

A Science Service Feature

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? WHY THE WEATHER ?

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SOME HEATING EFFECTS OF THE SUN

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While voluminous records have been collected of the temperature of the air in different parts of the world, there are rather meager statistics concerning the temperatures acquired by the earth's surface and other solid objects exposed to the sun's rays in different localities.

Alfred Angot, in his treatise on meteorology, tells us that the temperature at the surface of the Sahara and of sandy deserts in Australia can exceed 80 degrees centigrade (176 Fahrenheit), but gives no definite references to measurements. The surface temperature of the Sahara was measured by Foureau at Iferouan May 12, 1899, and found to be 159 degrees Fahrenheit. Obrutschew records various temperatures ranging from 140 to 158 degrees Fahrenheit in the central Asiatic desert.

H. G. Cornthwaite has measured the temperature of iron and steel painted different colors and exposed to the sun at Balboa Heights, Panama. The observations were made in the latter half of April with the midday sun directly overhead. A half-inch hole was drilled into the center of each block and filled with mercury, in which a thermometer was inserted. The highest temperature recorded was 133 degrees Fahrenheit in steel painted black, and it is estimated that under the most favorable conditions possible in the Canal Zone the maximum temperature of exposed steel is not likely to exceed 140. With steel painted other colors, lower temperatures were recorded, green being nearly as hot as black, red much cooler, and white slightly cooler than red; but the difference between black and white averaged less than 20 degrees at midday.

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