

A Science Service Feature

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? WHY THE WEATHER ? Mailed September 8, 1932

By Charles Fitzhugh Talman,  
Authority on Meteorology.

NACREOUS CLOUDS

The latest mystery of that still littleknown region of the earth's atmosphere, the stratosphere, was recently reported by Prof. Carl Störmer, the great Norwegian authority on auroras, who finds from measurements made at his group of observing stations near Oslo that beautiful iridescent clouds float in the air far above the ordinary level of cirrus -- the feathery ice cloud usually described in textbooks as the loftiest member of the cloud family. They have been named "mother-of-pearl" clouds, or "nacreous" clouds.

Clouds showing rainbow tints have long been known, and some authorities have previously expressed the belief that they occur occasionally at great heights. The first positive information on this subject, however, has come from photographic measurements made by the same process that is used in measuring the height of the aurora in Norway and elsewhere. This consists of taking simultaneous photographs against a background of stars from two or more places several miles apart. The position with respect to the stars of the object photographed differs in the different pictures, and its height above the earth can be calculated from comparative measurements made on the plates. The nacreous clouds are so high that they are still illuminated by direct sunlight in the evening after the stars appear, and their altitudes have been found to range from 14 to 17 miles. This is fully three times the average height at which cirrus is found to occur in the latitude of Norway.

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