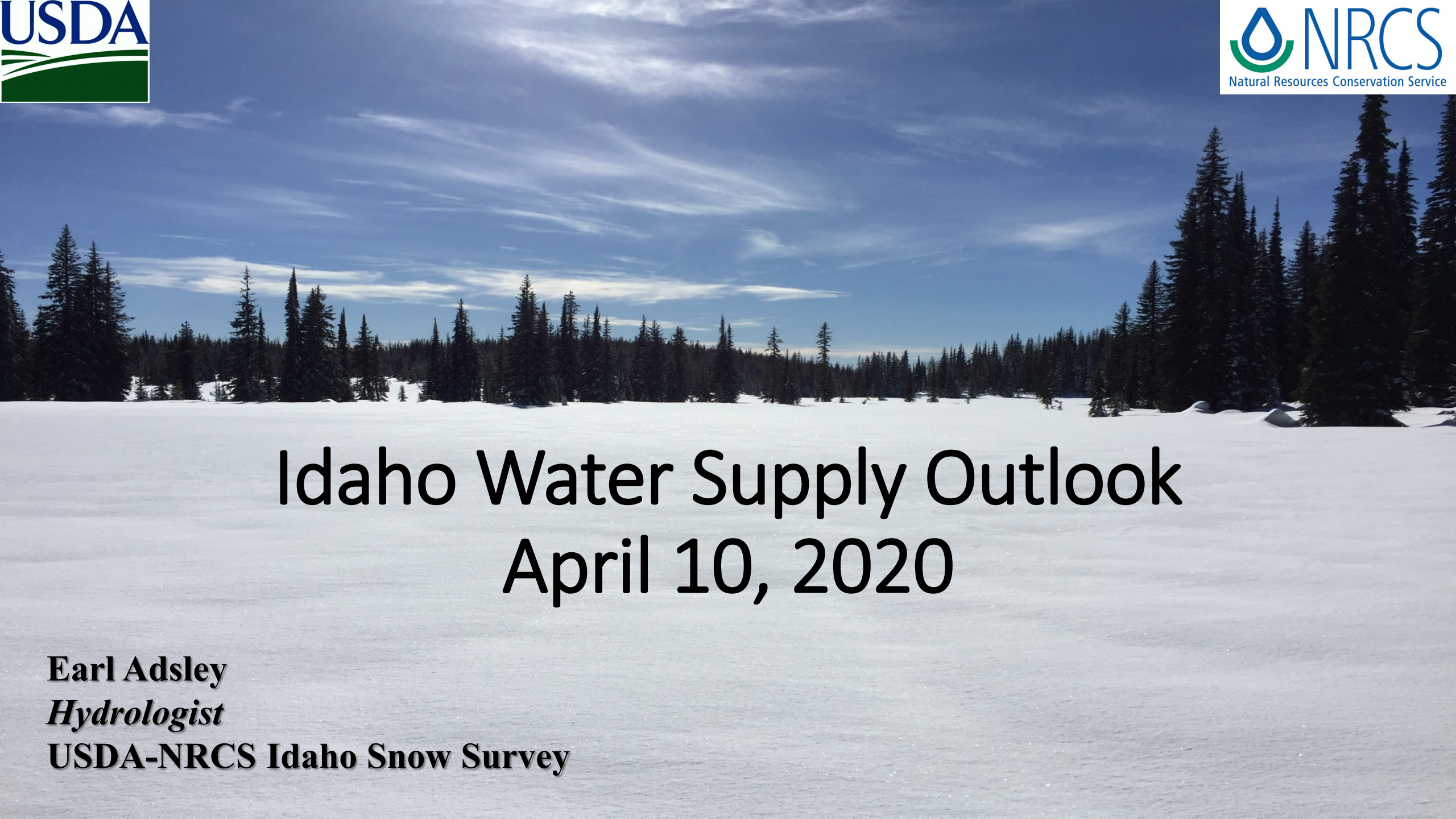
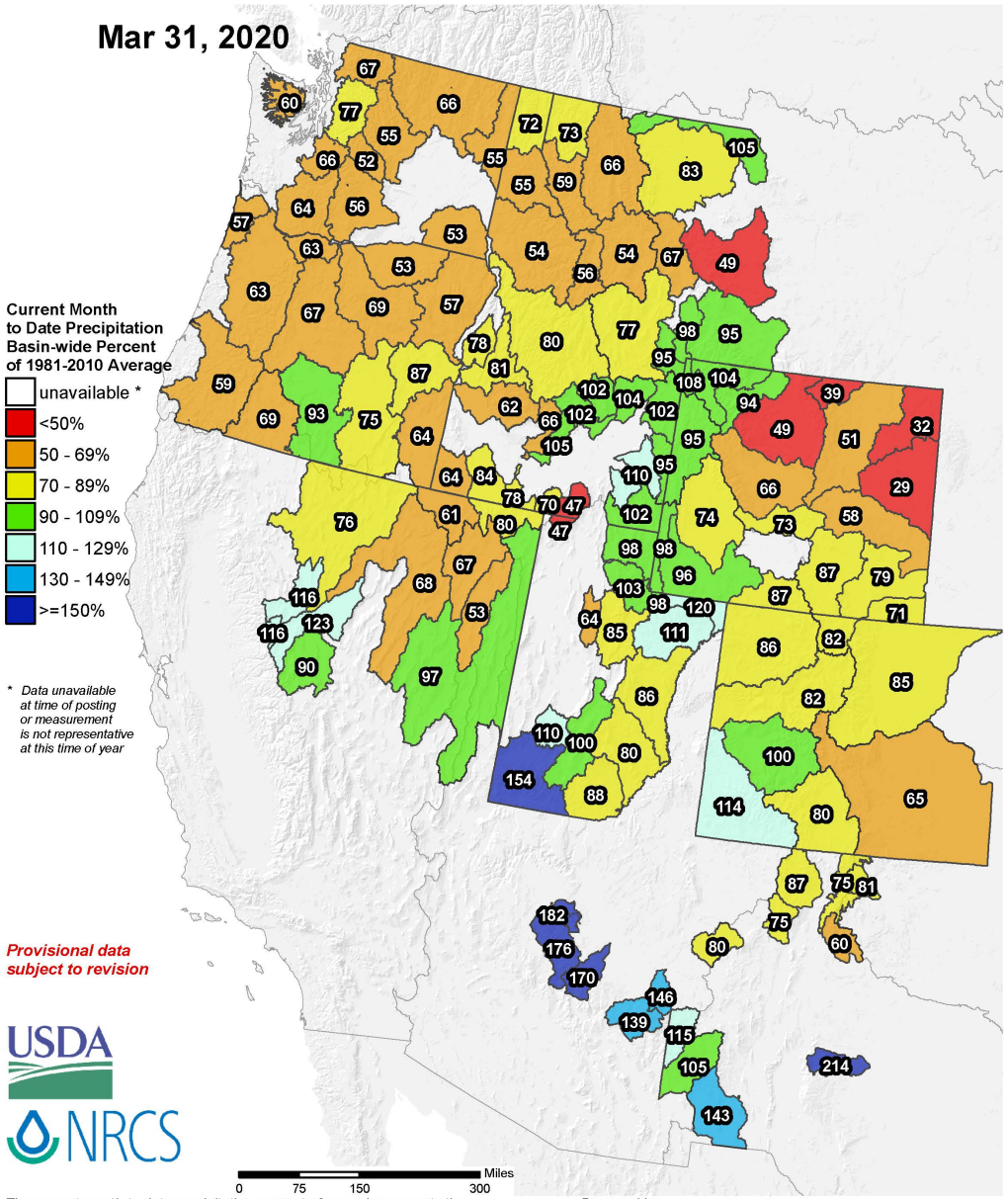


Idaho Water Supply Outlook
April 10, 2020

Earl Adsley
Hydrologist
USDA-NRCS Idaho Snow Survey

Monthly And Water-Year Precipitation

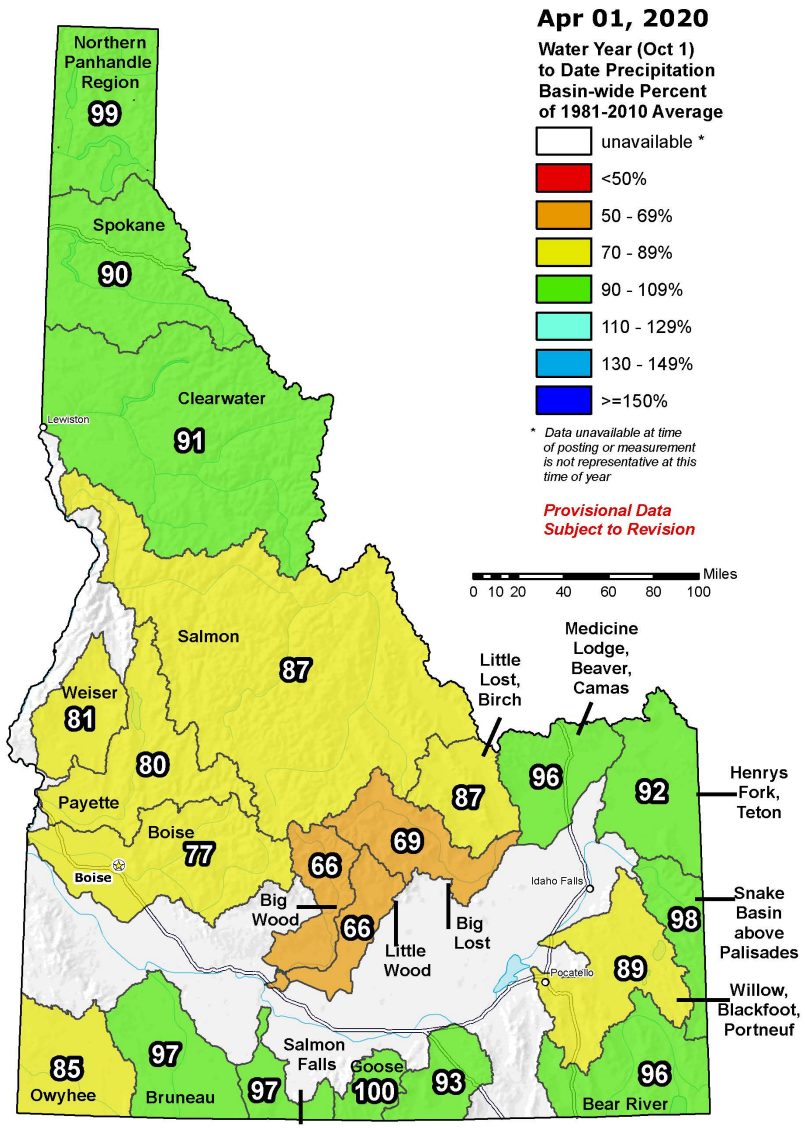
Westwide SNOTEL Current Month to Date Precipitation % of Normal



The current month to date precipitation percent of normal represents the accumulated precipitation found at selected SNOTEL sites in or near the basin compared to the average value for those sites on this day. Data based on the first reading of the day (typically 00:00).

Prepared by:
USDA/NRCS National Water and Climate Center
Portland, Oregon
http://www.wcc.nrcs.usda.gov

Idaho SNOTEL Water Year (Oct 1) to Date Precipitation % of Normal



The water year to date precipitation percent of normal represents the accumulated precipitation found at selected SNOTEL sites in or near the basin compared to the average value for those sites on this day. Data based on the first reading of the day (typically 00:00).

Prepared by:
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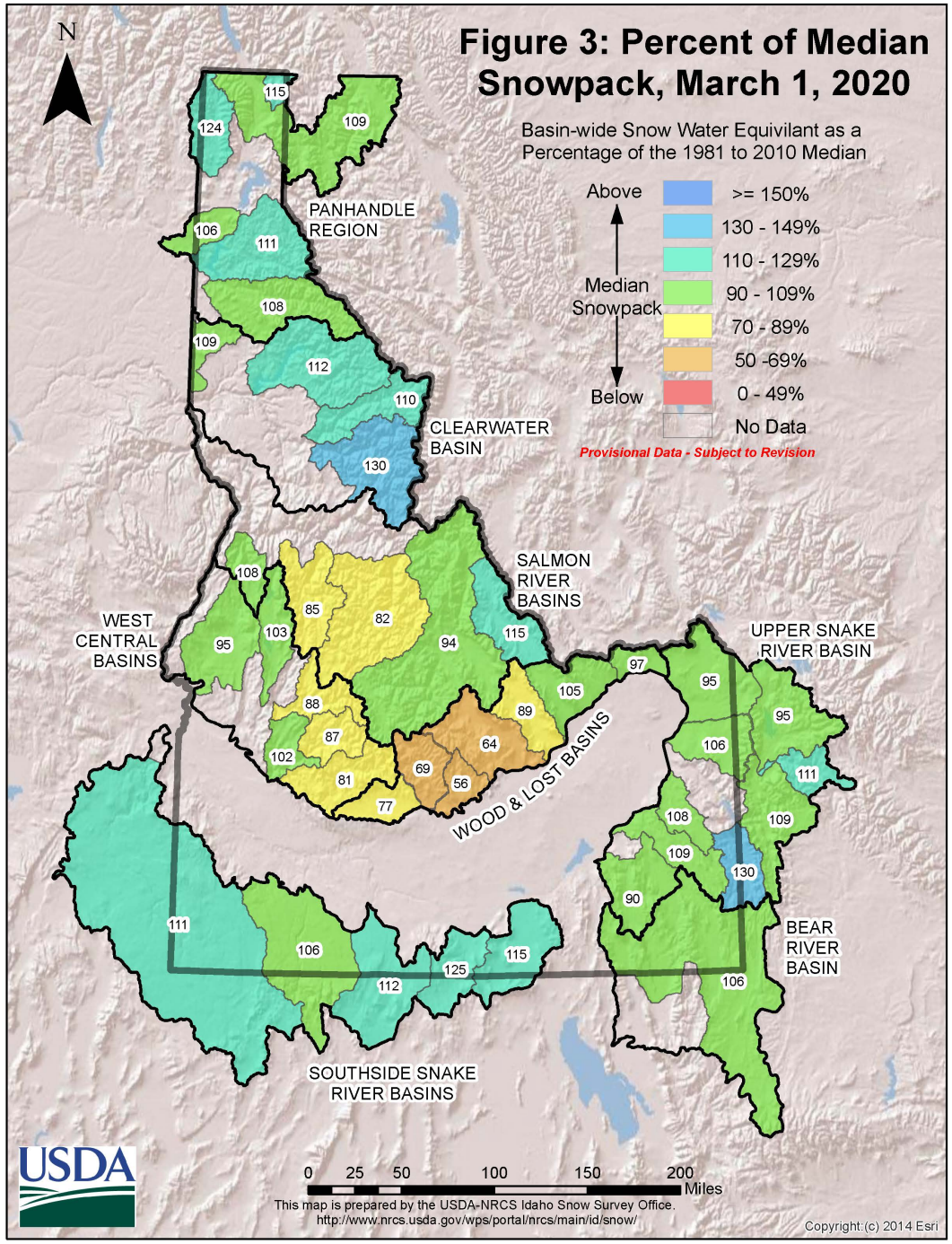
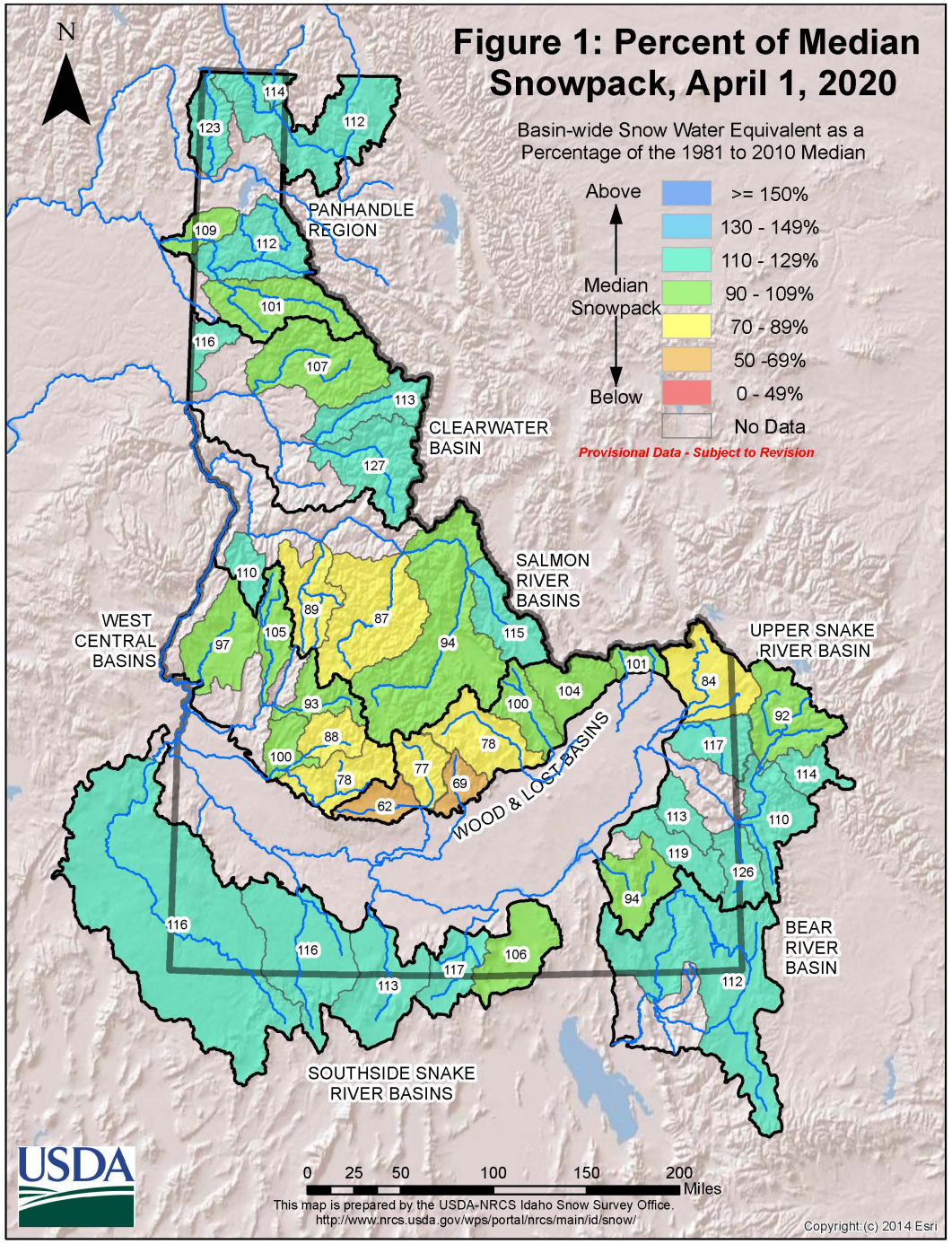
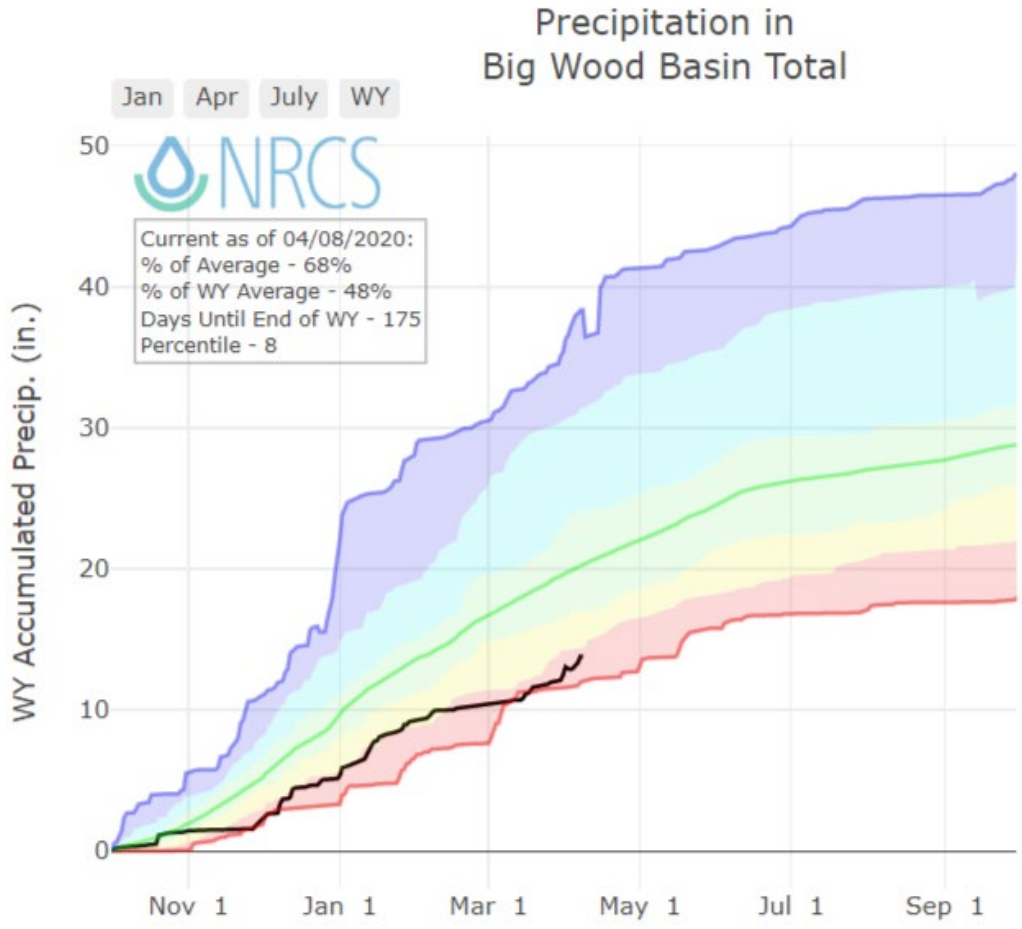
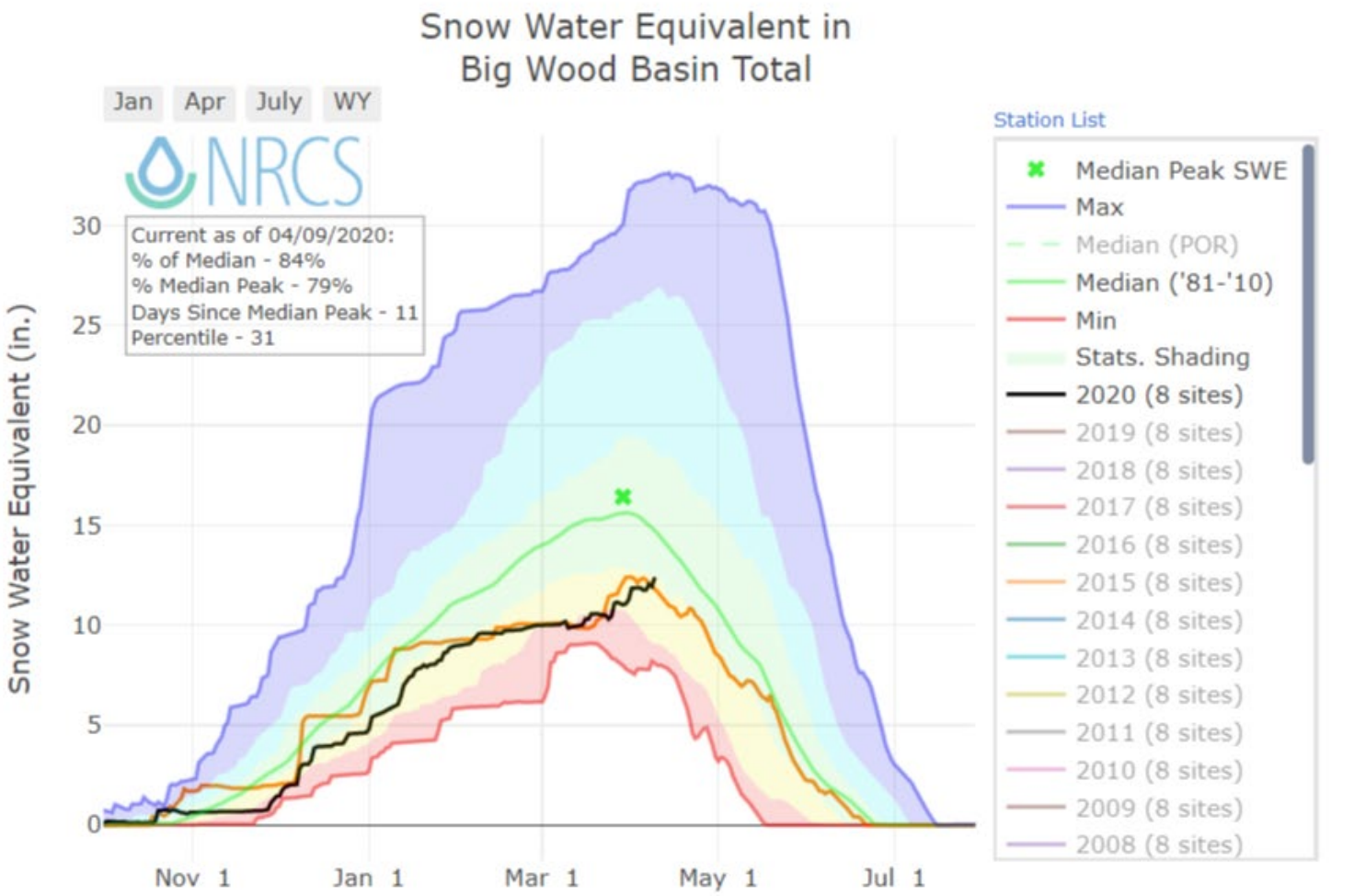


Monthly Snowpack Change

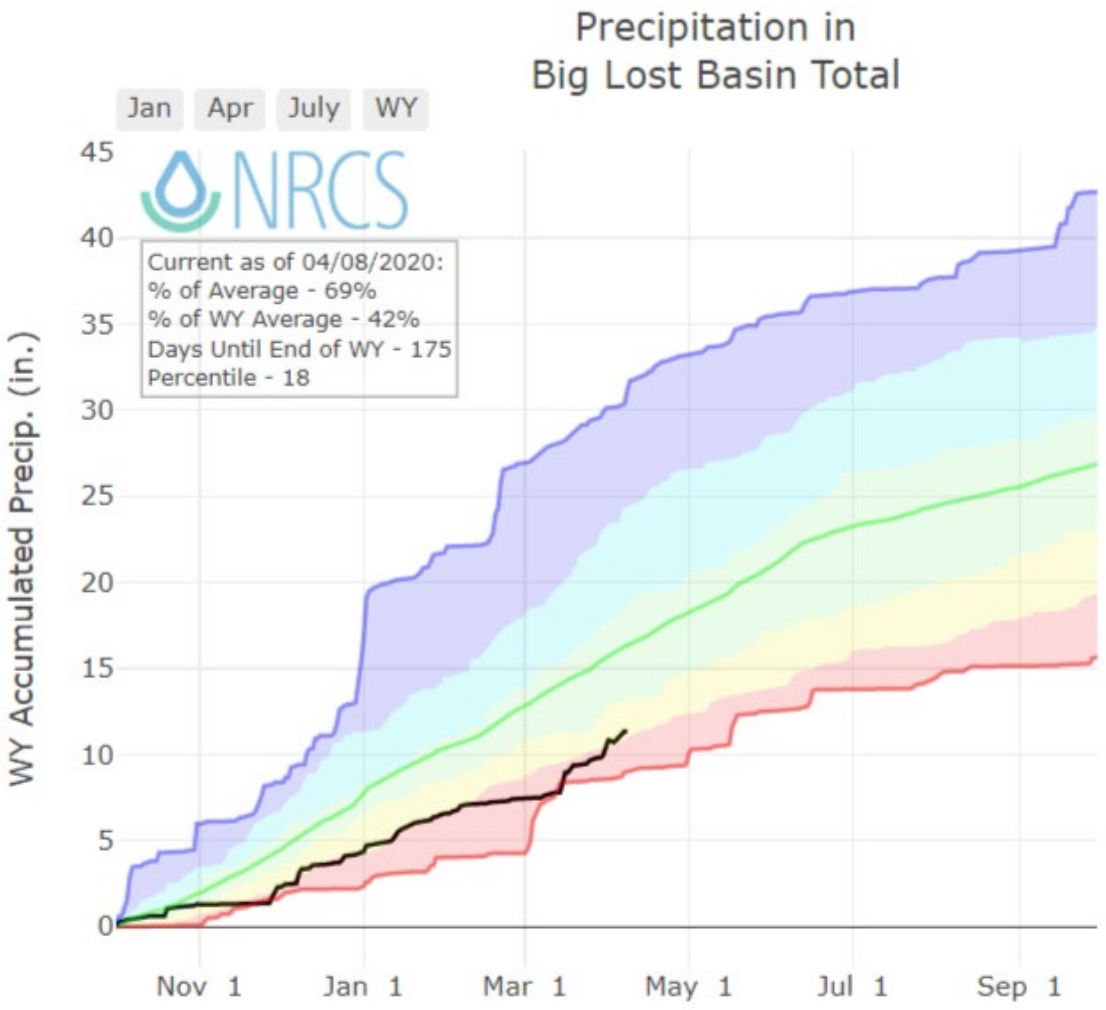


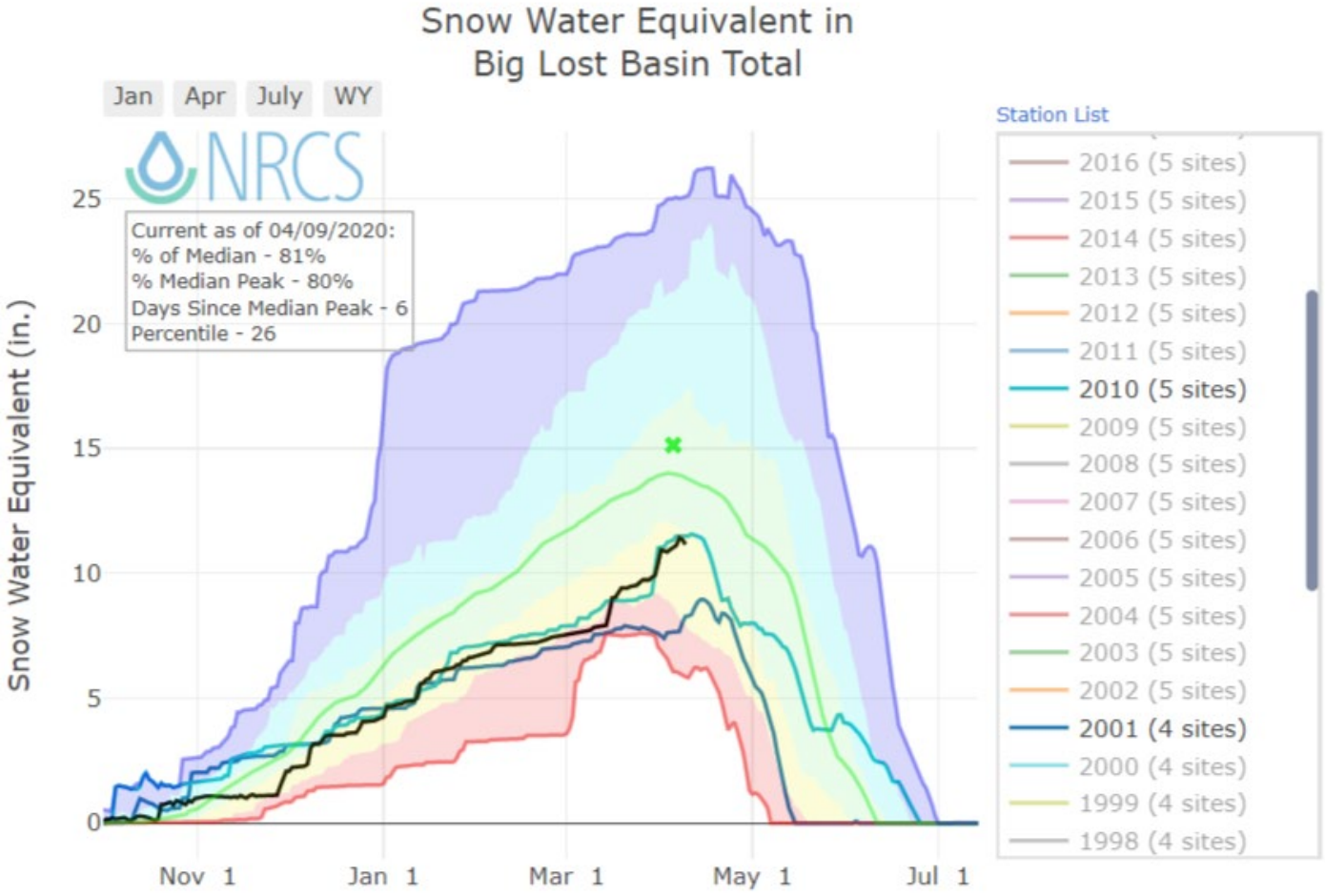
Big Wood WY Precipitation & Snowpack





Big Lost WY Precipitation & Snowpack





April 1: 50% Exceedance Streamflow Forecasts

- 70 to 110% of average for majority of Idaho
- 25 to 65% of average for Wood & Lost forecast points

Notable Forecasts (Apr-July)

- NF Cleawater (Dworshak) – 100% (2410 KAF)
- Snake R @ Heise – 106% (3450 KAF)
- Boise R @ Boise – 74% (935 KAF)
- Big Lost @ Howell – 67% (106 KAF)
- Big Wood @ Hailey – 51% (121 KAF)
- Little Wood ab High Five – 49% (34 KAF)

IDAHO SURFACE WATER SUPPLY INDEX (SWSI) April 1, 2020

The Surface Water Supply Index (SWSI) is a predictive indicator of surface water availability within a watershed for the spring and summer water use season. The index is calculated by combining pre-runoff reservoir storage (carryover) with forecasts of spring and summer streamflow. SWSI values are scaled from +4.0 (abundant supply) to -4.0 (extremely dry), with a value of zero indicating a median water supply as compared to historical occurrences. The SWSI analysis period is from 1981 to present.

SWSI values provide a more comprehensive outlook of water availability by combining streamflow forecasts and reservoir storage where appropriate. The SWSI index allows comparison of water availability between basins for drought or flood severity analysis. Threshold SWSI values have been determined for some basins to indicate the potential for agricultural irrigation water shortages.

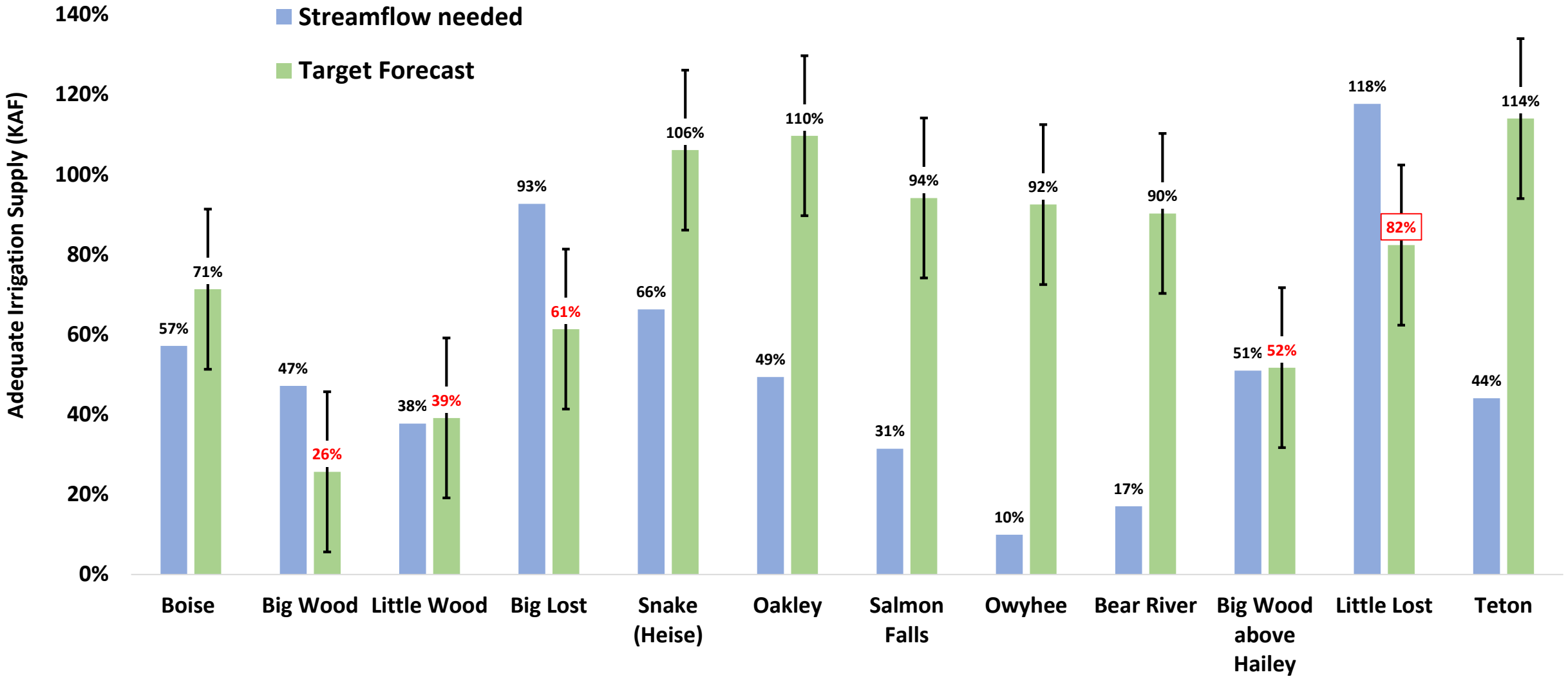
BASIN or REGION	*SWSI Value*	*Most Recent Year With Similar SWSI Value*	*Agricultural Water Supply Shortage May Occur When SWSI is Less Than*
Spokane	-0.1	2013	NA
Clearwater	0.1	2006	NA
Salmon	-0.9	2006	NA
Weiser	-1.0	2016	NA
Payette	-1.3	2004	NA
Boise	-1.3	2003	- 1.8
Big Wood above Hailey	-2.6	2004	- 3.1
Big Wood	-0.7	2007	0.3
Little Wood	-1.0	2008	- 1.4
Big Lost	-0.7	2008	0.6
Little Lost	-0.4	2008	1.4
Teton	1.0	2019	- 3.9
Henrys Fork	1.3	2012	- 2.8
Snake (Heise)	1.8	2019	- 1.7
Oakley	2.1	2019	- 0.3
Salmon Falls above Jackpot	1.9	2010	NA
Salmon Falls	1.9	1996	- 0.8
Bruneau	0.1	2010	NA
Owyhee	1.2	2005	- 2.5
Bear River	2.6	2018	- 3.9

SWSI SCALE, PERCENT CHANCE OF EXCEEDANCE, AND INTERPRETATION

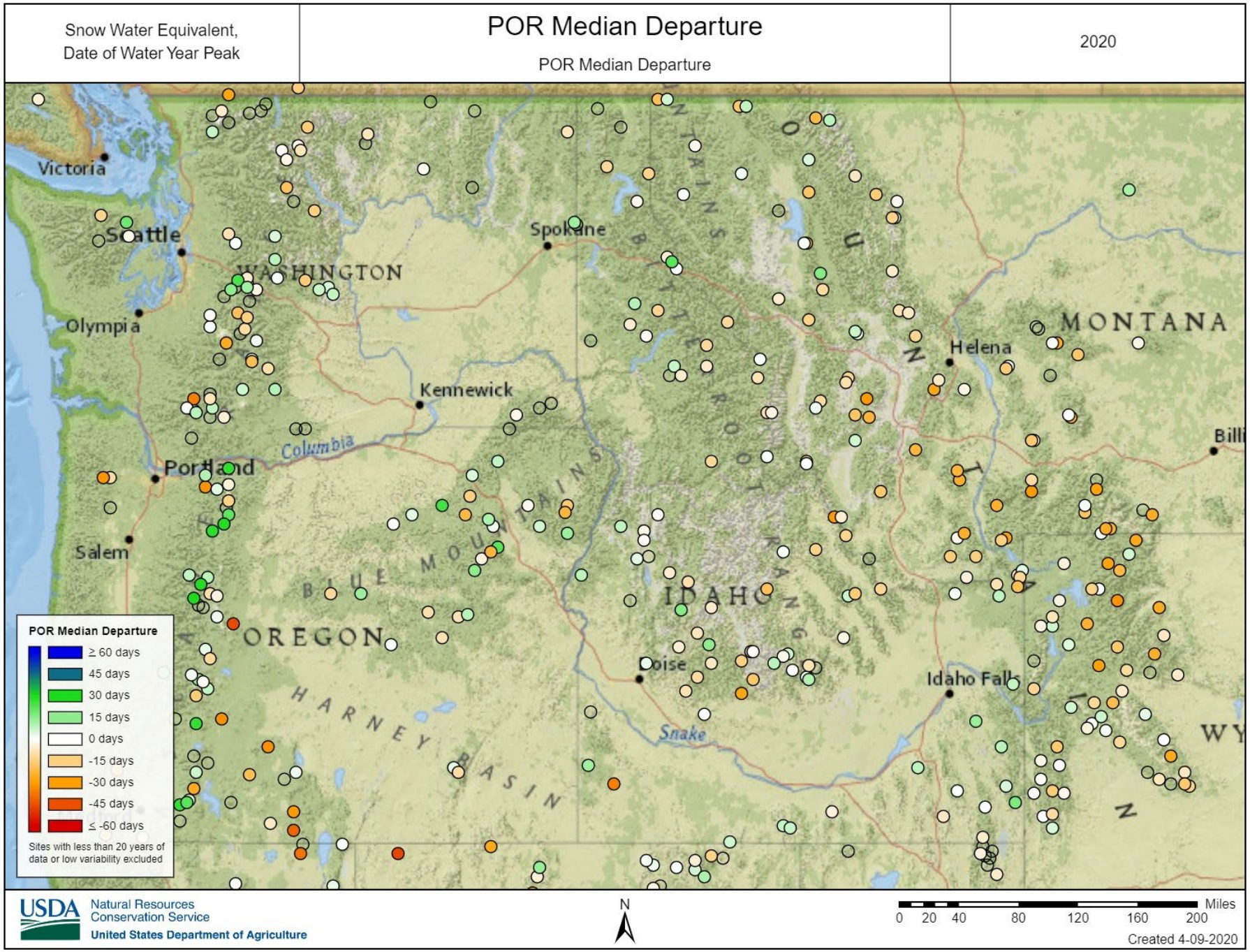
```
 -4      -3      -2      -1       0       1       2       3       4
  |------|------|------|------|------|------|------|------|------|
99%     87%     75%     63%     50%     37%     25%     13%      1%
-----------------------------------------------------------------------
|Much    | Below      |        Near Normal        |  Above    |  Much  |
|Below   | Normal     |        Water Supply       |  Normal   |  Above |
-----------------------------------------------------------------------
```

NA=Not Available / Not Applicable; Note: The Percent Chance of Exceedance is an indicator of how often a range of SWSI values might be expected to occur. Each SWSI unit represents about 12% of the historical occurrences. As an example of interpreting the above scale, the SWSI can be expected to be greater than -3.0, 87% of the time and less than -3.0, 13% of the time. Half the time, the SWSI will be below and half the time above a value of zero. The interval between -1.5 and +1.5 described as "Near Normal Water Supply," represents three SWSI units and would be expected to occur about one-third (36%) of the time.

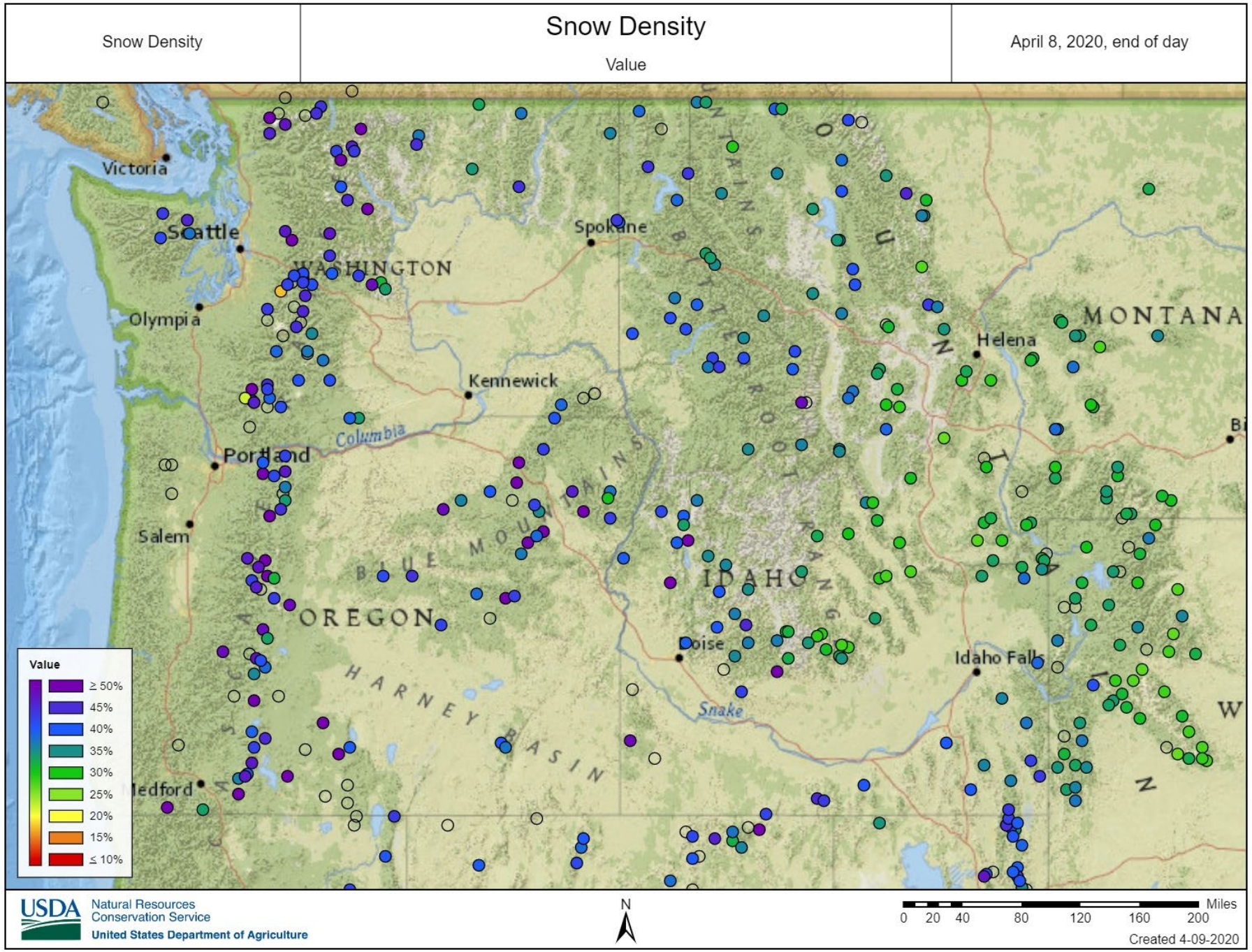
2020 Amount Needed & Forecasts



Current Snowpack VS Normal Peak



Current Snow Density



USDA United States Department of Agriculture

Natural Resources Conservation Service

Idaho Water Supply Outlook Report

April 1, 2020

Heavy snowfall along ID-21 near Bad Bear Snow Course, March 31, 2020
Photo courtesy of Danny Tappa

Before central Idaho made national news for the M6.5 earthquake on March 31, a strong winter storm dropped 1 to 2+ feet of new snow above ~6,000 ft, and 2 to 3" of snow-water-equivalent (SWE). The combination of significant new snow loading and the M6.5 earthquake approximately 10 miles northeast of Banner Summit triggered widespread avalanching and rockslides in the area mountains, which temporarily impeded streamflow in the Middle Fork Salmon River. In year's with a below-normal snowpack, the benefit of these later season events is two-fold: it adds much-needed water to our natural reservoir system (mountain snowpack), while also increasing the snowpack energy demand required for melt which slows the spring snowmelt process. Continue reading the full report for snowpack and water outlook details throughout Idaho.

NRCS Natural Resources Conservation Service

Contact Information:

Web: https://www.nrcs.usda.gov/wps/portal/nrcs/main/id/snow/

…or just internet search: Idaho Snow Survey

Email: earl.adsley@usda.gov or daniel.tappa@usda.gov

Phone: (208) 378-5740