

Local Resilience to Environmental Change

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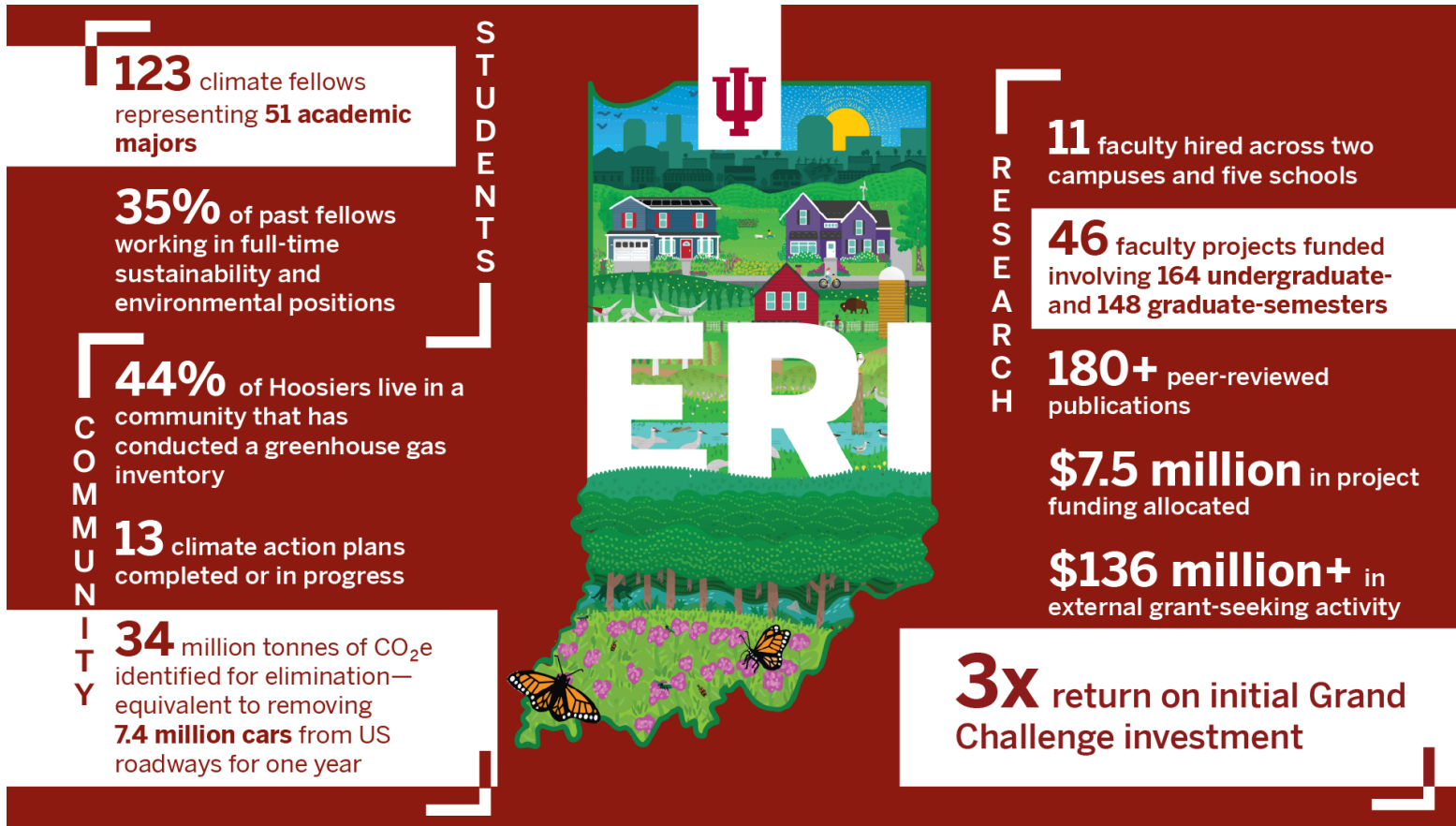
**Town Hall Roundtable – Nashville, IN
October 6, 2022**



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Overview of the Environmental Resilience Institute



IU Prepared for Environmental Change Grand Challenge



Hoosier Resilience Index



ERI Toolkit



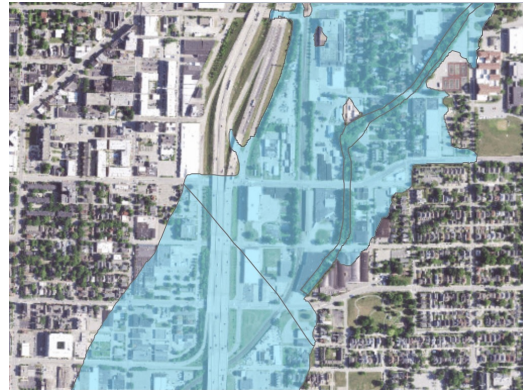
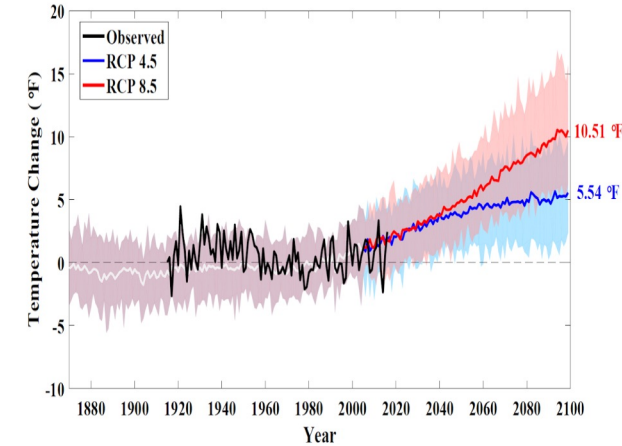
Climate Change Impacts in Indiana

Climate change poses a threat to Hoosier communities. A **resilient Indiana** is one that takes **proactive steps** to reduce the threats and vulnerabilities associated with climate change.

Step 1: **Reduce the threat**

Step 2: **Avoid the impacts**

Step 3: **Prepare for the unavoidable**



Climate Change Impacts in Indiana



IN CCIA

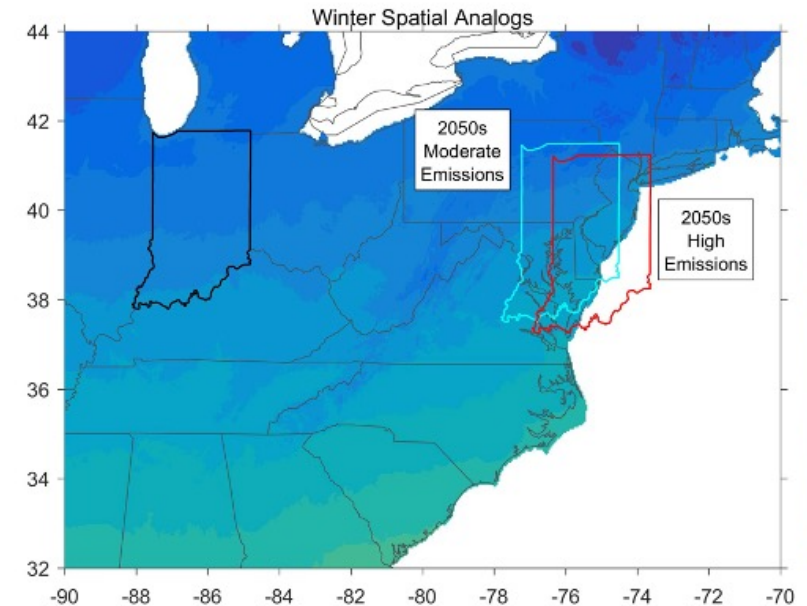
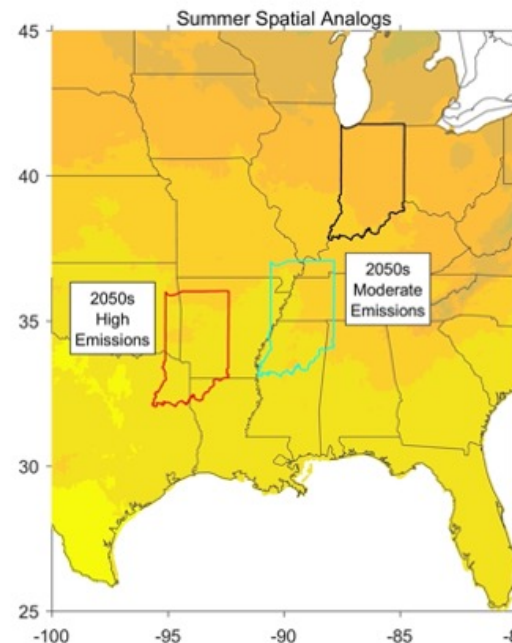
Indiana Climate Change
Impacts Assessment



IN CCIA

Seasonal Analogs

Based on seasonal average temperature and precipitation

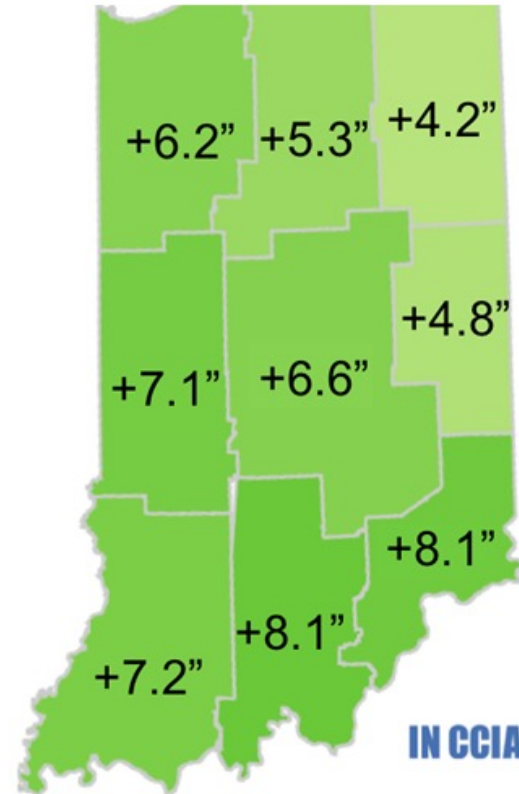
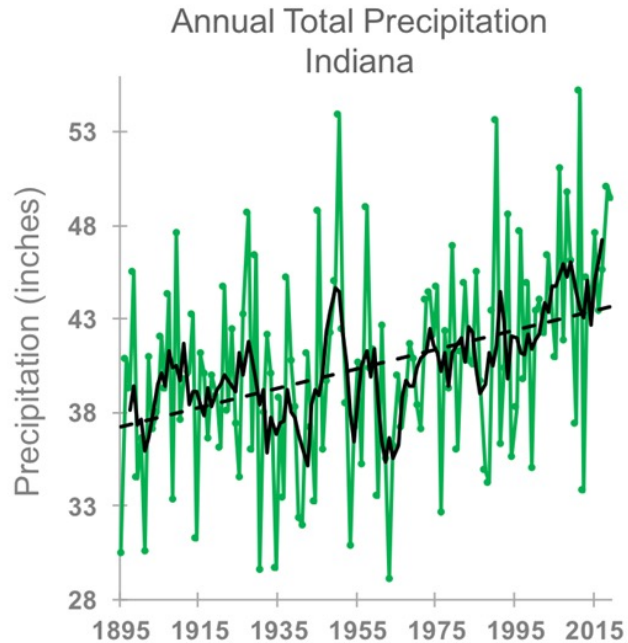


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Climate Change Impacts in Indiana

42% increase in amount of rain falling in heavy downpours



Some seasons will get wetter



WINTER: 16 to 20% increase

SPRING: 13 to 16% increase

- More falling as rain, not snow
- Expecting more runoff & higher streamflow

Some seasons will get drier



***Summer & fall* show slight declines,
with less certainty in the projections**

- Increased water demand from added heat
- Decreased streamflow



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Climate Change Impacts in Indiana

Hotter weather means:

- More air pollution
- More allergies
- More heat-related illnesses and deaths
- Greater need (and total cost) for air conditioning
- Risks to power grid

More severe storms mean:

- Increased risks to public safety
- Increased property damage from flooding
- More mold
- Challenges for farmers
- Risks to power grid

News



Thousands Lose Power In Bloomington; Flash Flood Drenches Kirkwood Avenue

LOCAL

Downtown businesses still recovering from Bloomington flooding last weekend

Carol Kugler The Herald-Times



Hoosier Resilience Index



- Provides city and county-specific climate change projections
- Identifies developed land in floodplain
- Identifies social and infrastructure vulnerabilities
- Readiness Assessment → in-depth self-assessment tool for local governments to identify vulnerabilities and prioritize actions



**100-Year Floodplain
Nashville, IN**










Brown County Severe Weather Projections

Extreme Heat

Average Number of Extreme Heat Events per Year





Brown County

Timeframe	High Heat Days 	High Heat Nights 	High Heat Days and Nights 	Total Days with Extreme Heat Events* 
Current 	13	9	11	33
2050s - Medium Emissions Scenario 	31	11	39	80
2050s - High Emissions Scenario 	32	11	51	94

Extreme Precipitation

Average Number of Extreme Precipitation Events per Decade

Brown County

Timeframe	Extreme Precipitation Events 
Current 	17
2050s - Medium Emissions Scenario 	21
2050s - High Emissions Scenario 	22



Environmental Resilience Institute Toolkit

- Toolkit focused on understanding climate change impacts and adaptation planning/strategies
- Provides tailored information for your region and areas of interest

Water Management

- ☐ Algal Blooms
- ☐ Drinking Water
- ☐ Drought
- ☐ Erosion and Sedimentation
- ☐ Flooding
- ☐ Green Infrastructure

Cedar Rapids Implements Best Management Practices to Improve Water Quality, Soil Health, and Flood Mitigation

The City of Cedar Rapids partnered with local farmers, landowners, and organizations to implement management practices to reduce nutrient runoff, improve soil health, and mitigate flood risk.

Results Tailored to Your Interests:

Implications of Climate Change

+

Adaptation Strategies

+

Case Studies

+

Tools

Online Training

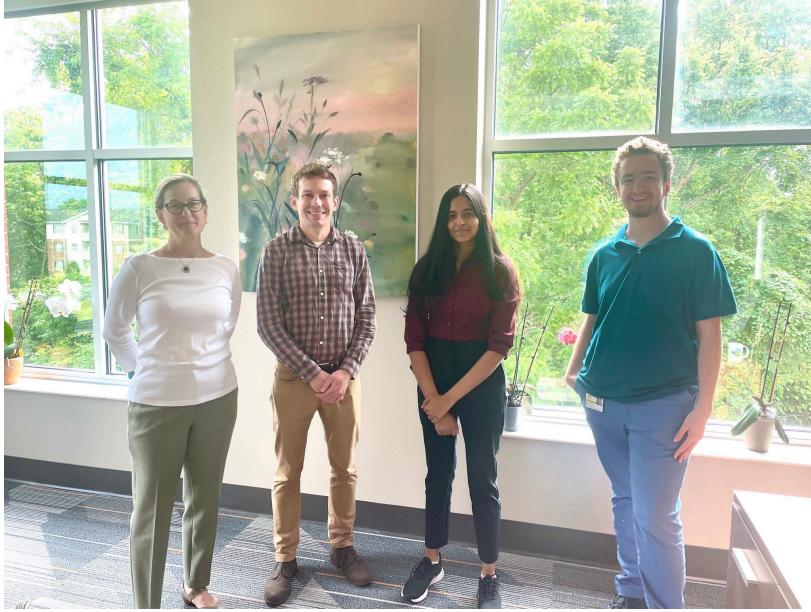
Funding Opportunities

Additional Support Centers



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Zionsville, IN



Fishers, IN

Resilience Cohort

- Advances local government climate preparedness
- Assess → Plan → Implement w/ peer network
- Technical assistance, equity coaching
- 2019-2022: more than 40 local governments

McKinney Climate Fellows

- Builds host organization capacity
- Governmental, private, non-profit hosts
- Sustainability workforce development
- 2017-2022: more than 160 fellowships

Opportunities and Next Steps

- IDEM Clean Communities
- ERI Programs
 - Hoosier Resilience Index
 - Resilience Cohort
 - McKinney Climate Fellows
- Bipartisan Infrastructure Law and Inflation Reduction Act
 - Conservation and land preservation
 - Green infrastructure
 - Nature-based solutions to sequester carbon
 - Energy efficiency and renewable energy
- Regional Collaboration
 - Monroe, Brown, and Bartholomew Counties

