

# Sustainability Research at our Land Grant University: An Intro to the Institute for a Sustainable Future

*Lynne Dahmen, Senior Managing Director*

*August 7, 2023*



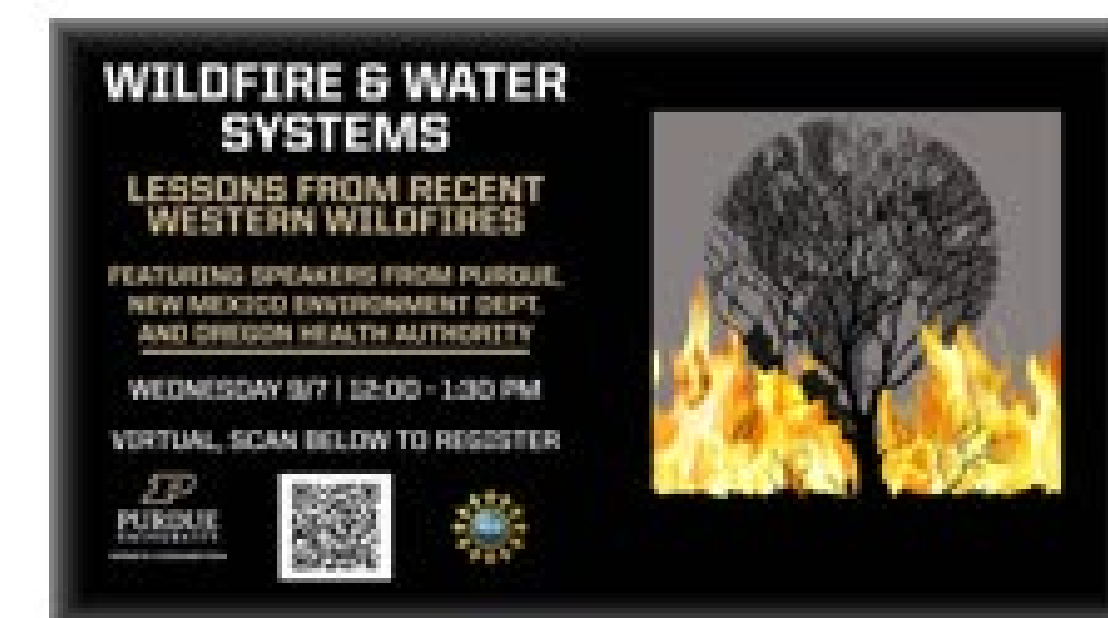
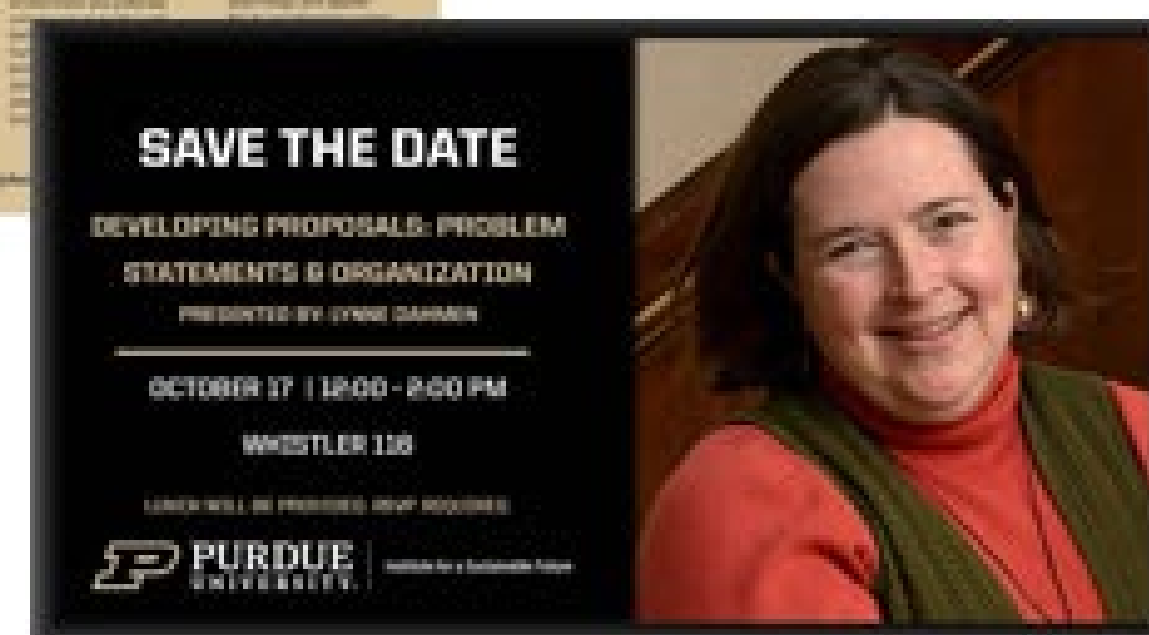
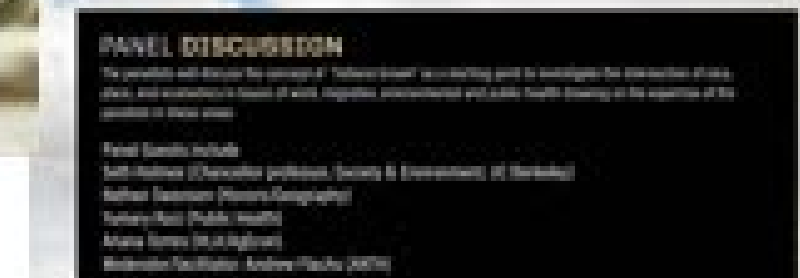
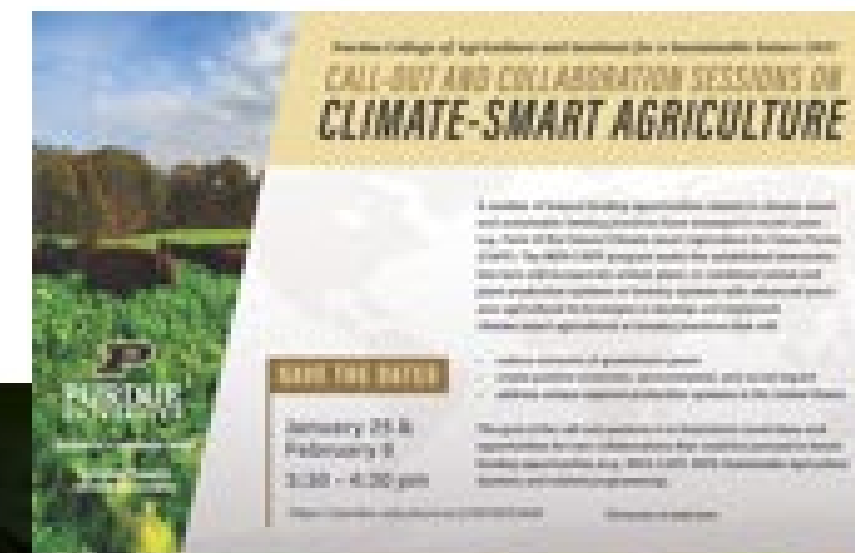
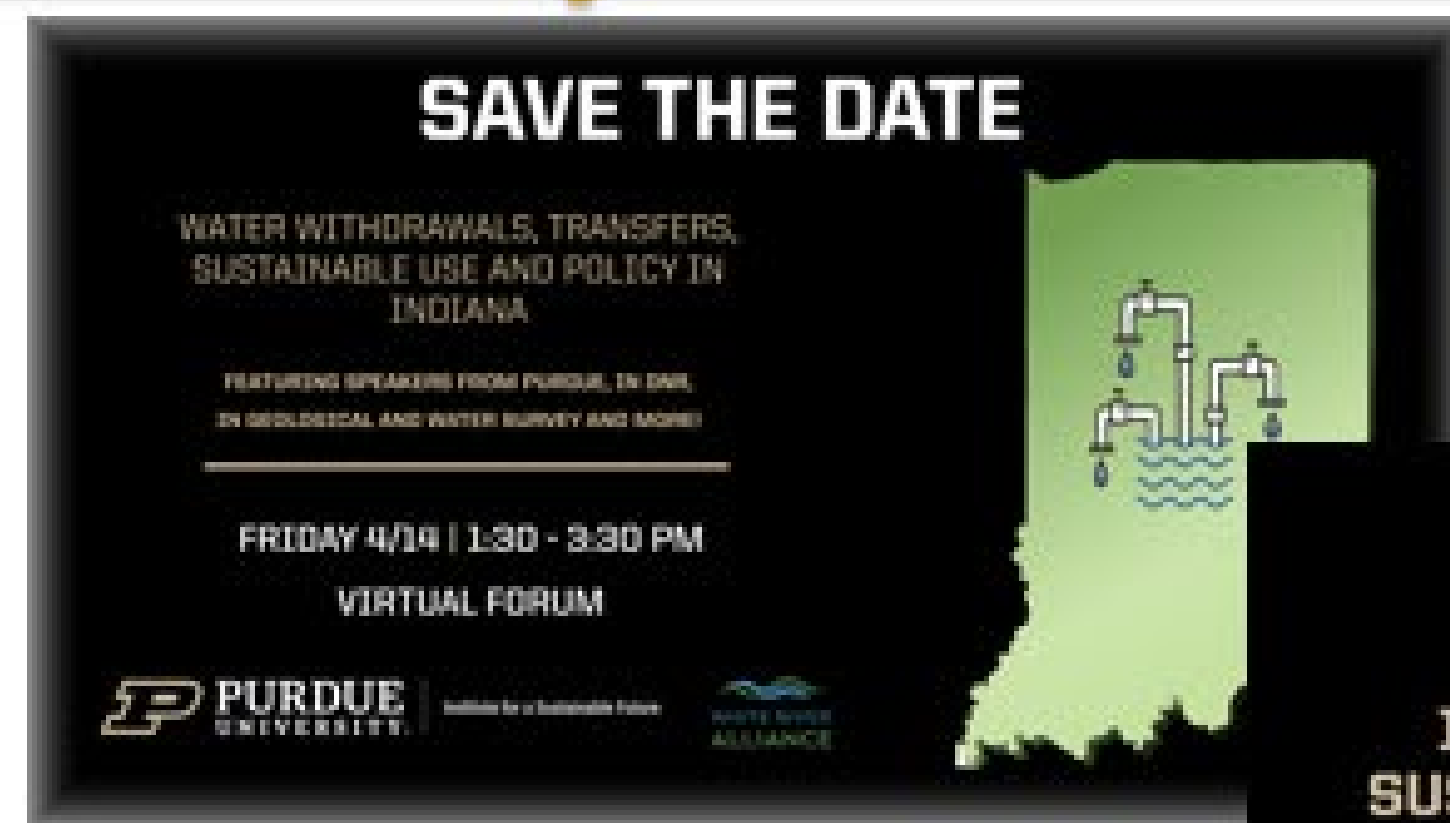
# Institute for a Sustainable Future

Our goal is to fulfill Purdue's land-grant mission while supporting research and partnerships to accelerate the transition to a sustainable, resilient, prosperous future by envisioning and developing solutions to global challenges in sustainability including environment, climate, food-energy-water security, human and biosphere health.





# Types of Events We Host





# Water Challenges RC

The Water Challenges research community facilitates interdisciplinary research that helps communities solve their water challenges at various scales and in several areas.

## Sub-areas of interest include:

- Water management;
- Human dimensions of water;
- Urban water systems;
- Great Lakes water;
- Ecological restoration;
- Water and energy

## 2022-2023 Events

- Water New Year - ISF kickoff
- Water and the Indiana Climate Impacts Assessment panel discussion (state wide)
- Water Withdrawals virtual forum (state wide)
- End-of-year social
- IN Climate Impacts forum (state-wide)





# Environmental Justice Special Initiative

The Institute has long-term interest in supporting research in, and programming on, aspects of environmental and social justice with particular emphasis on how research on topics ranging from systems of governance over environmental resources, to the right to live in safe and healthy communities to promotion of healthy ecosystems, and how these issues overlap and intersect

## Where we are active...

- Access to & Quality of Open Space
- Brownfields
- Rural Communities
- Exposure to Pollution
- Health Impacts from Pollution
- Transportation Equity
- Policy/Planning
- Climate Adaptation
- Legacy Infrastructure/Industry
- Health Promotion/Harm Prevention
- Risk Communication
- Social Justice
- Education/Awareness
- Connect with Students





# Great Lakes Research Special Initiative

Researchers on this team address a suite of global challenges by targeting research, teaching and extension programming on southern Lake Michigan, the Chicagoland region and the entire Great Lakes ecosystem.

## Areas of research include:

- Water quality and quantity
- Community development and environmental justice
- Sustainable development
- Water management
- Aquacultures
- Healthy food webs
- Climate impacts on economic and environmental ecosystems



**GREAT LAKE SCIENCE INITIATIVE  
LUNCHTIME SEMINAR SERIES**

THURSDAY, APRIL 20, 2023  
WALC B066  
12 - 1:30 PM

Join us for an update on the status of current and future Great Lakes Science Initiative efforts. Lunch will be provided. Graduate students and post-docs are welcome to attend.

**Featured speakers**  
**DR. CARY TROY**  
Associate Professor  
Lyles School of Civil Engineering  
*Great Lakes Water Levels Drive Shoreline Changes*

**DR. AARON THOMPSON**  
Associate Professor  
Horticulture and Landscape Architecture  
*Collaborative Landscape Planning in Great Lakes Communities*

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**GREAT LAKES UPDATE  
FROM A GLRI PERSPECTIVE**

SCIENCE AND ACTION OR SCIENCE VS ACTION?

**CHRIS KORLESKI**  
DIRECTOR, GREAT LAKES NATIONAL PROGRAM OFFICE, U.S. EPA

Chris Korleski became Director of U.S. EPA's Great Lakes National Program Office (GLNPO) in August of 2011. He has served in that role since that time, with the exception of an 18-month stint as Region 5's Water Division Director from October of 2016 through June of 2018.

TUESDAY, APRIL 11, 2023 • 3:00-4:30 PM  
MECHANICAL ENGINEERING 2061

PRESENTED BY:

**Sea Grant**  
ILLINOIS-INDIANA

**PURDUE UNIVERSITY**  
Institute for a Sustainable Future

**GREAT LAKE SCIENCE INITIATIVE  
SEMINAR SERIES**

THURSDAY, MARCH 9, 2023  
WALC B066  
12:00 - 1:30 PM

**DR. JACOB HOSEN**  
Assistant Professor -  
Forestry and Natural Resources  
Ecological Informatics and Internet  
of Things

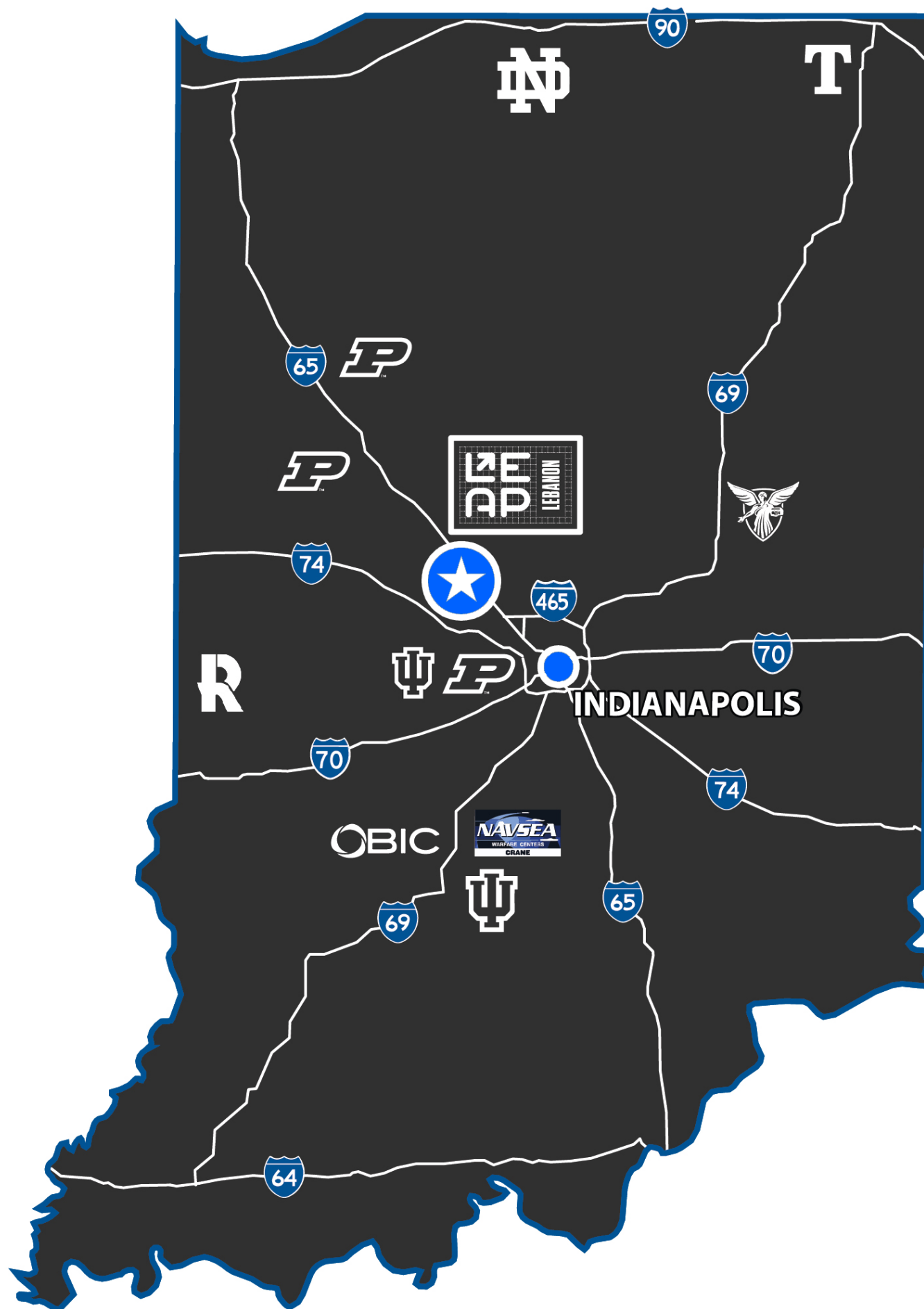
**SEMINAR TITLE:**  
*Perspectives and goals for  
cross-scale data synthesis in  
the Great Lakes*

Keywords: ecosystem processes; environmental  
sensing; biogeochemistry; ecohydrology

Dr. Hosen's research expertise  
includes microbial ecology and  
carbon biogeochemistry using  
ecological principles that link  
microbes to macro-scale  
environmental processes. His  
research of inland waters uses  
cutting-edge research tools and  
computational approaches to  
investigate fundamental  
ecological questions.

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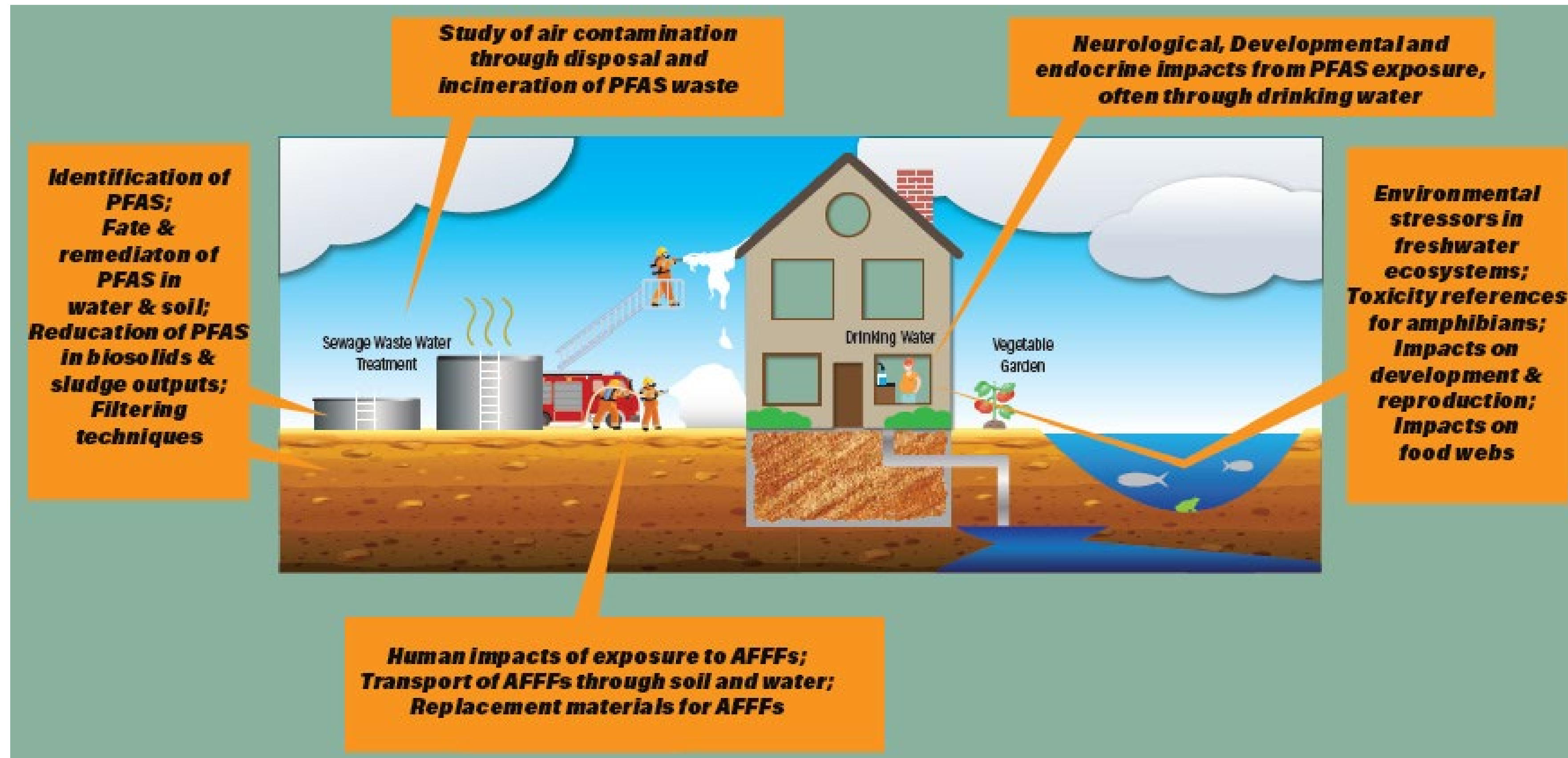
# Key Project 1: Water Withdrawals in IN



- **Providing input to local government,**
  - **Hosting webinar with White River Alliance, Indiana Water Resource Center,**
- **Identifying scientific concerns**
  - **Attending public forums**
- **Creating information for public use**



# Key Initiative 2: PFAS and Public Health



Helping to identify sources of PFAS in Indiana and the Great Lakes in water, soil, air and fish



# Key Initiative 3: IN Climate Impacts Assessment



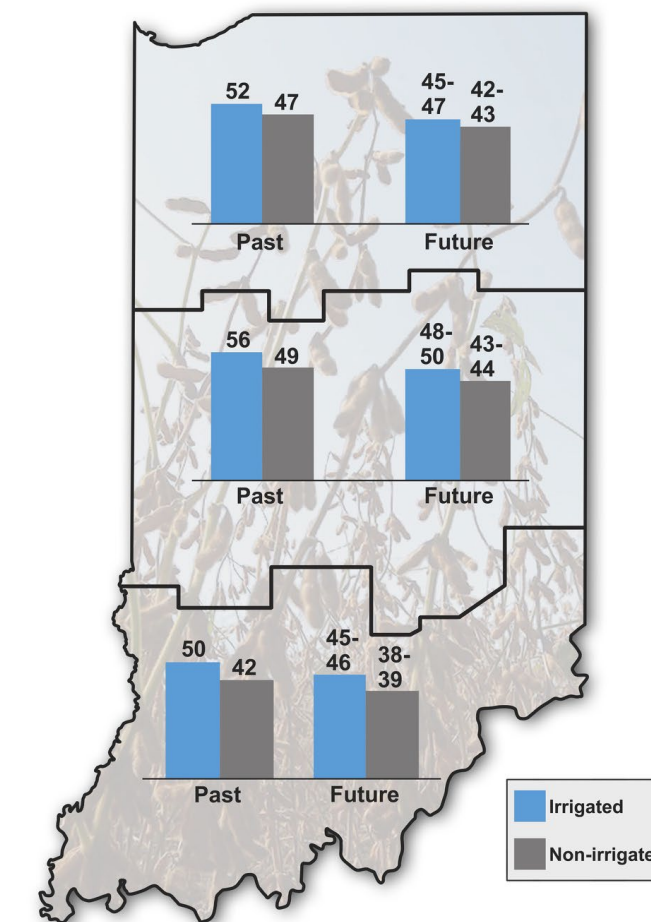
## IN CCIA

### Indiana Climate Change Impacts Assessment

Scientists and decision makers from across the state have worked together to develop a series of easily understandable reports that show how a changing climate will affect state and local interests. INCCIA reports provide the scientific research to help Hoosiers understand and prepare for the impacts of a changing climate.

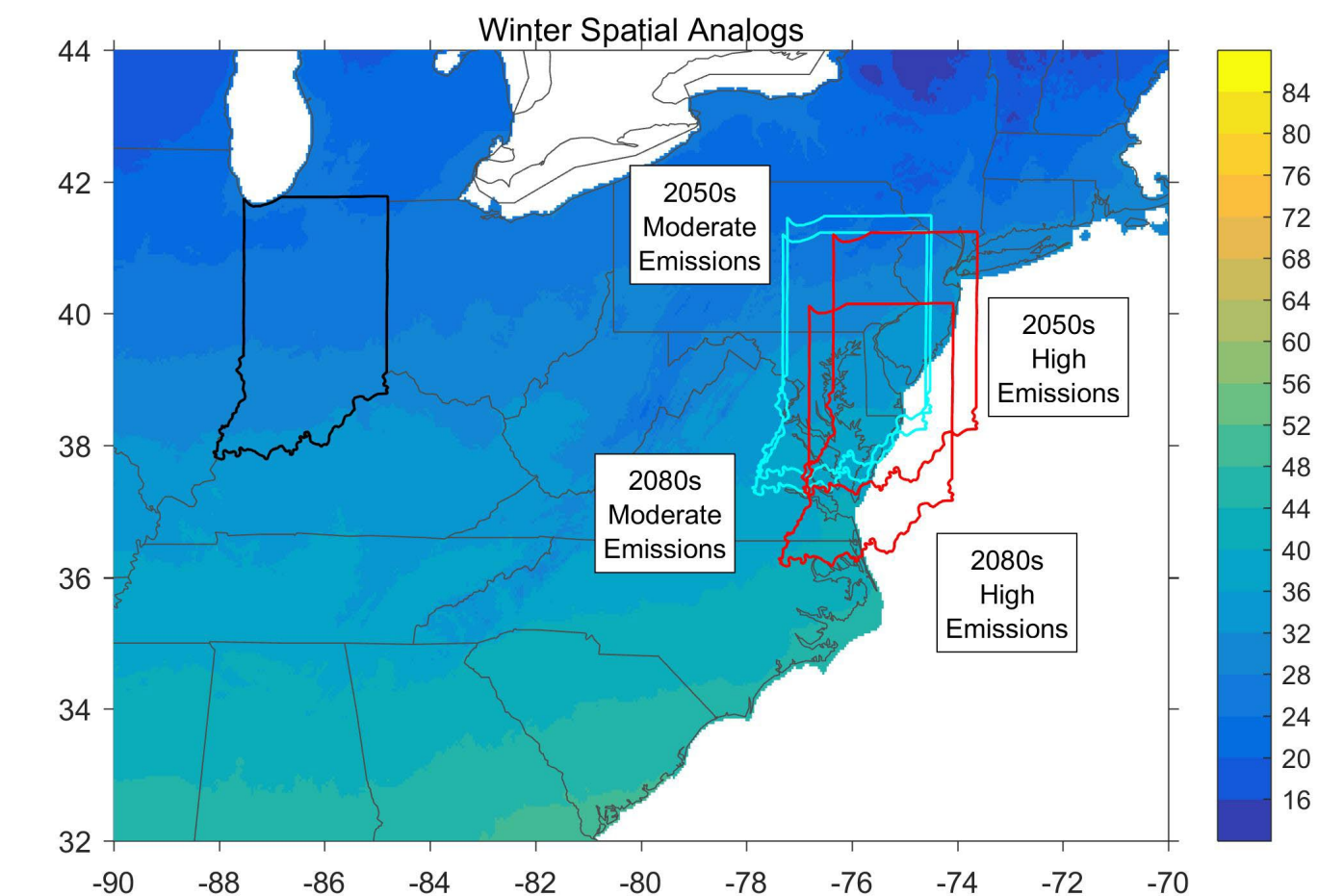
#### Mid-Century Yields: SOYBEAN

Past and future projected soybean yields (bushels per acre)

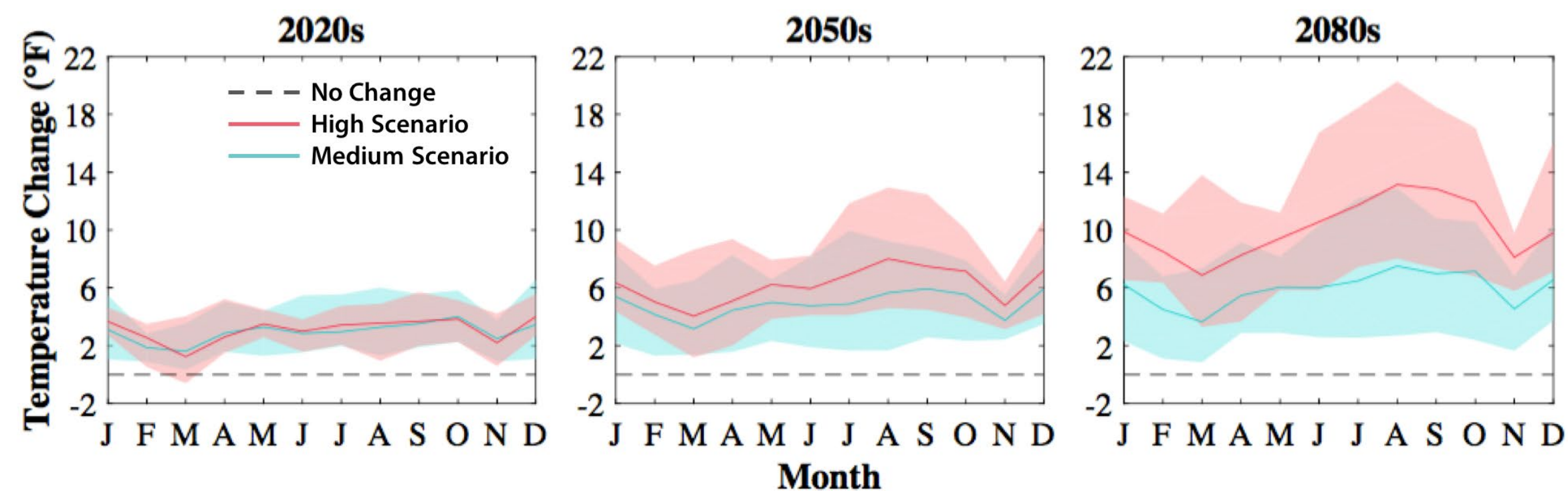


Historical period is from 1981 to 2010. Future yields are based on contemporary varieties without climate adaptation. Future period is from 2041 to 2070. Range of results based on medium- and high-emissions scenarios.

IN CCIA



## Projected seasonal changes in temperature for Indiana





# Key IN Partners & Funding Sources

## Organizations

**IDEM**

**Environmental Research Institute (IU)**

**Hoosier Environmental Council**

**White River Alliance**

**IN DNR**

**Earth Justice IN**

**New Carbon Economy Consortium**

**Midwest Regional Climate Consortium**

**Purdue University –NW**

**University of Notre Dame**

**Butler University**

**Sandia National Laboratories**

**JPL**

**IL-IN Sea Grant**

## Key Funders

**NSF**

**NIH**

**USDA**

**Dept. of Defense**

**Dept. of Energy**

**SERD-P**

**NASA**

**NOAA**

**Dept. of the Interior**

**USGS**

**USAID**

**EPA**



**Questions?**

**Thank you for attending!**

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