

OUTSTANDING GEOLOGIC FEATURE OF PENNSYLVANIA

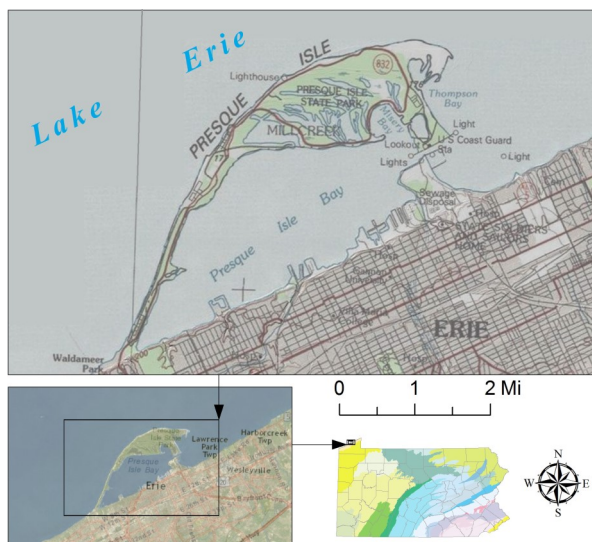
PRESQUE ISLE, ERIE COUNTY

Stuart O. Reese, 2016



Location

Presque Isle State Park, Erie Co., Erie; Erie North and Swanville
7.5-minute quadrangles



Geology

Presque Isle, literally translated from French as “almost island,” is a superb geologic example of the interaction of waves and sediment. The landform is a “spit”—a narrow tongue of sand and gravel attached to land. The action of the longshore current to the northeast turns the spit landward making it a “recurved spit.” Its existence can be traced to the Ice Age, when Lake Erie was a valley occupied by a glacier pushing southwest. About 23,000 years ago, vast amounts of rock, sand, and debris were dumped as ice melted and retreated to the north. The Presque Isle area is east of the southern end of a ridge of such glacier-transported sediment that extends across Lake Erie. This ridge is now about 30 to 50 feet below the water’s surface. Its sediment became the source of the spit’s sand and gravel as the water levels of Lake Erie rose. Currents pushed the sediment across a platform on the southern side of the lake, and they continue to drive sand and gravel to the northeast. The tendency for Presque Isle is to migrate northeastward and form a real island, as has happened before. Storm surges have split the spit at its narrow neck at least four times since 1819.



Looking southwest across Presque Isle beach. The growth of the spit can be seen in the pattern of sand ridges. Photograph courtesy of Pennsylvania Commonwealth Media Services.

Recommended Reading

Delano, H. L., 1991, Presque Isle State Park, Erie County—A dynamic interface of water and land: Pennsylvania Geological Survey, 4th ser., [Trail of Geology 16-021.0](#), 10 p.

[Presque Isle State Park](#) web page of DCNR.