

The absolute amount of water-vapor in forest air is very slightly greater than that in the open, and on account of the lower temperature of forest air, its relative humidity is generally higher than that of air in the open.

*The Influence of Forests upon Precipitation.*

It has been generally stated by those anxious to emphasize the deleterious effects of deforestation, that the wholesale destruction of the forests has resulted in decreased rainfall over the deforested areas. This may be the case, but positive proof is lacking. It seems probable that the rainfall over certain parts of Ontario has decreased within the last 25 years. But whether this is a consequence of the clearing of the land, or merely a result of those changes of climate that occur over large cycles of time, who can say? There is no component of the climate that is more variable and uncertain than the rainfall. An experimental inquiry into the relation between the forest and rainfall is, from the very nature of the problem, exceedingly difficult. To conduct such an inquiry, all factors, other than the forest, that can cause a difference in the observed rainfall, must be eliminated, and the experiment must cover a long series of years. Many such attempts have been made, with conflicting results. Experimentally the question is still undecided, but the consensus of opinion is that the forest has little or no influence on the amount of rainfall.

The question may be examined theoretically with some interest. Rainfall is the consequence of evaporation of moisture from the earth's surface, with subsequent condensation of vapor caused by cooling of the air containing it. Where there is no evaporation there can be no rainfall, unless vapor is carried over from some other area. Deserts are rainless because there is no evaporation there, and because the air above desert regions is too hot and dry to allow of cooling and condensation of vapor that may be carried over them; also these areas are usually so situated that vapor-bearing winds do not reach them.

Rainfall over any locality may be increased either by an increase of evaporation from the area in question, and a subsequent condensation and fall over this area, or by an attraction exercised upon large air movements whereby clouds and vapor-laden winds are diverted to the locality and precipitate rain there upon.

Of the various causes of rainfall, the principal is the upward movement of moisture-laden air and the cooling by expansion as the ascending air reaches levels of less and still less pressure. This upward movement may be part of a great cyclonic movement, covering hundreds of miles in horizontal extent, such as