

Released upon receipt
but intended for use
Dec. 6, 1934

A Science Service Feature

? WHY THE WEATHER ? Mailed Nov. 28, 1934

LAND DRAINAGE AND RAINFALL

By Charles Fitzhugh Talman
Authority on Meteorology

Because the water vapor from which rain is condensed is carried by the winds far and wide over the earth, the large-scale drainage of land in a certain region cannot appreciably diminish rainfall in the same region through diminishing the supply of moisture to the atmosphere. A somewhat greater effect on rainfall, though probably always a slight one, might result from the change in air movements over the region due to the substitution of land for water. Thus if a vast lake were replaced by a desert or a dry plain, we should expect an increase in rainfall, because the land, when heated under sunshine, would set up rising currents in which the air, cooling by expansion, would condense more of the water vapor brought by the winds.

Writing of the drought of 1934 in Iowa, Charles D. Reed, in charge of the climatological work of the Weather Bureau in that state, says:

"Some have thought that the cutting of trees, the drainage of lakes, ponds and sloughs and even the drainage of the land by tiles may have produced this result, but how can this account for the drought in the British Isles, which is one of the more serious of record, when the British Isles are entirely surrounded by an ample supply of water? The State of Michigan has had its share of drought in 1934 yet it is surrounded on three sides by water. The drainage of lakes in Minnesota has not greatly reduced the area of exposed water surface yet Minnesota has had somewhat of a drought also.

"Early in the 90's only 571 square miles of Iowa were covered with water, which is about 1 per cent. of the total area. Probably not more than half of this has been drained. It is hard to see how this fraction of 1 per cent. of the area could make any large difference, inasmuch as the prevailing winds of Iowa are mostly southerly in the summertime, and the lake and slough area is largely in the northern portion of the State."

(All rights reserved by Science Service, Inc.)

SCIENCE SERVICE
21st and Constitution Ave.
Washington, D.C.