Lakebed 2030

Building a Better Map for the Great Lakes

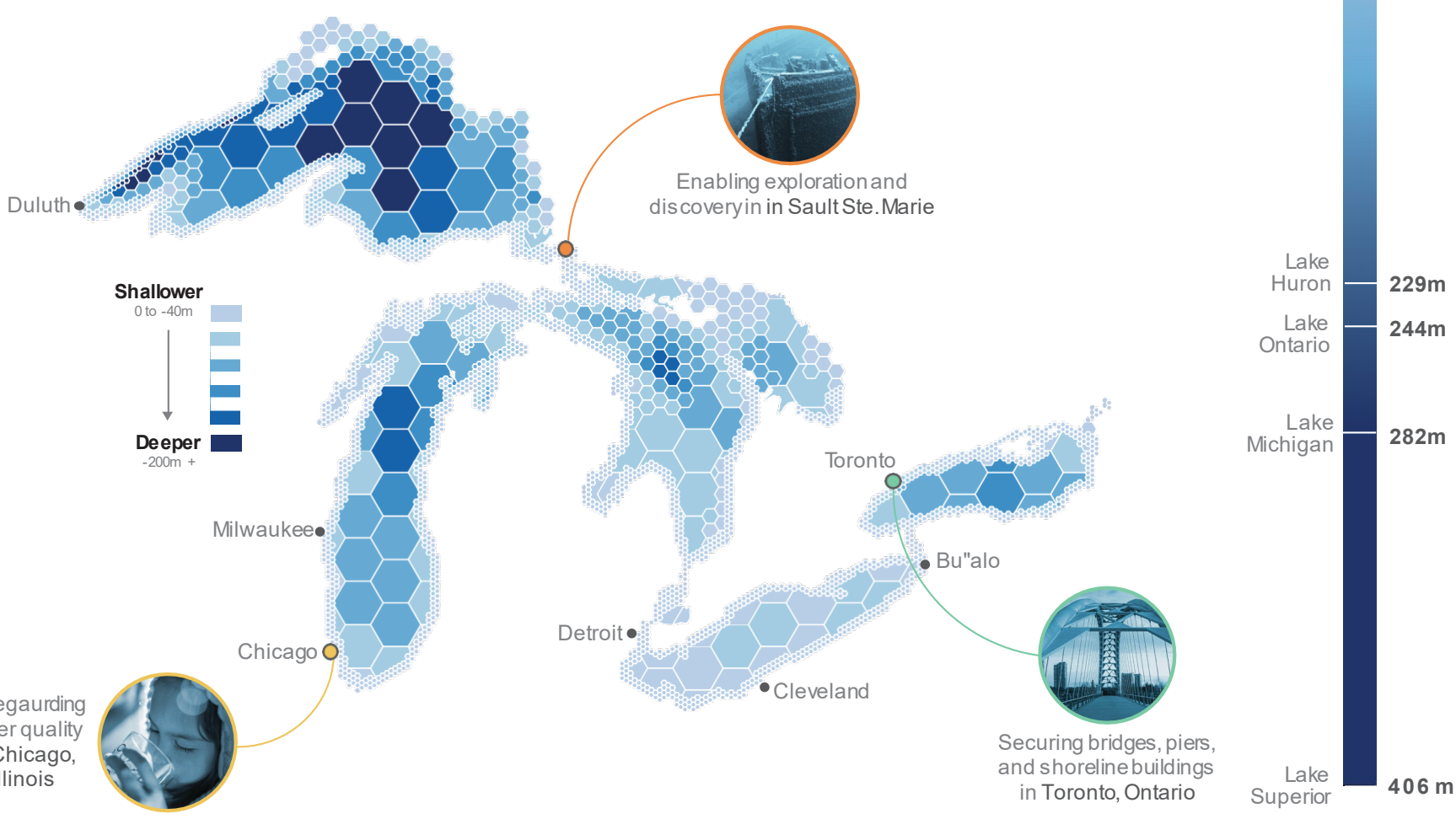
The **Great Lakes have never been mapped in detail**. Maps you see of the Great Lakes bathymetry (shape and depth of the lake floor) are created using data that is low-density and sometimes decades old. **High density data is critical** for e"ective management, research, and innovation, particularly under mounting **climate change threats** and as **the blue economy grows**.

<15%
of the Great Lakes have been mapped at high-density

40M
people get their drinking water from the Great Lakes

21%
of the Earth's surface fresh water is held in the Great Lakes

7,290
kilometers of coastline, or the distance from Toronto to Moscow



The Map Today

Legend	Resolution	Extent	Level of Detail	Collection Method
	Low-Density Able to generalize about depth changes and overall shape.		100's of meters	Ship-based sonar
	Medium-Density Able to see large underwater features such as sinkholes or large trenches.		10's of meters	Ship-based sonar, Satellite
	High-Density Able to see small shapes like ship anchors, fish habitat, and cables.		<10 meters	Modern methods (Sonar and Laser)

Benefits of a Better Map

$7B
Annual value of all Great Lakes fisheries

$6T
Annual GDP of the Great Lakes region

$200M
Cost to map all five lakes

$50-100K
Cost to relocate a home if the shoreline erodes

Aquatic Health

Preserve habitats to **protect fisheries.**

Monitor chemical changes and lakefloor dynamics to keep **drinking water** safe.

Mitigate **invasive species** populations.

Exploration

Study and protect the remnants of **ancient civilizations**.

Analyze mysterious lakefloor **sinkholes** that have distinct biochemical properties and support unique communities of microorganisms.

Discover and preserve thousands of lost or unidentified **shipwrecks**.

Security

Anticipate water level, current, and shoreline trends to keep **homes, buildings, and infrastructure** safe.

Inform **coastal development and ecosystem planning** with accurate lakefloor and water column information.

Understand changing lakefloor dynamics to secure **energy infrastructure.**

A Great Map by 2030

Build and test new **supporting technologies**

Map all five Great Lakes, ping by ping

Spread the word and gather community support