New England and Canada the annual rainfall is now 45 to 50 inches a year, and it was then probably still greater, perhaps 55 to 60 inches. Farther north, at the present time, the precipitation decreases while the cold increases. In northern Labrador the former is reduced to 20 inches. In Greenland, where ice is perpetual except within 30 to 60 miles of the coast, the mean annual precipitation is but 10 inches.

The mean annual precipitation west of New England over three fourths of the state of New York is now 38 to 42 inches. But in the Mississippi valley, over Wisconsin, it varies from 32 to 38 inches; and over the larger part of Minnesota, from 20 to 32 inches, while farther north in Manitoba it is mostly between 20 and 10 inches. Moreover, in the Continental Interior the summer isotherms make a long sweep north, that of the July mean of 70° F. extending beyond Lake Winnipeg, even to 56° N., which is 10° of latitude, or 700 miles, farther north than the position of the same isotherm over New England. Consequently, New England would have made a large accumulation long before the Mississippi valley in the same latitudes had any permanent ice. And after the ice had become permanent, it might have disappeared over the Interior while on the eastern border it was still accumulating. With the conditions in the Continental Interior so near the critical point, the ice-mass there would have responded readily to changes of temperature; a meteorological change might have carried off the ice for a breadth of scores or hundreds of miles, which would have made no impression in corresponding latitudes to the eastward.

At the same time, in latitudes beyond 60° N., the precipitation might be too small for great accumulation and glacial movement. However great the cold became, the icy heights to windward were everywhere robbing the air of its moisture, and so leaving little for the regions to leeward.

Southern limit of the ice. — Under such various conditions the ice became distributed over the breadth of the continent from the Atlantic Ocean to the Pacific.

The map of North America, Fig. 1548, shows the southern limit of the ice-sheet, as ascertained from the traces it left over the surface. The limit is indicated by the heavy line crossing the map from southeastern Massachusetts over southern Illinois and northern Montana to the Pacific coast. Its most eastern observed point is Nantucket; thence, it extends along the islands south of New England, to Perth Amboy in New Jersey. Farther east and northeast its course was probably over George's Shoal, 150 miles east of Cape Cod, where the minimum depth is now but a few feet, and over the shoal region off Nova Scotia (by Sable Island) and Newfoundland. From Perth Amboy it crossed New Jersey and Pennsylvania obliquely, entered for a short distance western New York; then bent southwestward to southern Illinois. Beyond the Mississippi and the meridian of 97° W. it made a bend northward to 47° N., on account of the dry and warm summer climate of the Continental Interior, and near this parallel it reached the Pacific coast. But in the Rocky Mountain or Cordilleran region, it covered