A Science Service Feature

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? WHY THE WEATHER ?

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AIRPORT WEATHER OBSERVATIONS

Twenty new "upper air" stations are being added to the sixteen already operated by the U. S. Weather Bureau. The new stations are mostly along the regular "airways" and were authorized by the recent "Air Commerce Act."

At these stations, the upper air is explored twice a day when possible, by means of "pilot balloons" about 2½ feet in diameter. The balloons are timed and their ascent watched through a theodolite or small telescope. They have sometimes been followed to a height of over fifteen miles . Three colors are used; on clear days, yellow can be seen most readily, on partly cloudy days red is best, and when the sky is entirely overcast, black balloons are employed. As the rate at which the balloons ascend is known, their height at any moment can be determined and, consequently, the height of low clouds into which they often disappear. On clear days, the balloons serve to indicate the direction and velocity of winds aloft. Sometimes, a balloon will start off in one direction andthen after rising farther, return in a reverse current higher up. The aviator is interested chiefly in forecasts of strong winds, fog, low clouds, and heavy snow. Temperature concerns him little, except that extreme cold may interfere with the performance of his engine.

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