CIRES

CIRES–NOAA Partnership

Cooperative Institute for Research in Environmental Sciences

Researchers at CIRES study the planet's dynamic atmosphere, ecosystems, ice, and crust to understand the influence of human and natural disturbances. CIRES is a joint institute of NOAA, the National Oceanic and Atmospheric Administration, and the University of Colorado at Boulder.

NOAA Cooperative Research Institutes

NOAA's mission is to understand and predict changes in Earth's environment and to conserve and manage coastal and marine resources to meet our nation's economic, social, and environmental needs. NOAA's 21 Cooperative Research Institutes—universities and nonprofit institutions—conduct world-class science in support of NOAA's goals, and educate and train new scientists.

CIRES and ESRL

Established in 1967, CIRES, at the University of Colorado at Boulder, is the first and largest of NOAA's Cooperative Research Institutes. CIRES researchers conduct interdisciplinary environmental science across 13 university departments and programs, collaborating with NOAA's Earth System Research Laboratory, the National Weather Service, and the National Environmental Satellite, Data, and Information Service.

CIRES Research Themes

- **Advanced modeling and observing systems.** CIRES scientists characterize and predict Earth system dynamics using direct observations and sophisticated computer models.
- **Climate system variability.** CIRES researchers are trying to detect, understand, and predict climate variability and trends, which affect human activities.
- **Geodynamics.** CIRES scientists study convection in Earth's mantle, which makes the crust deform, creating topological features that affect weather and climate.
- **Planetary metabolism.** Humans depend on ecological processes, which are changing along with the physical and chemical features of the Earth system. CIRES scientists work to understand the complex biosphere.
- **Regional processes.** CIRES research is often focused on geographic regions, since policy makers need information about regional variability and extremes to inform decisions.
- **Integrating activities.** CIRES brings science into service through education, assessments, and policy research.

ESRL Divisions

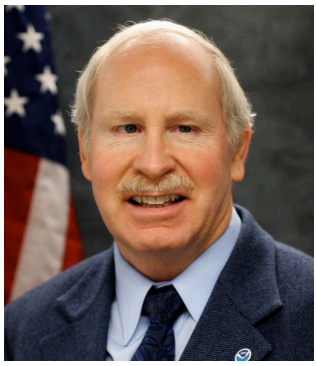
NOAA's Earth System Research Laboratory, part of the agency's Office of Oceanic and Atmospheric Research, includes four Divisions: Global Monitoring, Physical Sciences, Chemical Sciences, and Global Systems. ESRL's work toward a more informed stewardship of the Earth is organized into four themes:

- Understanding atmospheric mechanisms that drive the Earth's climate.
- Assuring the continuing health and restoration of atmospheric resources.
- Improving predictions through expanded climate and weather products.
- Advancing national research capabilities.

CIRES also supports other NOAA programs, including the Space Weather Prediction Center, the National Geophysical Data Center, the National Climatic Center's Paleoclimatology program, and CIRES' Western Water Assessment.

More Information

For more information, contact:
Suzanne van Drunick
CIRES' Associate Director for Science
suzanne.vandrunick@colorado.edu
or visit **http://cires.colorado.edu/.**



About the Director of ESRL

Dr. Alexander E. (Sandy) MacDonald directs NOAA's Earth System Research Laboratory and also serves as the agency's Deputy Assistant Administrator for Research Laboratories and Cooperative Institutes, positions he has held since they were both created in 2006. Dr. MacDonald, a meteorologist, previously led NOAA's Forecast Systems Laboratory, which is now ESRL's Global Systems Division. He is widely published in the fields of atmospheric modeling, statistics, dynamics, and meteorological systems. Dr. MacDonald has received numerous awards, including three Presidential Rank Awards and a Department of Commerce Gold Medal. He also holds the patent for Science on a Sphere,® a display installed in museums around the world to educate the public about Earth and other planets. Dr. MacDonald earned a Ph.D. and M.S. in Meteorology from the University of Utah, and he is a former Air Force officer.