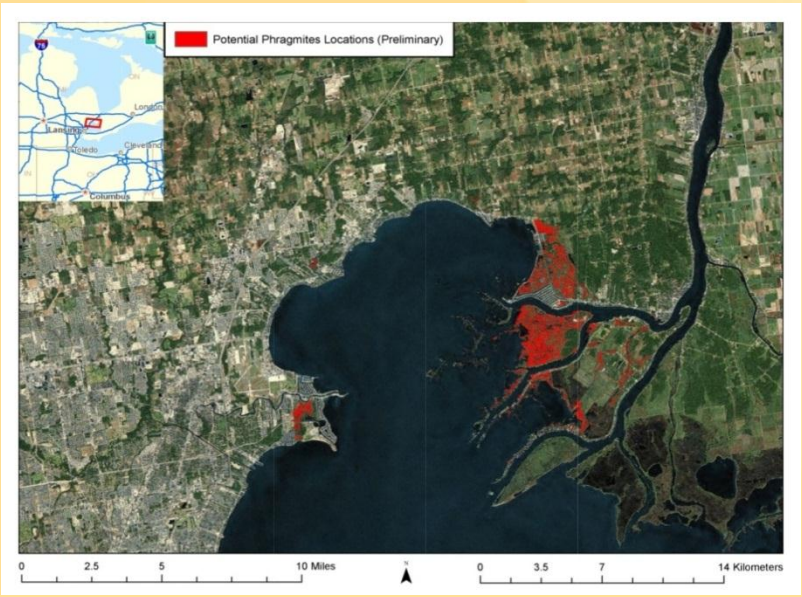
Mapping Invasive *Phragmites australis* and Wetland Extent of the Coastal Great Lakes using Satellite Radar Imagery

www.mtri.org

"Due, in part, to their limited capacity for adaptation, wetlands are considered to be among the ecosystems most vulnerable to climate change." Climate Change and Water: IPCC June 2008

Radar mosaic of Lake Huron Coastal Zone



Phragmites identified in red for Lake St. Clair, MI

Using satellite Synthetic Aperture Radar (SAR) data and field documentation, known and potential locations of *Phragmites australis* have been identified for the entire U.S. portion of the Great Lakes Basin, within 10km of the coastline. SAR can be used to uniquely map vegetative ecosystems based upon biomass, structure, and moisture characteristics. Since the biomass and structure of invasive *Phragmites* is different from native, emergent wetland species, SAR is an ideal tool for identification and mapping of *Phragmites*. SAR can also detect seasonal changes in vegetation biomass and flood conditions, which aid in wetland classification. This is the first time such a large-area invasive species and wetland extent mapping project has been completed. This information will be used to predict areas vulnerable to invasion and to minimize *Phragmites* expansion through early detection.

For data requests and more information, please contact Laura Bourgeau-Chavez lchavez@mtu.edu or visit the project websites below.

http://mtri.org/monitoring_phragmites.html

OUTCOMES: Invasive Plant and Wetland Extent Maps for the Great Lakes Coastal Zone

2/23/2011