

Climate Change and the Great Lakes Region

General Climate Change Trends and Projections



↑2F Average Temperature, 1900-2012
1.8 - 5.4 F increase, now to 2050



↑11% Total Precipitation, 1900-2012
Projected to increase during spring



↑37% Extreme Weather Events, 1958-2012
Increase risks of floods and droughts



↓71% Lake Ice Coverage, 1973 - 2010
Continue to decrease

Forests

Agriculture

Urban Areas

Wetlands

Lakes

Groundwater will decrease because of summer drought

Natural, Agricultural, and Built Environment



Change in tree species composition and urban vegetation



Increased invasive plants and wildlife



Changes in growing season, crop types and pests



Increased heat wave intensity and frequency



Degraded air and water quality



Frost-free season lengthened 9 days from 1958 to 2012, projected to be 1-2 months longer by 2100

Impacts on YOU



Increased risks of fire, drought and flood



More heat-related and vector-borne diseases



Decreased food variety (wild rice, cherries, beets)



More pesticides and lower crop yields



Electricity supply shortages



Reduced building lifespans

Wetlands and Lakes



Since 1980, lake levels have fallen but rebounded in 2014, Increased variability in the future



Stronger storms and warming temperatures produce more runoff and more Harmful Algal Blooms (HABs)



HABs reduce dissolved oxygen in water, impacting aquatic life



Reduced availability of seasonal migratory wetland habitats



Change in range and distribution of species



Altered nature of watershed, stemming from extreme events

Impacts on YOU



More weather variation



Worsening water quality



Less aquatic species diversity



Declined beach health and coastal recreation opportunities



Worsening air quality



Compromised views in coastal parks

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Climate trends in the Great Lakes region: <http://glisa.umich.edu/resources/summary>



Climate change and forest: <http://forestadaptation.org/>



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