



# Ecoinformatics Collaborations USEPA Office of Environmental Information

NSF Biodiversity and Ecosystem  
Informatics Working Group

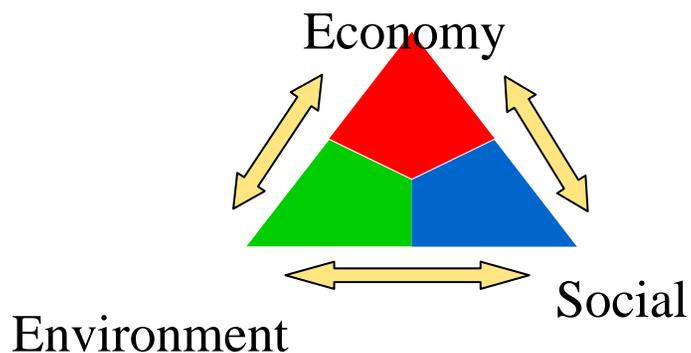
September 2005



# Complex, persistent problems require integrated thinking and action

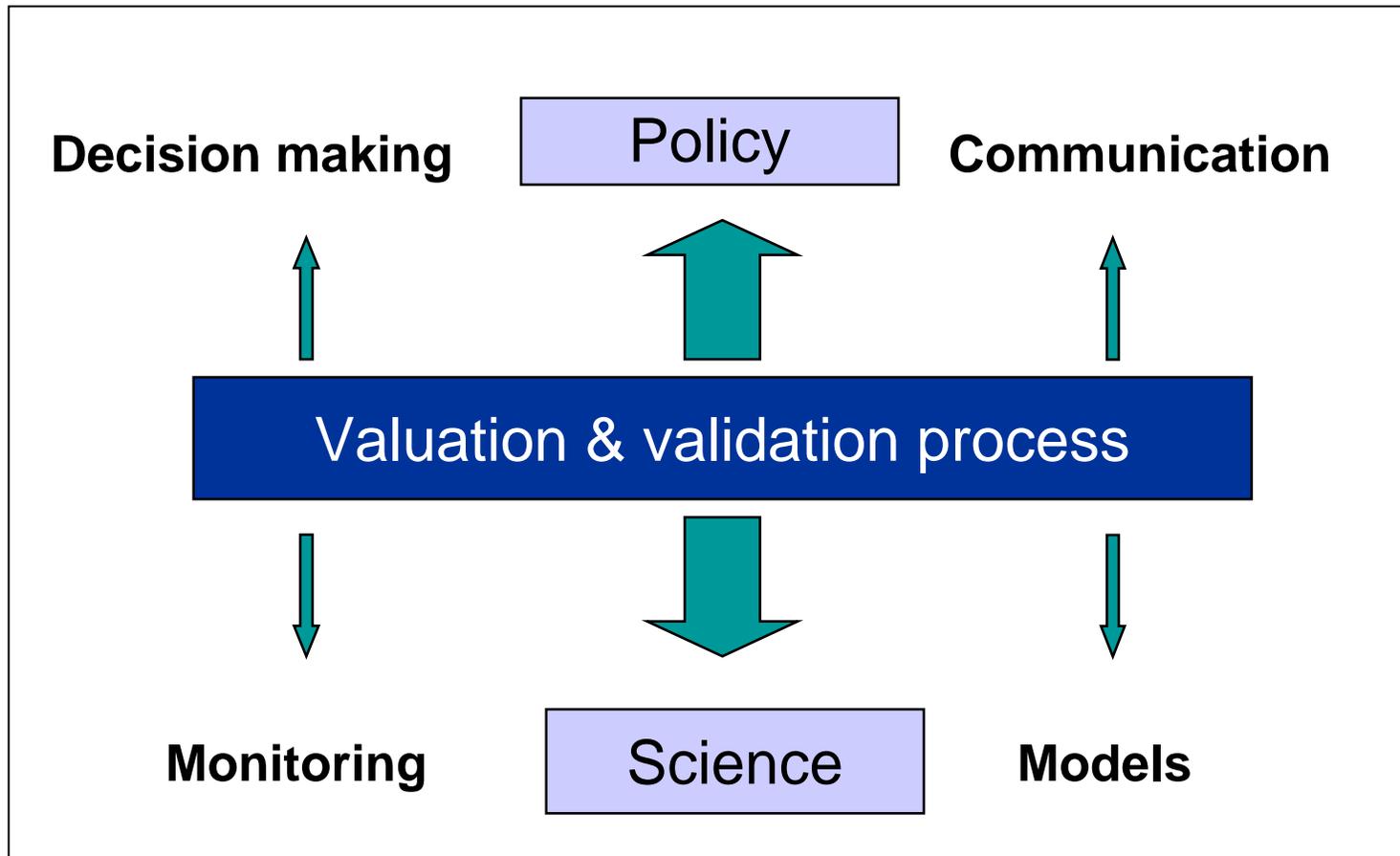


Assessments  
and policy  
making  
across:



- ❖ Scientific disciplines
- ❖ Economic sectors
- ❖ Social, economic and environmental issues
- ❖ Geographical borders
- ❖ Time
- ❖ Political traditions
- ❖ Policy cycle

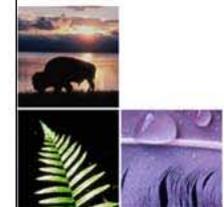
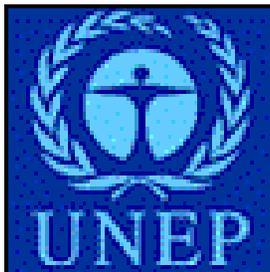
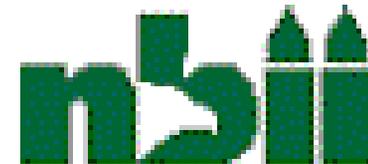
# Bridging the gap between science and policy...



Source: GSE Coastwatch



# Ecoinformatics Collaboration



# International & US Ecoinformatics Activities



## ❖ Upcoming Events & Activities

- On-going Ecoinformatics technical working group teleconferences, next – October 3, 2005
- EEA/USEPA Technical Work Group on Ecoinformatics next meeting, Ispra, Italy January 18- 20, 2006
- Participate in the USEPA ORD Science Forum May 2006
- 9<sup>th</sup> Open Forum on Metadata Registries- March 20- 22, 2006 Kobe City Japan <http://www.tiu.ac.jp/org/forum-01/>

## ❖ Ecoinformatics web page

- EEA maintains the ecoinformatics web site [www.ecoinfo.eionet.eu.int](http://www.ecoinfo.eionet.eu.int)



# Ecoinformatics Technical Areas



- ❖ Metadata Test Bed Project – Designed to test metadata management approaches, the project includes communities organized in the United States and in Europe – air quality and cardiopulmonary data here in US
- ❖ ECOTERM – The primary activity of this project is development of web services that could help make terminology resources more easily accessible and interoperable especially in multi-lingual environments.

# Ecoinformatics Technical Areas



- ❖ Global Biodiversity Information Facility (GBIF) USEPA personnel continue to cooperate and participate in these USGS-led efforts. Metadata models coordination with the National Science Foundation and other initiatives is on-going on GBIF's 30 million specimen records.
- ❖ eXtended Metadata Registry (XMDR) Project – See [www.xmdr.org](http://www.xmdr.org) The initial technology is being assembled and content is being loaded. The current priority is to develop proposals for revising the ISO/TEC 11179 Parts 2 and 3, particularly the metamodel (schema) for metadata registries.

# Ecoinformatics Technical Areas

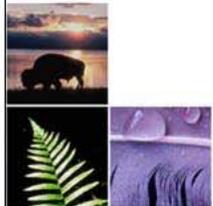


- ❖ EEA Data dictionary and EPA metadata registry projects - the work involves comparison of data elements in the Darwin Core (GBIF) and the Biological Extension to the FGDC metadata content standard. The presentation is available at [www.berlinopenforum.de](http://www.berlinopenforum.de)
- ❖ Semantic management & semantic services, extend 11179 standards [www.metadata-standard.org](http://www.metadata-standard.org) SC32 working group 2, current Toronto meetings wrap up tomorrow (next Kobe Japan)

# Environmental Indicators Activities



- ❖ A May 2005 international session identified methodological study areas:
  - Knowledge Management - Explore the development of “portals” or other means to provide access to high quality indicators and supporting data
  - Indicator Methodologies - Consider definitions, approaches, and criteria in selection and development of indicators
  - Indicator Scalability - Discuss appropriate scales for the presentation of indicators. Examine multiple scales such as local, watershed, US, North American, global



# Proposed: USEPA-EU Research Cooperation



- ❖ Endocrine disruptors
- ❖ Environmental decision making – uncertainty in science for environmental policy (cooperation with NSF)
- ❖ Health & environment methods, tools information integrations for better policy
- ❖ Ecoinformatics including statistical methods
- ❖ Life cycle assessment & materials flow accounts
- ❖ Computational toxicology

# Partnerships USEPA-HHS/CDC MOU



- ❖ **Collaboration between CDC and EPA on Environmental Health Tracking (network coordination) Signed Sept 30, 2002**
- ❖ **Quarterly conference calls – participation in development, meetings, and conferences**

## ❖ **Cooperative Projects**

- **HELIX – Atlanta Area EPHT**
- **Public Health Air Surveillance Evaluation (PHASE)**
- **State of WI and EPA Region 5 – Technical Assistance**
- **NY State Project – Integrating networks**





## ❖ in-ter-op-er-a-bil-i-ty

- “ability of a system...to use the parts or equipment of another system”
- Source: Merriam-Webster web site

## ❖ interoperability

- “ability of two or more systems or components to exchange information and to use the information that has been exchanged”

Source: IEEE Standard Computer Dictionary: A Compilation of IEEE Standard Computer Glossaries, IEEE, 1990]





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