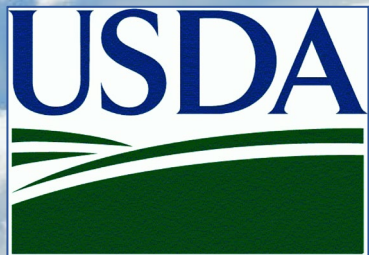


Idaho Snowpack Conditions & Outlook Water Year 2021

Idaho Water Users Association



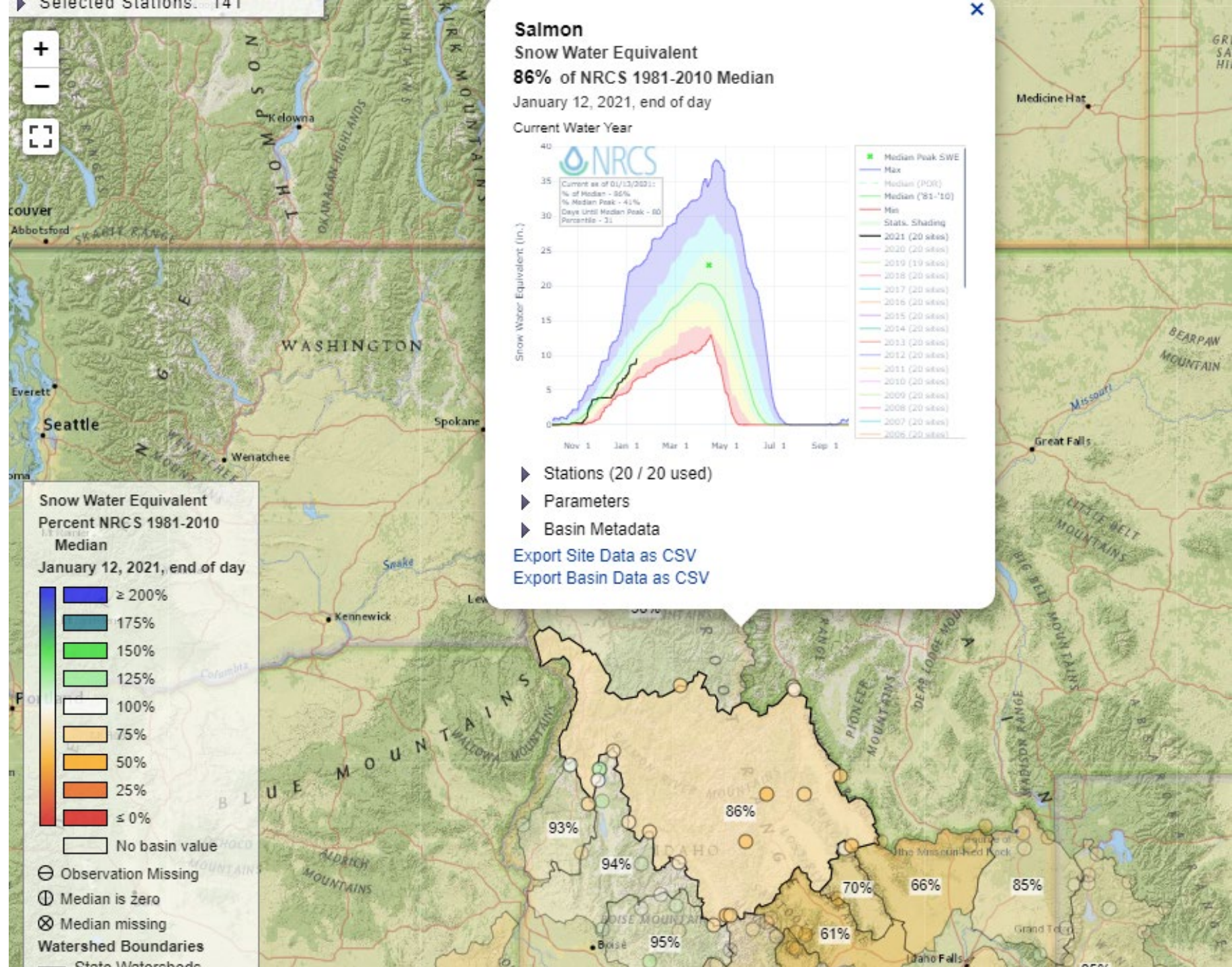
Presented by
Erin Whorton

Presentation outline

- › NRCS Interactive map tutorial (IMAP)
 - Great tool for real time conditions in between monthly water supply outlook reports
- › How water year 2020 ended...a reminder
- › Current snowpack and precipitation conditions
 - Idaho compared to the Western U.S.
 - Current conditions for water year 2021 to date
 - How did we get to where we're at now?
- › Winter outlook
 - La Nina conditions persist
 - How La Nina years affected Idaho snowpack in major basins: a closer look
 - Historic increases in SWE for remainder of winter across Idaho
- › Water supply: current reservoir storage and streamflow needed to meet irrigation demands

New IMAP Features

- Snow & Precipitation plots now linked to basins and individual SNOTEL stations within IMAP
 - Just click on the basin or station to access these plots
- 'Sub-basin' and 'major-basin' options now available

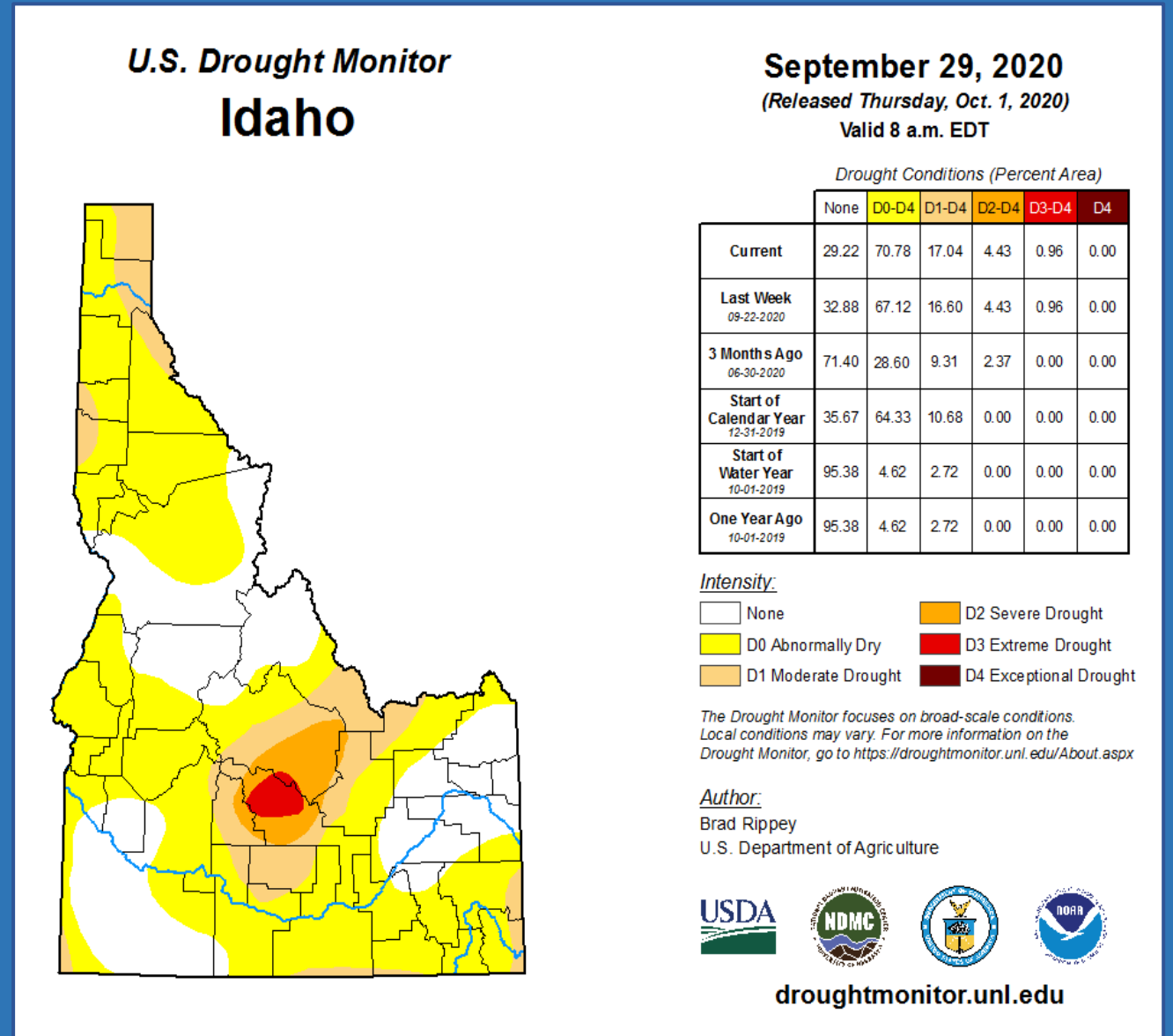
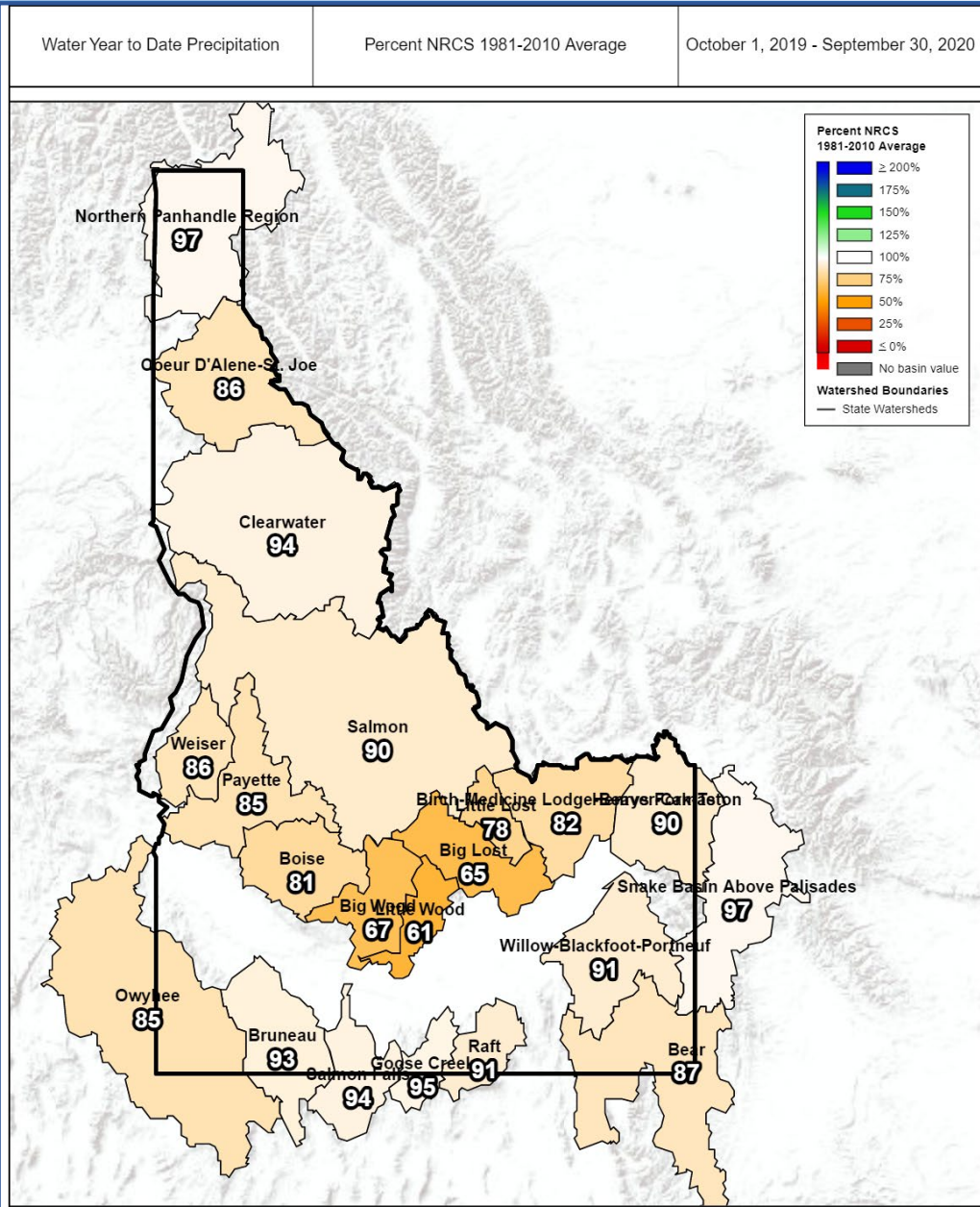


An aerial photograph of a dense forest of evergreen trees covered in a thick layer of snow. The trees are scattered across a light-colored, snow-covered ground, creating a textured, monochromatic scene. The perspective is from directly above, looking down on the forest canopy.

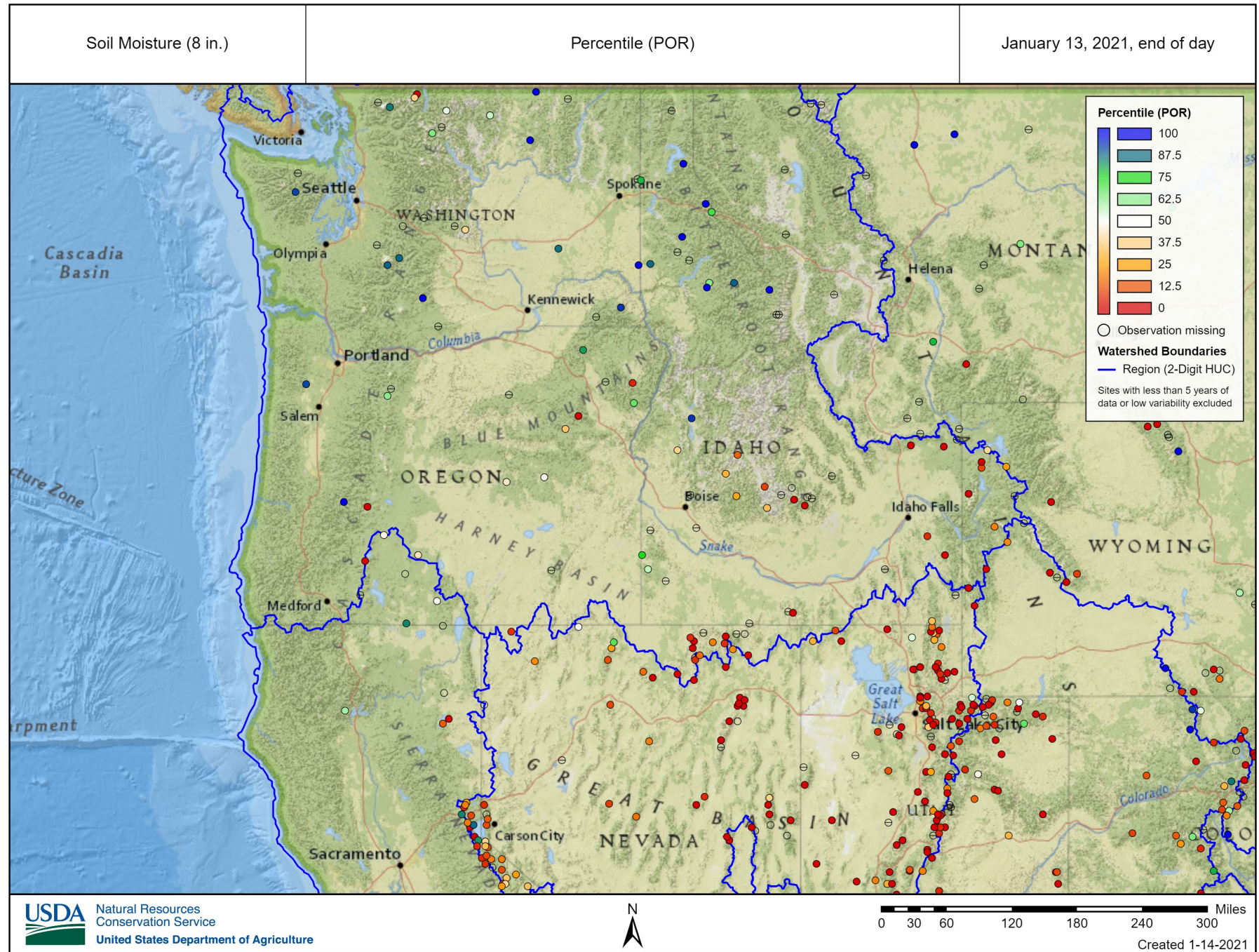
Water Year 2020

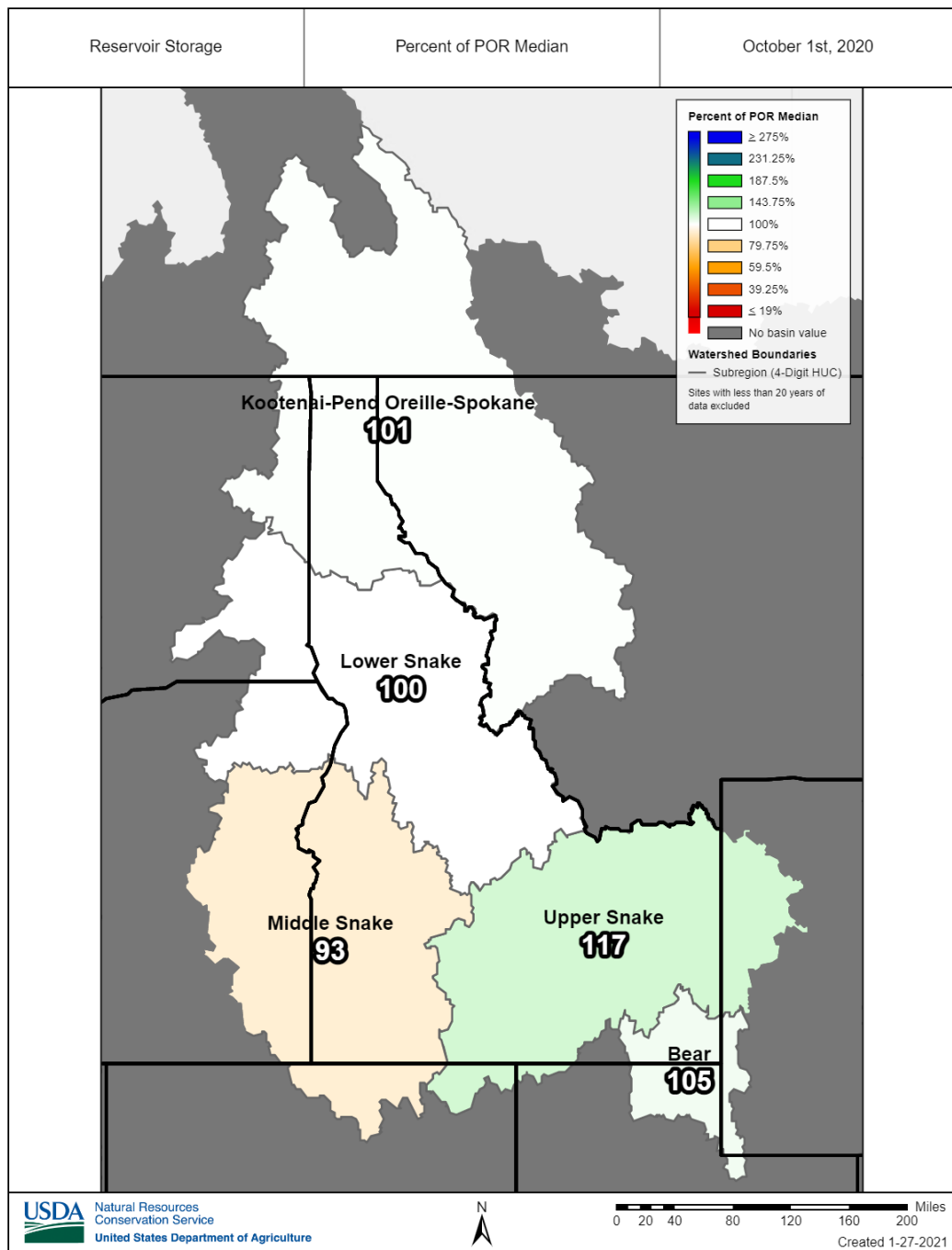
A reminder of where we are starting from

How water year 2020 ended (10/1/2019 – 9/30/2020)



Low soil moisture throughout southern half of Idaho & Upper Snake





Reservoir storage
at the end of
water year 2020

An aerial photograph of a dense forest of evergreen trees covered in a thick layer of snow. The trees are scattered across a light-colored, snow-covered ground, creating a textured, monochromatic scene. The perspective is from directly above, looking down on the forest canopy.

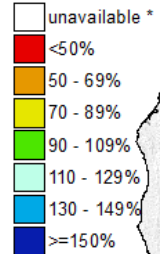
Water Year 2021

Current conditions for the water year to date

Westwide SNOTEL Current Month to Date Precipitation % of Normal

Jan 27, 2021

Current Month to Date Precipitation Basin-wide Percent of 1981-2010 Average



* Data unavailable at time of posting or measurement is not representative at this time of year

Provisional data subject to revision



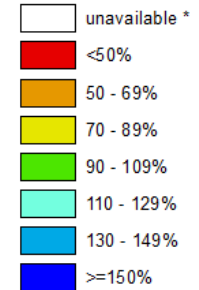
The current month to date precipitation percent of normal represents the accumulated precipitation found at selected SNOTEL sites in or near the basin compared to the average value for those sites on this day. Data based on the first reading of the day (typically 00:00).

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

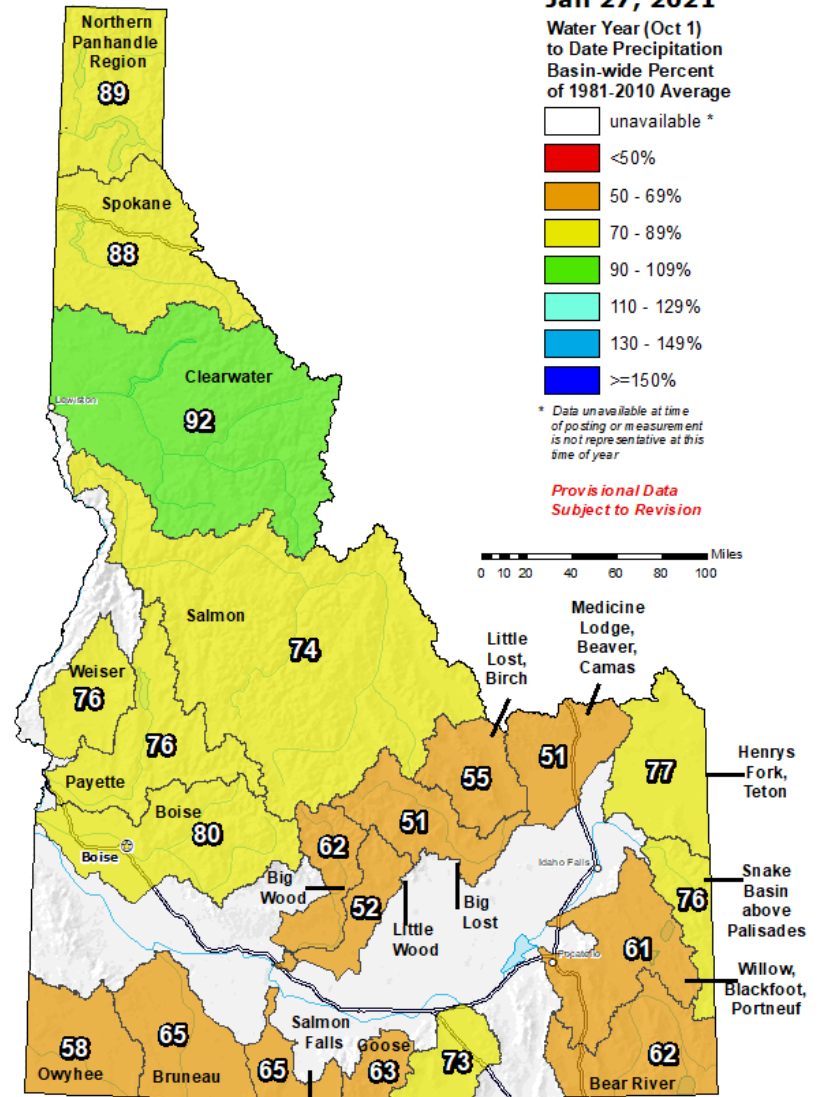
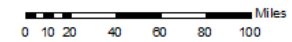
Jan 27, 2021

Water Year (Oct 1) to Date Precipitation Basin-wide Percent of 1981-2010 Average



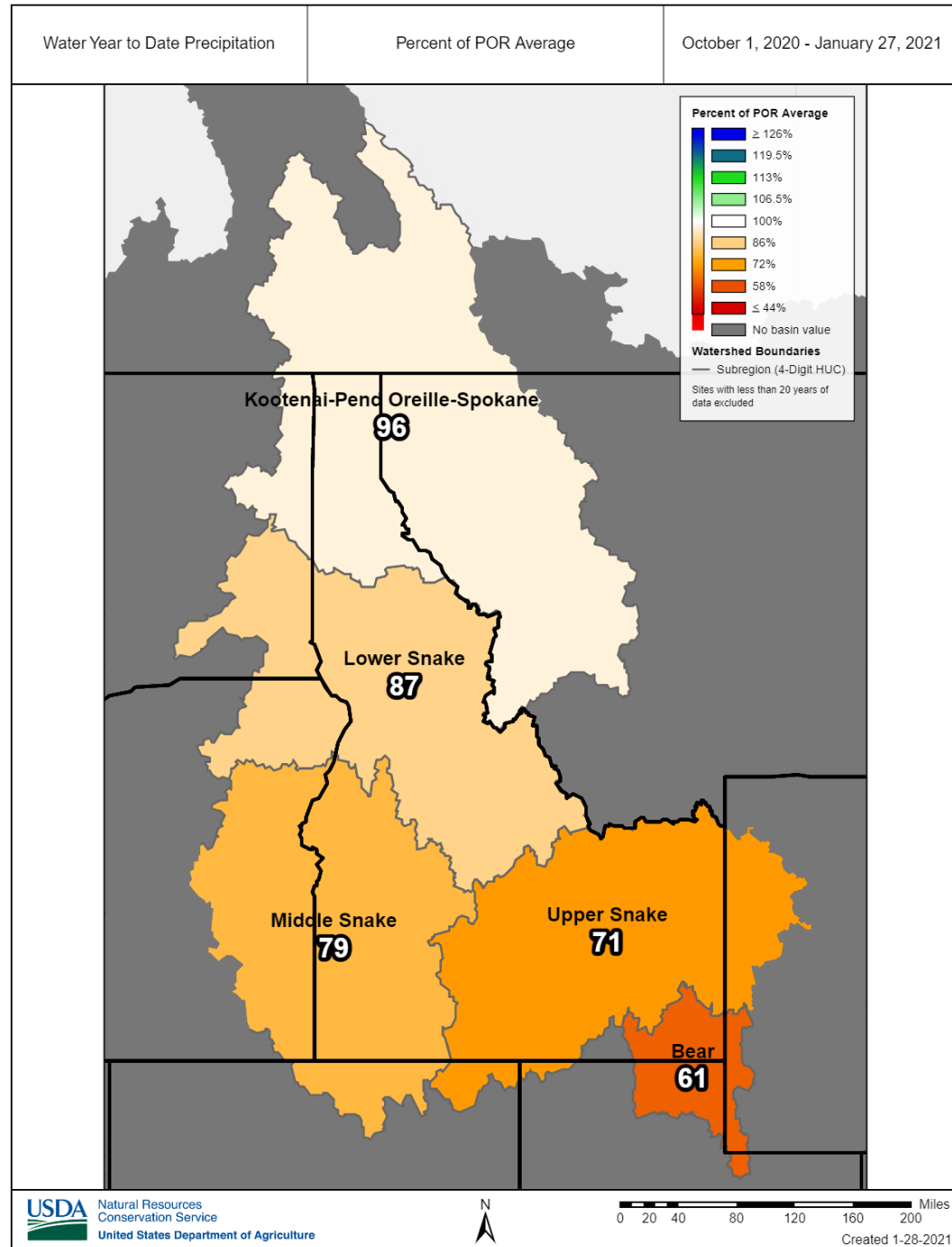
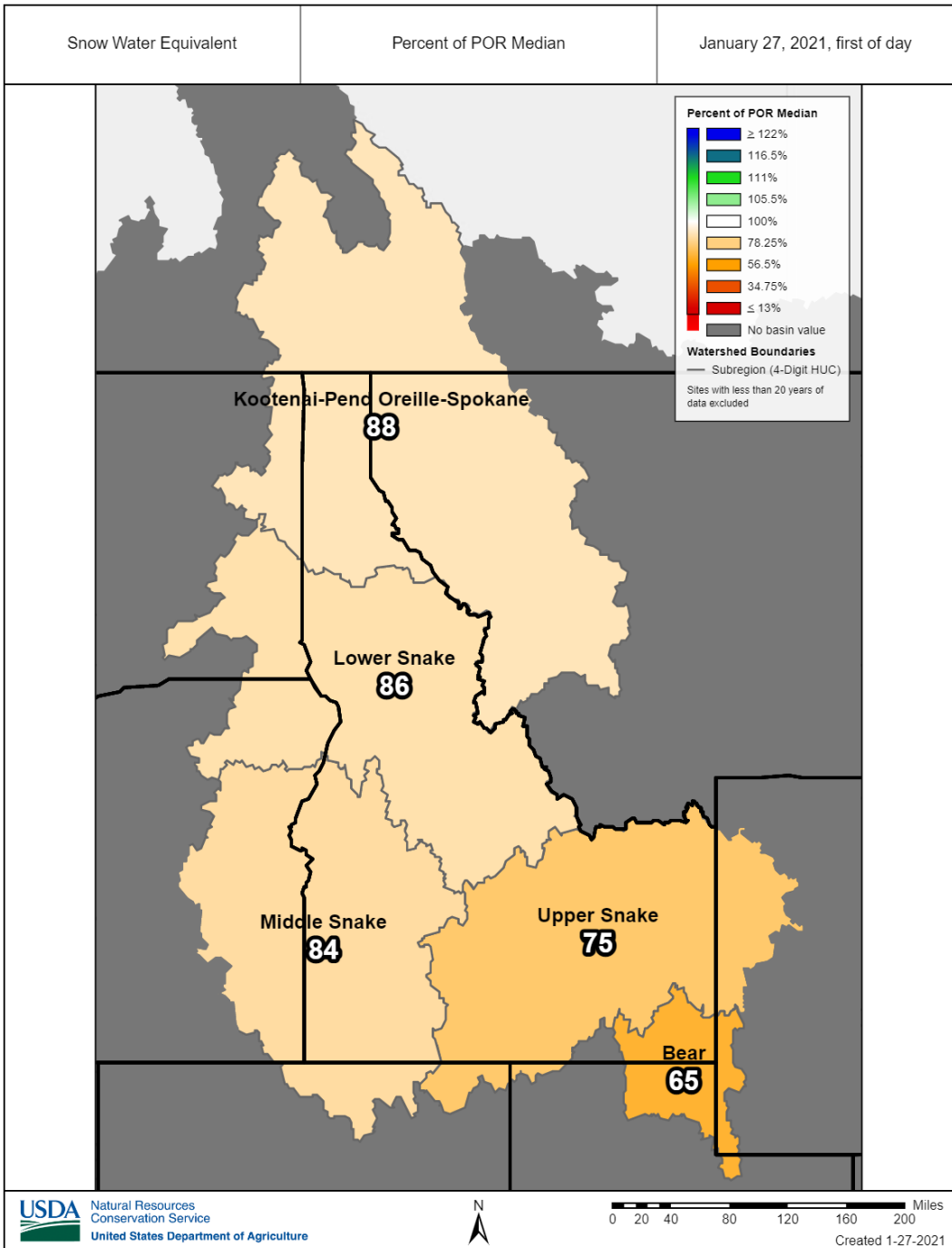
* Data unavailable at time of posting or measurement is not representative at this time of year

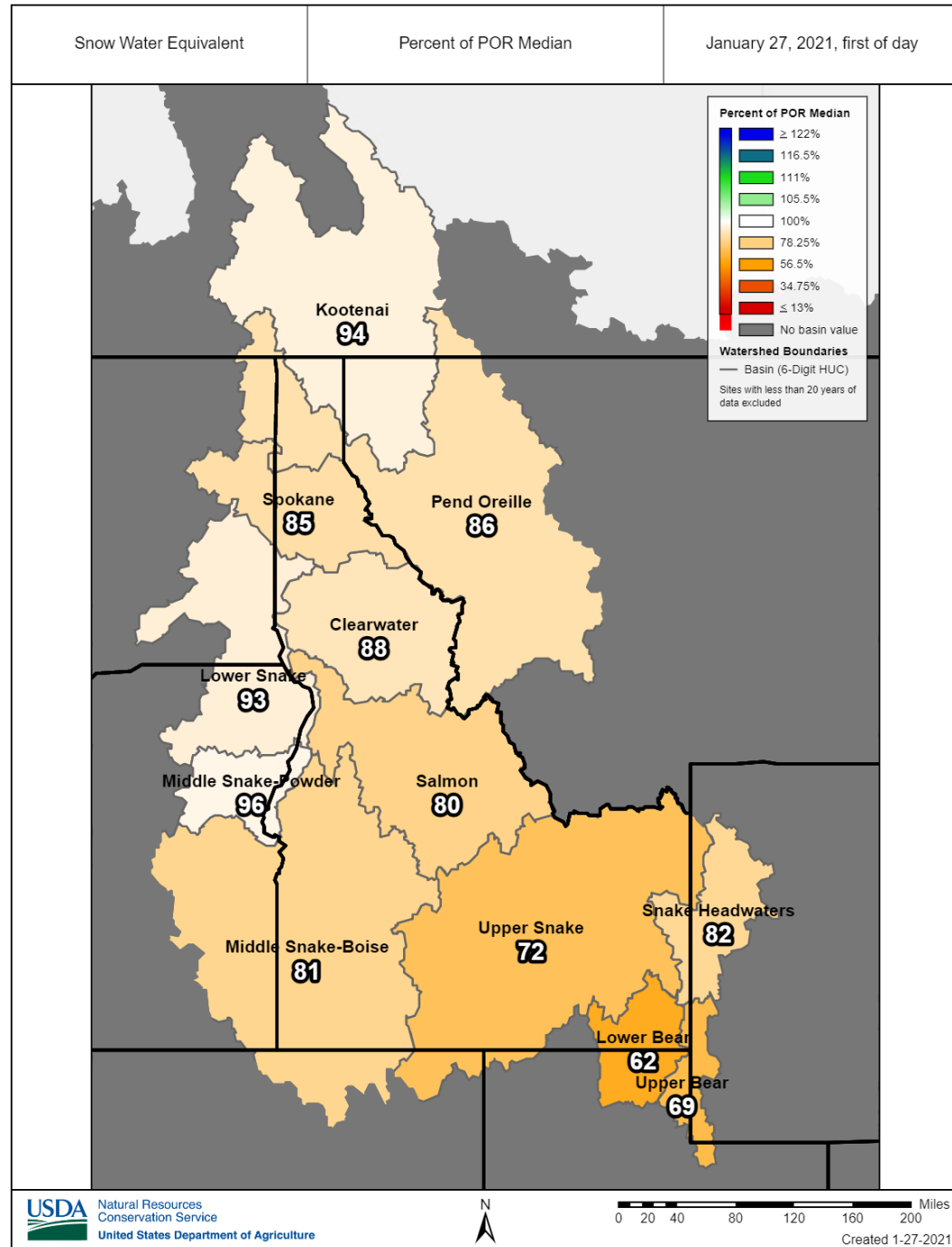
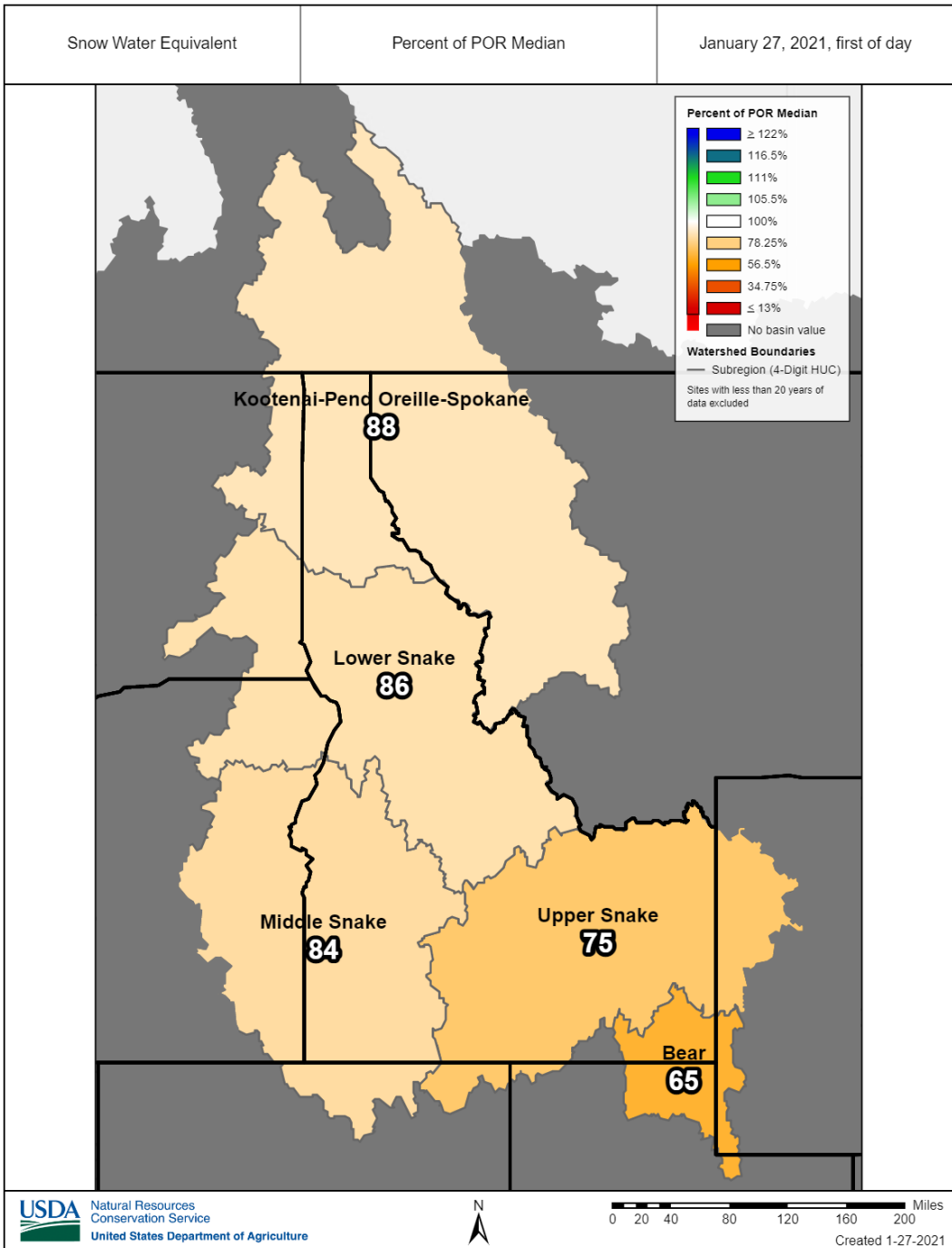
Provisional Data Subject to Revision



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An aerial photograph of a dense forest of evergreen trees covered in a thick layer of snow. The trees are scattered across a light-colored, snow-covered ground, creating a textured, white landscape. The perspective is from directly above, looking down on the forest.

Water Year 2021

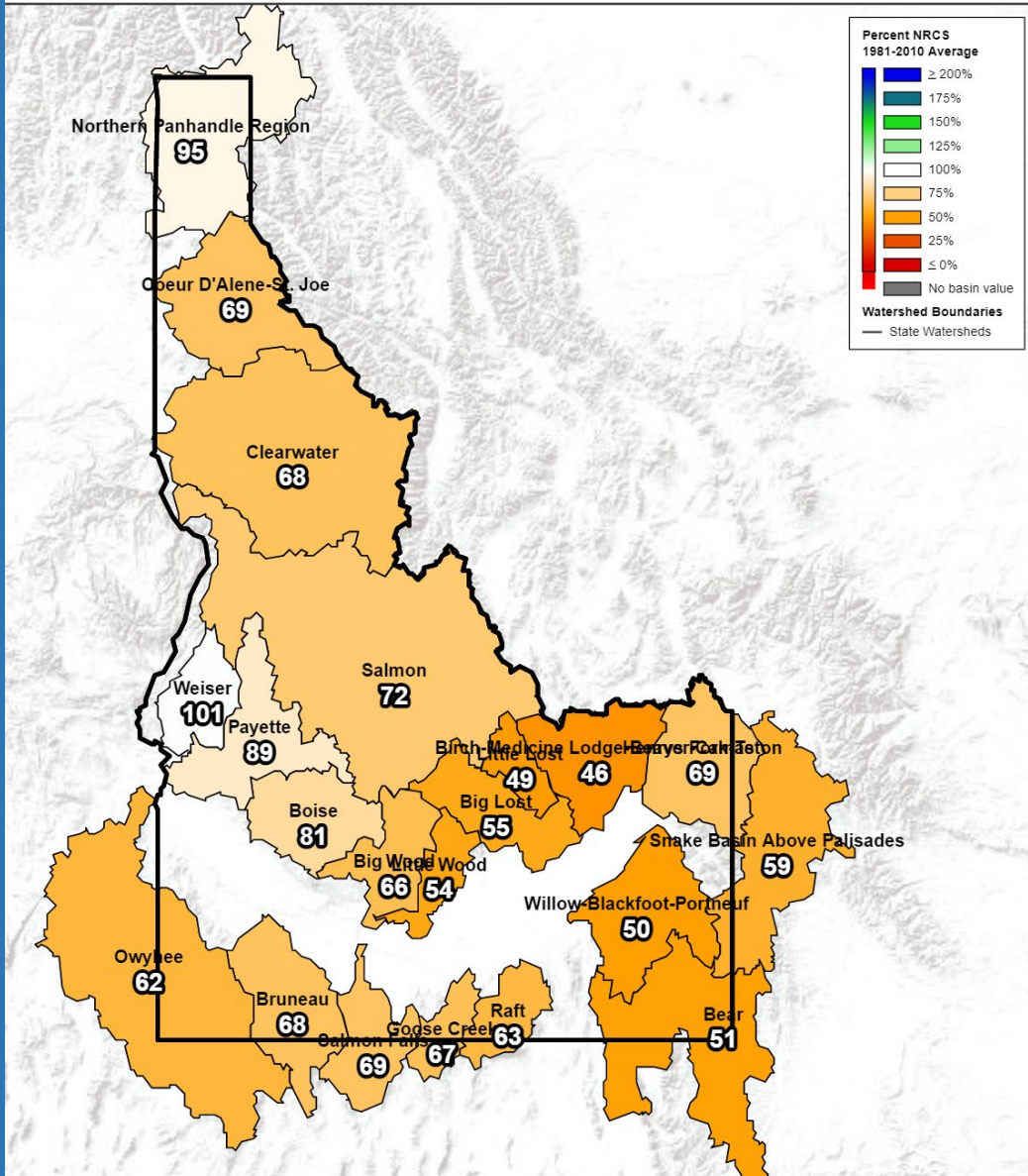
*Month by month: how we arrived at our
current conditions*

January

Month to Date Precipitation

Percent NRCS 1981-2010 Average

January 1, 2021 - January 26, 2021

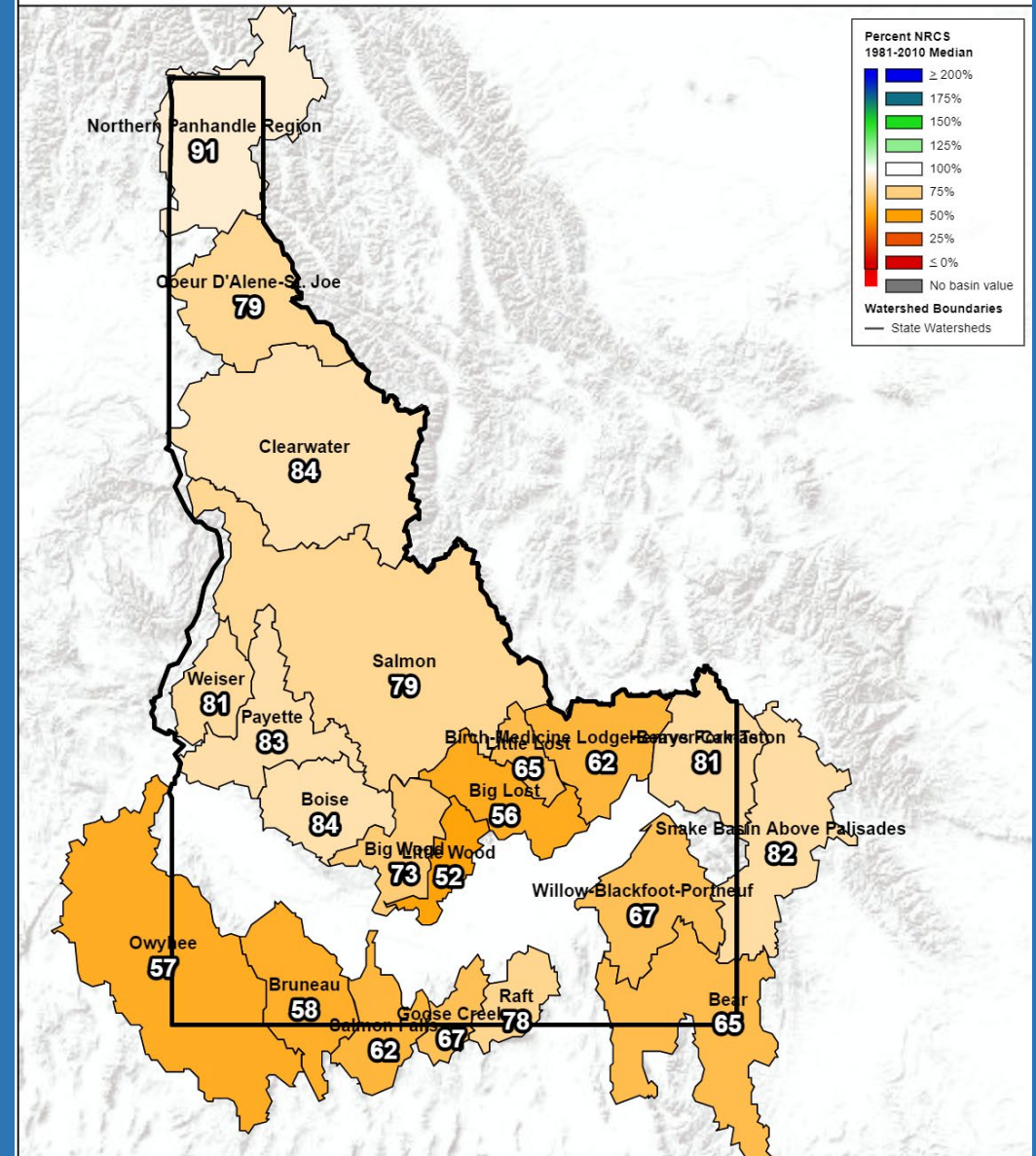


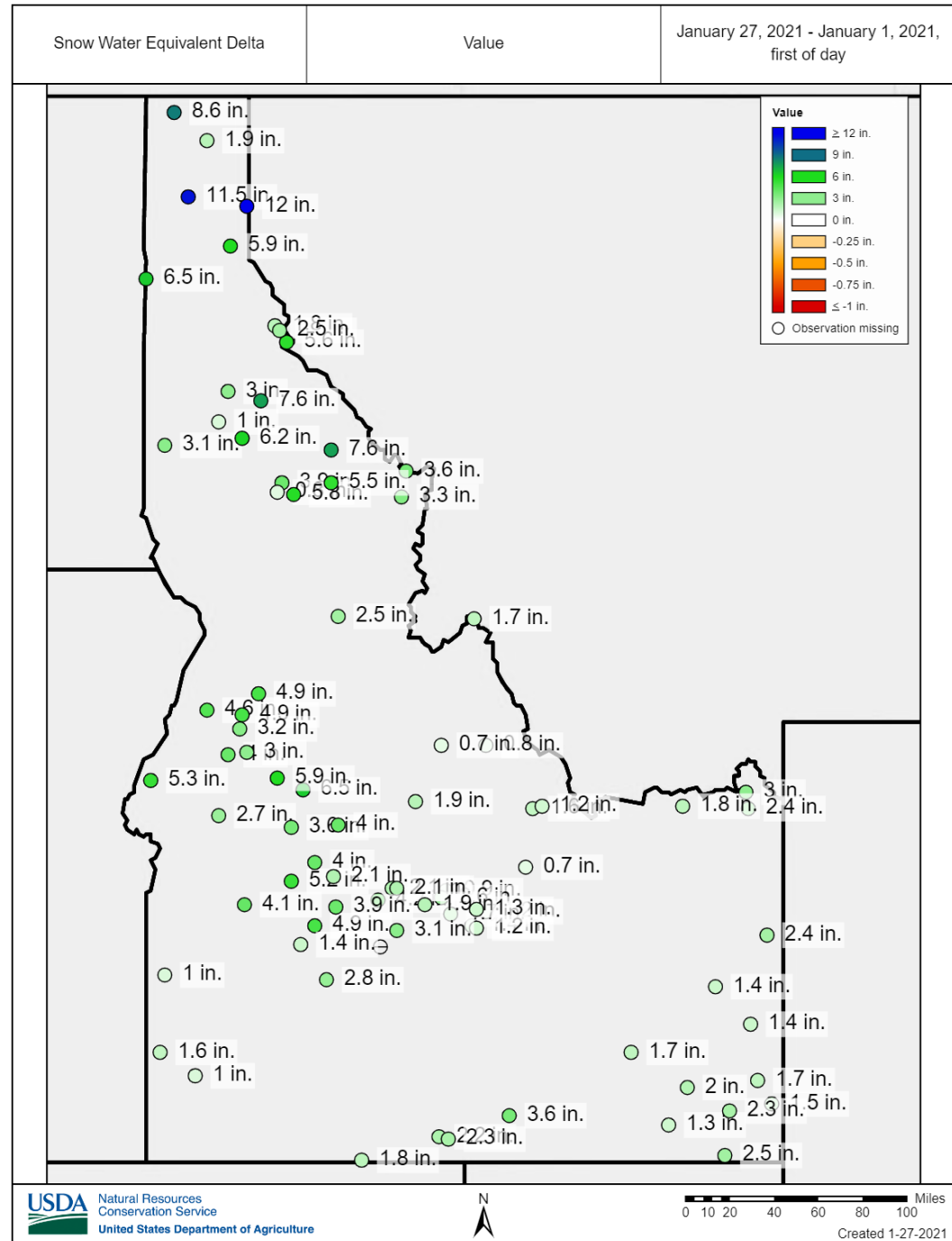
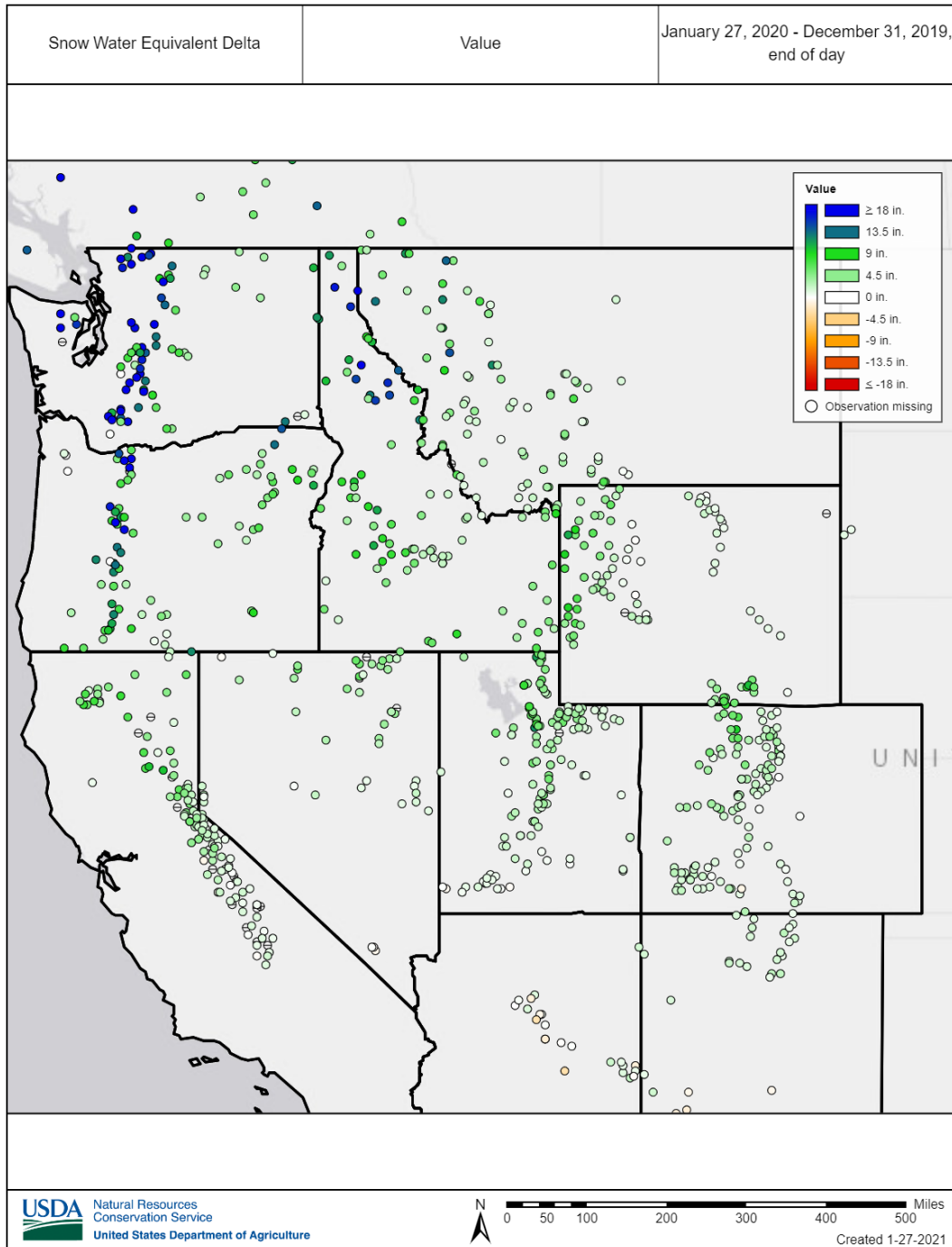
WY21 to date

Snow Water Equivalent

Percent NRCS 1981-2010 Median

January 27, 2021, first of day





An aerial photograph of a dense forest of evergreen trees covered in a thick layer of snow. The trees are scattered across a light-colored, snow-covered ground, creating a textured, monochromatic scene. The perspective is from directly above, looking down on the forest canopy.

Water Year 2021

Big picture: outlook for the rest of the winter

Historic influence of La Nina on snowpack

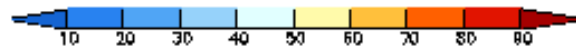
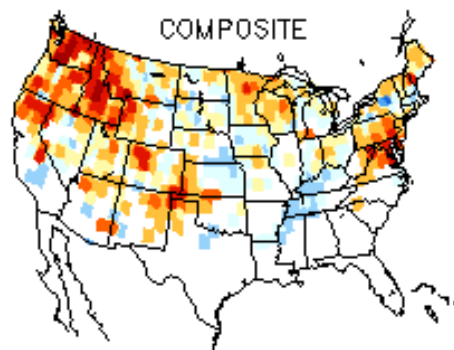
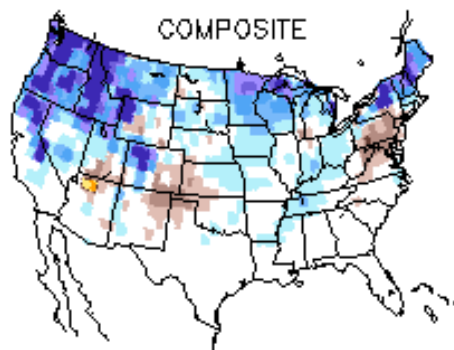
JFM LA NINA SNOW ANOMALIES (IN)
AND FREQUENCY OF OCCURRENCE (%)

ANOMALIES

FREQUENCY

COMPOSITE

COMPOSITE



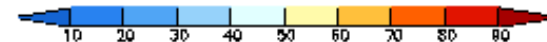
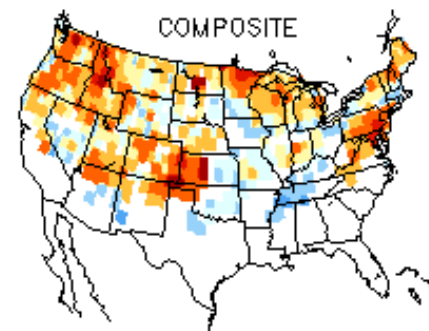
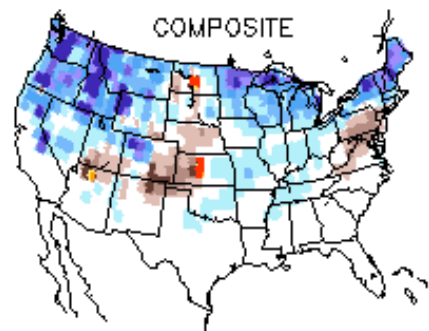
FMA LA NINA SNOW ANOMALIES (IN)
AND FREQUENCY OF OCCURRENCE (%)

ANOMALIES

FREQUENCY

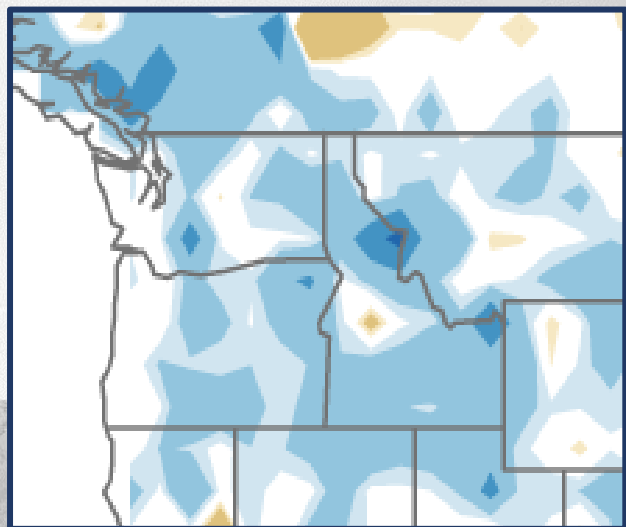
COMPOSITE

COMPOSITE

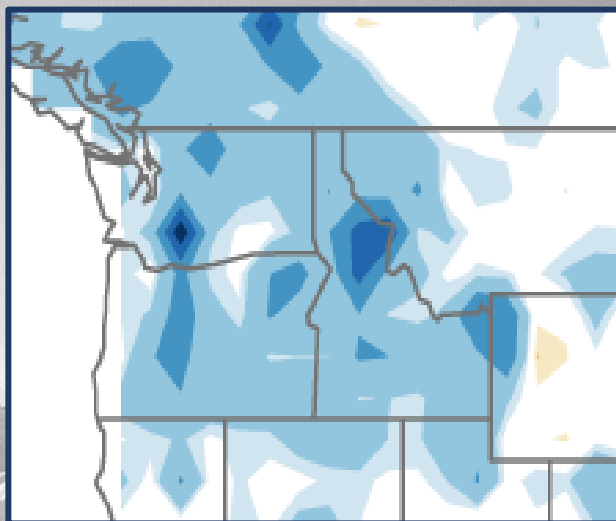


(15 CASES: 1950 1951 1955 1956 1968 1971 1974 1975 1976 1985 1989 1996 1999 2000 2008)

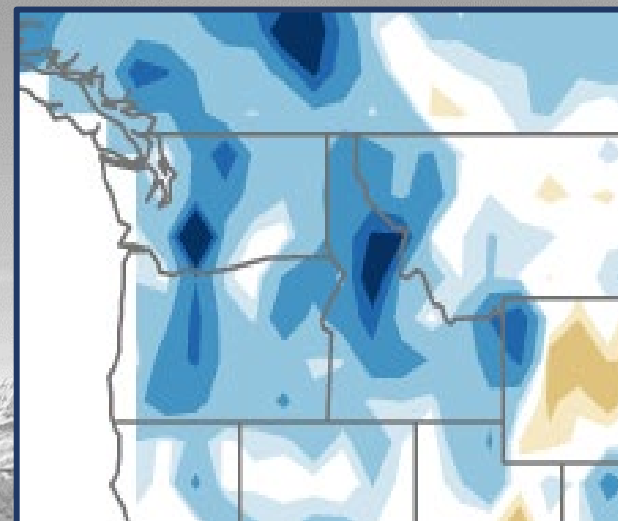
How La Niña snowfall patterns vary



Weak La Niña years

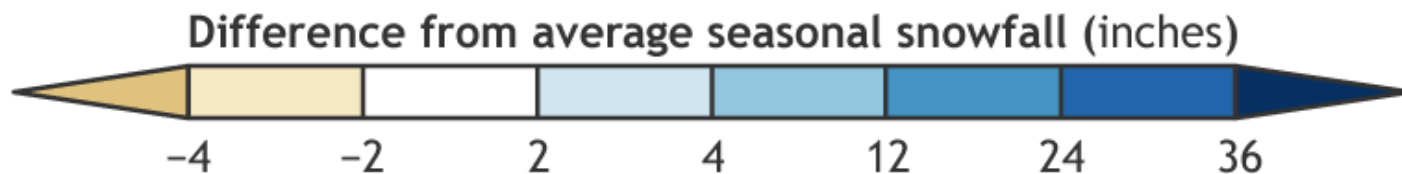


All La Niña years



Strong La Niña years

October-April
1950-51 to 2008-09



NOAA Climate.gov
Data: Rutgers GSL

Kootenai - Pend Oreille - Spokane Basin

SNOW WATER EQUIVALENT IN KOOTENAI-PEND OREILLE-SPOKANE

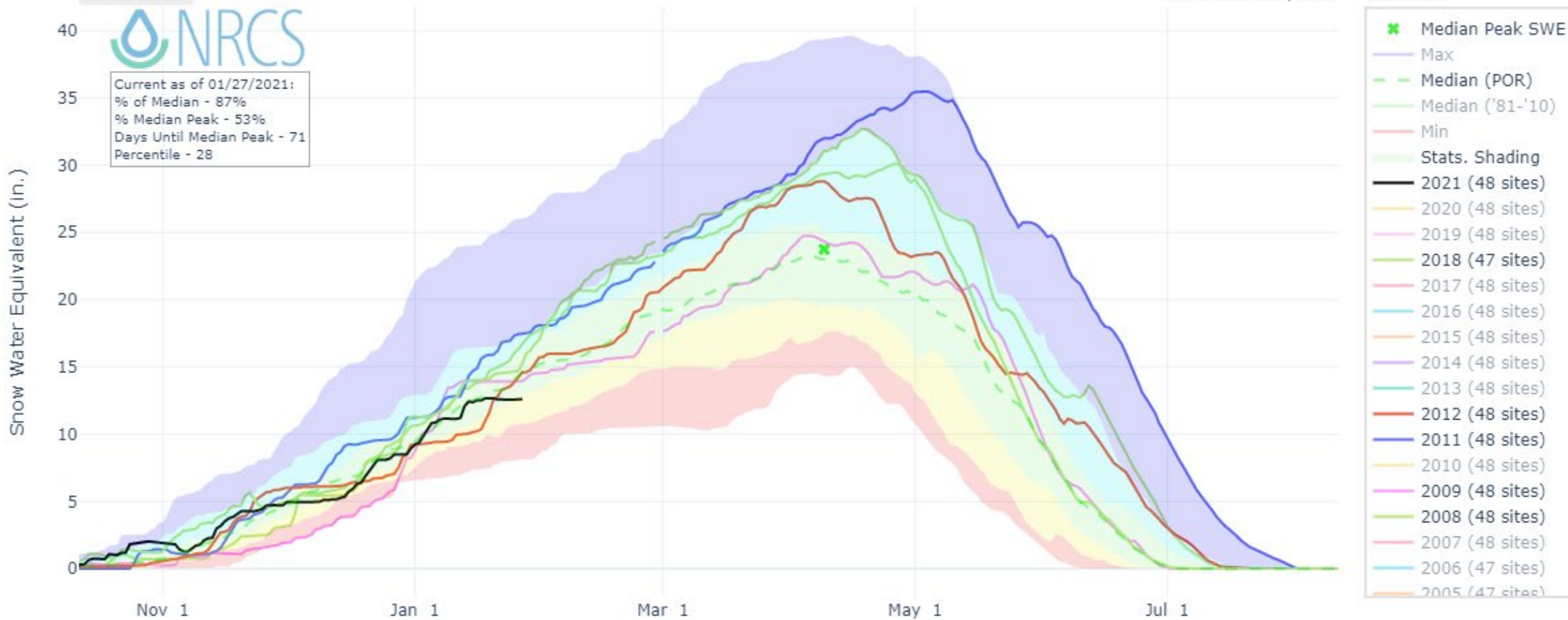
Reset Range



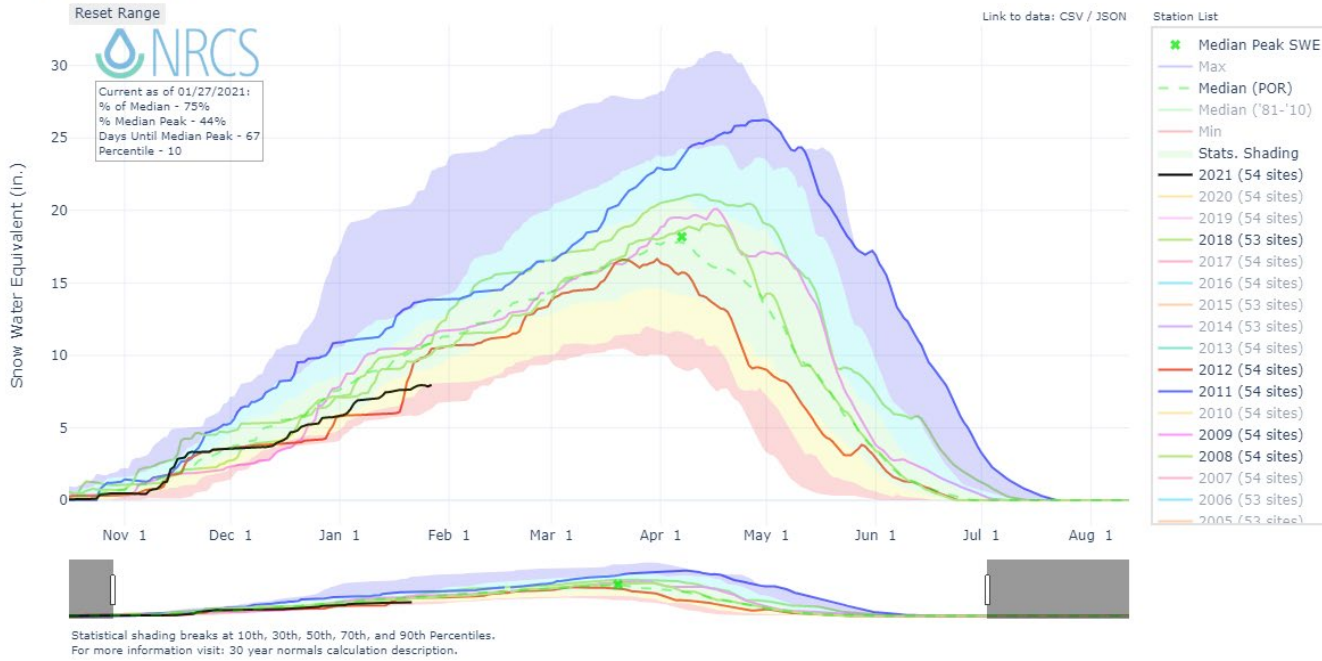
Current as of 01/27/2021:
% of Median - 87%
% Median Peak - 53%
Days Until Median Peak - 71
Percentile - 28

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

Station List



SNOW WATER EQUIVALENT IN UPPER SNAKE

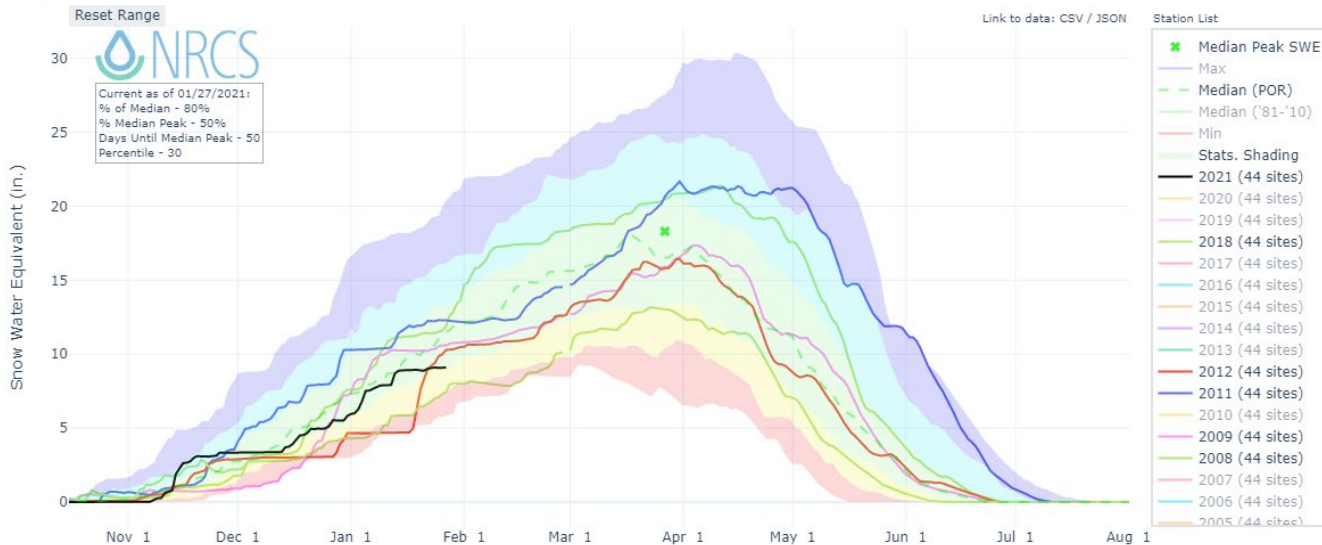


Snake River Basins

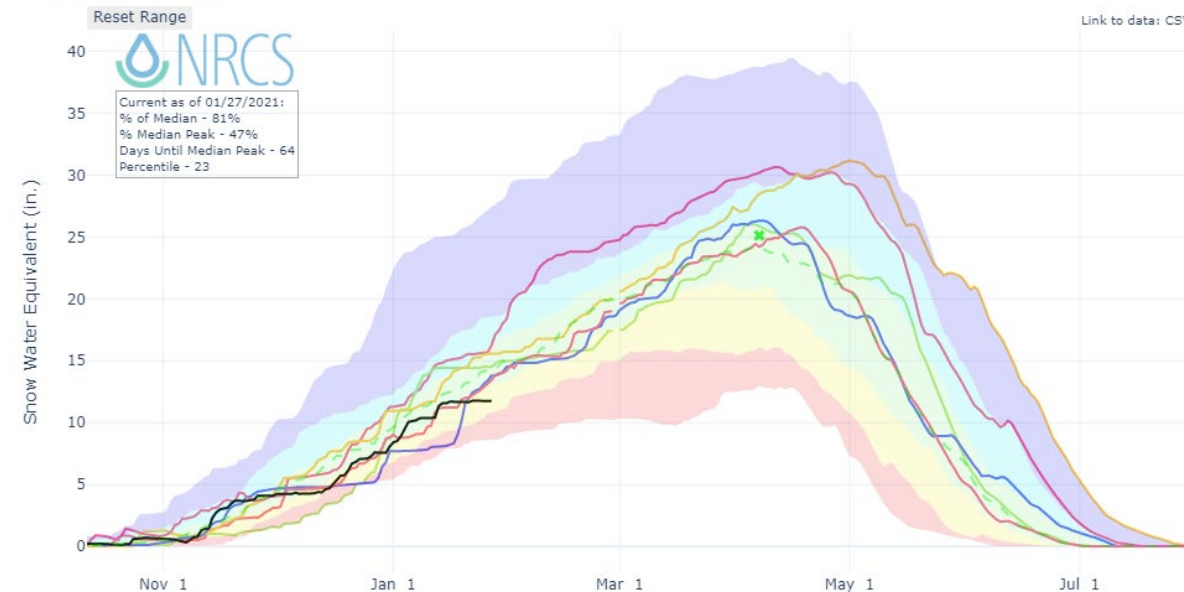
La Nina years

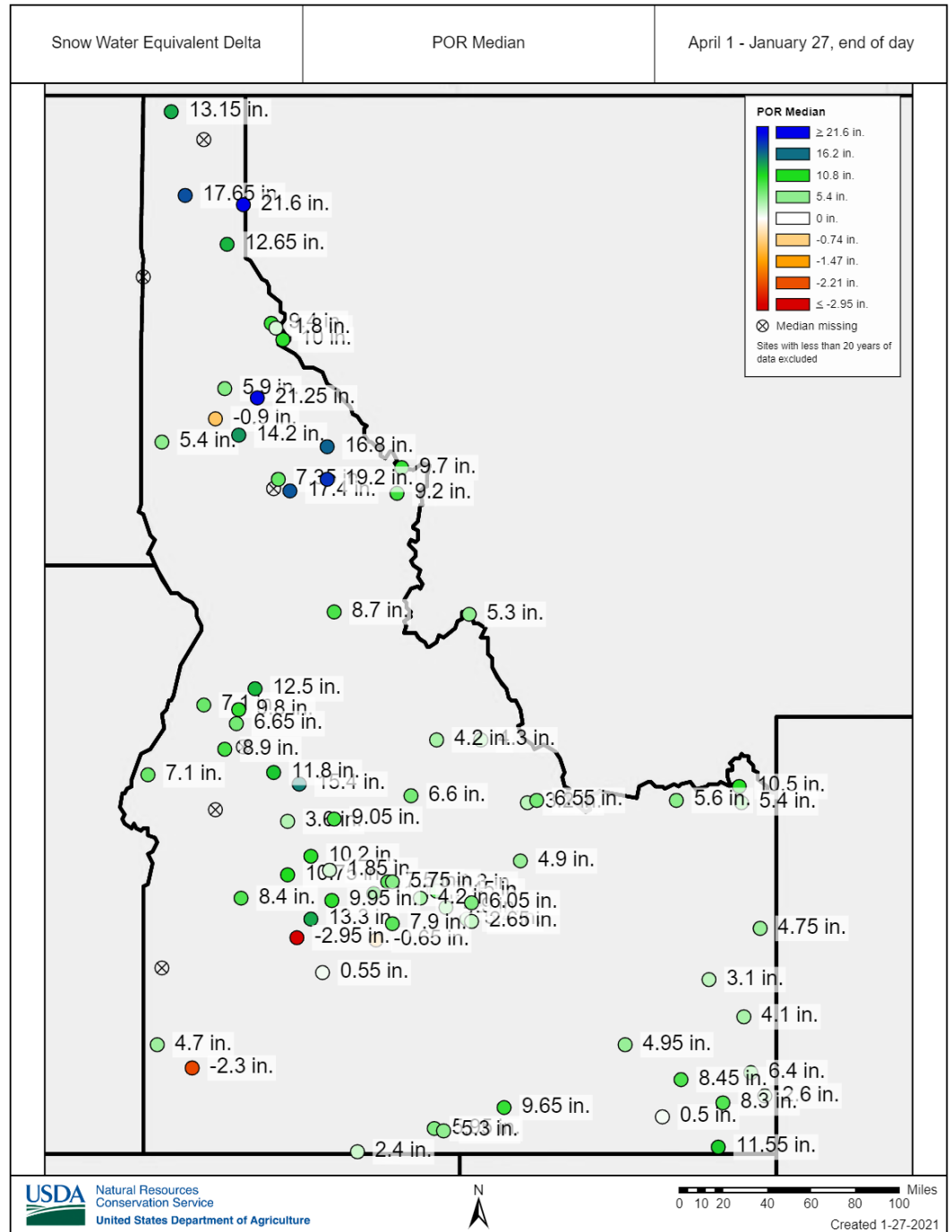
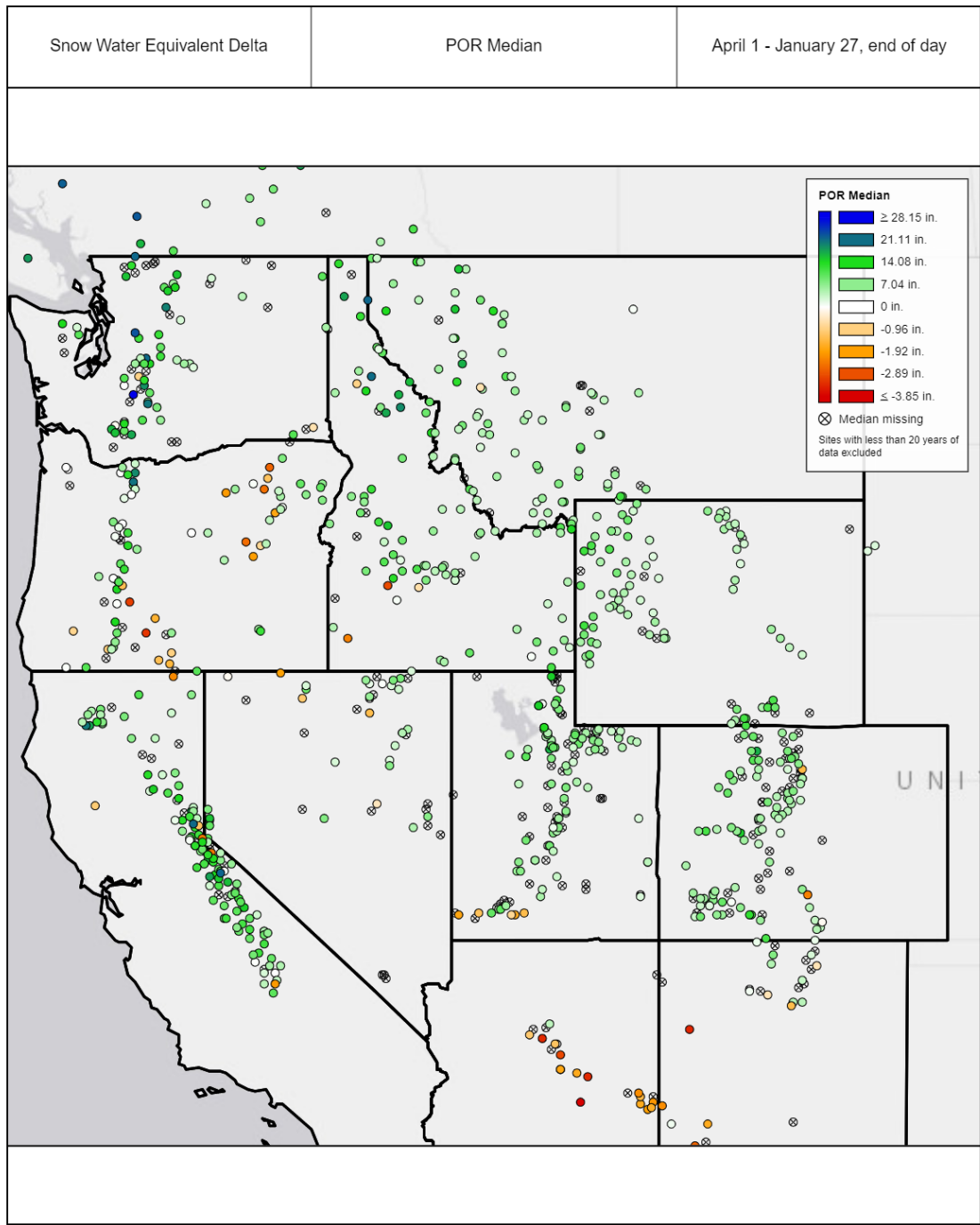
- 2018
- 2012
- 2011
- 2009
- 2008

SNOW WATER EQUIVALENT IN MIDDLE SNAKE



SNOW WATER EQUIVALENT IN LOWER SNAKE



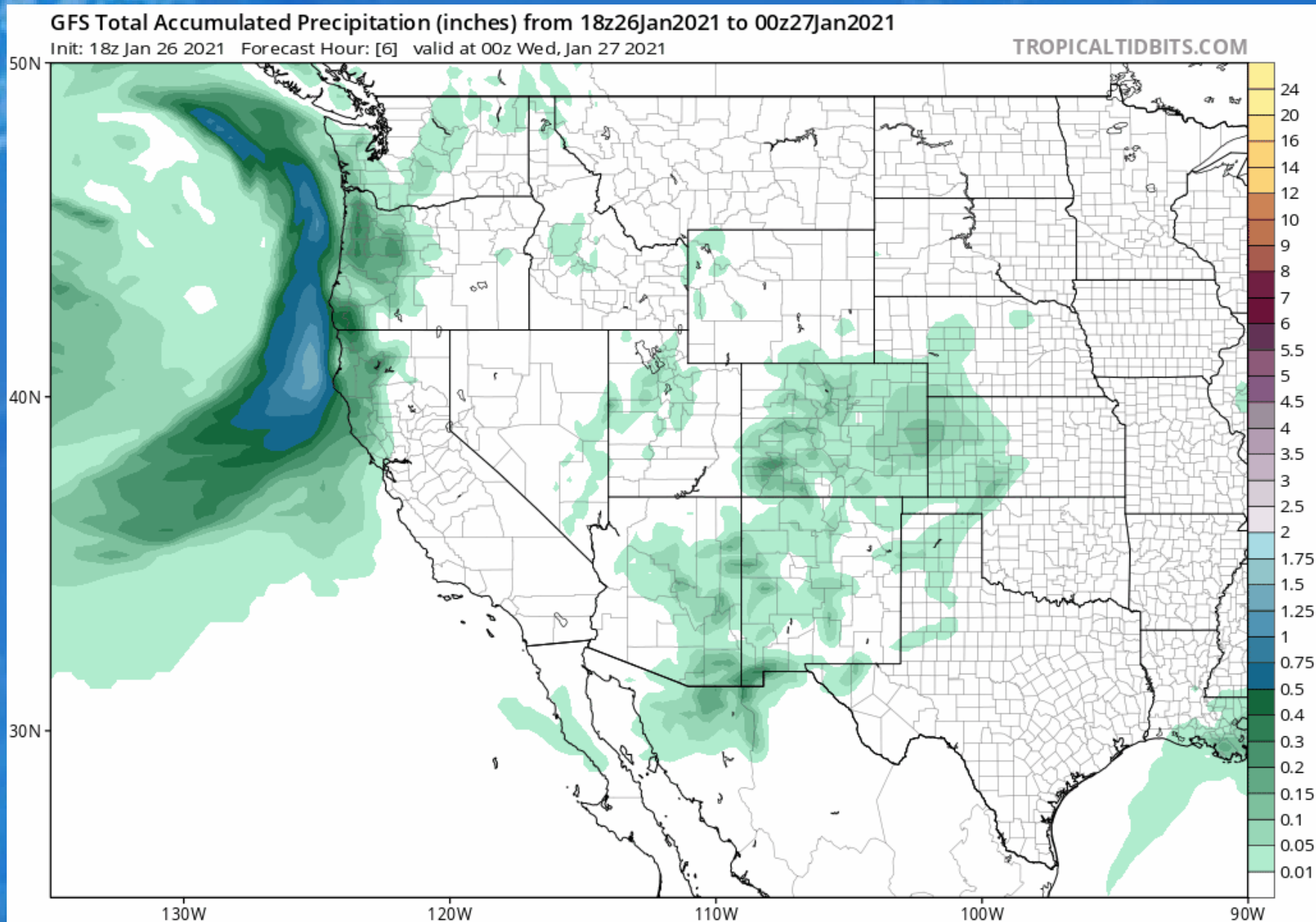


An aerial photograph of a dense forest of evergreen trees covered in a thick layer of snow. The trees are scattered across a light-colored, snow-covered ground, creating a textured, monochromatic scene. The perspective is from directly above, looking down on the forest canopy.

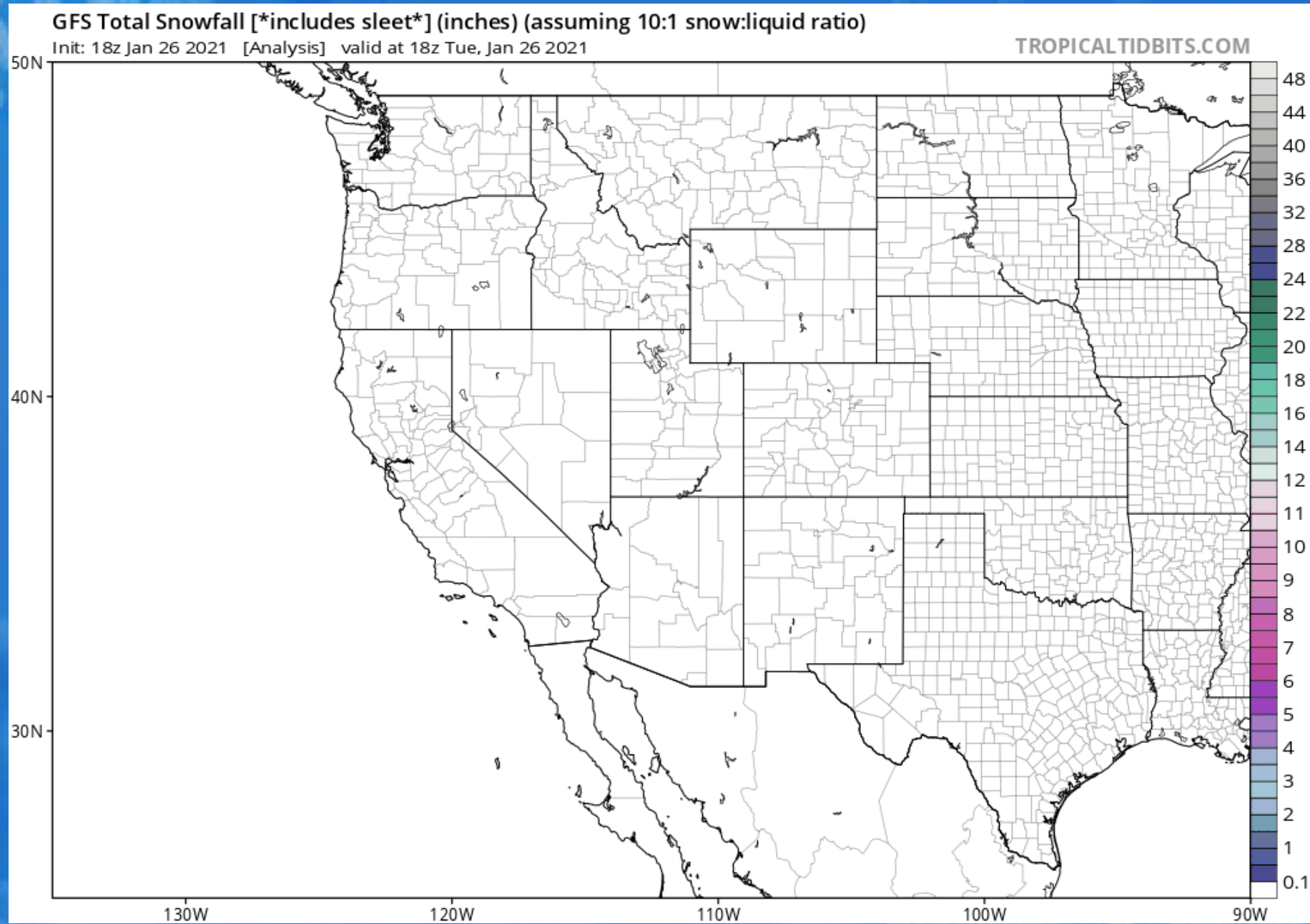
Water Year 2021

Short term forecast

Forecast: accumulated precipitation from 1/26 to 2/11



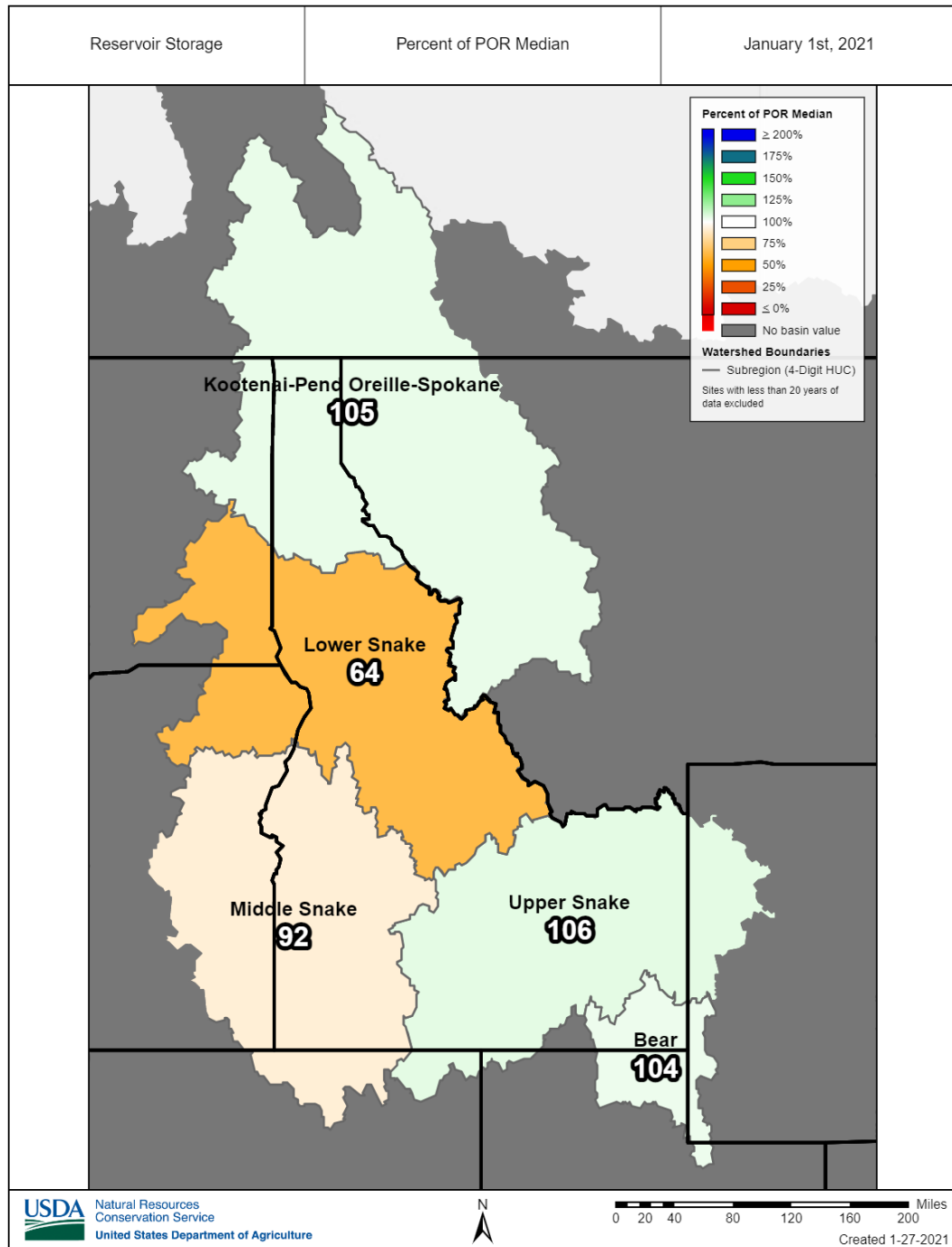
Forecast: total snowfall from 1/26 to 2/11



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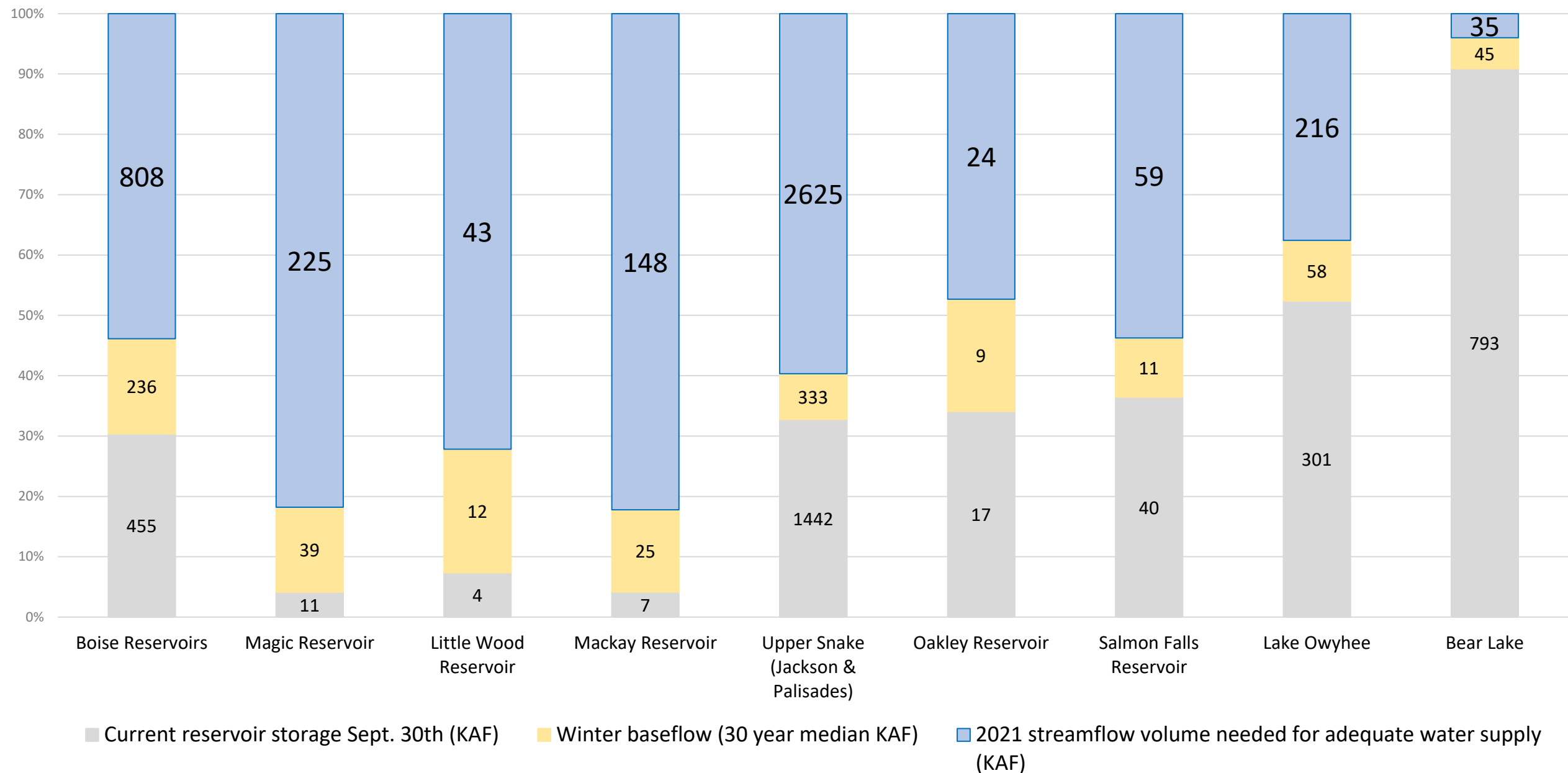
Water Year 2021

Water supply

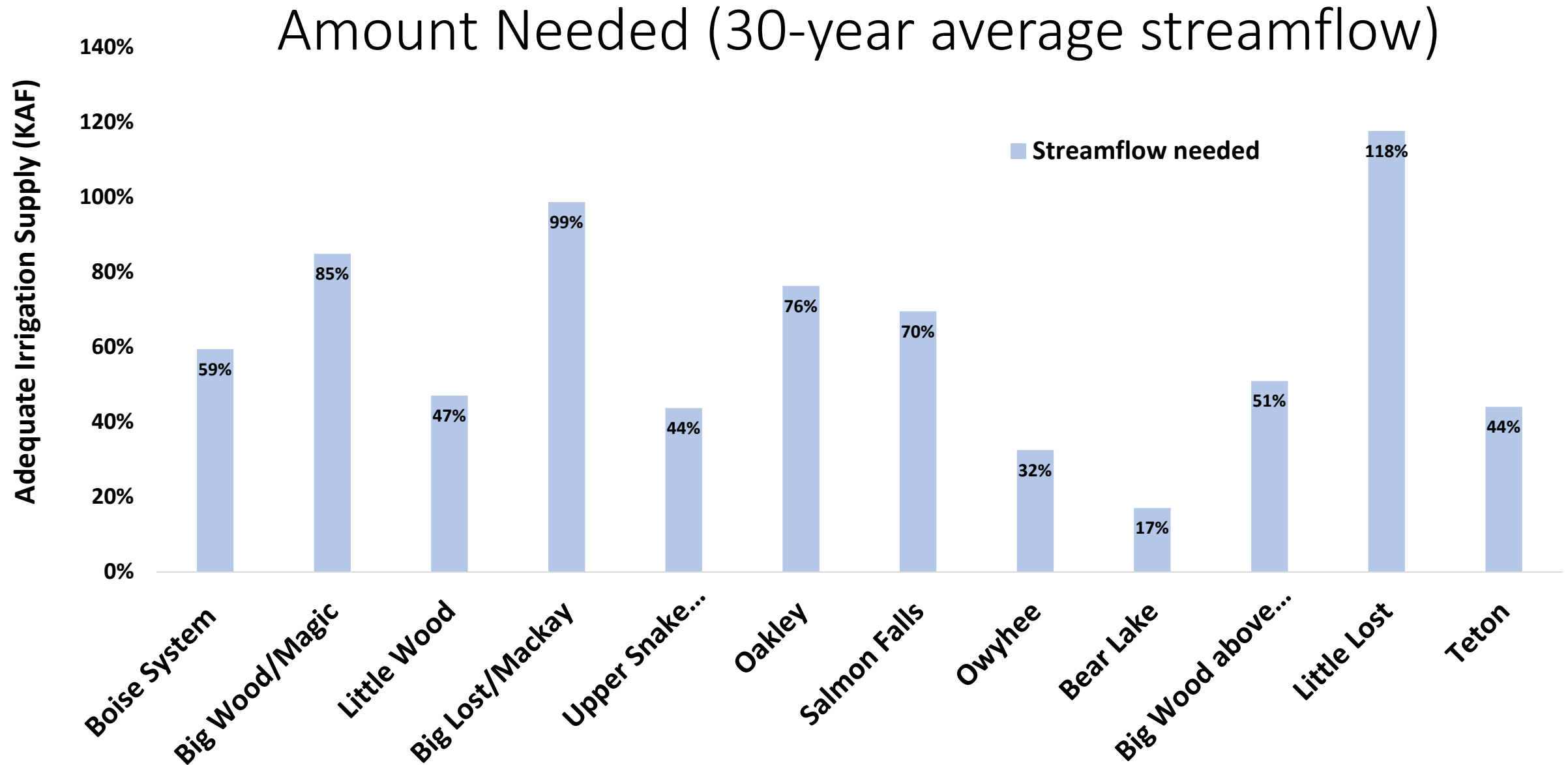


Reservoir storage on January 1, 2021

2021 Streamflow needed for adequate water supply (KAF)

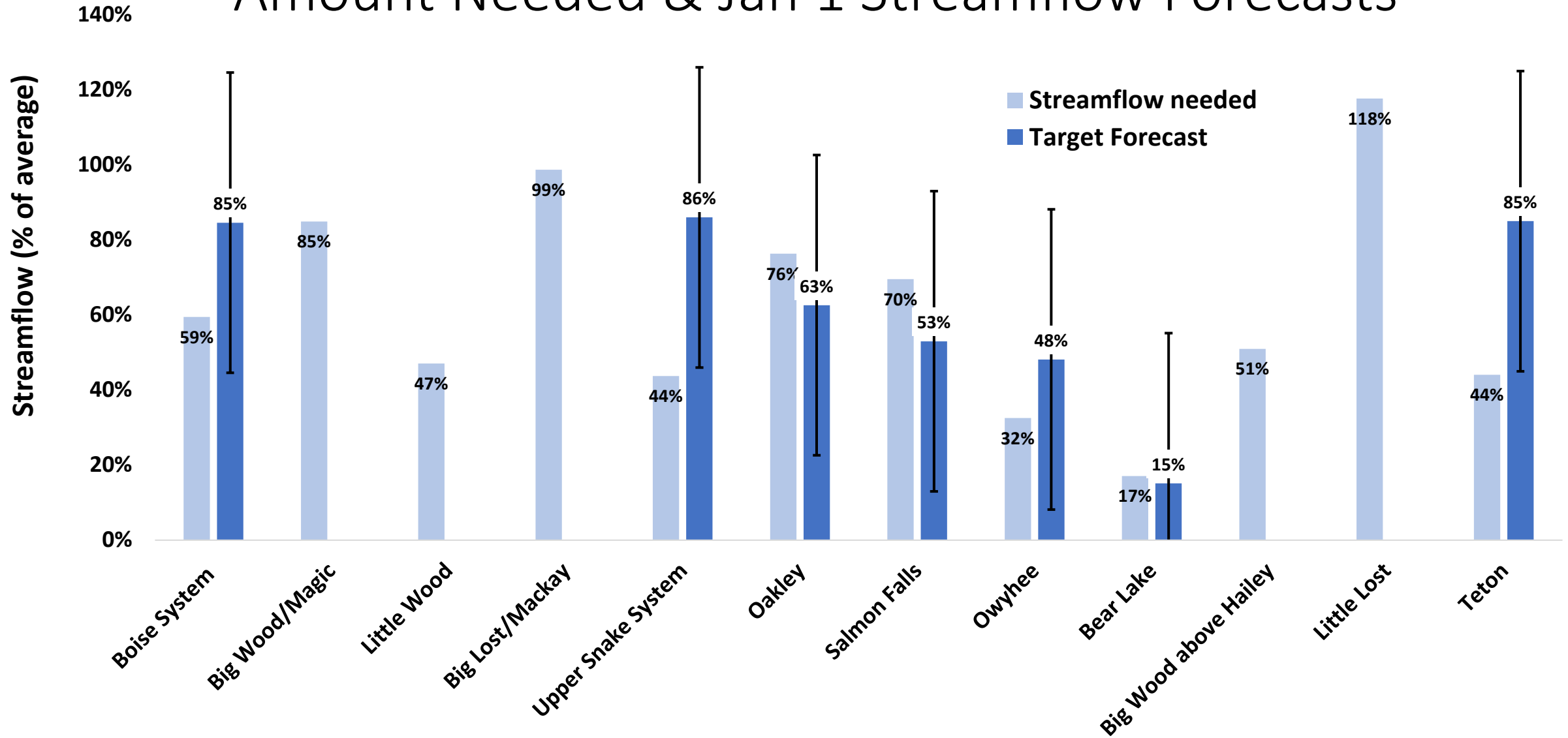


2021 Streamflow needed for adequate water supply (KAF)



2021 Streamflow needed for adequate water supply (KAF)

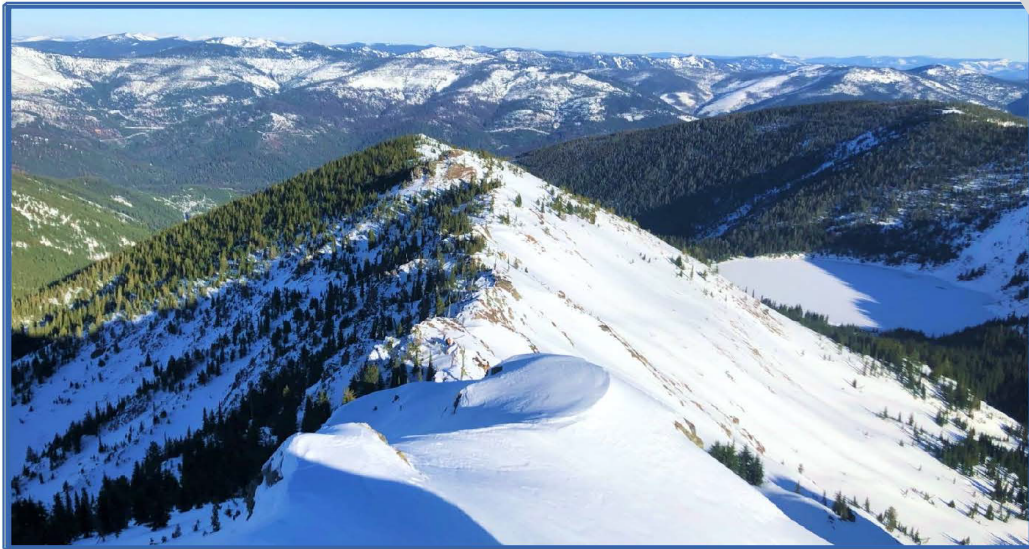
Amount Needed & Jan 1 Streamflow Forecasts



Thank
you!

Natural Resources Conservation Service

Idaho Water Supply Outlook Report
January 1, 2021



At 6,838 feet, Stevens Peak is the highest mountain in the Bitterroot Range along the Idaho-Montana divide. Photo taken by Peter Youngblood, December 6, 2020

Water-year 2021 started off slowly across Idaho, except in high elevation areas within the Panhandle basins as seen near Mullan, Idaho at the popular hike to Stevens Peak. October 1 is generally the start of the climatological wet season in the Intermountain West and marks the start of each water year. Typically, the combination of precipitation and sustained sub-freezing daily temperatures begin in November to start the seasonal snowpack building process across Idaho's mountains, but can begin as early as September in the highest elevations. Our "wet season", beginning in Autumn and ending through approximately May, builds the mountain snowpack reservoir that is critical to delivering water supply security through the West's subsequent hot and dry summer months.



Idaho Snow Survey - NRCS



Erin Whorton



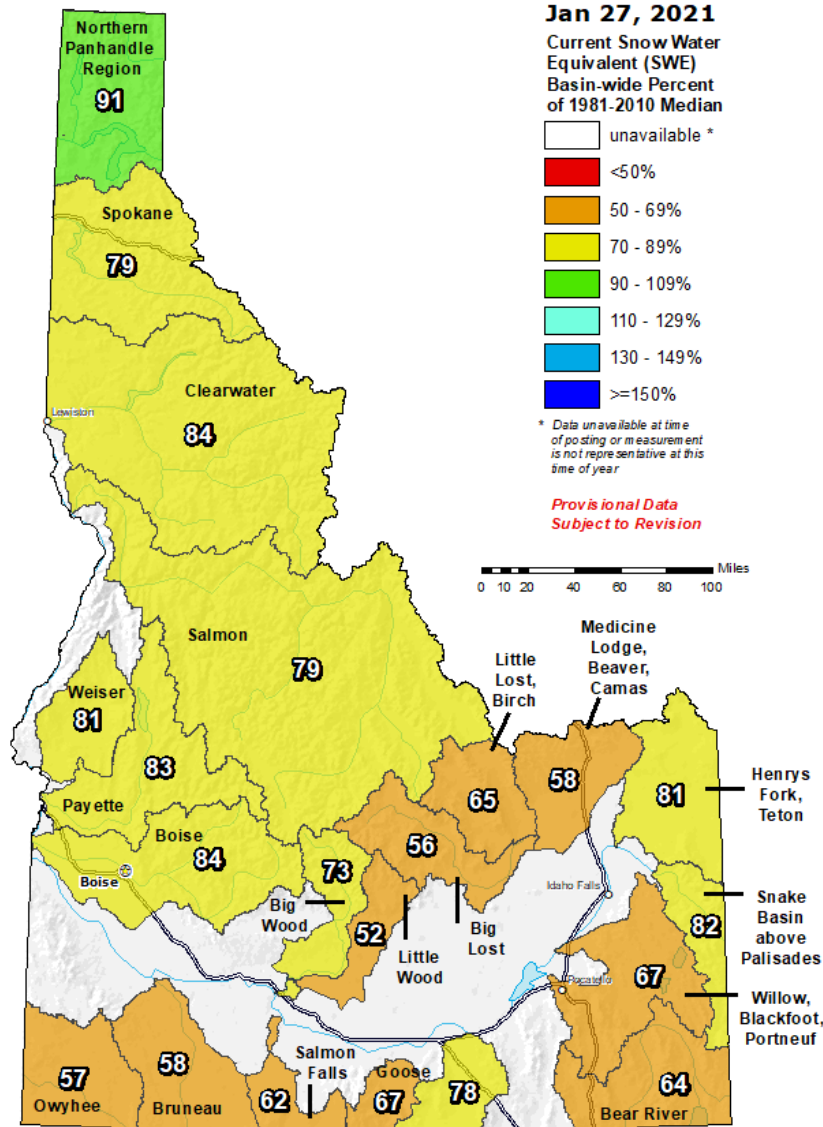
erin.whorton@usda.gov



208-685-6983



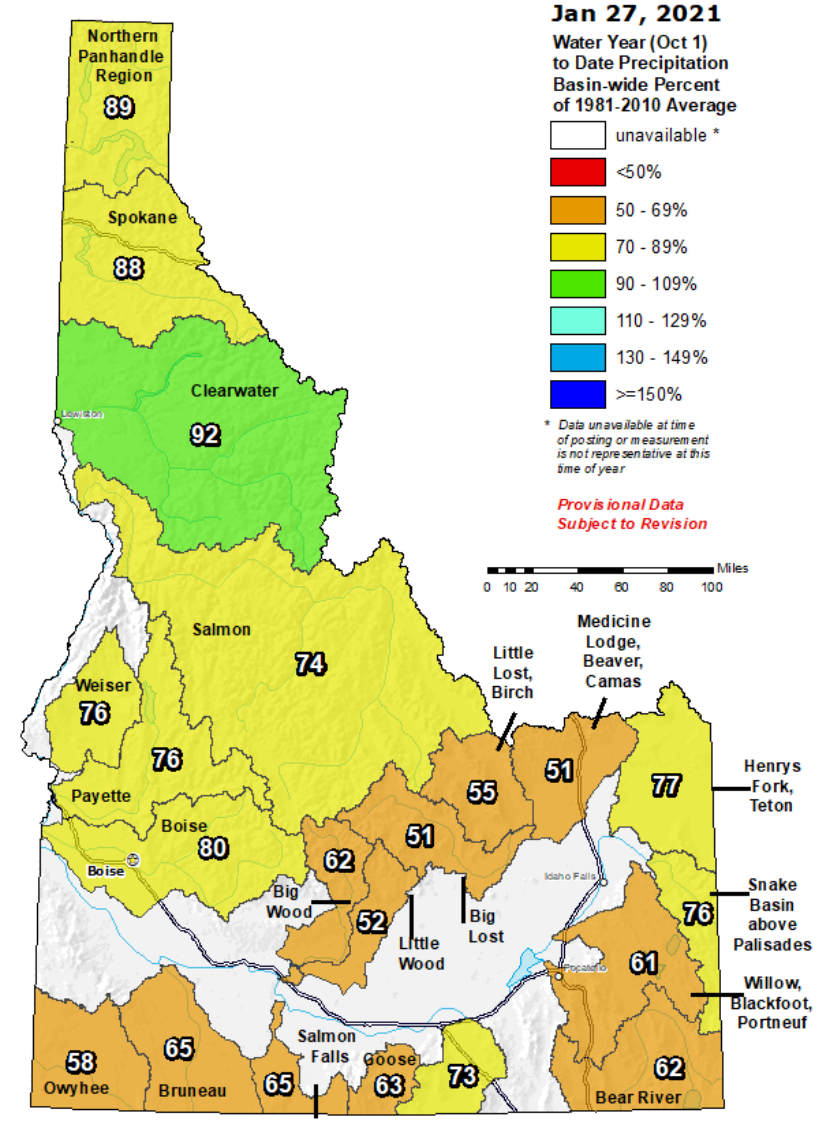
Idaho SNOTEL Current Snow Water Equivalent (SWE) % of Normal



The snow water equivalent percent of normal represents the current snow water equivalent 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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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).

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