

US-Canada Great Lakes turning acidic

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In news— Scientists are building a sensor network to detect the trends in the water chemistry of Lake Huron, one of the five Great Lakes of North America.

Key updates-

- It is known that the increase in atmospheric carbon dioxide has caused the world's oceans to turn more acidic.
- Recently, it has been observed that by 2100, even the Great Lakes – Superior, Michigan, Huron, Erie, and Ontario – might approach acidity at around the same rate as the oceans.
- Researchers hope the data from the Lake Huron project would add to scientific information on the subject.
- In order to conduct the study, two sensors have been attached to a floating weather buoy at Thunder Bay National Marine Sanctuary near Alpena, Michigan, in the US. One of them measures carbon dioxide pressure in the water column and the other the pH.

What are great lakes?

- **The Great Lakes, five interconnected bodies of water straddling the US-Canada border that drain into the Gulf of St Lawrence** in the North Atlantic through the St Lawrence River, **are the largest group of freshwater lakes in the world.**
- Together the Great Lakes cover an area of about 94,850 square miles (245,660 square kilometers).
- The Great Lakes are believed to have been born some 20,000 years ago, when the Earth started to warm and water from melting glaciers filled the basins on its

surface.

- Today, the Great Lakes contain a fifth of the world's total freshwater and are a crucial source of irrigation and transportation. The Great Lakes also serve as the habitat for more than 3,500 species of plants and animals.
- The US-Canada border passes through Lakes Superior, Huron, Erie, and Ontario; **Lake Michigan lies entirely in the US.**
- Lakes Michigan and Huron are sometimes considered as a single water body; taken together, they are the world's largest freshwater lake by surface area.
- By itself, **Lake Huron is the world's third largest freshwater lake, after Lake Superior and Lake Victoria.**
- **Lake Superior is the largest and the deepest** of the Great Lakes.
- Lake **Ontario is the smallest.** Lake Erie is the shallowest. Lake Huron has the longest shoreline.
- **Major cities in the region include** Milwaukee, Wisconsin; Chicago, Illinois; Cleveland, Ohio; Detroit, Michigan; and Toronto, Ontario.



Acidification of water bodies-

- **Acidification of oceans or freshwater bodies takes place when excess carbon dioxide in the atmosphere gets rapidly absorbed into them.**
- Scientists initially believed this might be a good thing, as it leaves less carbon dioxide in the atmosphere. But in the past decade or so, **it has been established that absorption of carbon dioxide leads to a lowering of the pH,** which makes the water bodies more acidic.
- According to the National Oceanic and Atmospheric Administration (NOAA) of the US government, oceans have 200 years alone, ocean water has become 30 percent more acidic.