

NOAA

National Satellite and
Information Service

20th Climate Prediction Applications
Science Workshop (CPASW)

Salmon, Census, and the “Nth” Warmest Summer on Record

Finding ways to converge socioeconomic and
climate data.

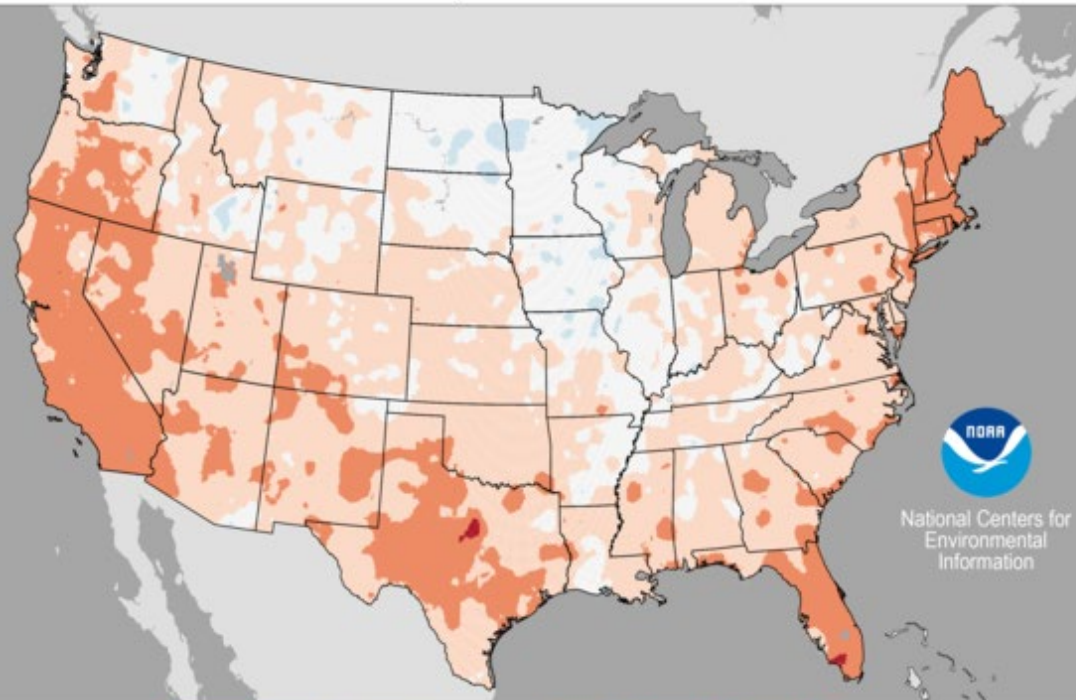
Jared Rennie, Research Meteorologist
NOAA NCEI, Asheville, NC

Climate Monitoring

Mean Temperature Percentiles

January–December 2022

Ranking Period: 1895–2022



National Centers for Environmental Information



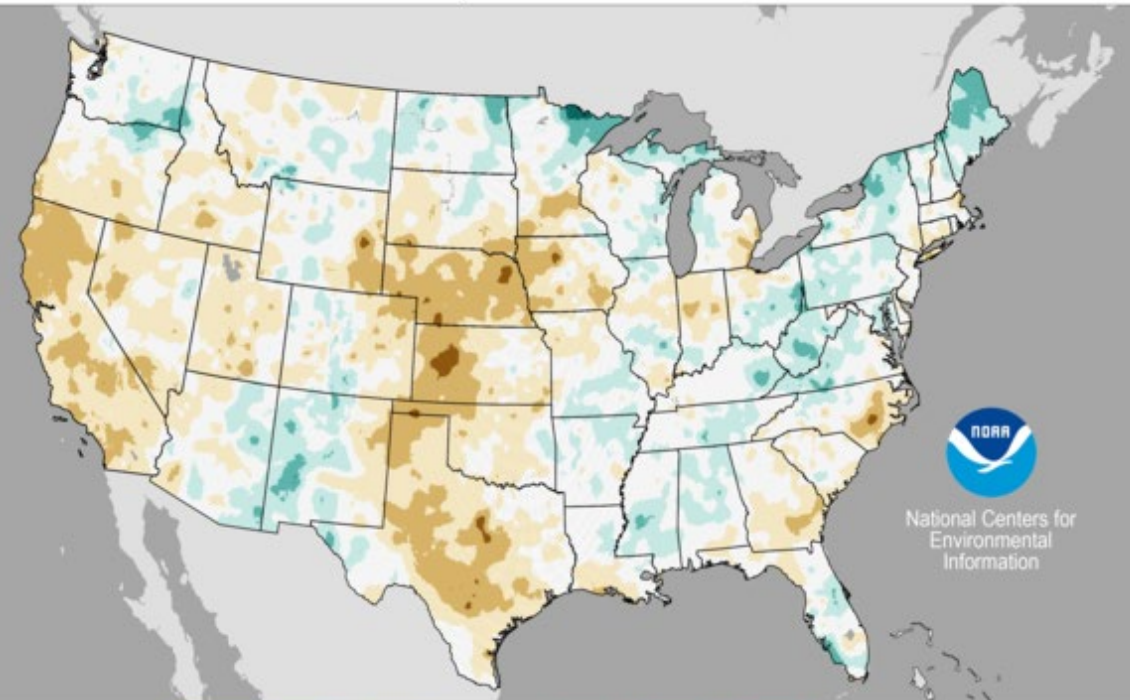
Created: Fri Jan 06 2023

Data Source: nClimGrid Created: Fri Jan 06 2023

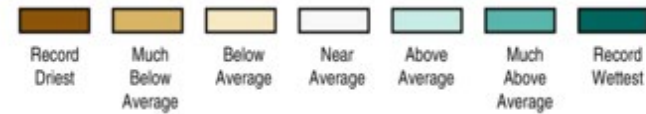
Total Precipitation Percentiles

January–December 2022

Ranking Period: 1895–2022



National Centers for Environmental Information



Data Source: nClimGrid



Why should I care?



Report “Fatigue”

“It is not about polar bears or the year 2100. It is about household *kitchen table issues*, equity, justice, national security, energy, water, and public health.”

Aug 9, 2021, 04:55pm EDT | 2,938 views

Report Fatigue – Commentary From A Climate Scientist On The Latest IPCC Summary



Marshall Shepherd Senior Contributor ⓘ
Science

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The United Nations Intergovernmental Panel on Climate Change (IPCC) issued its Summary for Policymakers this week. It captured the analyses of Working Group I to the 6th Assessment Report. I had a chance to review it on Monday, and it says all of the things that I expected it to say and with the necessary sense of urgency. Here’s the problem. I am “report fatigued.” We need action.



What is Socioeconomic?

so·cio·eco·nom·ic | \ ,sō-sē-ō-,e-kə-'nā-mik , - ,ē-kə-, ,sō-shē- \

variants: *or* **socio-economic**

Definition of *socioeconomic*

: of, relating to, or involving a combination of social and economic factors

Social factor

How is it affecting people?

Economic factor

Is it costing money?

Socioeconomic!!!



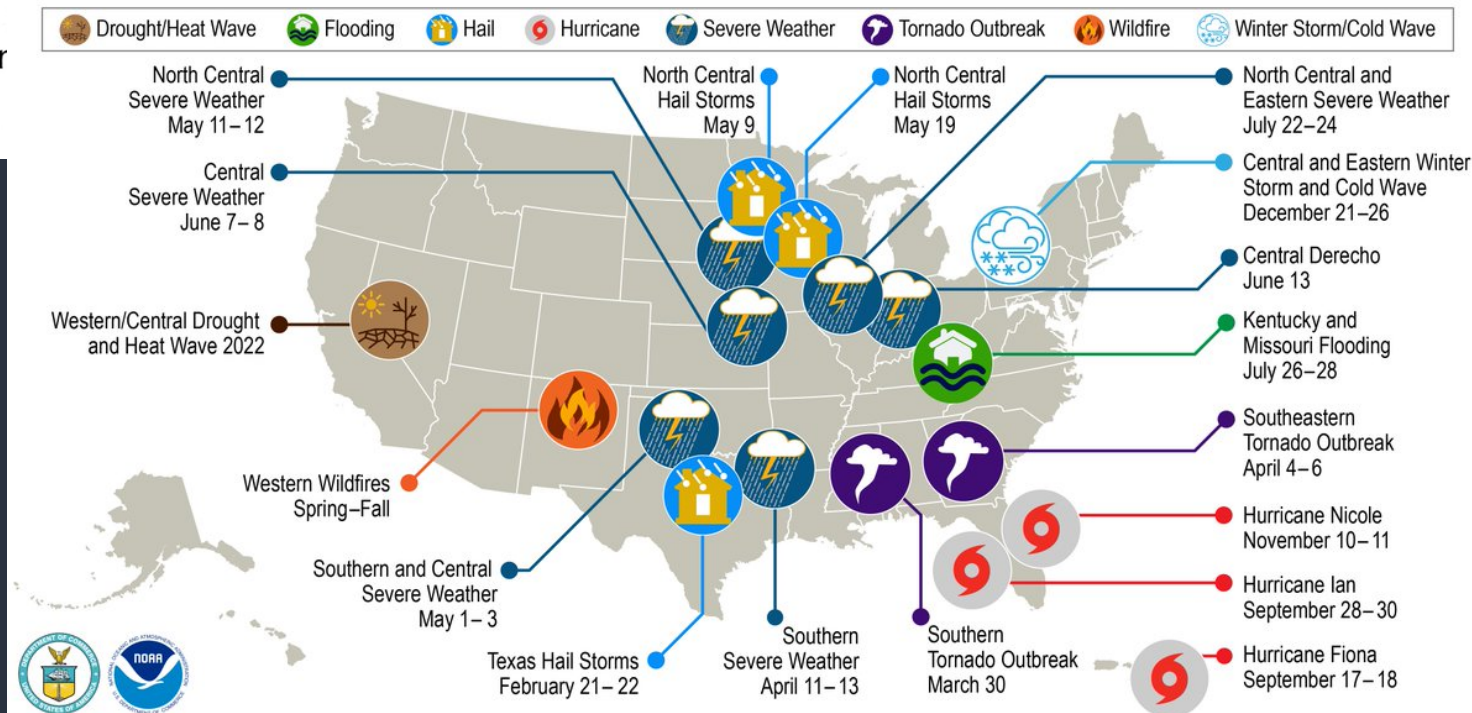
Examples of Converging Climate and Socioeconomic Data

A Pacific Interdecadal Climate Oscillation with Impacts on Salmon Production*



Nathan J. Mantua,⁺ Steven R. John M. Wallace,⁺ et al.

U.S. 2022 Billion-Dollar Weather and Climate Disasters



This map denotes the approximate location for each of the 18 separate billion-dollar weather and climate disasters that impacted the United States in 2022.



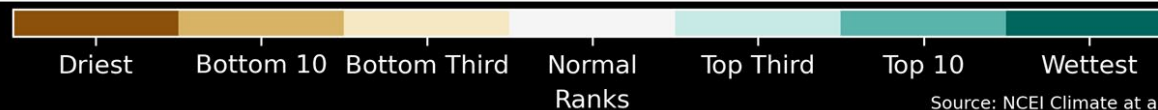
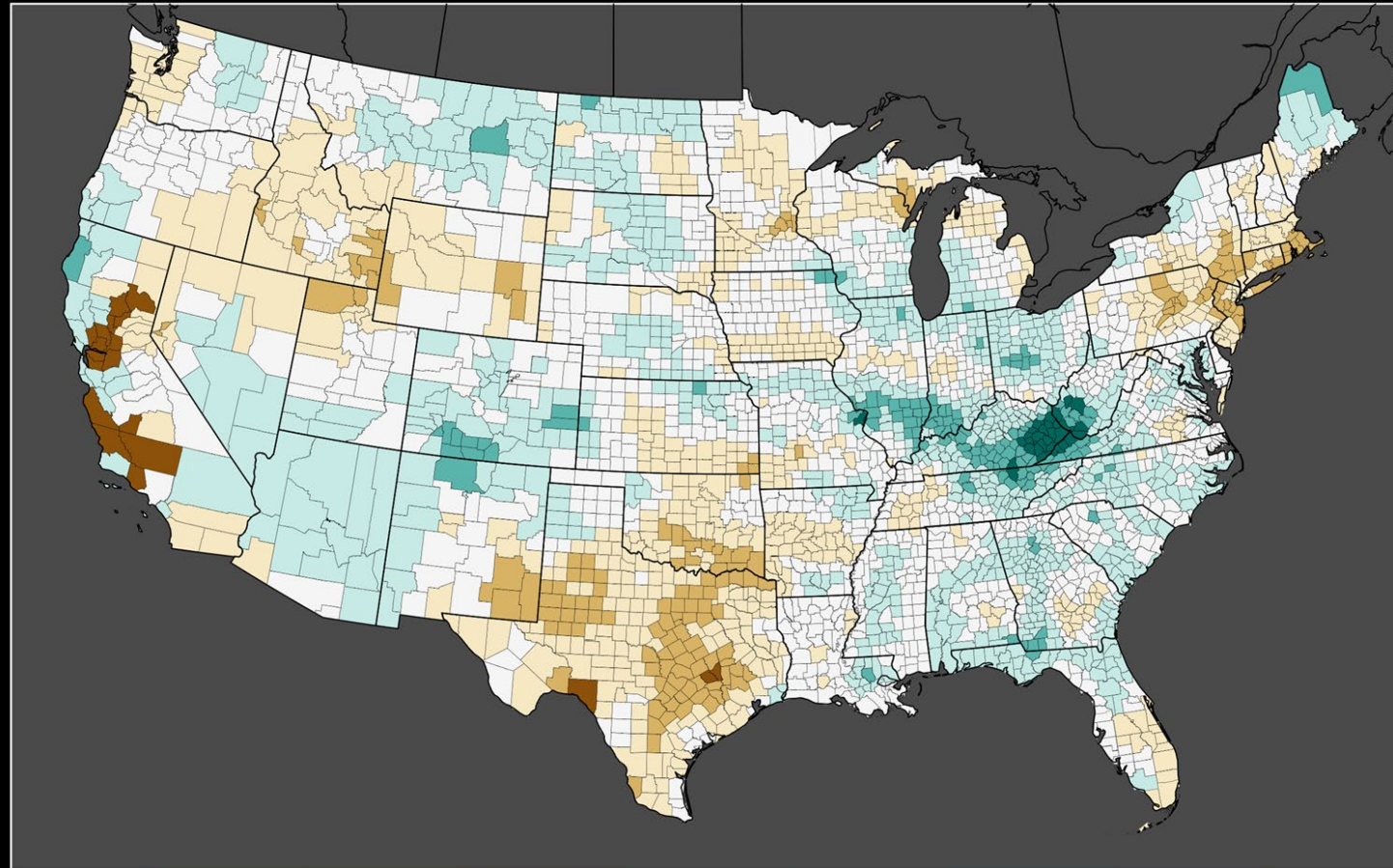
We could do so much more!

2020 Census!!!



Climate Monitoring

July 2022 Precipitation Ranks

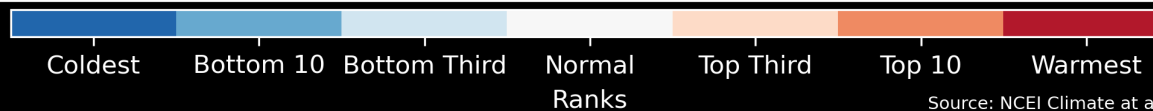
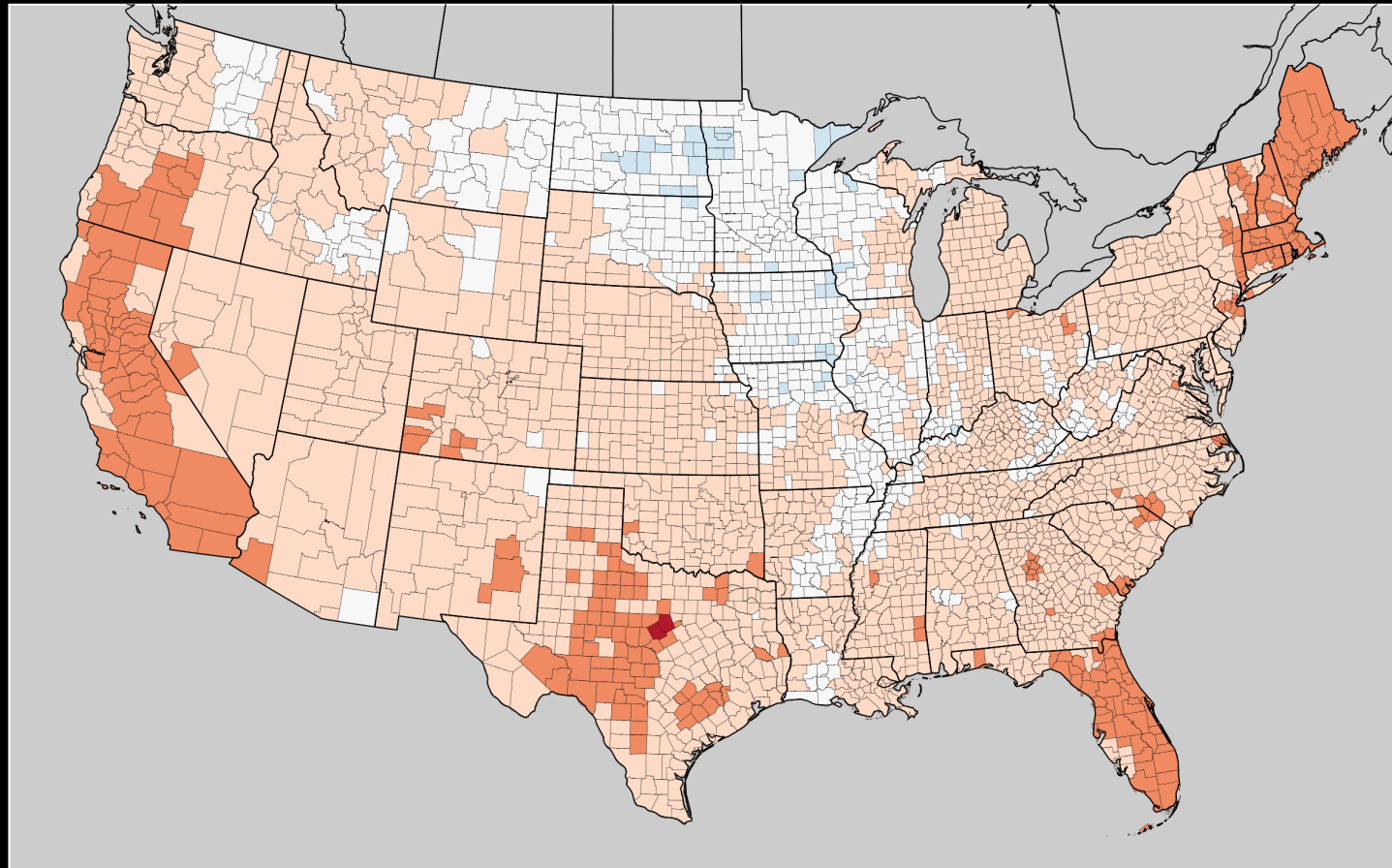


Source: NCEI Climate at a Glance
Made By Jared Rennie (@jrennie)



Climate Monitoring

2022 YTD Average Temperature Ranks



Source: NCEI Climate at a Glance
Made By Jared Rennie (@jjrennie)



Weather Forecasting

Tornado Warning

Valid Until
2:00 PM CST Saturday
December 18, 2021

Threat Information



TORNADO
Radar Indicated

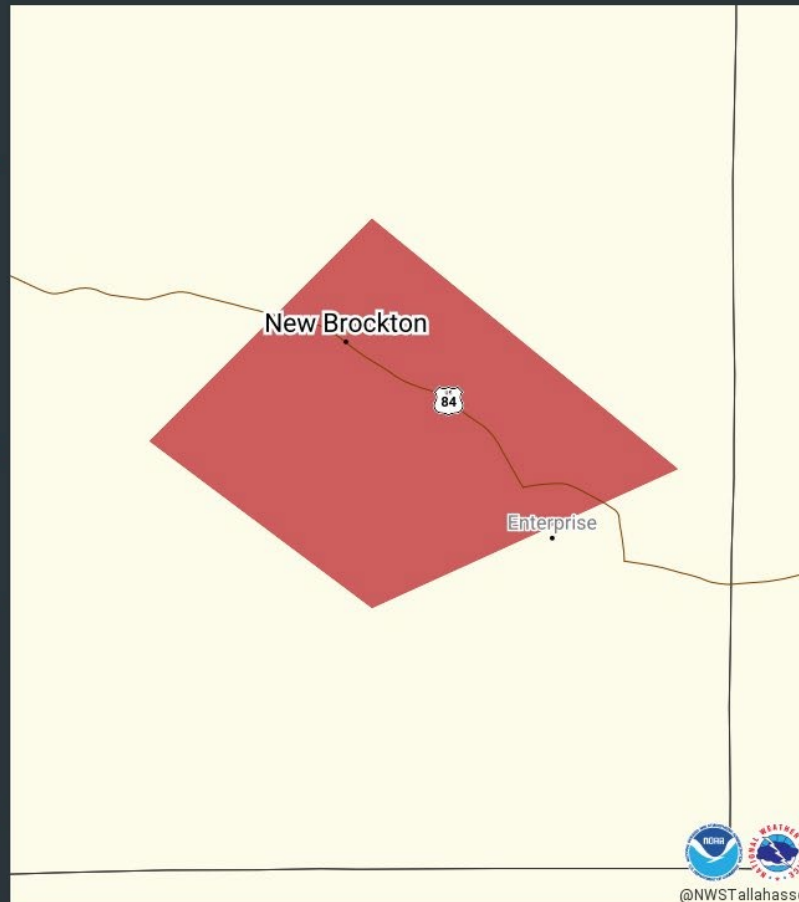


HAIL
Penny
Sized Possible

Potential Exposure



Population: 17,303
Schools: 7
Hospitals: 0

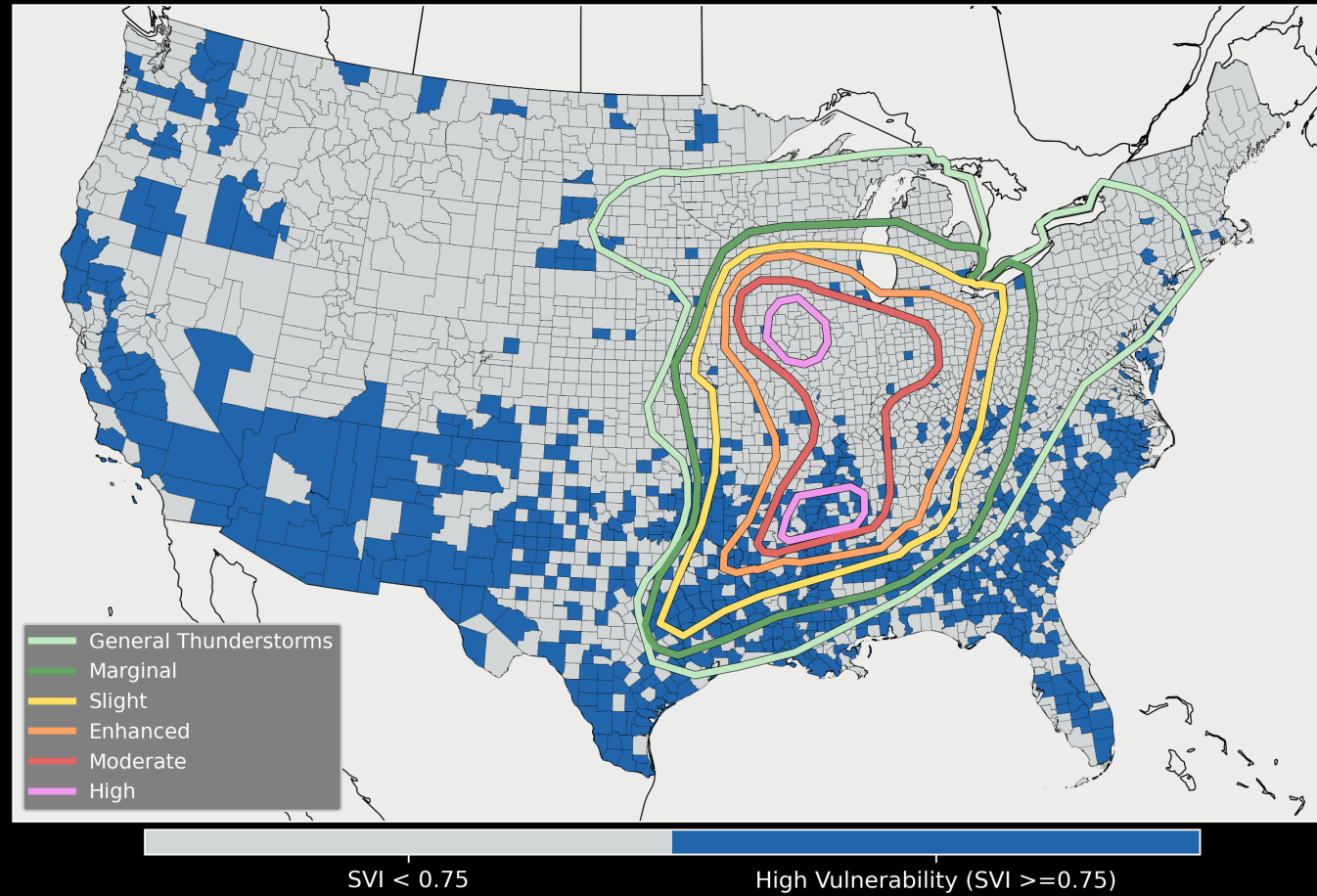


@NWSTallahassee



Weather Forecasting

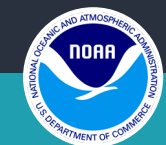
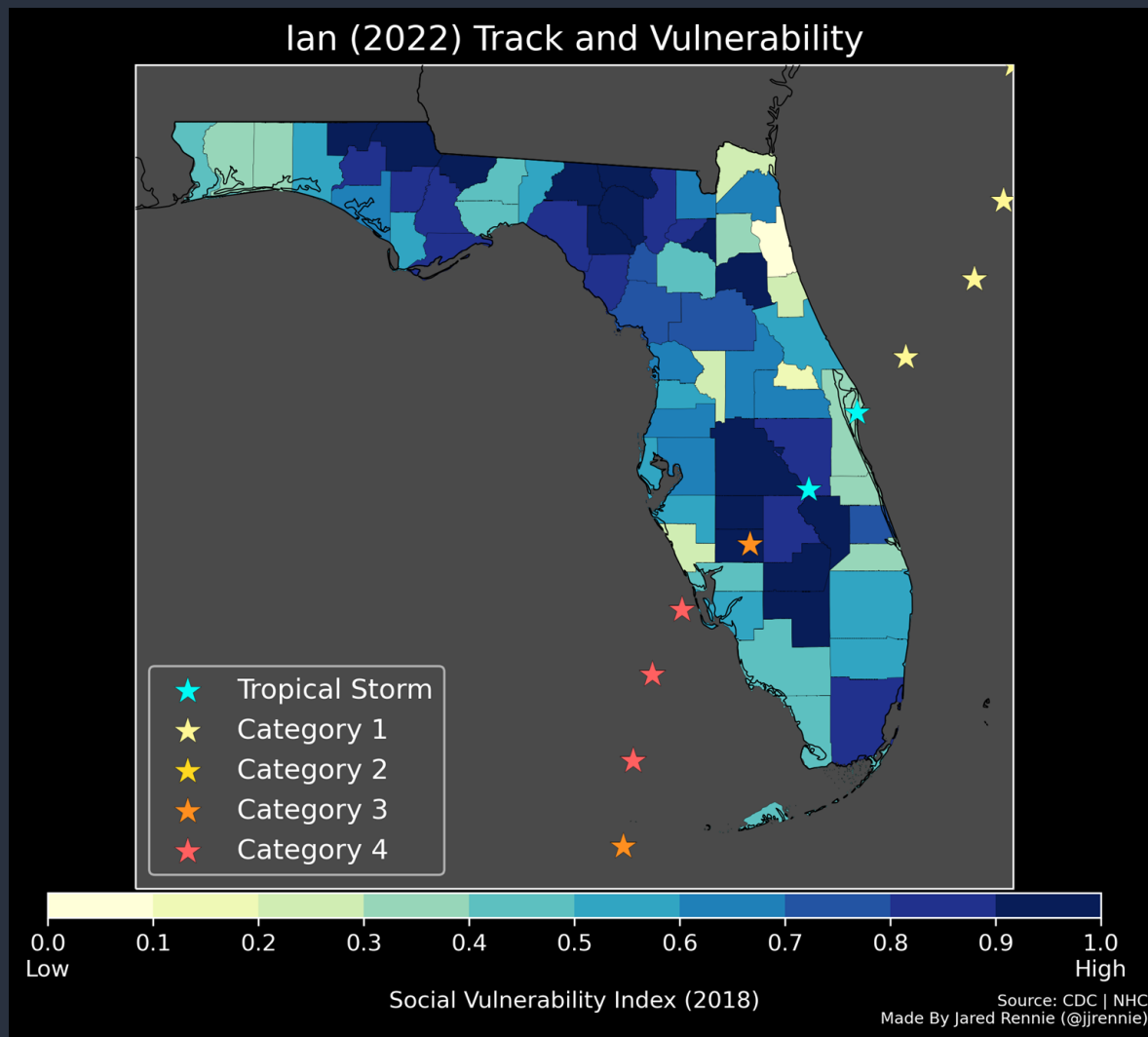
Social Vulnerability Index and Mar 31, 2023 1630 UTC Day 1 Convective Outlook



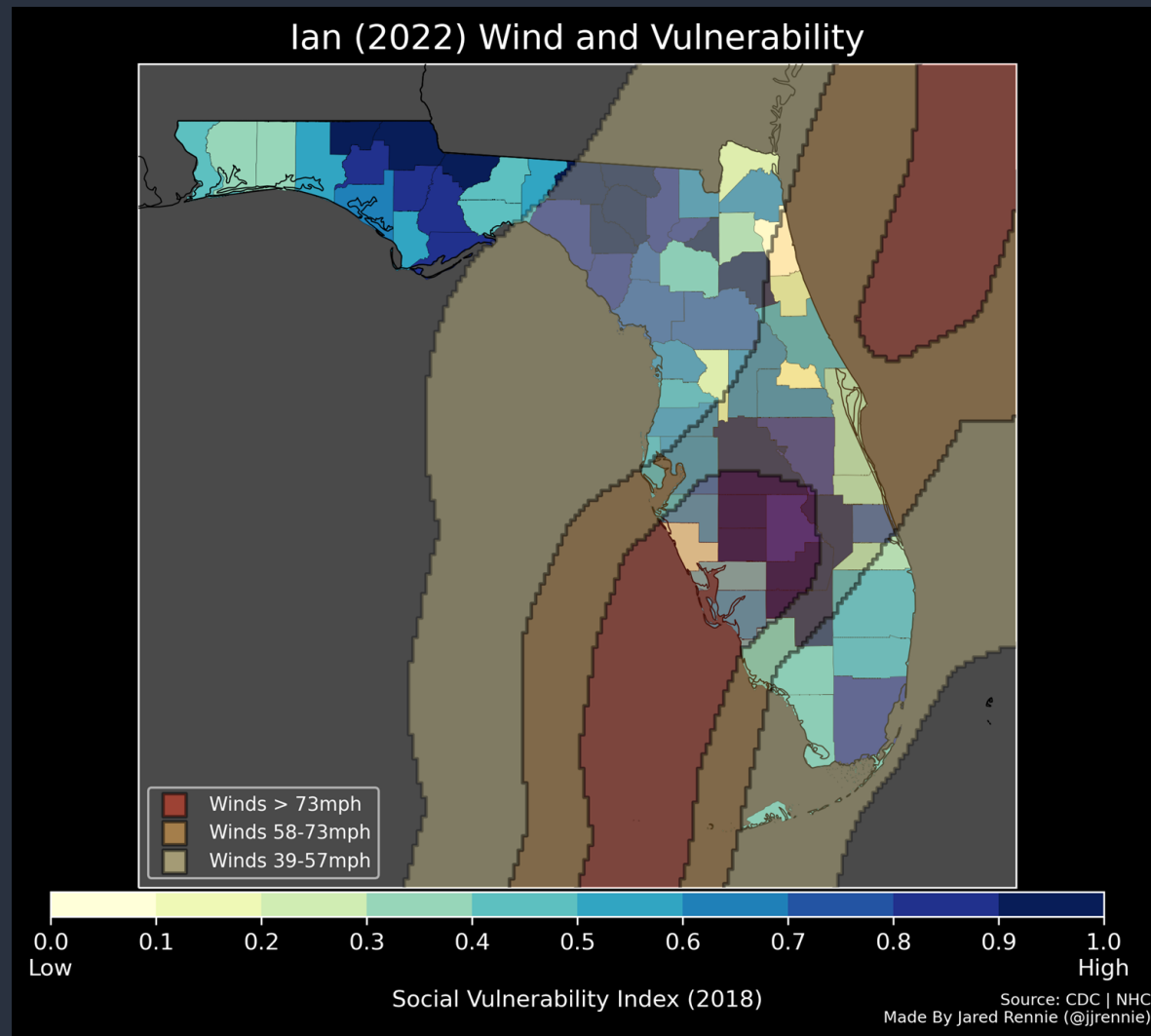
Source: CDC and NOAA SPC
Made By Jared Rennie (@jrennie)



Weather/Climate Retrospective



Weather/Climate Retrospective



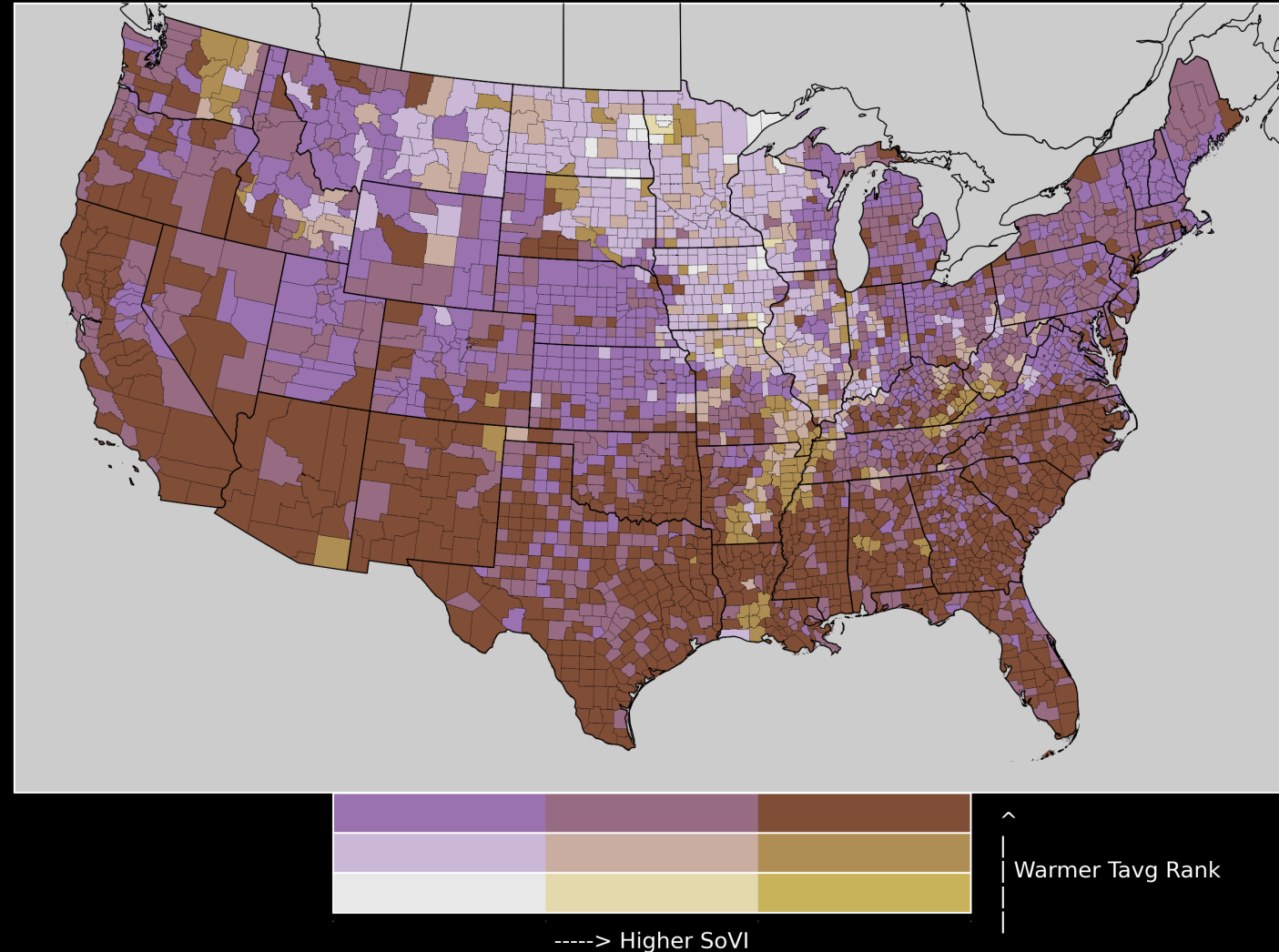
Future Work

- Census: Data Still Coming Out
- Work with NWS / EM's
- Work with Social Scientists
- Play with Visualizations
 - Bivariate Maps?
- Other Socioeconomic Variables?
 - Dept. of Commerce

Thank You!

jared.rennie@noaa.gov

Bivariate Map of 2022 YTD Avg Temperature Ranks and SOVI



Source: NCEI and CDC
Made By Jared Rennie (@jjrennie)

Extra Slides



Climate Monitoring

EDDI (12-Month) Value For 201111

