

METEOROLOGY

Midwest Prairies Linked With Hot Sahara Desert

Persistent High Pressure Area Spreads Clear Across Atlantic and Makes Cooling Storms Detour to North

SCORCHING heat over the entire West, from the Mississippi to the Rockies and from the Canadian border almost to the Gulf, can be blamed on a pile-up of high barometric pressure over the North Atlantic Ocean, which hangs on persistently, and shunts possible cooling storms far toward the north, to spend their treasures in Canada.

The outlying edge of this barometric barricade cuts across the Southeastern states, and is immediately responsible for the sufferings of citizens and renewed peril to crops. But the whole high-pressure area spreads clear across the ocean, and links the sweltering prairies with the mirage-shimmering sands of the Sahara, in Africa, for the same lines of barometric pressure that lie across Kansas and Iowa, run also through the world's greatest desert.

This feature of late July's record-breaking heat and its causes was explained by Charles D. Reed, senior meteorologist of the U. S. Weather Bureau office in Des Moines.

The same persistent heated area, devoid of any storm-bringing "lows," was also responsible for the long delay in the U. S. Army-National Geographic stratosphere balloon flight, Mr. Reed added. The normal procession of "highs" from the Pacific coast or Canada was interrupted, and until one of these moved across the bowl in the right relationship, the balloon could not be launched safely. Furthermore, the sudden rising of small local "blubs" of hot air might cause spotty thunderstorms, which would make the flight of the enormous fragile bag of hydrogen altogether too risky.

Clockwise Circulation

Returning to the causes of the heat, Mr. Reed said: "The wind circulation around any area of high barometer in the northern hemisphere is clockwise, that is, the wind circulates around the center in the direction of motion of the hands of your watch. Hence the wind circulation over the Mississippi

and Missouri valleys on the border of a great high pressure center such as I have described is from some southerly direction with great persistence.

"Moreover, this large high pressure area affords stubborn resistance to the areas of low barometer commonly known as storm centers which in their normal course move from west to east across the United States. Striking this high pressure barrier, the low pressure centers either disintegrate or are shunted far northward into Canada.

"Normally as these centers of low pressure pass eastward there are intervals of northwesterly winds bringing the cooler temperatures of the northern latitudes into the Midwest, but when these low-pressure areas are thus broken up or deflected, there is no respite from the southerly winds and scorching sunshine, and there is a cumulative effect of heat from day to day that sends the thermometer higher and higher.

"Finally, some force not fully understood by meteorologists breaks up the great high-pressure center over the Atlantic and restores the normal eastward procession of low-pressure centers across the Midwest."

Hot August Expected

A hot August may be expected to follow hot July in the central part of the United States, if temperature correlations observed by Mr. Reed hold for this year as they have in the past. July mean temperatures for Iowa this year have averaged about eight degrees higher than normal July means; and Mr. Reed's statistics indicate that when the excess is only three degrees the chances of a hot August following a hot July are about 100 per cent.

The conditions for Iowa are paralleled fairly closely by conditions throughout the West and Midwest; so that sweltering humanity and suffering crops and livestock do not have a particularly consoling prospect for late-summer comfort.

There is also a strong probability that rainfall will be deficient in August, for

Mr. Reed's statistical studies disclose a correlation between July heat and August drought in past years. This correlation, however, is not quite so strong as that between above-normal temperatures in the two months.

Danger to the corn crop has been allayed considerably by numerous timely local rains, so that the prospects for a droughty August are not as alarming as they might otherwise be, except in southern Iowa where the corn is already given up for lost.

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CLIMATOLOGY

If America Becomes Desert It Will Not Be In Our Time

PERSISTENT drought and abnormal heat, returning annually for several summers, have again raised the question whether America is being turned into a desert. There is a shuddery thrill in such speculations which some people seem to enjoy a great deal.

It is not likely that camels will be substituted for cows in Nebraska in anything like our own time; and all the shieks one is likely to see in Ohio will continue to be of the corner drugstore variety. Sweeping long-time changes in climate have occurred, but they have always been measurable in terms of millennia rather than of mere decades.

There was, apparently, a persistent warm period in Europe during the earlier Middle Ages. It had enough effect to make the colonization of Iceland and Greenland possible. When colder winters returned, about the fourteenth century by the best available records and conjectures, the Greenland colonies were quite literally frozen out, and the hopeful infant settlement in Vinland, on the North American mainland, perished.

In the interior of the North American continent, also, there seems to have been a longer period of drier, warmer climate than that which we now regard as normal. Whether or not this coincided with the Viking settlement period is not known. But evidence for its existence has been interpreted by Prof. Paul B. Sears of the University of Oklahoma, on the basis of pollen deposits he has found in bogs in the Ohio Valley and elsewhere.

During this dry-warm period, Prof. Sears has suggested, the Corn Belt, then an affair of Indian cultivation, may have migrated eastward, following the retreating forests. At its close, when cooler-moister climate made high tree