

A Science Service Feature

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? WHY THE WEATHER ?

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CLOUDINESS VS SUNSHINE

We do not usually think of a cloudy day as a sunny one, yet when the clouds are thin it is possible to have a full record of bright sunshine coincident with a cloudy sky. Even when the clouds are dense the sun may shine if even a small space of clear sky occurs in the right place.

In a hilly or mountainous region clouds may stand still over mountains for a long time, and the sun may shine uninterruptedly though the sky be more than half cloudy. Or the sun may not shine at all, if behind a cloud bank, even with the rest of the sky clear.

In northern latitudes in winter low clouds on the southern horizon may obstruct the sun though the sky be clear in all other directions and overhead. Cumulus clouds covering only half of the sky may, when the sun is low, cut off much more than half the sunshine, for only in the upper half of the sky may it be possible to see between the clouds.

A comparison of sunshine and cloudiness charts indicates that the frequent occurrence of thin sheet clouds allows us to have more sunshine than the average cloudiness would indicate. The difference is not large, however, being of the order of less than 0.1 of the sky. Thus, where the average cloudiness is 0.5, the proportion of bright sunshine is not likely to be over 0.6.

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