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? WHY THE WEATHER ? Mailed October 21, 1933

WEATHER AND EROSION

By Charles Fitzhugh Talman,
Authority on Meteorology.

Rather late in the day, the world has awakened to the enormous losses inflicted on agricultural lands by soil erosion, and a large amount of research has recently been devoted to this process and the means of keeping it in check. Slope, nature of the soil, kinds and amount of vegetation, etc., are factors in the process but the two agencies that actually cause erosion are atmospheric; viz., precipitation and wind. We are indebted to Dr. J.F.V. Phillips for the following summary of the meteorological aspects of the subject:

"Areas experiencing a definite rainy and a definite dry season are more liable to soil wastage than areas experiencing a well distributed fall. Irregularly distributed, severe downpours do much harm in that the run-off is so enormous; in this connection it is of interest to note that if the velocity of run-off be doubled, the transporting power is increased 64 times (or two to the sixth power). Areas subjected to low atmospheric humidity, warm dry winds, and therefore, intensely high total evaporating power of the air, are more liable to wind and water erosion than more humid areas. In this particular connection, the severity of vegetation fires and the evil influences of overstocking are directly proportional to the difference between the rainy periods and the dry ones. A factor of no little importance, too, is the severity of frost; frosted soils are liable to become more readily transported by wind, but on account of their higher capacity for absorption of water, less readily water borne."

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