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A Science Service Feature

? Why The Weather ?

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Weather Observing for Science .

Did you know that weather observers read their barometers to the thousandth of an inch, their rain gauges to the hundredth of an inch, and their thermometers to a tenth of a degree? Did you know that they figure the sunshine by tenths of an hour, the cloudiness by tenths of sky cover, and the winds of the free air by a twelfth of a point and by a tenth of a meter per second? Why all this excruciating accuracy? They telegraph their reports for the weather maps in much coarser figures, for example, barometer to a fiftieth of an inch, thermometer to even degrees, and cloudiness to quarters or thirds of the sky covered.

In the weather small differences sometimes have large consequences. A hundredth of an inch difference in pressure in 20 miles will produce a gale in a low of ordinary size. Two tenths of a degree difference in temperature between 31.9 and 32.1 degrees Fahr. during rainfall makes all the difference between an ice storm and an ordinary rain.

For scientific studies of the weather the facts are essential: not figures that are approximations, but data that are as close to the truth as modern methods can make them. An ordinary household thermometer, accurate within 2 or 3 degrees, is good enough as a general guide to comfort; but a thermometer has to be ten times as accurate for the scientific purposes of a meteorologist.

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