

Challenges of Continuous Monitoring Programs

by

The Florida Water Resources Monitoring Council

Identified Challenge	Example of Challenge	Identified Success	Possible Council Coordination
Cost	Tend to be expensive; cost from \$5,000 - \$14,000/unit. Require at least 1-2 FTE to install, service, and maintain, depending upon the numbers of sites.		Coordinating information sharing between programs and identifying areas of duplicative monitoring where there might be an opportunity to share data and resources.
Operation & Maintenance	Continuous; most devices must be retrieved or serviced every 2-3 weeks, which requires at least 1 FTE/day/site. Most are susceptible to biofouling or vandalism, depending on device placement.	Once issues of biofouling, vandalism, and adequate staff are worked out, operations and maintenance become easier.	Create a shared resource for continuous monitoring related maintenance Standard Operating Procedures, tips and tricks. Share information regarding the outcome of cost analysis studies when the ideal time to deploy sondes to limit fouling.
Accuracy			
EPA-Approved Standards	None exist yet for continuous monitoring devices; all monitoring must be compliant with EPA standards to meet 305(b) and 305(d) criteria	NOAA has time-tested SOPs, which might be able to be adapted; the Water Sensors workgroup is in the process of developing field SOPs	Create a shared resource for already approved SOPs as a reference for programs developing their own.
Standard Operating Procedures	None exist yet for continuous monitoring devices	NOAA has time-tested SOPs, which might be able to be adapted; the Water Sensors workgroup is in the process of developing field SOPs	Create a shared resource for already approved SOPs as a reference for programs developing their own.
Data Management	Due to the number of data points gathered (could be 4/hour x number of sensors x 24 hours), can inform scientists about the system, and data management is expected to be time-consuming.		Create a shared resource with links to where data is currently available for public consumption for various programs. Share information regarding the outcome of studies related to when

			Continuous Monitoring data is necessary and cost effective in lieu of other sampling procedures.
Data Storage	Some WMDs use Hydstra. NOAA uses the CDMO for data storage.	No central repository yet exists in FL, although WIN will accept CM data in 2017.	Create a shared resource with links to where data is currently available for public consumption for various programs. Share information regarding the outcome of studies related to when Continuous Monitoring data is necessary and cost effective in lieu of other sampling procedures.
Data Sharing with other monitoring entities	Monitoring entities are using different makes & models of sensors, which may challenge easy data sharing among them		Create a shared resource for already approved SOPs as a reference for programs developing their own, and to determine compatibility of data between agencies.
Data Sharing with public	Except for water levels and certain events, it can be difficult to convey the real meaning of data to public without context or interpretation	Since many are connected to telemetry, can offer near real-time data on water levels and quality via interactive websites. NOAA, SWFWMD, SFWMD, and SRWMD have websites that offer real-time data from some sites	Create a shared resource with links to where data is currently available for public consumption for various programs.