

METHODS AND DATA COMPARABILITY FOR WATER-QUALITY SENSORS

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ABSTRACT

Improved field sensor technologies—as well as growing demands for real-time monitoring data due to increased pressure on the environment from human development—have resulted in a rapid increase in the types and amount of environmental monitoring data. Field-sensor instrumentation is capable of providing data of high temporal and spatial resolution with significantly less effort and cost than laboratory methods. However, in many instances, standard methods have not been developed for the collection and analysis of data generated from field sensors. In response, a workgroup is being organized by the Methods and Data Comparability Board (MDCB) of the National Water Quality Monitoring Council (NWQMC). During this special session, the Sensors Workgroup will attempt to identify and address gaps in information related to the generation of data from environmental monitoring sensors.

The workgroup will consider sensors used in the field for both spot sampling and for continuous monitoring applications. Several products are envisioned to address two major areas of concern: 1) the collection of high-quality data, and 2) the management of an effective monitoring program. The collection of high-quality data includes sensor calibration, pre-deployment set-up, site selection, maintenance, and biofouling prevention. Management of effective monitoring programs includes data analysis, data management, and metadata.

Products that have been discussed include a Standard Operating Procedures manual, a web-based clearinghouse of information with links to SOPs, supporting documentation, related links, discussion groups, etc. In addition, recommendations will be made to the NWQMC for the National Monitoring Network for Coastal Waters and their Tributaries for appropriate technologies for the common field monitoring applications.

KEYWORDS: water-quality sensors, Methods and Data Comparability Board, continuous monitoring, data collection, data management, sensor placement, maintenance, metadata