



Cooperative Observers

NOAA NATIONAL WEATHER SERVICE

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Cooperative Observers

Cooperative observers are dedicated volunteers who provide critical, daily, official weather observations across the country. With over 12,000 observers in the United States, it is estimated that the volunteer time of these individuals, families, businesses, and organizations totals over a million hours a year.

“The Cooperative Program is one of the most extraordinary services ever developed, netting the public more per dollar expended than any other government service in the world.”

Henry Wallace (Sec. of Ag.) to President Roosevelt in 1933

Weather Instruments

Using equipment installed and maintained by the National Weather Service, cooperative observers measure a variety of parameters depending on their location and the needs of the local network. Most observers measure precipitation (rain and snow), and many also measure high and low temperatures. Observers near rivers may report river stage, and a few other observers measure specialized parameters such as evaporation or soil temperature.

How the Data is Used

Climate records become more valuable with time. The climatological foundation built through the efforts of the volunteer Cooperative Weather Observer provides not only the cornerstone of our nation's weather history, but also serves as the primary data for research into global climatic change. Because of its many decades of relatively stable operation, high station density, and high proportion of rural locations, the Cooperative Network has been recognized as the most definitive source of information on U.S. climate trends for temperature and precipitation.

On a local level, the observations taken by volunteer observers are fundamental in helping the National Weather Service protect life and property. Longer term, weather offices collect the data and send it to the National Climatic Data Center in Asheville, NC, where it is entered into a huge national database that is available to the public. These data are invaluable in learning more about the floods, droughts, heat and cold waves affecting us all, and are also used in agricultural planning and assessment, engineering, environmental-impact assessment, utilities planning, climate and weather research, and litigation.



Can anyone become a Cooperative Observer?

Yes and no! People from all walks of life and organizations of many sorts volunteer as cooperative observers. However, in addition to both the willingness and commitment to report daily, potential observers must also have a suitable location. Determining whether a site is appropriate considers factors such as:

- ✓ Where does the station fit within the larger observing network? (The network goal is one weather station every 25 miles to allow estimating rainfall to an accuracy of ten percent.)
- ✓ If the new site is replacing a nearby site, is the new site close enough and comparable enough in terrain to maintain the integrity of local climate record?



- ✓ Is there an appropriate location on the site where the equipment can be safely installed and maintained, and where the measurements will be representative and uninfluenced by obstacles such as trees, buildings, etc?

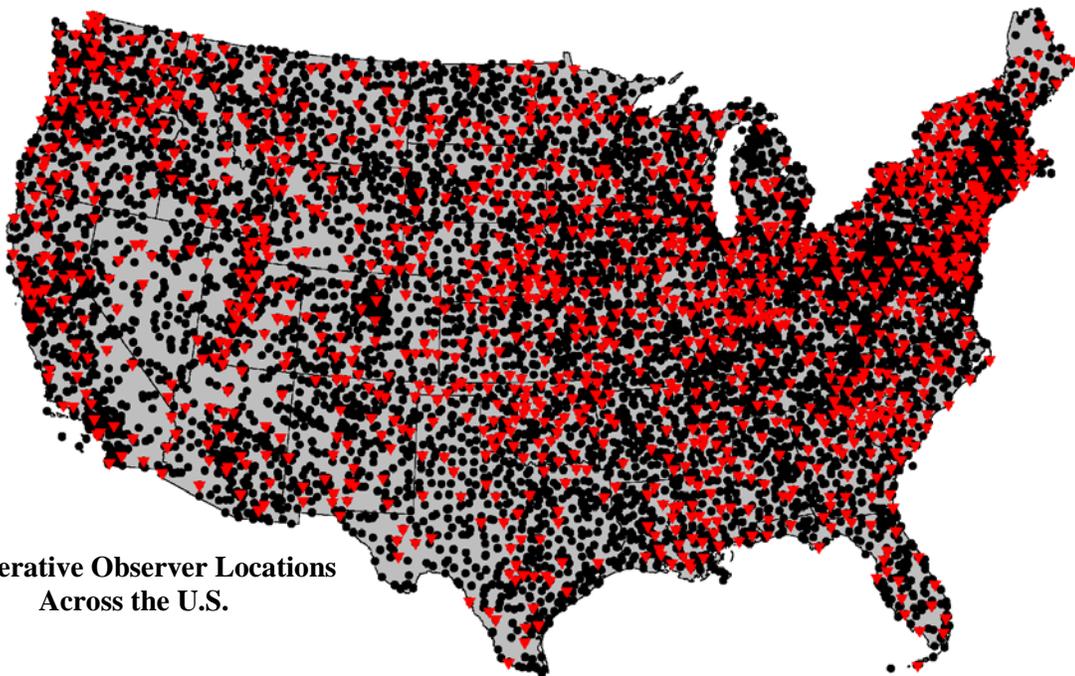


Brief History of Cooperative Observers

In 1776, Thomas Jefferson began to recruit volunteer weather observers throughout Virginia. By 1800, there were volunteers in five other states across the newborn nation, including Massachusetts, Pennsylvania, Connecticut, New York and North Carolina. In 1890, the growing volunteer force exceeded 2000 observers and was taken over by the Smithsonian Institution, but it was not until 1953 that a plan was established to blanket the nation evenly with weather observers. In conjunction with Iowa State University, Dr. Helmut Landsberg of the (then called) Weather Bureau conducted a study to establish a method of filling the open spaces of this volunteer network. It was determined that there should be one weather station every 25 miles for estimating rainfall within an accuracy tolerance of ten percent. The most recent statistics estimate that there are now 12,000 cooperative observers in the United States.

A Few Interesting Facts

- ✓ More than 12,000 volunteers nationwide take observations on farms, seashores, and mountains, in cities, suburbs, small towns, and parks.
- ✓ Some families have served as observers since the mid 1800's.
- ✓ Mr. Edward G. Stoll, who took observations for 76 years in Arapahoe, NE, has the longest history as an individual Cooperative Weather Observer.
- ✓ Mrs. Ruby Stufft, a volunteer weather observer from Elsmere, NE, recorded the weather for 70 years and became the first woman to reach that landmark.
- ✓ The earliest known weather observations in the U.S. were taken from 1644-1645 by John Campanius Holm - without the benefit of instruments.
- ✓ George Washington, Thomas Jefferson, and Benjamin Franklin all maintained long term weather records.
- ✓ George Washington took his last observation just a few days before he died.
- ✓ Thomas Jefferson maintained an almost unbroken record of weather observations between 1776 and 1816.



Cooperative Observer Locations
Across the U.S.

On the web:

- Cooperative Observer Program www.weather.gov/om/coop
- National Weather Service..... www.weather.gov