

Nevada Habitat Status & Trend



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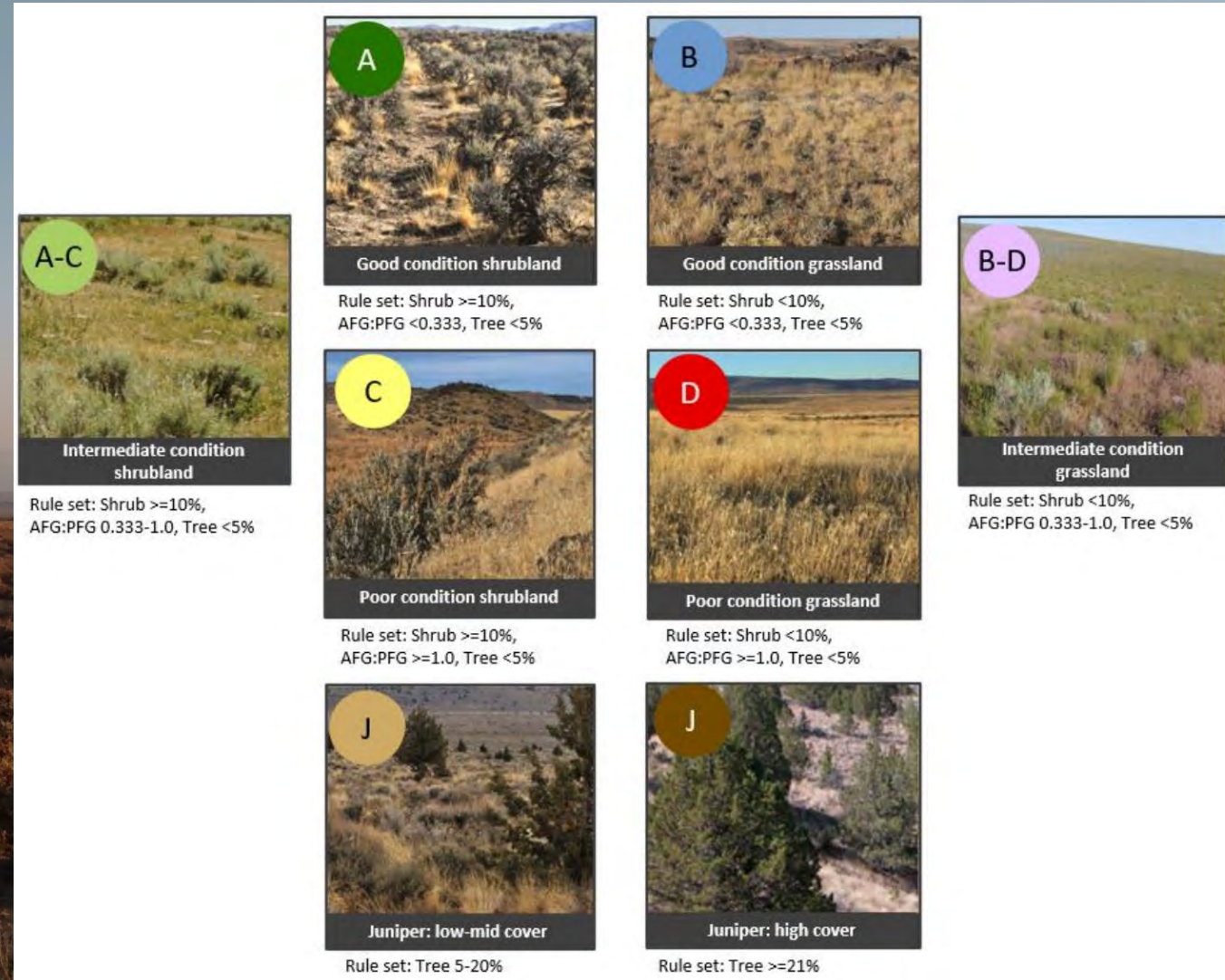


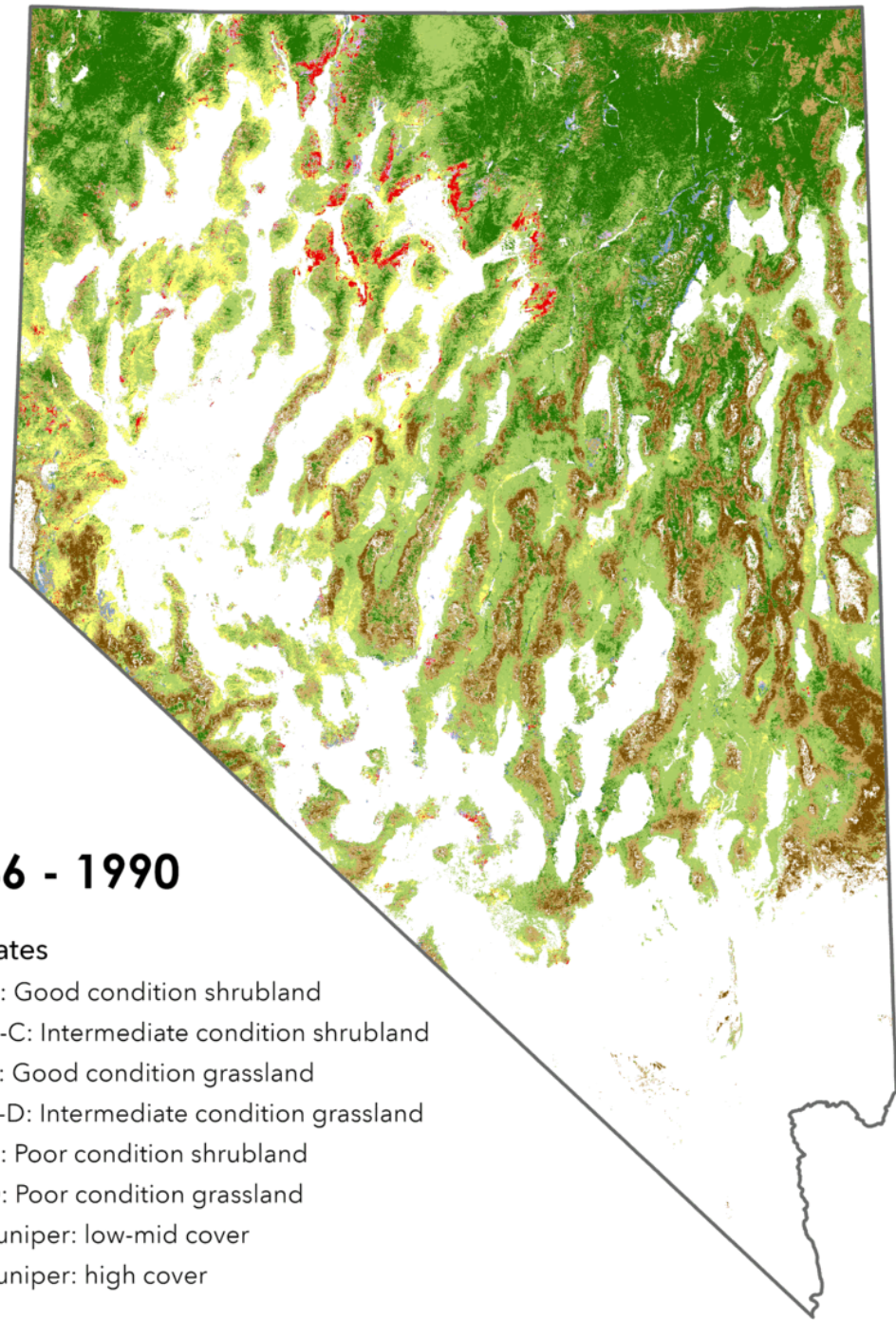
Nevada Ecostate Map
Invasive Species and Wildfire
Drought followed by 2022/2023 Winter

Ecostate Map: Sagebrush Threats Based Mapping

Vegetation cover maps based on broad functional groups:

- Specific Mapping Rules based on:
 - Shrub Cover
 - Tree Cover
 - Perennial Grass and Forbs
 - Annual Grass and Forbs
- Data from the Rangeland Analysis Platform remotely sensed products
- Analyzed in 5-year time slices to average out inter-annual variability

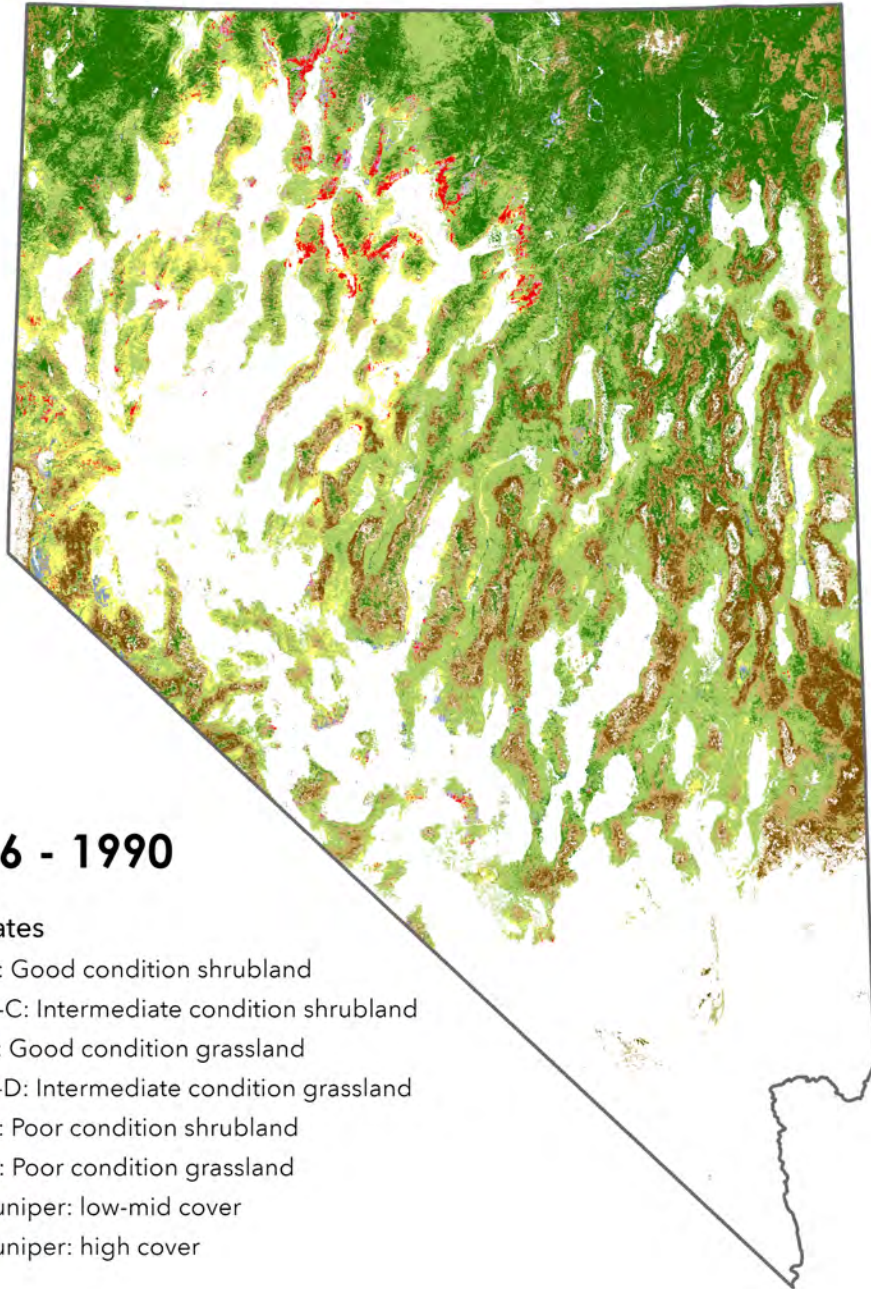




1986 - 1990

Ecostates

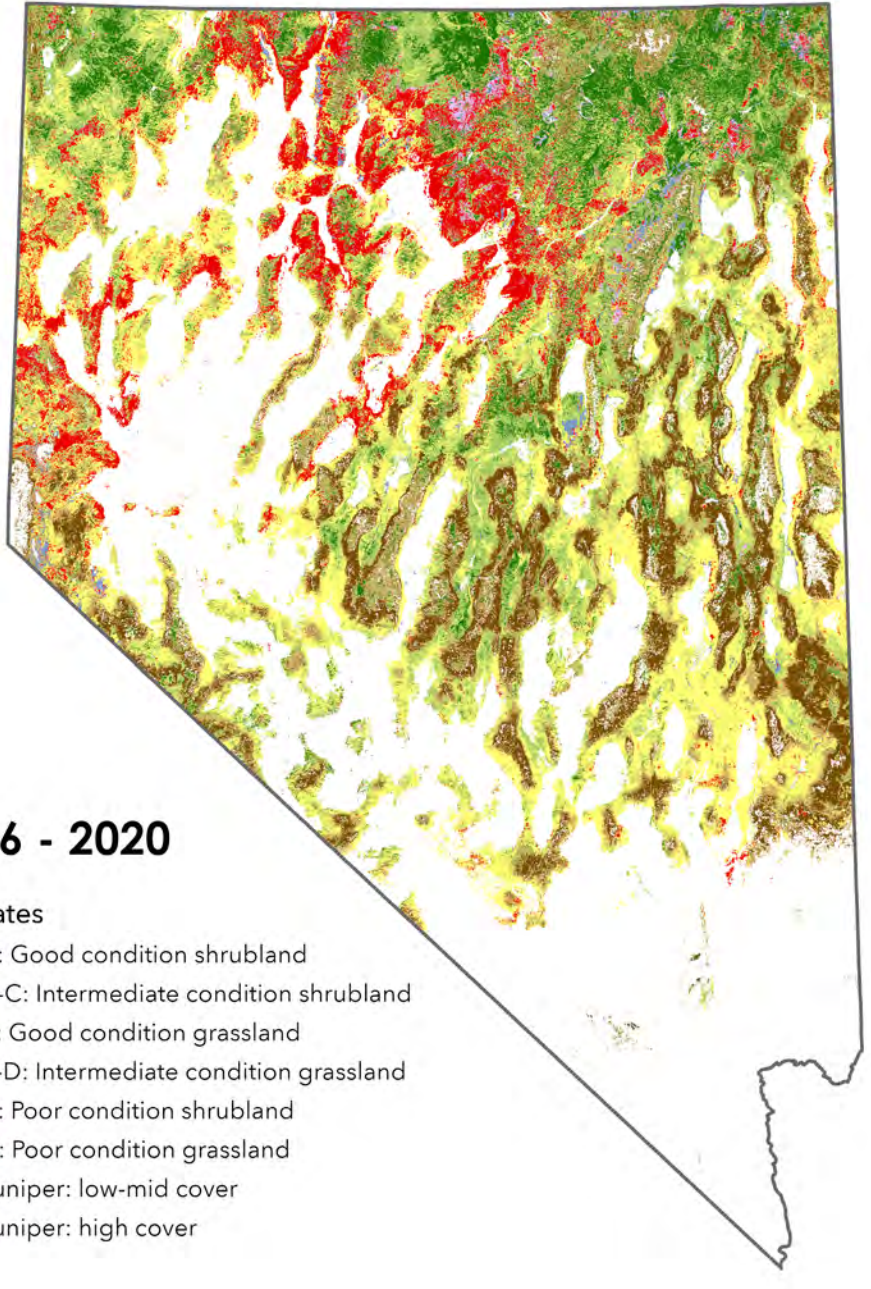
- A: Good condition shrubland
- A-C: Intermediate condition shrubland
- B: Good condition grassland
- B-D: Intermediate condition grassland
- C: Poor condition shrubland
- D: Poor condition grassland
- Juniper: low-mid cover
- Juniper: high cover



1986 - 1990

Ecostates

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2016 - 2020

Ecostates

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- Juniper: low-mid cover
- Juniper: high cover

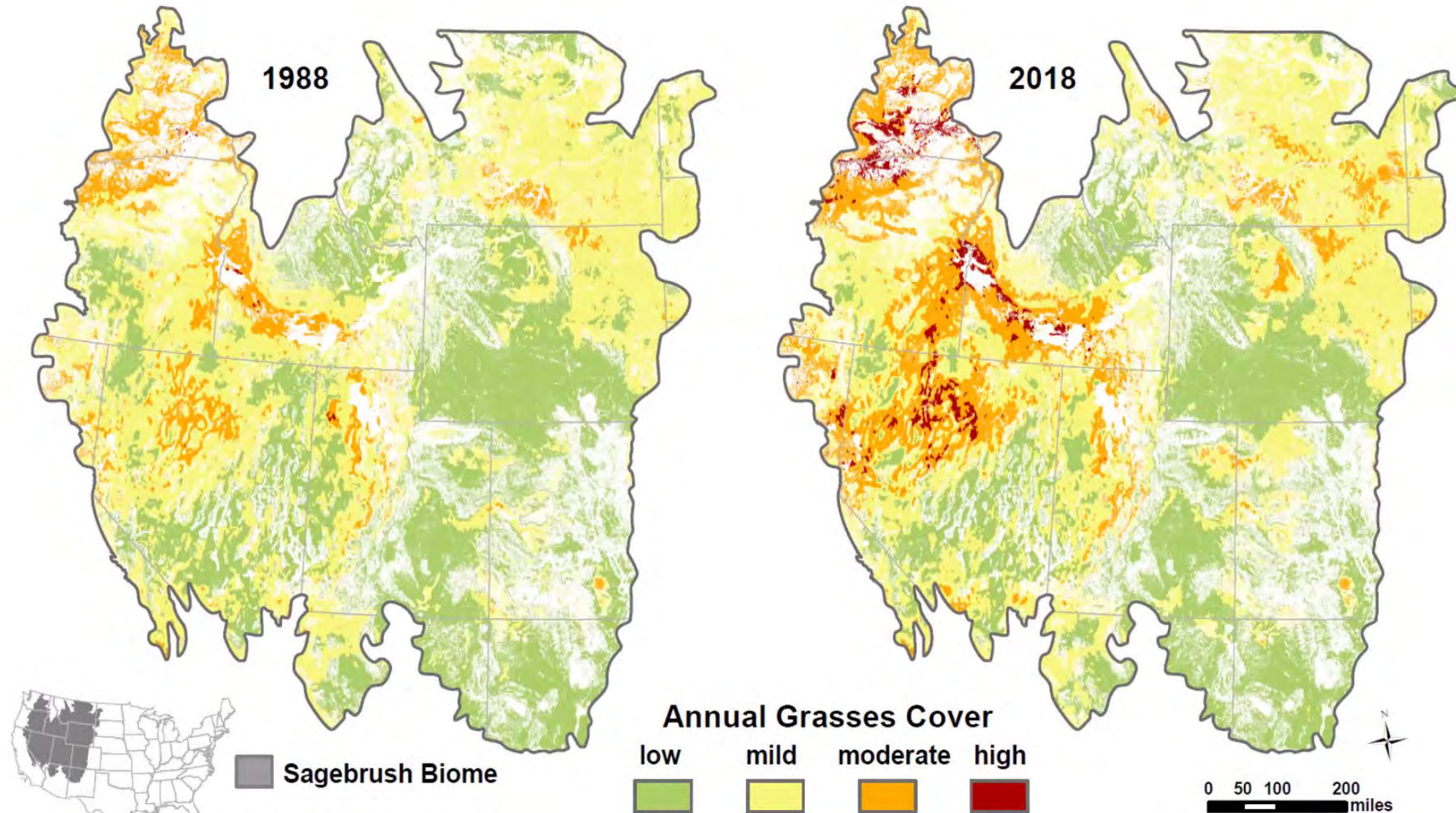


Over the last 30 years Nevada's habitats characterized as moderate-to-good shrub and grasslands have decreased by half while areas classified as being in poor condition have increased four-fold.



Invasive Species & Wildfire

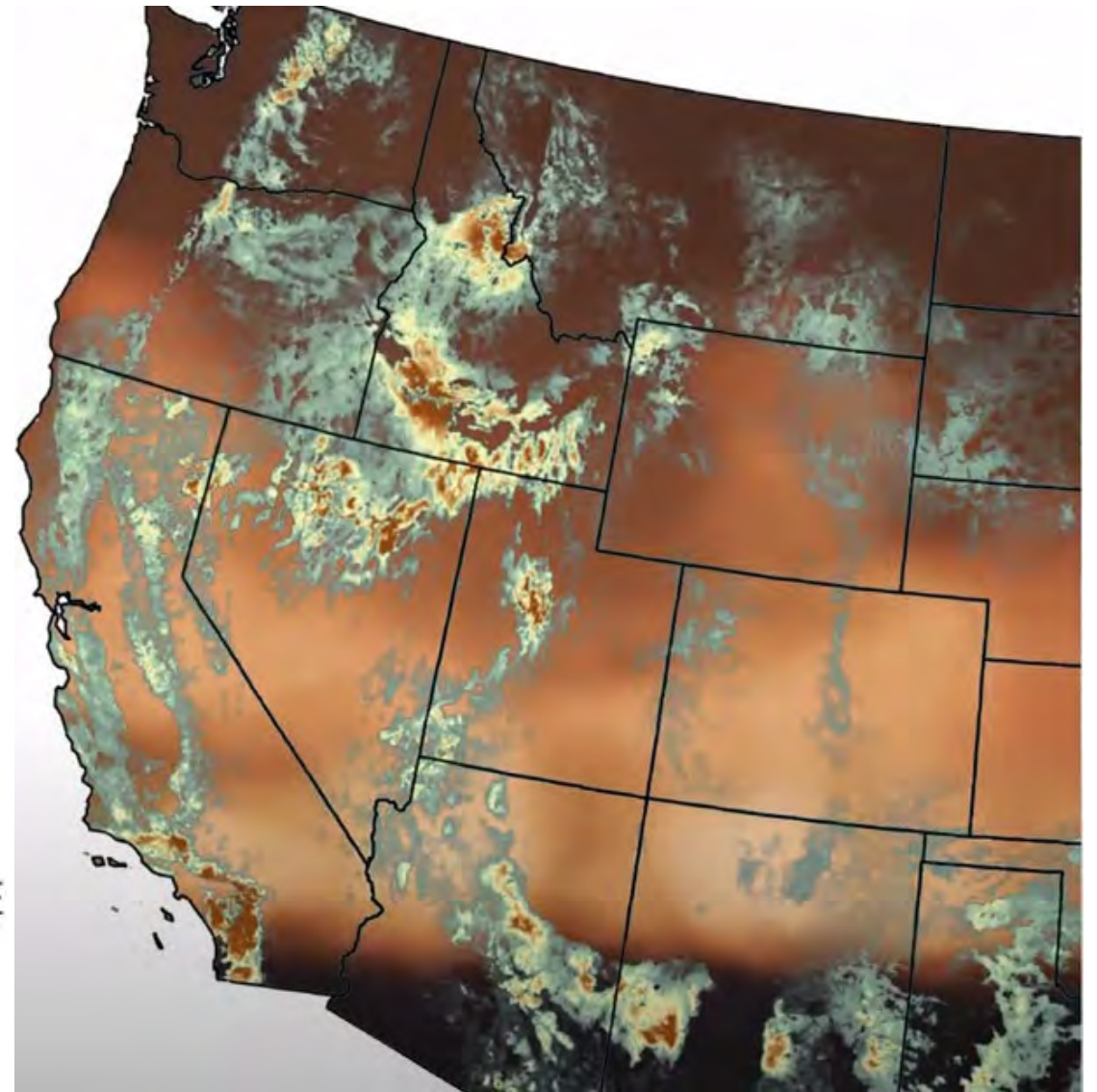
~73% of changes are attributed to complex ecological problems (SCD).



Invasive Species & Wildfire

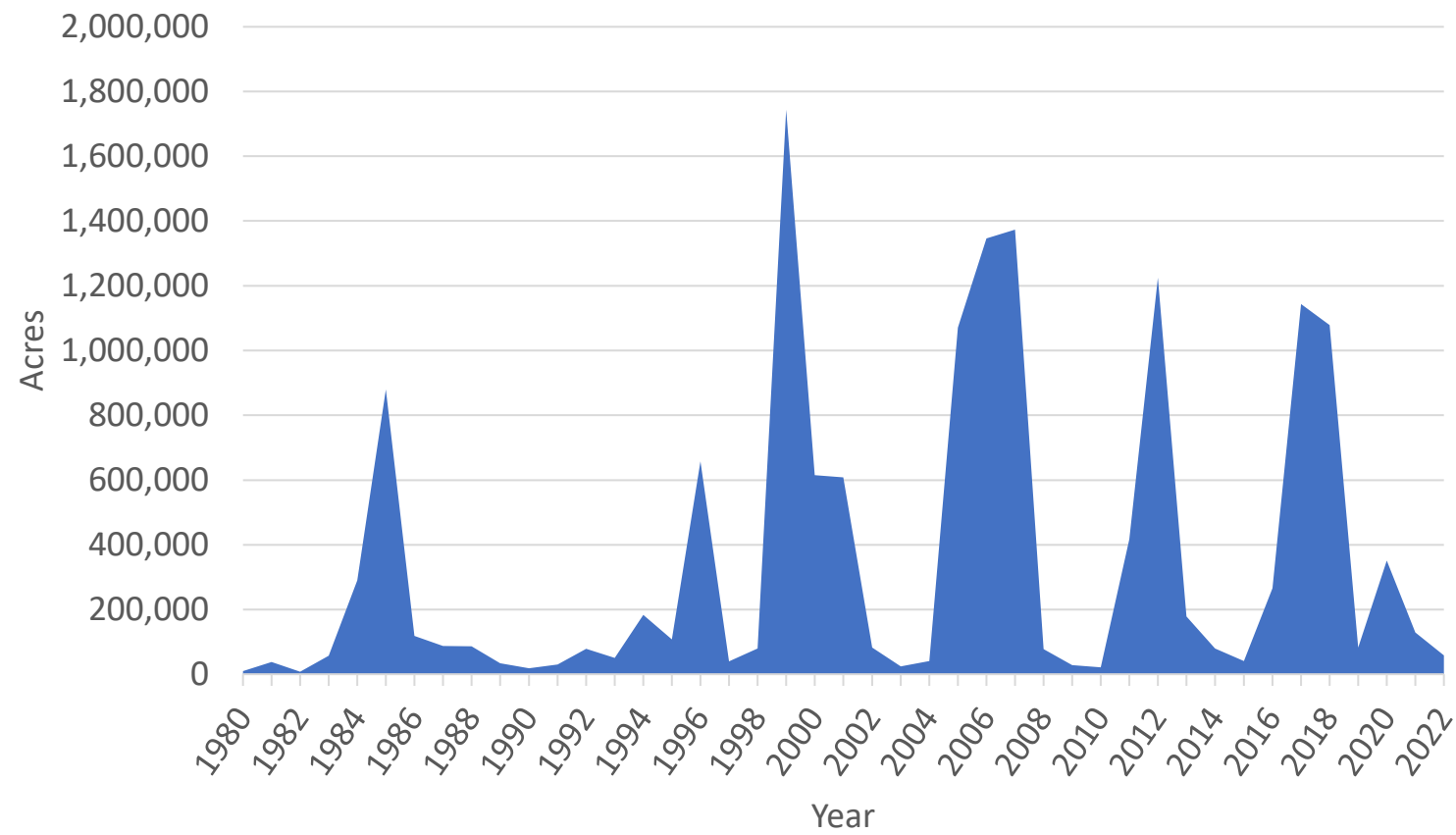
- Invasive annual grasses significantly increase the chance, rate, and spread of wildfire
- Projections: Increase I&W
- Growing Gap between the magnitude and scale of the I&W problem vs. Resources (e.g. capacity, infrastructure, seed, funding, etc.)

PROBABILITY OF A LARGE WILDFIRE
ACROSS THE WESTERN U.S.

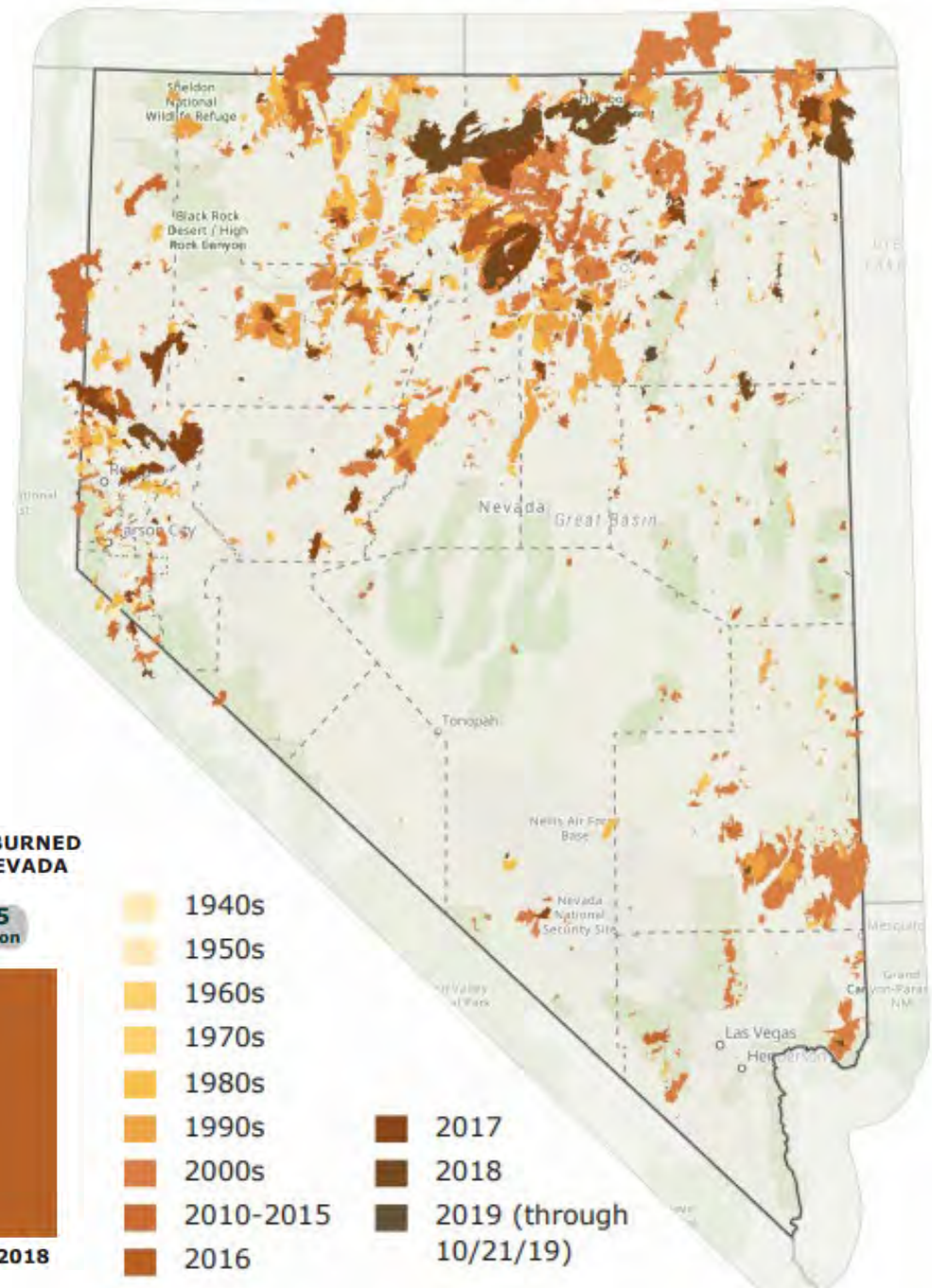


Cheatgrass in Sagebrush Country: Fueling Severe Wildfires by Audubon, Cornell Lab of Ornithology, IWJV

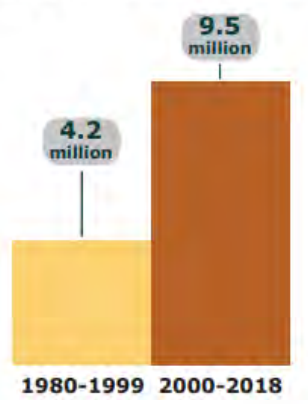
Nevada Acres Burned



NEVADA WILDLAND FIRE HISTORY, 1941-2019



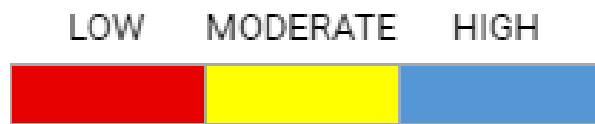
NUMBER OF ACRES BURNED BY WILDFIRE IN NEVADA



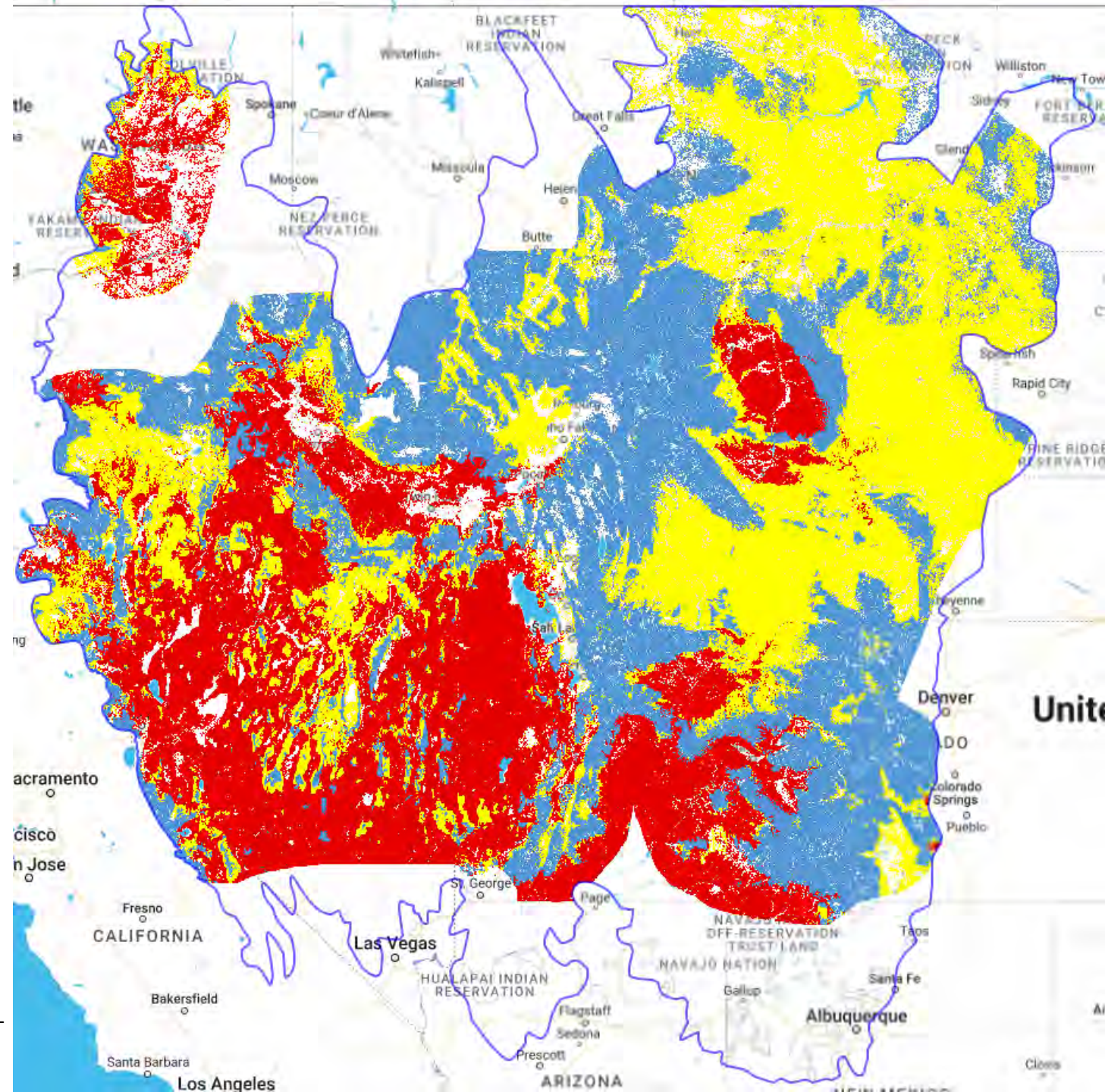
Sources: Bureau of Land Management (map); Nevada's Division of Forestry et al., "Wildland Fire in Nevada," presented to the Senate Committee on Natural Resources, Feb. 14, 2019 (chart).

Resistance and Resilience

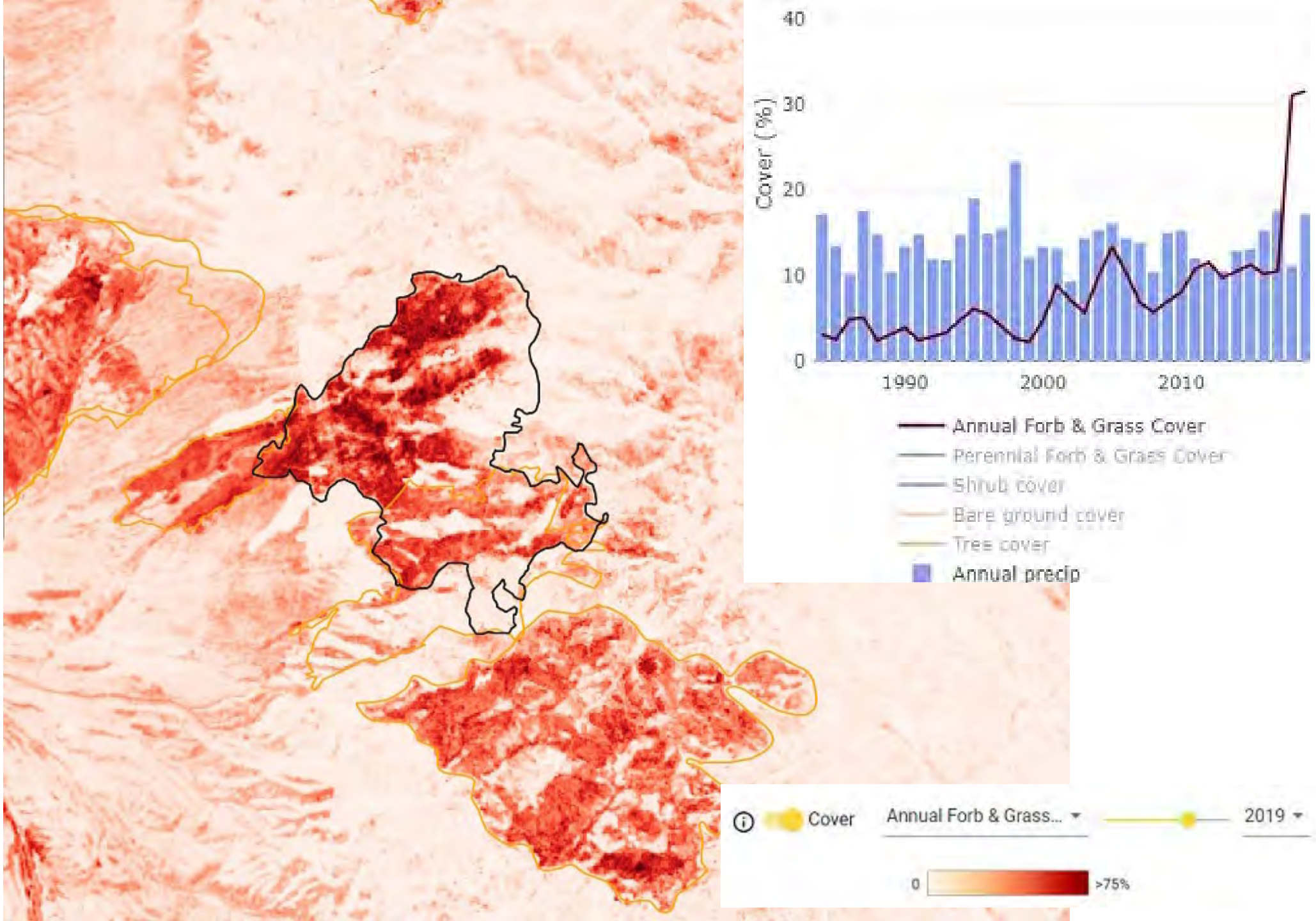
- **Resistance** - the capacity of an ecosystem to retain its fundamental structure, processes, and functioning despite stresses, disturbances, or invasive species.
- **Resilience** - the capacity of an ecosystem to regain its fundamental structure, processes, and functioning when altered by stressors like fire, invasives, drought, overgrazing, etc.



<https://www.wfw.org/landscapes/sagebrush/exotic-annual-grass-invasion/>



Little Den Fire –
burned in 2016 –
annual herbaceous
cover went from 8-
10% before the fire
to >30% after one
full growing season
(2018).



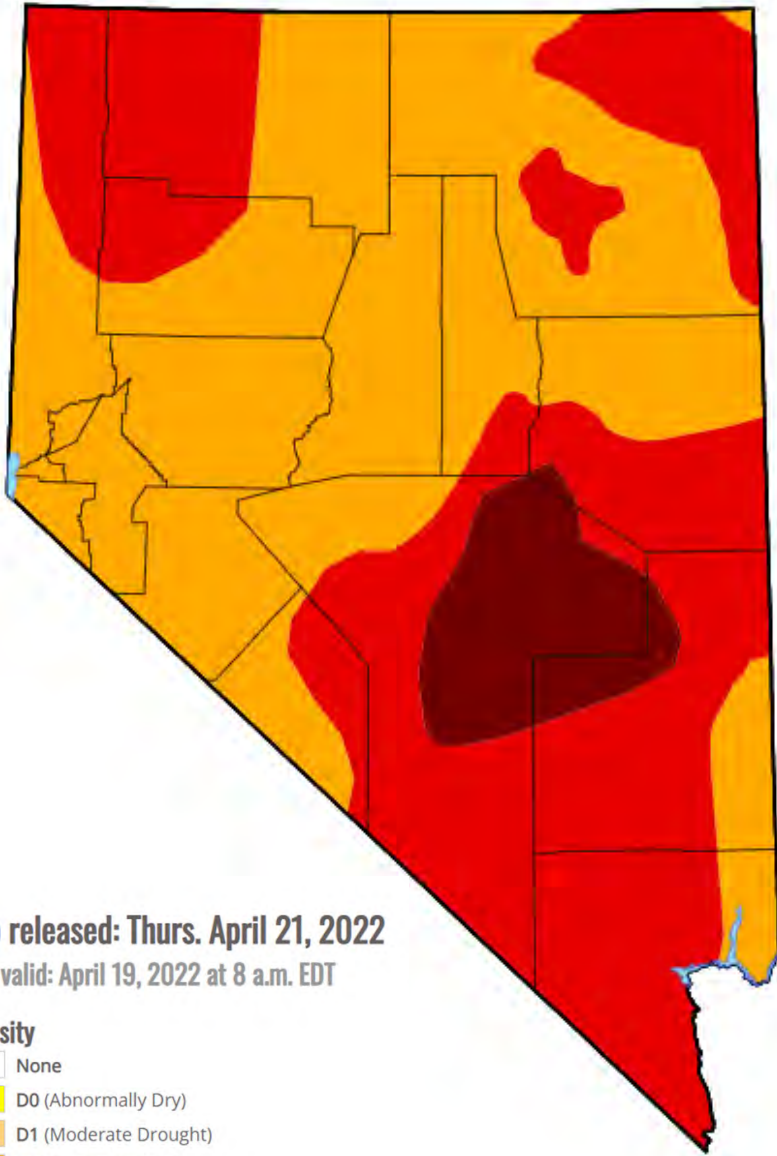


UTM: 11S
433282mE 4352653mN
Elevation: 7371.75ft
Accuracy: 20.0ft
Azimuth: 338° (N)
Pitch: -2.9° (2.4°)
Time: 07-10-2018 11:27
Note: little den fire



UTM: 11S
432547mE 4352142mN
Elevation: 7161.84ft
Accuracy: 15.1ft
Azimuth: 36° (NE)
Pitch: -3.7° (2.1°)
Time: 07-10-2018 10:21
Note: little den fire








The drought that has enveloped southwestern North America for the past 22 years is the region's driest "megadrought" — defined as a drought lasting two decades or longer — since at least the year 800, according to a new UCLA-led study in the journal Nature Climate Change.



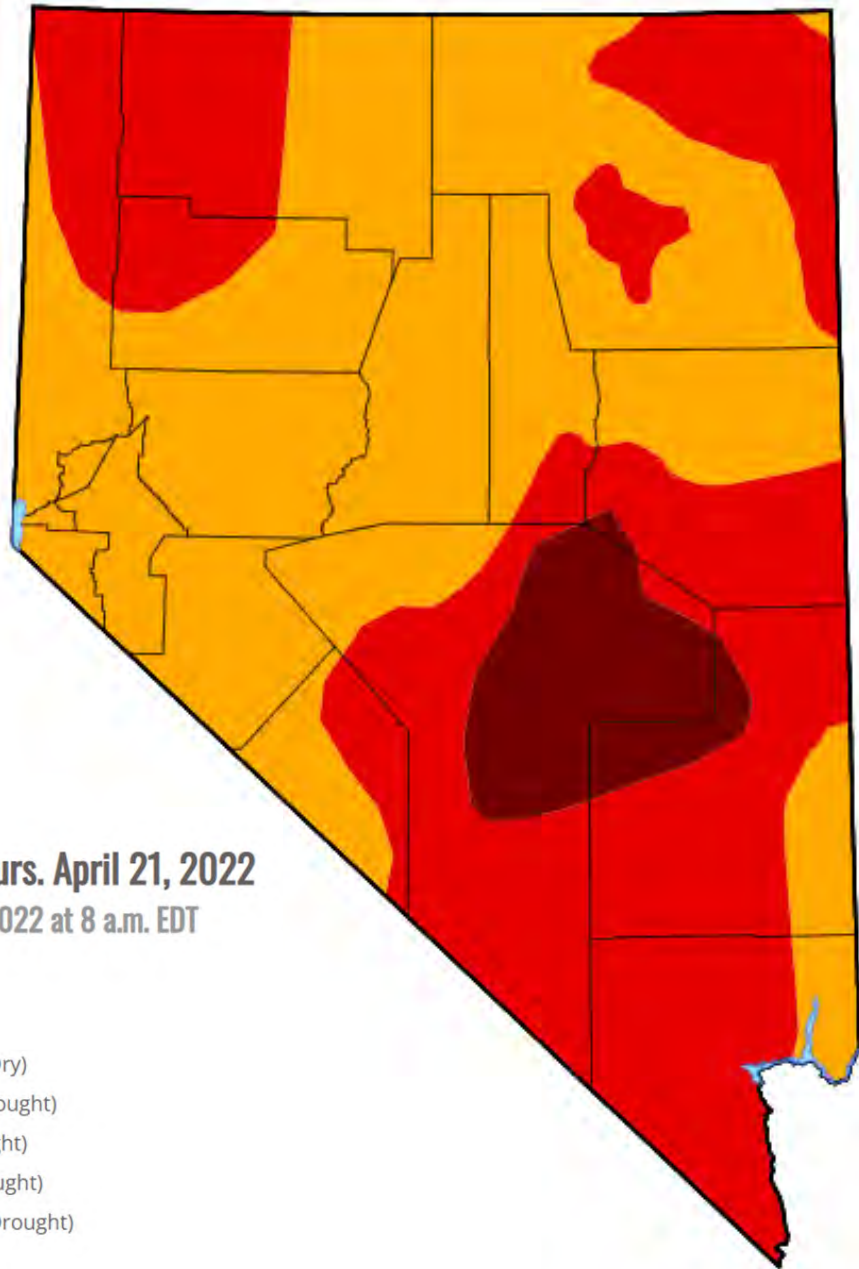
Map released: Thurs. April 21, 2022

Data valid: April 19, 2022 at 8 a.m. EDT

Intensity

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



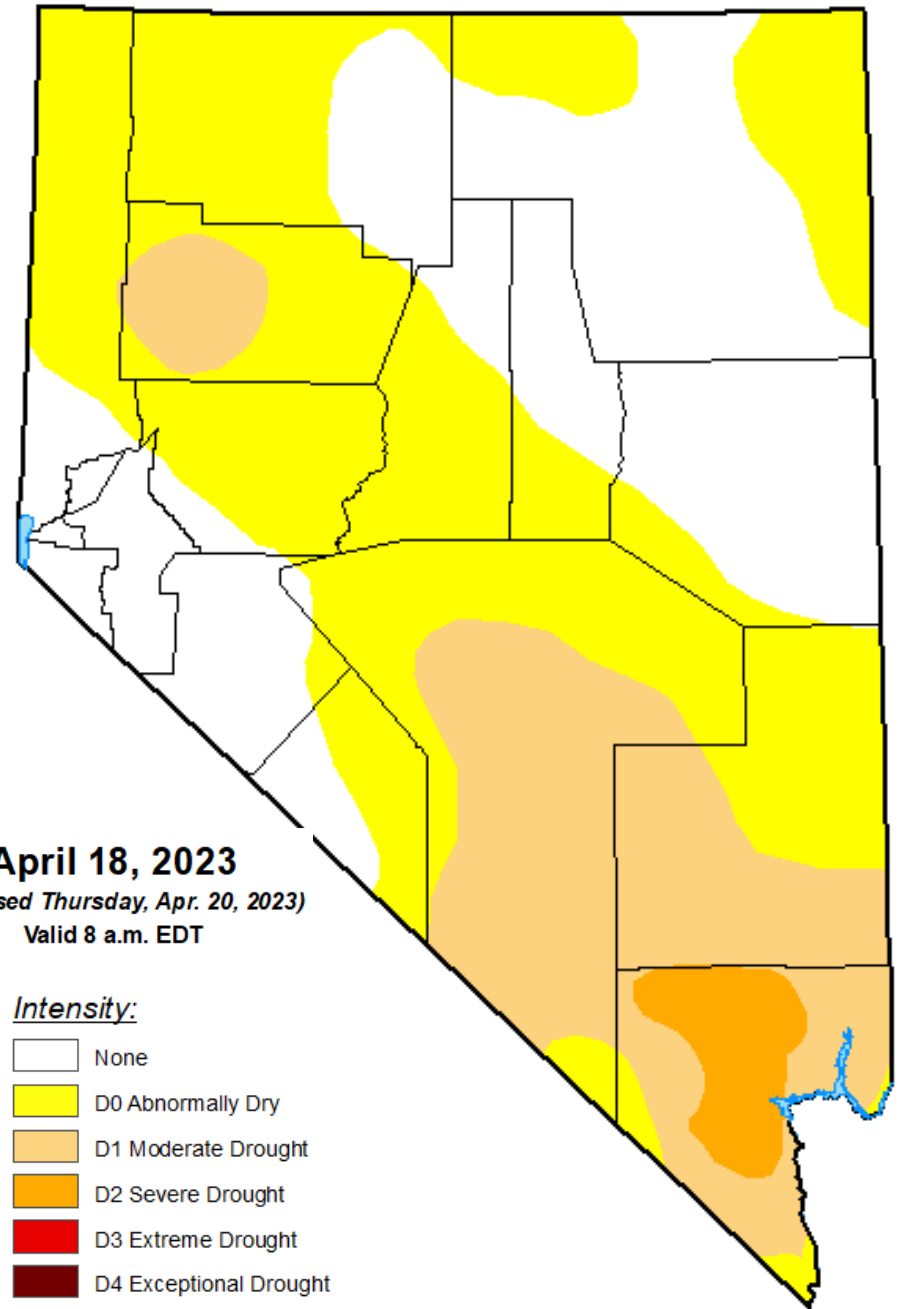


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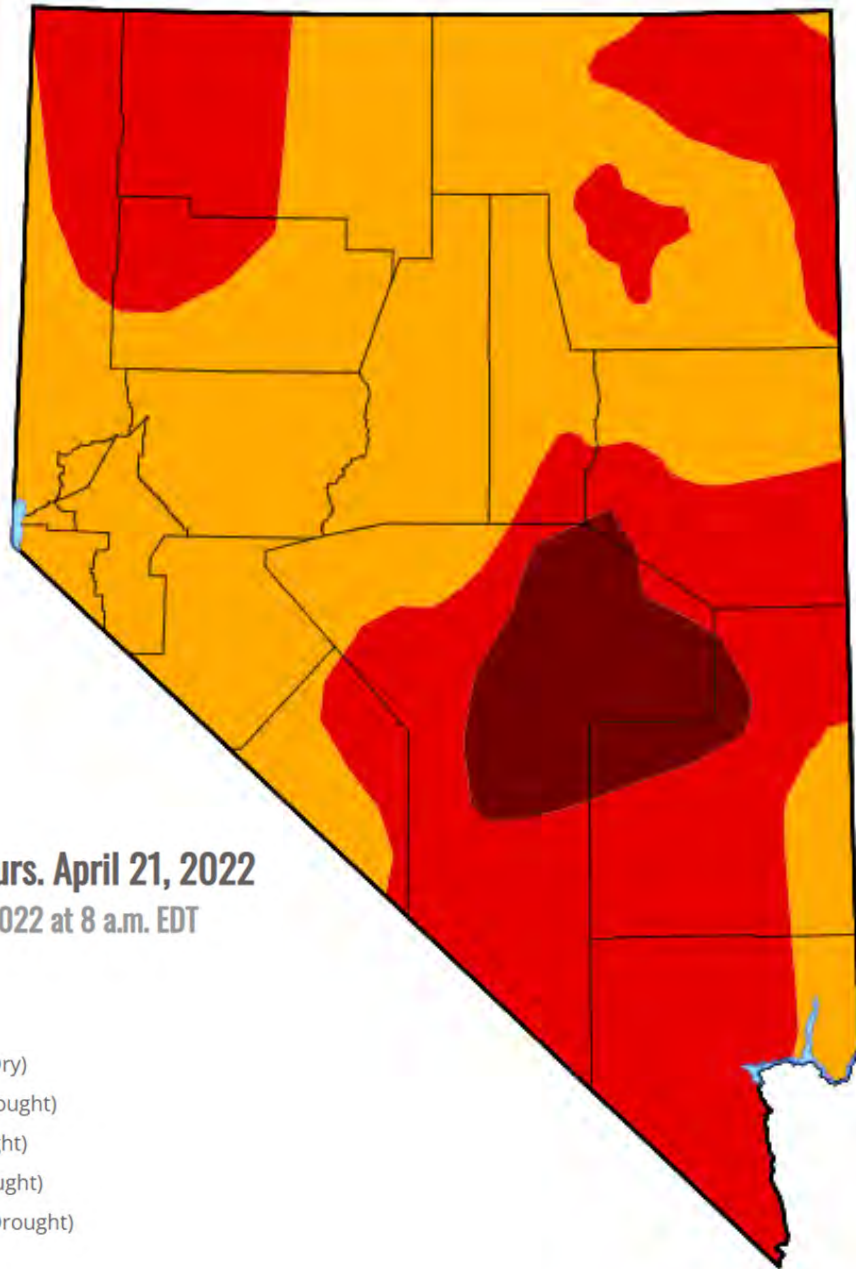
April 18, 2023

(Released Thursday, Apr. 20, 2023)

Valid 8 a.m. EDT

Intensity:

- None
- D0 Abnormally Dry
- D1 Moderate Drought
- D2 Severe Drought
- D3 Extreme Drought
- D4 Exceptional Drought



Map released: Thurs. April 21, 2022

Data valid: April 19, 2022 at 8 a.m. EDT

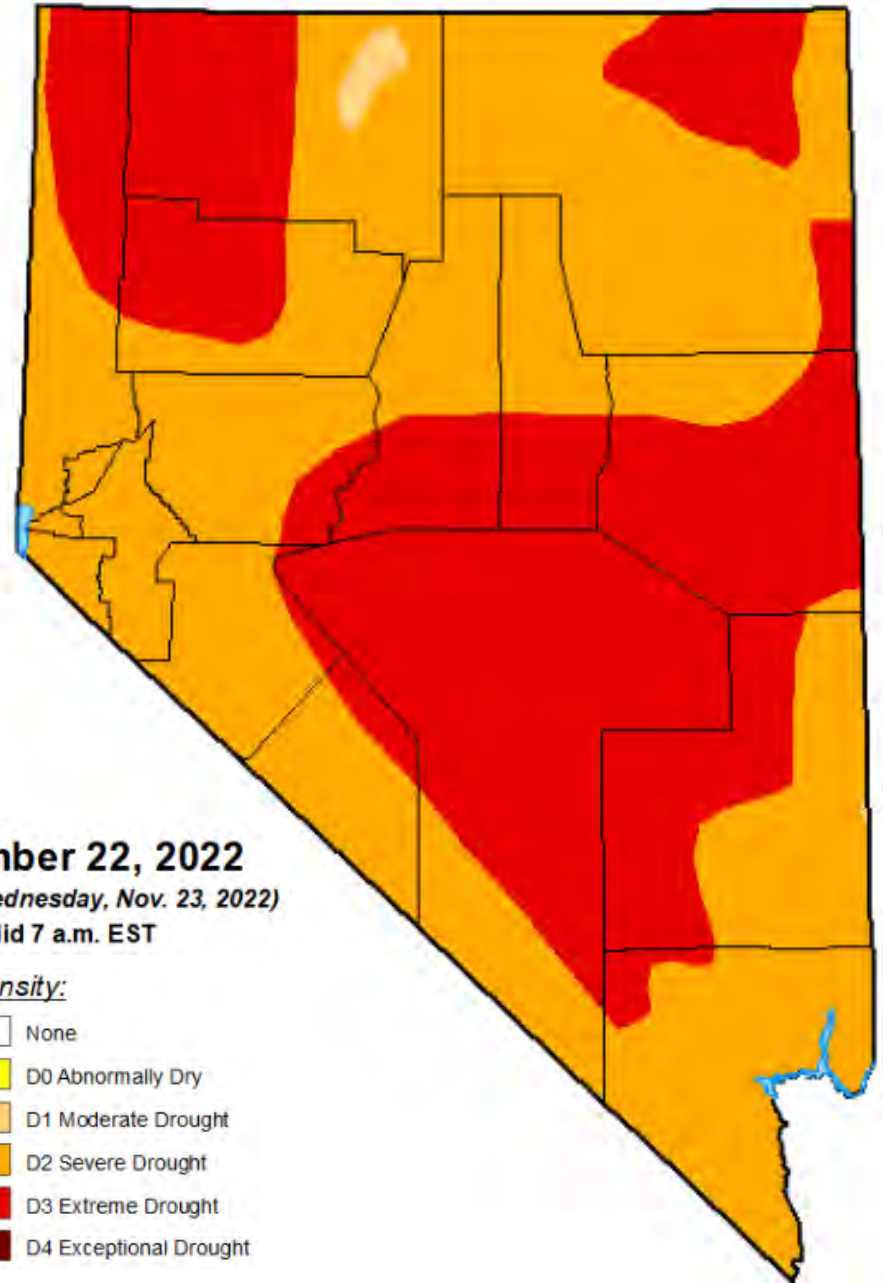
Intensity

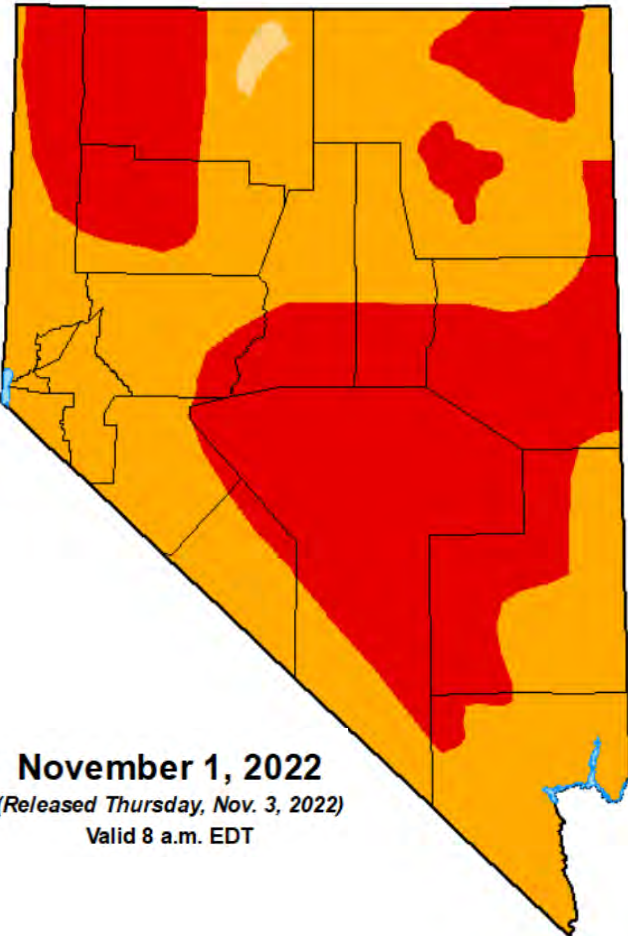
- None
- D0 (Abnormally Dry)
- D1 (Moderate Drought)
- D2 (Severe Drought)
- D3 (Extreme Drought)
- D4 (Exceptional Drought)
- No Data

November 22, 2022
(Released Wednesday, Nov. 23, 2022)
Valid 7 a.m. EST

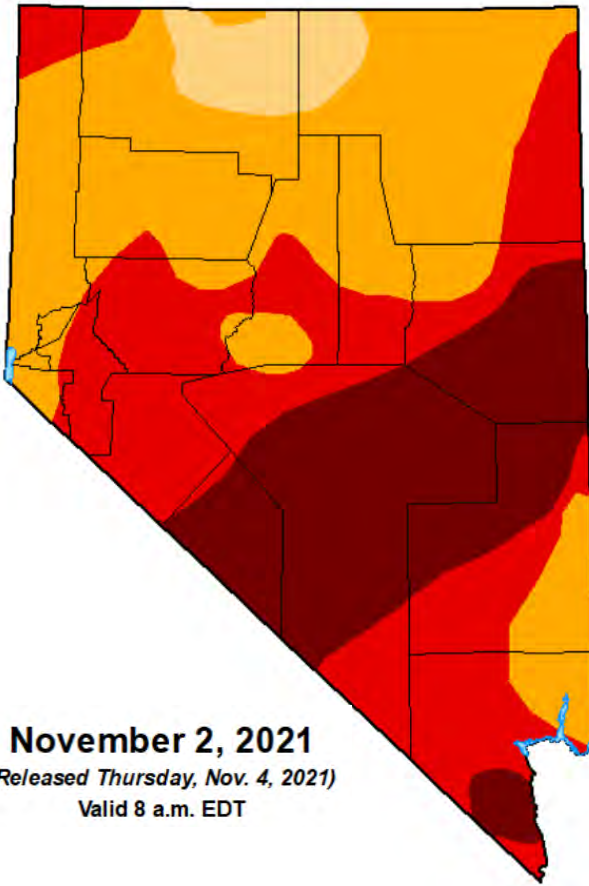
Intensity:

- None
- D0 Abnormally Dry
- D1 Moderate Drought
- D2 Severe Drought
- D3 Extreme Drought
- D4 Exceptional Drought

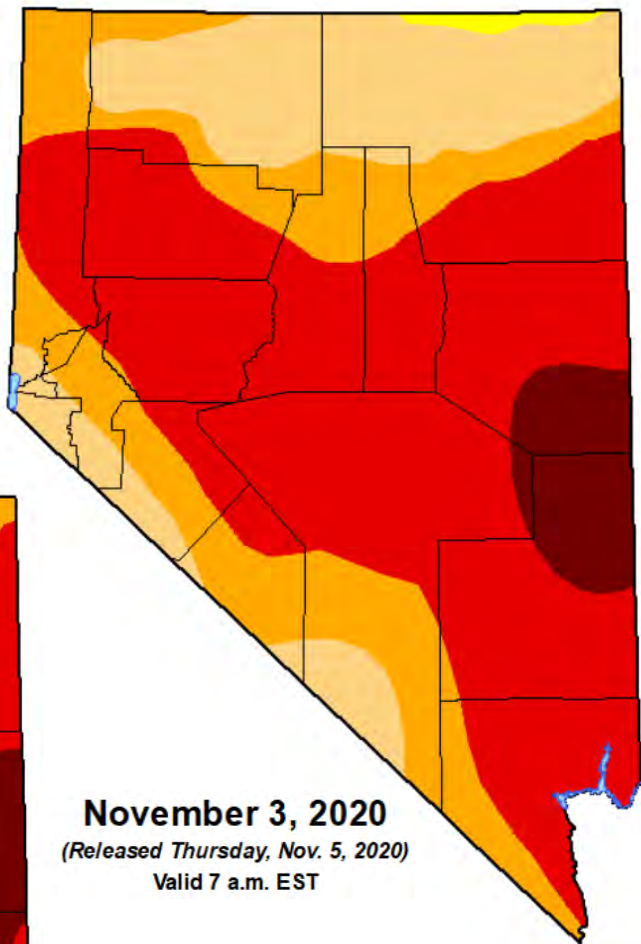




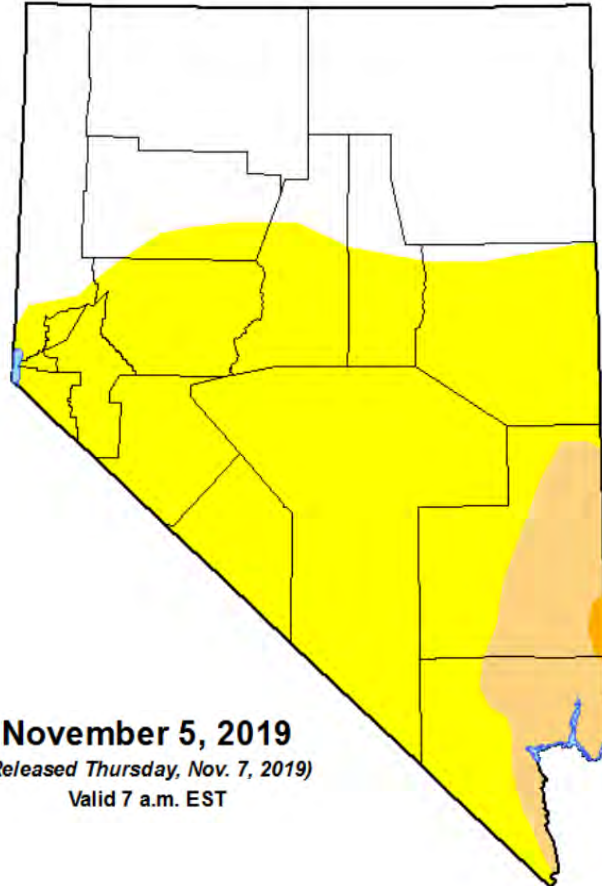
November 1, 2022
(Released Thursday, Nov. 3, 2022)
Valid 8 a.m. EDT



November 2, 2021
(Released Thursday, Nov. 4, 2021)
Valid 8 a.m. EDT



November 3, 2020
(Released Thursday, Nov. 5, 2020)
Valid 7 a.m. EST



November 5, 2019
(Released Thursday, Nov. 7, 2019)
Valid 7 a.m. EST



E – Menacing snow drifts hang over Mount Rose Highway (Jeff Anderson)

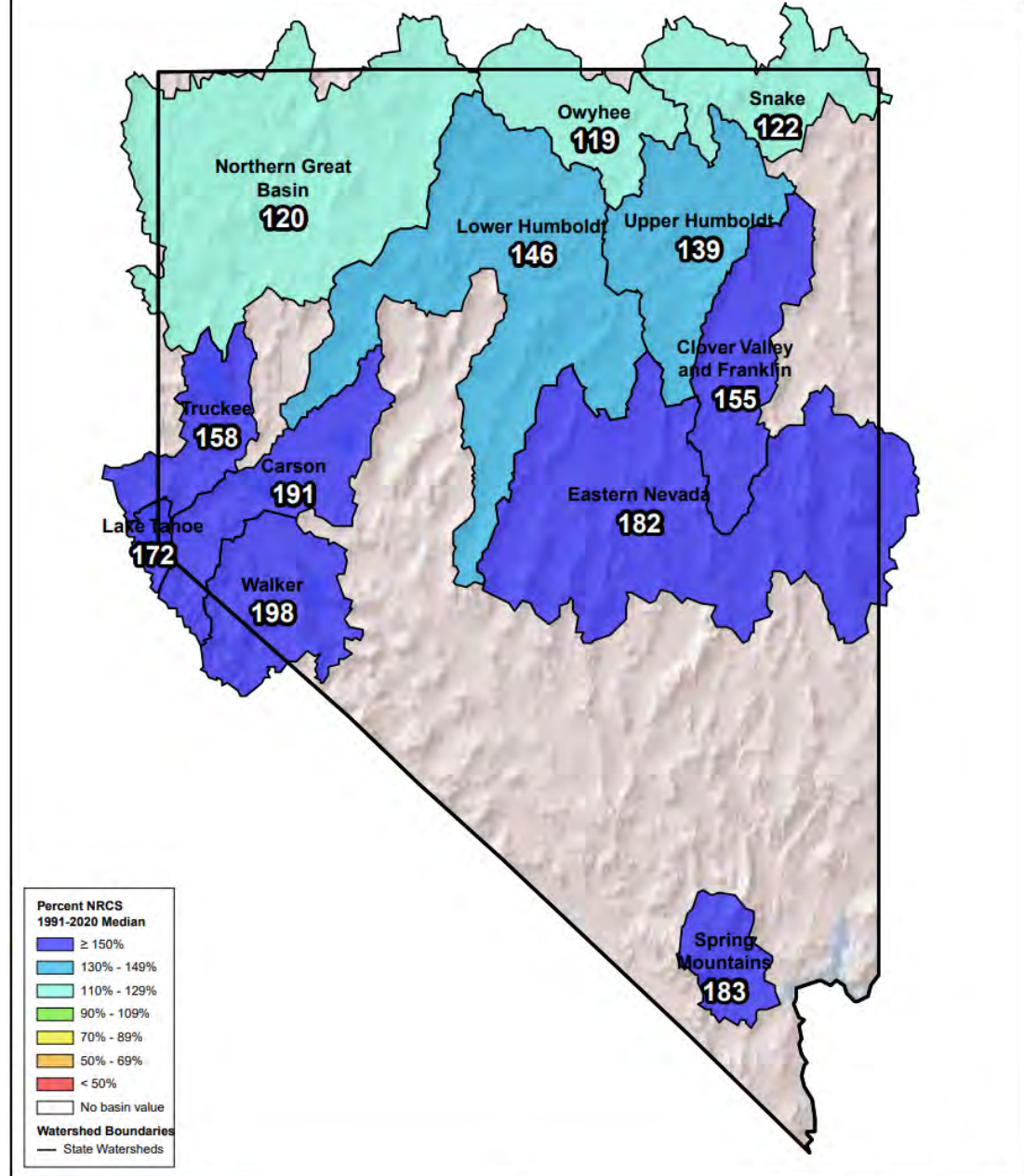
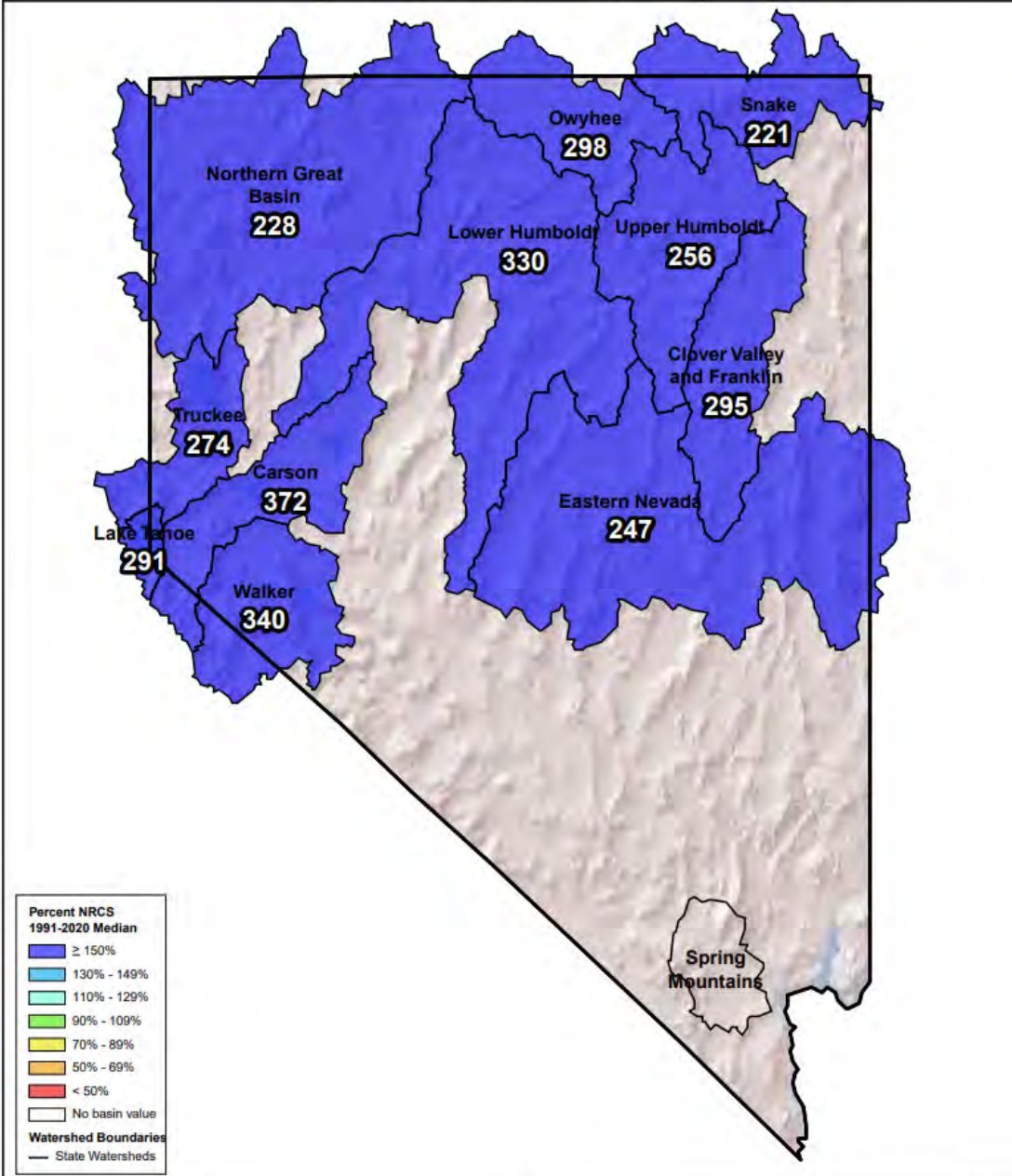


Figure 2: Basin-wide snow water in the Carson and Walker basins compared to historical data range.

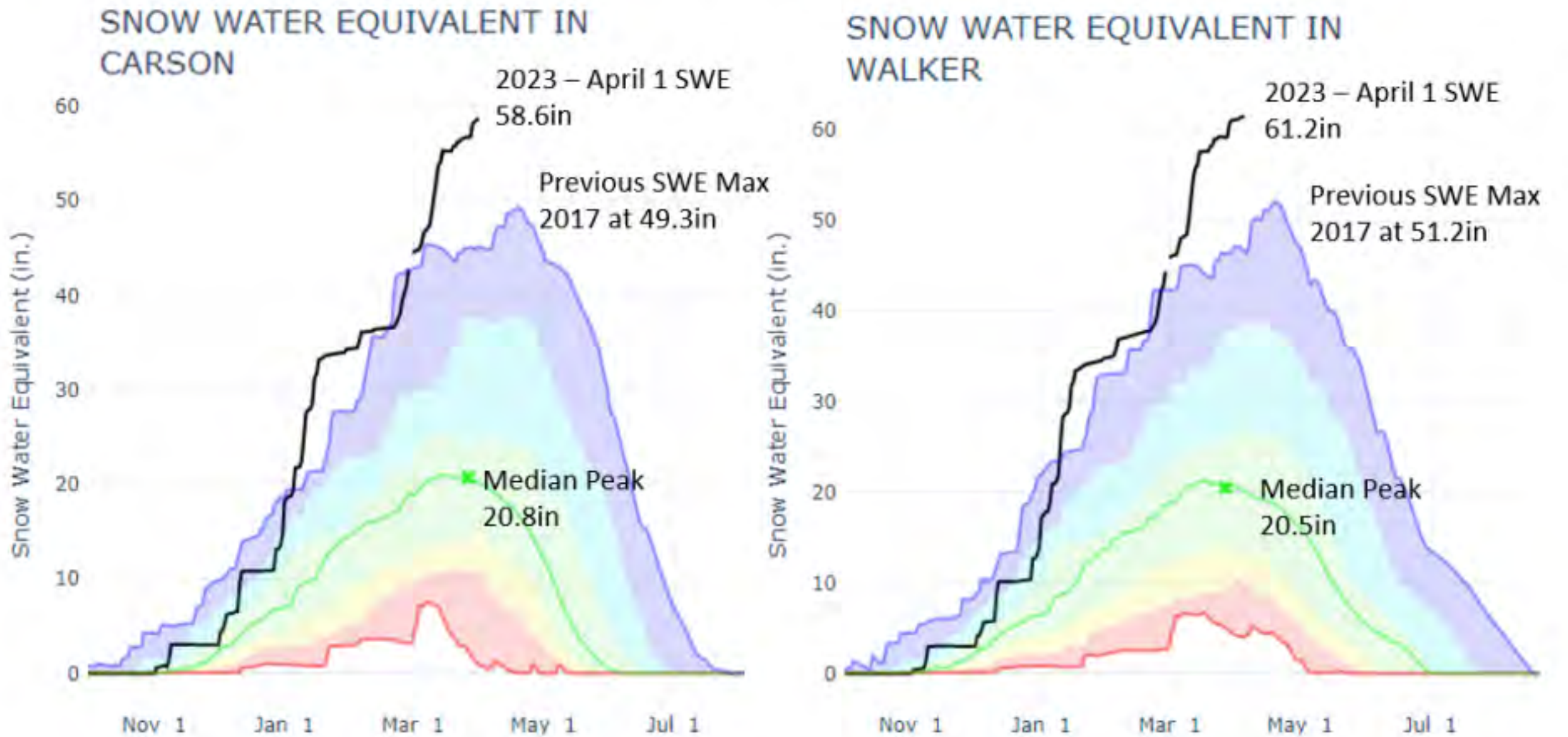
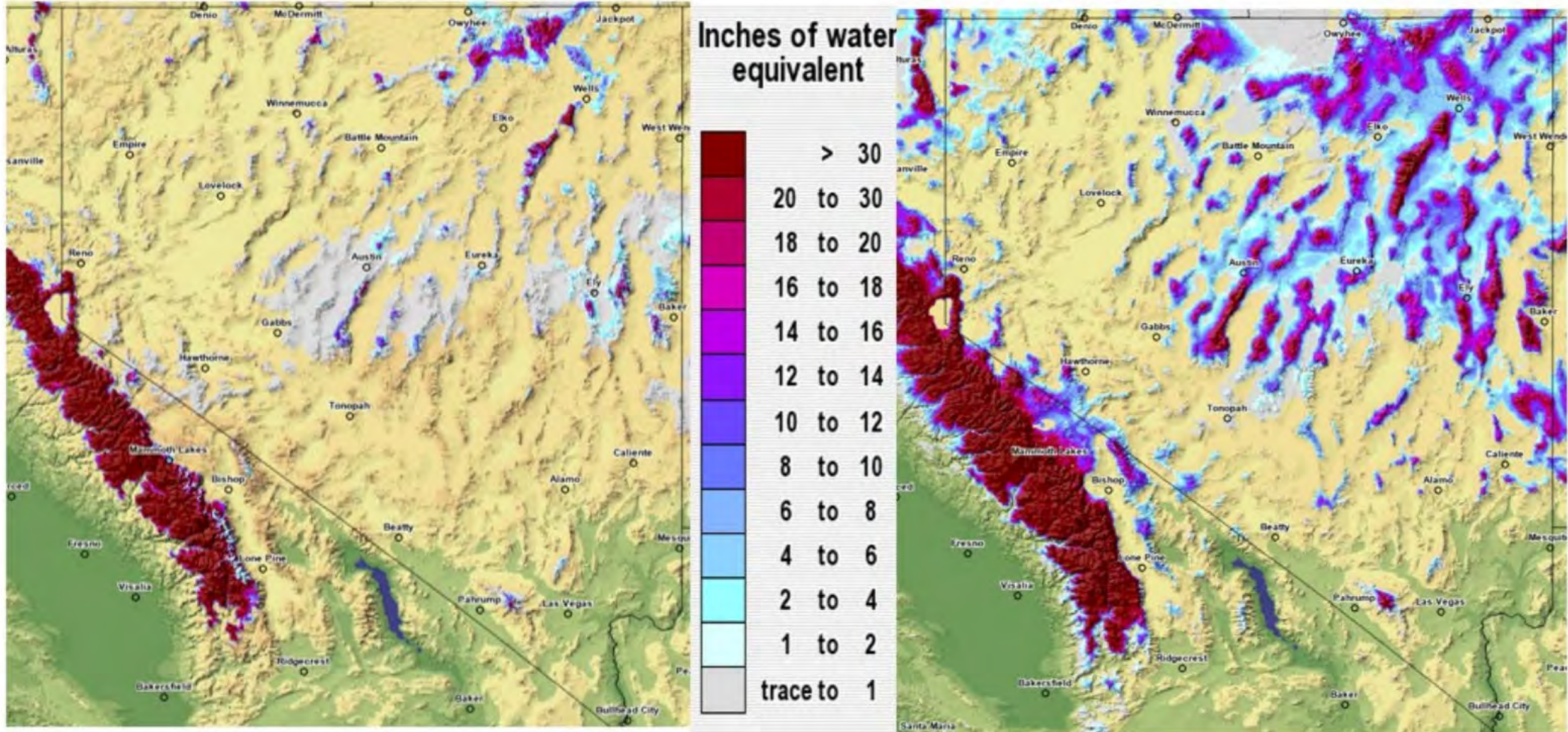


Figure 3: Modeled snow water content across Nevada April 1, 2017 (left) vs April 1, 2023 (right), source: [NOAA](#)

NOAA Modeled Snow Water Equivalent

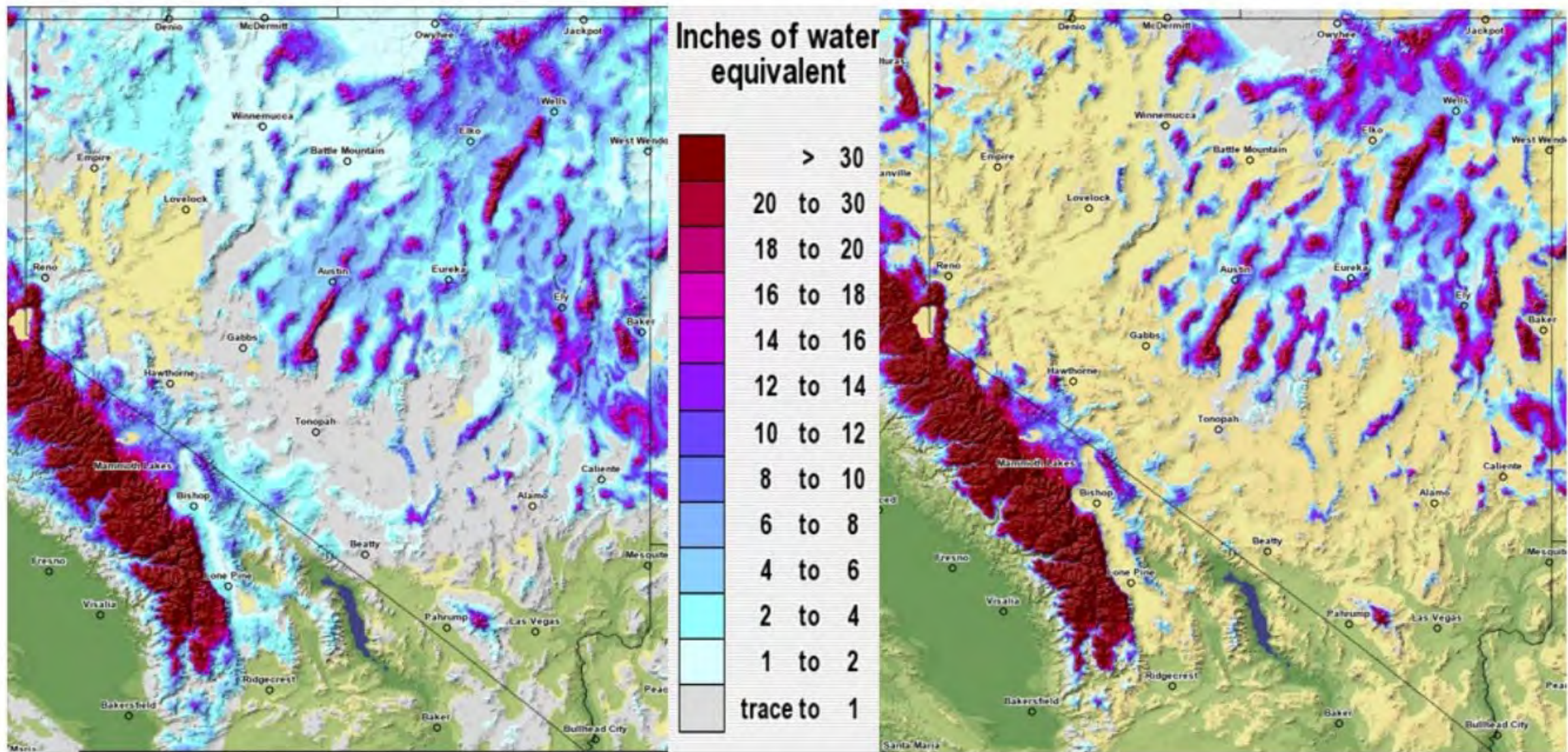


2017 April 1

2023 April 1

Figure 5: Modeled snow water content across Nevada 3/1/23 (left) vs 4/1/23 (right), source: [NOAA](#)

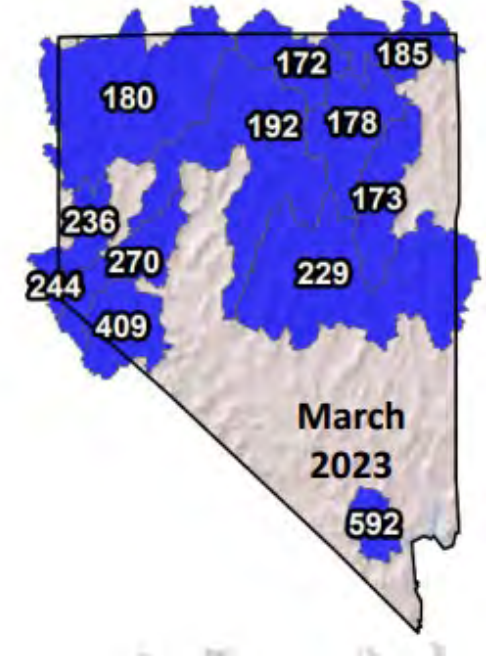
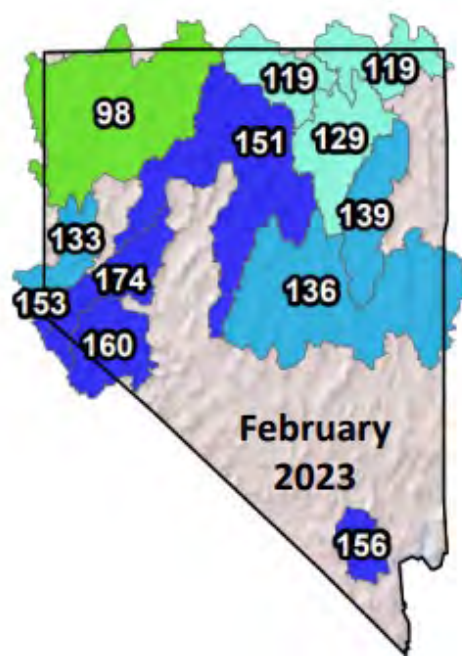
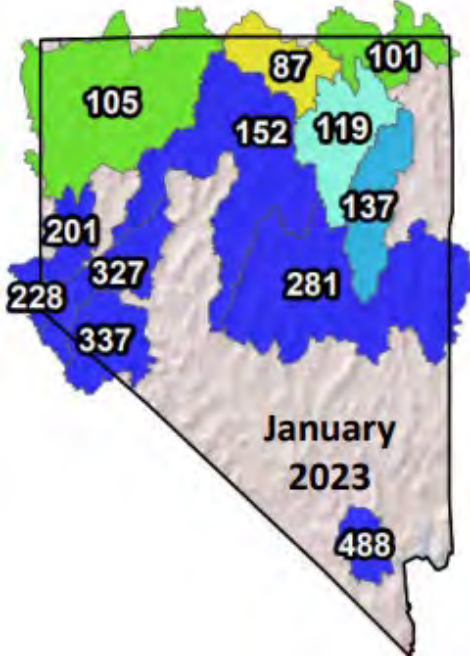
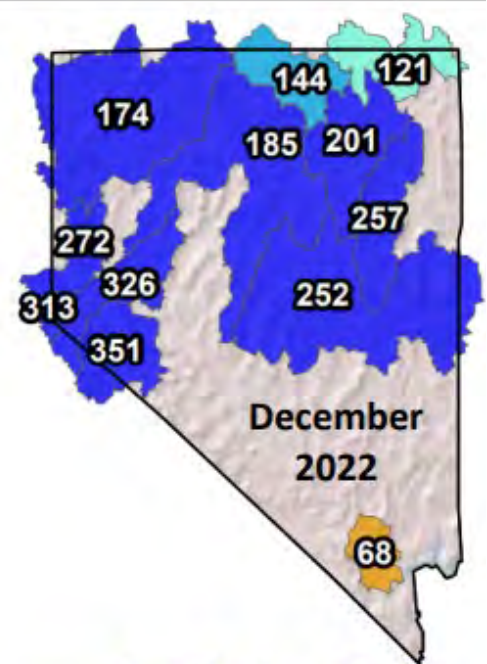
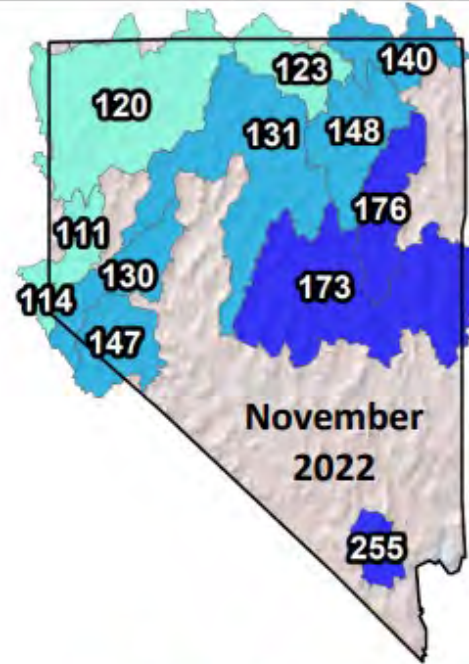
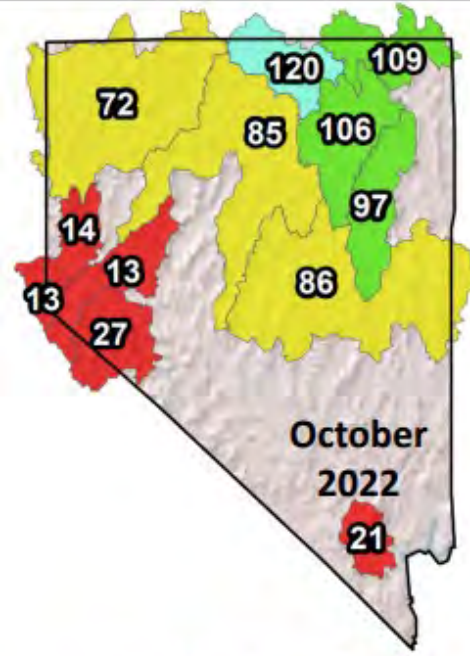
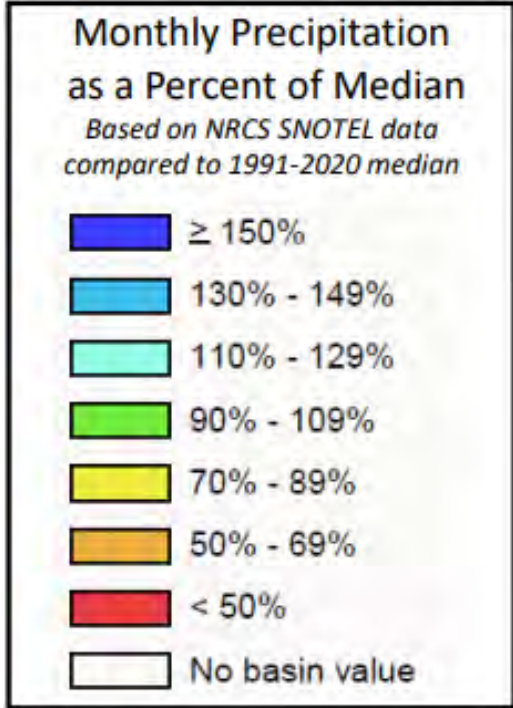
NOAA Modeled Snow Water Equivalent



2023 March 1

2023 April 1

Monthly Precipitation as Percent of Median – Water Year 2023

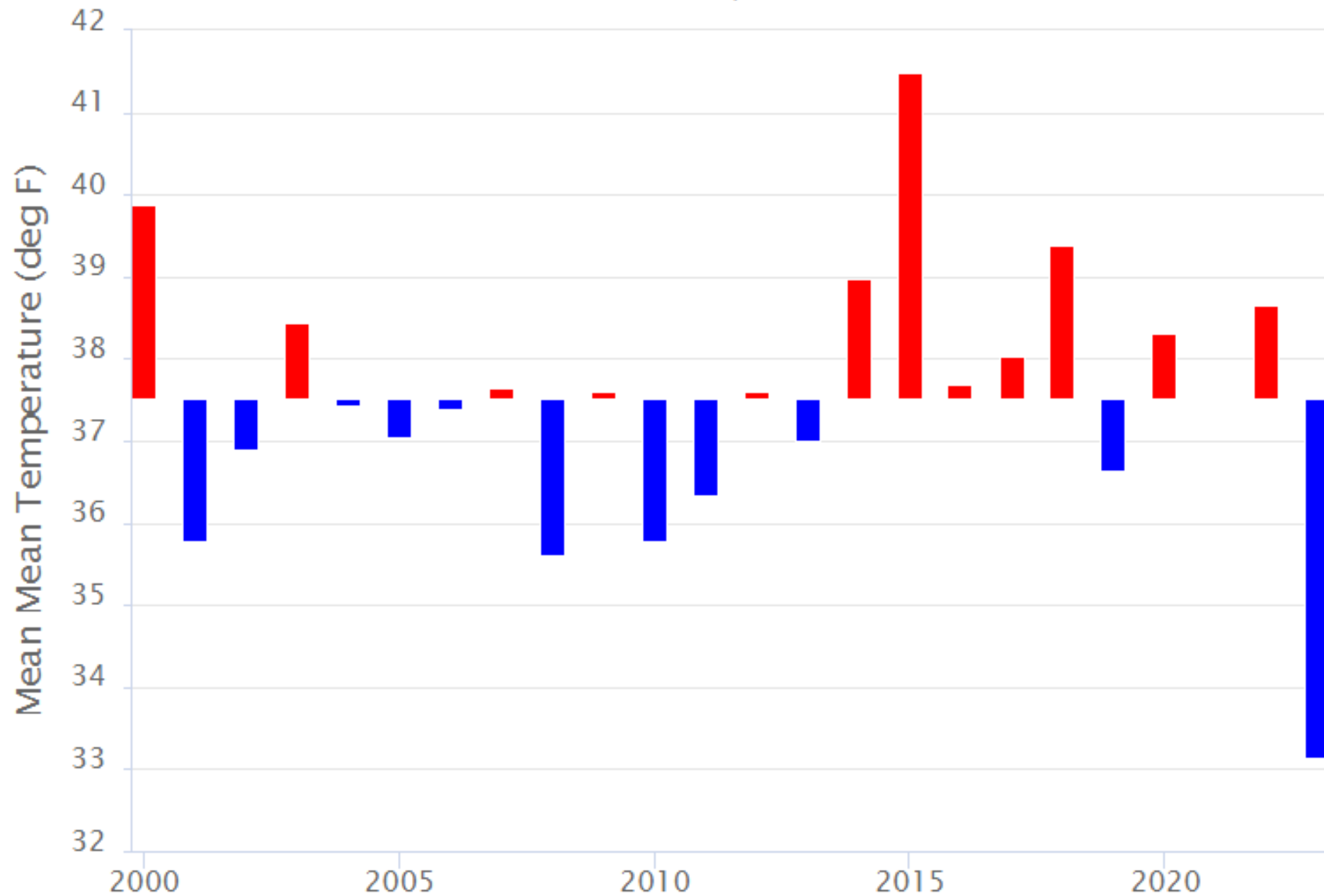


Deviations from 37.51 deg F

Mean Temperature (PRISM MONTHLY)

[Download](#)

Annual Mean for Nov to Apr at Nevada



Restoration and Rehabilitation 2017 to 2022:

- 570,609 acres at \$11.7 million
- 44,831 acres pinion juniper removal at \$4.2 million
- 1,680 acres spring, meadow, riparian enhancements at \$1.9 million



Questions

