



AquaWatch

The GEO Water Quality Community of Practice

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*Steven Greb, Wisconsin Department of Natural Resources
IOCS meeting
May 16th, 2017*

GEO AquaWatch

- AquaWatch is a water quality community activity within the Group on Earth Observations (GEO)



- AquaWatch participants presently include individuals from various organizations including state, federal, and international governmental agencies, private consulting companies, nonprofit organizations, nongovernmental organizations and academic institutions.



GEO AquaWatch

The AquaWatch Mission:

To improve water quality in coastal and inland waters through more effective monitoring, management and decision making.

The AquaWatch Goal:

To develop and build the global capacity and utility of Earth Observation-derived water quality data, products and information to support water resources management and decision making.

GEO AquaWatch

The AquaWatch Objectives:

- Facilitate effective partnerships between the producers, providers and users of water quality data, products and information.
- Improve analysis and integration of in situ and remote sensing water quality data.
- Develop and deliver fit-for-purpose water quality products and information services.
- Support technology transfer and access to water quality data products and information.
- Advocate for increased capacity for and use of water quality information for decision making.

User needs

Data

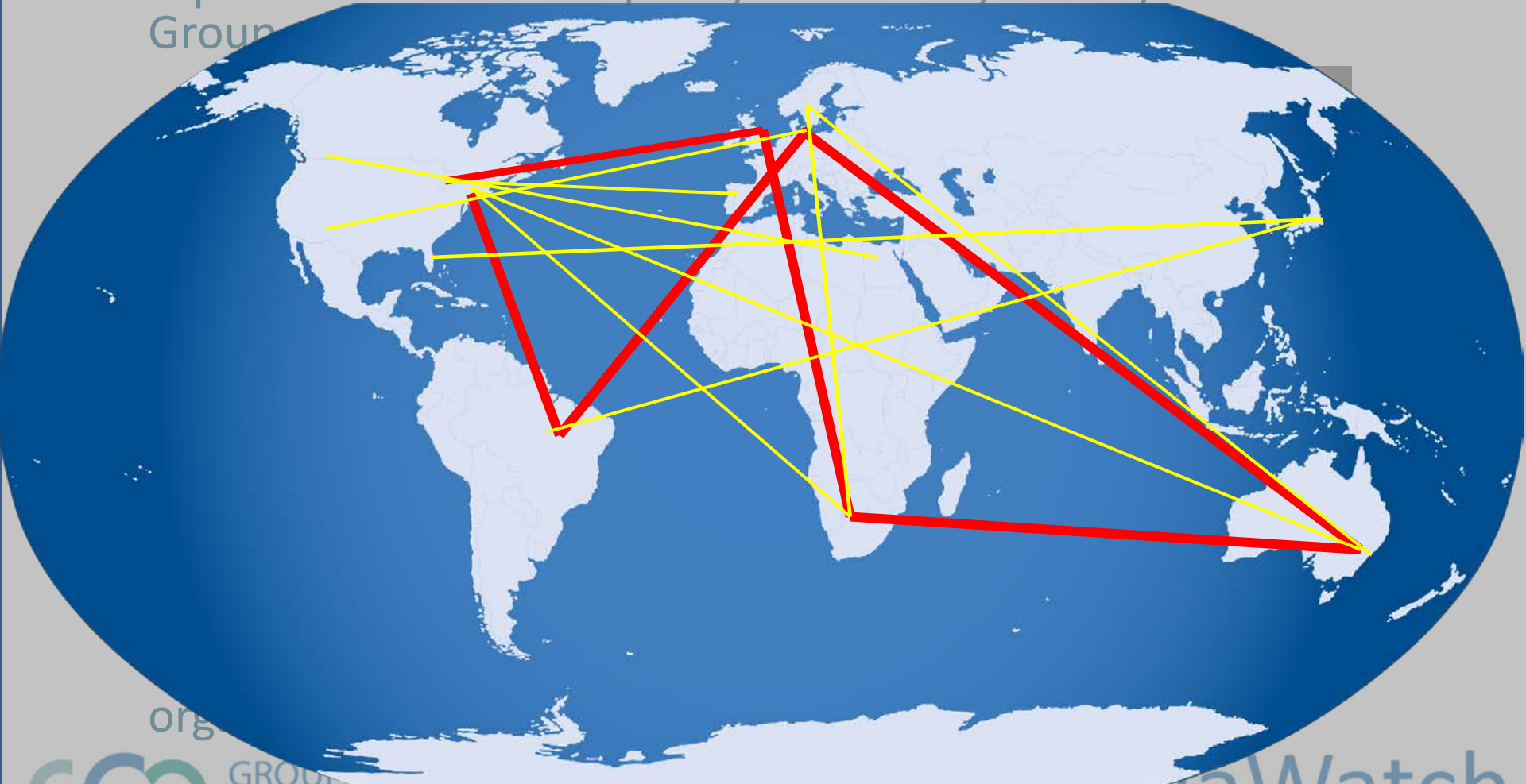
Products

Information

Knowledge

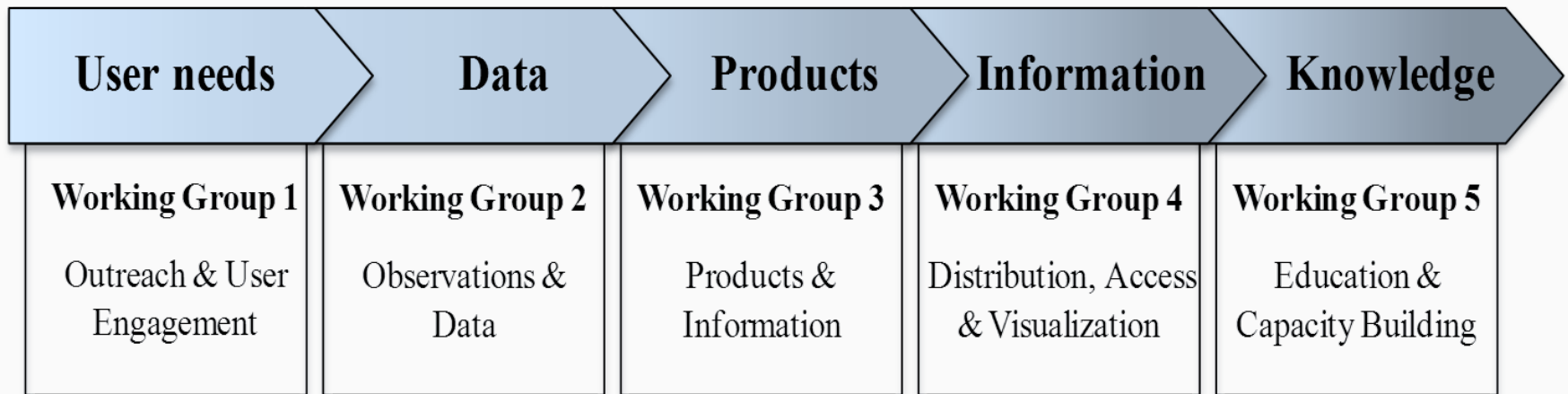
GEO AquaWatch

- AquaWatch is a water quality community activity within the Group



GEO AquaWatch

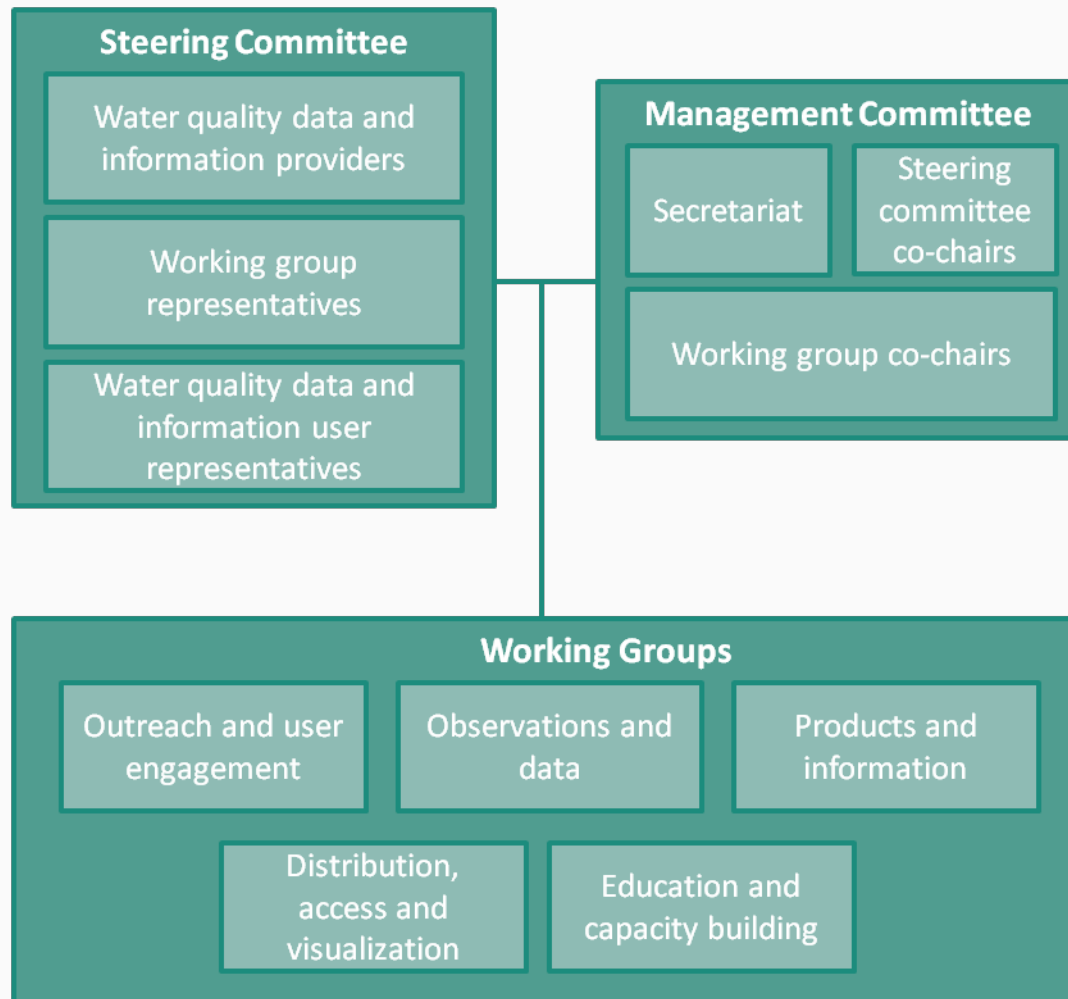
AquaWatch has formed and populated five working groups. These groups, which correspond to the five objectives, carry out the needed tasks (work packages) to complete the AquaWatch mission.



Selected Terms of Reference

- Represent the interests of all professionals working in coastal and inland water quality remote sensing and work to develop enhanced exchange and cooperation between all professionals active in coastal and inland water quality remote sensing
- Provide an effective link between the research and development communities engaged in developing the use of remote sensing based techniques for coastal and inland water quality assessment and the different user groups that require such information for research, operational monitoring or commercial service provision.
- Work to promote appropriate access to global EO data sets and supporting tools in developing countries, and develop local know-how and processing/analysis capabilities
- Work across multiple Societal Benefit Areas such as agriculture, biodiversity, climate, disasters, ecosystems, health, water and weather and complement other GEO initiatives such as Blue Planet, the Biodiversity Observation Network, GEOGLOWS and GeoHealth.
- Support the water-related UN Sustainable Development Goals

AquaWatch Governance Structure



GEO AquaWatch Current Activities

Our Current Focus- **The Water Quality Information Service**

Develop international operational water quality information systems based on Earth observation with a focus on the developing world, leveraging and transferring capabilities of developed nations



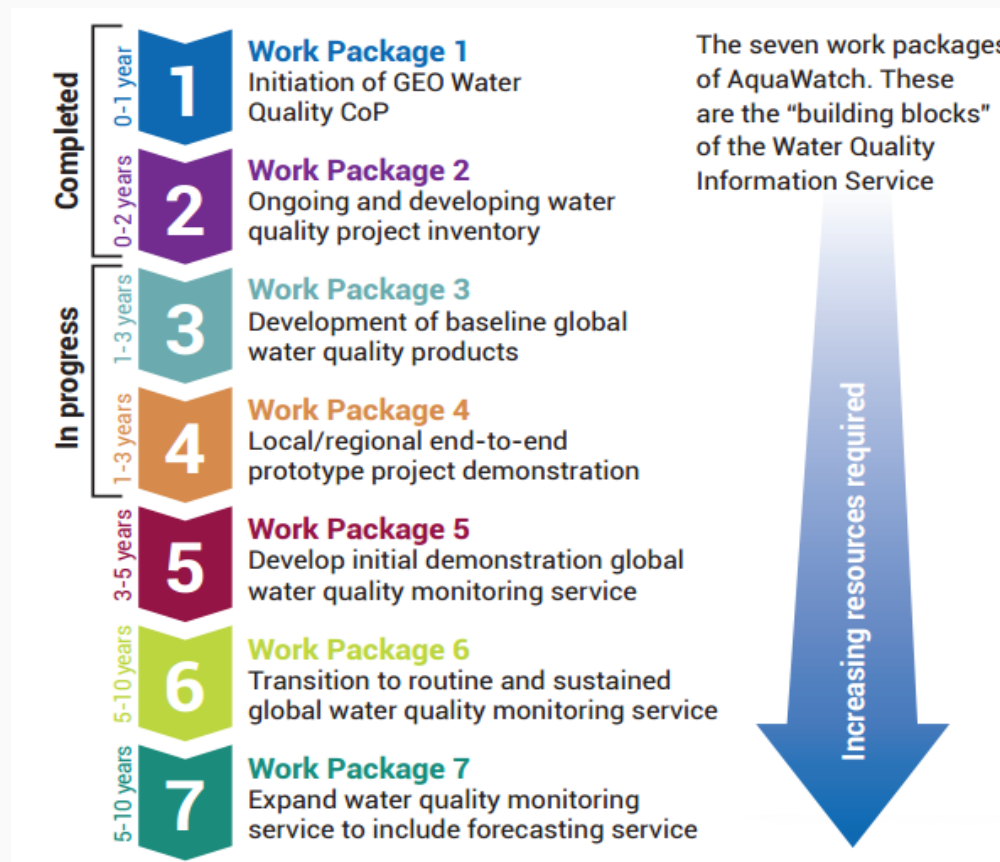
Chesapeake Bay Buoy – NOAA Image



Lakes Mendota & Monona -University of Wisconsin SSEC image

The AquaWatch Water Quality Information Service

AquaWatch has developed a work plan consisting of a series of sequential work packages to construct the Water Quality Information Service



Current Activities – Focused on WP 3 & 4

- Work package 3: AquaWatch has begun the development of an NTU turbidity product, a Secchi disk depth product, a diffuse attenuation coefficient product, and a surface reflectance product. Absorption and scattering information will also be included where appropriate for added value and product comparability. The product will be done at three resolutions – 1 km, 300 m and 100 m. The product will be coherent globally at the 1 km level, continent or country level at 300m and regional “zoom-in” at the ≤ 100 m level.
- Work package 4: AquaWatch is currently producing a booklet highlighting the functionality of prototype projects that products that include in situ data, remote sensing data and modeling. The booklet will be used to educate potential end users about available functionality and spur interest and funding for the development of new AquaWatch prototype projects.

Work Package 4



Why Monitor Water Quality?

Water quality is essential for human, ecosystem and economic health. Degradation of water quality can result in human exposure to disease and harmful chemicals, reduction in productivity and diversity of ecosystems and damage to aquaculture, agriculture and other water-related industries.



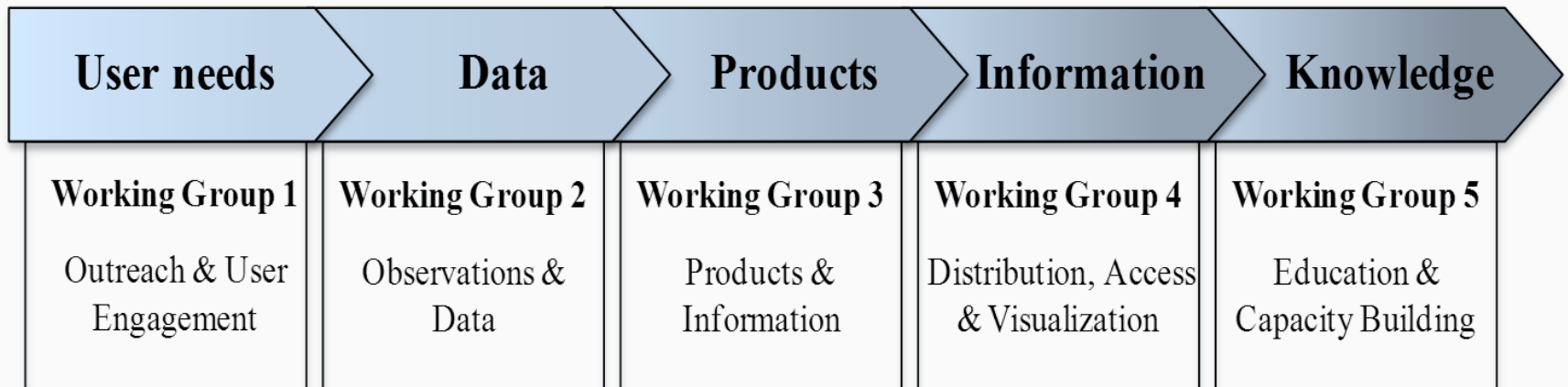
The development of the United Nations Sustainable Development Goal to ensure availability and sustainable management of water and sanitation for all (SDG 6) highlights the importance of water quality at the global level and access clean, safe and secure supplies of water is fundamental to attaining sustainable development.

Future Activities

- Work packages: Over the next 3 years, AquaWatch will continue to build on work package 3 and 4, initiate 5 and 6
- AquaWatch will be submitting an Implementation Plan to GEO (due June 9, 2017) to be an Initiative in the Work Programme
- Community of practice: support and collaborate with other GEO groups on water quality project needs
 - GEOGLOWS
 - GEO SDG Initiative
 - GEO Blue Planet
 - GEO Wetlands
 - GEO BON
 - GEO Health
 - Regional GEO groups
- Outreach and capacity building: AquaWatch will work to increase engagement and begin capacity building activities
- Website: AquaWatch will create a new website

How can you get involved?

- Join a working group



- Join our email list

<http://geo-water-quality.org>

How can you get involved?

Contact:

AquaWatch Secretariat, Emily Smail

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-or-

AquaWatch co-chair, Steven Greb

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