Coastlines are not static features. They are shaped by the daily effects of wind, current, and wave activity. Over time, a coastline may move landward due to relative sea-level rise or low sediment supply, or seaward due to relative sea-level fall or an overabundance of sediment. Perhaps the most striking example of shoreline movement in Delaware is at Cape Henlopen which has grown northward approximately one mile in the last 160 years. Maps and aerial photographs show these changes.

The aerial photographs below show the elongation of the Cape from 1926 through 1997. The lighthouse is on the western shore of the Cape that developed after progradation past the breakwater. This may be the result of erosion by wave and tidal currents passing between the breakwater and the Cape. The former location of the lighthouse is shown by the red star.

The shorelines from 1918 to 1977 were digitized from U.S. Geological Survey topographic maps. The Cape gets progressively longer and narrower. The Atlantic shoreline of the Cape retreated approximately 800 feet between 1884 and 1944 and has been relatively stable since 1944. The former location of the lighthouse is shown by the red star.