

METEOROLOGY

Volunteer Observers Help U.S.

Some 12,000 unsung citizens daily record weather observations for the U. S. Weather Bureau. They provide a valuable service to the country, Vincent Marteka reports.

► EARLY in the morning, when most people are just turning over in their sleep to catch a few more winks, a 96-year-old man living in a small, Midwestern town of Kansas walks through the morning mists to a small shelter near his home.

In this shelter, there is a thermometer and, nearby, an instrument for measuring rainfall. After checking the amount of rainfall, if any, and the temperature, he then writes his observations down on a small card.

Each day, at the same time, the same observations are made, and at the end of the month the card is sent to a regional Weather Bureau office. For 365 days a year for more than 25 years, he has gone through the same procedure.

The man is M. G. Stevenson, a funeral director from Ashland, Kans. He is one of the 12,000 volunteer weather observers throughout the country who record weather information for the U. S. Weather Bureau. Most serve without pay.

The observers collect such weather information as rainfall, temperature and wind velocity from weather instruments supplied free of charge by the Weather Bureau and placed on the volunteer's property.

In recognition of these unsung volunteers, the Bureau is issuing a booklet honoring them, since their contribution to weather forecasting is of great value to the nation.

Volunteers Aid Meteorologists

Although the Weather Bureau maintains a highly skilled staff of meteorologists and technicians, the information obtained from these volunteers aid meteorologists in accurately evaluating changes in climate in different areas throughout the United States. Because the information is sent only once a month into regional Weather Bureau offices, it does not have any effect on daily weather forecasting.

The volunteer weather observers come from all walks of life. Some are doctors, farmers, housewives and clergymen; others are members of Science Clubs of America, high school science clubs and local business groups. They come from the rural villages of New England, the peaceful countryside of Alabama, the plains of Kansas, and the heavily populated California coastline.

The volunteers are proud, conscientious and dedicated persons who sacrifice much of their time in order to keep accurate daily records for the Weather Bureau. If the records are to be effective, readings should be taken at about the same time each day.

A Benedictine monk, Fr. Adelhelm Hess, of Conception, Mo., has been taking daily readings for more than 60 years, and four

generations of the Towers family in Rome, Ga., have provided weather observations for more than 100 years.

However, sometimes the daily readings are not always accomplished for one reason or another. Charles C. Smith once had to take his reading in the middle of the night because he forgot to do so during the day.

When volunteer observer Mabel Hunt of Burlington, Kans., was hospitalized, she had to get two neighbors to record her observations because her original replacement also became ill.

Sometimes groups, such as the high school science clubs affiliated with the Science Clubs of America, man volunteer weather stations as part of a science project. By actually observing and recording weather data, the student scientists acquire a better understanding and interest in the world of science. Some students even have their own volunteer weather station.

The Government has used volunteer weather observers for more than a century.

In 1848, James P. Espy became the first meteorologist of the U. S. Government. It was shortly thereafter that the first volunteer weather observer became an integral part in weather forecasting.

Prior to 1848, however, private citizens

were already taking weather observations for their own benefit. Thomas Jefferson, the third President and a man of many interests, recorded the weather with crude instruments from 1776 to 1816.

Today, the volunteer is much better equipped than his predecessors. If a citizen wants to become a volunteer weather observer, and observations are needed in that area, the Weather Bureau will set up weather instruments on the volunteer's property. These instruments are owned by the Government and are installed on the property at no cost to the owner.

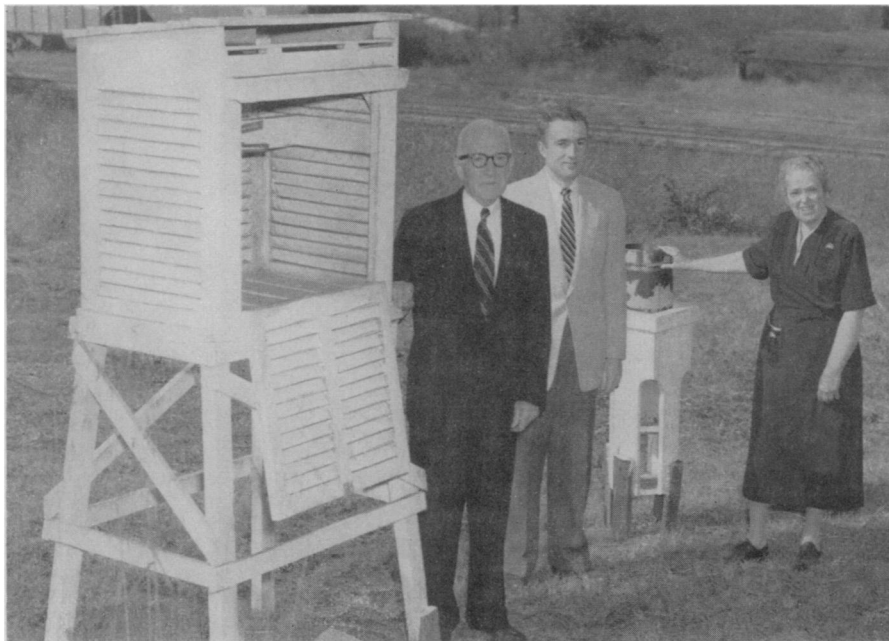
The types of instruments used depend on the amount of weather information needed in the particular area.

Typical "Weather Station"

A typical volunteer "weather station" consists of a thermometer and a rain gauge. The thermometer, which is actually two thermometers attached to a metal plate, measures the highest and lowest daily temperature, and is housed in a shelter to protect it from wind gusts that might cause incorrect readings.

The rain gauge looks like a stovepipe stuck into the ground. Inside there is a small cylinder, for collecting rainwater, with a "ruler" marked in inches of rainfall. After a rainstorm the volunteer measures the amount of rainfall by the height of the water level in the cylinder.

Some stations also have a pan of water from which rate of evaporation can be measured, and an anemometer, a cupped



DEDICATED VOLUNTEERS—Members of the Towers family in Rome, Ga., have been taking weather observations for more than a century. Fifty-six of the years of weather observing are represented by these members of the Towers family.

instrument for measuring wind velocity.

The fun of watching the weather change is not limited to volunteer weather observers. Any interested person can set up his own station by buying the same type of weather equipment from manufacturers whose products the Weather Bureau uses. The equipment ranges from a simple thermometer to complex radar sets for tracking storms.

Volunteer weather observers are not needed in the heavily populated eastern part of the country. If you live in these areas, do not bother contacting the Weather Bureau. They have more than enough volunteers for this area, along with a long waiting list.

However, if you live in sparsely settled areas such as the western Great Plains states or Alaska and want to join this unique group of dedicated volunteers who provide such a valuable service to the country, you would probably be a most welcome member.

The information sent into the regional Weather Bureau offices each month from the weather observers throughout the country are collated and put on punch cards. They include the high and low temperatures for the month, and the amount of evaporation, rainfall and snowfall, if any. The information is then grouped according to states.

On the basis of this information, the country is divided into broad climatic areas having similar weather characteristics. Dry desert areas, cold mountainous regions and windy coastal plains cross the width and length of the country without regard to such man-made boundaries as state lines. Observers in desert regions seldom measure rainfall, whereas those living high in the Rocky Mountains keep busy recording the big winter snowfalls.

Woodsmen, scientists and private citizens are among users of the weather information supplied by the volunteers. Before choosing a missile site in California, a Government agency pored over the temperature records of different regions looking for those with an ideal climate for missile firings.

Meteorologists incorporate the data into the framework of their weather patterns and studies of past climates. Even a newly married couple once consulted old weather records before deciding on a location for building their "dream home."

• Science News Letter, 79:42 January 21, 1961

ROCKETS AND MISSILES

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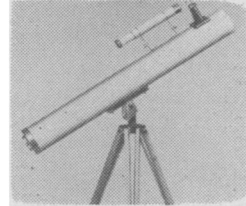
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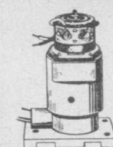
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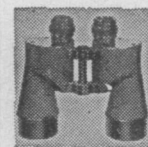
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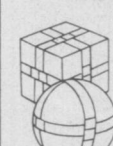
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