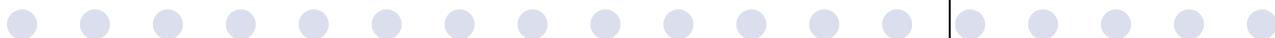


PREPARING FOR A CHANGING CLIMATE

*The Potential Consequences of
Climate Variability and Change*



Great Lakes

*A Summary by the
Great Lakes Regional
Assessment Group*

*For the
U.S. Global Change
Research Program*

October 2000

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The Potential Consequences of Climate Variability and Change



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*An Investment in Science
for the Nation's Future*

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About this Publication

This report summarizes the methods, findings, and recommendations from the Great Lakes Regional Assessment Team regarding the potential impacts of future climate change and variability in the Great Lakes region. It complements the national overview report that is being prepared by the National Assessment Synthesis Team (NAST) as part of the National Assessment of Climate Change. The report is intended for use by federal, state, and local government officials and by people in their roles as US citizens, employees, and residents of the community. The report focuses on the years 2030 and 2090. These two times occur approximately 30 years before and after the time when atmospheric carbon dioxide is expected to have doubled from its current value.

While there have been many national assessments and even a few Great Lakes Regional Assessments in the recent past, our assessment includes several key features that make it unique:

1) *substantial stakeholder participation*. Stakeholder participation during our regional workshop in May 1998 led to decisions to assess impacts on certain aspects of agriculture, forestry, water resources, ecosystems, and people's well-being.

2) *interdisciplinary approach*. Our assessment involved a true integrated team effort and significant collaboration, using the best science available. This proved to be challenging given existing time constraints and the fact that the team consisted of more than 40 faculty, research associates, graduate and undergraduate assistants, and external collaborators, from around the region (see Appendix B for a list of the full team). Communication among team members was imperative to ensure that results across sectors were consistent. This was especially challenging given the fact that most sector-assessment teams used different models that required specifically formatted input.

3) *recent GCM output*. Our assessment required us to use recent output from general circulation models (GCMs) that accounted for aerosols and for steady increases (as opposed to instantaneous doubling) in atmospheric carbon dioxide.

4) *comparisons to previous results*. Our assessment includes, wherever possible, comparisons between results from previous assessments and ours. The purpose of the comparisons is primarily to highlight some of our latest results to demonstrate that (a lot of) new information was obtained – rather than just reformatting existing information.

Enthusiastic teamwork has accomplished an astounding amount of work on a very compressed schedule. I would like to thank each Great Lakes Regional Assessment Team member for his or her work. The interaction between researchers and regional stakeholders in terms of their comments on earlier drafts has resulted in many modifications and improvements. On behalf of the Great Lakes Regional Assessment Team, I would like to thank the regional stakeholders for their careful reviews, their insights, and their thoughtful responses. I would also like to thank Grabhorn Studio for the cover design. I would especially like to thank the US Environmental Protection Agency (EPA) for their financial support and EPA Project Officer John Furlow for his periodic guidance.

Finally, I owe the greatest thanks to Ms. Jeanne Bisanz, the Regional Coordinator of our Great Lakes Assessment Team, whose untiring efforts have led to the timely completion of this report.

Additional information is available on the Great Lakes Regional Assessment web site <http://glra.engin.umich.edu>. More technical information about the Great Lakes Regional Assessment will appear in a special issue of *Journal of Great Lakes Research*, that will be printed in Spring 2001. Even more detail will be in the revised longer report (current version is Sousounis et al. 2000b), which is expected to be on the Great Lakes Regional Assessment web site by October 2000.

This report is being printed for broad review. We welcome feedback (e-mail: sousou@umich.edu; phone: 734-936-0488; fax: 734-764-5137; mail: Dr. Peter J. Sousounis, AOSS Department, University of Michigan, Ann Arbor, MI 48109-2143).

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