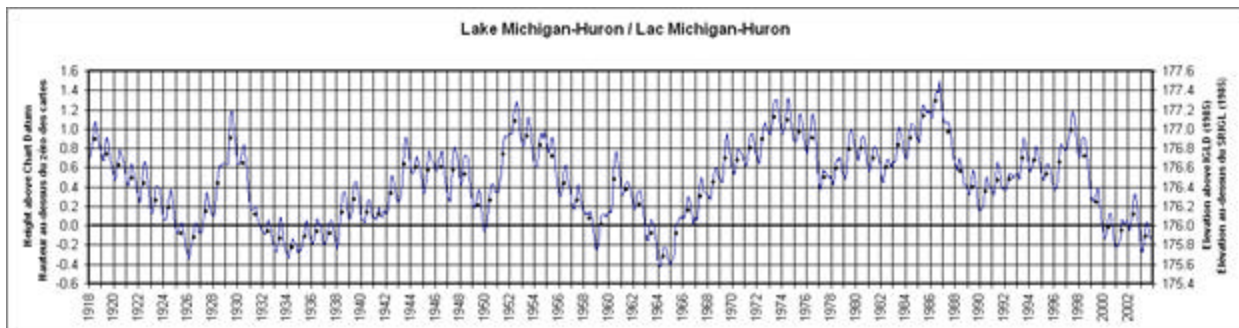


Water Levels on Lake Huron

Water levels on Lake Huron are always changing. They can change within a few hours (**short-term changes**) in response to a storm system, undergo **seasonal changes** in response to higher evaporation rates in the late fall, winter and spring, and higher precipitation and melting snowpack in spring, to **long-term changes** that can see Lake Huron fluctuate within a range of about two metres between highs and lows.

Long-term changes in the level of the lake is the difference between the amount of water coming into the lake and the amount going out. This is the determining factor in whether the water level will rise, fall or remain stable. When several months of above-average precipitation occur with cooler, cloudy conditions that cause less evaporation, the levels gradually rise. Likewise, prolonged periods of lower-than-average precipitation and warmer temperatures typically result in lowering of water levels. When less ice forms on the lake, as has happened in recent winters, evaporation can be much greater.



Lake Huron Hydrograph showing lake levels from 1918 to 2002

Over recorded history, the Great Lakes have fluctuated between high and low levels. Looking at the hydrograph for Lake Huron (between the years 1918 and 2002), you can see where high levels were recorded 1918, in the early 1930's, early 1950's, sustained high levels from the 1970's to the record high levels of 1985-86, and in 1997. Low levels were experienced in the mid 1920's, early 1930's, late 1950's, record low levels in 1964, and in the late 1990s leading up to today.

Fluctuating water levels is a natural process. High levels influence other natural processes, like erosion and flooding. This can be disquieting to people with cottages situated close to where these natural processes are taking place. Development setbacks that account for sufficient, long-term changes have been an effective approach to protecting lakeshore development. This is also a better approach than spending considerable amounts of money on shore protection that ultimately disrupt natural shoreline processes, and cause problems further downshore.



Low levels can affect a series of other natural processes like: greater dune development (in certain areas), sedimentation of estuaries, and plant growth on beaches. During low levels, dunes are replenishing their sand reserves for future high levels. Sedimentation of estuaries can mean the mouth of the river, or stream, changes what we view as the “normal” direction and amount of flow.

Plant growth on beaches is a normal process as buried seeds find an opportunity to germinate. This is part of the ecology of beaches. Excessive plant growth in the water, on the other hand, is not considered a natural phenomenon and is usually indicative of excessive nutrients like nitrogen and phosphorous entering the water from runoff. Algae fouling is an obvious example of an ecological imbalance due to excessive nutrients in the water.



However, there are beaches along the shoreline where emergent vegetation, like sedges and rushes, are an important natural part of the shoreline ecology. These are wetland plants that perform a number of ecological roles, including wildlife habitat and water purification.



For people living along the shores of Lake Huron, it is important to understand that shorelines are dynamic, and that change is a normal part of living with the Great Lakes. For more information on Lake Huron water levels, contact the Coastal Centre. Additional resources on water levels are linked below.