

Drought “Hot Spots” within Communities

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NATIONAL DROUGHT
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UNIVERSITY OF NEBRASKA

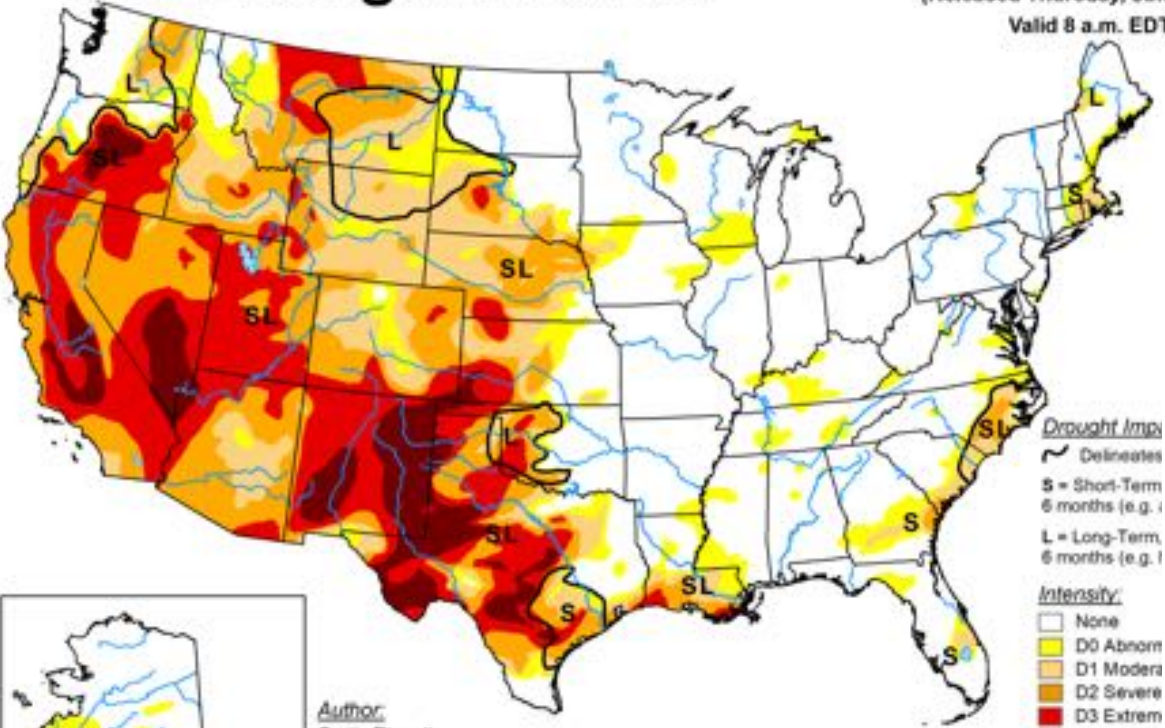
Annual DLN meeting

June 7-8, 2022

How do we look at drought?

U.S. Drought Monitor

May 31, 2022
(Released Thursday, Jun. 2, 2022)
Valid 8 a.m. EDT



Drought Imp
 ~ Delineates
 S = Short-Term
 6 months (e.g.)
 L = Long-Term,
 6 months (e.g.)

Intensity:
 None
 D0 Abnorm
 D1 Modera
 D2 Severe
 D3 Extrem
 D4 Excepti

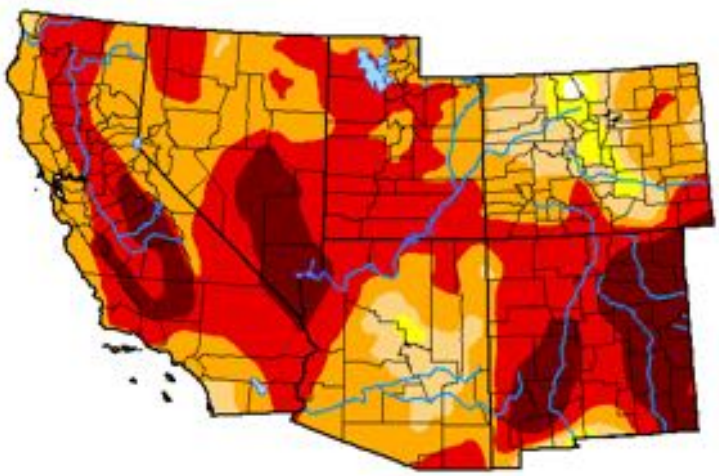
Author:
Curtis Riganti
National Drought Mitigation Center

The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. For more info on the Drought Monitor, go to <https://droughtmonitor>



U.S. Drought Monitor Southwest

May 31, 2022
(Released Thursday, Jun. 2, 2022)
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Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	0.16	99.84	97.71	88.77	53.74	14.72
Last Week 05-24-2022	0.00	100.00	98.05	89.23	54.18	14.97
3 Months Ago 03-01-2022	0.00	100.00	94.17	75.30	20.81	1.70
Start of Calendar Year 01-04-2022	0.00	100.00	91.50	65.43	19.65	1.39
Start of Water Year 09-28-2021	3.79	96.21	85.13	68.02	49.47	17.45
One Year Ago 06-01-2021	7.68	92.32	91.16	86.10	71.72	39.12

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

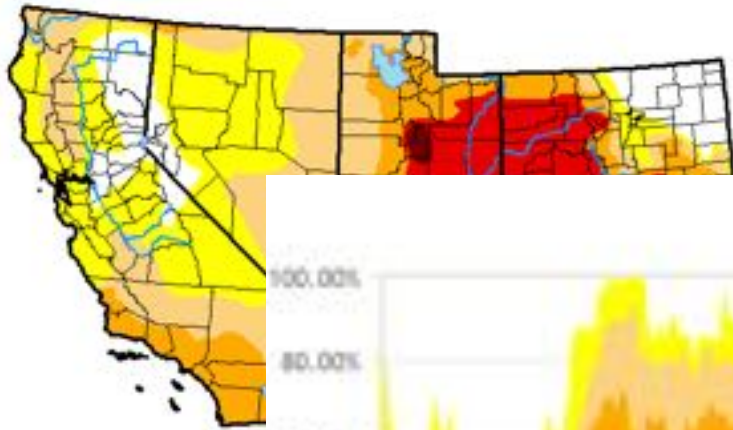
The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. For more information on the Drought Monitor, go to <https://droughtmonitor.unl.edu/About.aspx>

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We can even go back and look at drought over time

U.S. Drought Monitor Southwest

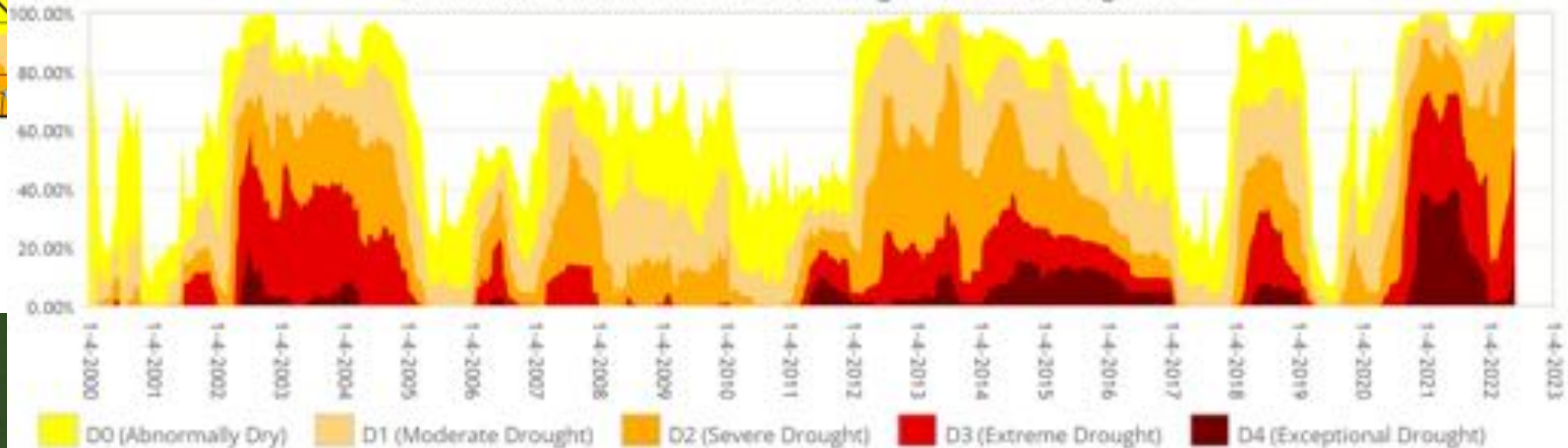


August 28, 2018
(Released Thursday, Aug. 30, 2018)
Valid 8 a.m. EDT

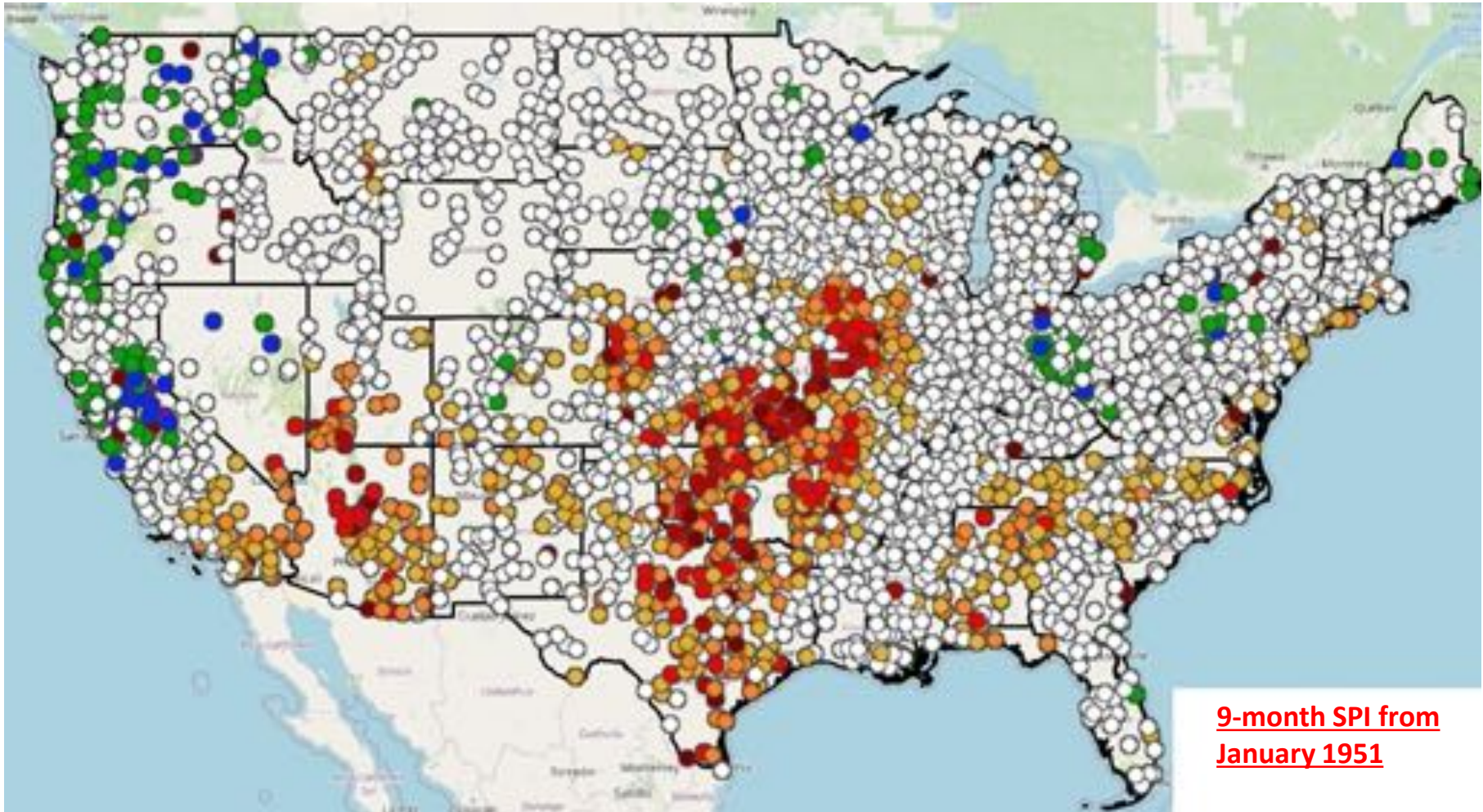
Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	6.03	93.07	74.67	48.45	26.11	6.13
Last Week 08-21-2018	6.85	93.15	74.30	49.99	26.28	6.13
3 Months Ago 05-28-2018	13.20	86.80	68.34	51.33	32.22	7.45
Start of Calendar Year 01-01-2018	25.99	73.01	40.50	9.04	0.00	0.00
Start of Water Year 09-26-2017	72.18	27.82	5.15	0.00	0.00	0.00
One Year Ago

Southwest Percent Area in U.S. Drought Monitor Categories

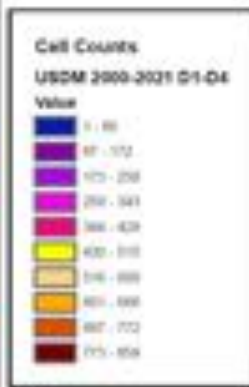
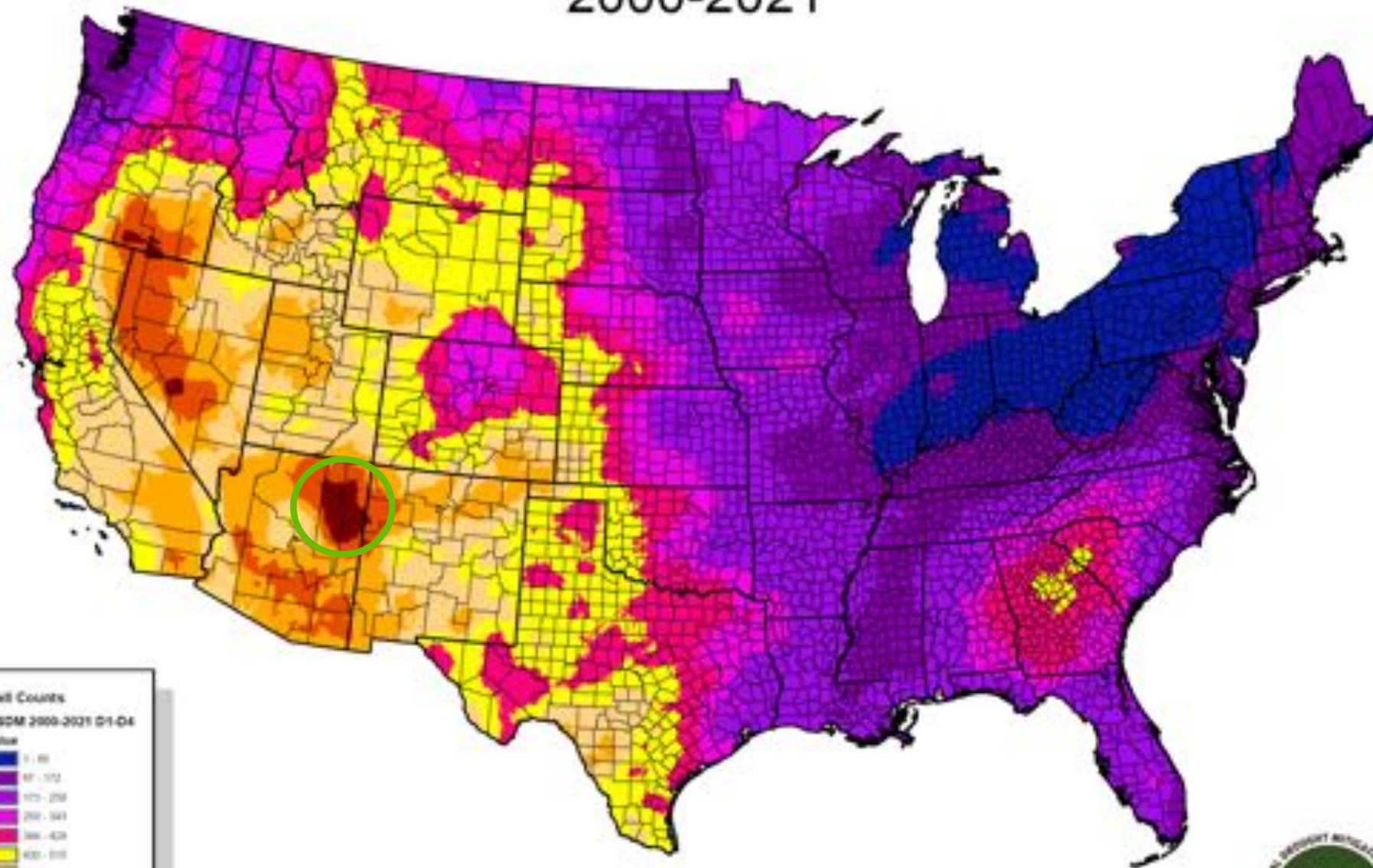


How can we tell which areas are most vulnerable to drought? Where have the “hot spots” been over time?



USDM Cell Count D1 - D4 2000-2021

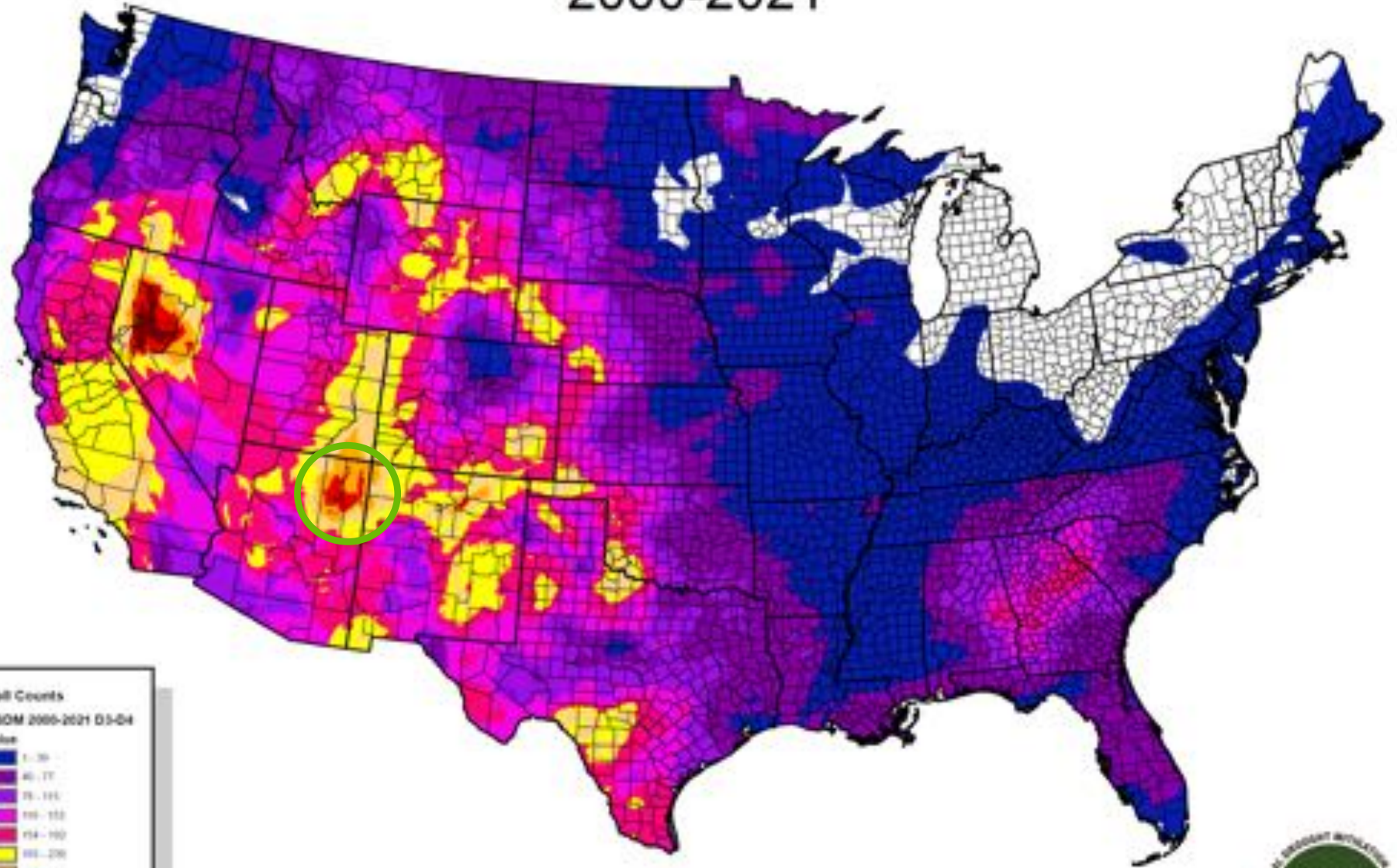
Areas in dark red had drought 68% to 75% of the time for the last 22 years



Cell resolution 500 meters
Classification Method - Equal Interval 10 classes



USDM Cell Count D3 - D4 2000-2021



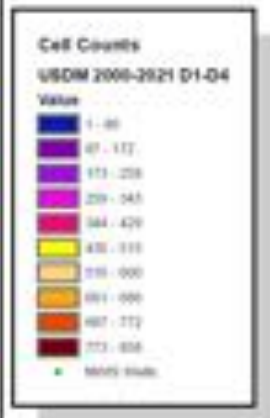
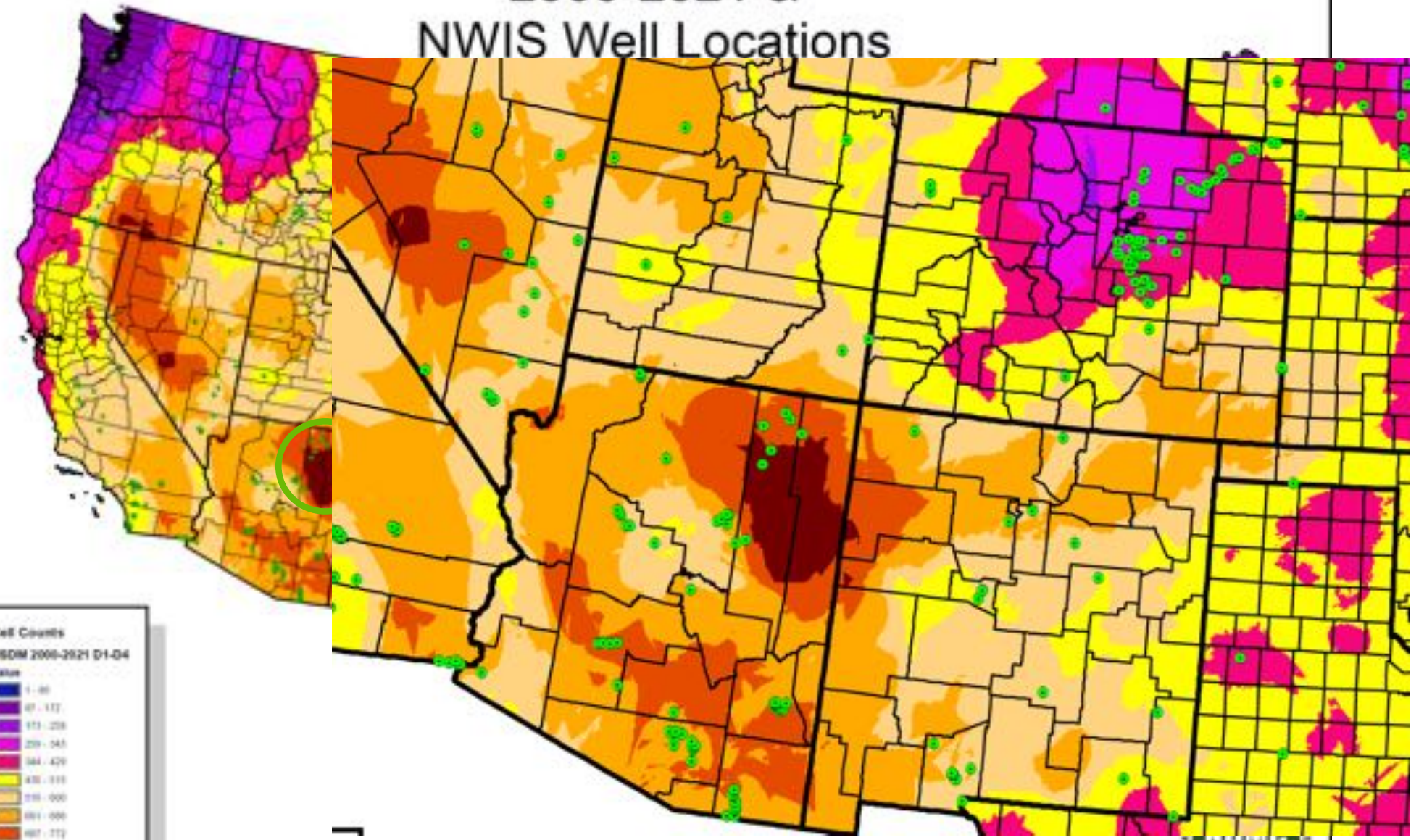
Cell resolution 500 meters
Classification Method - Equal Interval 10 classes

Areas in red had extreme drought (D3) 27% to 30% of the time for the last 22 years



USDM Cell Count D1-D4 2000-2021 & NWIS Well Locations

These data help to identify well locations which may be impacted by continuous drought and may be vulnerable



Cell resolution 500 meters
Classification Method - Equal Interval 10 classes



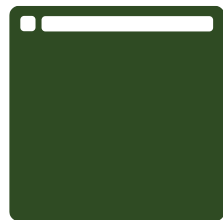
Closing thoughts.....

- With a climatology of drought and drought intensity, it is possible to identify areas that currently may have issues due to the duration of drought
- Groundwater and surface water locations can be identified, as well as other data, to see what vulnerabilities exist
- Resource managers can share information from these regions as to how they have operated under these adverse conditions
- Other data can be merged to identify other potential issues



Thank You!
Questions?

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