

## CAREERS IN

# ATMOSPHERIC SCIENCES

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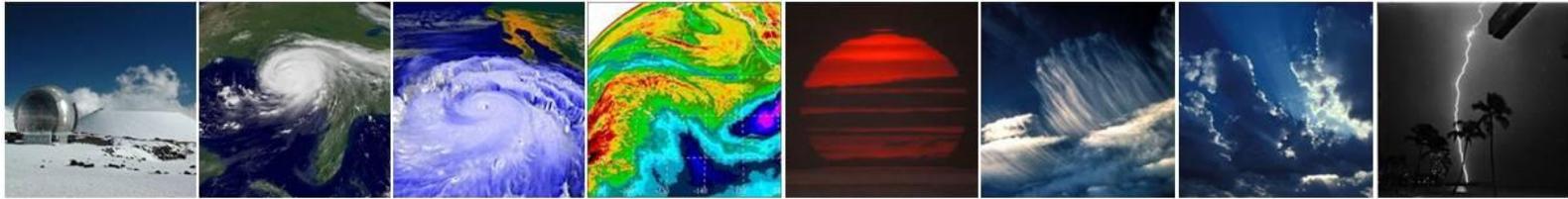
### IS A CAREER IN ATMOSPHERIC SCIENCES RIGHT FOR YOU?

Have you ever wondered what causes storms, or why Hawai'i has trade winds? Are you curious why hurricanes gain strength as they travel over water, but fizzle out when they hit land? Do you want to learn how weather maps on TV are made? Are you concerned about global warming and climate change? If you answered "yes" to any of these questions, then come and explore a career in atmospheric sciences.

### WHAT FIELDS OF ATMOSPHERIC SCIENCES ARE THERE?

- ◆ **Agricultural and Forest Meteorologists** study the inter-relationship between atmospheric sciences and the fields of plant, animal and soil sciences, ecology, and biogeochemistry.
- ◆ **Atmospheric Chemists** study urban and regional chemical make-up of the atmosphere.
- ◆ **Aviation/Navigation Weather Analysts** predict and analyze surface weather with direct application to operation of aircraft and marine vessels.
- ◆ **Biometeorologists** study the relationship between the atmosphere and living things.
- ◆ **Climatologists** study daily and seasonal weather events over a long period of time.
- ◆ **Dynamic Meteorologists** study the forces acting upon the atmosphere, and the equations governing the motion and the thermodynamics of the atmosphere.
- ◆ **Global Climate Change Scientists** study planetary scale atmospheric changes.
- ◆ **Instrumentation and Measurement Designers** design instruments used to measure the physical and chemical properties of the atmosphere.
- ◆ **Paleoclimatologists** study ancient climate and climate cycles.
- ◆ **Forensic Meteorologists** reconstruct past weather events for a given geographic area. The information is used mainly by insurance companies and for criminal investigations.





## WHAT KINDS OF JOBS CAN YOU GET AS AN ATMOSPHERIC SCIENTIST?

- The largest employer of atmospheric scientists in this country is the **United States government**. Many work for the National Oceanic and Atmospheric Administration (NOAA), which includes the National Weather Service. Some are on active duty with the military, while others are civilian employees of the Department of Defense. Other federal agencies that employ atmospheric scientists are the National Aeronautics and Space Administration (NASA), the Department of Energy, and the Department of Agriculture.
- Other major employers include **universities** and **private industry**. University atmospheric scientists teach and work in atmospheric research programs. There are increasing employment opportunities for atmospheric scientists in industry, research organizations, and private consulting firms offering **specialized environmental services** such as air quality, the development of a support for meteorological software and weather information systems, and forensic meteorology. Career opportunities in **forecasting** exist in four major areas: public, military, private sector, and aviation.

## WHAT ARE THE BASIC ACADEMIC REQUIREMENTS?

A Bachelor of Science degree is the minimum educational requirement for any position as an atmospheric scientist. Beginning positions in research, teaching, government and industry may require a master's degree, while a doctorate is necessary for some specializations and for college-level teaching. Atmospheric scientists must study a variety of fields, including atmospheric thermodynamics and physics, synoptic meteorology, atmospheric measurements, calculus, and differential equations.

In high school, students interested in careers in atmospheric sciences should take a diversified college-preparatory curriculum that includes advanced courses in physical sciences and mathematics.

One of the best ways to gain practical experience while in college is to work as an intern during the summer months. The American Meteorological Society (AMS) has a program with many companies in the private sector and the Educational Partnership Program (EPP), which is administered through NOAA, offers internships with the federal government.

## WANT MORE INFORMATION?

Contact the Department of Atmospheric Sciences at the University of Hawai'i at Mānoa.  
The department offers Bachelor of Science, Master of Science  
and Doctorate degrees in Atmospheric sciences.

[www.soest.hawaii.edu/met](http://www.soest.hawaii.edu/met)

