

# Ecological Drought Vulnerability Mapping: Developing Innovative Management Strategies with Partners

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## Project Overview

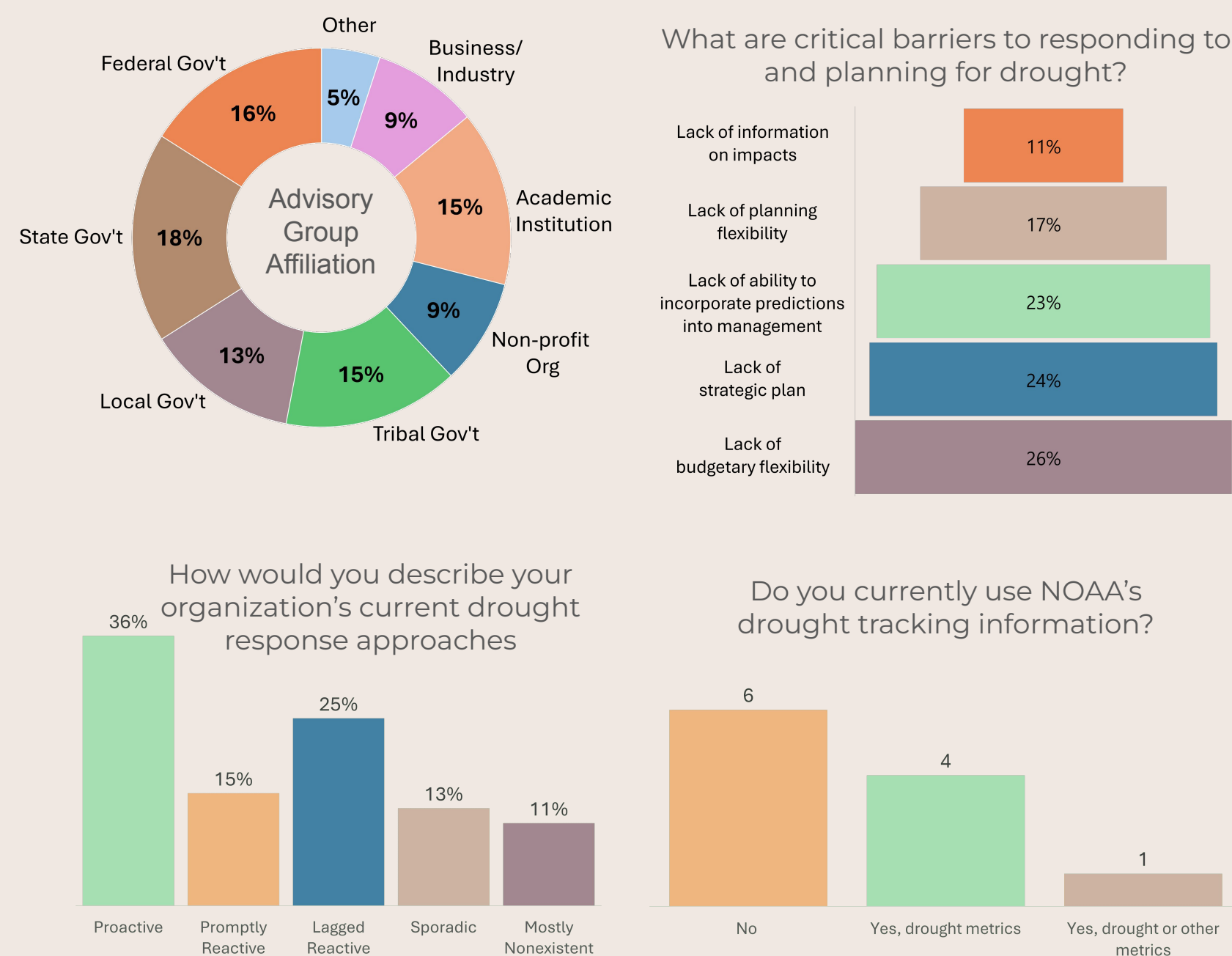
- Novel drought is affecting the US, especially in water limited areas in the West
- There is an imperative need to incorporate ecological drought into management decisions to account for the complex ways drought affects all systems.
- To promote proactive, science-informed decision making, this project is integrating ecologically-relevant information to support drought monitoring, planning, and action in SoCal.
- We are establishing an integrated drought response framework that can be directly accessed by practitioners.
- We are also creating a vulnerability map to demonstrate how the abundance of drought data can be translated into direct usage.

## Advisory Informed Scenarios

⇒ Leverage existing climate, hydrologic, ecologic, and socioeconomic data to support practitioners in managing for novel drought

### Initial Advisory Meeting

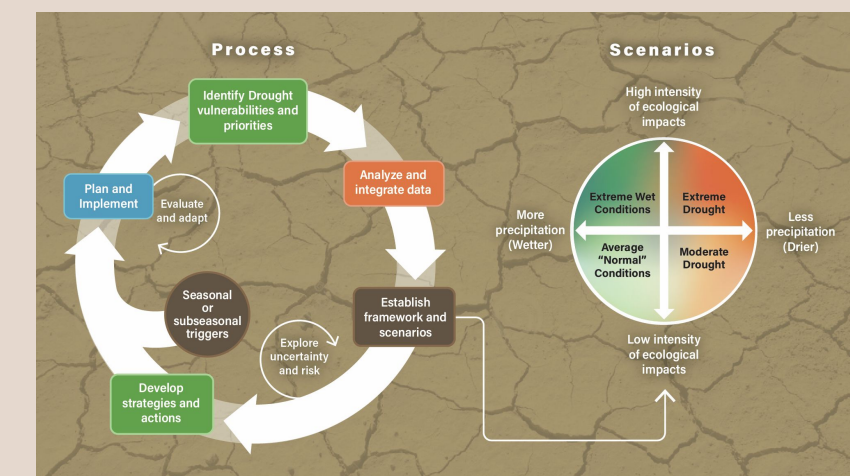
Spring 2024



### Discuss Advisory Concerns

Fall 2024

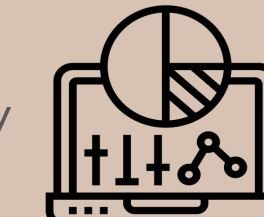
- Data concern themes:
  - Ecosystem Functioning/Integrity
  - Wildfire Risk
  - Hydrologic Function
  - Human Communities
- Management scenarios discussion



### Synthesize Data

Fall 2024 – Spring 2025

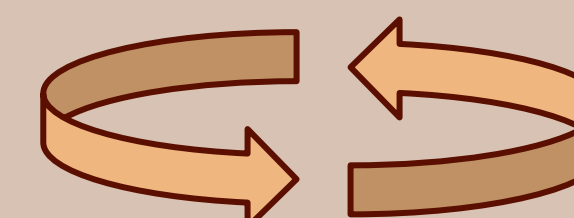
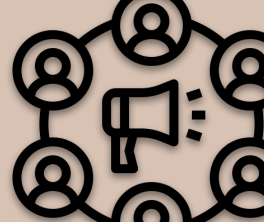
Find existing data for advisory concerns



Identify metrics that meet concerns



Synthesize findings for practitioners

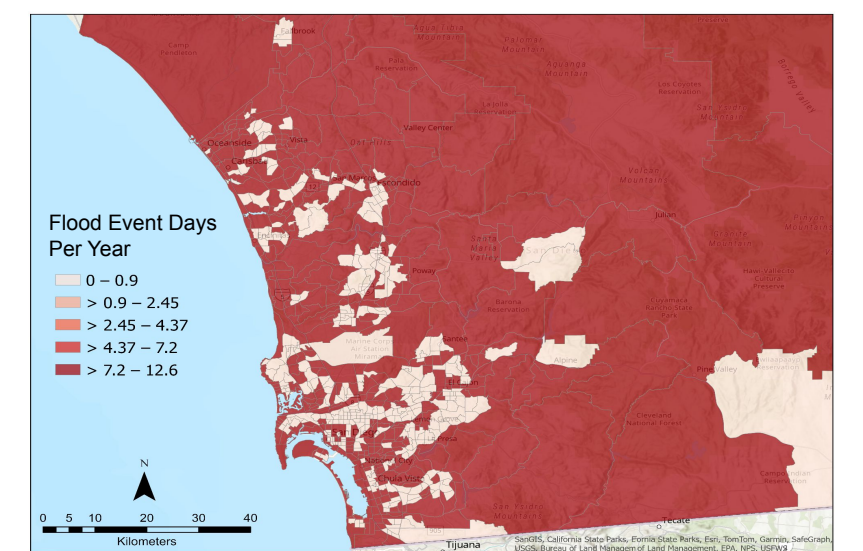


## Science in Action

⇒ Advance our understanding of drought vulnerability and its impacts

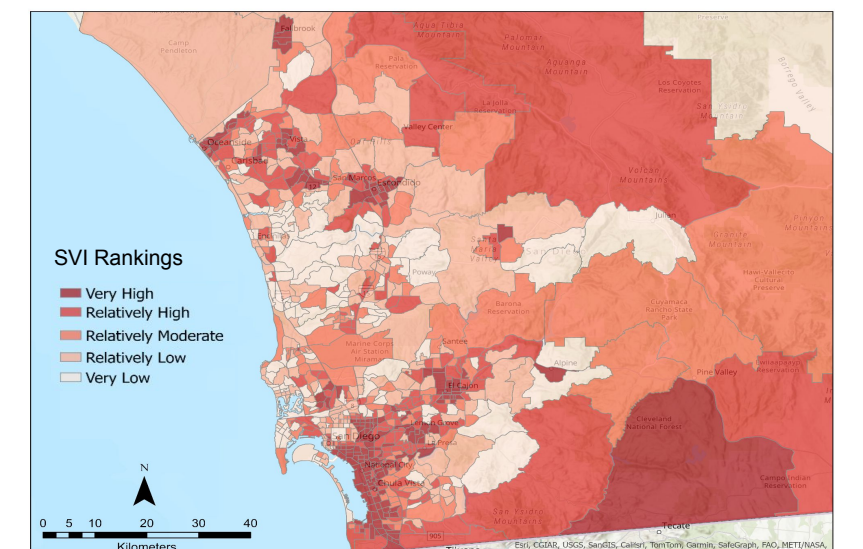
Riverine flooding annualized frequency of San Diego County by census tract

★ Hydrologic data can help address advisory group concerns, particularly regarding the frequency of flooding



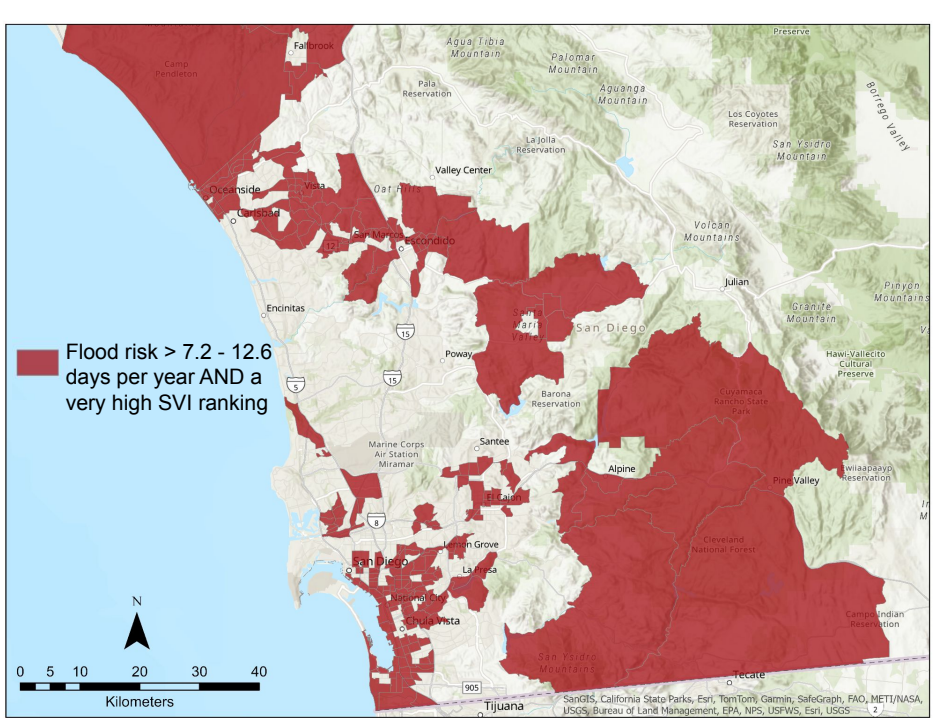
The Social Vulnerability Index rankings of San Diego County by census tract

★ Human community data can integrate socioeconomic factors into drought management



Census tracts in San Diego County with high flood risk AND high social vulnerability, where communities may lack the adaptive capacity to cope with extreme flooding.

The swing between extremes of drought and precipitation in Southern California highlights the need to assess community and ecosystem vulnerability using existing data.



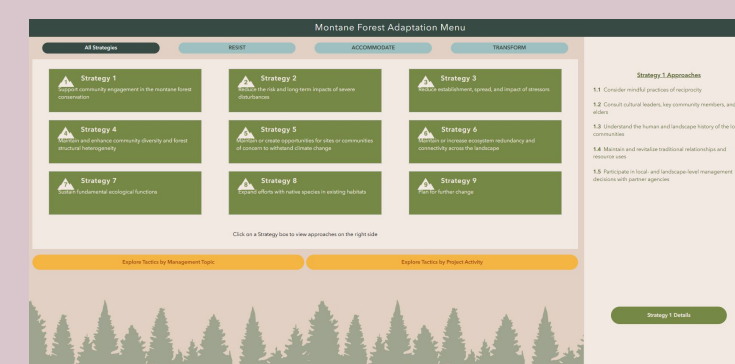
★ Ecological factors are often overlooked in drought research and planning. We are incorporating ecological metrics in our products and analyses to enhance our understanding of drought science and inform more effective management strategies

## Outputs for Partners

How do you share your findings with practitioners?

Once we have synthesized our findings for practitioners, what is the best way to disseminate information for drought planning?

Adaptation Menus



Webinars



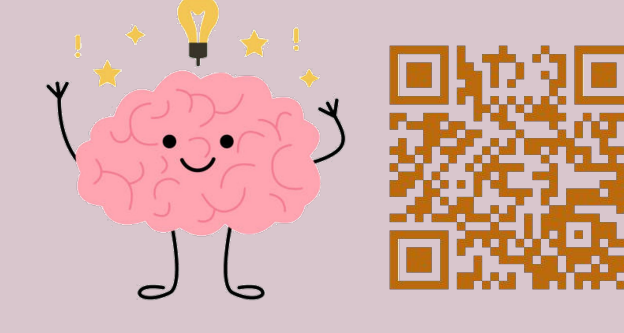
Reports



Workshops



Other?



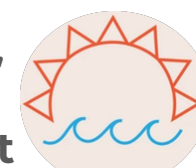
<https://forms.gle/t1FoS64hfRoMvq1AA>

### Additional Resources

To learn more about our work at SDSU, visit the **Conservation Ecology Lab** [conservationecologylab.com](http://conservationecologylab.com)



For more information on the project, visit the **Climate Science Alliance** [climatesciencealliance.org/drought](http://climatesciencealliance.org/drought)



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