

IEE Community Forum on Building Convergence in Climate Research

Climate Resilience Break-Out Group

**How can we adapt, reorganize, and evolve
in response to the stresses of climate change?**

Remember convergent and cross-cutting themes: climate justice, policy, communication, arts, etc...

Moderator: Klaus Keller
Rapporteur: Rob Nicholas

Thursday, June 17, 2020

Taking Stock: Discussion on Convergent Research for Climate Resilience

1. Convergent Research Opportunities / Thematic Areas
 - Where do researchers have opportunities to align their efforts?
2. Current Penn State Assets and What Makes Us Unique
 - What is available at Penn State?
 - What are our unique strengths?
3. Barriers to Action
 - What, if anything, hinders your ability to further your climate work?
4. Exemplar “Success Stories”
 - Where have you seen climate work shine?
5. Recommendations and Next Steps
 - What do you see as opportunities for climate work at Penn State?

Grand Challenge: Climate Resilience

Convergent Research Opportunities / Thematic Areas

Suggested topics:

- agricultural impacts and opportunities
- urban issues
- inland and coastal flooding
- multiple perils / compound events
- science ↔ design
- values -- environmental imagination, climate justice
- research ↔ political opportunities, policy, communications
- international perspectives on climate resilience

Questions:

- What are funding agencies and foundations saying their priorities are?
- How do these align with what we currently do at Penn State?

Grand Challenge: Climate Resilience

What are Penn State's assets? What makes us Unique?

- Multiple centers and institutes with a focus on climate and climate resilience issues: ESSC, CLIMA, ESMAD, CLD, EESI, SAFES, etc.
- Programs already in place (a few examples):
 - Climate Science dual-title graduate program
 - Climate Science REU
 - emerging Water Consortium
 - Penn State Initiative for Resilient Communities (PSIRC)
 - NOAA Mid-Atlantic RISA (MARISA) and Coastal Climate Extension program
 - Climate Crossover Week
 - Project Drawdown partnership
 - Summer School on Sustainable Climate Risk Management
 - Travel Reduction Incentivizing Program (TRIP)
- ICDS and ACI

Grand Challenge: Climate Resilience

What are Penn State's assets? What makes us Unique?

continued...

- Excellence and massive presence in “ag space”
- Excellent business programs and research, particularly in supply chain management
- Strong research programs in weather and climate extremes
- State-wide connections/presence through Ag Extension and Commonwealth Campuses
- What are opportunities for coordination across institute leadership on resilience
- CZO, biogeochemical modeling, and GHG measurement lab
- Strong focus on values/ethics and environmental justice
- Lots of international research engagement

Grand Challenge: Climate Resilience

What are barriers to action?

- Different parts of the university have different incentives for academic and outreach work. How do we align these?
- Lack of “credit” for transdisciplinary convergent research in many departments (e.g. for tenure and promotion process).
- Individuals at Penn State are well known for climate research and we have the highest overall participation in IPCC of any university, but the institution as a whole is not. Penn State’s footprint and excellence in this space is not being well communicated.
- Insufficient institutional priority for climate resilience work.
- Lack of focus and clarity on the questions we want to address.
- So many centers, programs, labs -- lack of institutional alignment, doesn’t communicate well outwardly.

Grand Challenge: Climate Resilience

What are barriers to action?

continued...

- Issues of credibility
 - national attack on science and the truth
 - relevant fields are insufficiently diverse
 - Penn State's ongoing legacy of fossil fuel research and education
- Available funding is insufficient to meet research needs; it's also insufficient (or perhaps misaligned) for Penn State's capacity to address these challenges.
- “Boom and bust” cycle of large grants makes it difficult to retain talented researchers and research support personnel (not tenure line) and research infrastructure needed for sustained progress in these areas.
- Policies, procedures, and institutional reward structures often discourage collaboration and meaningful engagement with stakeholders and decisionmakers.

Grand Challenge: Climate Resilience

Example Success Stories

Our group didn't have time to discuss this topic.

Grand Challenge: Climate Resilience

Recommendations / Next Steps

- Clearly define the audience and “mission orientation” of resilience research activities.
- Provide support for central coordination, communication, and outreach on Penn State climate research to address balkanization.
- Provide resources and personnel to support sharing of data across research groups.
- Revise tenure standards to give credit for transdisciplinary work and acknowledge the challenges associated with doing it.
- Bring forward indigenous voices, vulnerable communities, and underrepresented groups.
- Lead with stakeholder engagement and elicitation of needs/values/priorities before solidifying research questions and activities.
- Create mechanism a for interacting with stakeholders (boundary organization?).
- Look inward as well as outward. What can Penn State do as an institution to demonstrate/model climate action and climate resilience?

Grand Challenge: Climate Resilience

Additional and Miscellaneous Notes

What sort of conversation should we be having in response to the current moment? Why are we revisiting the same old barriers and proposed solutions?

Leadership of University-level institutes is already discussing and coordinating around issues of resilience, including climate resilience.