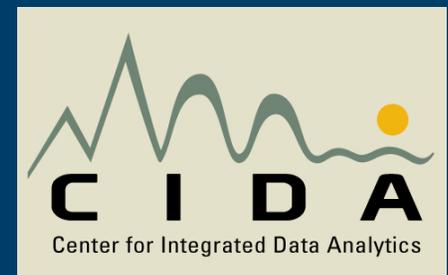


# NATIONAL AND REGIONAL WATER-QUALITY DATA VIRTUAL OBSERVATION SYSTEMS & APPLICATIONS

Water-quality workshop  
MACOORA - NERACOOS – SECOORA

January 25, 2010

Nate Booth

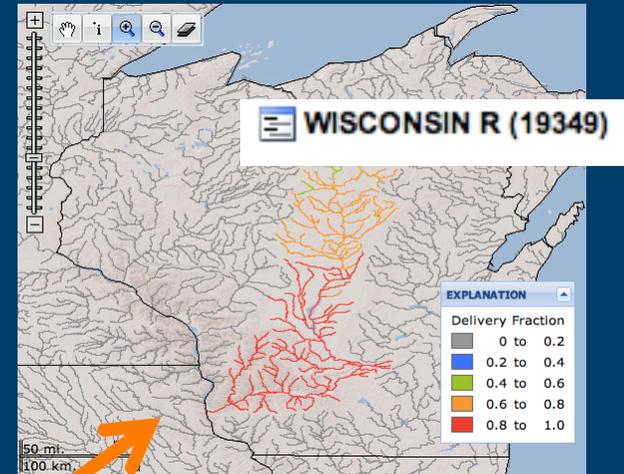
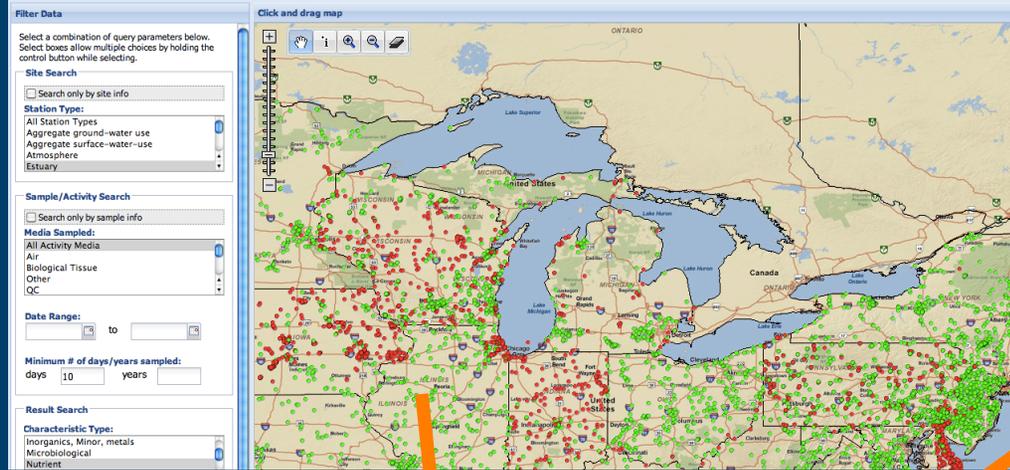




# SPARROW Model

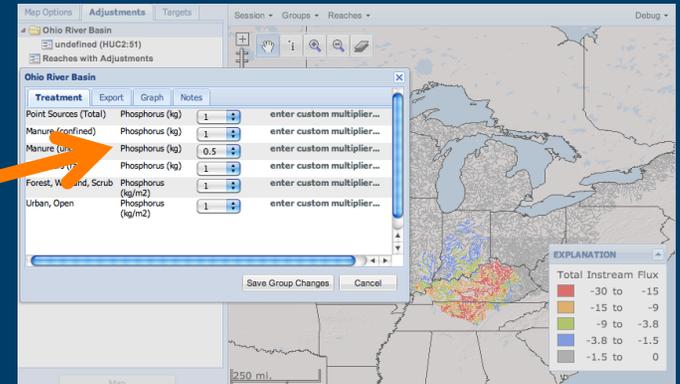
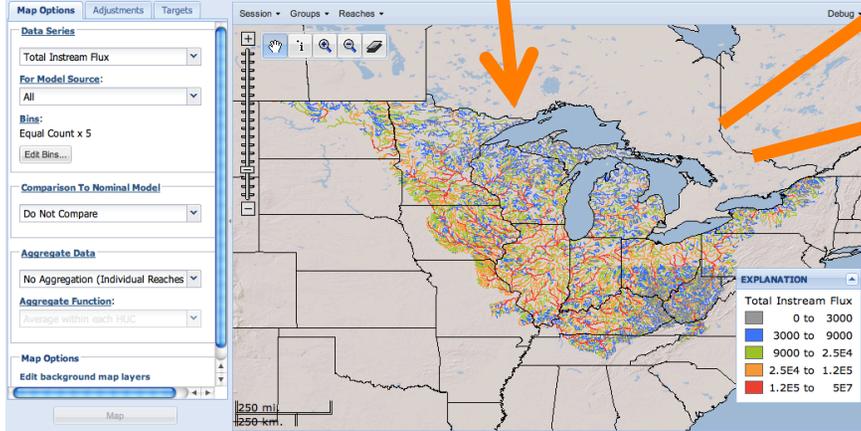


United States Water Quality Data Portal (alpha): A federal, state and tribal partnership.



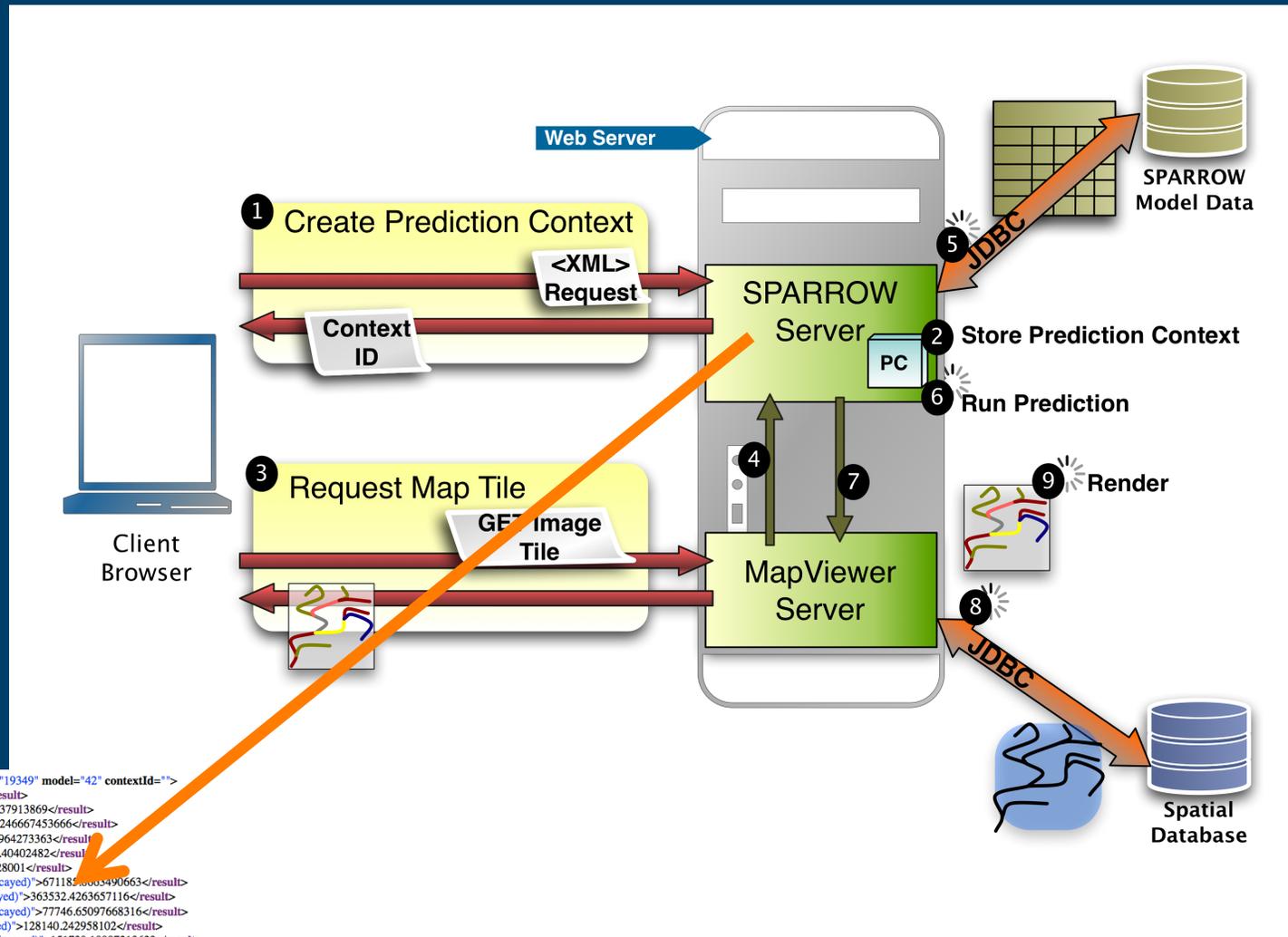
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SPARROW Decision Support System MRB03 Phosphorus



# SPARROW Simulation Sequence

## Auto-feed estuary models

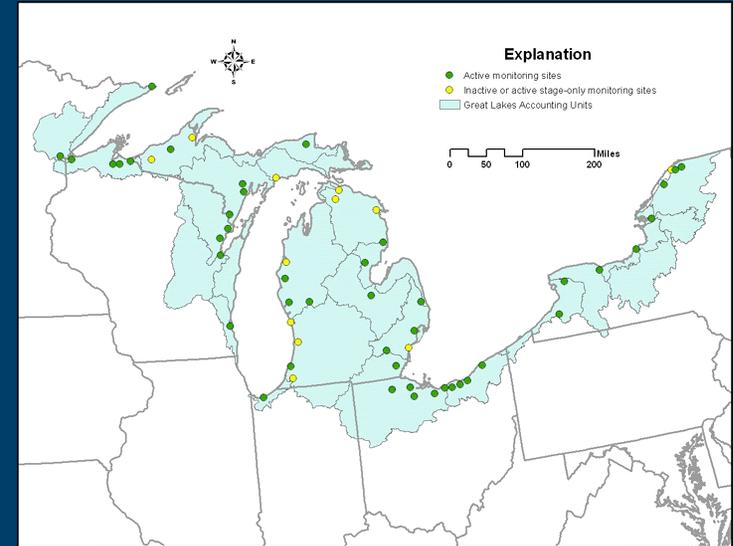


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# Great Lakes Restoration Initiative – GLOS Backbone

- Serve observational data according to common OGC/WMO standards
- Feeds multidiscipline prediction models for eutrophication, beach health, invasive sp., etc.
- Integrate watershed “circulation” model with GLOS/IOOS into a Virtual Observatory



# Nested watershed models within GLOS

- Hierarchy of watershed water-quality models:
  - SPARROW (spatial variability, annual timestep)
  - HSPF/SWAT/other (daily time step)
  - Sensor derived surrogates (~real-time)
- Base water-quality models on common rainfall runoff hydrologic model across basin that can test GCM scenarios
- Integrate spatially between NHD and DEM at gages

# Groundwater Data Exchange – OGC/WMO HydroWG Interop Experiment 1

- Test and enhance OGC standards for water observations
- Exchange groundwater well characteristics and water levels with Canada
- Start with Lake Superior Basin
- Informs National GW Monitoring Network

