ORD's Environmental Monitoring and Assessment Program (EMAP) Improving Monitoring Science for the Nation and the World

Paul Gilman

Assistant Administrator

U.S. Environmental Protection Agency

Office of Research and Development

EMAP 2004 Symposium

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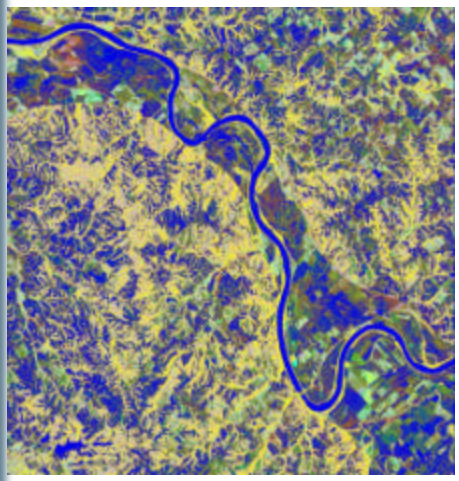
RESEARCH & DEVELOPMENT

Building a scientific foundation for sound environmental decisions

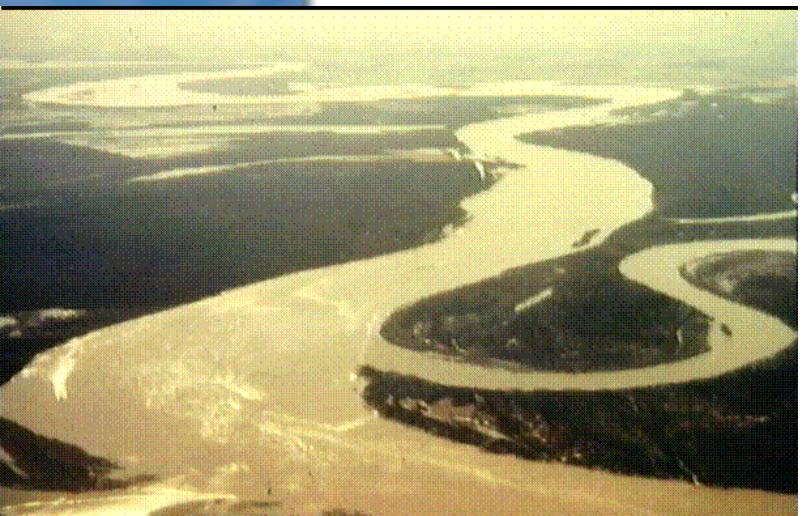


Making decisions with sound science requires..

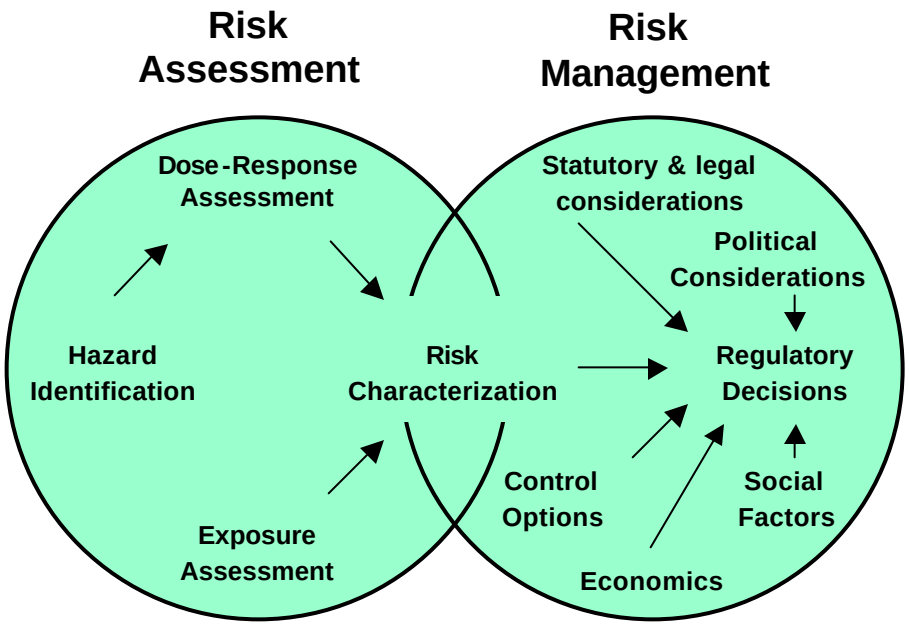
- Relevant, high quality, cutting-edge research in human health, ecology, pollution control and prevention, economics and decision sciences
- Proper characterization of scientific findings
- Appropriate use of science in the decision process

Research and development contribute uniquely to..

- Health and ecological research, as well as research in pollution prevention and new technology
- In-house research and an external grants program
- Problem-driven and core research



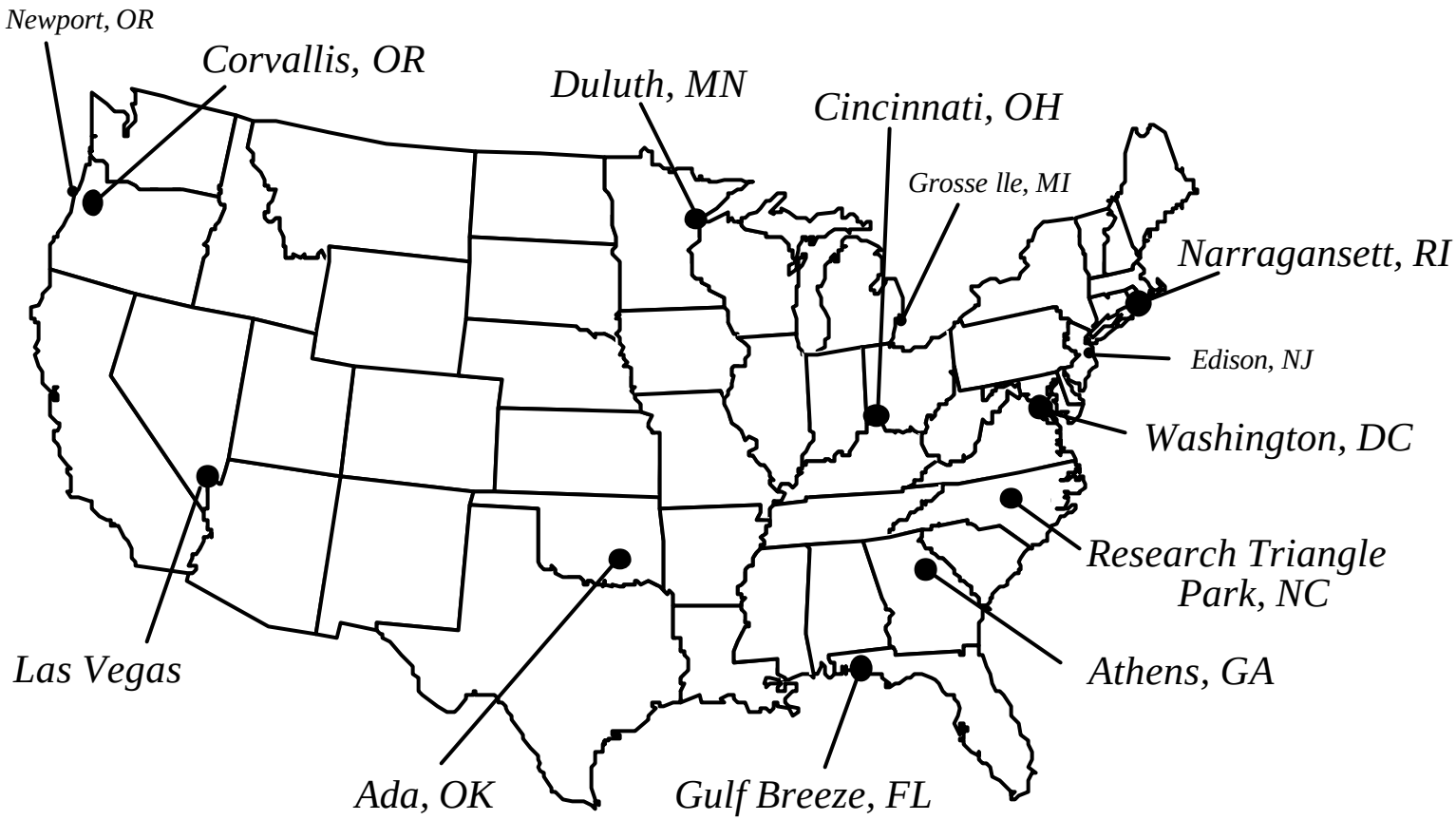
Alignment of Labs/Centers with Risk Paradigm



National Exposure Research Laboratory	National Health and Environmental Effects Research Laboratory	National Center for Environmental Assessment	National Risk Management Research Laboratory	National Center for Environmental Research and Quality Assurance
Research to measure, characterize & assess exposures and to support compliance with environmental regulations and policies	Research to identify hazards & characterize "Dose-Response"	Risk characterization & research on risk assessment methods	Research & technology transfer to prevent, mitigate & control pollution	Extramural program - grants, fellowships, & national centers of excellence - to complement ORD's intramural program

ORD Locations

3 National Laboratories
2 National Centers
2 Offices



ORD's Customers

EPA Program Offices and Regions

Other Agencies and Policy Partners

Place-Based Customers (states, tribes, local communities)

Academic Research Community

Environmental Technology Providers

National and International Collaborative Efforts

National Coastal Assessment

- National Coastal Condition Report II

Western EMAP

R-EMAP

Great Rivers

Gulf of Mexico hypoxia

Ocean.US

EOS

National Coastal Assessment
2003 Western Partners

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

DEQ

SCCWRP

NOAA
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
U.S. DEPARTMENT OF COMMERCE

WASHINGTON STATE DEPARTMENT OF ECOLOGY

NOAA FISHERIES
NATIONAL MARINE FISHERIES SERVICE

Channel Islands
National Marine Sanctuary

Southern California Coastal
Water Research Project

Cordell Bank
National Marine Sanctuary

MOSS LANDING MARINE LABORATORIES

GULF OF THE FARALLONES NATIONAL MARINE SANCTUARY
An ocean wilderness beyond the Golden Gate

Alaska Department of
Environmental Conservation

NATIONAL MARINE
SANCTUARIES

Olympic Coast National Marine Sanctuary

Monterey Bay National Marine Sanctuary
Home Page

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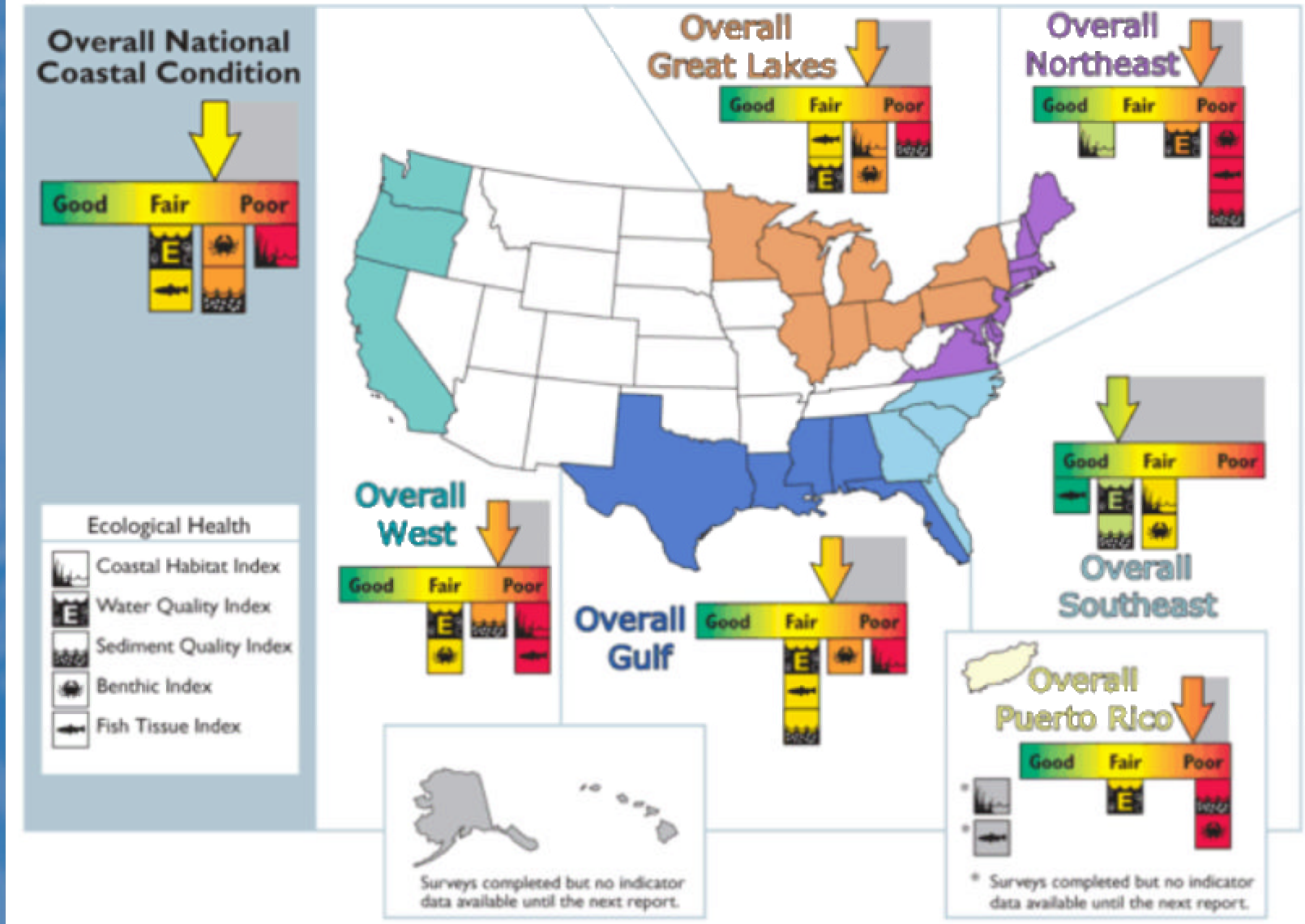
NCCR2



Other EPA Efforts

Ocean.US

National Oceanographic Partnership Program's Interagency Ocean Observation Office

Earth Observation System (EOS)

EMAP's data archives and ease of accessability is contributing towards a global collaborative network for environmental problem-solving

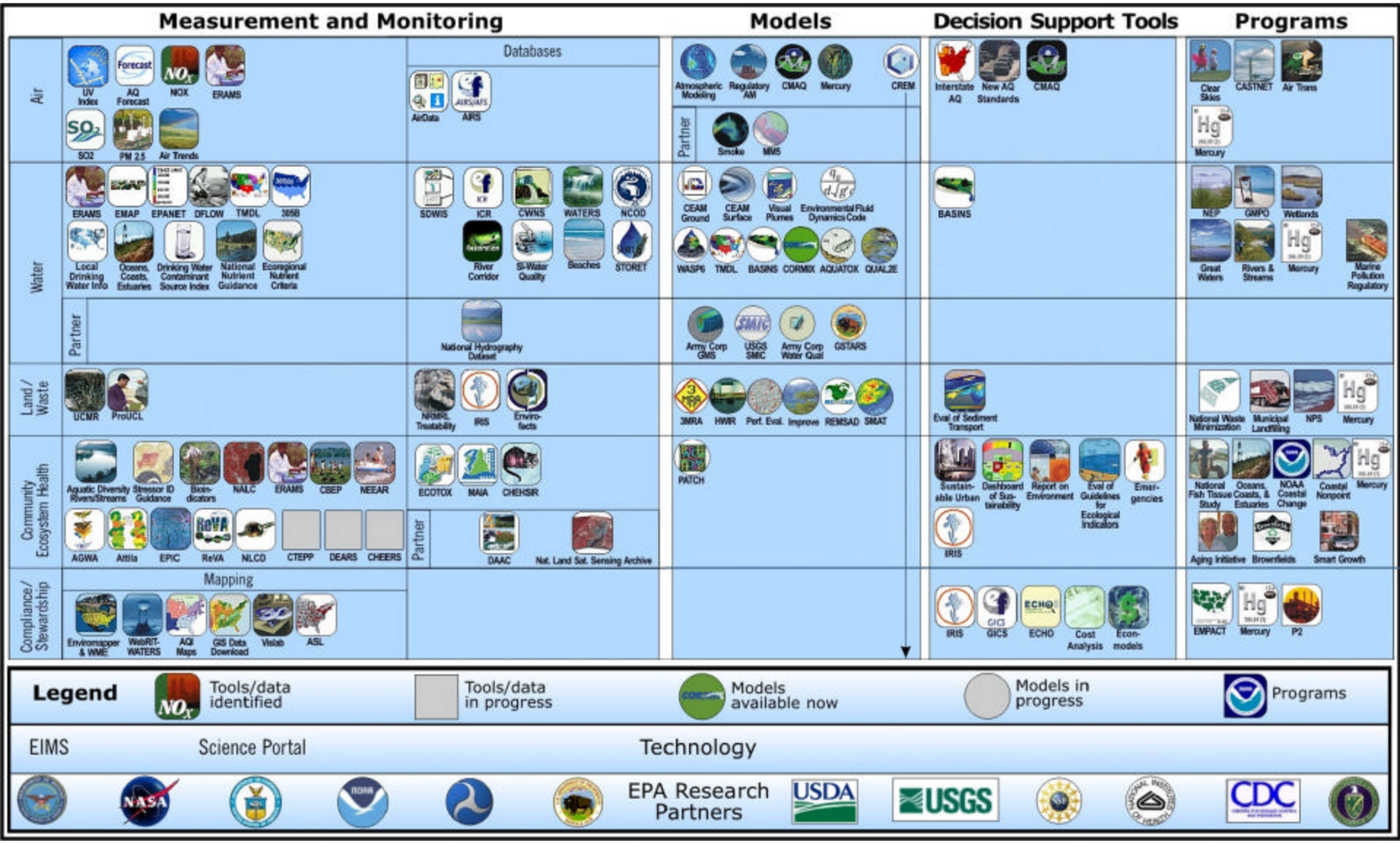
EOS

Earth Observation System (EOS)

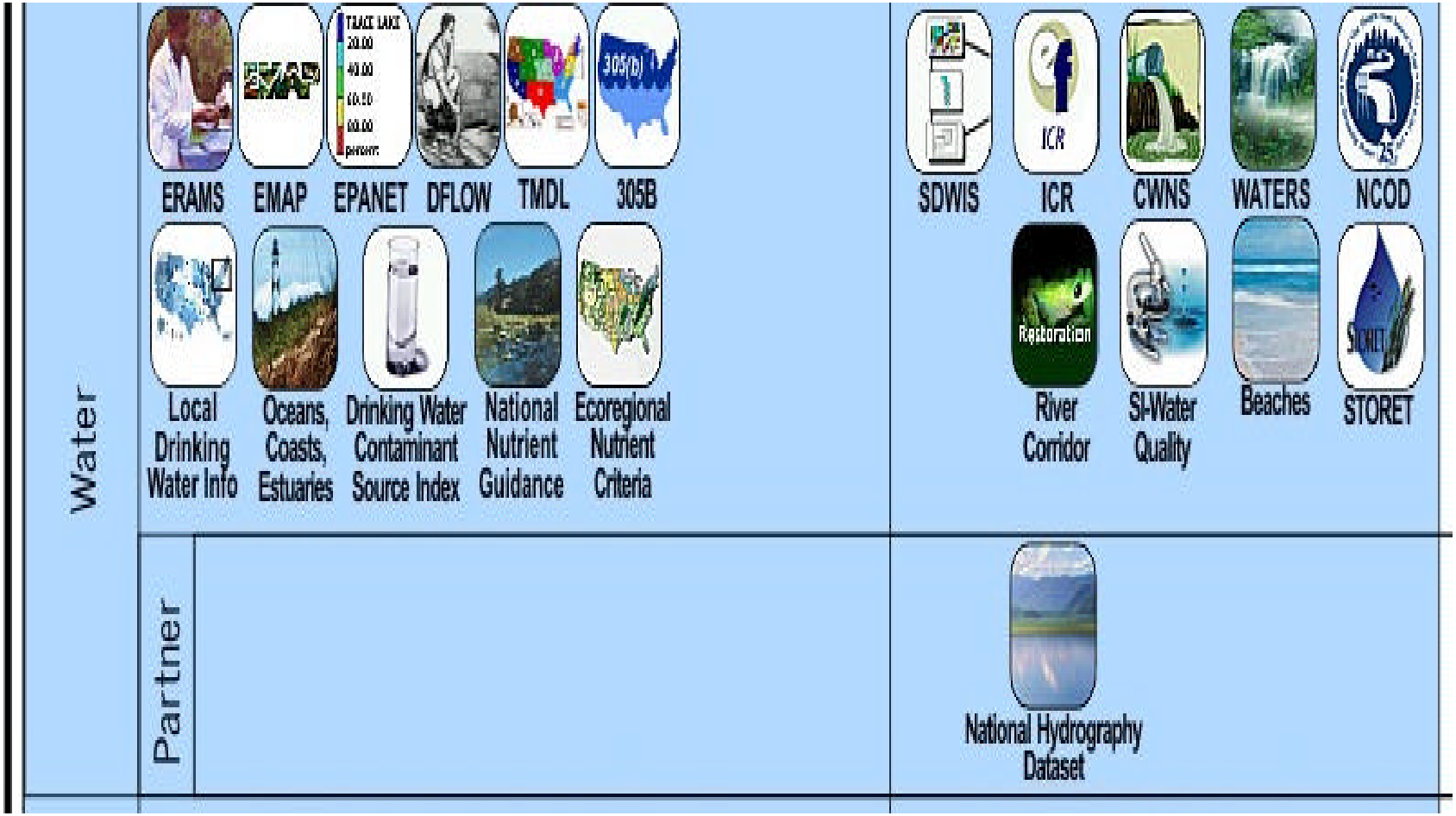
Recent EOS Summit; 46 member nations and 24 participating international organizations affirmed the need for timely, quality, long-term, global information as a basis for sound decision making.

- Promote the development of a comprehensive, coordinated, and sustained Earth observation system[s]
- Assist developing countries in improving and sustaining their contributions to observing systems
- Exchange data in full and open manner, consistent with international instruments and policies

EPA EOS "Button" Chart



EOS - Measurement and Monitoring



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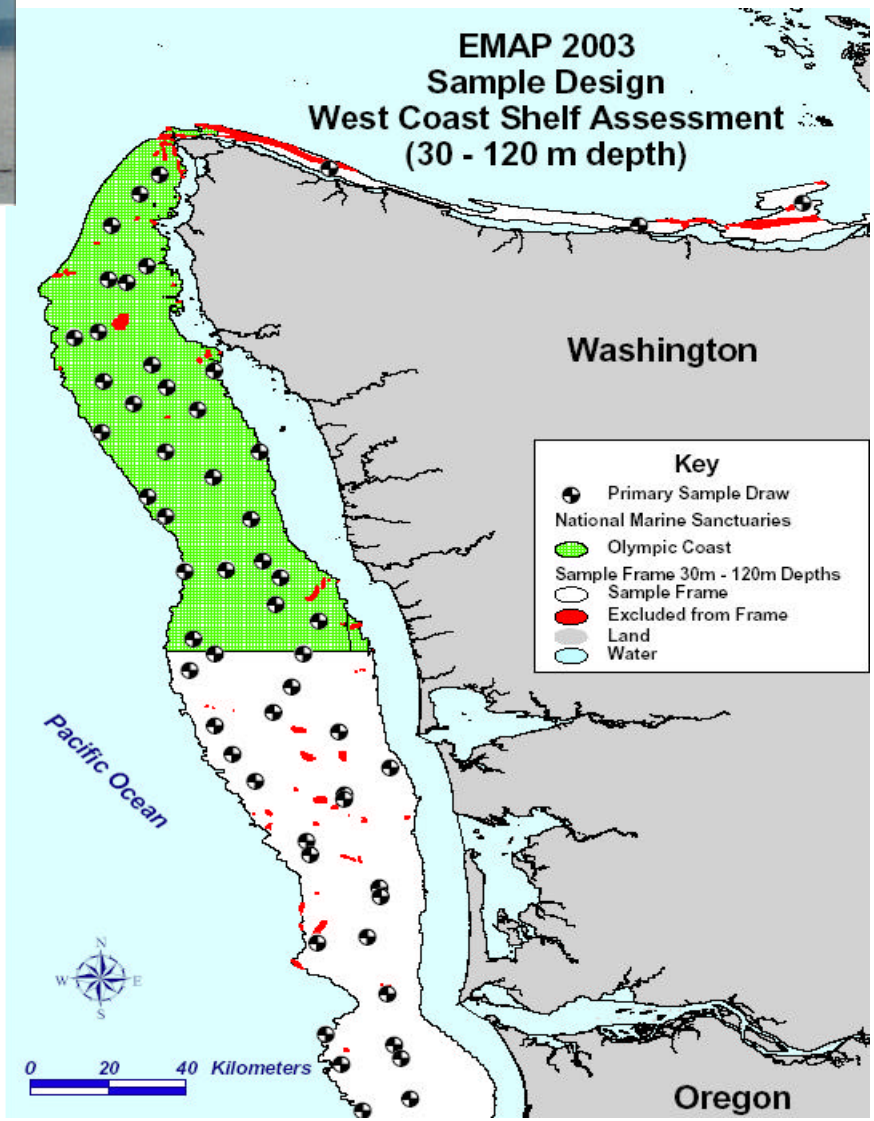

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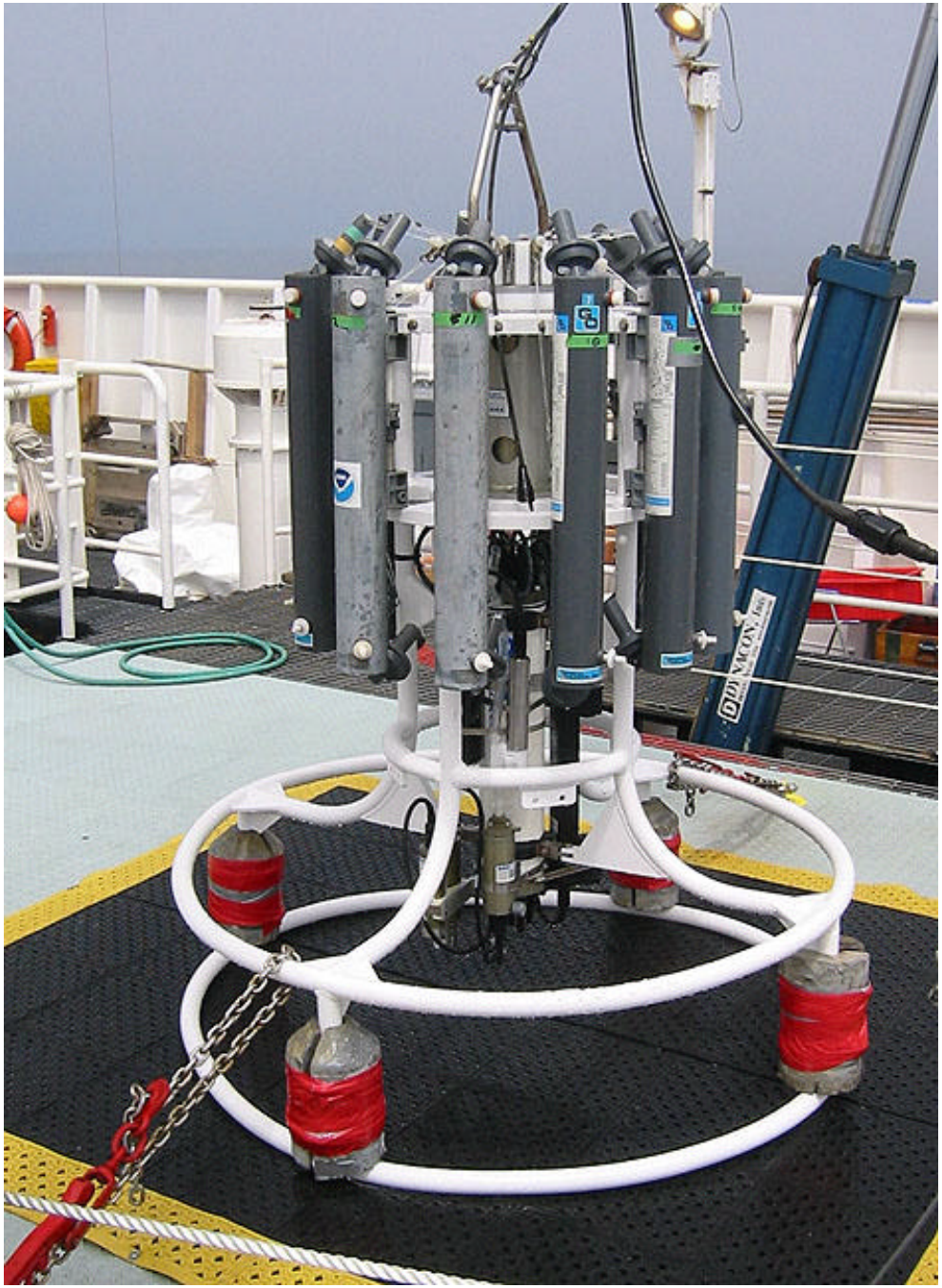


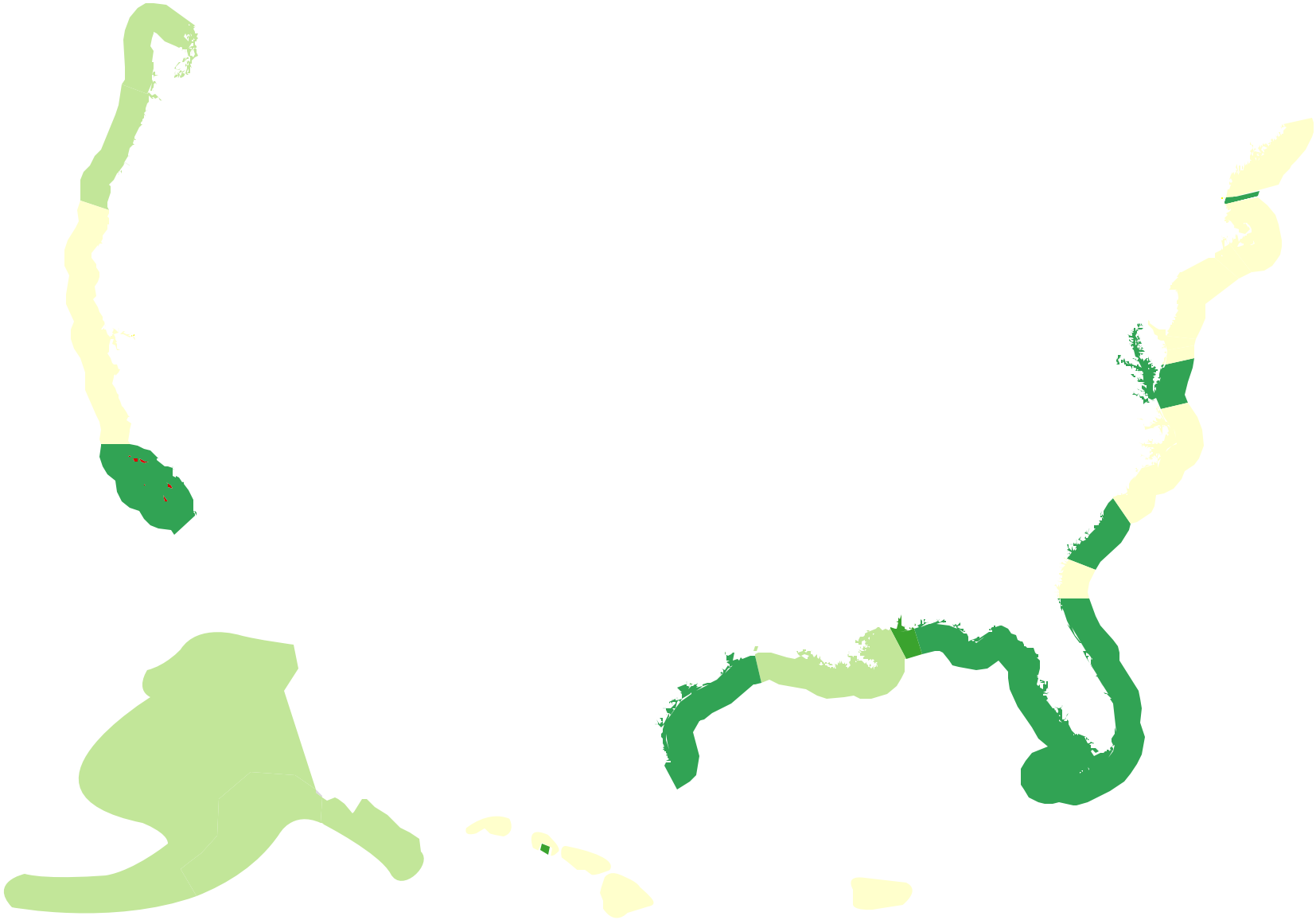
EMAP GOALS

- Develop the scientific basis for consistent measurement of the health of the Nation's aquatic ecosystems
- Assist in building state capacity for monitoring for 305(b) and 303(d)
- Provide design/analysis support so states can implement more cost-effective monitoring

EMAP Approach for a Report Card

Develop a cost-effective, scientifically-defensible, representative, and unbiased estimate of ecological condition

States adopt and implement a consistent approach for assessing ecosystem health

States' data aggregated for national report card

Change and trend data