

Be A Citizen Weather Reporter



A young volunteer in Granger, Utah (around 1930) operates a cooperative weather station where he observes temperature, precipitation, sky conditions, etc. Courtesy NWS.

“The whole point is that person is helping out their neighbors by sharing that information”.

Chad Gimmestad - NWS Senior Meteorologist
From minute 12:18 of episode 1 of

The Crowd & The Cloud: <http://crowdandcloud.org/watch-the-episodes/episode-one>

Could you help save lives with your homemade weather instruments?

Maybe so!

The National Weather Service Cooperative Observer Program is a network of more than 11,000 volunteers who report weather observations from farms, urban and suburban areas, National Parks, seashores, and mountaintops. Data from volunteer weather observers are used to define the climate of the United States and to help measure long-term climate changes, as well as to provide real-time information to support forecasts, warnings, and other public service programs of the National Weather Service.

The Cooperative Observer Program was officially created in 1890, but the history of volunteer weather observers is even older. John Campanius Holm recorded the earliest known weather observations in the United States in 1644-45. George Washington, Thomas Jefferson, and Benjamin Franklin were also serious weather observers. Thomas Jefferson maintained an almost unbroken record of weather observations between 1776 and 1816, and George Washington took his last observation just a few days before he died.

An essential part of any weather observing station is a system for keeping accurate records of observations. Here's how to set up a Weather Journal, and some tips for making weather forecasts from your observations!

What You Will Do

Set up a Weather Journal and record regular measurements from the instruments in your Weather Station

What You Will Need

Copies of "Weather Journal Data Form"

How to Do It

At least once each day, record the measurements from each of the instruments in your weather station. Notice that there are two columns for "Barometric Pressure" and "Humidity." Record the readings from your instruments in the "Instrument" columns. The "NWS" column is where you can record measurements from your local weather office. Comparing the two columns gives you a way to convert your instruments readings to approximately the same scale used for official weather measurements.

Over time, you should begin to see patterns in your data. When the weather changes (it gets windy, starts raining, etc.), check your records for a day or two before. Was there a change in temperature, humidity, or barometric pressure? Did the wind direction shift? These kinds of changes can give clues about what kind of weather is coming. See "Tips for Amateur Forecasters" for more information about these clues.

Tips for Amateur Forecasters from the National Weather Service

Below is a general summary of wind and barometer indications in the United States. The amateur forecaster should modify the table as needed, based on his or her own observations. Barometric pressures in this table are in inches of mercury at sea level. If you use local weather reports to calibrate your instruments, you don't have to worry about this because official measurements are converted to sea level before they are reported to the public. A general rule of thumb is that atmospheric pressure decreases by one inch of mercury for every 1,000 feet of elevation.

If the Wind is Blowing from	and the Barometer is	the Probable Weather is
Southwest to Northwest	30.10 to 30.20 and steady	Fair with slight temperature change for one to two days
Southwest to Northwest	30.10 to 30.20 and rising rapidly	Fair, followed by rain within two days
Southwest to Northwest	30.20 and above and steady	Continued fair, with little temperature change
Southwest to Northwest	30.20 and above and falling slowly	Slowly rising temperature and fair for two days
South to Southeast	30.10 to 30.20 and falling slowly	Rain within 24 hours
South to Southeast	30.10 to 30.20 and falling rapidly	Wind increasing in force, rain within 12 to 24 hours
Southeast to Northeast	30.10 to 30.20 and falling slowly	Rain in 12 to 18 hours
Southeast to Northeast	30.10 to 30.20 and falling rapidly	Increasing wind, and rain within 12 hours
East to Northeast	30.10 and above and falling slowly	In summer: rain may not fall for several days In winter: rain within 24 hours
East to Northeast	30.10 and above and falling rapidly	In summer: rain likely within 12 to 24 hours In winter: rain or snow, with increasing winds
Southeast to Northeast	30.00 or below and falling slowly	Rain will continue one to two days
Southeast to Northeast	30.00 or below and falling rapidly	Rain, with high wind, followed by clearing within 36 hours, and by colder temperatures in winter
South to Southwest	30.00 or below and rising slowly	Clearing within a few hours, and fair for several days
South to East	29.80 or below and falling rapidly	Severe storm soon, followed by clearing within 24 hours, and by colder temperatures in winter
East to North	29.80 or below and falling rapidly	Severe northeast gale and heavy precipitation In winter: heavy snow, followed by a cold wave
Changing to West	29.80 or below and rising rapidly	Clearing and colder

Want to Do More?

Are you interested in becoming a volunteer weather observer? SKYWARN is a volunteer program established by NOAA's National Weather Service and partner groups to identify and describe severe local storms. Since the program started in the 1970s, information provided

by SKYWARN Spotters has helped the National Weather Service to issue more timely and accurate warnings for tornadoes, severe thunderstorms, and flash floods. In some areas, Spotters also are trained on warning signs for earthquakes, landslides, avalanches, volcanic

ashfall, and coastal hazards such as tsunamis, water spouts, and rip currents. See <https://www.weather.gov/skywarn/> for more information.

Weather Journal Data Form

Date	Time	Temperature	Barometric Pressure		Humidity		Precipitation		Wind	
			Instrument	NWS	Instrument	NWS	Type	Amount	Speed	Direction