

A Science Service Feature

Released upon receipt
but intended for use
July 23, 1932

? WHY THE WEATHER ?

Mailed July 16, 1932

By Charles Fitzhugh Talman,
Authority on Meteorology.

STRATOSPHERE CLOUDS

Clouds of two distinct kinds are now known to occur, at times, in the stratosphere--the upper layer of the earth's atmosphere, the base of which is six or seven miles overhead in middle latitudes, considerably higher over the equator and considerably lower over the poles.

For many years there have been occasional observations of bluish white clouds seen shining through summer nights, and hence termed "noctilucent" (night-shining) clouds. These clouds first attracted scientific attention after the great eruption of the East Indian volcano Krakatoa, in 1883, and as they have also been seen after other volcanic outbreaks they are supposed by most (but not all) authorities to consist of fine volcanic dust, floating at such a height that they are illuminated by the sun at midnight. Measurements made many years ago indicated that they might be as much as 50 miles above the earth.

Much lower -- though fully twice as high as cirrus, the highest clouds usually mentioned in works on meteorology -- are the beautiful iridescent clouds to which Prof. Stoermer, in Norway has recently called attention. His measurements of these clouds by means of simultaneous photographs from two or more places, as stated in a previous "Why the Weather" note, show them to be 12 to 18 miles high, and he has just reported some new measurements (based in one case on more than 100 photographs) that leave no doubt as to the accuracy of these figures.

The clouds described by Prof. Stoermer were seen after dark; hence the term "noctilucent," applied to the loftier clouds above mentioned, ceases to be distinctive. On the other hand, Prof. Stoermer's name "mother-of-pearl clouds" for the clouds he has measured is equally applicable to the not uncommon iridescent clouds of lower levels. Both varieties of cloud peculiar to the stratosphere appear to need new names.

(All rights reserved by Science Service, Inc.)

SCIENCE SERVICE
21st and Constitution Ave.
Washington, D.C.