

The difference of $20\frac{1}{2}$ feet between Lake Superior and Huron occurs in the rapids of St. Mary's river; the $8\frac{1}{10}$ feet between Lakes Huron and Erie, mainly in Detroit river. The difference of 326 feet between Lakes Erie and Ontario occurs in the vicinity of Niagara Falls, and is principally assembled as follows:—100 feet in the five miles of rapids between Lewiston and the lower Suspension Bridge, 10 feet in the rapids between the Bridge and the Falls, 160 feet at the Falls, 50 feet in the rapids immediately above the Falls, and 6 feet in the upper Niagara river. The mean depth of Lake Superior is about 475 feet; the deepest point marks a depth of 1,008 feet, or 406 feet below the level of the sea. Lake Huron has a mean depth of 250 feet and a maximum depth of 750 feet. Lake Erie is comparatively shallow, having an average depth of less than 70 feet and a maximum of 210 feet. Lake Ontario has a mean depth of about 300 feet and a maximum of 738, or nearly 500 feet below the level of the sea. The channel of the rivers connecting the lakes seldom exceeds the depth of 50 feet. If the lakes could be drained to the level of the sea, Lake Erie would disappear, Lake Huron reduced to quite insignificant dimensions, Lake Michigan to a length of about 100 miles, with a width of 25 or 30 miles, Lakes Ontario and Superior, although with diminished areas, would still preserve the dignity of their present titles as Great Lakes.

A chemical analysis of water taken from the deepest part of Lake Superior failed, under the application of delicate tests, to indicate the presence of salt. The beds of the lakes away from the vicinity of the shore lines, and at depths exceeding 100 feet, are almost invariably covered with clay. Specimens from the deep soundings of Lake Superior were invariably soft clay, varying in color from red to yellow and blue. In the deepest parts, the drabs and bluish tints predominate. The temperature at the deepest points varies little from the mean annual temperature of the surrounding air. The temperature of Lake Superior at depths exceeding 200 feet varies but slightly from 39° F. In Lake Huron, at depths of about 300 feet, the temperatures in the months of June and August were 52° F., while, at a depth of 624 feet, the temperature was 42° F., the surface temperature being 52° F., and the air 64° F. The mean annual rain and melted snowfall of the several lake