

**Corvallis, September 7<sup>th</sup>, 2020, 7:47 pm**



# Labor Day Fires



Newport

Portland

Salem

Corvallis

Eugene

Bend

Riverside

Beachy-Creek & Lionshead

Holiday Farm

Archie Creek

# Cascadia Burning

“The 2020 Labor Day fires were a wake-up call to many scientists, forest managers, policymakers, and the public....”

– Reilly et al., 2022

# Burning Questions

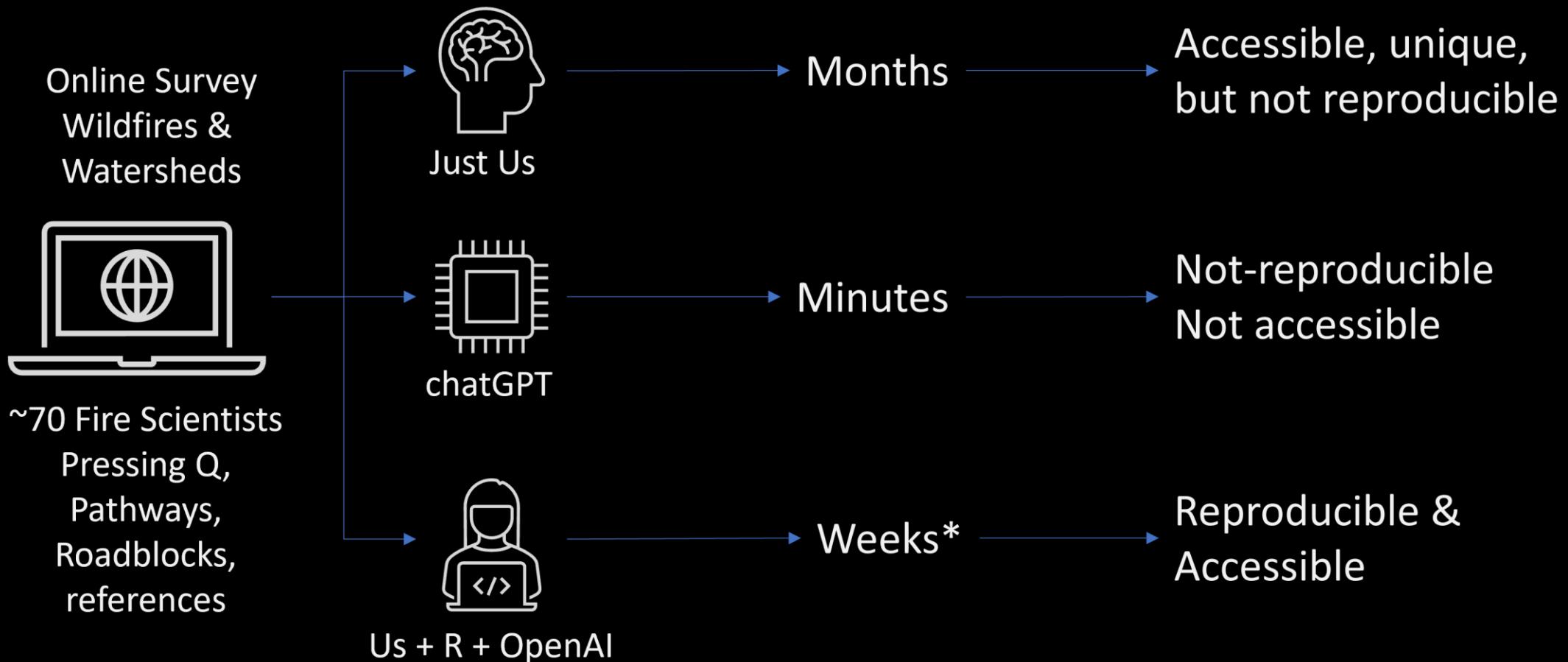
What are the top emerging research priorities related to wildfires in watersheds?

Francisco J. Guerrero  
Allison Myers-Pigg  
June 6, 2023



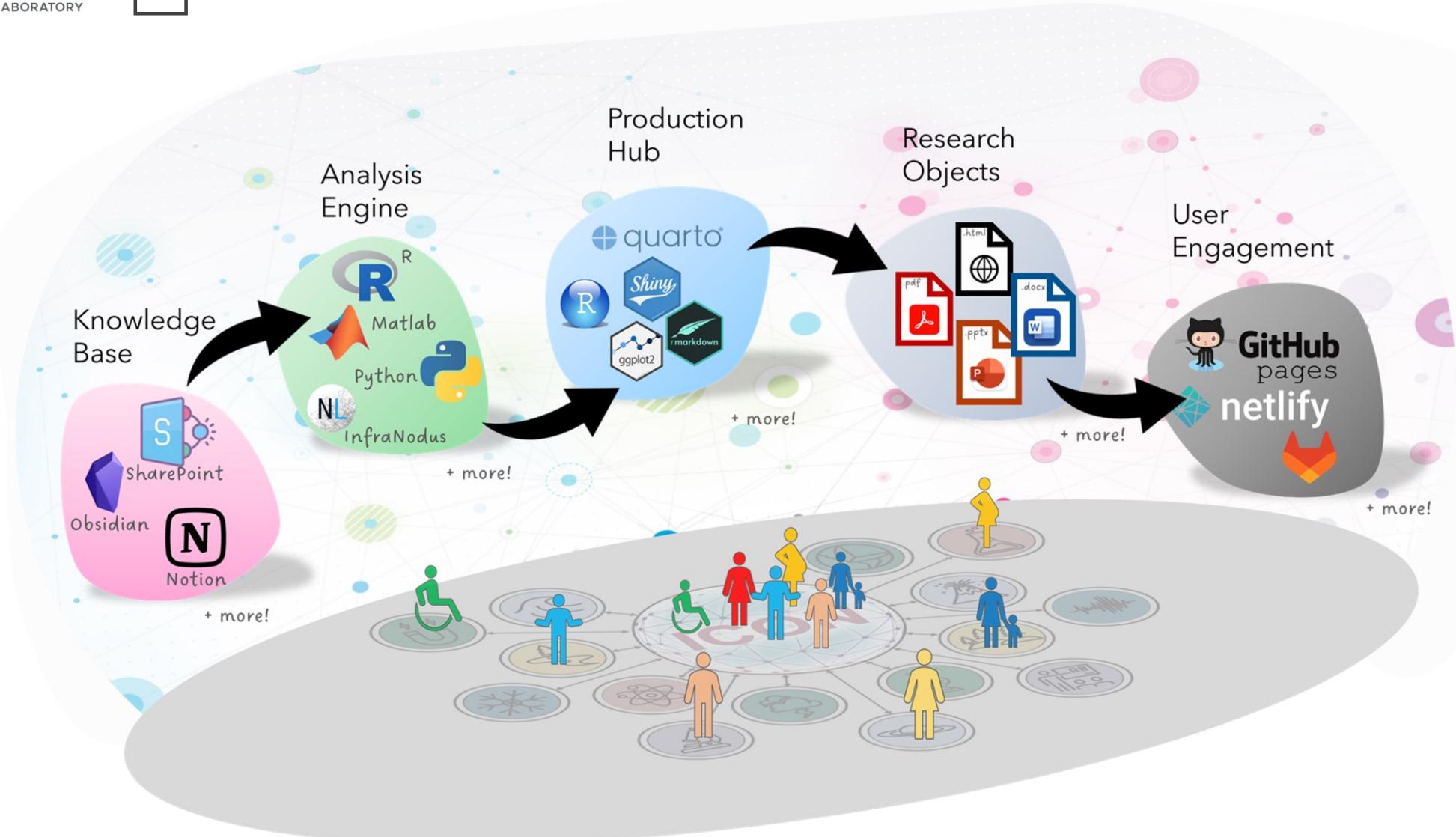


# Our Approach

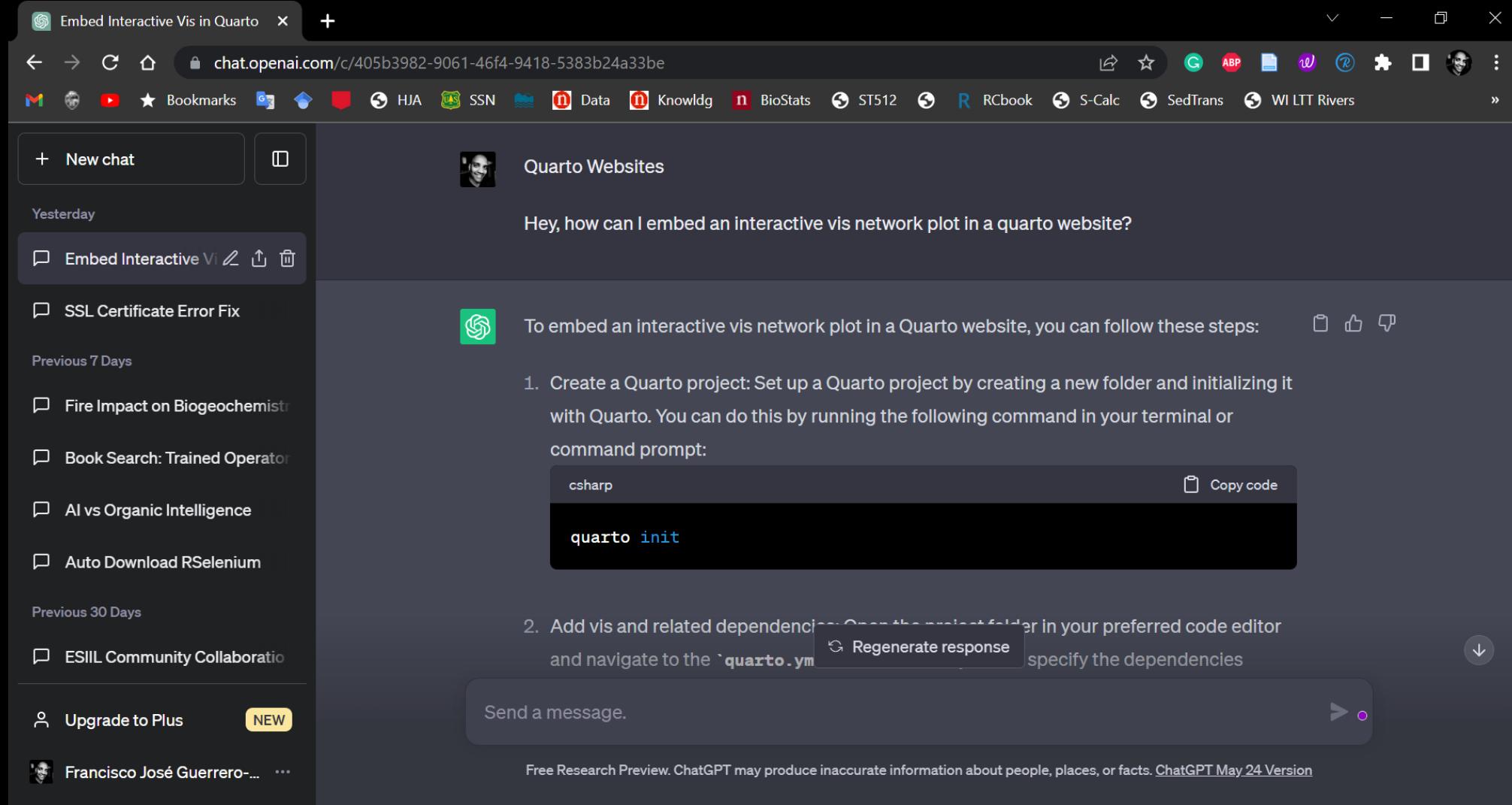




# Open and Inclusive Workflows



# Code debugging with chatGPT



The screenshot shows a web browser window with a dark theme. The address bar displays `chat.openai.com/c/405b3982-9061-46f4-9418-5383b24a33be`. The main content area is a ChatGPT interface.

**Left sidebar (Recent Chats):**

- + New chat
- Embed Interactive Vis in Quarto
- SSL Certificate Error Fix
- Fire Impact on Biogeochemistry
- Book Search: Trained Operator
- AI vs Organic Intelligence
- Auto Download RSelenium
- ESIIIL Community Collaboration
- Upgrade to Plus NEW
- Francisco José Guerrero-...

**Message History:**

Quarto Websites  
Hey, how can I embed an interactive vis network plot in a quarto website?

chat.openai.com  
To embed an interactive vis network plot in a Quarto website, you can follow these steps:

1. Create a Quarto project: Set up a Quarto project by creating a new folder and initializing it with Quarto. You can do this by running the following command in your terminal or command prompt:  
`csharp`  
`quarto init`
2. Add vis and related dependencies: Open the `project` folder in your preferred code editor and navigate to the `quarto.yml` file. Specify the dependencies

**Bottom Bar:**

Send a message. 

Free Research Preview. ChatGPT may produce inaccurate information about people, places, or facts. ChatGPT May 24 Version

# Interactive Knowledge Networks

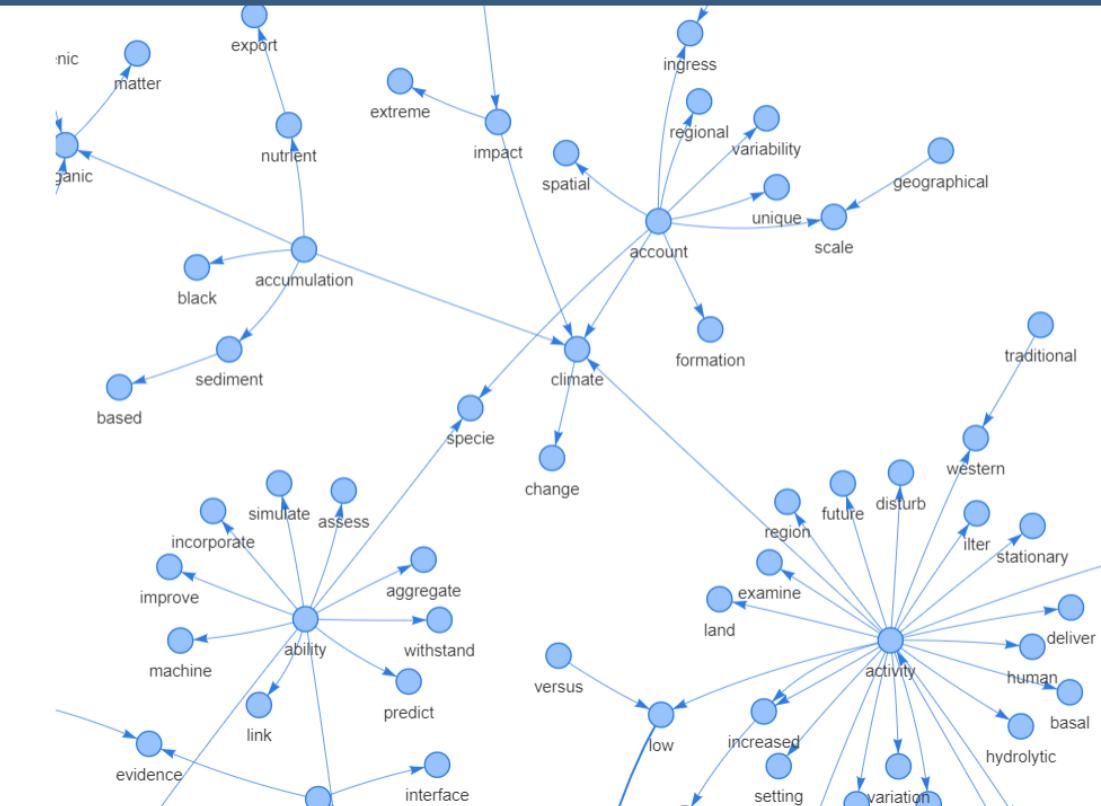
burning-issues-watersheds.github.io/5-bui-user.interface/networks.html

MyPNNL LinkedIn Learn Yammer Learning & Dev SFA • MURAL RC-SFA HTML Tutorial native-land ESIIL Burning-Issues ClbCA Covid-19 Checklist...

Wildfires and Watersheds Home Timeline Manual Synthesis AI Synthesis Analysis Knowledge Networks Community

On this page

- Abstract network
- Manual Networks
- Chat-GPI Networks
- Text Analysis Networks
- Feedback Prompt

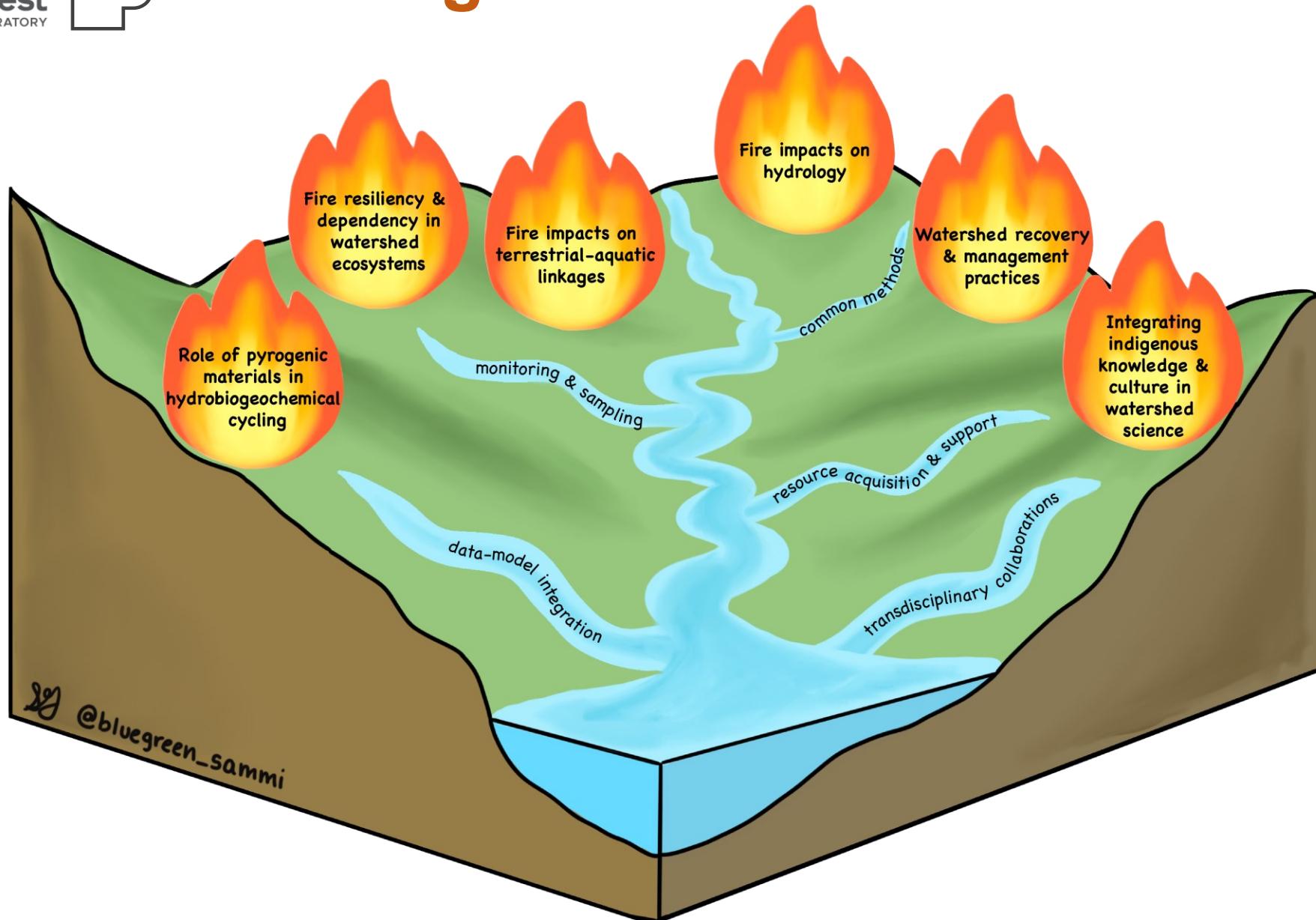


SCAN ME





# Burning Issues in Watershed Science



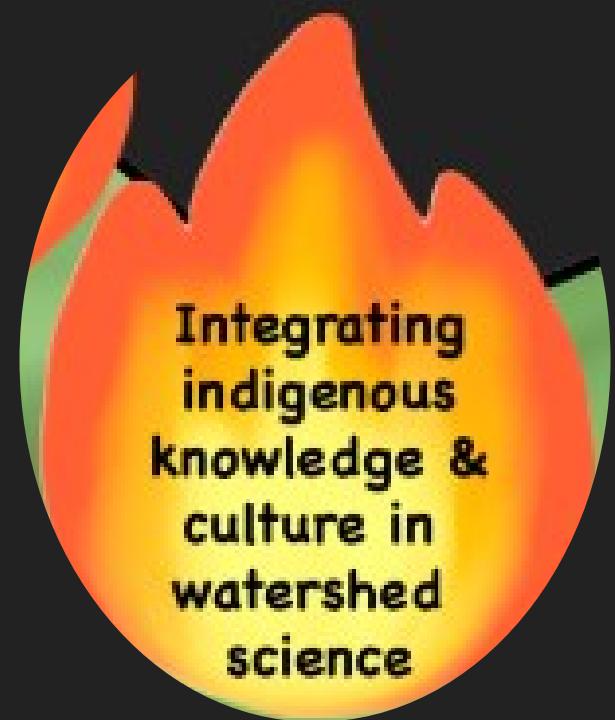
# Faster Synthesis

## AI Synthesis

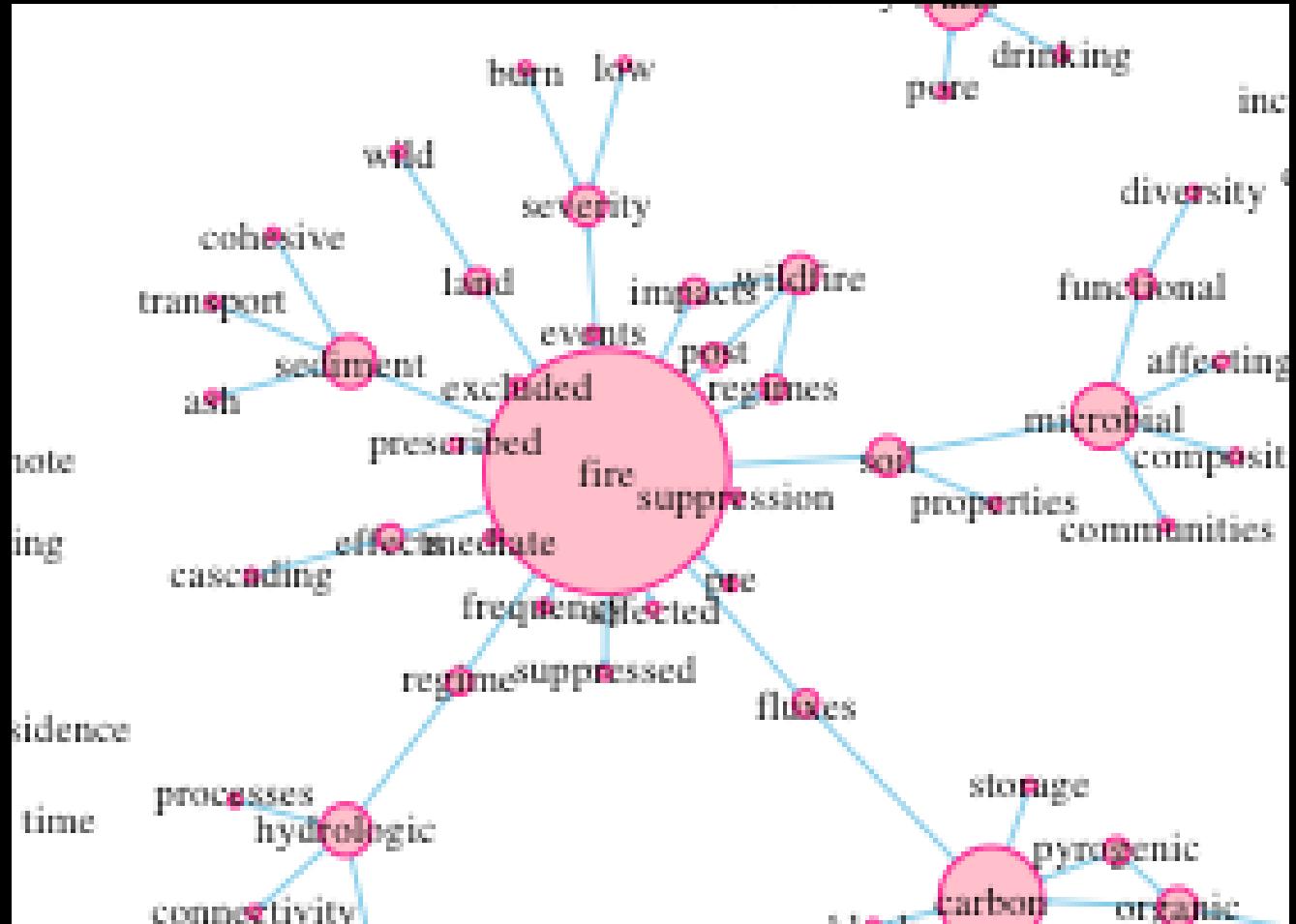
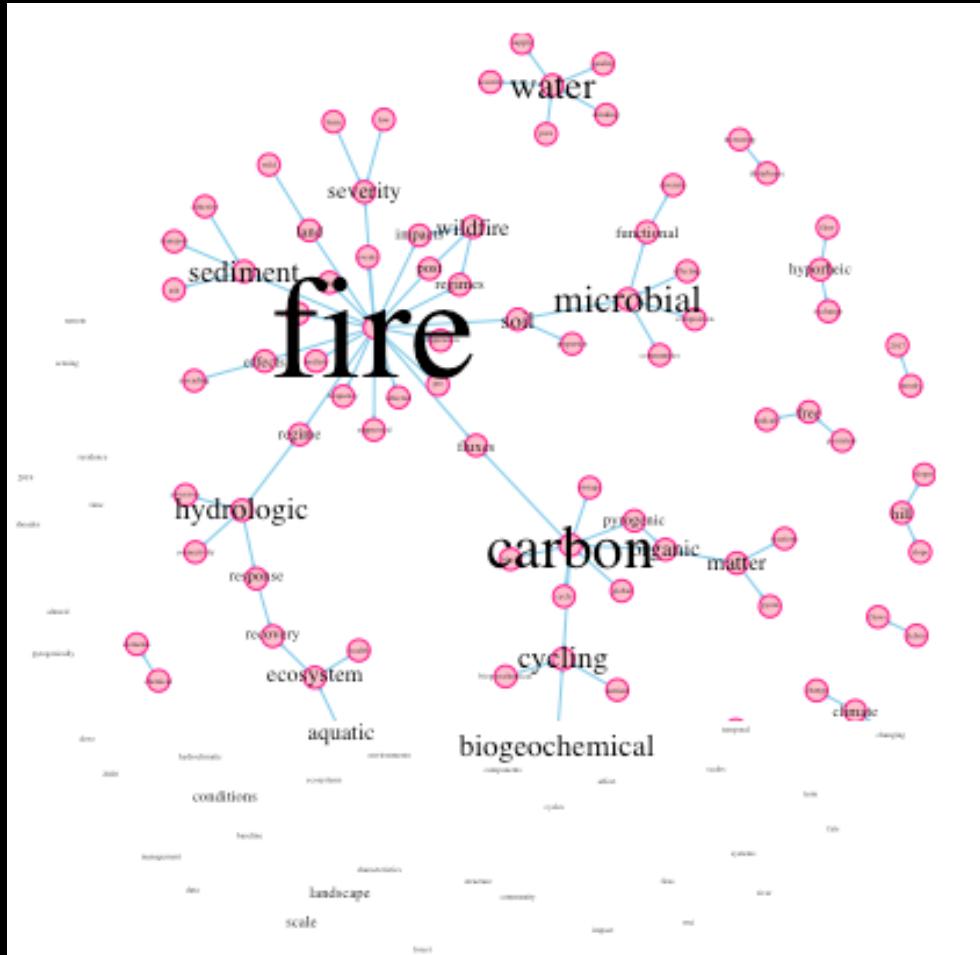
Our initial (AI - ChatGPT) analysis of survey responses suggest the following burning issues for the science of fires and watersheds:

- 1) Understanding Fire Impacts on Biogeochemical Cycling
- 2) Modeling and Predicting Fire Impacts
- 3) Fire Effects on Microbial Communities
- 4) Fire Impacts on Watershed Dynamics
- 5) Fire Effects on Water Quality and Drinking Water
- 6) Socio-Ecological Perspectives on Fire Management
- 7) Connectivity and Controls in Fire-Impacted Watersheds

Nuance, context, Inclusion



# Loud voices get louder!



**Sensemaking**

**Discovery**

**Synthesis**

**Summarizing**

**Inclusive workflows**

**Code debugging**

ethnics



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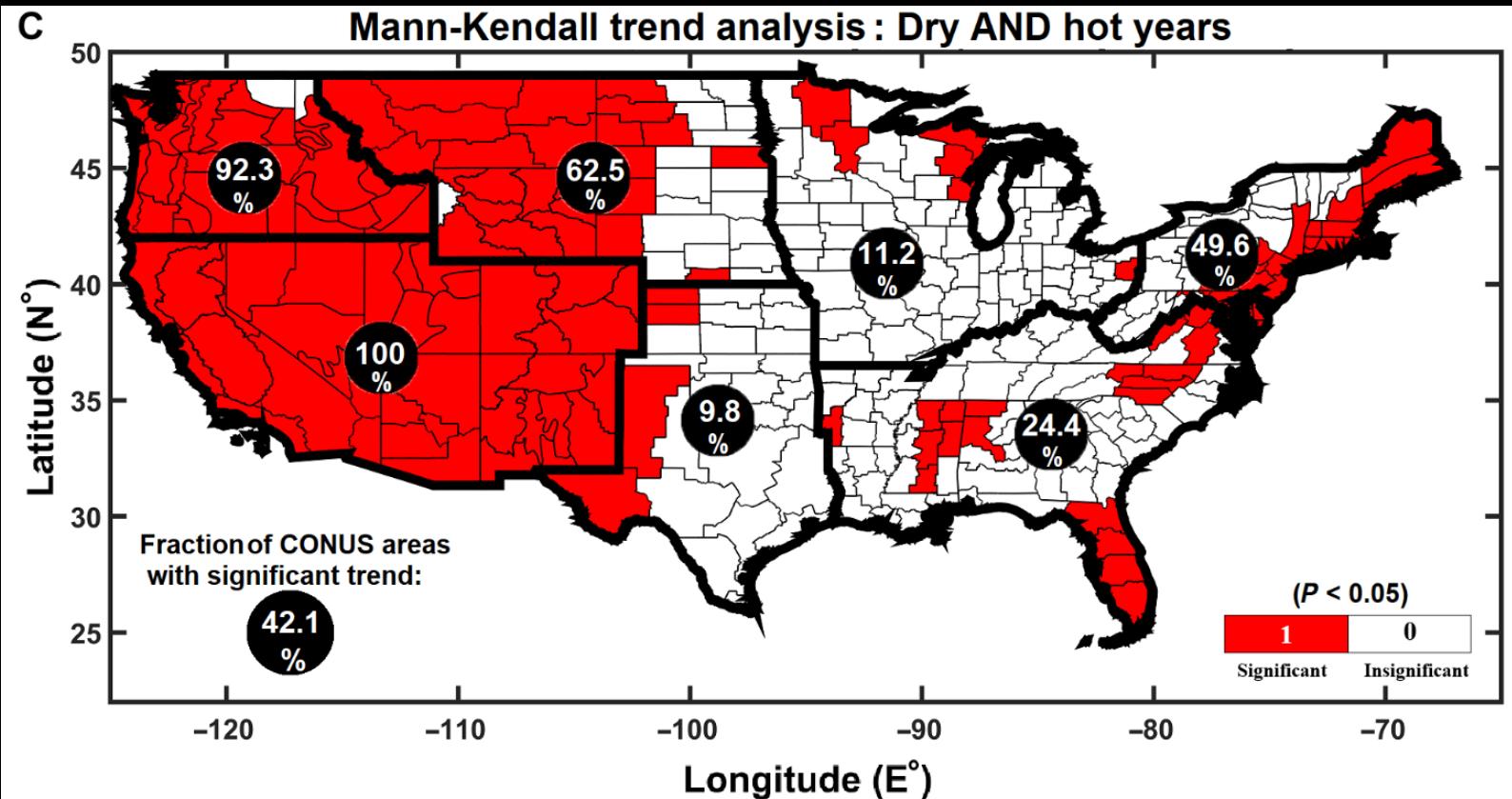
If machines are becoming artificially more intelligent, we must become organically wiser.

CLIMATOLOGY

# A century of observations reveals increasing likelihood of continental-scale compound dry-hot extremes

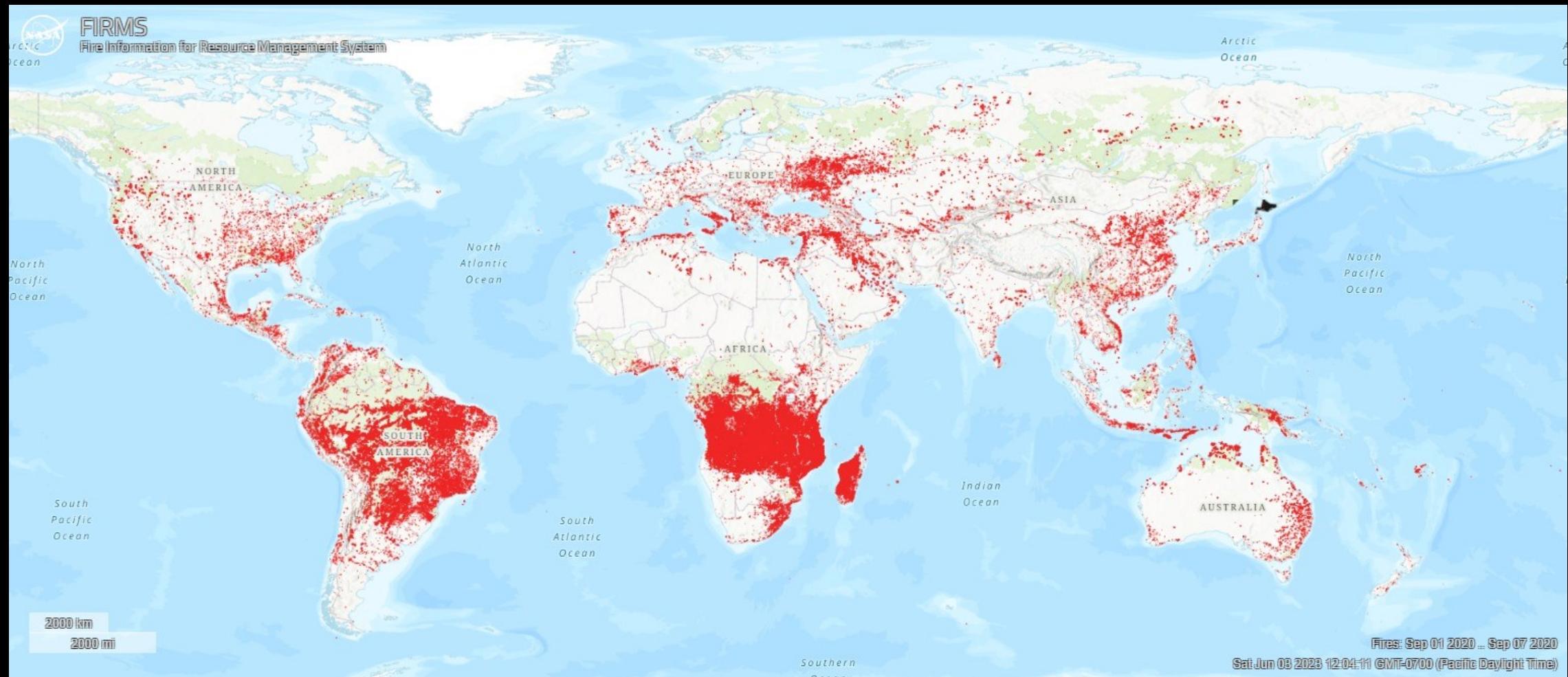
Mohammad Reza Alizadeh<sup>1</sup>, Jan Adamowski<sup>1</sup>, Mohammad Reza Nikoo<sup>2</sup>, Amir AghaKouchak<sup>3,4</sup>, Philip Dennison<sup>5</sup>, Mojtaba Sadegh<sup>6\*</sup>

Fig. 1. Nonparametric Mann-Kendall trend analysis. Red shaded areas show a statistically significant increase (at the 5% level) in the return period level of (A) dry extremes, (B) hot extremes, and (C) concurrent dry AND hot extremes across CONUS over the past 122 years (1896–2017) at the annual scale. Fraction of area in each region and the entire CONUS with significant trends are also shown in the figure.

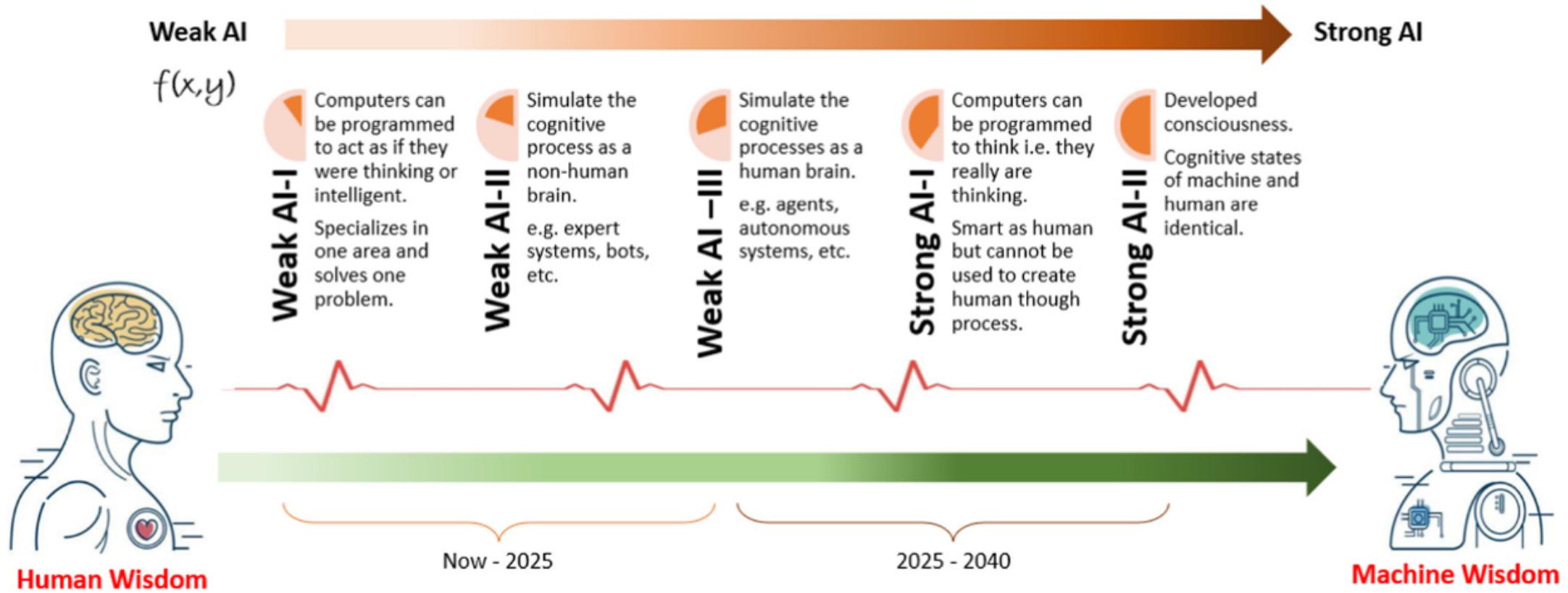




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# Yes, but...



**Fig. 4.** Transition from human wisdom to machine wisdom.



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# Questions?!

Comments & Reactions O.k.