# NMN Modeling Session, Apr 3, 2013

- Attendees:

  Jim Dorsch, Andy Fayram, Biswarup Guha, Susan Holdsworth, Erik Host-Steen, Jeff Ostermiller, Helen Pang, Monty Porter, Rob Ragsdale, Mary Skopec, Steve Wolfe, Mike Yurewicz

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# NMN Modeling Session, Apr 3, 2013

- Discussion of some of the models in place or being developed:
  - Mixing model for phosphorus for Lake Erie
  - Barnegat Bay
  - Mississippi River Basin
  - Use of HSPF and SPARROW, Chesapeake Bay
  - Linked models for Narragansett Bay
  - Long Island Sound
  - EPA's Harbor Estuary Program
  - SPARROW models; developing portal for output for individual estuary drainage areas
  - Models in NJ, DE, FL, NY, New England, CA, Gulf

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- It would be helpful to have some level of inventory of models being used, especially where freshwater and estuary models are linked
- Showcase the role of partnerships
- With emphasis of nutrient reductions strategies, can monitoring and models be used to show such plans are effective?

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- Some suggestions:
  --session on inland models, application to ag BMP's
  --Comparison of models (SWAT and SPARROW)
  --Demonstrate how models can provide multiple lines of evidence
- --Use of models to ID high priority basins for BMP's and run watershed scenarios
  --Seeing more phosphorus coming from watersheds
  --Use of phosphorus index

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- Scale to address nutrient issues: usually at HUC12
- Formation of more State-level councils to focus on ag issues, such as in Iowa and Kentucky
- State 319 Coordinators would be good contacts regarding monitoring and models are the State level
- In model comparison, we should assess differences in model input because of the significant resources to build the models

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- There was interest in developing a session at the 2014 conference to compare models and how they can be applied to set watershed priorities. This should be developed to make it an interactive session: present overview of how the models are used and encourage attendees to ask questions.

- Have model experts walk through model scenarios to show how the models handle some representative scenarios. This could help model developers get feedback on model refinements.

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- Consider how continuous data can be used to develop improved models or help develop dynamic models.
- How do you design a continuous water-quality network to optimize input to models?
- The use of continuous data to study and assess diurnal processes as part of development of dynamic models is also an interest.

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- Will follow up with NJ DEP staff to possibly compare models for the Barnegat Bay watershed.
- Develop plans for briefings to IOOS Association, others regarding SPARROW model results for drainage basins of individual estuaries (beta testing being conducted for updated online Decision Support System).
- Longer term: assess how a hypoxia data portal can be linked to the Water Quality Portal

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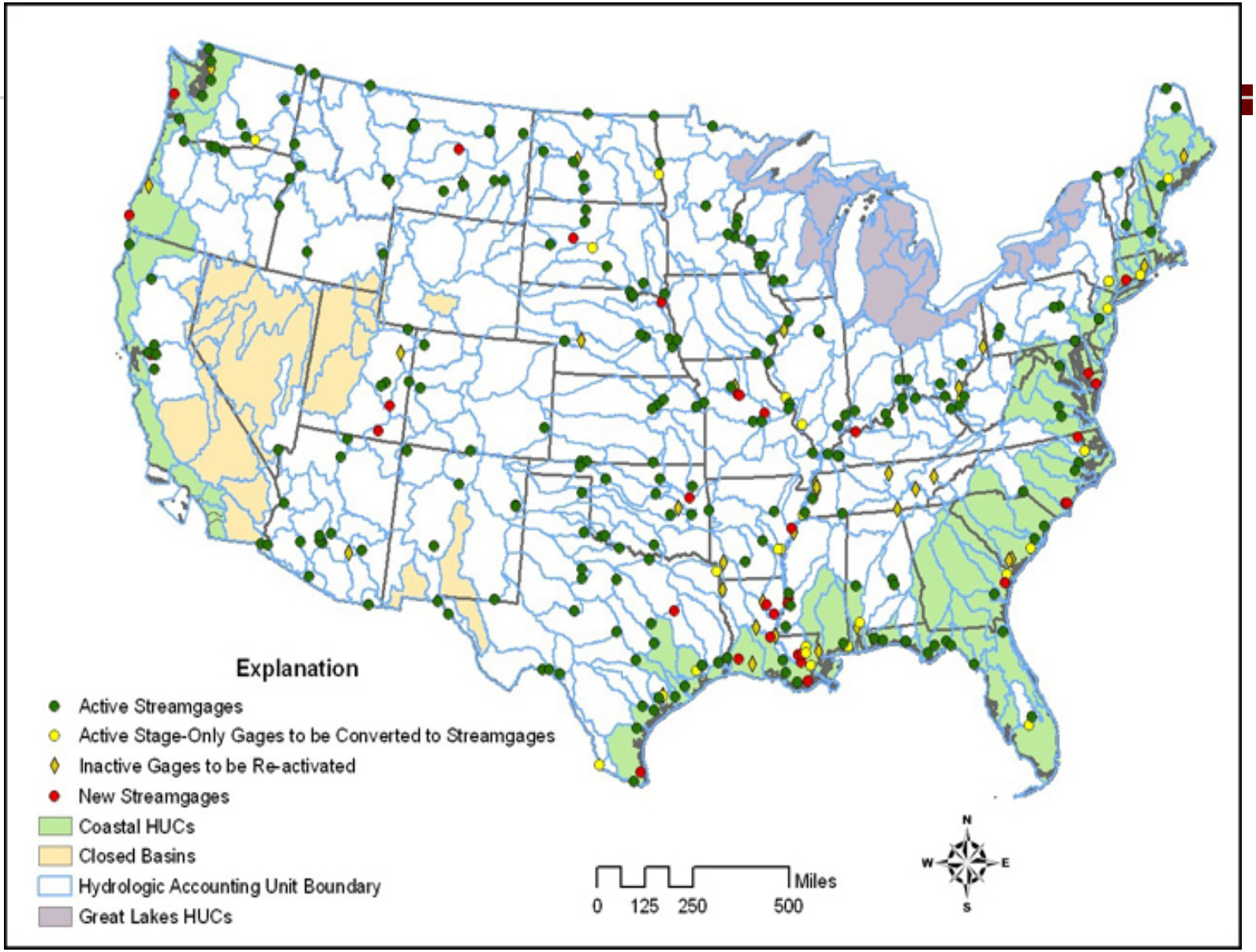
Explanation
Active Streamgages
Active Stage-Only Gages to be Converted to Streamgages
Inactive Gages to be Re-activated
New Streamgages
Coastal HUCs
Closed Basins
Hydrologic Accounting Unit Boundary
Great Lakes HUCs
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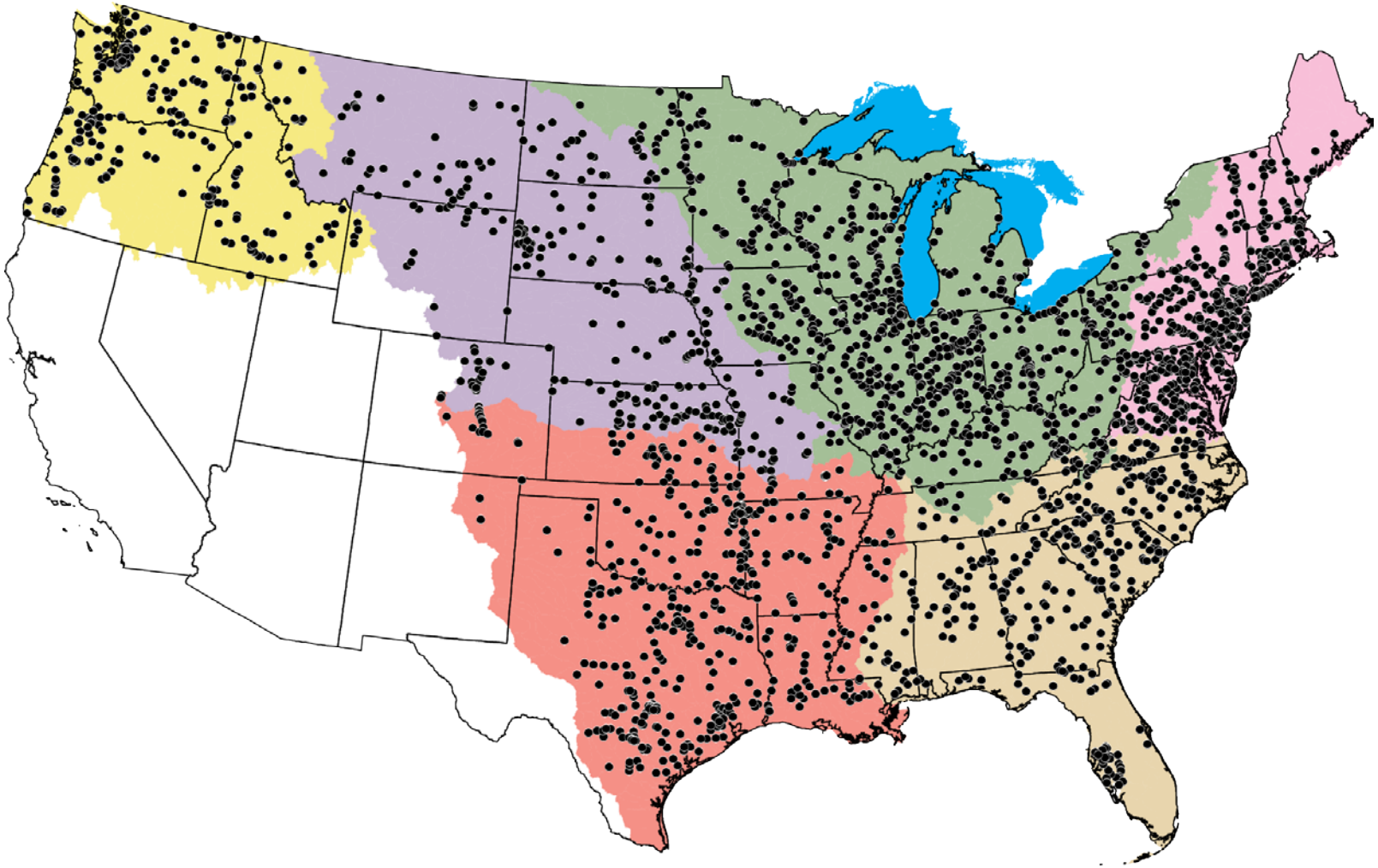
# Monitoring Data Are Critical for Modeling



**2,700 calibration sites with data from 73 agencies**

USGS