

Integrating the Science and Technology of Environmental Assessment Across Federal Agencies

Gerard F. Laniak

Office of Research and Development
National Exposure Research Laboratory
Ecosystems Research Division, Athens, Georgia



Environmental Issue

Risk assessments, in the context of environmental regulations, have evolved from the characterization of risk to humans from exposure to individual chemicals of concern released to the environment and transported directly to human receptors. Modern risk assessments include multiple chemicals, multiple exposure pathways, and both human and ecological receptors. This comprehensive assessment of exposure and risk has required significant increase in resources needed to integrate the science research and develop appropriate modeling technologies.

No individual or local group possesses the requisite resources to fully address modern risk assessment needs. Thus, there is a strong need to develop collaborations within the environmental research and development community for the purpose of leveraging resources, sharing scientific knowledge, and developing relevant technologies.

INTERAGENCY MEMORANDUM OF UNDERSTANDING (MOU)

Participating agencies

- U.S. Nuclear Regulatory Commission
- U.S. Environmental Protection Agency
- U.S. Army Corps of Engineers
- U.S. Department of Energy
- U.S. Geological Survey
- U.S. Department of Agriculture
- National Oceanic and Atmospheric Administration

Organizational Structure

- Rotating Steering Committee Chairman
- Steering Committee
- Technical Working groups
- Working Group Leaders
- Technical Staff for Working Groups
- Supporting IAG funding vehicles
- Public and Working Group Websites

Purpose of the Interagency MOU

- Facilitate cooperation
- Pursue a common technology, with shared scientific basis
- Reduce redundancies in efforts
- Support information exchange
- Establish working partnerships
- Develop high quality products under commitment to QA/QC procedures

Impact

The common impacts of this agreement across the agencies involved include:

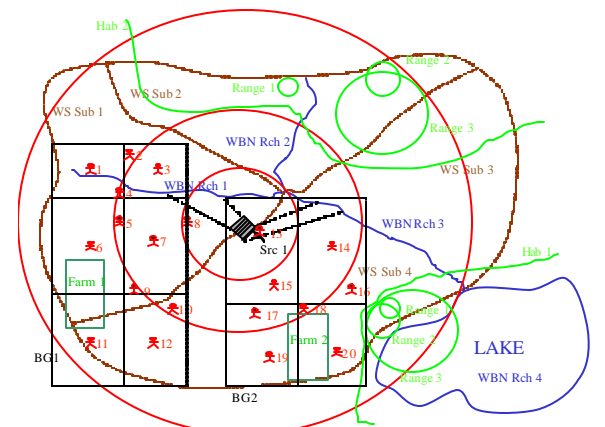
- Leveraging resources
- Recognizing common needs
- Addressing limited expertise by collaboration and sharing of scientific endeavors

More Information : ISCMEM.org

Goals for Modern Environmental Modeling Systems

- Integrated science-based models
- Large-scale environmental databases
- Assessment features (e.g., Monte Carlo simulation)
- User interfaces
- GIS-based data access, organization, viewing
- APIs for managing data within modeling system
- Data visualization and analysis tools
- Distributed Computing

Elements of a Site Assessment



GIS-based Data Needs

