

South River Pilot – In Situ Water
Quality Measurements
Integral Consulting

NR Grosso

SRST Meeting

January 20, 2016

SR Optically-Based Monitoring Pilot Study

- Pilot test to test technology for near real-time assessment of Hg and MeHg in water (by correlation)
- Data will be collected *in situ* for a one month period
- Collects a data point every 15 to 60 minutes to datalogger
- The instrumentation measures:
 - Colored dissolved organic matter (CDOM) using fluorometers
 - Chlorophyll concentration (Chl) using same
 - Turbidity and TSS using a backscatter sensor
 - Particle size analyzer using a spectral absorption-attenuation meter
 - Velocity using a doppler velocimeter
 - Temperature, conductivity, depth, DO and pH in a multiparameter water quality sonde

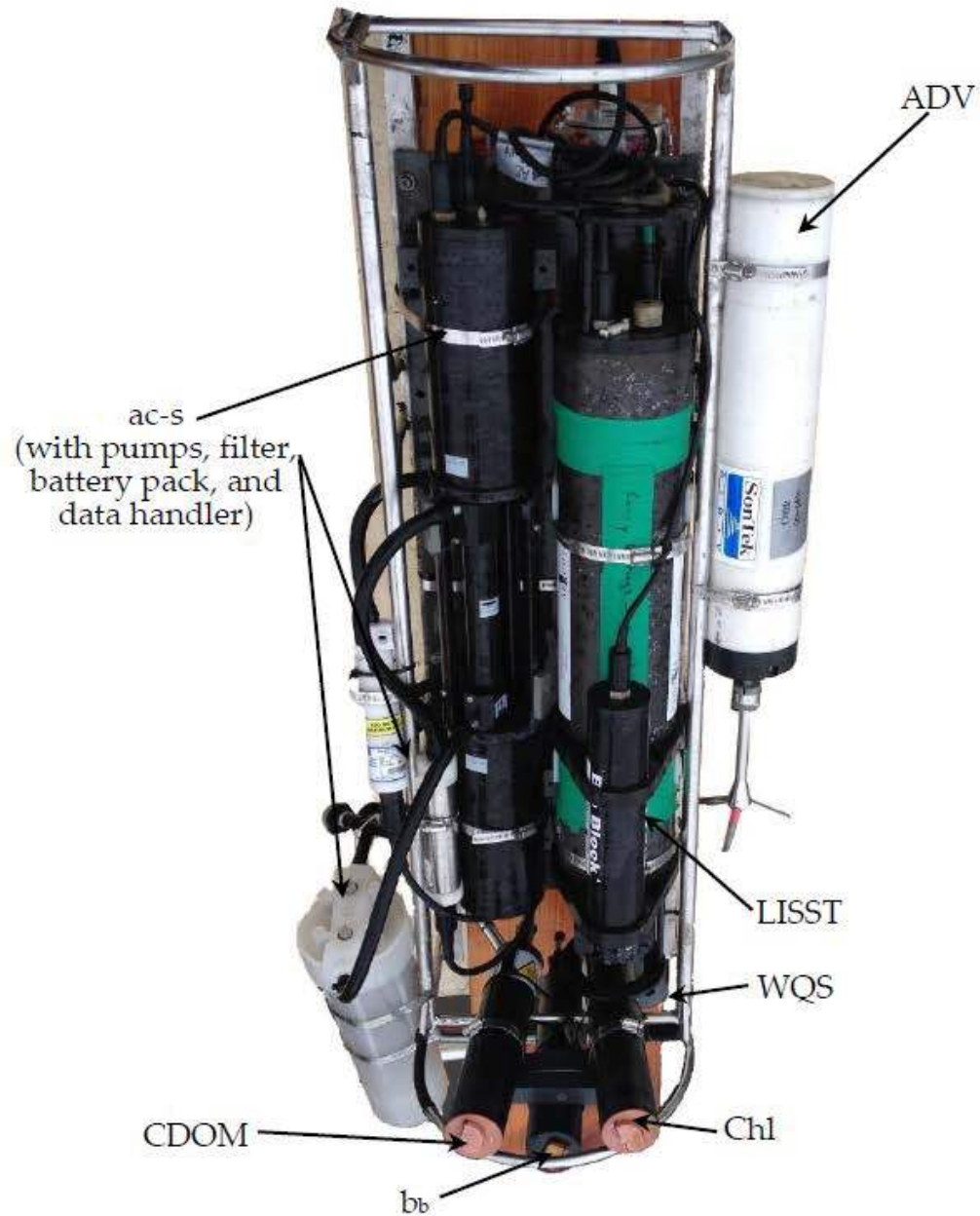


Figure 1. Example optical and water quality instrumentation package. In this configuration, the platform is roughly 1-m in length and is nearly 100 kg in weight.

South River Optical Monitoring Pilot Study Plan

1. Site visit (February 2016) to scope out potential locations and to evaluate logistics.
2. Field preparation and mobilization (February and March 2016).
3. Field deployment (April 2016).
4. Discrete water sampling (April/May 2016).
5. Recovery and demobilization (April/May 2016).
6. Evaluation (Upon receipt of the validated laboratory analytical data). Data processing and statistical model development for particulate and dissolved mercury and methyl mercury
7. Presentation of results via webinar.