

Climate change poses material financial risks that can disrupt operations, increase costs, and erode shareholder value. By embedding climate resilience into core business strategies, companies can protect assets, future proof supply chains, and unlock cost efficiencies. Acting now ensures long-term profitability and positions your organization as a leader in sustainable value creation.

## Climate Change is a Risk Accelerator in the Great Lakes

Climate change is fundamentally reshaping the Great Lakes basin, intensifying existing water, infrastructure, and ecosystem pressures. Warming temperatures, shifting precipitation patterns, and declining ice cover are altering hydrological cycles and ecosystem dynamics, while more extreme storms expose weaknesses in aging infrastructure and water management systems. Understanding and addressing these water-climate related risks requires basin-wide collaboration, adaptive planning, and coordinated corporate action.

Key climate-related vulnerabilities affecting the region include:

### Water stress and variability



Shifting rainfall and prolonged droughts are tightening water availability and driving growing competition among agriculture, energy, and industrial sectors and agricultural sectors.

### Extreme weather and runoff



More frequent and intense storms are overwhelming stormwater systems, increasing erosion, and introducing pollutants into waterways.

### Elevated regional risk



The southern Great Lakes, particularly Lakes Erie and Ontario, and Lake Michigan are most exposed due to dense urban development, intensive agriculture, and nutrient-heavy runoff.

### Declining water quality



Warmer waters, nutrient loading, and pollutant runoff are fueling harmful algal blooms and degrading freshwater ecosystems that underpin regional economies.

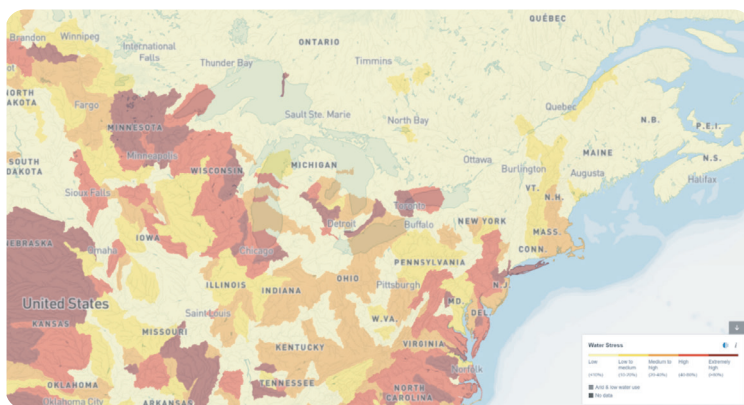


Figure 1: Water Stress, an indicator of competition for water resources, is defined informally as the ratio of demand for water by human society divided by available water. World Resource Funds Aqueduct Risk Atlas for the Great Lakes region.

### Aging and exposed infrastructure



Outdated water and energy systems are increasingly vulnerable to flooding, combined sewer overflows, and shoreline erosion.

### Financial and operational pressures




Rising utility costs, regulatory shifts, and supply-chain disruptions are increasing the cost of doing business in climate-sensitive basins.


# Incorporate the Circular Economy of Water

Businesses in the Great Lakes are uniquely positioned to lead. By reducing withdrawals, investing in shared watershed resilience, and aligning growth with water availability, companies can protect their long-term operations while strengthening the region's economic and ecological future.


## Reduce consumptive use at facilities:

 Expand water recycling, reuse, and closed-loop cooling to maintain return flow requirements under the Great Lakes Water Resources Compact and reduce exposure to future allocation constraints.

## Co-invest in local watershed resilience:

 Partner with local stewardship groups, watershed councils, and research projects to restore wetlands, floodplains, and infiltration systems that stabilize supply and reduce runoff.

## Align growth and procurement with basin water risk:

 Use sub-basin water availability and withdrawal intensity mapping to inform where (and how) facilities expand, source materials, and operate, particularly in more stressed regions like the Western Lake Erie and Southern Lake Ontario basins.

