USDA

United States Department of Agriculture

Walker River Irrigation District Board of Directors Meeting

March 9, 2020

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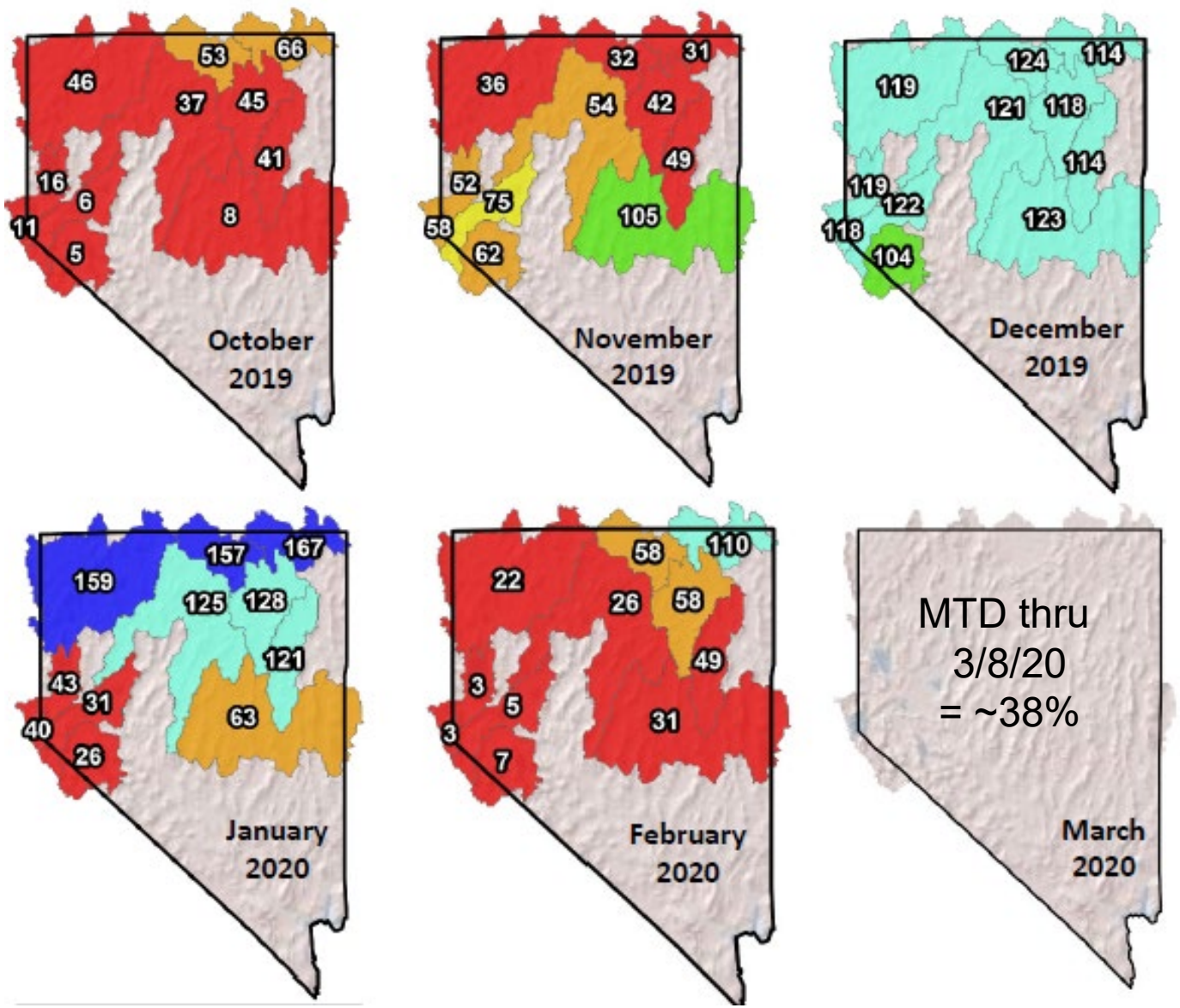
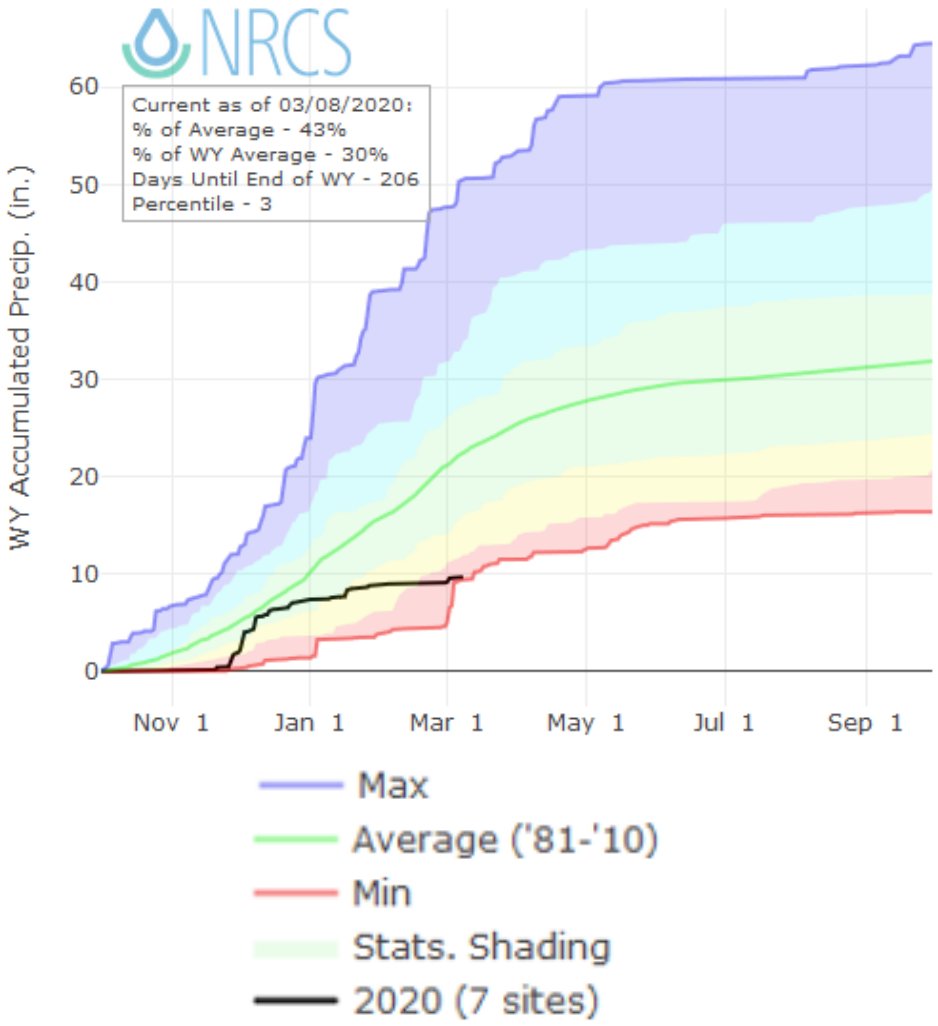
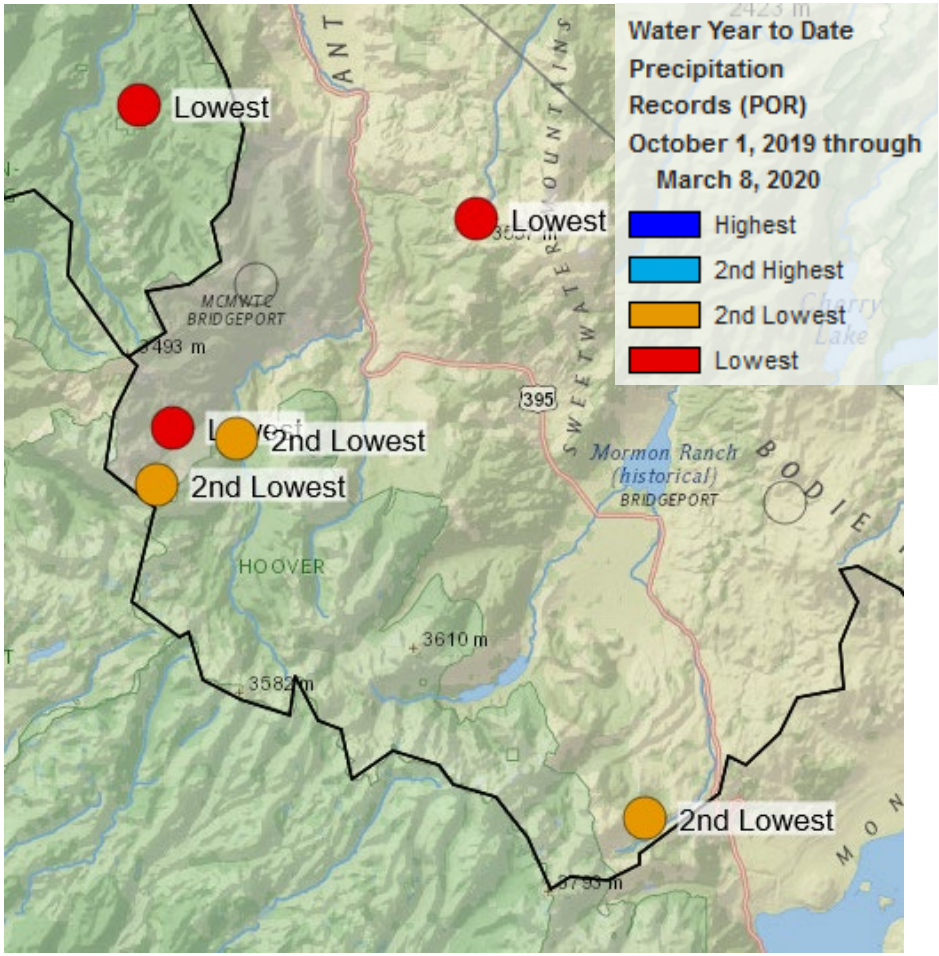
Natural Resources Conservation Service

Monthly Precipitation as Percent of Average – Water Year 2020



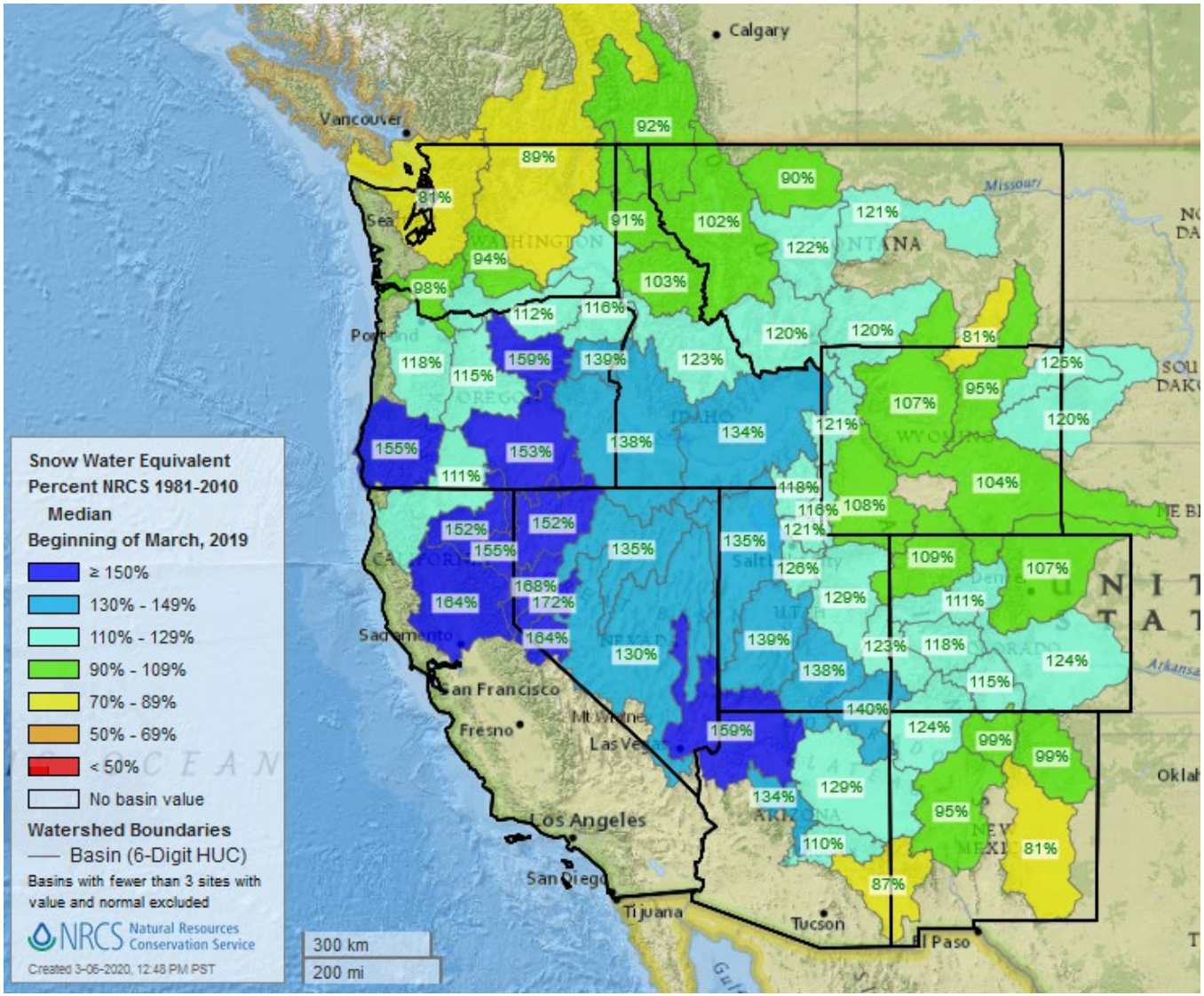
Water Year Precipitation - Record Low





Natural Resources Conservation Service

3/1/19 = ☺



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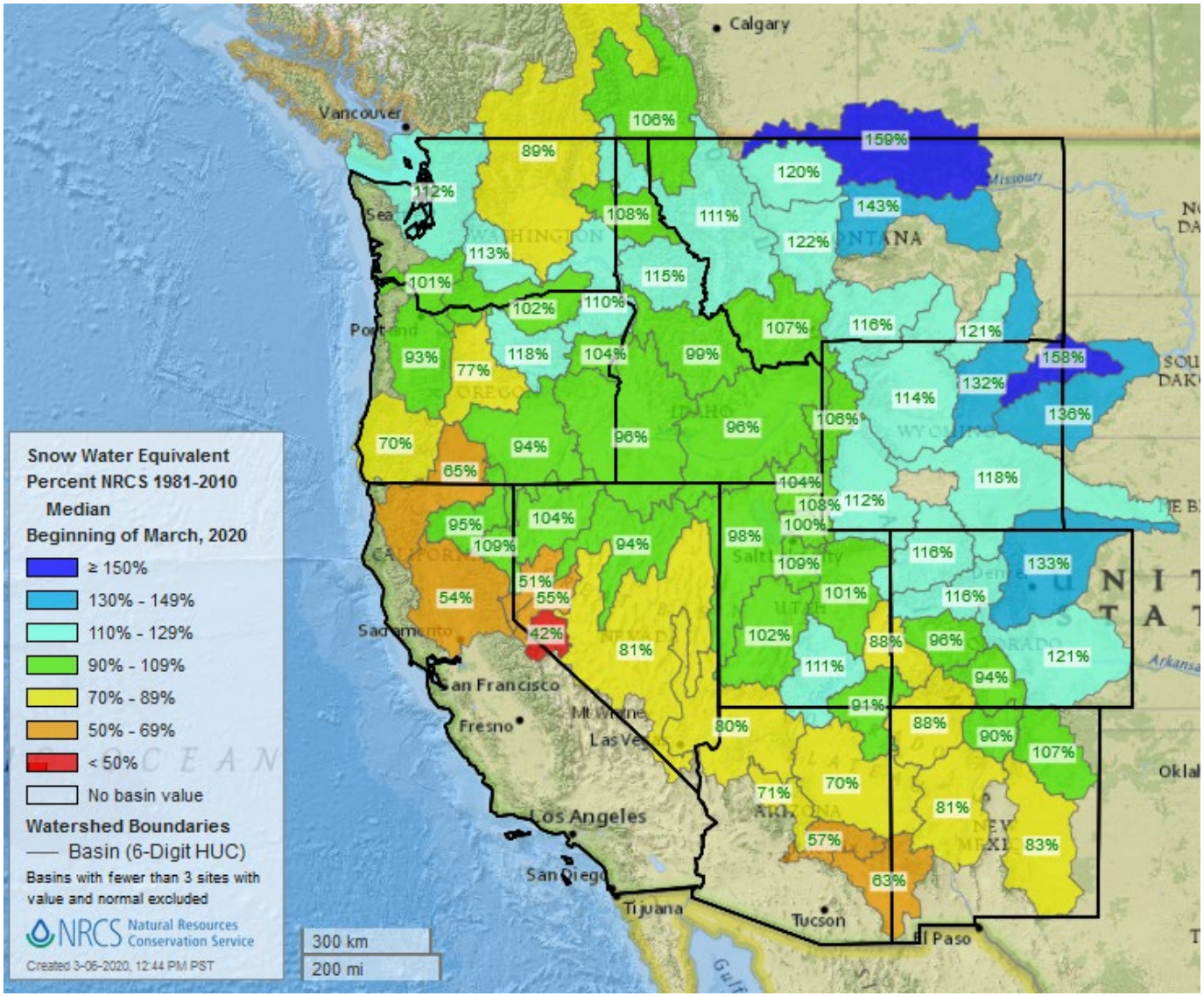
3/1/20 = ☹



Here's some math

164% (2019)
+ 42% (2020)
206%

Divided by 2

2-year snowpack average = **103%**

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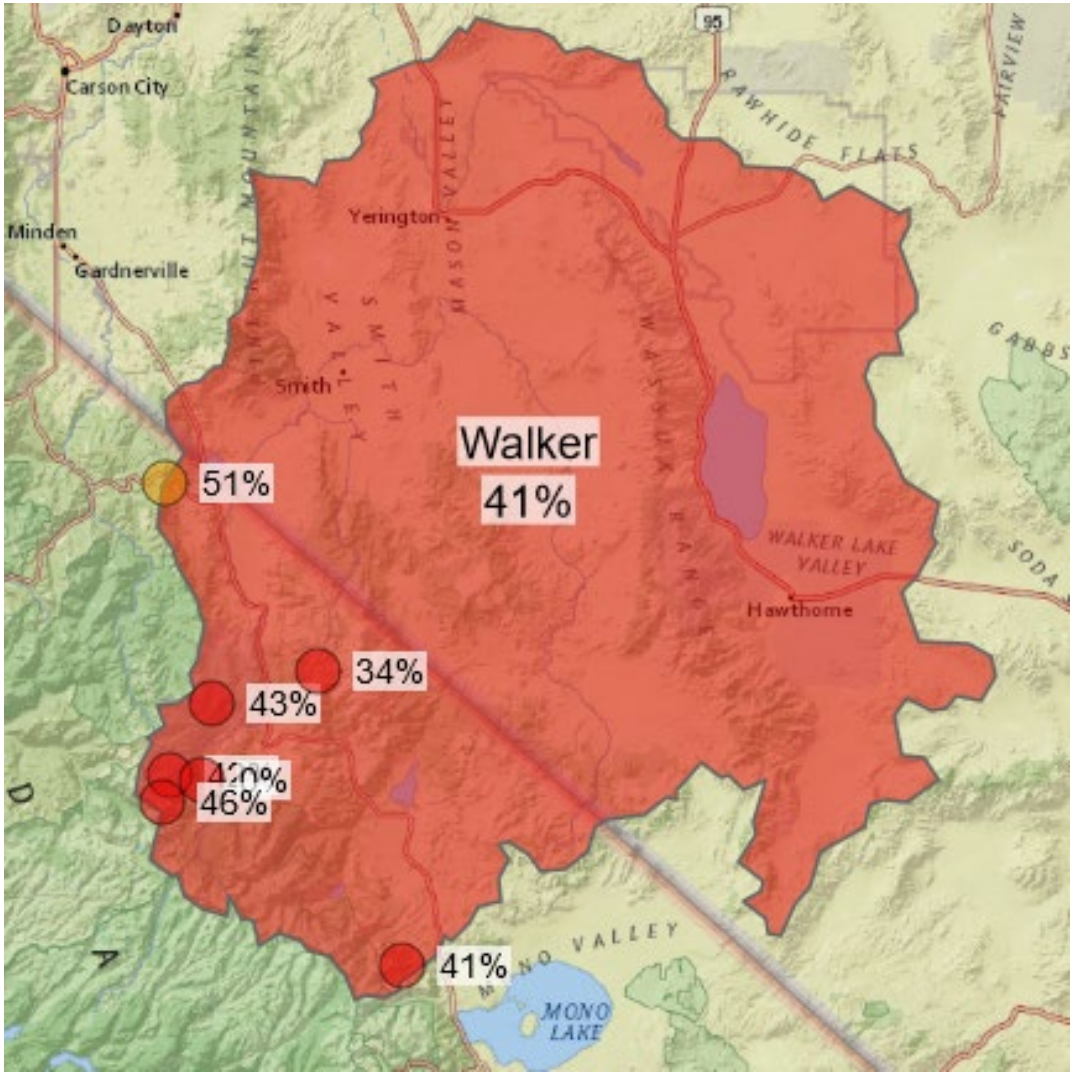
3/9/20

Snow Water Equivalent
Percent NRCS 1981-2010
Median
March 9, 2020, first of day

- ≥ 150%
- 130% - 149%
- 110% - 129%
- 90% - 109%
- 70% - 89%
- 50% - 69%
- < 50%



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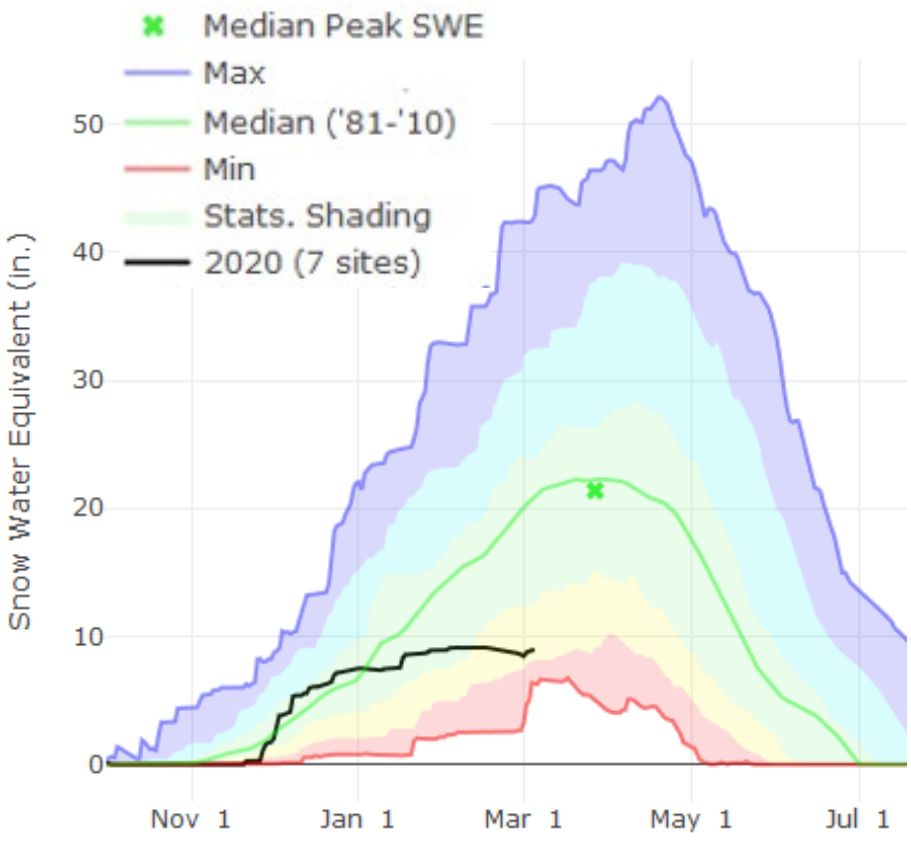
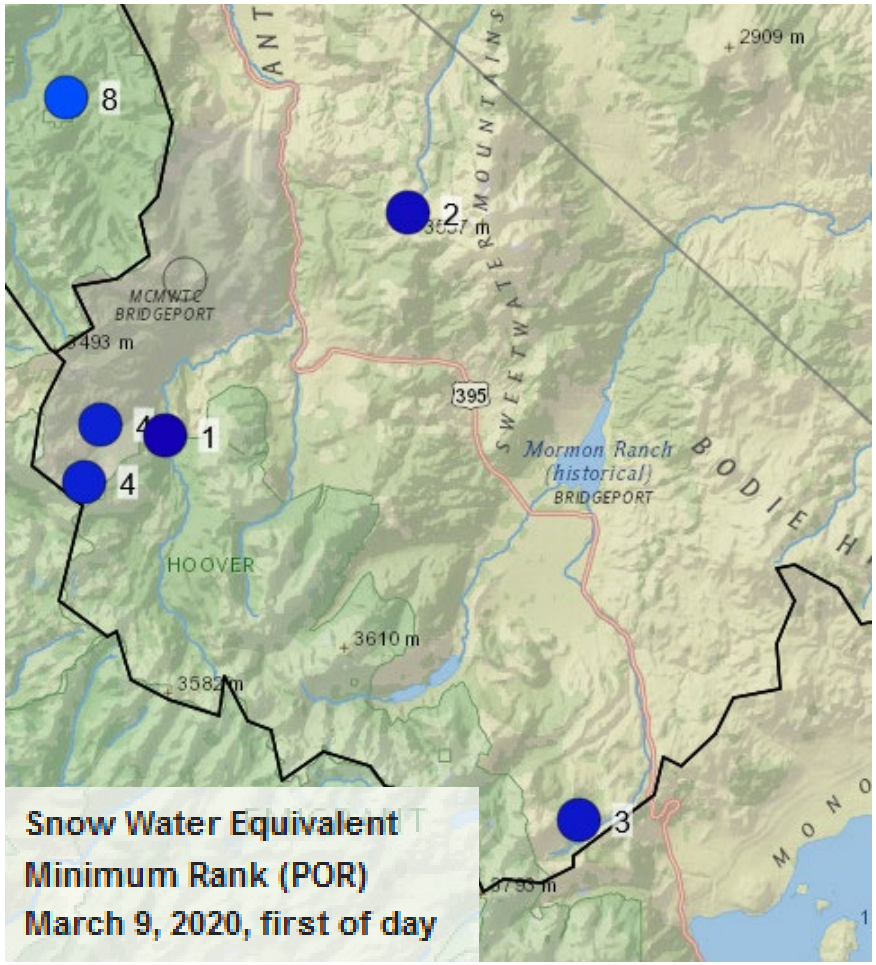
Snow Water Equivalent in Walker



Snowpack Rank

1 = lowest year on record



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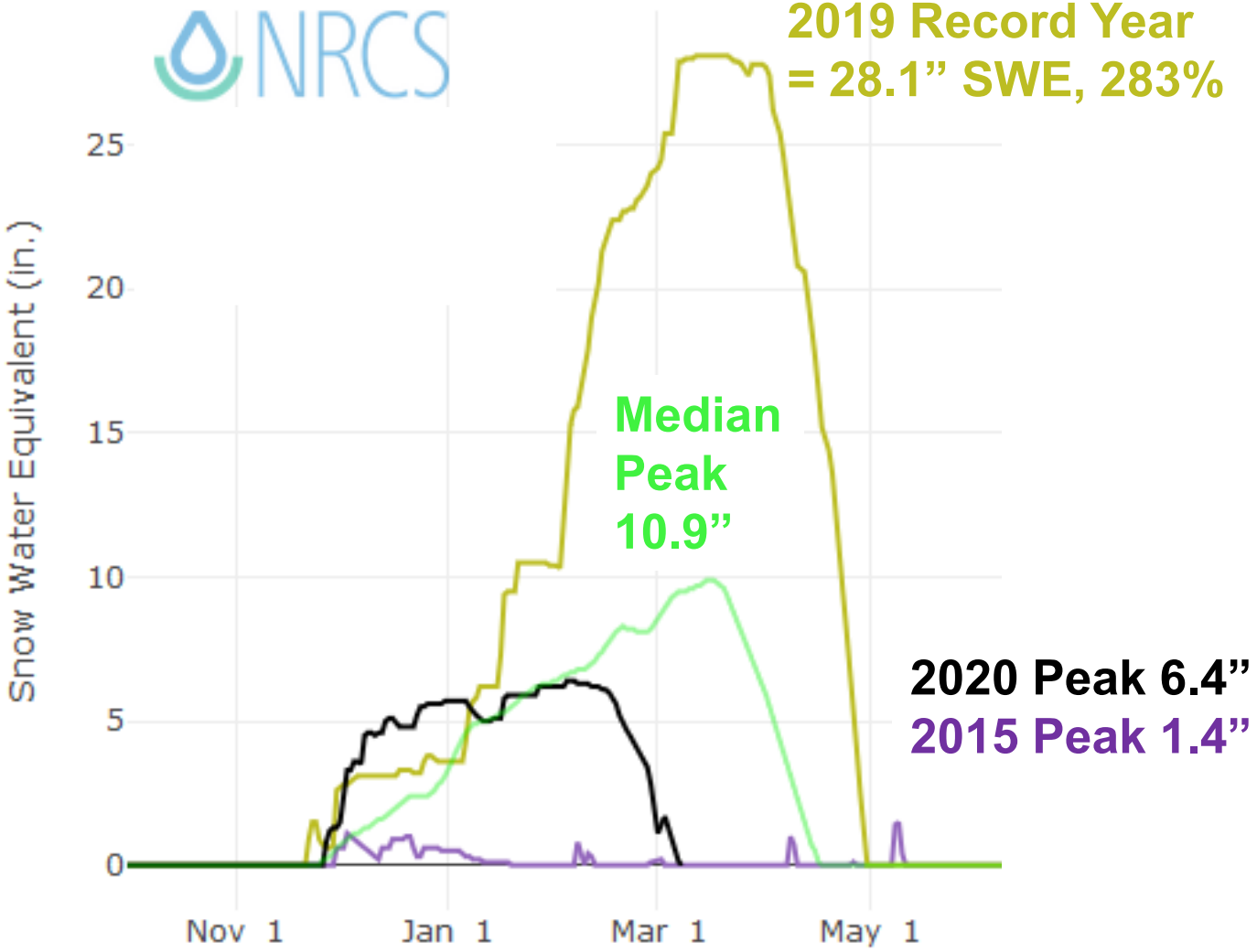
Snow Water Equivalent at Leavitt Meadows



Snow is Going or Gone on Southern Aspect Slopes

Carson Range, East of Lake Tahoe on 2/26/20

Average Snow Water in Walker River Basin Mar 1
1981-present, sorted low to high

Based on 4 longest term sites (Virginia Lakes, Sonora Pass, Lobdell Lake, Leavitt Meadow)

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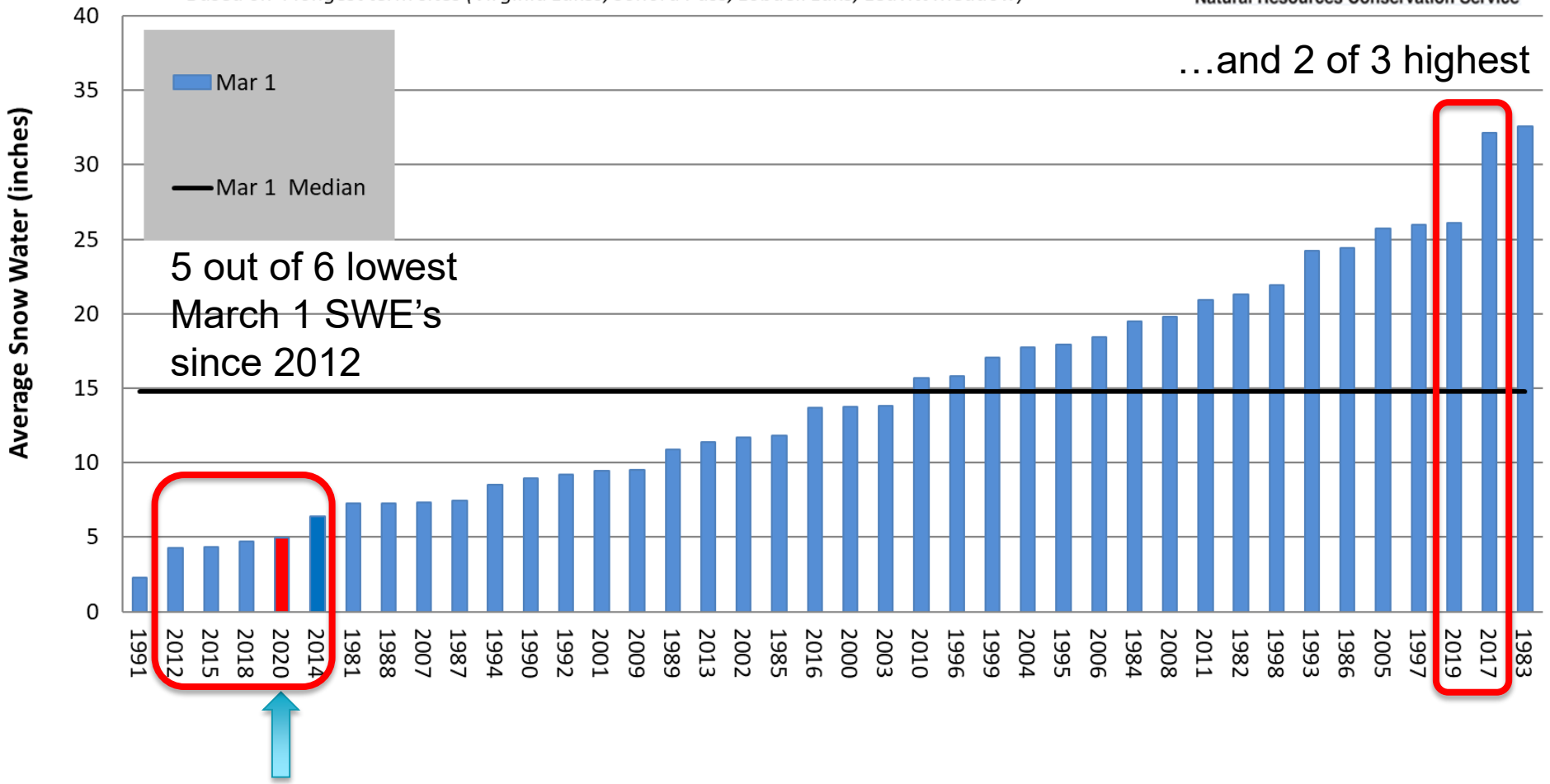

5th lowest since 1981

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Average Snow Water in Walker River Basin Mar 1 vs Apr 1
1981-present, sorted low to high

Based on 4 longest term sites (Virginia Lakes, Sonora Pass, Lobdell Lake, Leavitt Meadow)

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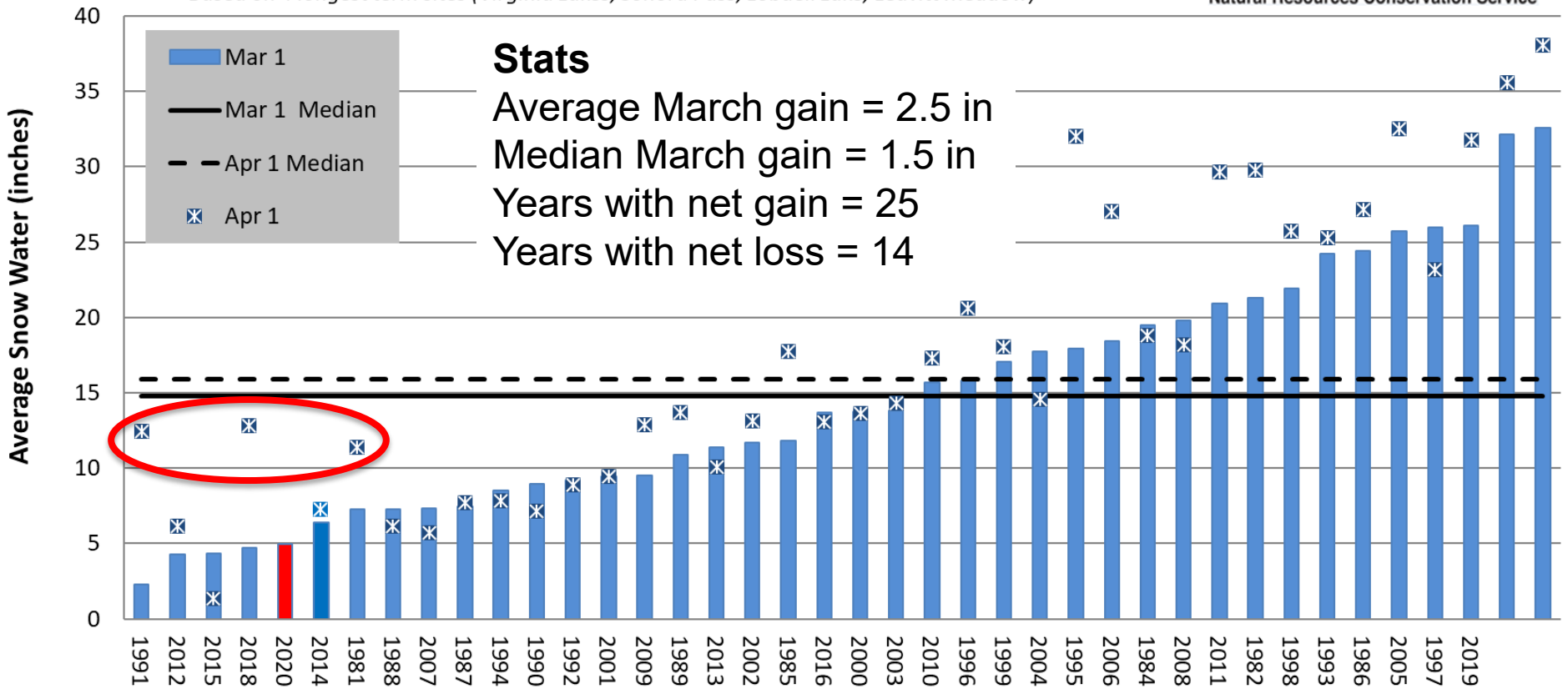

3 out of 7 of the worst winters saw major comebacks by Apr 1
Of those only 2015 lost snow by Apr 1

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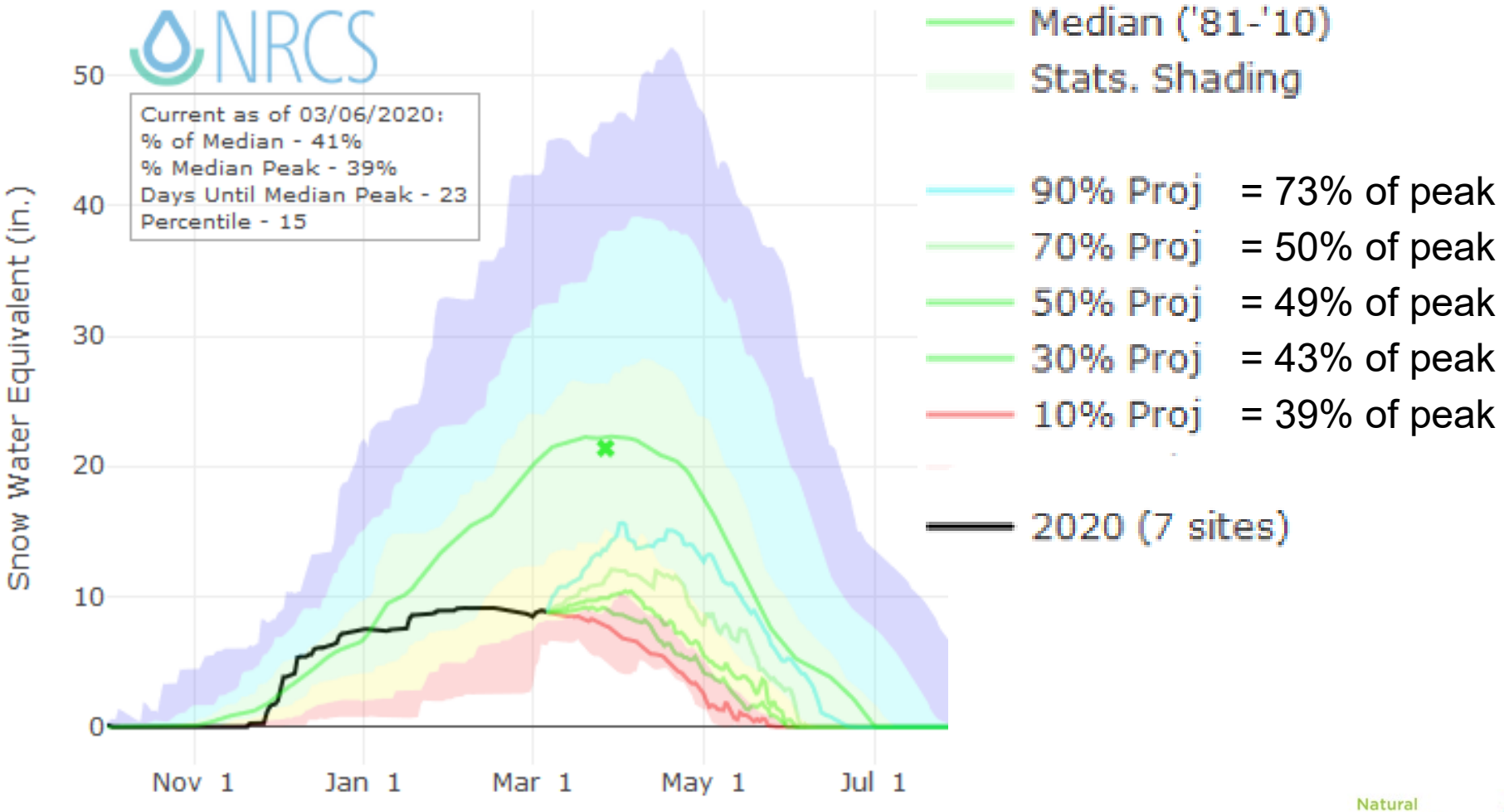
Snow Water Equivalent Projections in Walker



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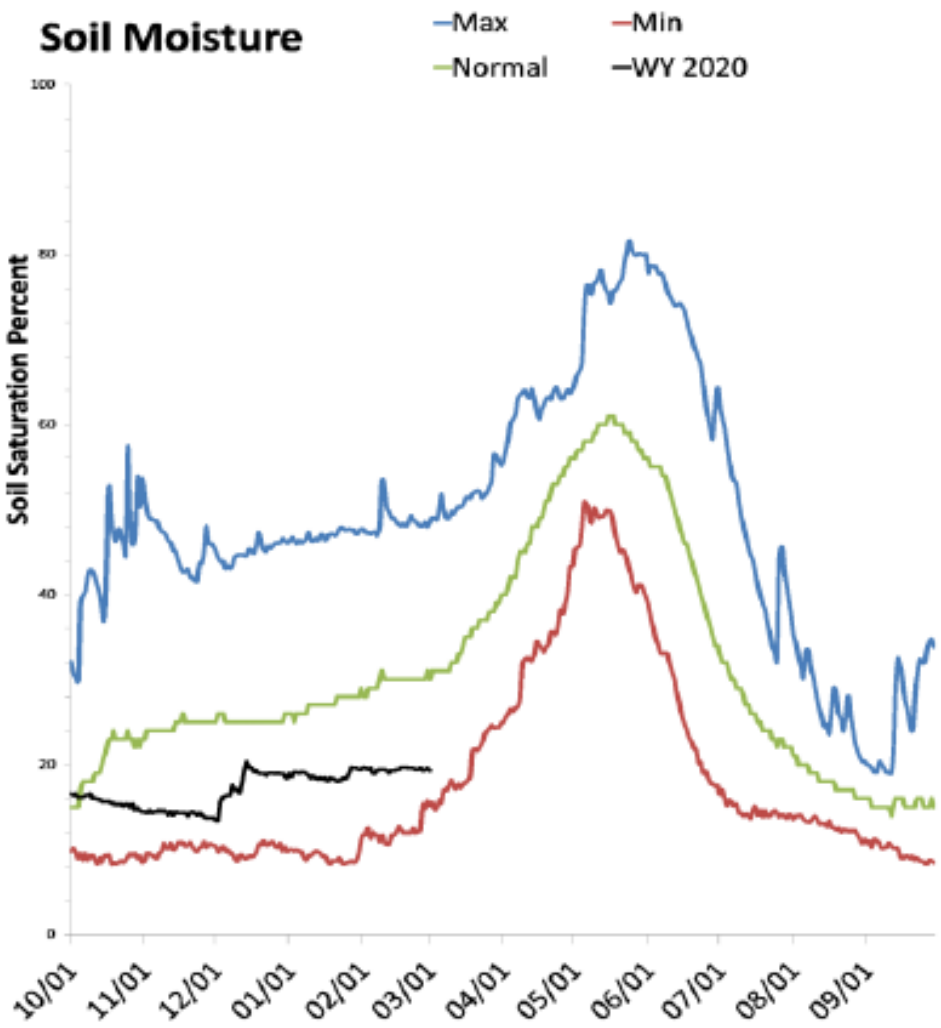
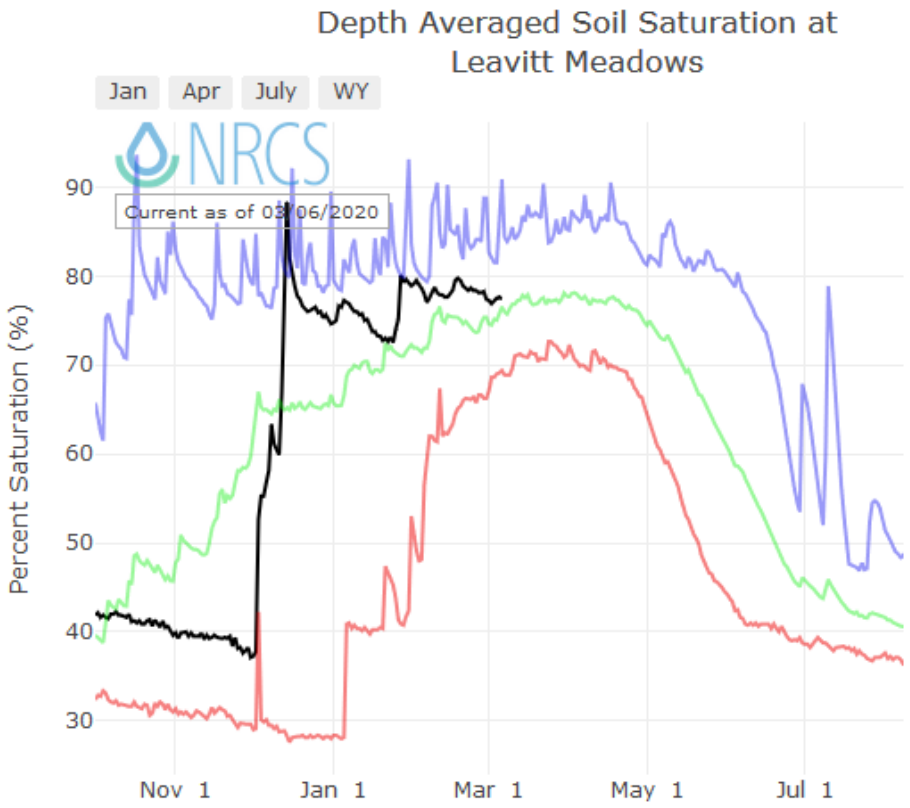
Basin Wide Average Soil Saturation below average

Soil Moisture Max, Min and Average based on 2005-2019 data

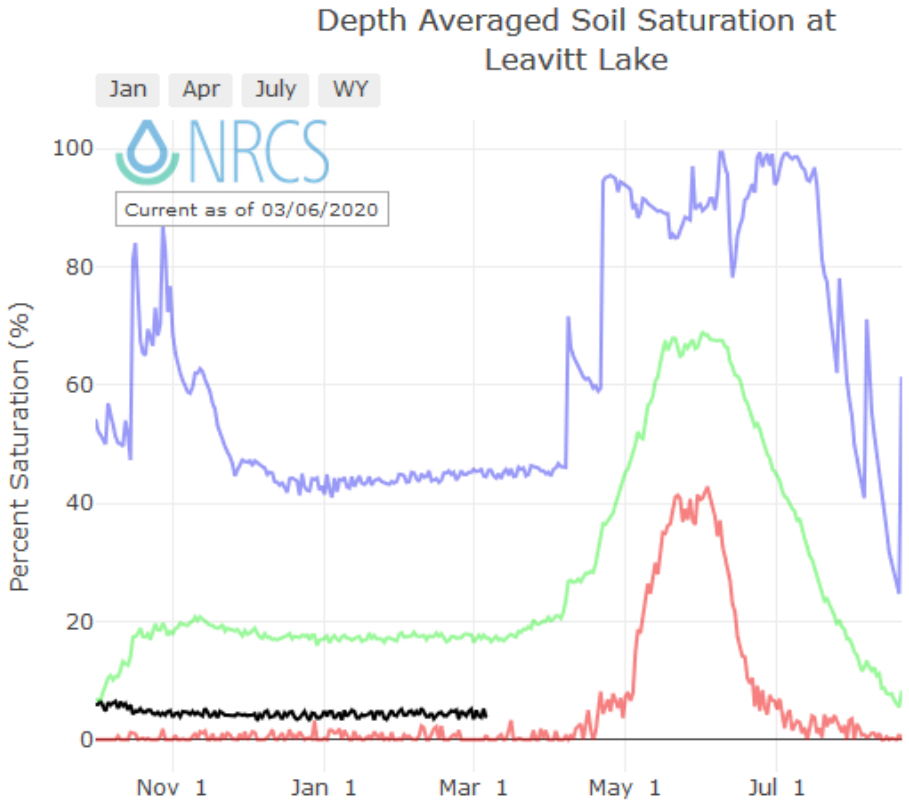


Soil Moisture across Elevation

7,200 feet elev



9,600 feet elev



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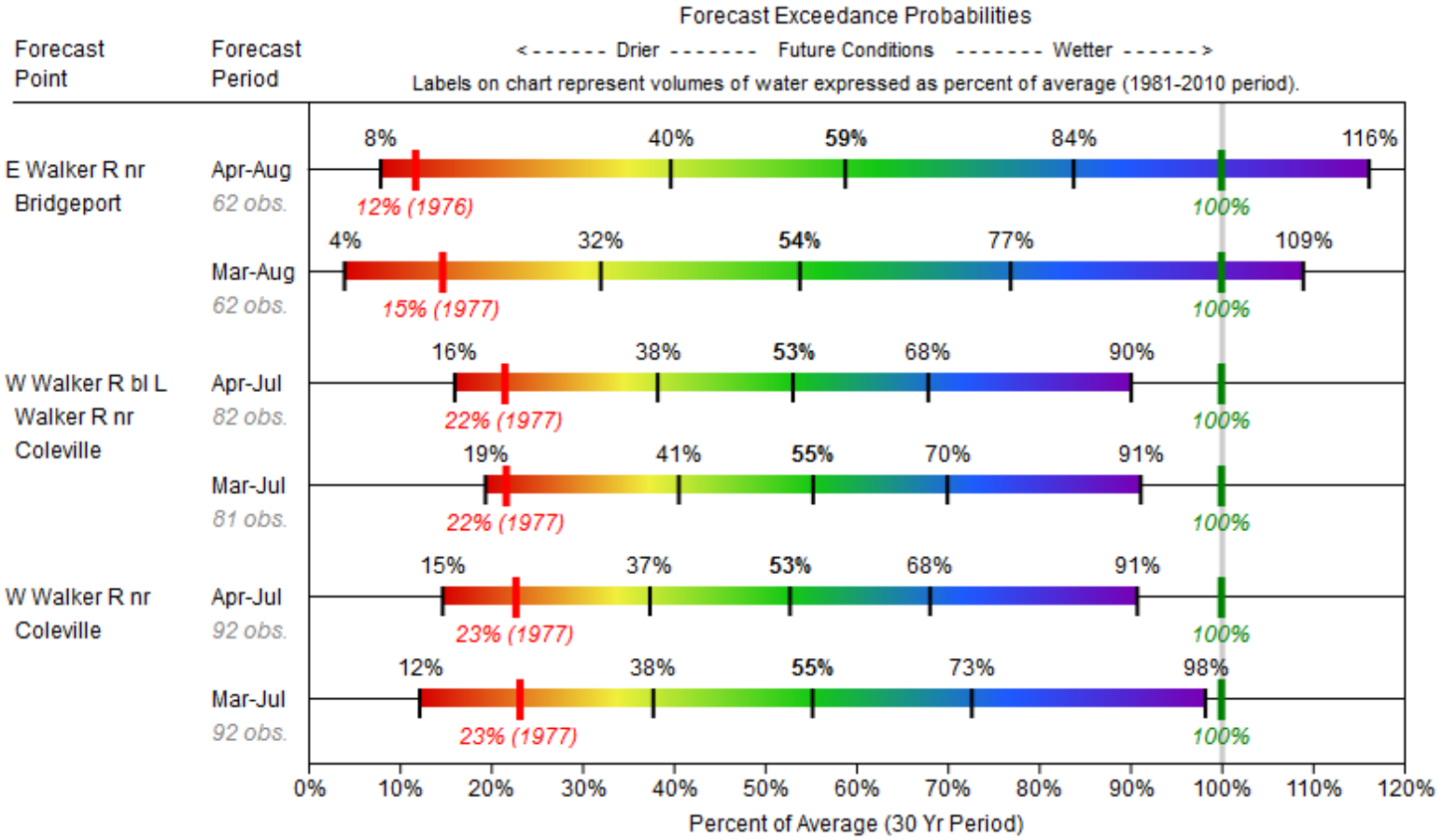
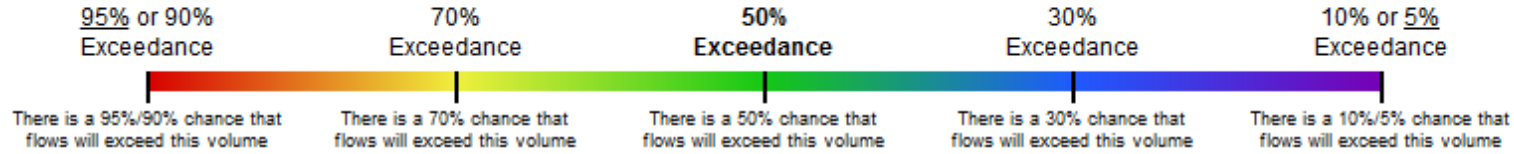
Walker River Basin
Water Supply Forecasts
March 1, 2020



Legend



When selected, the following historic streamflow values and statistics will be shown.

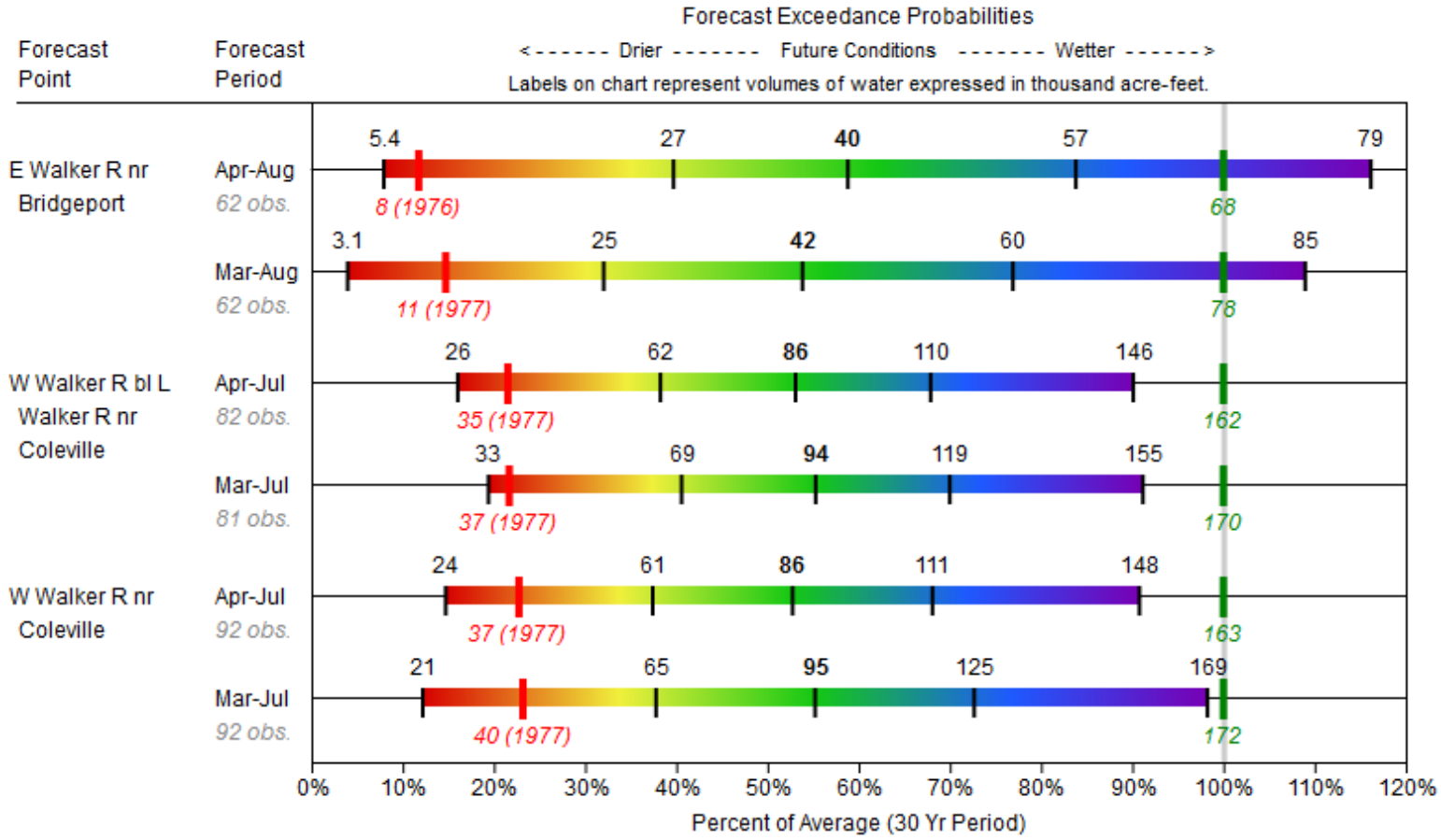
Period of Record Minimum Streamflow KAF (Year)

1981-2010 Normal Streamflow KAF

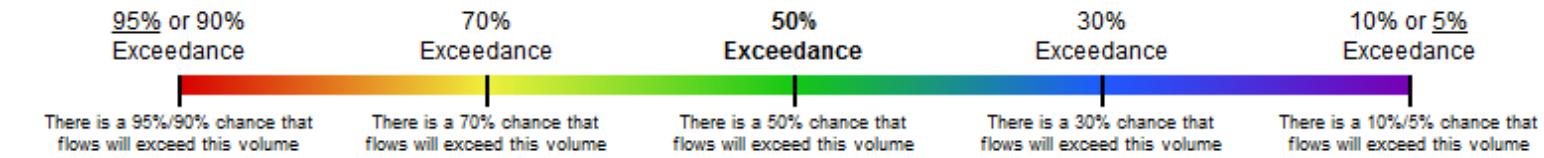
Observed Streamflow KAF

Period of Record Maximum Streamflow KAF (Year)

Walker River Basin
Water Supply Forecasts
March 1, 2020



Legend



When selected, the following historic streamflow values and statistics will be shown.

Period of Record Minimum Streamflow KAF (Year)

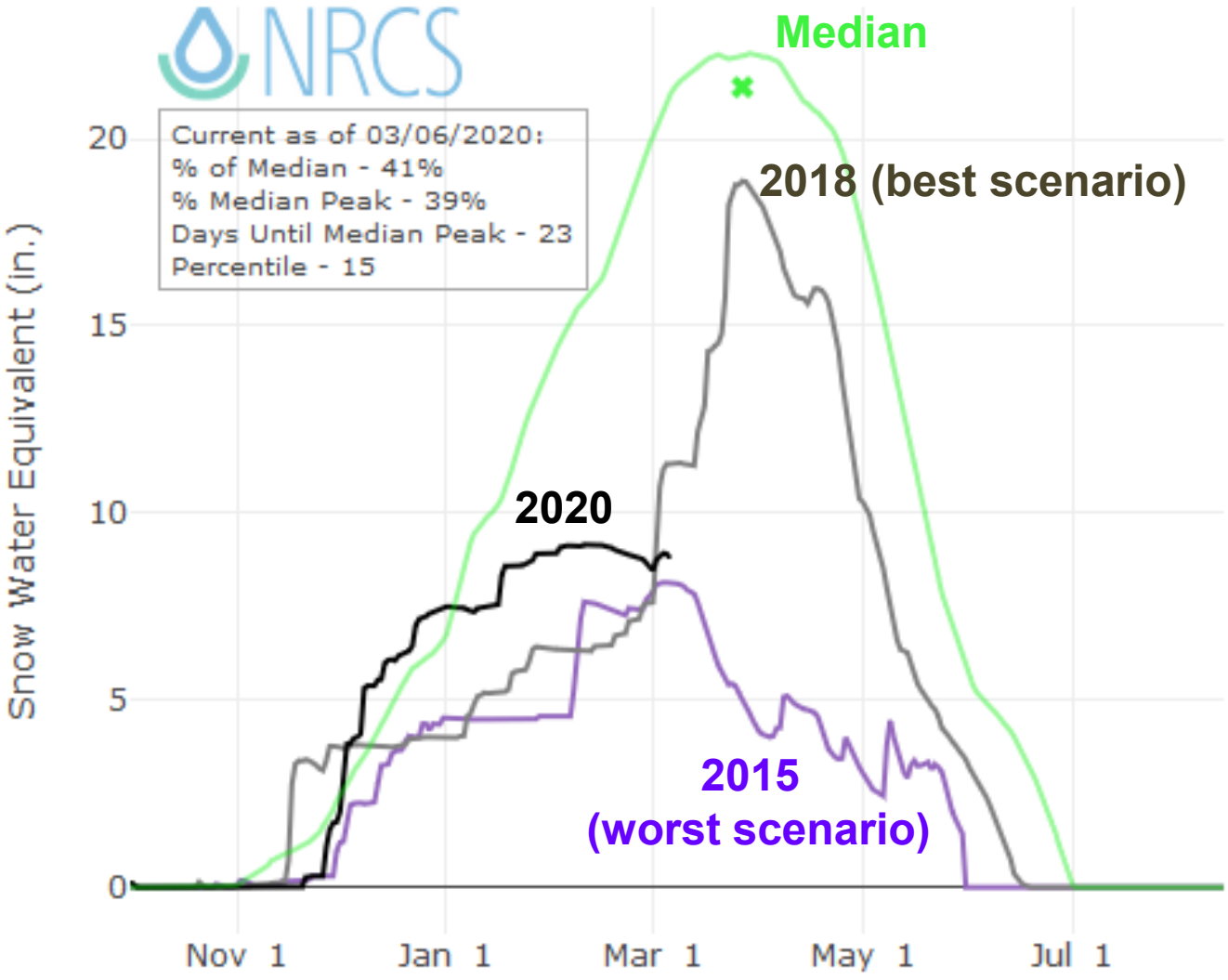
1981-2010 Normal Streamflow KAF

Observed Streamflow KAF

Period of Record Maximum Streamflow KAF (Year)

Comparison Years

Remember there are 5 exceedance forecasts



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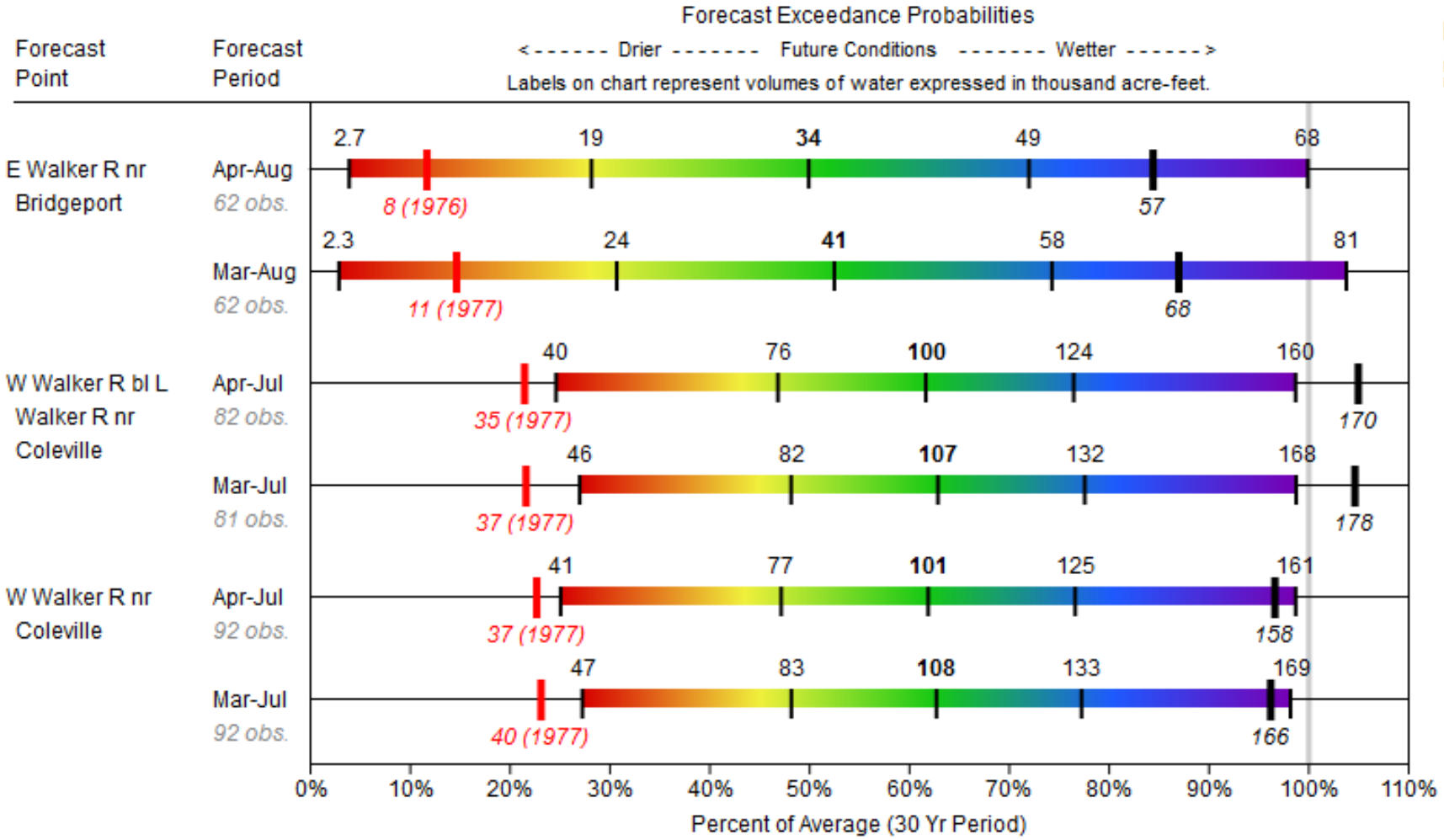
Walker River Basin
Water Supply Forecasts
March 1, 2018



March 1, 2018 Forecast Exceedances

95% or 90% Exceedance | 70% Exceedance | **50% Exceedance** | 30% Exceedance | 10% or 5% Exceedance

Observed Streamflow KAF Apr-Jul 2018

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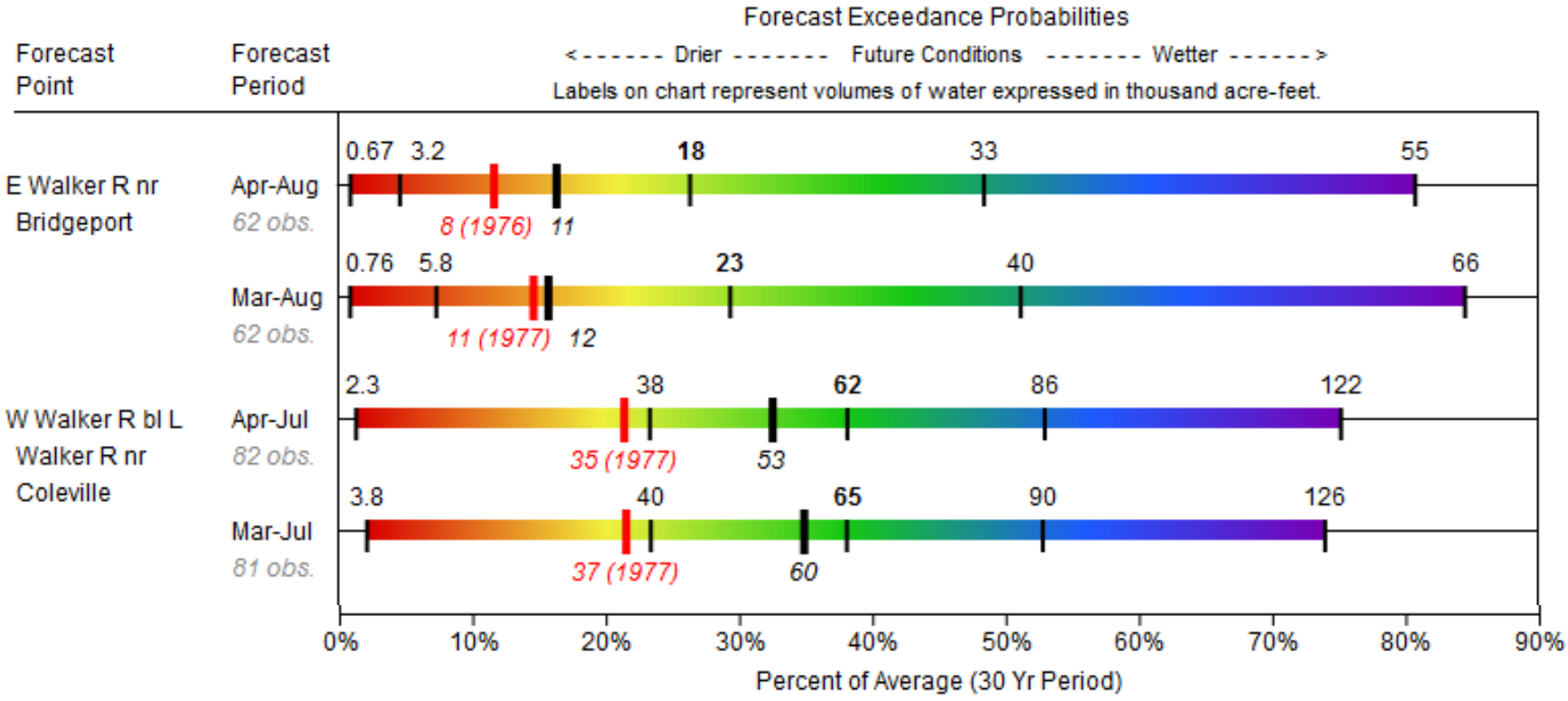
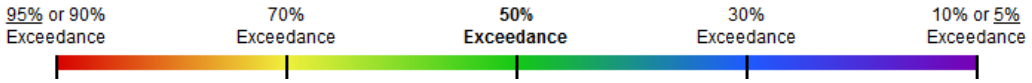
Walker River Basin
Water Supply Forecasts
March 1, 2015



March 1, 2015 Forecast Exceedances



Observed Streamflow KAF Apr-Jul 2015

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Key Points:

Snowpack:

- Bust year to date. March 1 SWE 42% of median.
- Similar to 2015 and 2018, two years that took very different paths to April 1.
- Bare southern aspects may reduce runoff efficiency

Precipitation:

- YTD 2020 is currently the lowest precipitation on record.

Soil Moisture:

- Well below average, due to dry Fall.
- Recent improvements due to melting low elevation snow.
- Upper elevation soils will absorb some snowmelt, reducing runoff efficiency

Streamflow Forecasts:

- March 1 forecasts range from 53-59% of average *(50% exceedance)*
- Dry February resulted in ~20% decrease from Feb 1 forecasts
- Consider exceedance range depending on future conditions