

Cooperative Institute for Earth Systems Research and Data Science (CIESRDS)



University of Colorado Boulder



CIESRDS

Cooperative Institute for Earth Systems
Research and Data Science

What is a Cooperative Institute (CI)?

The NOAA CIs are academic and non-profit research institutions that demonstrate the highest performance level and conduct research that supports NOAA's Mission Goals and Strategic Plan and are sustained by a cooperative agreement.

- CIs are housed at institutions with established degree programs in one or more areas relevant to NOAA's mission.
- CIs must promote student and postdoctoral involvement in NOAA-related research projects.

What do Cooperative Institutes not do?

- Cooperative Institutes **cannot** engage in operational work on behalf of the federal government.
- Cooperative Institutes **cannot** have 'deliverables' that would indicate a contractual relationship.
- Cooperative Institute employees are **not** federal employees and are **not** supervised by federal employees.

What do Cooperative Institutes do?

- Cooperative Institutes propose and carry out research that directly supports NOAA's long-term mission needs within established research themes, working in close collaboration with NOAA laboratories, line offices, and programs, while contributing to *mission-focused research and development*, facilitating the transition of *research to operations*, and supporting *operations-based activities* through the cooperative institute framework.
- Cooperative Institutes support graduate education and professional scientific training of a workforce well-versed in NOAA disciplines.
- The research and development done by cooperative institutes is *proposed via projects* (Task I, II, III) and *annual reports* provide updates on the best efforts of the proposed research goals and outcomes.
- Cooperative Institutes engage in *joint research projects*, but function as separate organizations.

How is the CI relationship different than a typical funder/grantee relationship?

The CI structure benefits both NOAA and research institutions by:

- Providing opportunities for students to interact with NOAA scientists
- Allowing external partners to address emerging needs and evolving NOAA research priorities
- Giving research institutions access to NOAA resources
- Promoting development of the NOAA workforce through student engagement and early-career employment

NOAA Cooperative Institutes



There are currently 16 NOAA Cooperative Institutes that are essential to the success of NOAA's research and development enterprise.

Creation of a Cooperative Institute

The Notice of Funding Opportunity (NOFO) specifically outlines the scope of research for the proposed new cooperative institute. The NOFO lists the program priorities (themes) that the cooperative institute is allowed to complete research within. **The research priorities are set by NOAA**, not the cooperative institutes.

NOAA outlines the capabilities and requirements for potential proposals and the evaluation criteria for reviewers.

The process is outlined in the CI Handbook.

CIRES - CIESRDS

CIESRDS (Cooperative Institute for Earth System Research and Data Science) was awarded under **NA22OAR4320151** with an initial five-year period of performance from **1 September 2022 - 31 August 2027**, with an award ceiling of **\$565.8 million**.

Funding to date: \$218M

The home institution for the award is CIRES (Cooperative Institute for Environmental Sciences) at the University of Colorado, Boulder.

CI funding structure

Initial awards are granted for five years, with a potential renewal period of up to five additional years upon completing a scientific and administrative review held in year four of the initial five-year award.

Project proposals fall under three categories:

- **Task I** – Administration, education, outreach
- **Task II** – Research projects that involve ongoing direct collaboration with NOAA scientists; scientific direction is provided ***jointly between NOAA and the CI employees***
- **Task III** – Research projects performed by CI personnel outside of Task I or II and typically require ***minimal collaboration with NOAA scientists***

How are research projects funded and initiated?

1. The CI works in collaboration with affiliated NOAA research laboratories, line offices, and programs (OAR, NESDIS, NWS) to understand research priorities.
2. The CI creates proposals based on those research priorities and the capabilities that exist at the CI.
3. The CI submits those proposals through either Task II or Task III projects (based on if there is substantial federal engagement or not).
4. The NOAA funding lab reviews the proposal for funding availability and research alignment and either approves or denies funding.

How are CIs evaluated?

Annual and periodic reports to NOAA

CIs submit annual reports summarizing the previous year's research activities and outcomes for review.

Regular research meetings and research updates are shared with NOAA technical advisors throughout the year.

Five-year review

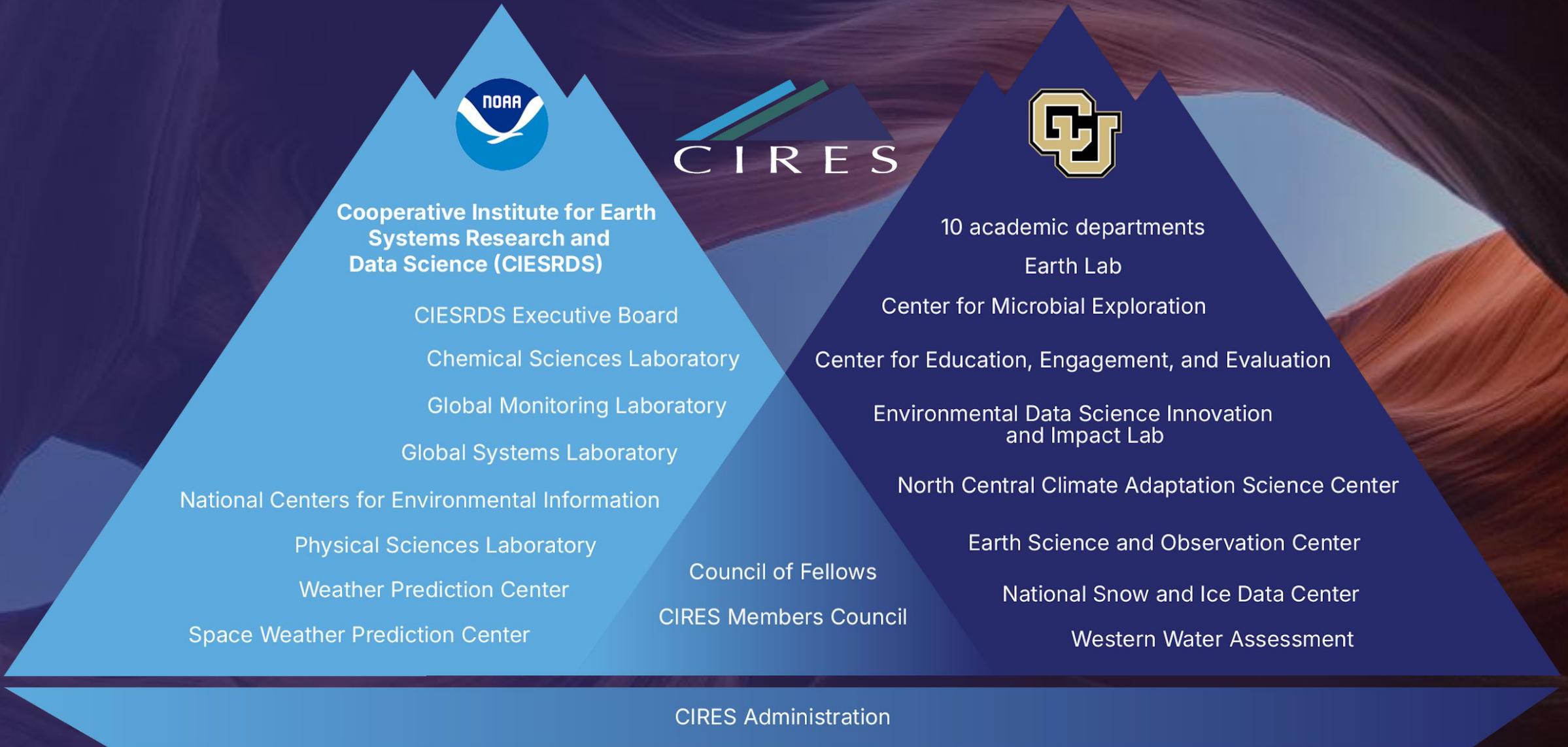
Cooperative Institutes are reviewed by an independent scientific review panel and a NOAA administrative review panel during year four of their initial five-year award to determine if they should receive a second five-year award on a non-competitive basis.

The science review panel is chaired by a member of the NOAA Science Advisory Board, with assistance from the Technical Program Manager (TPM) of the institute.

CIRES and CIESRDS structure

- CIRES at CU Boulder was the first CI created in 1967.
- CIESRDS is our current award and is housed in CIRES.
- CIESRDS is unique as a CI in that it is housed under CIRES, which has evolved and expanded to include many researchers and projects that are complementary to the work under the cooperative agreement but are funded outside of the cooperative agreement.
 - CIESRDS investment is heavily leveraged providing significantly increased return on investment.

CIRES composition



CIRES and CIESRDS mission

To conduct innovative research that advances our understanding of the global, regional, and local environments and the human relationship with those environments, for the benefit of society

CIERSRDS Research Themes



Future Atmosphere



Climate Science
and Prediction



Earth System Data Science,
Stewardship, and Application



Regional Science
and Applications



Scientific Outreach and
Education



Space Weather Science
and Prediction



Weather Research and
Forecasting



Ecosystem Science
and Prediction