

# Develop Approaches for Integrating Life-Cycle Monitoring Data into Site Models

2008-2009 Groundwater and Soil Remediation Program  
Review

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# Develop Approaches for Integrating Life-Cycle Monitoring Data into Site Models

## Needs

- Provide the technical basis to shift the existing paradigm of point source monitoring to spatially integrated monitoring tools incorporating onsite field monitoring and sensors.
- Development of integrated risk management and decision support tools for a more “system-based” monitoring paradigm.

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## Goals and Objectives

- ▶ Develop advanced computational tools that extend emerging geophysical and biomarker/biosentinel tools
- ▶ Develop advanced computational tools that integrate heterogeneous data sets from environmental monitoring to support multiple lines of evidence for protection of human and ecosystem health
- ▶ Understand needs for data storage, access, and archival
- ▶ Provide guidance for incorporating computational tools into life-cycle monitoring for site models

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## FY09 – FY10 (FY11)

Project Management/TWG activities

Solicitation(s):

Computational tools for analyses

- Integration of heterogeneous data sets for models
  - Demo project
- Database infrastructure/automation platform

Report on guidance for end users

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## Significant Milestones & Products/ Deliverables

- ▶ Computational analysis and integration tools
- ▶ Accessible collection and storage database
- ▶ Demonstrated proof-of-concept for integrated data into management application models
- ▶ Guidance document for integration and application

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## Significant Participants or Resource Needs

- ▶ Technical Working Group (TWG)
  - computational statistics (Bobbie-Jo Webb-Roberston, PNNL)
  - bioinformatics
  - site application, LTM project manager
  - modeling (Roelof Versteeg, INL)
  - computational hardware/software
  
- ▶ Project Manager
  
- ▶ DOE site management
  
- ▶ ITRC, US and State EPA

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## Leveraging Opportunities/Partners

- ▶ Database management – industry, existing infrastructure at NLs
- ▶ Existing integration for site models, other WBS tasks, ASCR
- ▶ ITRC, USEPA, regulatory models