

Hydrologists in the NWS



NOAA NATIONAL WEATHER SERVICE

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Nature of Work

The mission of the National Weather Service (NWS) Hydrologic Service Program is to save lives, reduce property damage, and contribute to the optimum use of the nation's water resources. NWS hydrologists are employed at many locations across the nation including local weather forecast offices, river forecast centers, and national support and training centers.

The Local Forecast Office

Service hydrologists are employed at most local forecast offices throughout the United States and must have a college degree in hydrology, the physical sciences, or meteorology. They prepare a wide variety of river and hydrologic forecasts for the general public and for other special interest users. Their primary responsibility is to administer the forecast office hydrologic program and to distribute alerts and warnings of flood conditions for the protection of life and property.



A service hydrologist may be assigned observational work; however, most observations are becoming automated. Service hydrologists in local forecast offices may participate in studies of local river forecast challenges, public flood preparedness initiatives, and other informational programs. Forecast offices operate 24 hours a day, 7 days a week on rotating shifts. The standard work week is 40 hours. Additional pay is provided for night work between 6 pm and 6 am, work in excess of 40 hours per week, and on holidays and Sundays. Starting salaries range between \$30,000 and \$38,000 per year, depending on your level of education, and climb to over \$80,000 per year for senior service hydrologists and management positions.

The River Forecast Center

There are 13 River Forecast Centers (RFC) located across the United States. Each Center is staffed by 19 professional employees with varying educational backgrounds which include engineering, hydrology and meteorology. The RFC initiates and is responsible for flash flood guidance, river forecasts, stream flow, and water supply volume forecasts. Each RFC provides hydrologic guidance and expertise to a network of local forecast offices located within each RFC area of hydrologic responsibility. Products generated by an RFC include flood forecasts, general river forecasts, navigation forecasts, reservoir inflow forecasts, water



supply outlooks, spring flood outlooks and various types of flash flood guidance. In addition, RFCs develop and implement new forecast procedures, forecast techniques, computer systems, data handling techniques, and hydrologic-related hardware. RFC hydrologists may also work rotating shifts.

National Centers

Some NWS hydrologists work at regional or national centers in support of national forecast and warning operations. National centers include: Storm Prediction Center (Norman, OK), National Hurricane Center (Miami, FL), Space Environment Center (Boulder, CO), Aviation Weather Center (Kansas City, MO), Climate Prediction Center (Camp Springs, MD), Environmental Modeling Center (Camp Springs, MD), and the Hydrometeorological Prediction Center (Camp Springs, MD). Hydrologists working at the NWS Training Center (Kansas City, MO), Warning Decision Training Branch (Norman, OK), and Cooperative Program for Operational Meteorology, Education and, Training (Boulder, CO) develop and provide state of the science training to NWS personnel. Training topics range from applied hydrology, to computer programming, to management and leadership.



Planning for Your Career in the NWS

To become a NWS hydrologist you must have a degree in physical or natural science, or engineering that included at least 30 semester hours in any combination of courses in hydrology, the physical sciences, geophysics, chemistry, engineering science, soils, mathematics, aquatic biology, atmospheric science, meteorology, geology, oceanography, or the management or conservation of water resources. The course work must have included at least 6 semester hours in calculus (including both differential and integral calculus), and at least 6 semester hours in physics.



Career Opportunities in NOAA

The NWS provides weather, water, and climate information. In addition, NOAA provides information and data about life on earth, our oceans, and the Nation's living marine resources. NOAA programs range from marine sanctuaries to environmental satellites to global climate change to ocean exploration initiatives. Electronic eyes and ears have taken NOAA from beyond Earth's orbit to deep within the oceans. This global perspective emphasizes that development and economic well-being are linked to a healthy earth environment. Other agencies within NOAA include the: National Ocean Service; National Marine Fisheries Service; Office of Oceanic and Atmospheric Research; National Environmental Satellite, Data, and Information Service; and, NOAA Marine and Aviation Operations.

Other Related Science Career Opportunities

In addition to the NWS, two other federal agencies providing career opportunities for hydrologists include the United States Army Corps of Engineers and the United States Geological Survey.

On the web:

- AMS Career Page www.ametsoc.org/AMS/AtmosCareers
- List of Colleges with Degree Programs www.ametsoc.org/AMS/curricula
- US Army Corps of Engineers Career Information..... www.usace.army.mil/CEHR/Pages/Home.aspx
- USGS Career Information..... www.usgs.gov/ohr
- NWS Student Career Experience Program www.nws.noaa.gov/mdl/coop/coop.htm
- NOAA Career Page..... www.careers.noaa.gov
- Federal Job Applications..... www.usajobs.gov