

# Update on National Water Quality Monitoring Committee Meeting July 21-23

National Conference  
Methods Board

Eric Vowinkel

NJ Water Monitoring Council Meeting

September 30, 2009

## National Water Quality Monitoring Council

▶ [ACWI](#) ▶ [NWQMC](#) ▶ [Members](#) ▶ [Work Groups](#) ▶ [What's New](#) ▶ [Meetings](#) ▶ [Contacts](#) ▶



### 2010 National Monitoring Conference Monitoring From the Summit to the Sea

April 25-29, 2010  
Denver, Colorado

[Conference Details](#)

**Purpose:** Provide a national forum for coordination of consistent and scientifically defensible methods and strategies to improve water quality monitoring, assessment and reporting. Promote partnerships to foster collaboration, advance the science, and improve management within all elements of the water quality monitoring community.



### How the Council Works

- [Advisory Committee on Water Information](#)
- [Work Groups](#) || [Organization Chart](#)
- [Terms of Reference](#)
- [History](#)

### Conferences, Meetings, and Events

#### National Conference Information and Results

- [2010 National Conference Information](#)
- [Previous Conference Results](#)

#### Scheduled Council Meetings

- [Meeting Minutes](#)
  - [Portland, July 2009 \(DRAFT\)](#)
  - [Salt Lake City, March 2009](#)
- [Meeting Presentations](#)

#### Other Meetings of Interest

### Council Activities and Priorities

- [Methods and Data Comparability Board](#)
- [Collaboration and Outreach](#)
- [Water Information Strategies](#)
- [National Monitoring Network](#)
  - [About the Network](#)
  - [Network Reports](#)
  - [Network Pilots and Demonstration Areas](#)
  - [Integrated Ocean Observing System \(IOOS\)](#)
    - [Regional IOOS Component](#)

### Products of the Council

- [Council and Network Briefing Sheet](#) - Selected Accomplishments and Priorities Through 2010
- [Council Brochure](#)
- [Activities and Products](#) (July 2007)
- [Presentations](#)
- [Publications](#)
- [The Framework for Monitoring](#)
  - [AWRA Water Resources IMPACT Magazine - Monitoring Framework Issue](#) (September 2003 Issue)

### Members and Partners

- [Membership List](#)
- [Member Agencies](#)
- [State and Regional Councils](#)
  - [Contacts](#)
- [Contact the Council](#)
- [Related Links](#)

### New and Newsworthy...

- [What's New?](#)
- [Success Stories](#)



**NATIONAL WATER QUALITY MONITORING COUNCIL**  
*Working Together for Clean Water*

## Seventh National Monitoring Conference - Monitoring From the Summit to the Sea

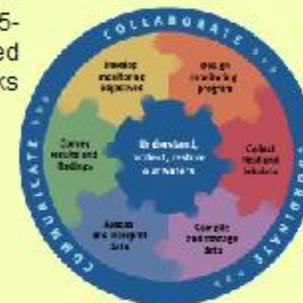
April 25-29, 2010

Denver, Colorado

The [National Water Quality Monitoring Council](#) (NWQMC) will host its Seventh conference, *Monitoring From the Summit to the Sea*, April 25-29, 2010 in Denver, Colorado. The conference will focus on the many facets of water quality and quantity monitoring for improved understanding, protection, and restoration of our natural resources and communities. Especially integral to effective monitoring networks are the "3C's" of the [Council's Framework for Monitoring](#) — Communication, Collaboration, and Coordination.

### Conference Themes -

- Applying Innovative Monitoring, Assessment, and Modeling Tools and Approaches
- Integrating Monitoring to Cost Effectively Support Water Resource Management
- Exploring New Technologies and Analytical Methods
- Addressing Climate, Energy, Water Availability, and other Emerging Water Issues
- Communicating Science to Decision Makers and the Public
- Strengthening Collaboration and Partnerships at all Scales



## Current Projects

[NEMI](#)

[Water-Quality Sensors](#)

## Recent Projects

[Water Quality Data Elements](#)

[Data Comparability \(National Monitoring Network\)](#)

[Bioassessment Comparability](#)

## About the Board

[Publications](#)

[Background & Strategy](#)

## EPA Forum on Environmental Measurements meeting with Methods Board in D.C., Sept. 9, 2009

- [Methods Board presentation](#)
- [FEM presentation, Council meeting, July, 2009](#)
- [FEM website](#)
- [EPA Test Method Collections](#)

## Field Monitoring Quality Assurance Initiative

New sensors designed for field deployments -- along with advanced instrumentation technologies and the availability of vast streams of data at costs well below those provided by manual collection of water quality data -- have spurred an ever-increasing interest in the use of sensors, both attended and unattended, by the water-quality monitoring community. While investments in new technologies often result in improved information and reduced costs, there is a growing need to provide quality assurance tools to those who collect the data so they are confident in using and sharing their results.

The Methods and Data Comparability Board has embarked on a project to help **users of water-quality sensors** collect *well-documented data of known quality*. The **Field Monitoring Quality Assurance Initiative** is a collaboration of experts from government, academia, and industry working to produce tools that will be of value to sensors users at all levels, from local watershed-level groups to national programs. Initial efforts will cover discrete sampling and continuous monitoring in fresh, brackish, and saltwater environments for both compliance and non-compliance applications for sensors for dissolved oxygen, conductivity, temperature, pH, turbidity, depth, and oxidation-reduction potential.

## NEWS AND EVENTS

### MEETINGS

[Across the Board newsletter](#)



## CONTACTS:

[Dan Sullivan](#), USGS Co-Chair  
Wisconsin Water Science Center  
(608) 821-3869

Steve Wendelken, EPA Co-Chair  
U.S. EPA, Cincinnati, OH  
(513) 569-7491



## Methods and Data Comparability Board



# Workgroup - Sensors

### Working Subgroups

- [Field Monitoring Quality Assurance Initiative](#)
- [Technology](#)

**Challenge:** Environmental sensor technology for field applications is rapidly evolving. The development of standard operating procedures (SOPs) for many of these technologies and applications has not kept pace and gaps have emerged that hinder the inter-comparability of data and collaboration. The result is degraded data quality and reduced productivity in the field. There is also no central repository available for users to access SOPs for field measurements compare sensing technologies, performance specifications, deployment guidelines, and greenness profiles.

**Objectives:** To convene a workgroup of experts on sensors to consider efforts to address these challenges in one or more of the following ways:

- Develop SOPs for the calibration, QA/QCI, maintenance, and the deployment of field based environmental sensors
- Make recommendations for the creation of a data base to store relevant information on sensors to allow potential users to make informed decisions on the use of sensors for their projects
- Recommend types of sensors that are appropriate for the [National Monitoring Network](#) in freshwater, estuarine and coastal environments

### Documents

- [White paper -- \(Here it is...\)](#)
- [Special 90-minute session at NMC, May, 2008 \(Abstract here...\)](#)

### Resources & References

- [Calibration Tips](#) for YSI 6-series sondes and sensors
- [QARTOD: Quality Assurance of Real-time Oceanographic Data](#)
- [Sensor-related presentations from the National Monitoring Conferences](#) over the years
- [White Paper: Distributed Sensing Systems for Water Quality Assessment and Management](#)
- [Real-time remote monitoring of water quality: a review of current applications, and advancements in sensor, telemetry, and computing technologies](#)
- [Stream Water Quality Monitoring using Wireless Embedded Sensor Networks](#)
- [Nutrient Sensors in Ocean Observing](#) -- special focus session to be held at OCEANS 2009 conference
- [Crossbow](#) -- "Leading the revolution to connect the physical world with the digital world through wireless sensor networks"
- [Kilroy is Here](#) -- *Kilroy* is a water-quality monitor unlike any other. Hardly larger than a football, at a fraction of the cost of other sensors, *Kilroy* nimbly monitors the water's speed, direction, temperature, salinity, and prevalence of key microorganisms—the vital signs of our living waters. And it does so 24 hours a day, 365 days a year.
- [Wireless Sensor Networks](#)
- [New implementations of OGC Sensor web enablement standards](#)
- [RFID](#) -- Radio frequency identification (RFID) also see Wiki page on RFIS

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  - [NEMI](#)
- »Project Archives
  - [Wadeable](#)
  - [Streams](#)

[Charter and Mission](#)

# Field Monitoring Quality Assurance Initiative

Workplan -- Field Monitoring Quality Assurance Initiative

## Products for Review

- **NEW** Sensor ACRR Matrix
- **NEW** Sensors data elements Pick lists
- **NEW** Glossary of terms
  
- **NEW** Field deployment guide

## Timeline of Activities

March 2009	April 2009	August 2009	Dec. 2009	May 2010
Glossary to Review Board				
Matrix 1st draft : Temp & SC				
Matrix, Field Guide, and data elements draft				
Approved and ready for publishing/distribution				
Presentations at 2010 National Monitoring Conference				

## Core Workgroup

Project Lead: Revital Katznelson

Chuck Dvorsky, Texas CEQ  
 Rob Ellison, YSI  
 Janice Fulford, USGS  
 Jason Harrington, Greenspan  
 Gayle Rominger, YSI  
 Mike Sadar, Hach Co.  
 Cristina Windsor, In-Situ  
 Mike Cook, YSI  
 Chuck Spooner, EPA  
 Dan Sullivan, USGS

## Minutes

- Feb. 20, 2009 conference call
- Feb 5, 2009 conference call
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## Protocols

- Washington State Cont. Temperature protocols
- Upper Columbia Monitoring Strategy
- Forest Service Turbidity Guide
- USGS-Kansas QA plan for monitors
- Maine SOP for temp. loggers
- Elk River (CA) monitoring report

## Photos of field installations

- Turbidity boom - 1 - 2 - 3 - 4 - 5

## Review Board

Name	Affiliation
Eva DiDonato	National Park Service
Blaine Kopp	USGS
Bruce Michel	Maryland DNR
Pete Penoyer	National Park Service
Whitley Saumweber	NOAA
David Stephens	Utah State U.
Mario Tamburri	Alliance for Coastal Technologies (ACT)
Jami Montgomery	U.S. EPA
Eric Vowinkel	USGS
Rick Wagner	USGS
Tamim Younos	Virginia Tech University
Andy Ziegler	USGS
Eli Greenbaum	Oak Ridge National Laboratory