A Science Service Feature

Released on receipt
but intended for use
June 22, 1926

? WHY THE WEATHER ?

Mailed June 15, 1926

By Dr. Charles F. Brooks
of Clark University

COAST FOGS

The coast of Maine and the coast of California are the foggiest two regions of the United States, and in both places the fogs come mostly in summer. The fogginess of the Maine coast is typical of those of the Maritime Provinces, Newfoundland and Labrador. On both the Maine and California coasts the water along the shore is much colder than the water 100 miles or so out to sea. In the Atlantic, the Gulf Stream is responsible for this warm water out from shore; in the Pacific, the Japan Current Drift.

On hot summer days, the air over the land is heated and expanded, and overflows above onto the ocean. This starts a return flow at the surface, known as the sea breeze. The hotter the interior, the stronger the sea-breeze becomes. If the onshore wind were only a daytime phenomenon of this sort from but a short distance out to sea there would be little coastal fogginess. The interior of California, however, in mid-summer is so much hotter day and night than the chilly coastal waters that the sea breeze becomes a continuous wind and comes from some 50 or more miles out to sea. Along the coast of Maine there is the same sort of wind, but much less strongly developed because the interior does not get so hot. Passing lows, however, make up for this and fairly often draw air from some distance south across the cold waters and onto the coast of Maine.

The wind off the relatively warm ocean is of moderate temperature and well supplied with vapor. As it crosses the belt of cold water near shore it is readily chilled to the dewpoint and becomes foggy. The fog is carried a short distance beyond the shore, but soon evaporates as it warms on traveling inland.

SCIENCE SERVICE,
21st and B Sts.,
Washington, D.C.