

A Science Service Feature

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? WHY THE WEATHER ?

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DETERMINING THE DEWPOINT

Hygrometric effects have been noticed and regarded as weather signs from the earliest times. Pliny has been cited as the earliest observer of the dewpoint, but it was not until the middle of the 17th century that the first scientific instrument was produced for this purpose. The earliest condensation, or dewpoint, hygrometer dates from 1660 and was made at the Accademia del Cimento for measuring the amount of condensation on the outside of a glass vessel. In 1696 Fontana determined the increase in weight of a glass of cold water due to the condensation of vapor on the outside.

The principle on which the dewpoint is measured consists in determining the temperature at which condensation sets in on further cooling or at which it ceases to take place if the temperature of the object is rising. The shining surface of a vessel made of a good conductor of heat is generally most satisfactory, for the first "frosting" of the surface when condensation sets in is rather easily visible and the temperature of the surface may be closely indicated by the temperature of the interior of the vessel. While the simplest home-made dewpoint hygrometer is the silver cup containing cool water stirred by a thermometer, that for meteorological purposes is more elaborate.

Regnault, in 1822, produced a thimble-shaped polished metal tube in which dew was deposited by cooling produced in passing a current of air through ether.

Dines' dewpoint hygrometer appeared in 1871.

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