

Climate Variability and Change: Implications for the Lake Erie Basin.

Linda Mortsch (linda.mortsch@ec.gc.ca). Environmental Adaptation Research Group, Environment Canada, c/o Faculty of Environmental Studies, University of Waterloo, Waterloo, ON N2L 3G1.

Climate change due to an "enhanced greenhouse effect" is gaining recognition as a serious environmental issue. The Intergovernmental Panel on Climate Change (IPCC) has stated that there is "a discernable human influence on the climate system". Climate change is potentially an additional stress on the Lake Erie ecosystem that must be incorporated into research, programs and management of the system. Historical trends in temperature and precipitation as well as water level changes will be summarized. For example, the year 1998 was the warmest and 5th driest year on record for the Great Lakes ecoregion. Temperature and precipitation scenarios of climate change from selected climate models (transient and equilibrium experiments) will be presented. Analysis of these scenarios suggest that climate change has implications for soil moisture, runoff, water levels, water temperatures, buoyancy driven turnover and water quality.