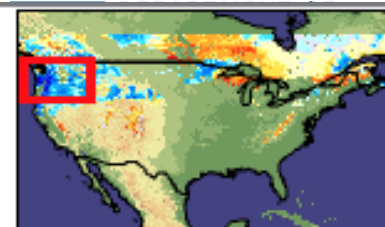
Change in Modeled Snow Water Equivalent forecasted for 24h preceding 2022 April 11, 12:00 UTC

558.3 mi

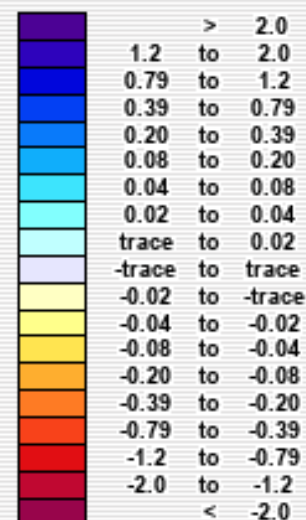


Created 2022 Apr 11, 13:34 UTC

633.7 mi

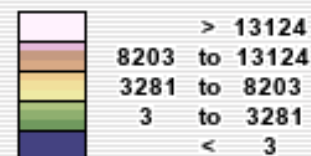


Inches of water equivalent

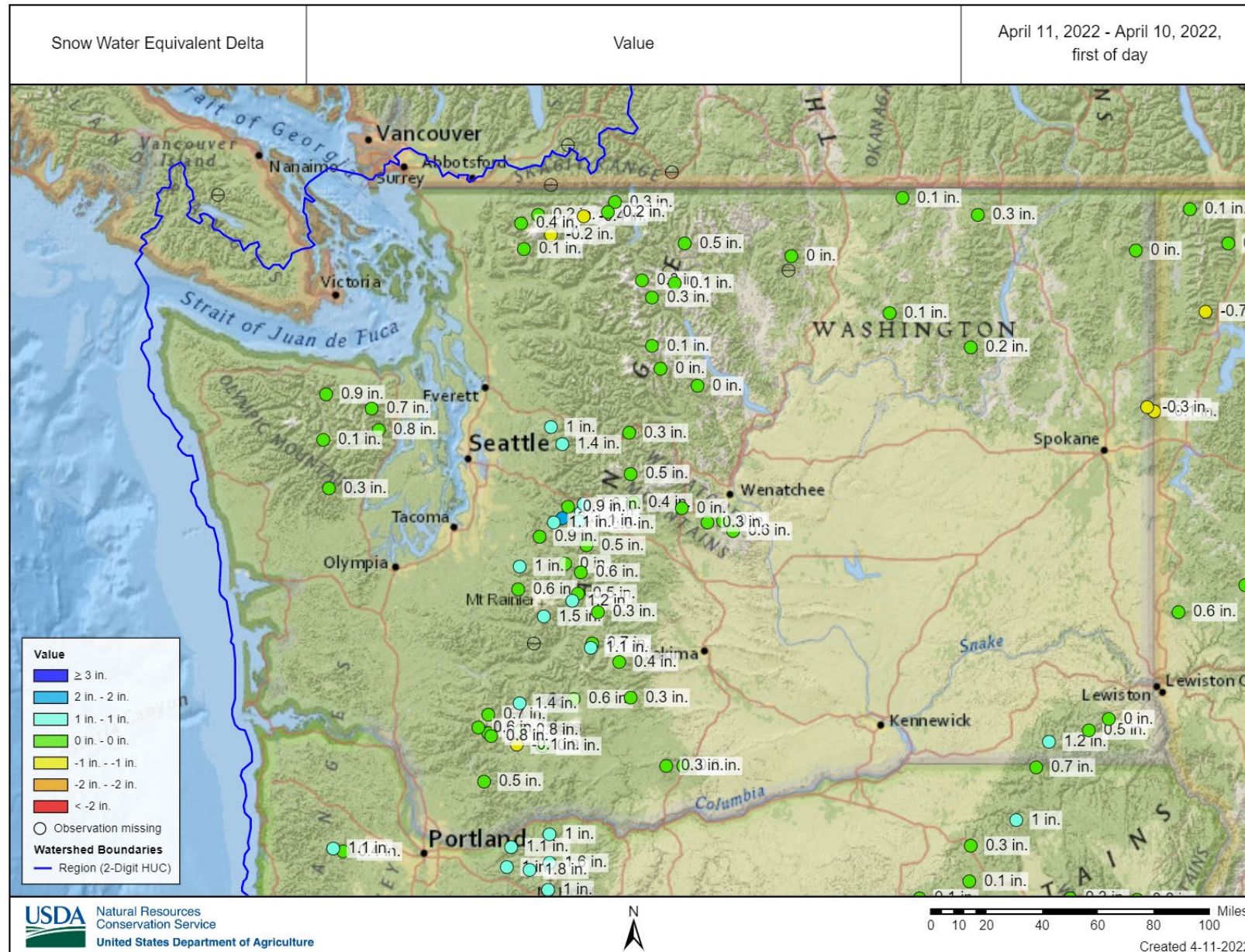


Not Estimated

Elevation in feet



Change in Snow Water Equivalent Yesterday to This Morning



SNOW WATER EQUIVALENT AT TOUCHET

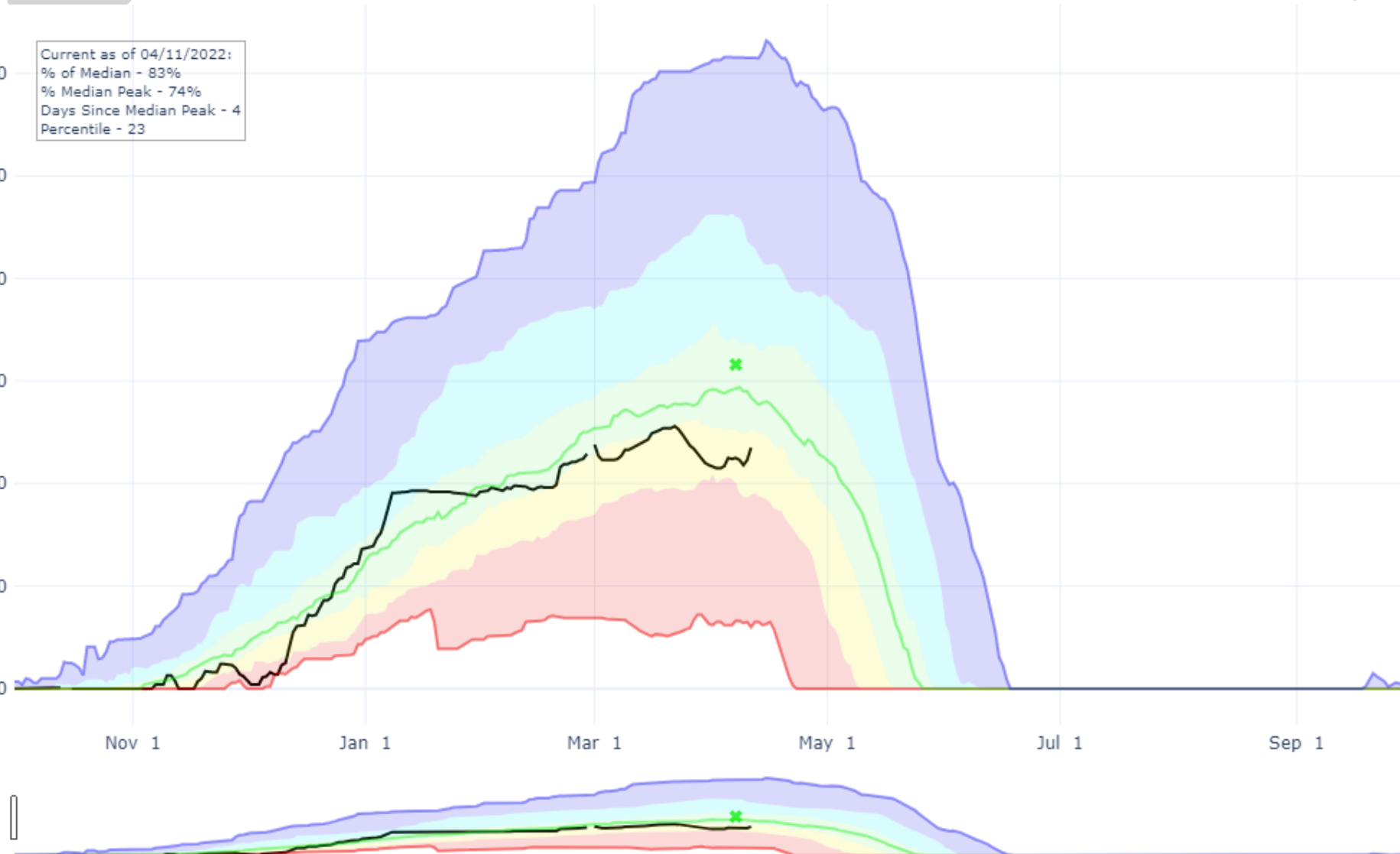
Reset Range

[Link to data: CSV / JSON](#)

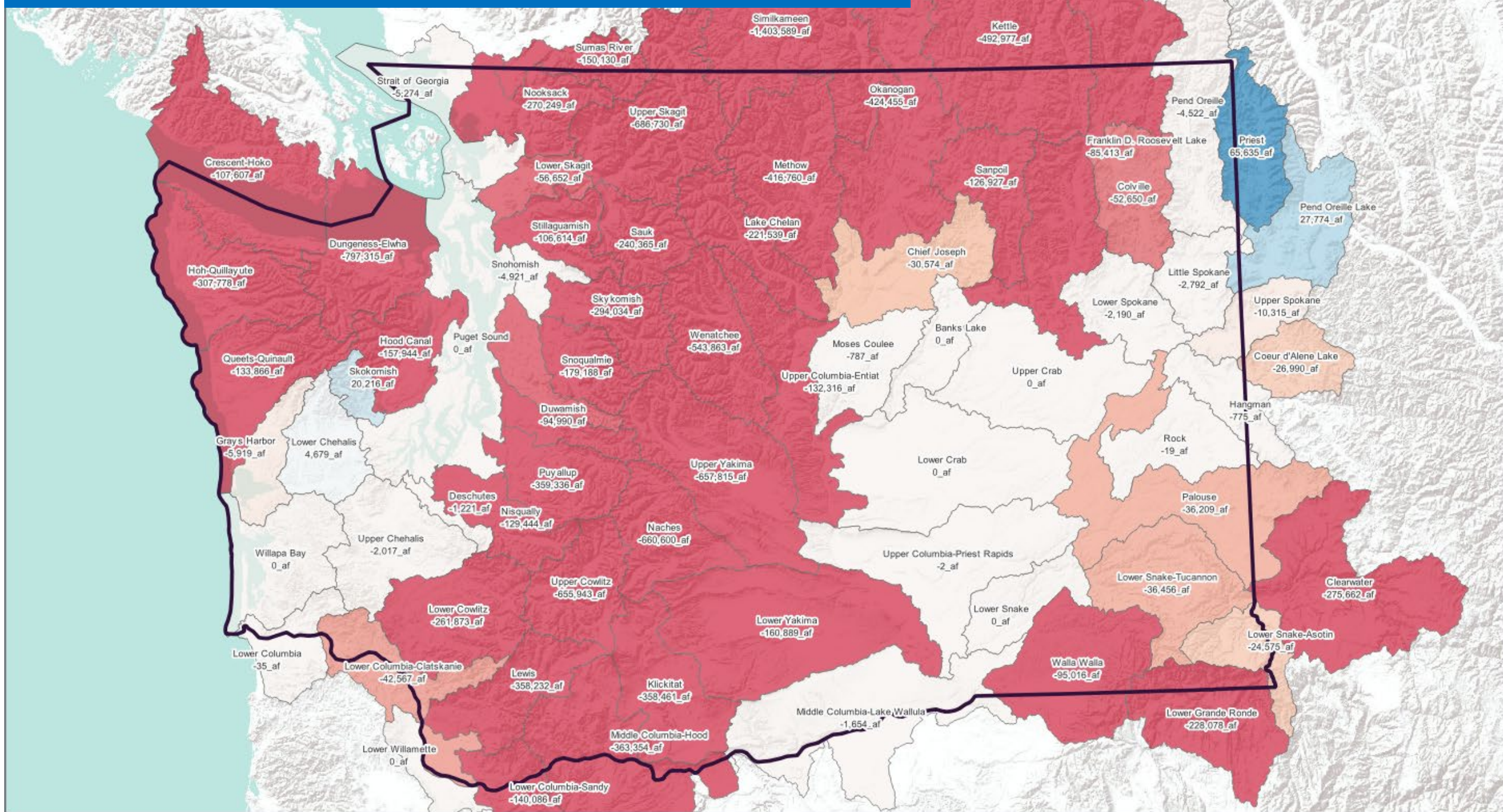
Current as of 04/11/2022:
% of Median - 83%
% Median Peak - 74%
Days Since Median Peak - 4
Percentile - 23

Snow Water Equivalent (in.)

- ✖ Median Peak SWE
- Max
- Median (POR)
- Median ('91-'20)
- Min
- Stats. Shading
- 2022
- 2021
- 2020
- 2019
- 2018
- 2017
- 2016
- 2015
- 2014
- 2013
- 2012
- 2011
- 2010
- 2009
- 2008
- 2007
- 2006
- 2005
- 2004
- 2003

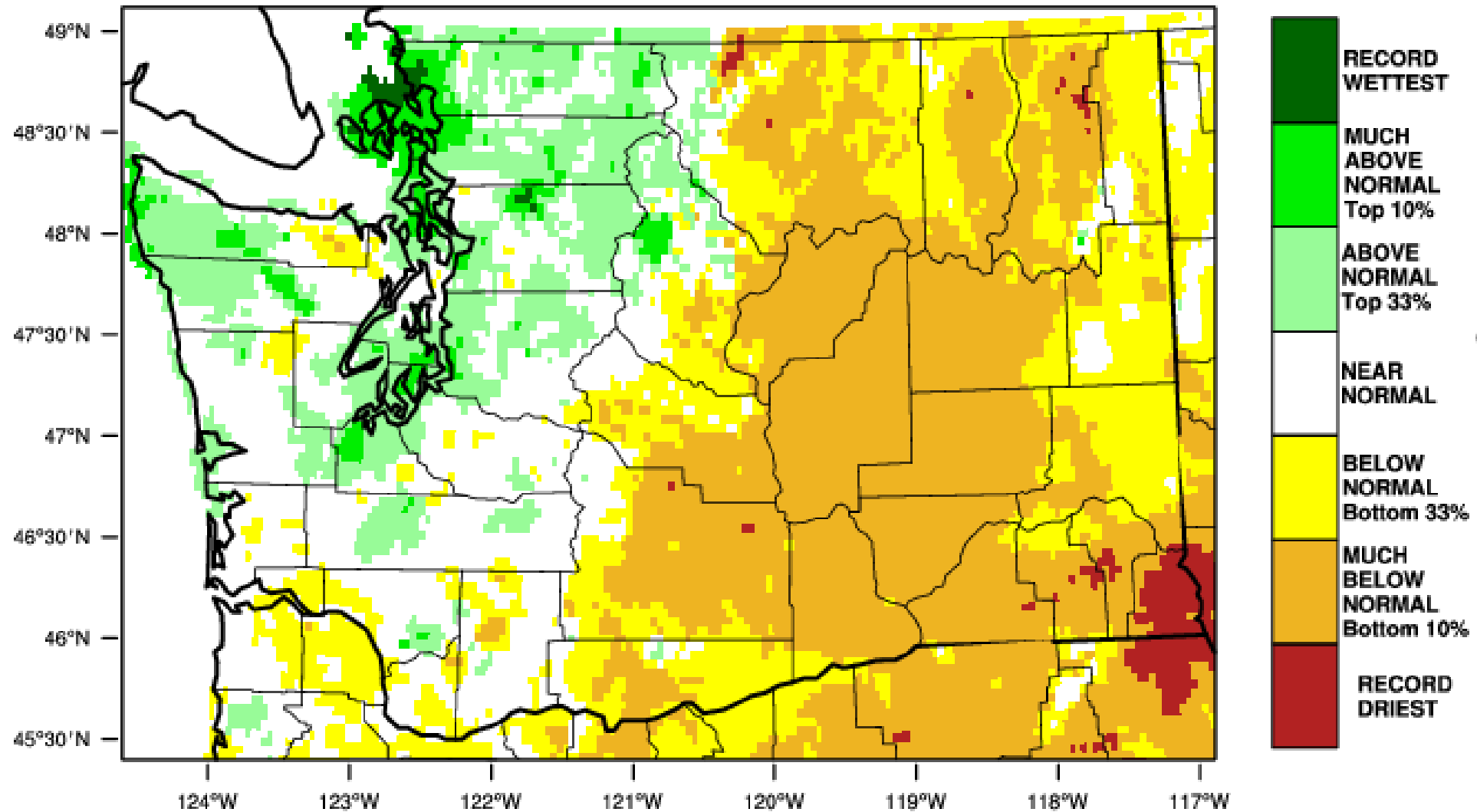


SNOW STORAGE DIFFERENCE by HUC 8: THIS YEAR VS LAST YEAR (April 1)



Washington - Precipitation

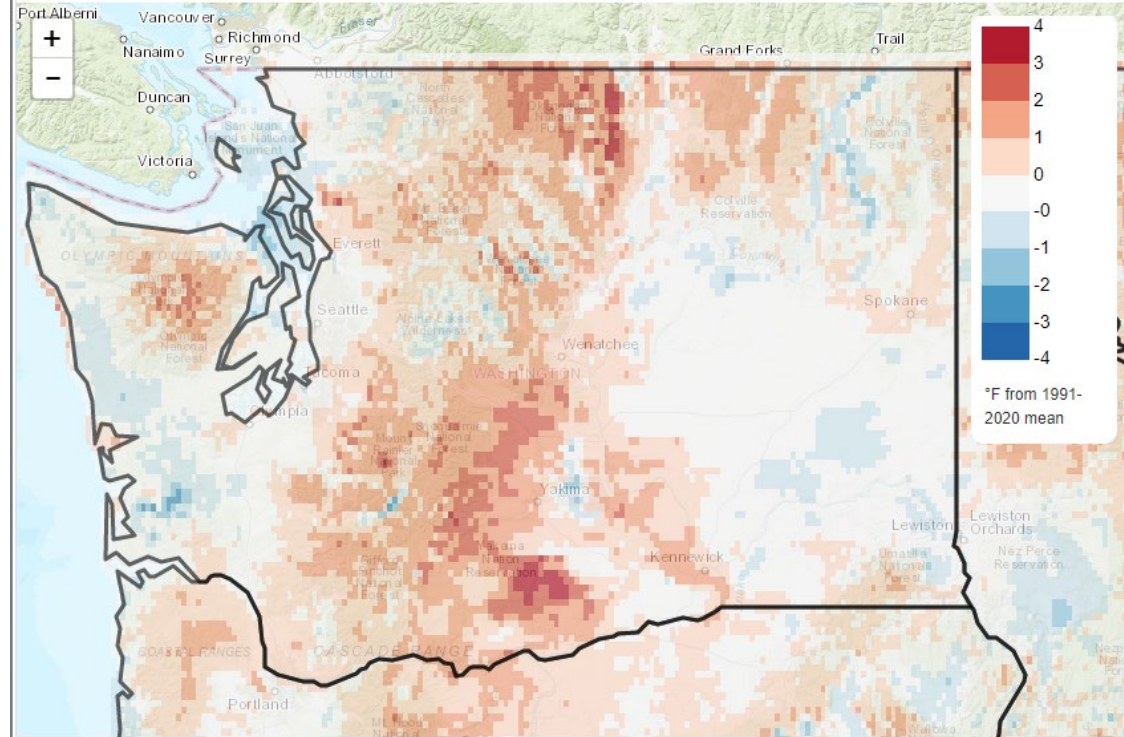
April-March 2022 Percentile



WestWide Drought Tracker, U Idaho/WRCC Data Source: PRISM (Prelim), created 5 APR 2022

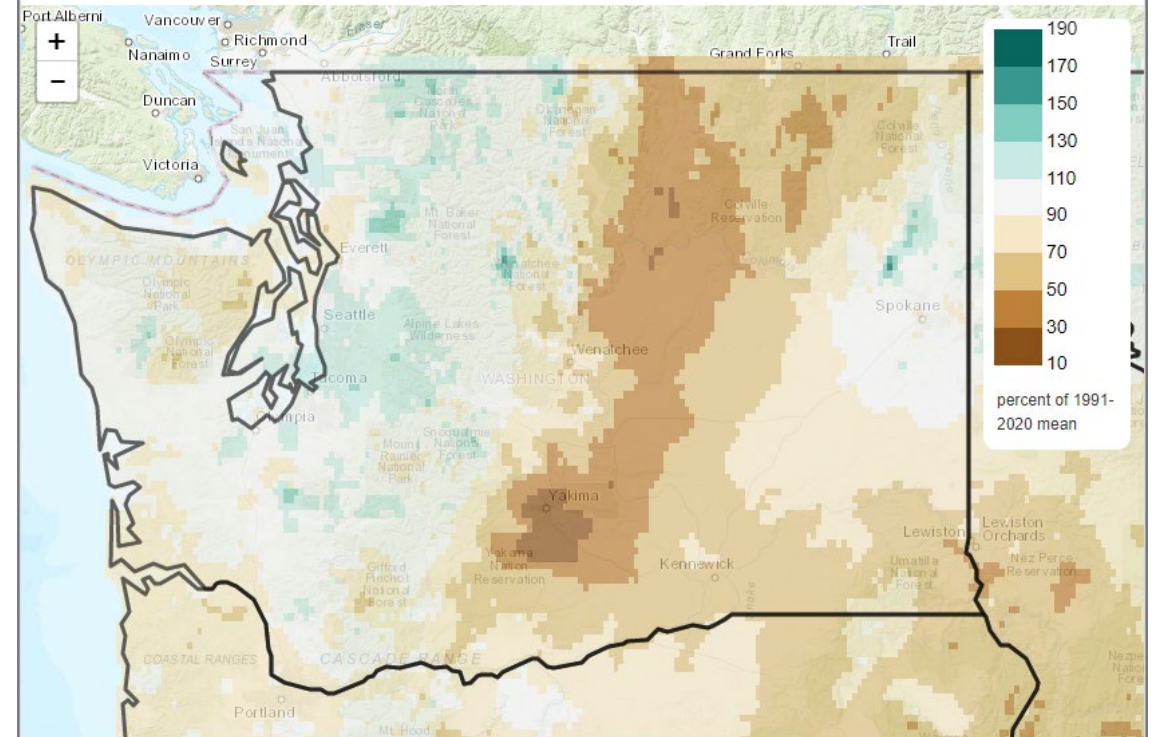
Mean Daily Temperature Anomaly, Last 60 Days

2022/02/09 - 2022/04/09

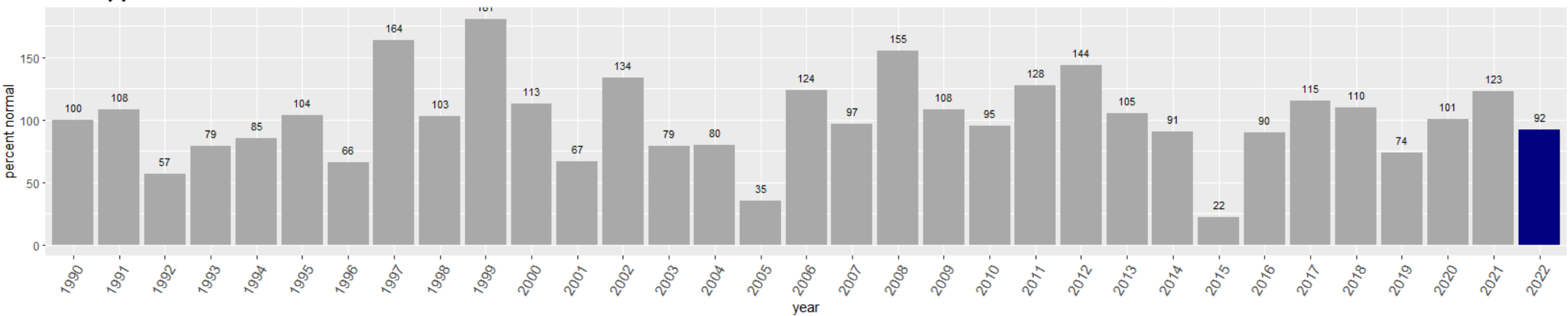


Total Precipitation Anomaly, Last 60 Days

2022/02/09 - 2022/04/09

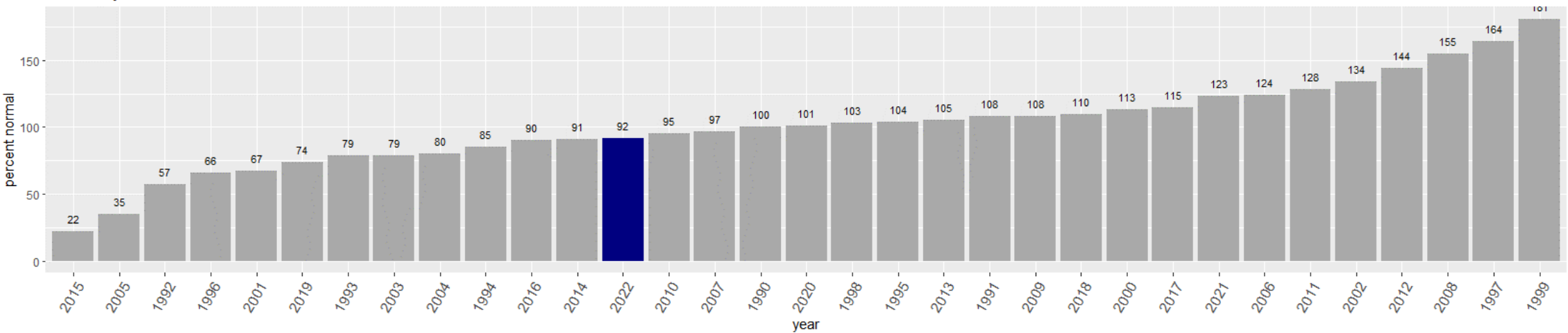


Washington statewide average Snow Water Equivalent on April 11 compared to previous years
sorted by year



NRCS data (1991-2020 Normals)

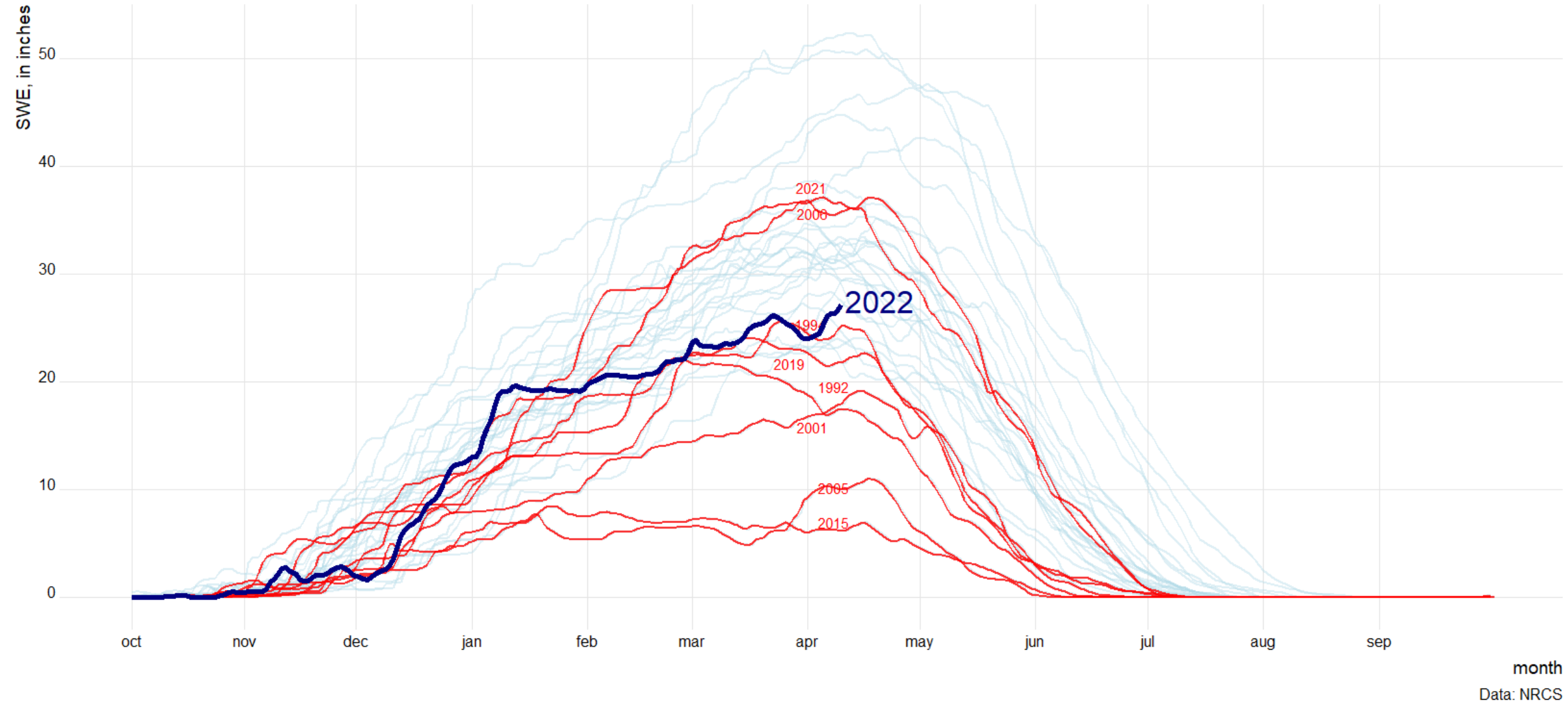
ranked by SWE



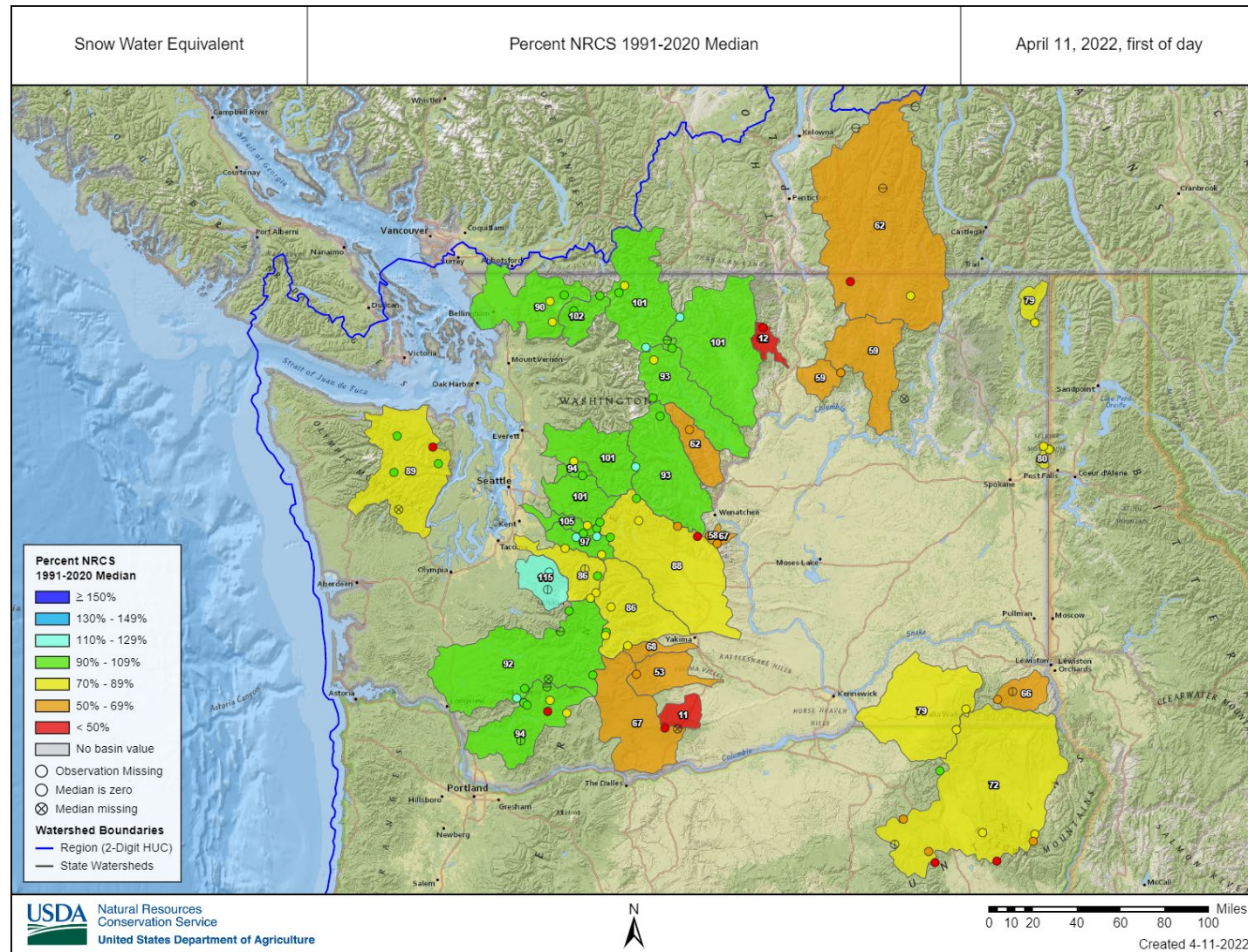
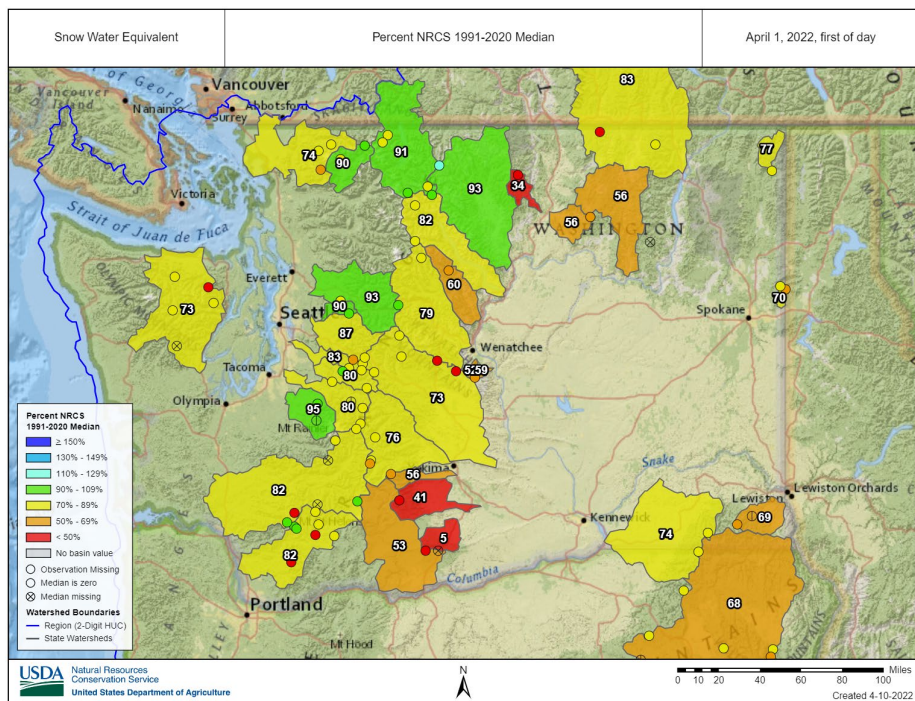
NRCS data (1991-2020 Normals)

Average Washington State SWE (SNOTEL)

Water Years: 1990 - 2022 Created on: 2022-04-11



month
Data: NRCS



Statewide Average SWE
 April 1: 80% of Normal
 April 11: 92% of Normal

BASIN SWE PROJECTIONS

| Basins/Projection Periods | | | Current | Percentile Projections | | | | | | |
|---------------------------|-----------|----------------|----------|------------------------|------------|------------|------------|------------|------------|------------|
| subbasins | queryDate | projectionDate | todaySWE | Minpctproj | x10pctproj | x30pctproj | x50pctproj | x70pctproj | x90pctproj | Maxpctproj |
| Ahtanum | 04-11 | 05-01 | 68 | 19 | 24 | 46 | 58 | 66 | 78 | 89 |
| Asotin | 04-11 | 05-01 | 67 | 0 | 0 | 0 | 50 | 50 | 62 | 200 |
| Baker | 04-11 | 05-01 | 102 | 92 | 95 | 99 | 104 | 106 | 112 | 113 |
| Cedar | 04-11 | 05-01 | 105 | 88 | 94 | 109 | 119 | 125 | 141 | 161 |
| Colckum | 04-11 | 05-01 | 67 | 0 | 0 | 0 | 7 | 52 | 102 | 148 |
| Concully Lake | 04-11 | 05-01 | 12 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Cowlitz | 04-11 | 05-01 | 93 | 77 | 81 | 88 | 92 | 97 | 103 | 113 |
| Entiat | 04-11 | 05-01 | 62 | 0 | 0 | 0 | 7 | 24 | 46 | 104 |
| Grande Ronde | 04-11 | 05-01 | 72 | 14 | 26 | 52 | 62 | 69 | 80 | 104 |
| Green | 04-11 | 05-01 | 97 | 72 | 73 | 88 | 98 | 104 | 121 | 141 |
| Kettle | 04-11 | 05-01 | 62 | 0 | 0 | 0 | 50 | 88 | 175 | 254 |
| Klickitat | 04-11 | 05-01 | 67 | 23 | 30 | 47 | 56 | 69 | 79 | 98 |
| Lake Chelan | 04-11 | 05-01 | 93 | 77 | 85 | 89 | 93 | 98 | 102 | 108 |
| Lewis | 04-11 | 05-01 | 90 | 55 | 68 | 78 | 86 | 90 | 105 | 121 |
| Methow | 04-11 | 05-01 | 116 | 107 | 117 | 122 | 129 | 136 | 145 | 148 |
| Naches | 04-11 | 05-01 | 86 | 66 | 74 | 81 | 86 | 91 | 94 | 101 |
| Newman Lake | 04-11 | 05-01 | 80 | 0 | 11 | 44 | 60 | 84 | 124 | 204 |
| Nooksack | 04-11 | 05-01 | 90 | 73 | 78 | 85 | 91 | 96 | 100 | 110 |
| Olympic | 04-11 | 05-01 | 89 | 73 | 81 | 89 | 93 | 98 | 108 | 140 |
| Omak | 04-11 | 05-01 | 59 | 0 | 16 | 27 | 44 | 54 | 79 | 103 |
| Puyallup | 04-11 | 05-01 | 115 | 74 | 83 | 102 | 118 | 129 | 142 | 189 |
| Sanpoil | 04-11 | 05-01 | 59 | 0 | 16 | 27 | 44 | 54 | 79 | 103 |
| Satus | 04-11 | 05-01 | 11 | 0 | 0 | 0 | 0 | 1 | 7 | 10 |
| Simcoe-Toppenish | 04-11 | 05-01 | 53 | 0 | 0 | 3 | 19 | 28 | 52 | 73 |
| Skagit | 04-11 | 05-01 | 114 | 97 | 107 | 113 | 116 | 117 | 122 | 130 |
| Skykomish | 04-11 | 05-01 | 101 | 78 | 86 | 99 | 103 | 110 | 116 | 132 |
| Snoqualmie | 04-11 | 05-01 | 101 | 83 | 88 | 104 | 111 | 117 | 126 | 145 |
| Stemilt | 04-11 | 05-01 | 58 | 0 | 0 | 9 | 19 | 34 | 92 | 111 |
| Sullivan | 04-11 | 05-01 | 79 | 50 | 59 | 66 | 76 | 85 | 92 | 98 |
| Tolt | 04-11 | 05-01 | 94 | 71 | 82 | 92 | 98 | 106 | 113 | 130 |
| Upper Yakima | 04-11 | 05-01 | 88 | 59 | 66 | 77 | 84 | 92 | 99 | 111 |
| Walla Walla | 04-11 | 05-01 | 79 | 29 | 51 | 68 | 80 | 81 | 87 | 119 |
| Wenatchee | 04-11 | 05-01 | 93 | 69 | 72 | 84 | 93 | 100 | 107 | 113 |
| White | 04-11 | 05-01 | 86 | 68 | 83 | 87 | 92 | 94 | 98 | 109 |
| NA | NA | Mean SWE | 80 | 45 | 51 | 61 | 72 | 81 | 97 | 122 |

Northwest River Forecast Center

ESP Natural Forecast

Northwest River Forecast Center

ESP Natural Forecast



ology

Water Supply

Observations

Weather Forecasts

Climate

Water Supply

Observations

Weather Forecasts

Climate

NWRF

Zoom Out

--- Quick Zooms ---

ESP Issued: 2022-03-16

Ensemble Date: 2022-03-11

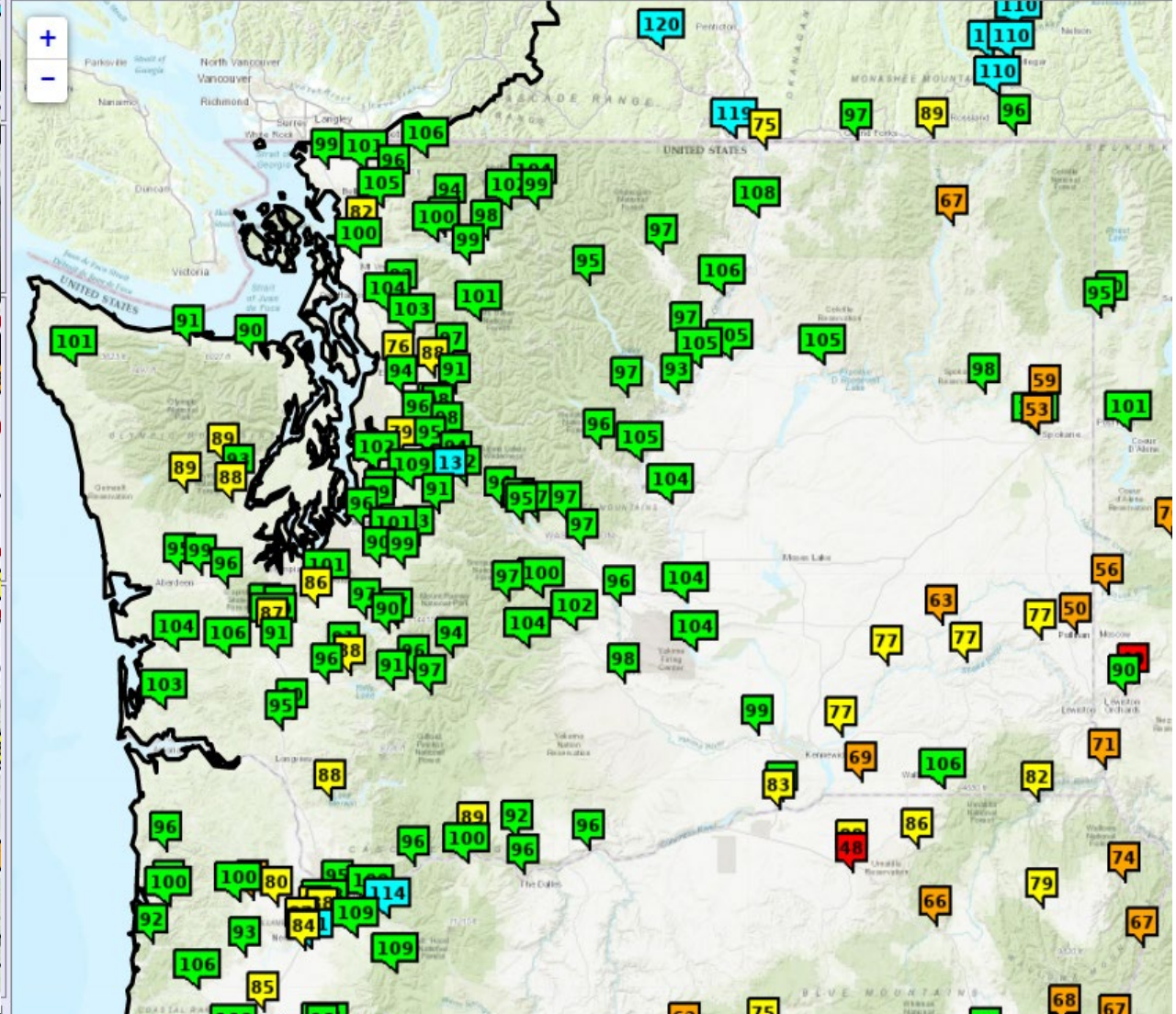
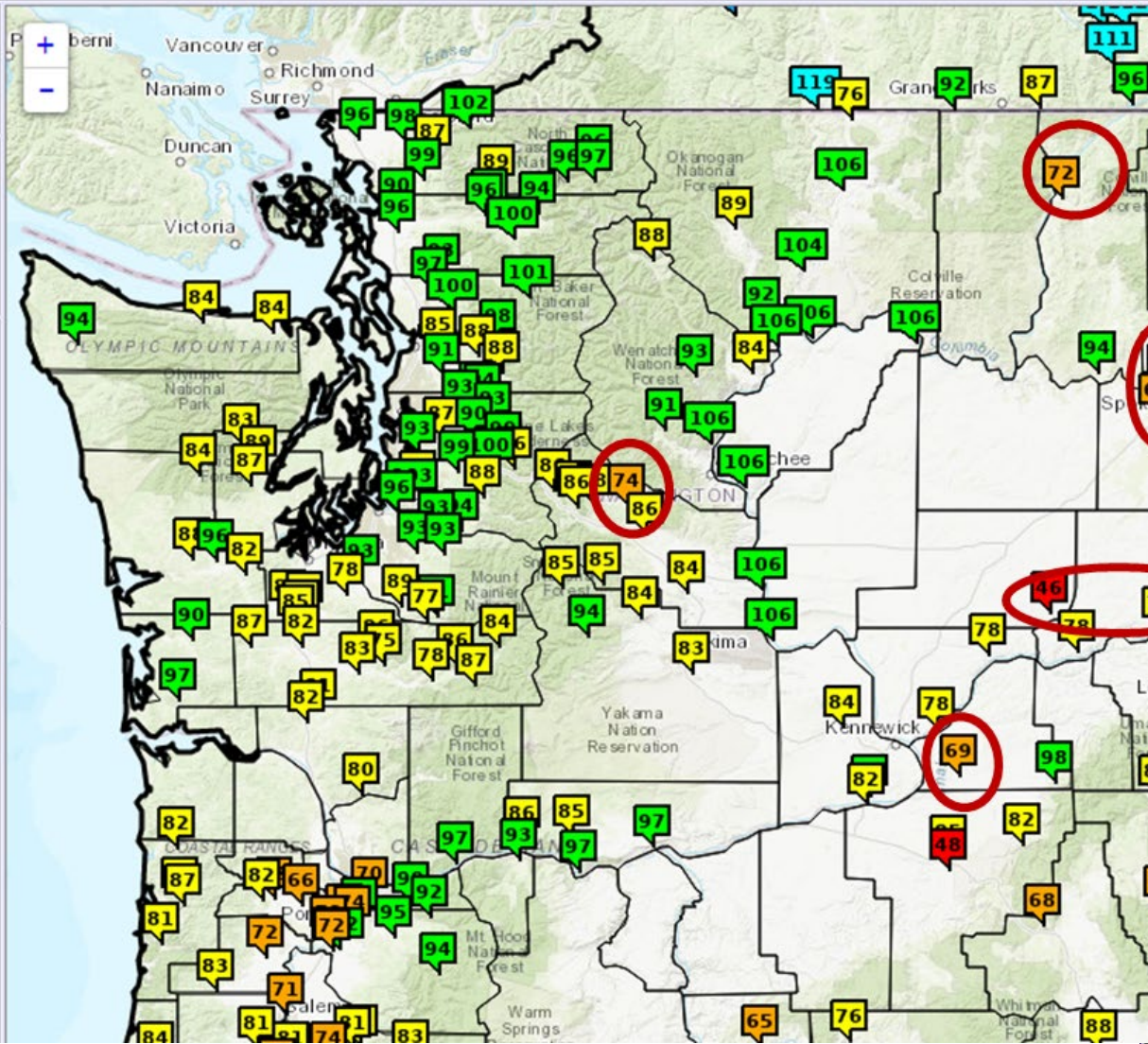
Zoom Out

--- Quick Zooms ---

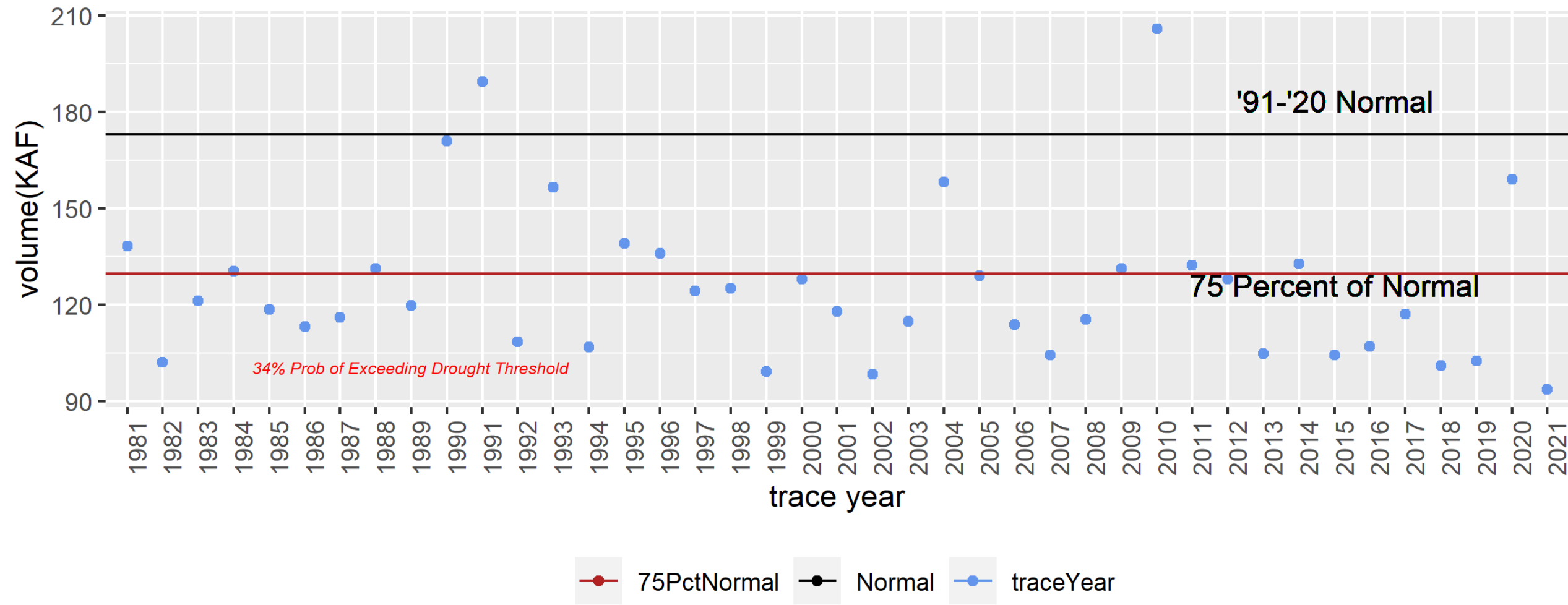
ESP Issued: 2022-04-10

Ensemble Date: 2022-04-10

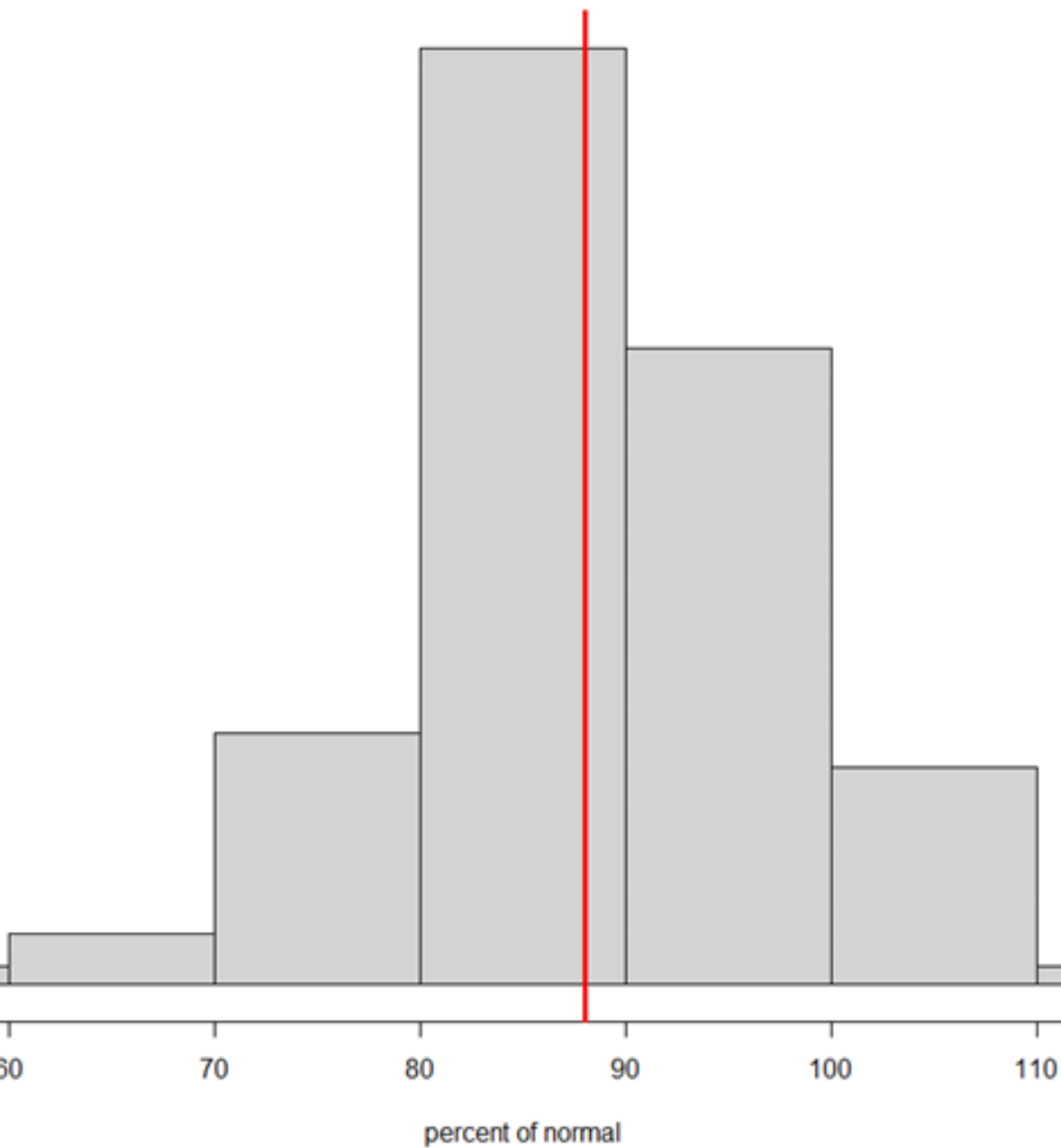
Perma



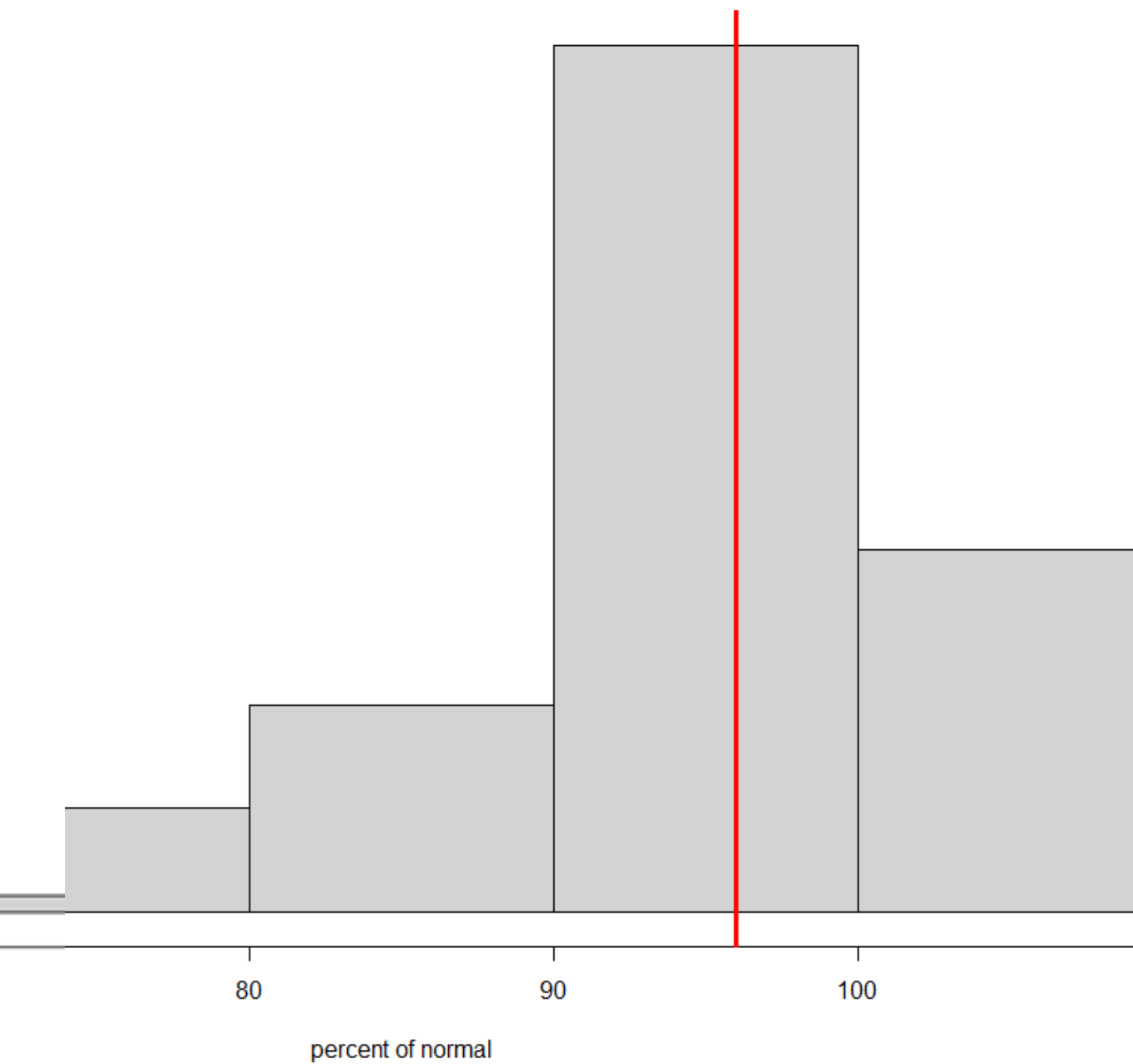
WALLA WALLA NEAR TOUCHET ENSEMBLE TRACES vs DROUGHT THRESHOLD, APR-SEPT



median runoff forecast: 88 pct normal
2022-03-16



median runoff forecast: 96 pct normal
2022-04-10



Apr – Sept Month by Month Forecasts: Transitions from Spring to Late Summer Conditions

| | | | | | | | | |
|----|---------------------|-------------------------------|------|------|------|------|------|------|
| 29 | Wind - White Salmon | WHITE SALMON - NEAR UNDERWOOD | 0.97 | 0.78 | 0.68 | 0.85 | 0.93 | 0.89 |
| 30 | Klickitat | KLICKITAT - NEAR PITT | 1.03 | 0.87 | 0.63 | 0.78 | 0.9 | 0.93 |
| 32 | Walla Walla | MILL CREEK - NR WALLA WALLA | 0.75 | 1.36 | 0.88 | 0.95 | 0.89 | 0.83 |
| 32 | Walla Walla | WALLA WALLA - NEAR TOUCHET | 0.6 | 0.67 | 0.64 | 0.72 | 0.67 | 0.75 |
| 34 | Palouse | PALOUSE - AT HOOPER | 0.54 | 0.52 | 0.62 | 0.58 | 0.4 | 0.83 |
| 34 | Palouse | SF PALOUSE - AT PULLMAN | 0.32 | 0.31 | 0.56 | 0.67 | 0.5 | 0.33 |
| 35 | Snake River | SNAKE - NEAR ANATONE | 0.62 | 0.72 | 0.63 | 0.68 | 0.86 | 0.97 |
| 37 | Lower Yakima | YAKIMA - AT KIONA | 1.08 | 1.02 | 0.86 | 0.78 | 0.83 | 0.89 |
| 37 | Lower Yakima | YAKIMA - NEAR PARKER | 1.08 | 1.01 | 0.86 | 0.77 | 0.81 | 0.89 |
| 38 | Naches | BUMPING - BELOW BUMPING DAM | 1.14 | 1.12 | 0.83 | 0.56 | 0.66 | 0.76 |
| 38 | Naches | NACHES - NEAR CLIFFDEL | 1.11 | 1.14 | 0.84 | 0.58 | 0.69 | 0.8 |
| 38 | Naches | NACHES - NEAR NACHES | 1.12 | 1.15 | 0.83 | 0.61 | 0.89 | 0.79 |
| 38 | Naches | TIETON - AT TIETON DAM | 1.18 | 1.11 | 0.93 | 0.79 | 1.11 | 1 |
| 39 | Upper Yakima | CLE ELUM - NEAR ROSLYN | 1.12 | 1.01 | 0.93 | 0.75 | 0.4 | 0.53 |
| 39 | Upper Yakima | KACHESS - NEAR EASTON | 1.21 | 0.95 | 0.82 | 0.83 | 0.66 | 0.45 |
| 39 | Upper Yakima | TEANAWAY - BELOW FORKS | 1.16 | 0.93 | 0.52 | 0.47 | 0.81 | 0.86 |
| 39 | Upper Yakima | YAKIMA - AT EASTON | 1.18 | 0.92 | 0.82 | 0.84 | 0.76 | 0.62 |
| 39 | Upper Yakima | YAKIMA - AT UMTANUM | 1.14 | 0.94 | 0.85 | 0.83 | 0.74 | 0.75 |
| 39 | Upper Yakima | YAKIMA - NEAR MARTIN | 1.1 | 1 | 0.81 | 0.85 | 0.65 | 0.74 |
| 40 | Upper Yakima | YAKIMA - NEAR HORLICK | 1.17 | 0.97 | 0.87 | 0.78 | 0.67 | 0.78 |
| 45 | Wenatchee | WENATCHEE - AT PESHASTIN | 1.03 | 0.97 | 0.98 | 0.7 | 0.85 | 0.88 |
| 46 | Entiat | ENTIAT - NEAR ARDENVOIR | 1.21 | 1.11 | 0.92 | 0.71 | 0.74 | 0.88 |
| 47 | Chelan | CHELAN - LAKE CHELAN DAM | 0.91 | 0.83 | 1.04 | 0.88 | 0.79 | 0.88 |
| 47 | Chelan | STEHEKIN - AT STEHEKIN | 0.96 | 0.87 | 1.03 | 0.95 | 0.9 | 0.92 |
| 48 | Methow | METHOW - AT WINTHROP | 1.15 | 1.05 | 0.88 | 0.66 | 0.75 | 0.88 |
| 48 | Methow | METHOW - NEAR PATEROS | 1.15 | 1.04 | 0.91 | 0.68 | 0.79 | 0.96 |
| 49 | Okanogan | OKANOGAN - AT MALOTT | 1.7 | 1.16 | 0.95 | 0.69 | 0.68 | 0.94 |
| 49 | Okanogan | OKANOGAN - AT OROVILLE | 0.66 | 0.87 | 0.57 | 0.59 | 0.75 | 0.8 |
| 49 | Okanogan | OKANOGAN - NEAR TONASKET | 1.68 | 1.15 | 0.99 | 0.71 | 0.71 | 0.95 |
| 49 | Okanogan | SIMILKAMEEN - NEAR NIGHTHAWK | 1.84 | 1.27 | 1.08 | 0.88 | 0.86 | 1.02 |
| 54 | Lower Spokane | SPOKANE - AT LONGLAKE | 0.9 | 1.02 | 1.06 | 1.1 | 0.69 | 0.73 |
| 55 | Little Spokane | LITTLE SPOKANE - AT DARTFORD | 0.53 | 0.46 | 0.59 | 0.68 | 0.74 | 0.8 |
| 56 | Hangman | HANGMAN CREEK - AT SPOKANE | 0.43 | 0.48 | 0.77 | 0.85 | 0.89 | 1.07 |
| 57 | Middle Spokane | SPOKANE - AT SPOKANE | 0.93 | 1.04 | 1.09 | 1.13 | 0.68 | 0.75 |
| 59 | Colville | COLVILLE - AT KETTLE FALLS | 0.7 | 0.7 | 0.58 | 0.58 | 0.66 | 0.78 |
| 60 | Kettle | KETTLE - AT LAURIER | 0.86 | 0.93 | 0.81 | 0.7 | 0.78 | 0.85 |
| 60 | Kettle | KETTLE - NEAR FERRY | 1.02 | 1.01 | 0.87 | 0.66 | 0.86 | 1 |

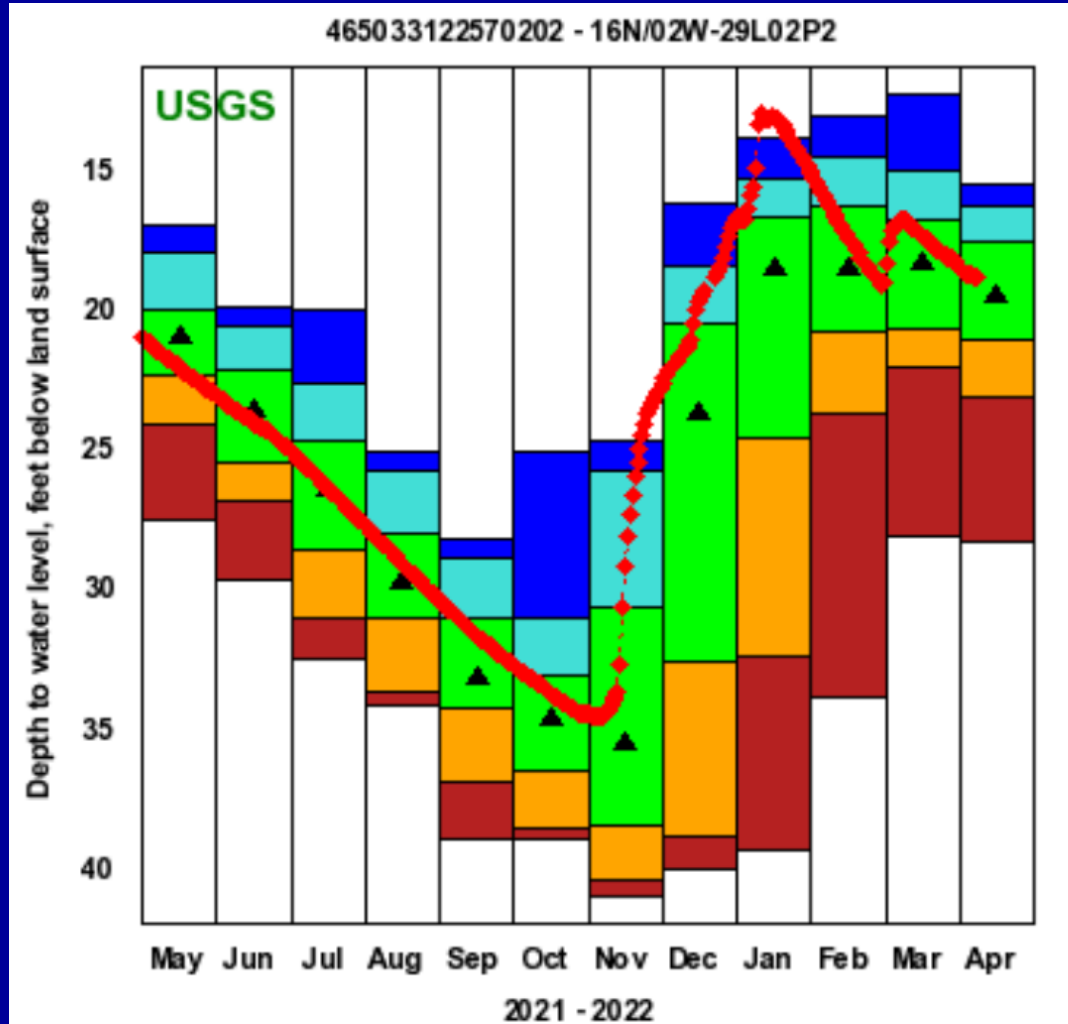
Southeast WA consistently at much below normal conditions

Warnings signs for Upper Yakima Tribs

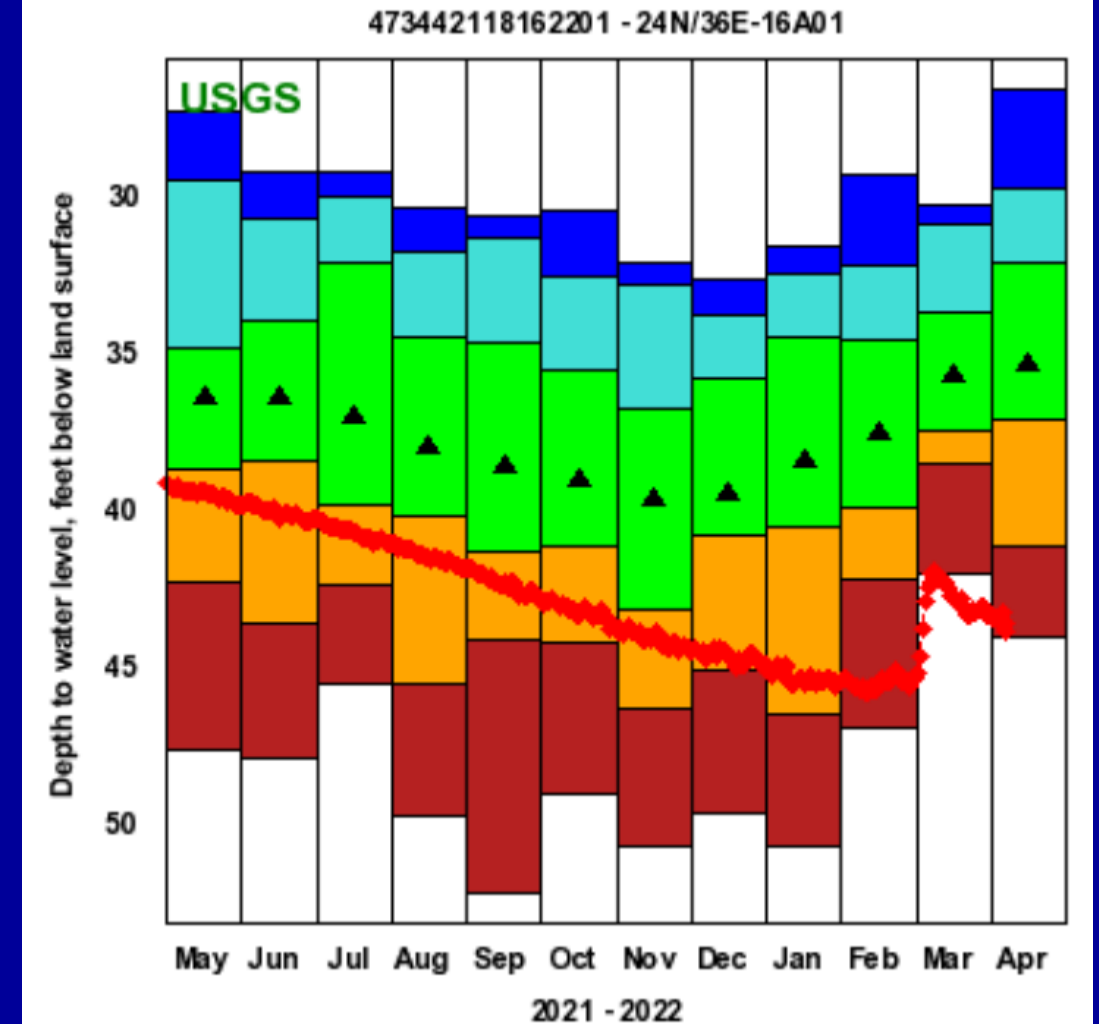
Okanogan River Forecasts, Upstream and Downstream of Confluence w/Similkameen River

WA Current Groundwater Conditions (April 8th, 2022)

Scatter Creek well



Davenport well



WA Current Groundwater Conditions (April 8th, 2022)

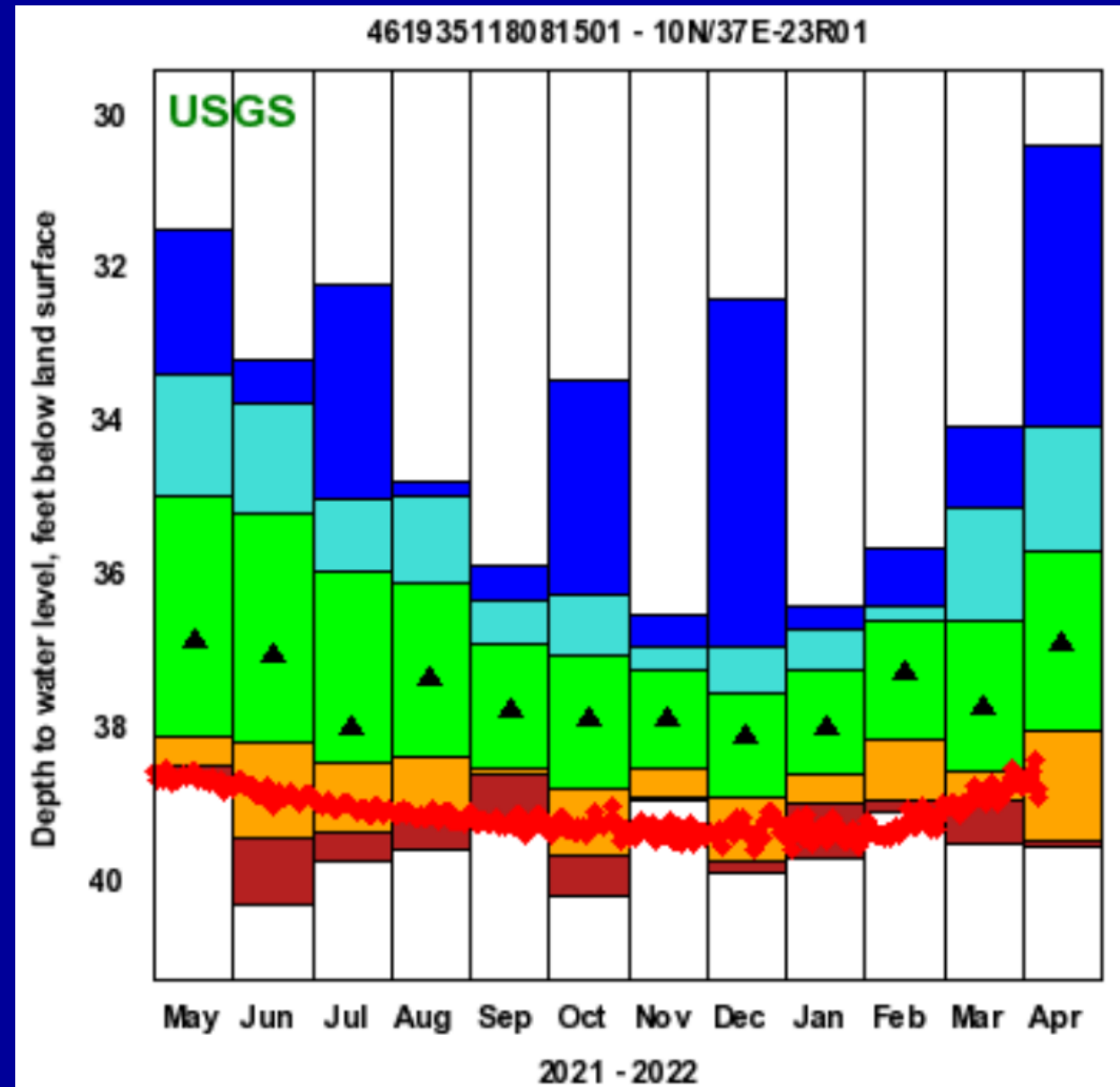
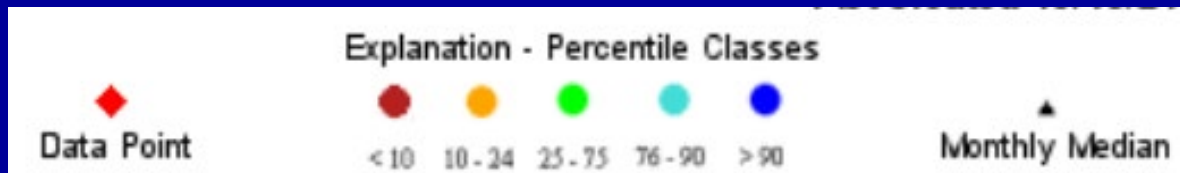
Whetstone well near Waitsburg

(461935118081501)

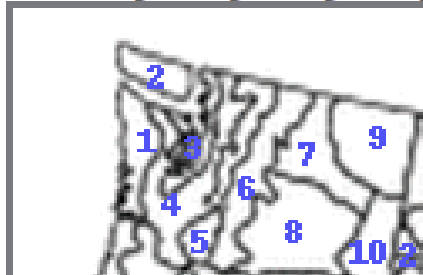
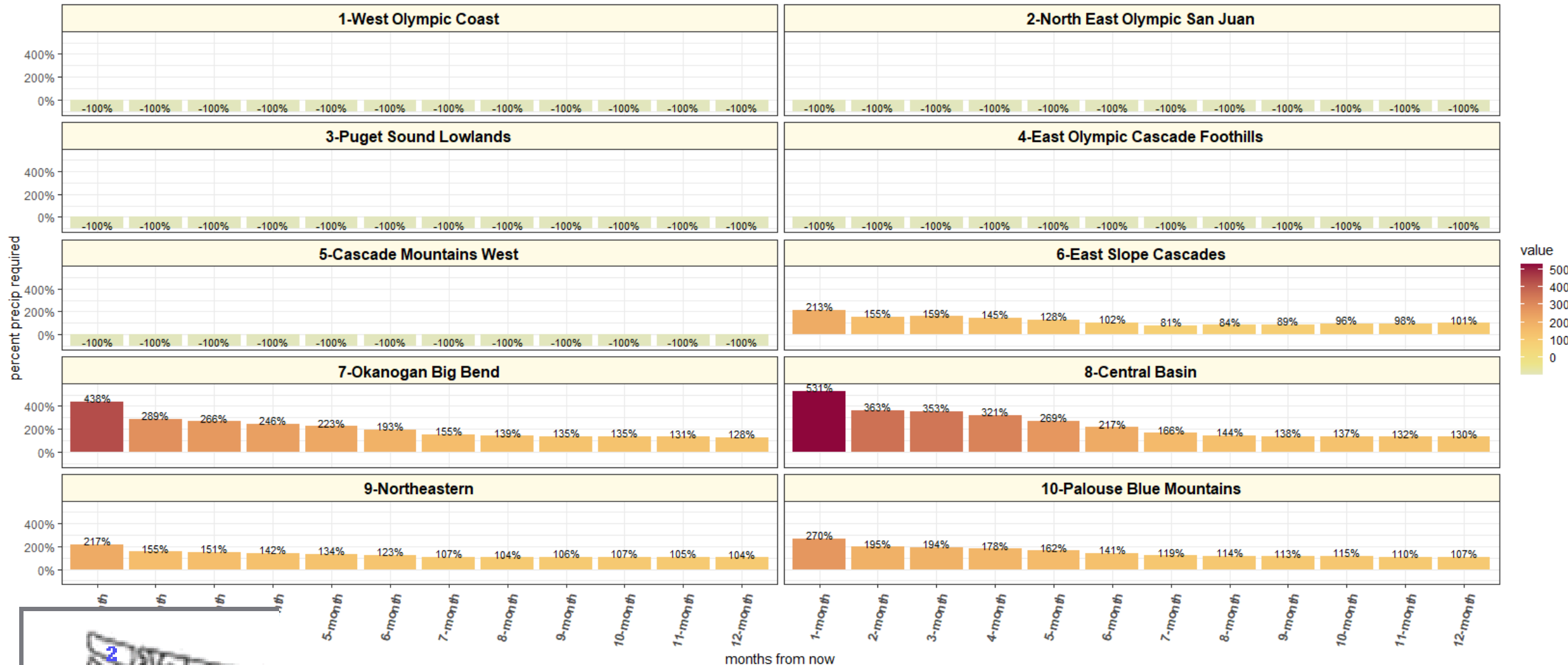
in Columbia County

(10N/37E-23R01)

- 172.5-ft deep
- Grande Ronde Basalt Formation



Percent precipitation required to end current drought | 2022-04-11



Data: NOAA Drought Termination Tool

Assumes climatological conditions for the remainder of the month.
Monthly timesteps are not interdependent.

A drought is considered to be ameliorated when the PHDI is raised to -2.0, and ended when above -0.5.

Summing up

Significant improvements in our snowpack since March.

Long-term precipitation deficits still present in eastern Washington.

Some rivers in SE Washington forecasted to fall below state drought threshold

Drought Declaration set to expire on June 1.

Executive Water Emergency Committee will make recommendation on May 5th whether to extend declaration, in whole or part, let it lapse, or downgrade to advisory status.