

**ENVIRONMENTAL DATA THROUGH TIME  
EXTENDING THE CLIMATE RECORD**

**SCIENTIFIC DATA AND SUSTAINABLE DEVELOPMENT  
22<sup>ND</sup> INTERNATIONAL CODATA CONFERENCE  
STELLENBOSCH, CAPETOWN, SOUTH AFRICA  
OCTOBER 24-27, 2010**

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National Climatic Data Center

# OUTLINE

- **Overview – NOAA’s National Climatic Data Center**
- **Climate Data Modernization Program**
- **Remote Sensing – Essential Climate Variables**
- **Paleoclimatology**
- **International Collaboration**

# NCDC Headquarters in Asheville, NC

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- NCDC fulfill much of the Nation's climate data requirements
- NCDC has critical role in NOAA's proposed Line Office for Climate Service
- NCDC is the steward of the Nation's *in-situ*, *radar* and satellite data and information
- NCDC's Federal presence extends to:
  - Asheville, NC
  - Boulder, CO
  - Honolulu, HI
  - Silver Spring, MD
  - Madison, WI



# Archive, Access and Assessment

\* 1 terabyte (TB) =  $1 \times 10^{12}$  bytes  
\* 4,000 TB = 57 Libraries of Congress

## Recent Highlights

### Safe Storage of almost 4,000 terabytes\* of climate data

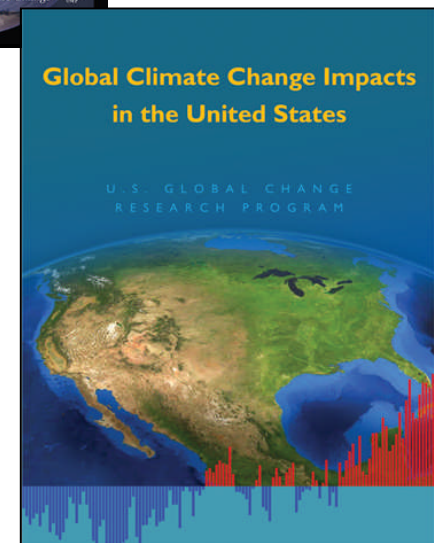
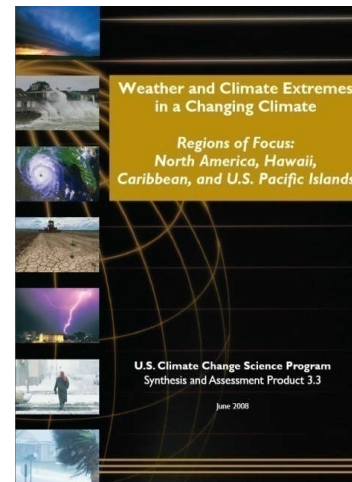
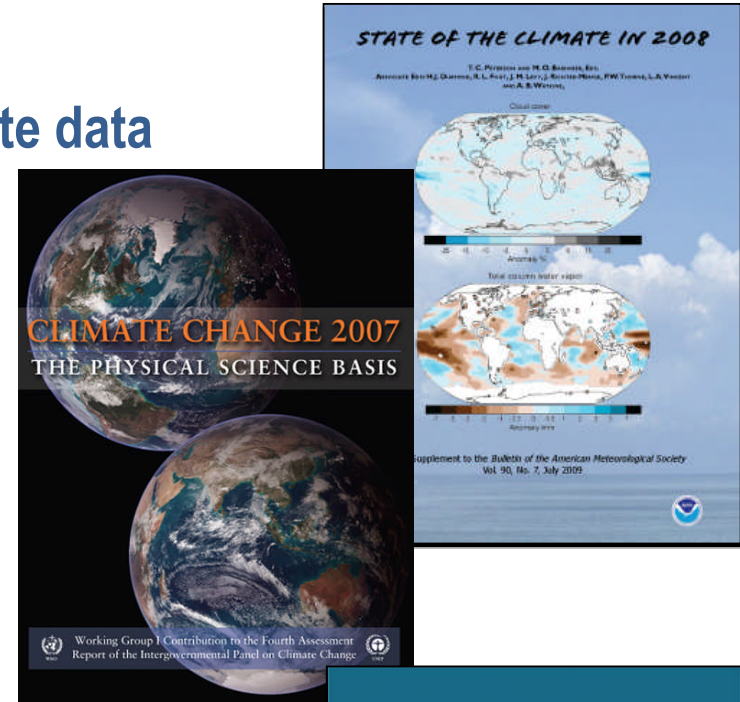
- ▶ In FY 2009:
  - 300 terabytes of data added to the archive
  - Over 600 terabytes of data delivered online with over 1/2 million unique web hits.

## 2007 Nobel Peace Prize Scientists

- ▶ NCDC scientists contributed to the IPCC report (Intergovernmental Panel on Climate Change), which shared the Nobel Peace Prize with Al Gore

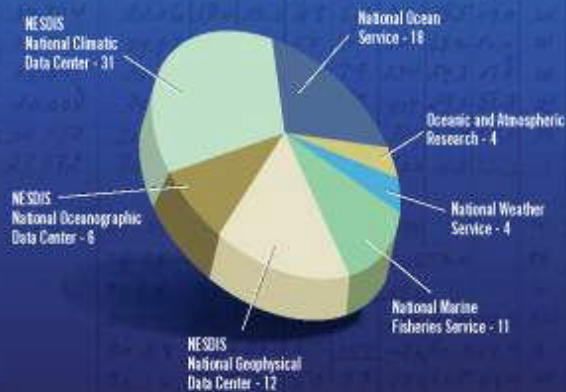
## Other Key Scientific Assessments

- ▶ Climate Change Science Program (CCSP) Assessments
- ▶ Weekly / Monthly / Annual “State of the Climate” Reports
- ▶ National Assessments



# Climate Database Modernization Program

Having just completed its tenth year, CDMP continues to support every NOAA line office by preserving and enhancing the availability of valuable climate and environmental data. These data are used by researchers and others dealing with climate and environmental issues crucial to our planet and our global society.



## FY09 TASK BY NOAA ORGANIZATION

Total Number of NOAA CDMP projects has reached 86 in 2009

## CDMP – A Decade of Achievement

How time flies! The National Oceanic and Atmospheric Administration's Climate Database Modernization Program (NOAA's CDMP) has just completed its tenth year. When the program began in 2000, the demand for rapid and complete access to the Nation's and world's climate data by researchers and global change scientists was a key motivation in the establishment of CDMP, which is managed through NOAA's National Climatic Data Center (NCDC) located in Asheville, NC. This program was initiated by Congress to assist NOAA in modernizing and improving access to the Nation's climate data and information.

A decade later, that demand for climate data access has, if anything, increased. In addition, CDMP has expanded its support across all of NOAA, preserving and making available environmental data ranging from the ocean floor to the top of the ionosphere. Partnering with four private sector contractors, CDMP has placed online over 54 million weather and environmental images, available to researchers around the world via the Internet. The amount of data online has grown from 1.75 terabytes in 2001 to 12 terabytes in 2009. Major progress continues in making these data available through a number of NOAA web sites (see URL list on inside back cover). In addition, hourly weather records keyed through CDMP continue to be integrated into NCDC's digital database holdings, extending the period of record for many stations back into the 1800s. The increase in the quality and quantity of historical data is helping researchers worldwide to improve real-time monitoring and forecasting of environmental, solar and geophysical events.

