



National Weather Service

Detroit/Pontiac, MI



Careers

Typical Forecast Office Staff

- 10 Meteorologist Forecasters
- 3 Administrative Meteorologists
- 2 Hydrometeorological Technicians
- 3 Electronic Technicians
- 2 Meteorologist Interns
- 1 Hydrologist
- 1 Information Technology Specialist
- 1 Administrative Assistant

Required Coursework for NWS Meteorologists

(listed in semester hours)

- 6 Weather Analysis and Prediction
- 6 Atmosphere Dynamics and Thermodynamics
- 3 Physical Meteorology
- 2 Remote Sensing/Instrumentation
- 6 Physics (with laboratory work)
- 3 Ordinary Differential Equations
- 9 A combination of the following; Physical Hydrology, Statistics, Chemistry, Physical Oceanography, Physical Climatology, Radiative Transfer, Aeronomy, Advanced Thermodynamics, Advanced Electricity and Magnetism, light and optics, and computer science.

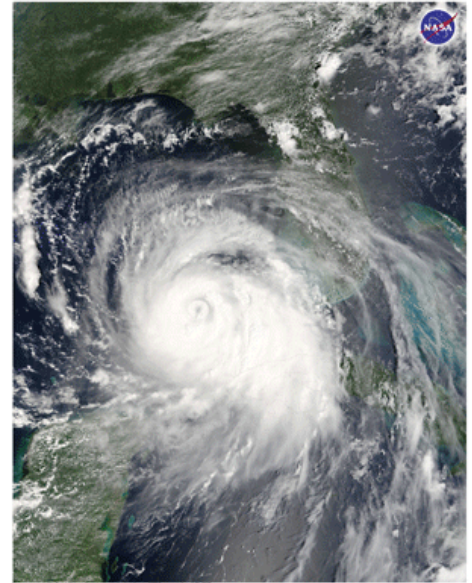
National Weather Service Detroit/ Pontiac, MI

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<http://www.weather.gov/dtx>

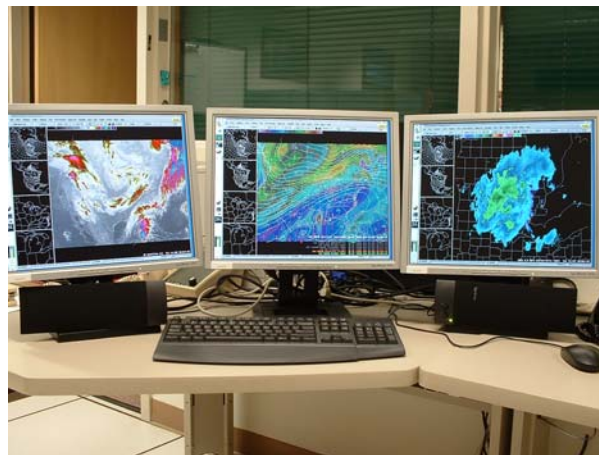
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NOAA's National Weather Service (NWS) provides weather, hydrologic, and climate forecasts for the United States, its territories, adjacent waters, and ocean areas, for the protection of life and property and the enhancement of the national economy. NWS data and products form a national information database and infrastructure which can be used by other government agencies, the private sector, the public, and the global community.

National Weather Service offices are staffed 24 hours a day, 7 days a week, 365 days a year. With over 120 field offices, we provide forecasts and warning for the public, aviation, media, marine, and fire weather communities via the Internet, All-Hazards NOAA Weather Radio, and the weather wire. We utilize the latest forecast technology with AWIPS (the Advanced Weather Interactive Processing System—see picture below), satellites, Doppler Radar, and numerical weather prediction to bring the most accurate and dependable weather information to you.



Hurricane Katrina, 2005



(left) A typical AWIPS workstation used to display radar, satellite, observations, and output from numerical models. This data is used to monitor weather conditions and create forecasts.

The National Weather Service is made up of over 4500 skilled employees, with 2600 of these working as Operational Meteorologists or Hydrologists. Typically the government hires new meteorologists at a rate of 50 to 100 per year. A typical work day for these meteorologists includes analyzing current conditions, digesting output from numerical model guidance, creating a forecast, and always monitoring the threat of hazardous weather. Although the main focus in the NWS is on meteorology, it takes a dedicated team of support personnel to put together an efficient work environment. With technology the forefront of all NWS offices, it takes a team of electronic technicians and information technology specialists to make the office run effectively. Electronic Technicians install and maintain various operational electronics including Doppler Radar, observation equipment, and computers. Information Technology Specialists implement, design, and maintain software and manage network security.

What is a Meteorologist?

Atmospheric scientists who forecast the weather are known as *operational meteorologists*. They study information on air pressure, temperature, humidity, and wind velocity, and apply physical and mathematical relationships to make short- and long- range weather forecasts. National Weather Service Meteorologists have the challenging and exclusive task of issuing watches and warnings for the United States to protect the public from severe weather, tornadoes, flooding, hurricanes, strong winds, and excessive heat and cold.



Newaygo County, 2005

Additional Careers in Meteorology (outside of the NWS)

- Stocks and Commodities
- Military
- Media (television, newspapers)
- Air Pollution
- Aviation
- Research and Development
- Biometeorology
- Professor
- Space Meteorology
- Forensic Meteorology
- Energy and Utility Companies

The field of meteorology is becoming increasingly competitive as more students graduate with meteorology degrees and increases in computing technology are resulting in fewer positions. Job opportunities are growing the fastest within the private sector. This prompts students hoping to enter the field to develop a versatile set of skills to make them more attractive to employers. Some useful skills include knowledge of computer programming, geographic information systems (GIS), and the ability to write and speak clearly. Although most meteorology positions in the NWS and private sector only require a bachelor's degree, a master's degree is becoming increasingly more common and desirable to employers.

Pro's and Con's for NWS Meteorologists

- Rotational Shift Schedule
 - * Midnight shifts
 - * Weekends
 - * Holidays
- Relocation
- Continuing Education
- Severe Weather Operations
- Constantly changing
- Nationwide Opportunities

Federal requirements for a meteorologist

Current high school students should concentrate on mathematics, science and physics with an increasing emphasis on computer science. In addition, a solid background in public speaking and written skills will make you a competitive applicant.

A bachelor's degree in meteorology, atmospheric science, or other natural science major can typically be completed in 4 or 5 years. These programs include a curriculum rich in calculus, physics, atmospheric dynamics, thermodynamics, and analysis and prediction of weather systems. The exact course requirements for work within the National Weather Service are listed on the front of this handout and may not be offered at all colleges.

Salary Outlook for Meteorologists

Starting salary for Meteorologists and Hydrologists within the NWS is approximately \$28,000 per year. After yearly management reviews and training the potential income for forecasters ranges from \$60,000-\$100,000 per year. In a highly competitive field, you may need to apply for openings in other NWS locations to become a forecaster. Management level positions being at \$80,000 per year and can exceed over \$120,000 per year. Electronic Technicians and Information Technology Specialists are positions that also require specialized training with approximate salaries of \$50,000-\$70,000 for Electronic Technicians and \$75,000-\$100,000 for Information Technology Specialists.

For More Information

NOAA Career Opportunities

<http://www.careers.noaa.gov>

U.S. Department of Labor

<http://www.bls.gov/oco/ocos051.htm>

Official Federal Career Opportunities

<http://www.usajobs.gov>

National Weather Service

<http://www.nws.noaa.gov>

National Oceanic Atmos. Admin.

<http://www.noaa.gov>

American Meteorological Society

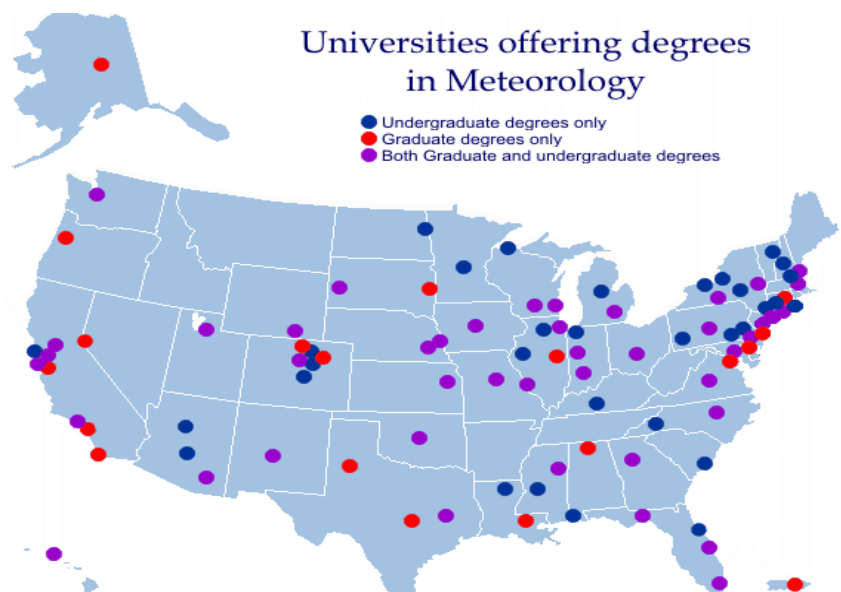
<http://www.ametsoc.org>

National Weather Association

<http://www.nwas.org>

Nat. Center for Environ. Prediction

<http://www.ncep.noaa.gov>



Source: <http://www.srh.noaa.gov/jetstream/nws/careers.htm>

Universities and their programs are in a constant state of flux. Before you decide on a course of study, you should make sure that the program and coursework fulfill the requirements of your career choice. Inclusion on this map does NOT guarantee that the program meets current NWS standards or the standards of other agencies.