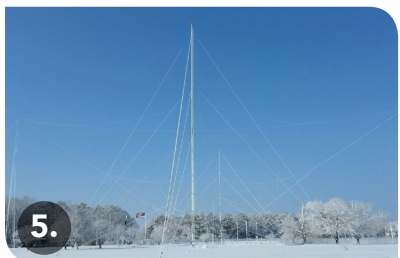
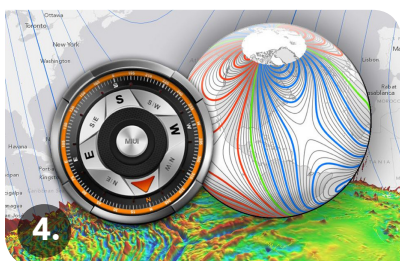
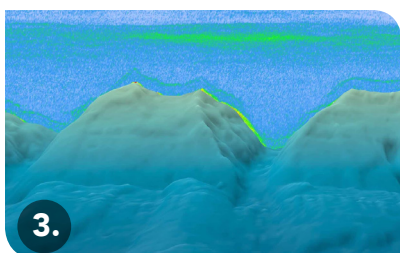
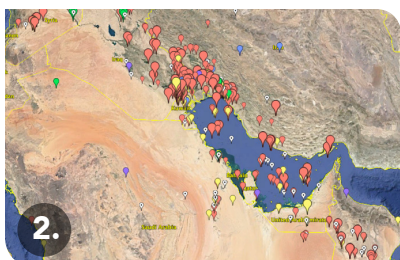
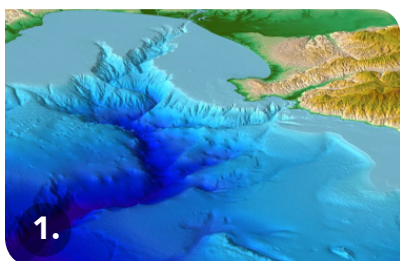


# CIRES & NCEI

Cooperative Institute for Research in Environmental Sciences  
NOAA's National Centers for Environmental Information



## What is CIRES?

The Cooperative Institute for Research in Environmental Sciences (CIRES) is a partnership of NOAA and the University of Colorado Boulder. It employs more than 800 scientists and staff, about half of whom work in NOAA's David Skaggs Research Center in the Earth System Research Laboratory, the Space Weather Prediction Center, and the National Centers for Environmental Information (NCEI). Researchers there participate in many aspects of NOAA's mission-critical work.

The CIRES 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.

## How do we support NCEI?

CIRES staff at NCEI collaborate closely with their federal counterparts, working as a team to help NCEI achieve its mission. CIRES scientists steward geophysical datasets from the surface of the Sun to the core of the Earth, and build useful products from these data. Software developers build data ingest, discovery, and delivery tools to enable public access. CIRES research projects at NCEI are described in detail in the CIRES Annual Reports (<http://cires.colorado.edu/research/annual-report>), under the theme "Management and Exploitation of Geophysical Data."

See reverse for project  
and image descriptions





## 1. Bathymetry and Global Relief

Provide scientific stewardship, products, and services for ocean depth data and derived digital elevation models—information critical for tsunami and storm surge preparedness.



## 2. Earth Observations from Space

Generate nighttime observations of lights and combustion sources worldwide—data used to understand development trends, electricity outages, nighttime fishing activities, gas flaring, etc.



## 3. Fisheries Acoustics

Map fish schools and other mid-water marine organisms in three dimensions, to assess biological abundance, species identification, and habitat.



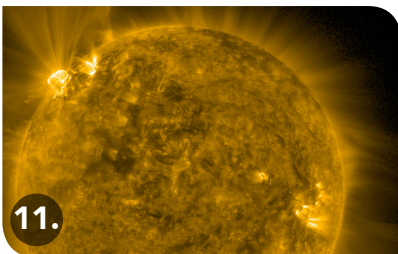
## 4. Geomagnetic Data and Models

Develop and distribute models of Earth's geomagnetic field, used by the U.S. government and billions around the world in navigation apps, and investigate geomagnetic data to further our understanding of Earth's magnetism and the Sun-Earth environment.



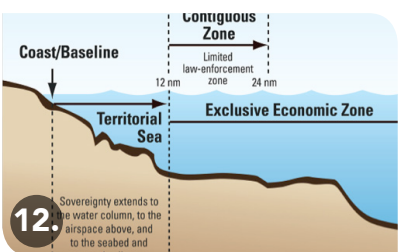
## 5. Ionosphere

Operate a portion of the World Data Service for Geophysics, seeking out and archiving data, data products, and information related to Earth's ionosphere—part of the upper atmosphere critical in radio communications.



## 6. Marine Geology and Geophysics

Provide stewardship, products, and services for geophysical data describing sea floors and lakebeds, including sediment cores—data critical to NCEI's Extended Continental Shelf project, which is defining U.S. territory.



## 7. Natural Hazards Including Tsunamis

Collect, archive, and distribute tsunami, earthquake, and volcano data to support research, planning, warning response, and mitigation.

## 8. Paleoclimatology

Serve as the World Data Service for Paleoclimatology, which archives and distributes data—key to understanding ancient climates.

## 9. Polar Data Sets

Manage and distribute scientific data, create tools for data access, support data users, perform scientific research, and educate the public about the cryosphere, through the National Snow and Ice Data Center.

## 10. Software Development

Develop and build data ingest, discovery, and delivery tools to enable public access—allowing distribution and use of NCEI data.

## 11. Space Weather and Solar Events

Archive and make accessible solar and space environmental data and derived products collected by NOAA observing systems and acquired through the World Data Service for Geophysics.

## 12. U.S. Extended Continental Shelf

Establish the full extent of the U.S. continental shelf, consistent with international law—critical to defining U.S. maritime boundaries.

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