Who We Are…..

Institute of Water Research, Michigan State University

The Institute of Water Research at Michigan State University is responsible for coordinating research and educational programs on surface water and groundwater quality and quantity. Established in 1961, the Institute addresses multi-disciplinary issues arising from the dynamic interaction of land and water resources, and strengthens MSU's commitment to finding effective solutions to contemporary water resource problems.

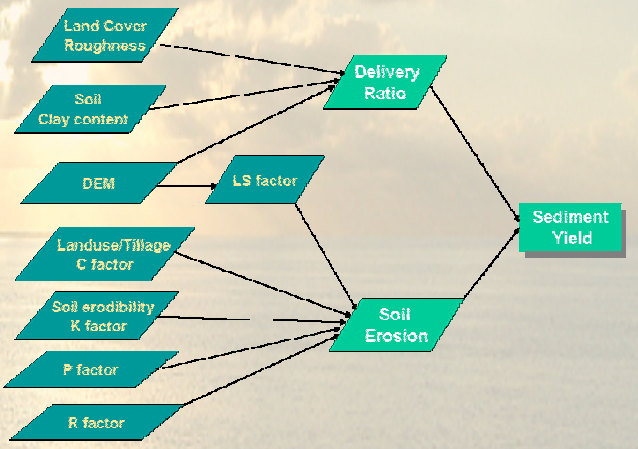
Our Goal

The Institute's goal is to provide the most accurate and complete information on contemporary land and water issues to citizens, stakeholders, government agencies, and resource managers. To achieve this goal, the Institute consistently collaborates and forges partnerships with other research and resource conservation organizations. The result of these collaborations is the development of science-based information for use by decision-makers faced with complex land and water issues. The increasing use of information technologies and geographical information systems (GIS) for better decision-making is a fundamental part of the Institute's mission in the 21st century.

Institute Highlight

High Impact Targeting (HIT)

High-risk erosion areas may now be identified for high-impact targeting down to the field level with a new system developed by the MSU Institute of Water Research. The new "web-accessible" system, High Impact Targeting (HIT), estimates sediment loadings to Great Lakes Basin rivers and streams based on estimates of erosion and sediment transport from agricultural lands. Sediment loadings continue to pose a major threat to water quality as stated by the EPA in its 2006 water strategy. In addition to water quality issues, sedimentation interferes with navigation on waterways, and costs taxpayers millions of dollars per year in dredging costs.



To assist efforts to reduce sediment loadings, the Institute of Water Research has developed a sophisticated model that estimates sediment loadings in geospatially-explicit terms with a high degree of resolution. The Institute model can be applied to 8-digit watersheds in the Great Lakes Basin and then brought down to the field level for precise identification of high-risk areas. Eight-digit watersheds are defined by the US Geological Survey and used by the EPA to address water quality in 2,262 such 8-digit watersheds in the U.S.

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