

# Informational Webinar

## Climate Resilience Centers (CRCs)

### Notification of Funding Opportunity (NOFO)

#### DE-FOA-0003464

---

Pre-Application Deadline: December 12, 2024 at 5:00 pm ET

Full Application Deadline: February 20, 2025 at 11:59 pm ET

*Daniel Winkler and Brian Benscoter*  
*November 6, 2024*

*Disclaimer: This presentation summarizes the contents of the NOFO. Nothing in the webinar is intended to add to, take away from, or contradict any of the requirements in the NOFO. If there are inconsistencies between the NOFO and this presentation or statements from DOE personnel, the NOFO is the controlling document.*



Office of Science

[Energy.gov/science/](https://energy.gov/science/)

# Agenda for today's webinar

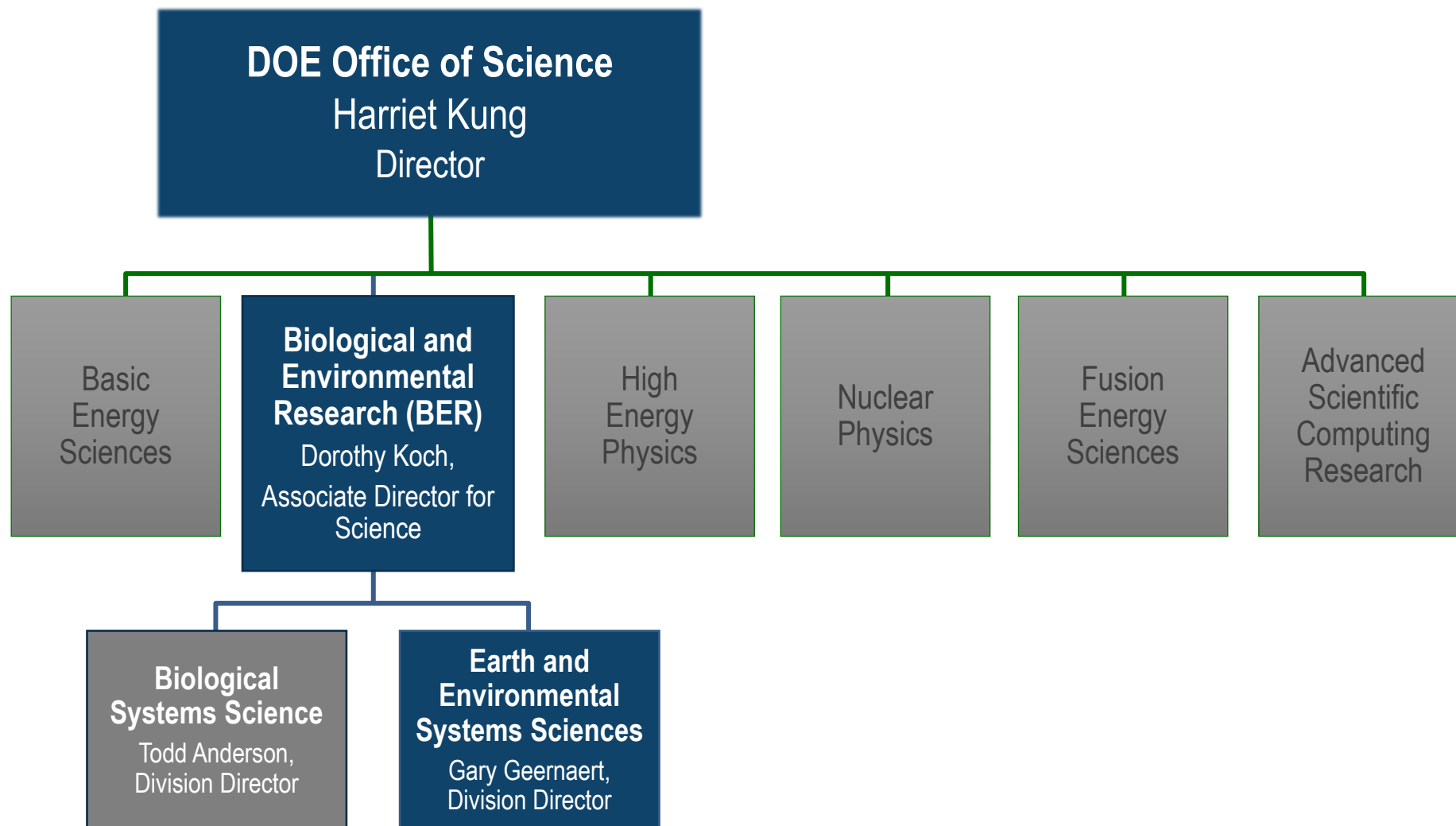
- Background on BER and EESSD
- Overview and Context of CRC NOFO
- Applying to the CRC NOFO
- Q&A

## Questions during the webinar?

Please submit questions using the Zoom Q&A feature at any time during the webinar.

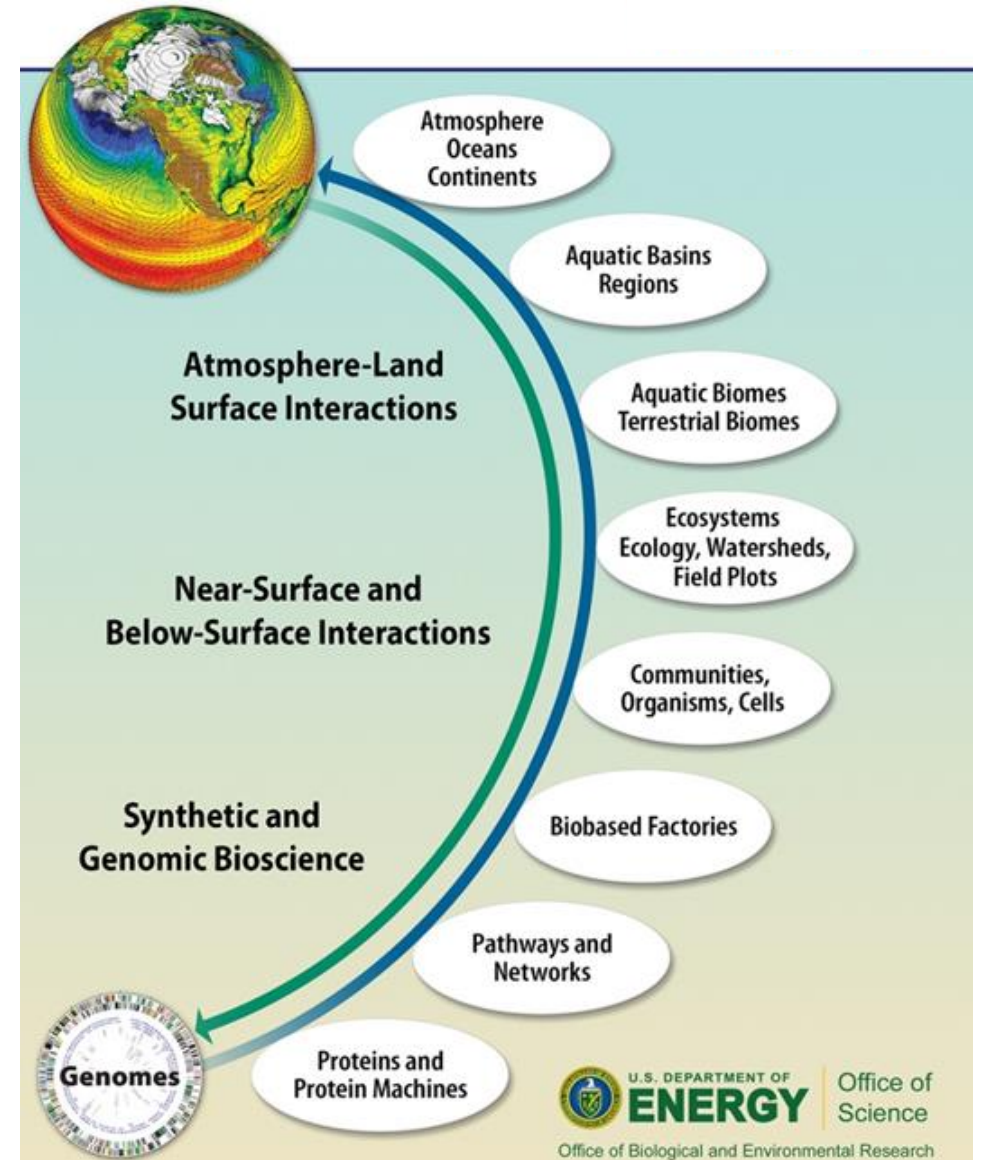
It should be accessible at the bottom of your Zoom window.

# Office of Science Programs



# Biological and Environmental Research (BER)

- Understanding complex biological, Earth, and environmental systems
  - Explore frontiers of genome-enabled biology
  - Understand physical and biogeochemical Earth system processes
  - Enable innovation and discovery through user facilities



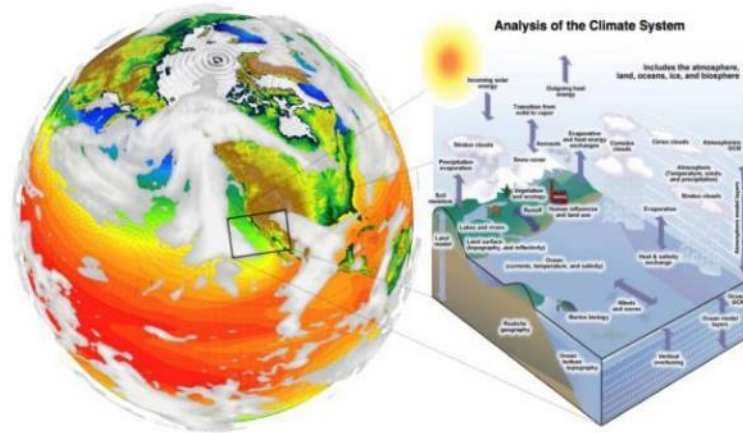


# BER's Earth and Environmental Systems Sciences Division (EESSD)



## Atmospheric System Research

- Atmospheric Science
- Atmospheric Radiation Measurement (ARM) facility



## Earth and Environmental Systems Modeling

- Climate and Earth System Modeling
- E3SM



## Environmental System Science

- Ecosystem and Watershed Sciences
- Environmental Molecular Sciences Laboratory (EMSL)

Climate Resilience Centers (CRCs), FAIR, RENEW, Urban Integrated Field Laboratories (Urban IFLs)

Data Management for Earth and Environmental Sciences

# Earth and Environmental Systems Science Division (EESSD)



Gary Geernaert  
Division Director



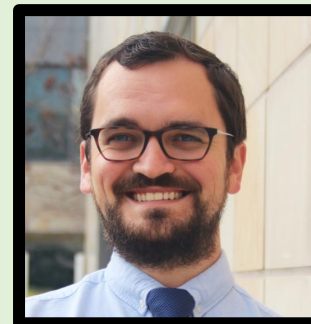
Paul Bayer  
EMSL User Facility



Brian Benscoter



Dan Stover



Daniel Winkler



Beth Drewniak  
ANL Detailee

Environmental System Science



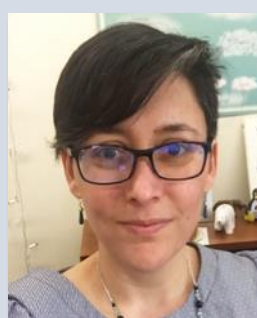
Justin Hnilo  
Data  
Management



Andrew Flatness  
Program Specialist



Sally McFarlane  
ARM User Facility



Shaima Nasiri



Jeff Stehr

Atmospheric System Research



Xujing Davis



Renu Joseph



Bob Vallario

Earth and Environmental Systems Modeling

# EESD Research Investment

## Laboratory Research

- Science Focus Areas (SFA)
- Large Projects
  - ▶ NGEE-Arctic; NGEE-Tropics; AmeriFlux, IDEAS, ESGF, ESM SciDAC, ICoM, COMPASS FME & GLM
- Boutique Projects
- Can include university collaborations
- Lab researchers can collaborate on university-led projects

## University Research

- Supported through Notification of Funding Opportunity (NOFOs), formerly Funding Opportunity Announcements (FOAs)
- Topically focused projects
- Vary in size and duration
- Programmatic or Division-wide
- EPSCoR Program
- Early Career Research Program
- RENEW and FAIR

# EESSD User Facilities and Resources

**DOE Scientific User Facilities** Provide researchers with the most advanced tools of modern science, including accelerators, colliders, supercomputers, light and neutron sources, as well as facilities for studying the nano world, the environment, and the atmosphere.



<https://arm.gov/>



<https://www.emsl.pnnl.gov/>

EESSD supports two world class scientific user facilities:

- **Atmospheric Radiation Measurement (ARM)**
- **Environmental Molecular Sciences Laboratory (EMSL)**

Free access to instruments and analysis via annual/regular user proposals.



# National Virtual Climate Laboratory



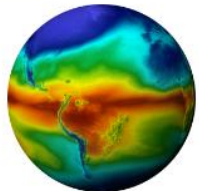
DOE's portal (launched May 2023) will catalyze engagement with BER climate science, SC Scientific User Facilities, and DOE National Laboratory resources to train the next generation of climate scientists and professionals.

## NVCL OBJECTIVES

### 1 CENTRALIZE ACCESS TO DOE CLIMATE RESEARCH

Offer a well-curated, easily accessible, plain-language inventory of DOE Biological and Environmental Research (BER) projects related to climate research and user facilities with continuously updated portal content.

[VIEW RESEARCH »](#)



### 2 LIST CLIMATE TRAINING OPPORTUNITIES

Provide students, faculty, and early career scientists access to lab-based education and training opportunities at the national laboratories, including coaching and mentoring opportunities in the skills they need to ensure success in their careers.



### 3 ENCOURAGE COLLABORATIONS

Facilitate robust, self-sustaining collaborations between national laboratories and interested organizations, including colleges and universities that serve underrepresented students.



[NVCL.energy.gov](https://science.energy.gov)

# Overview and Context for the Climate Resilience Centers (CRCs) NOFO

DE-FOA-0003464



Office of Science

[Energy.gov/science/](https://energy.gov/science/)

# DOE Program Manager NOFO Contacts

## Scientific/Technical Contacts:



Daniel Winkler  
[daniel.winkler@science.doe.gov](mailto:daniel.winkler@science.doe.gov)



Brian Bencoter  
[brian.bencoter@science.doe.gov](mailto:brian.bencoter@science.doe.gov)

# BER Climate Resilience & CRCs

- Climate resilience is the ability of a community or region to reach full recovery after being exposed to climate-induced stresses and damages, using strategies that adjust its adaptive capacity at minimal impact to natural, socioeconomic, infrastructure, and financial systems.
- CRCs will provide an embedded, community focused research agenda that aligns with the BER mission and community priorities to promote accessibility and utility for subsequent use in community decision-making and action.



# BER Climate Resilience Centers (CRCs)

- This is SC's third funding announcement for CRCs and is focused on establishing CRCs at non-R1 Minority Serving Institutions (MSIs) and non-R1 Emerging Research Institutions (ERIs). CRCs will focus on basic climate science research to inform the needs of stakeholders and frontline communities, including identifying equitable solutions in response to the climate crisis.
- CRCs will:
  - Extend DOE-supported climate science, capabilities, and research at the national labs to address regional resilience needs and impacts on natural, socioeconomic, or built systems and/or their intersections.
  - Foster capacity at regional and local scales by connecting with affected communities and stakeholders to translate basic research into actionable science to enhance climate resilience, as well as to identify research priorities for future DOE investments.
  - Form a nucleus for building and empowering a future pool of local talent and expertise, including young scientists, engineers, and technicians who will combine observational, experimental, and modeling science to address local resilience challenges and inform equitable solutions.

# CRC Defining Attributes *(see Section 1 of the NOFO)*

- The NOFO will provide funding to build research capacity in climate resilience, leverage ongoing DOE climate science and capabilities at national laboratories and universities, and build two-way engagement between DOE funded research and community stakeholders. Funding will emphasize science accessibility, translation for improved climate response, training, networking, and outreach.
- Applications must include a connection to BER climate science, e.g., partnership with an existing project or include clear use of BER research products.
- Research focus should be directly relevant to the applicant's community/region, focusing on climate science as it relates to equitable resilience and America's most vulnerable and disadvantaged communities.
- Emphasis will be given to applications from regions, institutions, and investigators not represented by prior awards.

# Climate Resilience Centers and Collaborators



- The Climate Resilience Center in Piedmont Triad of North Carolina**  
 North Carolina State University  
 Pacific Northwest National Laboratory
- California Community and Earth-System Integrated Climate Resilience Center (CalCEI CRC)**  
 San Jose State University  
 Lawrence Livermore National Laboratory
- Southwest Climate Resilience Center**  
 Northern Arizona University  
 Lawrence Berkeley National Laboratory
- Center for Climate Adaptation and Resilience in Baltimore (CCARB)**  
 Morgan State University  
 Pacific Northwest National Laboratory
- San Joaquin Valley Climate Resilience Center**  
 University of California-Merced  
 Lawrence Livermore National Laboratory
- Center for Climate-driven Hazard Adaptation, Resilience, and Mitigation (C-CHARM) in Great Lakes Rural Communities**  
 Michigan Technological University  
 Argonne National Laboratory
- Coastal Bend Climate Resilience Center**  
 University of Texas-Arlington
- Building Predictive Capacity to Enhance Stormwater Infrastructure and Flood Resilience**  
 Central Michigan University
- Advancing Development and Climate-Resilient Adaptation Practices via Community-Driven Urban Transformation in Saint Louis, MO (ADAPT-STL)**  
 Saint Louis University

Climate Resilience Center Lead Institution  
 Collaborator

- Massachusetts Gateway Cities Climate Resilience Center**  
 University of Massachusetts-Lowell
- A Regional Climate Resilience Center for Water Extremes Adaptation Strategies Implementation**  
 Lehigh University
- A Climate Resilience Center for Alaska**  
 University of Alaska Fairbanks
- The Climate Lighthouse: DOE-CCNY Urban Climate Hazard Resilience Center**  
 Research Foundation of The City University of New York  
 Brookhaven National Laboratory

- Climate Resiliency Center for building adaptive capacity in tribal communities along Missouri River Basin (MRB-CRC)**  
 South Dakota School of Mines & Technology
- Space Coast RESCUE (Resilience Solutions for Climate, Urbanization, and Environment)**  
 Florida Institute of Technology  
 Argonne National Laboratory
- Midwest Climate Resilience Center: Soil Systems Scale Up: (MCRC: SCALE UP)**  
 Central State University

# Expectations for CRCs

- CRCs will focus on basic climate science research to inform the needs of stakeholders and frontline communities, including equitable solutions in response to the climate crisis.
- Importantly, the centers will emphasize science translation, linking climate resilience science with the local climate resilience needs to accelerate the deployment of equitable solutions through participatory engagement.
- Examples of science challenges that the CRCs may address include:
  - Developing contextualized, community-based definitions and models of resilience, illuminating the dynamic processes, quantifiable dimensions, and metrics that can be incorporated to measure progress.
  - Developing new and insightful prediction tools and exploring their use through model and data-driven stress testing to evaluate adaptation strategies that can achieve desired levels of equitable resilience over time horizons of interest.
  - Building or extending observational capabilities to provide the necessary data for new predictions or improve prediction accuracy in support of resilience strategies.
- CRCs are required to leverage the scientific products and/or capabilities at the DOE national laboratories



# Contribution of CRCs to the BER portfolio

## Climate Resilience Centers (CRCs)

- Pursuit and translation of basic climate science for climate resilience with two-way engagement

## Funding to Accelerate Inclusive Research (FAIR)

- Institutional research capacity building to accelerate competitiveness

## Reaching a New Energy Sciences Workforce (RENEW)

- Experiential training of students in BER science areas

## Urban Integrated Field Laboratories (Urban IFLs)

- Multi-institution projects focused on basic research in urban systems

# Applying to the Climate Resilience Centers NOFO

DE-FOA-0003464



Office of Science

[Energy.gov/science/](https://energy.gov/science/)

# Applying to the CRC Solicitation

- Pre-application deadline: Thursday, December 12, 2024 by 5 pm ET
  - **Pre-applications are required**
  - Pre-applications submitted through PAMS by SRO
  - Limit of one pre-application per lead PI
  - Encouraged/Discourage Response: January 3, 2025 by 5 pm ET via PAMS
  - Decision of “Encourage” required to be eligible for full application submission
- Full Application deadline: Thursday, February 20, 2025 by 11:59 pm ET
  - Submitted through Grants.gov (by SRO)
  - Limit of one application per lead PI
- Merit Review Criteria will be used to evaluate applications
- Program Policy Factors will be used to prioritize funding recommendations
- DOE anticipates that award selection will be completed by September 2025

# Award Information

- Estimated funding: total of \$10 million in FY25 funds anticipated
- Period of performance: 3 years
- Minimum/maximum award size: \$100,000 to \$1,000,000 total
- Number of awards: approximately 10-15 awards are anticipated
- Type of award: Grants
- Institutions are limited to one (1) CRC pre-applications/  
applications per lead PI.



# Eligibility and Teaming Arrangements

- Lead applicant must be a non-R1 MSI or non-R1 emerging research institution.
  - Institution Designation List:
  - <https://science.osti.gov/grants/Applicant-and-Awardee-Resources/Institution-Designations>
- Multi-institutional teaming arrangements may occur through subawards, but their roles and budget requests must be justifiable and equitable.
  - National lab collaboration budgets are limited to up to 10% of the total award budget.
- BER will use the Program Policy Factors when making selections, including prioritizing participation of institutions historically underrepresented in the BER portfolio.

# PIER Plan (Appendix 5)

- The Promoting Inclusive and Equitable Research (PIER) Plans should describe the activities and strategies to promote equity and inclusion as an intrinsic element of the research project
  - Describe plan to foster a positive, inclusive, and professional training and research environment
  - Should be tailored to the application/proposed work and not be a re-statement of standard institutional policies or broad principles
- Max. page limit of 3 pages, submitted as Appendix 5 (does not count toward narrative page limit)
- For more information about PIER plans:  
<https://science.osti.gov/grants/Applicant-and-Awardee-Resources/PIER-Plans>

# Helpful Reminders for a Successful Application

REGISTER IN ALL SYSTEMS AS SOON AS POSSIBLE:

- [www.grants.gov](http://www.grants.gov)  
Support: 800-518-4726 or [support@grants.gov](mailto:support@grants.gov)
- [www.sam.gov](http://www.sam.gov)  
Support: 866-606-8220
- [www.fedconnect.net](http://www.fedconnect.net)  
Support: 800-899-6665
- DOE SC Portfolio Analysis and Management System (PAMS) -  
<https://pamspublic.science.energy.gov>  
Support: 855-818-1846 or [sc.pams-helpdesk@science.doe.gov](mailto:sc.pams-helpdesk@science.doe.gov)  
Helpdesk Hours: Monday-Friday, 9am – 5:30 pm ET  
PAMS Help Wiki: <https://pamsexternalhelp.science.energy.gov/display/UTL2/PAMS+Help>
- Any Other Applicable Systems

# Check Registration in PAMS

- Pre-applications must be submitted to PAMS via a “Submit to DOE” privileged account (e.g., SRO)
- Confirm in advance your institution’s PAMS account:
  - Is active,
  - Has the correct and appropriate contact(s), and
  - If possible, has multiple registered contacts.
- PAMS Helpdesk closes at 5:30 pm ET



# Helpful Reminders for a Successful Application

- Carefully review the ‘Checklist for Avoiding Common Errors’ sections at the beginning of IX. Other Information section
  - e.g., Appendixes should be submitted as part of the main proposal document, not as separate supporting documents
- Provide budget sheets and budget justifications for the applicant institution and any subawards (including National Lab collaborators) requesting funding
  - National Lab budget request are limited to a max. of 10% of the total application budget
- Be sure to use standardized formats for the PI biosketches, current and pending awards, and know conflicts of interest documents (links provided in NOFO)
- Be sure to include a Data Management Plan (DMP) for all applications, even if no experimental data is expected
  - SC Statement on Digital Data Management: <https://science.osti.gov/funding-opportunities/digital-data-management>

# Helpful Reminders for Budget Preparation

- Provide a justification that explains all costs proposed in the budget
  - Budget sheets and budget justification must be consistent to nearest \$1
  - Use the budget sheet sections to outline the budget justification (A. Senior Personnel, B. Other Personnel, etc.)
- Capital Equipment (individual items >\$5000) is allowed if necessary for the proposed activities
  - Materials & Supplies are items with individual costs <\$5000, even if the total for multiple items is >\$5000
- Fringe/Indirect Rates must include the indirect cost rate agreement as part of the budget justification
- Personnel costs should be inclusive of salary and fringe (do not list separately)
- Travel - Include purpose, destination, anticipated dates of travel (if known) or trip duration (e.g., 3 days), expenses (e.g., airfare, lodging, per diem, etc.), and number of individuals for each trip. Itemized costs of expenses are not required.

# Where to find more information

Biological and Environmental Research (BER)

<https://science.osti.gov/ber>

Earth and Environmental Systems Sciences Division (EESSD)

<https://science.osti.gov/ber/Research/eessd>

Atmospheric System Research (ASR)

<https://asr.science.energy.gov/>

Environmental System Science (ESS)

<https://ess.science.energy.gov/>

Earth and Environmental System Modeling (EESM)

<https://climatemodeling.science.energy.gov/>

Data Management

<https://science.osti.gov/ber/Research/eessd/Data-Management>

Atmospheric Radiation Measurement (ARM) user facility

<https://www.arm.gov/>

Environmental Molecular Sciences Laboratory (EMSL)

<https://www.emsl.pnnl.gov/>

BER Funding Opportunities

<https://science.osti.gov/ber/Funding-Opportunities>

Office of Economic Impact and Diversity

<https://www.energy.gov/diversity/office-economic-impact-and-diversity>

Promoting Inclusive and Equitable Research (PIER)

<https://science.osti.gov/grants/Applicant-and-Awardee-Resources/PIER-Plans>

MSI and emerging institution list

<https://science.osti.gov/grants/Applicant-and-Awardee-Resources/Institution-Designations>

# Questions & Answers

Please submit questions using the Zoom Q&A feature. It should be accessible at the bottom of your Zoom window.

If your question is not answered today, or if you have additional questions:

Questions about the topic → Program Manager(s)

Questions about submitting application → [FedConnect.net](https://www.fedconnect.net)

# Informational Webinar

## Climate Resilience Centers (CRCs)

### Notification of Funding Opportunity (NOFO)

#### DE-FOA-0003464

---

Pre-Application Deadline: December 12, 2024 at 5:00 pm ET

Full Application Deadline: February 20, 2025 at 11:59 pm ET

*Daniel Winkler and Brian Benscoter*  
*November 6, 2024*

***Disclaimer:** This presentation summarizes the contents of the NOFO. Nothing in the webinar is intended to add to, take away from, or contradict any of the requirements in the NOFO. If there are inconsistencies between the FOA and this presentation or statements from DOE personnel, the NOFO is the controlling document.*



Office of Science

[Energy.gov/science/](https://www.energy.gov/science/)