



Grand Challenge

Prepared for Environmental Change



The **Environmental Resilience Institute**, under the auspices of the Office of the Vice President for Research, invites applications for projects to be funded through IU's **Prepared for Environmental Change** (PfEC) Grand Challenge Initiative.

Projects must align with PfEC goals, and may involve research, engagement, or implementation, with a preference for a combination, on the IUB or IUPUI campuses.

Dates:

- To inform preparations for the review process, a required Letter of Intent is due by 5:00 p.m. on Wednesday, December 5, 2018.
- Full proposals are due by 5:00 p.m. on Monday, January 7, 2019.
- Selected projects will begin in July 2019, and may last up to three years.

Background:

Our planet is changing rapidly. Seasonal climatic variation is increasingly out of sync with biological processes such as leaf emergence and animal migrations. New climate, travel, and economic patterns are altering the spread of disease. To thrive in the face of such change, communities in Indiana and around the world need to develop plans for adapting to or even averting anticipated changes, rather than to simply react to problems after they become severe. Building on research in the natural and social sciences, the *Prepared for Environmental Change* Grand Challenge Initiative engages with government, business, and community partners to generate information and tools for maintaining ecosystem and social resiliency. Because effective preparation for change must go beyond informing citizens, we also innovate communication strategies to engage attitudes and behaviors. Under the auspices of the Environmental Resilience Institute, our deliverables include a series of region-specific environmental forecasts, new understanding of the processes by which natural and human systems impact one another, accurate warning systems for health threats from invasive species and pathogens, infrastructural practices to increase the resiliency of both natural communities and society, and new communication strategies fostering a shared understanding of the challenges our society faces. Our environmental and social systems approach is designed to make our work generalizable to other regions that face different constraints. Through research, communication, and partnerships, Indiana University is positioned to play a preeminent role in addressing the ultimate Grand Challenge of dealing effectively with a future in rapid environmental flux.

Grand Challenges are large-scale, complex problems whose solutions require collaboration across disciplines, industries, and communities. PfEC rises to that challenge through integrated, cross-cutting efforts, informed by research and scholarly activity in **areas of strength at IU**, to convert data to knowledge, communicate that knowledge to varied stakeholders, and support policy implementation.

PfEC Goals. All proposed project should contribute directly to the overall goals of PfEC. With our partners, PfEC promotes resilient ecosystems, livable communities, and healthy Hoosiers by delivering:

- Accurate predictions about coming changes in weather patterns as well as subsequent impacts on, water, plants and animals, and disease risk change.
- New ways of measuring public risk perception, communicating implications of environmental change, and motivating citizen preparedness.
- Innovative strategies for conserving wildlife and natural resources, and designing greener, more disaster-resilient human communities.
- Strategies for governments and businesses to invest productively in agriculture, industry, infrastructure, and public health in the face of large-scale environmental change.



INDIANA UNIVERSITY

ENVIRONMENTAL RESILIENCE INSTITUTE

Office of the Vice President for Research

Proposal Development Guidance

Proposals must be submitted online through IU's internal grant application portal, [InfoReady \(https://iu.infoready4.com/\)](https://iu.infoready4.com/) using the forms and templates provided there.

Applicants are encouraged to discuss project concepts with [PfEC leaders](#) of relevant working groups to explore alignment with PfEC [goals](#) and potential synergies with ongoing PfEC [research projects](#), [community collaborations](#), and [resource development](#).

Applicants are encouraged to initiate well in advance of the deadline all requests for required letters of support from deans/leaders of participating Responsibility Centers.

Features of successful proposals:

- Project furthers PfEC's mission to enhance communities' capacity to sustain health and prosperity in the face of environmental change, and aligns with PfEC's goals and deliverables.
- Project results in scholarly contributions, as well as real-world outcomes and impacts.
- Project builds IU's research capacity by supplementing rather than replacing or duplicating existing university activities.
- Project involves training, mentoring, or intern opportunities for undergraduates, graduate students, or postdocs.

Priority during the review process will be placed on proposals with these additional features:

- Project aims at gathering pilot data, proof of concept, or other baseline requirements to secure ongoing external funding.
 - Project proposal identifies likely future external funding opportunities to which the team will apply (whether the PfEC-funded project is a pilot project or not).
 - Project convenes a collaborative team that crosses institutional/disciplinary boundaries, and incorporates 1) at least one faculty member not already involved in PfEC-supported activities, or 2) an external partner.
 - Project results in tangible impact for the state of Indiana and/or the Midwest.
 - Project leverages other PfEC activities, existing resources, or alternate funding sources.
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Proposal Guidelines

Eligibility:

- IUB and IUPUI faculty and academic appointees who are eligible to submit proposals for external funding (see [IU policy SPA-11-006](#)) are eligible to serve as Principal Investigator on a PfEC project.
- Other IU staff on these campuses are eligible to serve as co-PIs or key personnel on a proposal led by an eligible PI. Community partners and faculty from other IU campuses may be eligible to serve as key personnel. Proposals should make clear the specific contributions to the success of the project that these individuals will make.
- There is no limit on the number of proposals on which IU personnel may collaborate; however, employees receiving partial salary support from Grand Challenges funding may contribute no more than 0.20 FTE cumulative effort across all Grand Challenge initiatives.
- Because the funding model for the Grand Challenge requires financial support from the schools with which project personnel are affiliated, all interested faculty are strongly advised to discuss with their Deans or Associate Deans for Research as early as possible their interest in proposing projects through this opportunity.

Funding restrictions and requirements:

- Funding for selected projects will commence July 1, 2019.
 - Pilot projects may request PfEC funds of up to \$100,000 and last no more than one year.
 - Large collaborative projects may last up to three years. Pre-submission consultation is encouraged for requests larger than \$200,000 over two years. Funding requests should be driven by project goals and scope of work, but budget requests greater than \$150,000 per year are less likely to be approved.

Multi-year grants will be reviewed annually, with renewal contingent upon prioritization of available funds, and satisfactory progress toward project milestones and goals.

- Proposals for smaller amounts of funding or shorter grant periods are welcome.
- PIs may request with justification one 6-month extension to the project end date; budgeted funds not spent by the end date of any project will revert to the PfEC funding pool.
- Cost restrictions:
 - Priority is placed on projects that expend funds within the university; contracts with external partners are permitted with justification, but IU funds are not intended to pay salaries or research expenses at other institutions or partner organizations.
 - Academic year salary support for faculty is disallowed. Summer salary support, commensurate with project-specific effort for a maximum of 8 weeks, is allowable.
 - Conference travel and employee recruitment/search costs are discouraged; justifications will be scrutinized closely, and approved funding in these areas will may entail extra oversight.
 - Graduate student fee remission, though allowable, is not eligible for matching funds and is the sole responsibility of the school. PIs are encouraged to discuss requests for graduate student fee remission with their department chairs and deans prior to submission of the proposal.
- Again, because the funding model for the Grand Challenge requires financial support from the schools with which project personnel are affiliated, all interested faculty are strongly advised to discuss with their Deans or Associate Deans for Research as early as possible their interest in proposing projects through this opportunity.
- PI responsibilities: By submitting a proposal, the Principal Investigator agrees on behalf of the project team:
 - to accept responsibility for the scientific and technical conduct of the research project;
 - to coordinate with ERI to arrange appropriate access to project data to inform other PfEC projects and in ERI's knowledge platform;
 - to disseminate project knowledge for internal and external audiences (e.g., through scholarly publications, press releases, lay articles, symposium presentations); and
 - to submit triannual and final project reports.

Application Process

Letter of Intent:

A required Letter of Intent is due by 5:00 p.m. on Wednesday, December 5, 2018. LOIs are intended to inform preparations for the review process, and will not be reviewed. LOIs should be submitted via InfoReady to the opportunity entitled "Prepared for Environmental Change Project – Letter of Intent", and must include:

- project title
- a brief summary of the project (limit: 150 words)
- a brief explanation of how the project fits into PfEC's goals and funding priorities, and what audiences will be impacted by the proposed project (limit: 150 words)
- a preliminary list of names and affiliations of the PI, key personnel and external partners (limit: 1 page)

Full Proposal:

Full proposals must be submitted by 5:00pm on Monday, January 7, 2019, via InfoReady to the opportunity entitled "Prepared for Environmental Change Project – Full Proposal". As specified in the project and budget templates provided on InfoReady, a full proposal application includes:

- Completed InfoReady "Applicant Information"
- Completed Application Template, including
 1. Executive Summary (limit: 300 words). Summary of the project intelligible to a reader who is not a specialist in this field. Summarize the aims, significance, and expected scholarly and real-world outcomes of the project, and how they fit into PfEC's goals, audiences, and funding priorities.

2. Project team. List names and affiliations of PI, Co-PIs, and other key personnel, including any external partners, with a summary of their roles and responsibilities. Explain the roles and responsibilities of undergraduate or graduate students or postdoctoral researchers who will be involved, even if named individuals are not yet identified. (limit: 1 page)
 3. Results of Prior PfEC Support (limit: 1 page). If you have received PfEC support in the past – whether for this project or a separate project – describe scientific/other outcomes, including papers published, grants submitted, students trained, data stored, relevance to GC.
 4. Project narrative (limit: 5 pages)
 - A. Background and Rationale. Describe the background that motivates the project, including the needs the project is addressing in the context of PfEC, and an explanation of how this project will address those needs.
 - B. Project Aims and Objectives. Address the intellectual merit and broader impacts of this project. What are the goals of this project? What real-world impact will result from achieving these goals? What are the component objectives that will enable you to reach your goals? Objectives conducive to reporting are SMART – specific, measurable, achievable, relevant, and time-bound.
 - C. Justification & Feasibility. Present evidence (e.g. prior work, proof-of-concept, supportive data, references) that support the feasibility of the proposed project plan.
 - D. Research and Dissemination Design. Describe the approaches you will use to achieve your research objectives and ensure real-world impact. Identify hypotheses being tested, models used, research being conducted or other activities planned. Explain how this methodology will enable you to complete your objectives. Identify members of the project team that will lead specific aspects of the project efforts. How will this project inform and be informed by other research and implementation-focused aspects of PfEC? What new or extant data will you use, collect, or analyze? What are your plans for analysis and interpretation of the data? How will data be disseminated or made accessible, and to what audiences? What are the anticipated outcomes and impacts of this project?
 - E. Timeline and Major Milestones. Provide a timeline of the execution, and method of determining achievement, of high-level project activities/milestones, structured into phases associated with project objectives and outcomes.
 - F. Future Directions. Describe what it would mean if this project were successful – and what next steps might build on, scale up, or translate the lessons of this project to new contexts within the PfEC Grand Challenge initiative and beyond.
 5. References Cited (no limit).
 6. Budget (use template available on InfoReady, and upload as a separate attachment) and Budget Narrative (limit: 2 pages). Provide detailed information to support each budget category; ensure that specific budgeted categories are justified and linked to specific project phases or objectives. Include supporting documentation for costs over \$5,000. Where projects involve faculty collaborations across IU units, each budget item should be linked to the name of the key personnel who will incur or manage that particular expense. A field has been provided for this information in the budget template.
 7. Biosketches of key personnel (limit: 2 pages each; focus on relevant prior work in order to keep biosketches within limit).
- Completed Budget Template
 - Completed Letter of Support Template from each dean/leader of a participating Responsibility Center in which a PI or Co-PI is appointed (use template available on InfoReady). Letters may be submitted directly into the InfoReady application, or emailed separately to prepared4change@iu.edu.
 - Letters of commitment describing relevant expertise and contributing resources from external partners (optional).

Contacts

For questions or assistance, please contact prepared4change@iu.edu.

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