



## NOAA Restructures Research Efforts: Creates Earth System Research Laboratory in Boulder, CO

You may have noticed a change in the name on the front page and for some of our sources in the last two issues of the Intermountain West Climate Summary. The lab formerly known as the Climate Diagnostics Center – home of Western Water Assessment – has been incorporated into the new NOAA Earth System Research Laboratory (ESRL). The National Oceanic and Atmospheric Administration (NOAA) restructured and consolidated its research efforts in Boulder, CO and, in October 2005, formed a single laboratory focusing on earth system research. The lab includes four divisions: Global Monitoring, Physical Sciences, Chemical Sciences, and Global Systems.

“This single laboratory will help NOAA better deal with the research challenges of this new century, in which the environmental issues we face cross the traditional disciplinary boundaries and demand a ‘whole Earth’ perspective,” said Dr. Richard D. Rosen, former assistant administrator for NOAA’s Office of Oceanic and Atmospheric Research, also known as NOAA Research. Rosen added that the headquarters structure of NOAA Research also will be reorganized to improve communication and better coordinate research within NOAA. The changes are based on recommendations of a 2004 Congressionally mandated review of research within NOAA. Rosen held this post during the reorganization. The new head of Atmospheric Research is Dr. Richard Spinrad. A search is underway for a director of ESRL.

### The ESRL Physical Sciences Division

The Climate Diagnostics Center is now part of the new Physical Sciences Division (PSD), which will carry out research on climate and weather processes, diagnostics, modeling, empirical analyses, focused field observations, and supporting technology development. The Climate Diagnostics Center joins workgroups from the Aeronomy Laboratory and the Environmental Technology Laboratory to form PSD. This reorganization unifies the various weather and climate observations, diagnostics and process modeling research that has been occurring across the former three laboratories. The merged Physical Sciences Division focuses combined resources and talents to advance several key NOAA mission goals in weather and climate:

- Improve the analysis and diagnosis of the weather and climate system to advance short-term, intraseasonal-to-interannual

predictions, and climate change projections.

- Explain weather and climate processes with a focus on the physical and dynamical forcing agents responsible for their variations.
- Advance a predictive understanding of the Earth System with quantified uncertainties for making informed and reasoned decisions regarding climate and weather processes occurring on time scales of weeks to decades.

The mission of PSD is to address physical science questions of short- and long-term societal and policy relevance within NOAA’s Climate, Weather, and Water Goals. PSD will conduct the physical process research necessary so that ESRL can help

provide the nation with a seamless suite of information and forecast products ranging from short-term weather forecasts to longer-term climate forecasts and assessments. PSD aims to provide the observation, analysis, and diagnosis of weather and climate physical processes necessary to increase understanding of Earth’s physical environment, including the atmosphere, ocean, cryosphere (frozen water), and land, and to enable improved weather and climate predictions on global-to-local scales.



NOAA’s David Skaggs Research Center

### Integration of the PSD within ESRL

PSD joins three other divisions to form ESRL. The new “super-lab” brings together integrated expertise in weather and climate physical observations, modeling, analysis and applications. PSD’s central focus on physical process research both supports and is supported by the other divisions in the following ways:

- The *Global Systems Division* provides observations, modeling, and computational and display systems development.
- PSD helps explain trends and changes in the environment observed by the *Global Monitoring Division*.
- PSD collaborates with the *Chemical Sciences Division* to improve the understanding, diagnoses, and prediction of air quality on time scales ranging from weather to short-term climate. The two divisions will also develop an improved understanding for the interrelationships and physical consequences of current and future chemical states of the atmosphere.

ESRL’s coordinated research effort will benefit the Intermountain West water-management community by improving collaboration among climate and weather researchers. The Western Water Assessment can then disseminate new information and research products to our stakeholders.

### On the Web

- NOAA: <http://www.noaa.gov>
- NOAA’s Earth System Research Laboratory: <http://esrl.noaa.gov/>
- 2004 Research Review Team Report: <http://www.sab.noaa.gov/Reports/Reports.html>

