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A Science Service Feature

? WHY THE WEATHER ?

Dr. Charles F. Brooks,
of Clark University,
tells of:

WEATHER MAPS FOR LEVELS ALOFT

In looking at a weather map one sees depicted only the ground floor, or lowest level of the weather. A map of the weather at the height of a mile or so often shows quite different wind directions from those at the surface. From three or four to six miles high, the wind in middle latitudes is nearly always somewhere between southwest and northwest, and temperature contrasts between adjacent regions not so sharp as at the surface. When the sky is full of clouds of varying heights their different speeds and directions of motion indicate well the diversity of the air currents. Sometimes winds at five or six different levels may be observed.

Although most of us are concerned mainly with ground floor weather, the aviator and balloonist need to know about winds at all levels. Sometimes by ascending or descending a little the aviator can get a lift from a wind going his way. The Weather Bureau makes daily maps of winds and clouds at various heights, and uses them as aids both to aviation and general weather forecasts.

The necessary incompleteness of these maps, owing to the sparse distribution of aerological stations and to the frequent occurrence of low cloud sheets, has led to the development of an ingenious method for computing pressures and winds aloft from observations of surface weather.

(Tomorrow: Computing the Winds Aloft)

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