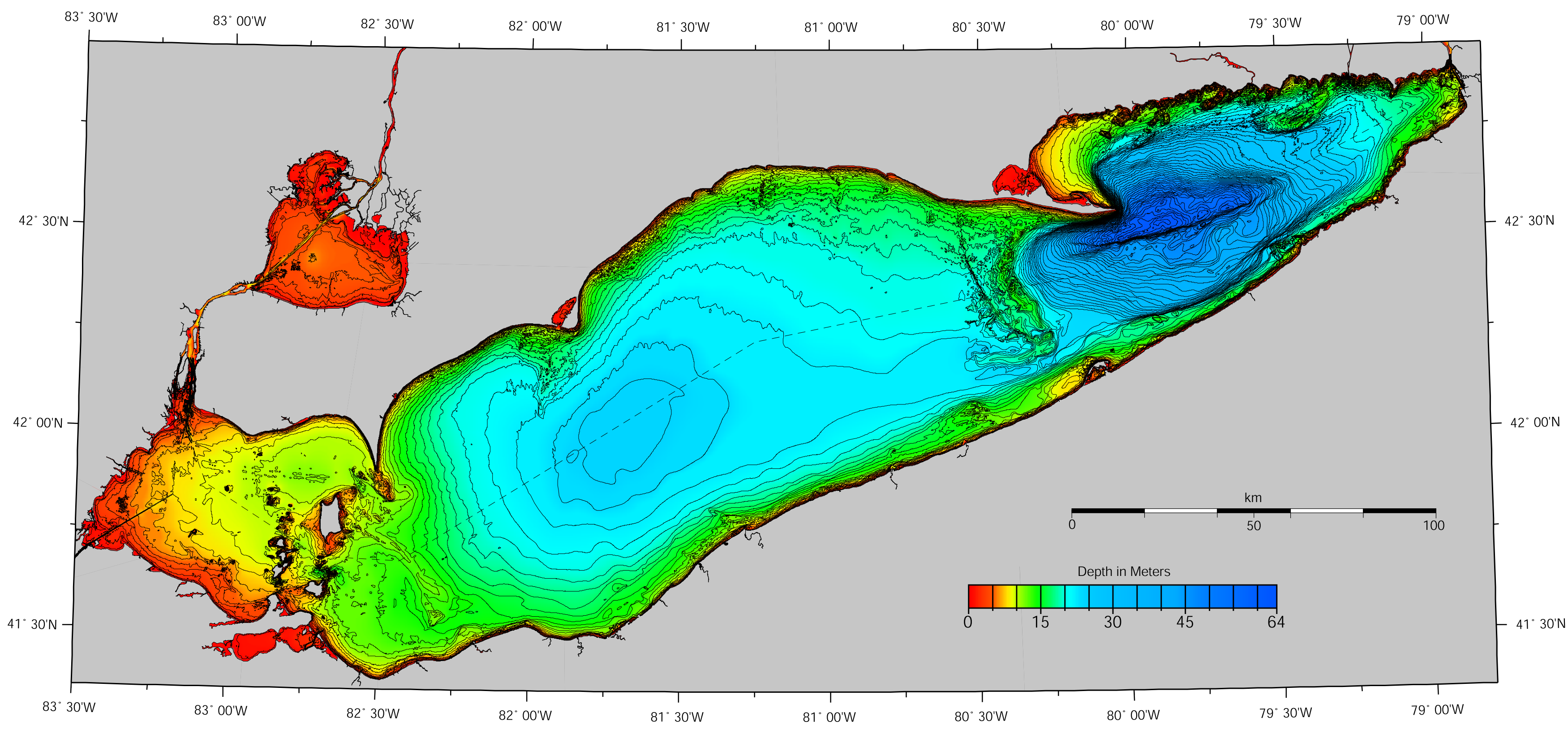
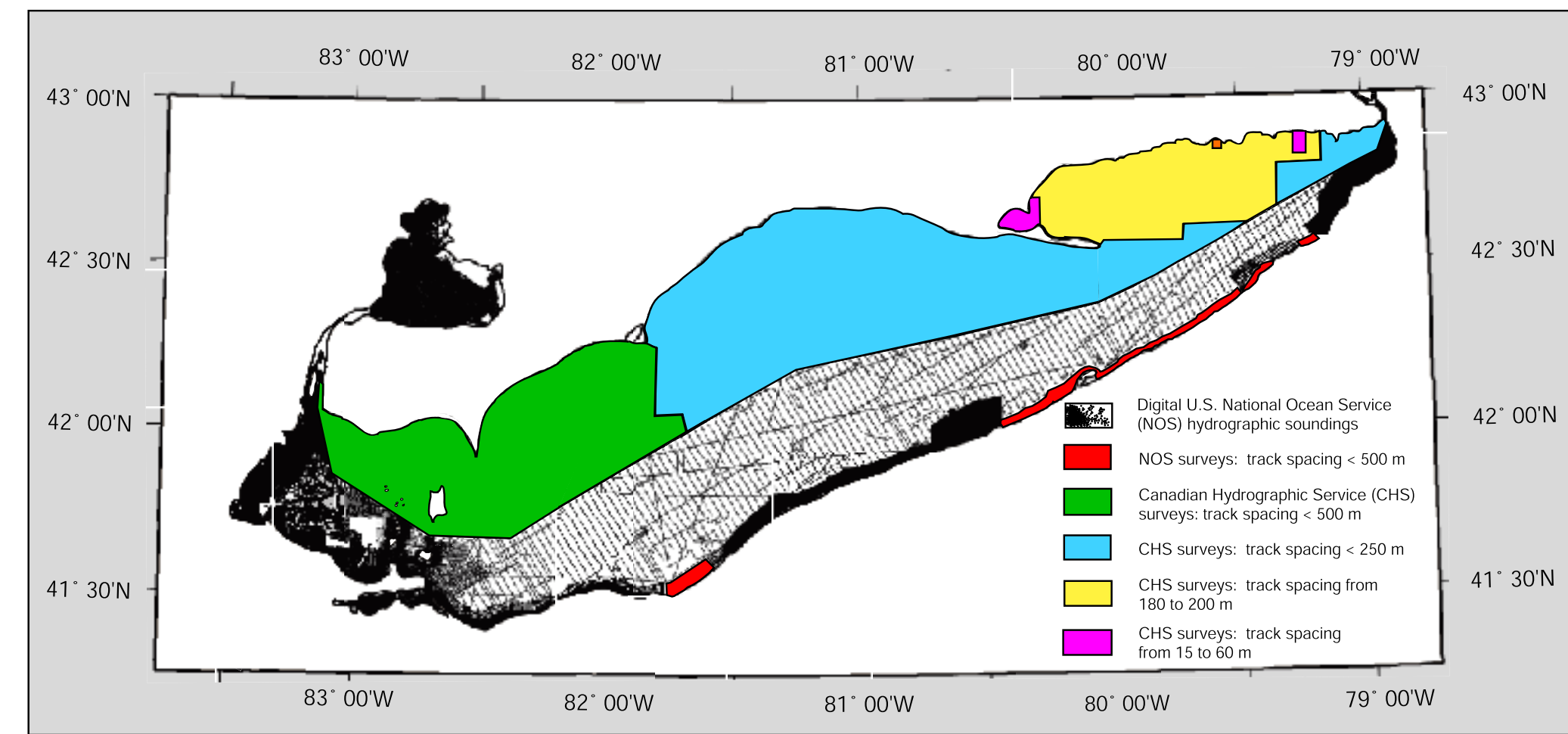


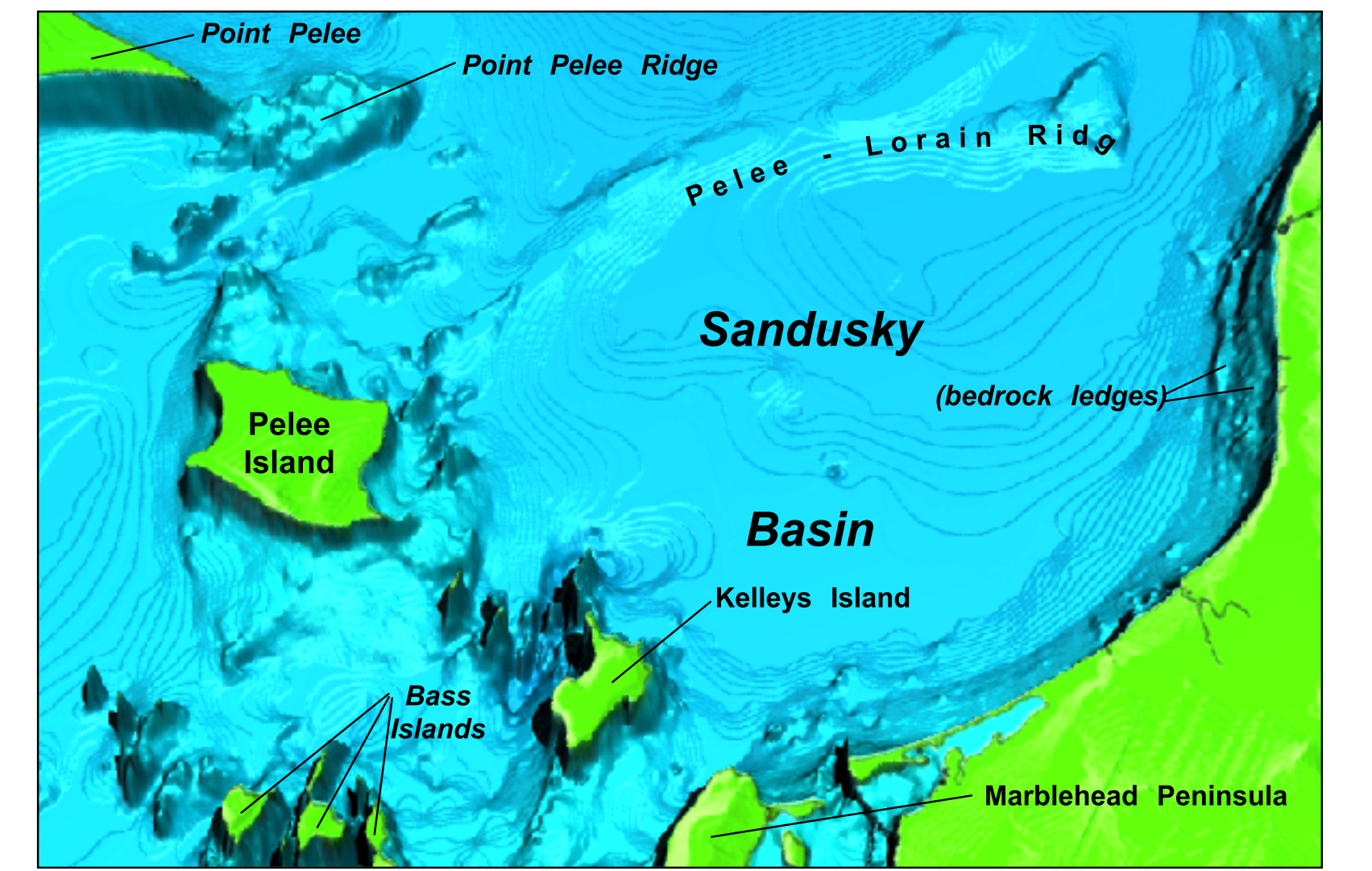
# Plate 1



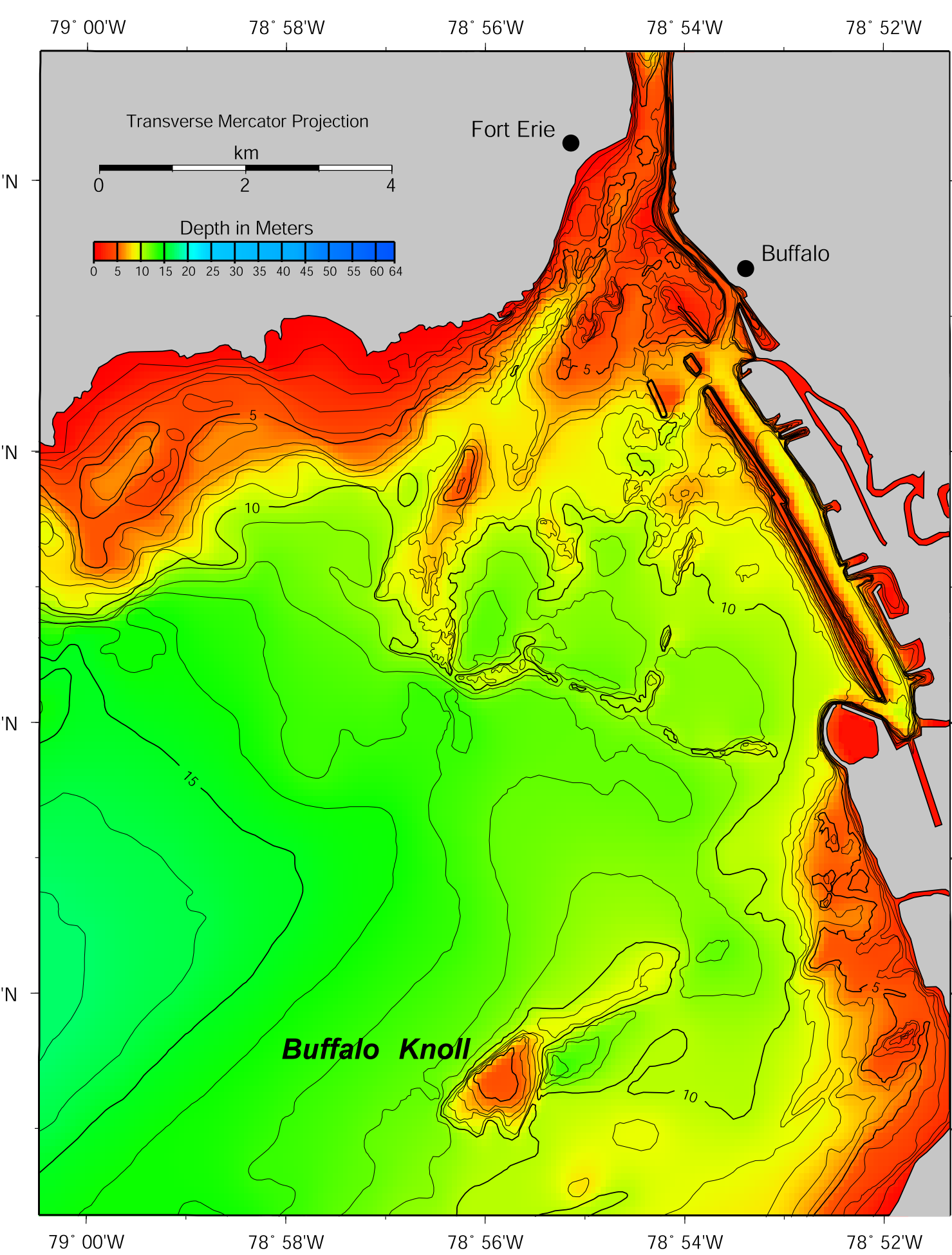
**A – Bathymetry of Lake Erie and Lake Saint Clair.** This view of the entirety of the two lakes shows the three main basins of Lake Erie, and the first order physiographic features. The U. S. National Geophysical Data Center distributes large-scale editions of Lake Erie and Lake Saint Clair bathymetry.



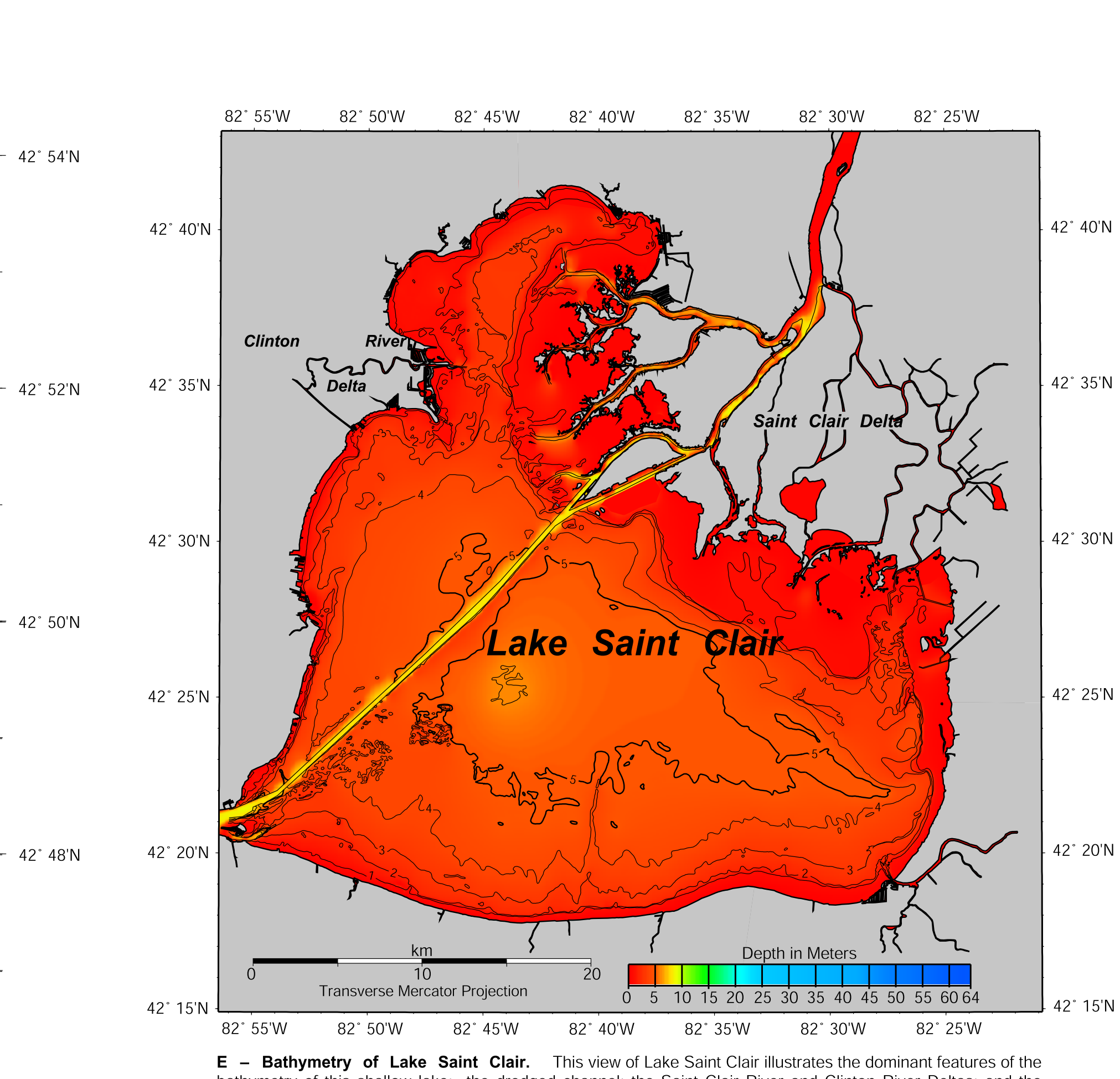
**B – Bathymetric data coverage of Lake Erie.** The bathymetry is constructed from several hundred thousand individual water depth measurements collected for nautical charting purposes over a hundred-year period by U. S. and Canadian agencies. Highly variable data spacing places constraints on the degree of detail to which lakefloor topography can be resolved from one area to another.



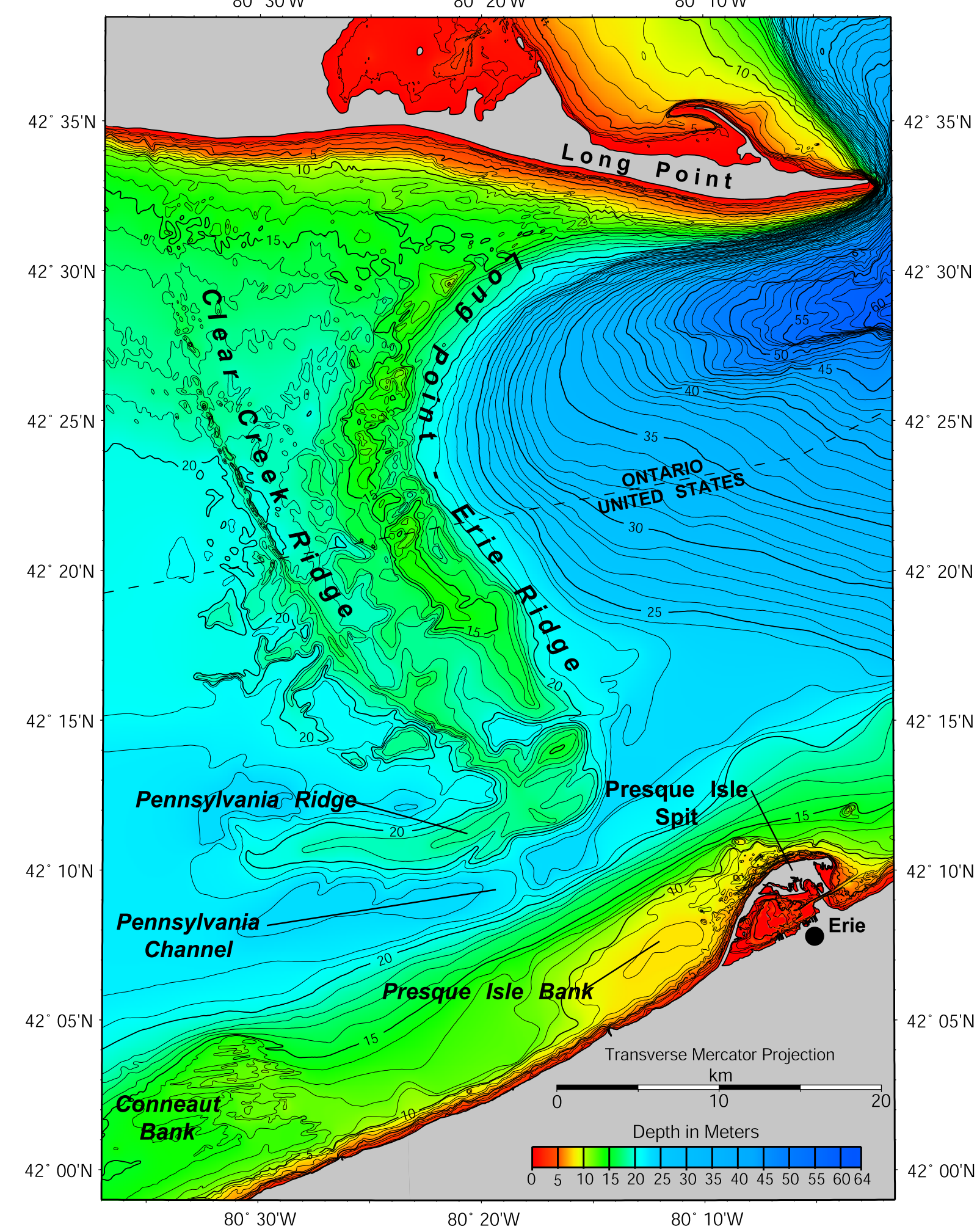
**C – Physiography of the Islands and Sandusky Basin area of western Lake Erie in 3-D perspective.** This view from the southwest has a high vertical exaggeration and illustrates the details of topography of: the lake floor surrounding the islands; Point Pelee and the Point Pelee Ridge; the Pelee – Lorain Ridge and Sandusky Basin; bedrock ledges off the south shore; and numerous reefs near the islands. Image compliments of Dr. Peter W. Sloss, National Geophysical Data Center.



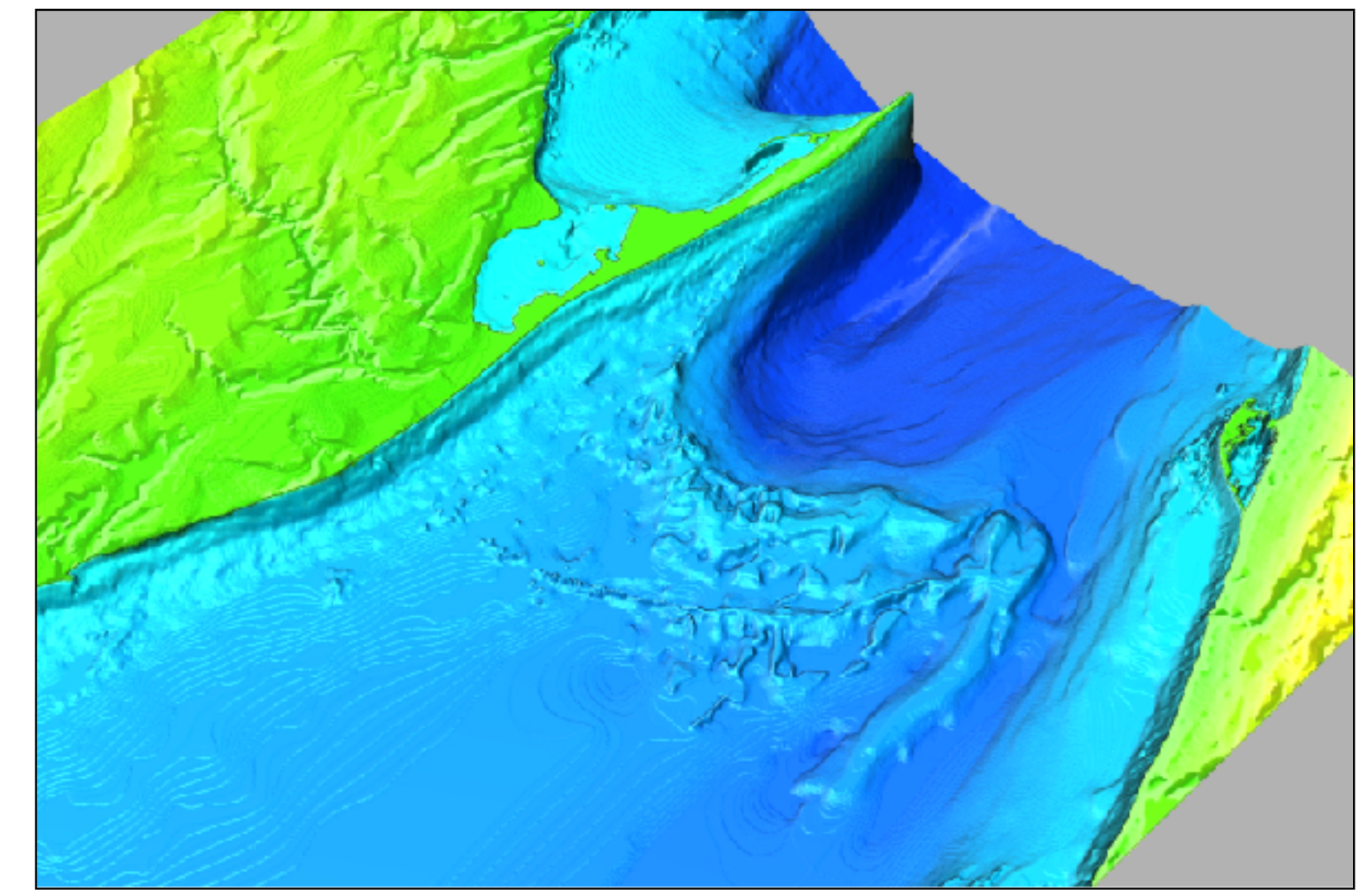
**D – Bathymetry of the extreme eastern end of Lake Erie off Buffalo New York.** An almost continuous small ridge occurs at 10-11 m depth and extends across the NE-trending channels and intervening ridges which trend toward the outlet sill at Fort Erie. This feature morphologically resembles an offshore barrier or spit which extends between headlands of a former shoreline, and, as such, may record the existence of a former lake level well below the level of the outlet sill. Also note the spit-like ridge at the same depth level which extends northeastward from Buffalo Knoll. As a point of interest, the dike protecting Buffalo harbor, and the dredged channel of the Erie Canal leading north through the outlet channel of the Lake, are well illustrated.



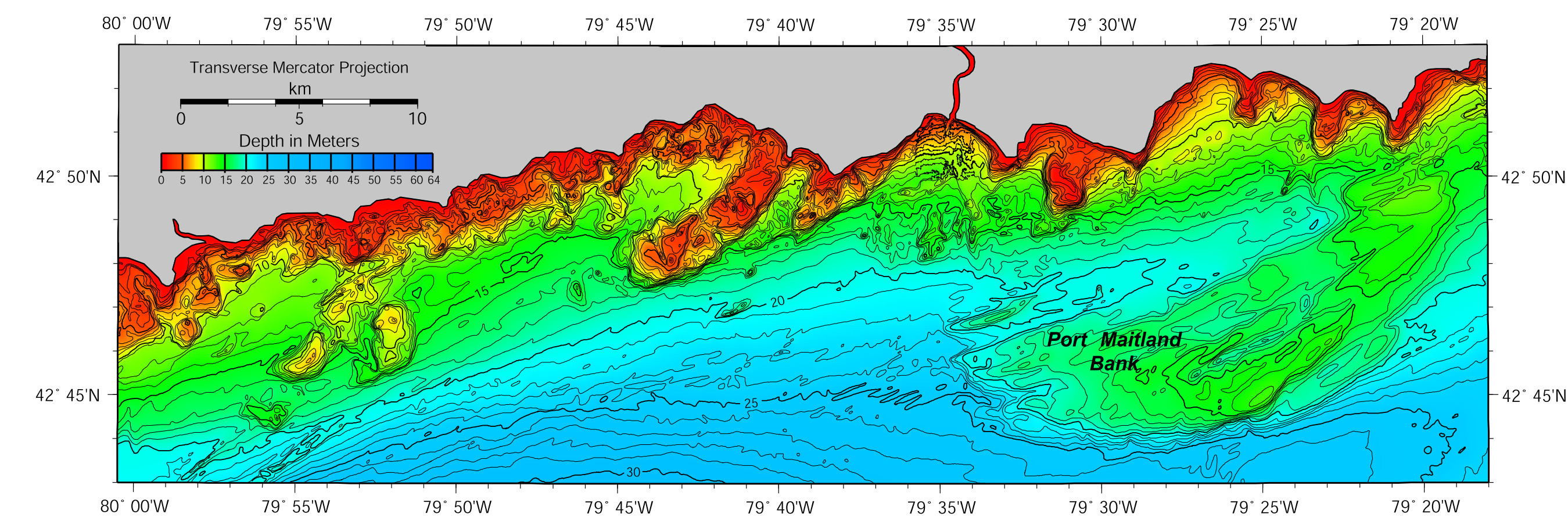
**E – Bathymetry of Lake Saint Clair.** This view of Lake Saint Clair illustrates the dominant features of the bathymetry of this shallow lake: the dredged channel; the Saint Clair River and Clinton River Deltas; and the steep (relative to the main lake basin) nearshore topography.



**F – Bathymetry of the Long Point - Erie Ridge, Clear Creek Ridge, Pennsylvania Ridge and Channel, and adjacent features.** This large-scale bathymetry further illustrates the morphological details of this interesting area. The Long Point - Erie Ridge (and possibly also the Clear Creek Ridge) is an end moraine lying along the western boundary of the Eastern Lake Erie Basin. Pennsylvania Channel may have been modified, and Pennsylvania Ridge may have been formed, by transportation and redeposition, respectively, of sands and silts in a strong current regime associated with the restricted passage between the central and eastern basins of Lake Erie.



**G – Physiography of the Long Point - Erie Ridge area, and the surrounding land areas, in 3-D perspective.** This high-angle view from the southwest illustrates the nearshore steepness relative to that occurring farther offshore. Also illustrated are the morphological details of Long Point Spit, Long Point - Erie Ridge, Clear Creek Ridge, Pennsylvania Ridge, Pennsylvania Channel, and Presque Isle Spit. Note the irregularities in the ridge lines of Clear Creek and Long Point - Erie Ridge, and the complex irregular topographic forms west of Clear Creek Ridge. Also note the faint trace of a discontinuous ridge lying in between and parallel to the two ridges. We believe that much of the sand occurring along these ridges was brought from the Ontario shore via longshore drift, at times of lower water level when the Clear Creek and Long Point - Erie Ridges were peninsulas. Image compliments of Dr. Peter W. Sloss, National Geophysical Data Center.



**H – Bathymetry of the north shore of Lake Erie east of Long Point.** A succession of SW-trending ridges and indentations occur along the north shore. The relatively steep-sided ridges and indentations, formed in bedrock, rise abruptly from the smoother topography occurring farther offshore, which is floored by sediments (Rukavina and Saint Jacques, 1971). Port Maitland Bank, probably a segment of moraine, has a foundation of glacial drift and probably bedrock as well.