

# Climate Change in the Great Lakes Region

## Starting a Public Discussion

University of Wisconsin Sea Grant Institute • Wisconsin Coastal Management Program • NOAA

Global warming is an undeniable reality, according to the latest (2007) report from the Intergovernmental Panel on Climate Change (IPCC), an international group of scientists convened by the United Nations. The evidence is clear and noticeable: a rising average global air temperature, widespread melting of glaciers and ice, and rising mean sea levels worldwide. The report sounds the alarm that the Earth is warming, and that major components of our climate system are already responding to that warming.

What will global warming mean for our region? The "Climate Change in the Great Lakes Region" seminar series provides a forum to begin this important discussion. Over the next several months, experts will speak at sites throughout Wisconsin to discuss what is known, what is predicted and what can be done to adapt. The series will begin with a keynote presentation by Dr. Kevin Trenberth, a leading climate researcher from the National Center for Atmospheric Research and one of the authors of the current IPCC report. Subsequent talks will highlight how climate change could affect our property, water resources, fisheries, and public health.

### 2007 SEMINAR SERIES:

MARCH 13

THOMAS E. CROLEY II

Research Hydrologist, Great Lakes  
Environmental Research Laboratory

**Great Lakes Climate Change  
Hydrologic Impact Assessment**

Green Bay, Wisconsin

KEN POTTER

Professor of Civil and Environmental  
Engineering, UW-Madison

**Adapting Stormwater Management  
to Climate Change**

Green Bay, Wisconsin

APRIL 23

KEVIN TRENBERTH

Senior Scientist, National Center for Atmospheric Research

KEYNOTE PRESENTATION:

**Global Warming Is Unequivocal**

Morgridge Auditorium, Grainger Hall  
Madison, Wisconsin

JUNE 7 & 12

JOHN MAGNUSON

Emeritus Professor of Zoology and  
Limnology, UW-Madison

**Climate Change: A Great Lakes  
Regional Perspective**

Superior and Milwaukee, Wisconsin

AUGUST 15

PHIL KEILLOR

Coastal Engineering Specialist (Retired)  
UW-Madison Sea Grant Institute

**How Climate Change May Affect  
Coastal Property Owners**

Port Washington, Wisconsin

SEPTEMBER 24

BRIAN SHUTER

Research Scientist, Ontario Ministry of Natural  
Resources and Adjunct Professor of Zoology,  
University of Toronto

**Climate Change and Fisheries**

Manitowoc, Wisconsin

TIM ASPLUND

Water Resources Specialist, Wisconsin Department  
of Natural Resources

**Climate Change and Water Resources**

Date and Location TBA

JONATHAN PATZ

Associate Professor of Environmental Studies  
and Population Health Sciences, UW-Madison

**Climate Change and Public Health  
Concerns**

Date and Location TBA



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# Climate Change Impacts on Stormwater

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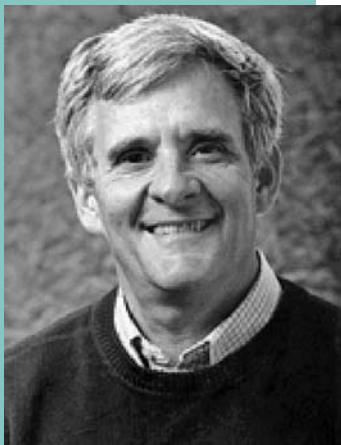
## Great Lakes Climate Change Hydrologic Impact Assessment

Thomas E. Croley II

Research Hydrologist, Great Lakes Environmental Research Laboratory

What will a changing climate mean for the Great Lakes? The answer could affect commercial shipping, coastal land owners, beach goers, and commercial and recreational fishers. **Thomas E. Croley II** from the Great Lakes Environmental Research Laboratory in Ann Arbor, Mich., takes a look at a few scenarios in a study using the latest climate models available. His results predict reduced ice cover, more water evaporating from the lakes, and less runoff to the lakes due to lighter snowfall. In addition, higher expected water temperatures and less mixing could result in low levels of dissolved oxygen, which could trigger more fish die-offs and toxic algal blooms.

**Thomas E. Croley II** has served as a research hydrologist at the Great Lakes Environmental Research Laboratory for over 25 years. Prior to that, he was an associate professor and research engineer at the University of Iowa's Institute of Hydraulic Research. He received a B.C.E. and M.S. in civil engineering from Ohio State University and a Ph.D. in civil engineering (stochastic hydrology) from Colorado State University. His research interests are in hydrology, large basin runoff modeling, water resources forecasting, operational hydrology, and lake thermodynamics modeling. He currently serves as associate editor of the *Journal of Hydrologic Engineering*, and he is a U.S. board member of the International Coordinating Committee on Great Lakes Hydraulic and Hydrologic Data.



## Adapting Stormwater Management to Climate Change

Ken Potter

Professor of Civil and Environmental Engineering, UW-Madison

Many scientists expect that a changing climate will bring more frequent intense rainfalls to eastern Wisconsin. These hard downpours put more demands on a community's stormwater management system, and one clogged stormwater drain can quickly lead to a flooded street and property damage. **Ken Potter** from the University of Wisconsin-Madison Department of Civil and Environmental Engineering will discuss several ways to manage stormwater in Wisconsin's changing climate. He will demonstrate the benefits of finding more ways for stormwater to soak into the ground instead of running directly into lakes and streams, improving and updating stormwater management designs to handle larger volumes of water, and monitoring water in order to detect problems early.

**Ken Potter** is a professor of civil and environmental engineering at the University of Wisconsin-Madison. He received a B.S. in geology from Louisiana State University in 1968 and a Ph.D. in Geography and Environmental Engineering from the Johns Hopkins University in 1976. His teaching and research interests are in hydrology and water resources, including estimations of hydrological risk, especially flood risk; stormwater modeling, management and design; assessment and mitigation of human impacts on aquatic systems; and restoration of aquatic systems. He has been a member of several National Research Council committees and is currently Chair of the Committee on Integrated Observations for Hydrologic and Related Sciences and a member of the Committee on New Orleans Regional Hurricane Protection Projects. He is a Fellow of the American Geophysical Union and the American Association for the Advancement of Science.

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