

Climatologist

A job as changeable as the weather

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South Carolina State Climatologist



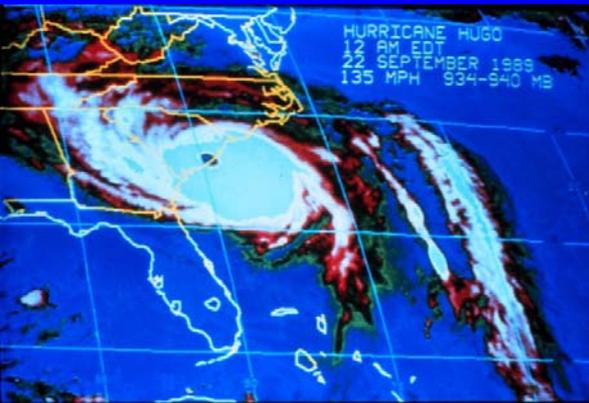
Photos: U.S. Department of Agriculture-Agricultural Research Service

Are we in a drought? Could there be a flood?

Ask a climatologist!

Climatologists study climate change, climate variability, and the effects of climate on the biosphere.

They use computers to predict the effect of weather or climate on the growth and development of agricultural crops, water resources, energy, etc.





What is a climatologist?

-Climatologists are often confused with meteorologists, who study current weather conditions and make short-term forecasts for temperature, winds, and amount and type of precipitation.

-Climatologists study long-term trends in the climate, which can affect:

energy usage,
food production
survival of endangered species
even human health and life expectancy.



-Climatology can actually be a lot more exciting than it sounds (read on!)



Where do climatologists work?

Climatologists work for state and federal governments, as weather station network supervisors, computer programmers, state climatologists, regional climatologists.

Some are private consultants that provide expert advice or testimony for clients, including companies involved in construction, litigation, insurance, utilities, and agribusiness.

Climatologists at universities teach climate courses and participate in multi-disciplinary extension and research activities.



What should I study if I want to become a climatologist?

To be a climatologist, you need a strong background in math and physics. Courses in meteorology and climatology, as well as courses in agricultural, biological, computer, or natural sciences are part of the coursework.

You need broad educational experience, because the users of climate information come from varied backgrounds. For most private consulting and many government jobs, you need a master's or doctoral degree.

In high school, take classes in mathematics, biology, physics, and computer science. Courses like economics, speech, and chemistry also will help.





As a climatologist, what will I be doing?

Climatology is one of the more adventurous environmental sciences.



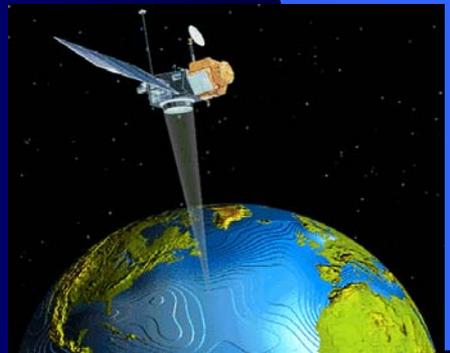
A climatologist might drill holes in arctic ice, travel to the bottom of the ocean, or journey to the tops of mountains to get data.



You might be working with marine animals and fitting them with sensors; or maintaining sensor buoys out in the middle of the oceans.



You might also write computer programs to model changes in climate or develop new ways of taking the Earth's temperature.



South Carolina State Climatology Office



South Carolina Department of Natural Resources





- **Represent the State in all climatological and meteorological matters**
- **Archive, process, and disseminate climate and weather information**
 - 150 Weather Stations
 - 1899 Oldest Record
 - 1915 Electronic
- **Prepare and disseminate regular climatic information**
 - Publications
 - Web pages
- **Conduct research**

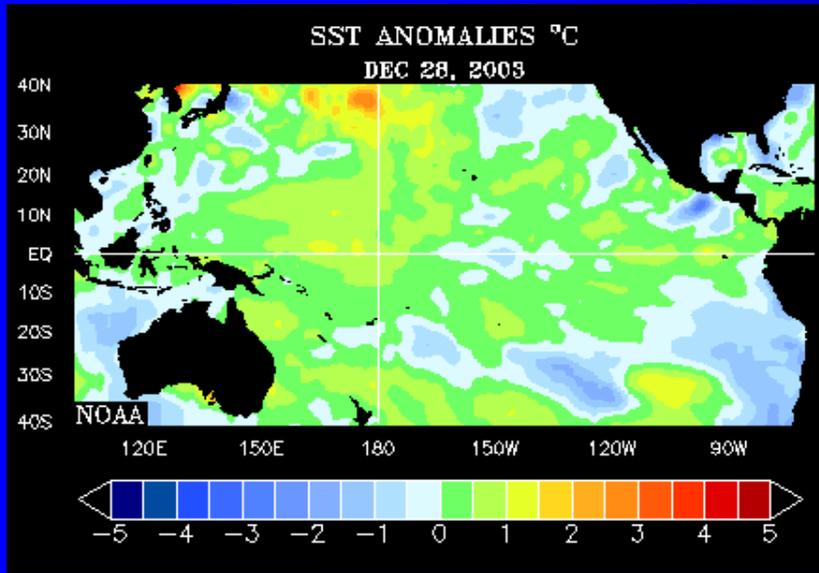


Service

- 10 daily requests for climate information
- Primary users
 - Lawyers
 - Insurance
 - Construction
 - Agriculture
 - State **Agencies**
 - Educators, Researchers, Forestry
- 15-20 media requests monthly

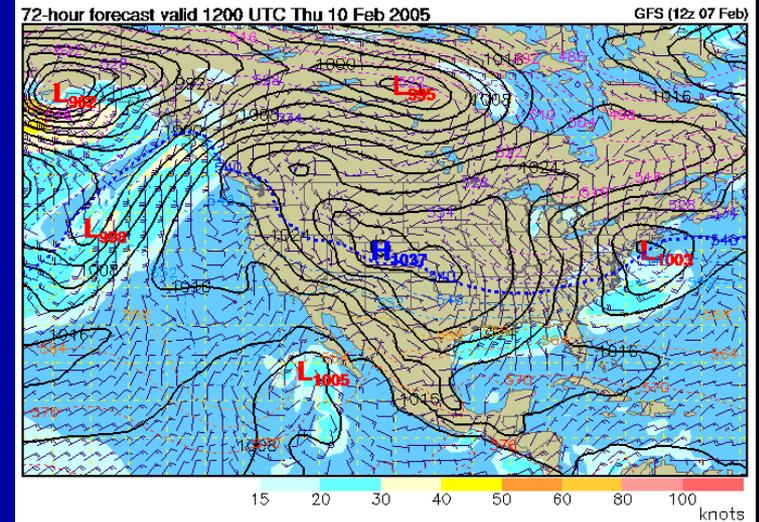


Sea Surface Temperatures



Atmospheric Pressure Patterns

Sfc Wind (knots) / MSLP (mb) / 500-1000 mb Thickness (dm)



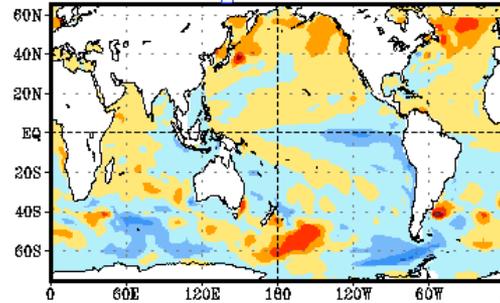
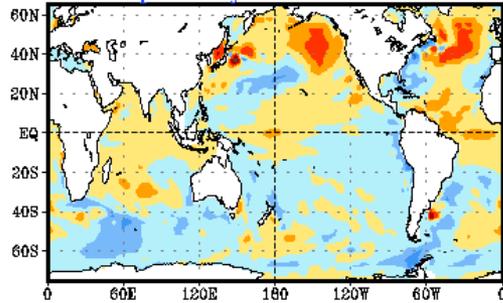
NWS/NCEP

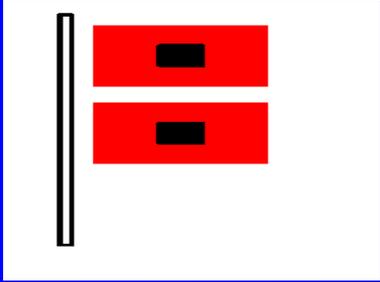
Last update: Mon Feb 7 2005
Initial conditions: 11Jan2005-30Jan2005

CFS seasonal SST forecast (K)

Mar-Apr-May 2005

Jun-Jul-Aug 2005





Hurricane and Emergency Management



➔ Before

- ➔ Research - Hurricane Climatology
- ➔ Participate hurricane task force meetings, coastal hurricane meetings, exercises

➔ During and After

- ➔ Coordinating with National Weather Service and National Hurricane Center
- ➔ Brief Governor, agency leaders, public, media, SLED, Public Safety, Emergency Management Division



South Carolina Emergency Operations Center





Atmospheric Scientists

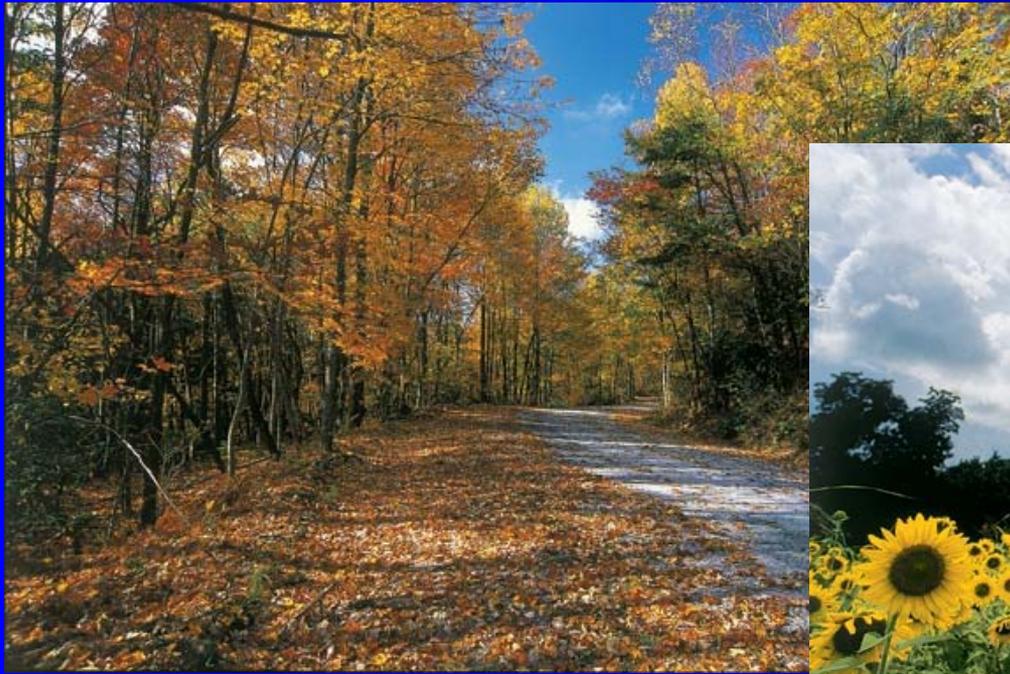
- Almost 4 in 10 atmospheric scientists work for Federal Government, largest employer of such workers.
- A bachelor's degree in meteorology or climatology, or in a closely related field with courses in climatology/meteorology, is minimum educational requirement; a master's degree is necessary for some positions, and a Ph.D. is required for most research positions.

Median annual earnings of atmospheric scientists in 2002 were \$60,200. Middle 50 percent earned between \$39,970 and \$76,880.

Average salary employed by Federal Government was about \$74,528 in 2003. Climatologists/Meteorologists in Federal Government with bachelor's degree and no experience received starting salary of \$23,442 or \$29,037, depending on their college grades. Those with master's degree could start at \$35,519 or \$42,976; those with Ph.D., at \$51,508.







Thank You

