

“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*

## Mapping Invasive *Phragmites australis* and Wetland Extent for the Great Lakes Coastal Zone using Satellite Radar Images



Left: Radar mosaic of Lake Huron Coastal Zone    Right: *Phragmites* identified in red for Lake St. Clair, MI

Using satellite Synthetic Aperture Radar (SAR) data and field documentation, known and potential *Phragmites australis* locations are being identified for the entire U.S. portion of the Great Lakes Basin. 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 wetlands, 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 done. This information will be used to predict areas vulnerable to invasion and to minimize *Phragmites* expansion through early detection.

Initial products are available for Lakes Huron, Ontario, and Michigan. For data requests and more information, please contact Laura Bourgeau-Chavez [lchavez@mtu.edu](mailto:lchavez@mtu.edu) or visit the project website below.



<http://mtri.org/phragmites.html>

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

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