

A Science Service Feature

Released on receipt
but intended for use
January 19, 1928

? WHY THE WEATHER ?

Mailed January 12, 1928

By Charles Fitzhugh Talman,
Authority on Meteorology

WEATHER BUREAU PILOT-BALLOONS

The pilot-balloons used at stations of the United States Weather Bureau for observing the movements of the upper winds are about 6 inches in diameter uninflated, and 24 to 30 inches when filled with hydrogen for an ascent. They rise at a constant speed of 180 meters (590 feet) a minute.

After a balloon is released it is observed as long as possible through a theodolite, which is a modified form of transit. The angular readings of the azimuth and elevation circles, together with the heights of the balloon at various intervals of time, as known from the length of time it has been in the air, make possible an accurate computation of the wind direction and velocity at various levels.

For observations at night small lanterns are suspended below the balloons and the cross-hairs and verniers of the theodolite are illuminated with small electric lights. Pilot-balloons are sometimes followed to heights of 10 miles or more, but the average is from 2 to 3 miles.

(All rights reserved by Science Service, Inc.)

SCIENCE SERVICE,
21st and B Sts.,
Washington, D.C.