

THE SEVERITY OF SUMMERS AT MANILA

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The severity of the summers of a given locality may be graded according to the absolute maximum temperature of the season or according to the highest monthly mean temperature.

The usual method of grading as most severe that summer in which the maximum temperature was the highest gives undue weight to that particular value of the maximum temperature reached, but fails to convey an idea of the length of time during which the high temperature prevailed. Yet it is unquestionably certain that human comfort as well as animal and plant activities are influenced both by the intensity and the duration of the tropical summers. Neither is the absolute maximum a true index of the heat experienced by the human body in a summer, nor is the lowest minimum an adequate measure of the cold which the human organism has undergone during a winter. Were the annual minimum the only standard of classification, the minimum of -10° C. observed only twice in Paris during the February of 1912 would lead us to class the winter of 1911-1912 among the coldest, when in reality and according to the prudent estimate of all the citizens of Paris it was the warmest one on record.

The mean monthly temperature cannot be taken as an adequate expression of the severity of a month, because the mean monthly temperature may be almost normal and show no irregularity whatsoever, not because every day has had a uniform temperature, but because of a lucky balance of two extreme periods, one very warm and another very cold. Such accidental balance of daily extremes took place in Manila in the month of April of 1912. Unquestionably the month was very warm, as shown by the fact that on none of the last 11 days of the month did the maximum temperature remain below 36° C. and on three of them it reached the unusual heights of 37.4° C. and 37.5° C. Yet, the mean monthly temperature remained below the normal of the month, because, the nights being generally clear, the daily minima were usually rather low and consequently the monthly mean temperature was only slightly different from the normal.

In the classification of summers and winters, Angot, the late Director of the French Meteorological Service, devised a method which takes into consideration both the intensity and the duration of the temperature. In the study of winters, the criterion used is the sum of the daily minimum temperatures that fall below 0° in each month. Similarly, in the classification of summers, the standard used is the sum of the excess of the daily maximum temperatures above a definite temperature, chosen as basic.⁽¹⁾ It cannot be denied that the method is somewhat subjective and gives results dependent upon the temperature selected, because the selection of the basic temperature is influenced by the criterion of the investigator and because we do not know yet which is the limiting temperature that represents best the physical relation between temperature and phenological phenomena or human comfort. It is the consent of the people who have lived many years in Manila that, when the thermometer reaches 34° C., the feeling of uncomfortably hot weather becomes general. For this reason the temper-