

A Science Service Feature

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? WHY THE WEATHER ?

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INTERNATIONAL STUDIES OF THE UPPER AIR

The investigation of the upper air forms a distinct branch of meteorology. Which has been given the name "aerology". Most of the work in this field has been done since the beginning of the twentieth century, and the results have been described as making meteorology a "science of three dimensions". Upper-air observations are now conducted on a vast scale. Every year hundreds of thousands of measurements of the direction and force of the winds at various levels above the earth are obtained by the use of pilot-balloons; small free balloons to which nothing is attached and which are sighted during ascent by means of theodolites. Many observations are also made in different parts of the world with sounding-balloons. A balloon of this type carries up a feather-weight set of instruments, which make a continuous record of barometric pressure, temperature and humidity. The balloon eventually bursts and the instruments are carried down gently by a parachute or an auxiliary balloon. In many cases the instruments, with their records, are never recovered, but a surprisingly large number are found sooner or later; sometimes months after the ascent. Kites carrying instruments that record conditions aloft are now less widely used than they were some years ago. The aeroplane is gradually assuming an important place in the program of aerology.

An international body which supervises studies in this field has existed since 1896, and is now known as the International Commission for the Exploration of the Upper Air. Its last meeting was held at Leipzig, August 29-September 3, 1927.

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