Workshop: Procedures and R Scripts for QCing, Formatting and Deriving Summary Outputs for Continuous Temperature and Hydrologic Data - for Advanced R Users

Thursday May 5 | 4:00 pm – 5:30 pm | Pre-registration required

This is a hands-on, interactive workshop for people who have prior experience with R software (and are able to run and modify basic scripts). It is intended for people who collect and manage continuous data, or have an interest in doing so. Topics will include: preparing and QCing continuous temperature and hydrologic data; and using R scripts to derive summary statistic and graphical outputs. Participants should bring their own laptop. The laptops will need to have R and RStudio software installed in advance (we will provide guidance on how to download the software). Example data will be provided but participants are encouraged to bring their own data as well.

More and more monitoring programs are collecting continuous data. The continuous sensors provide robust data sets that capture natural temporal patterns and episodic events, which may be missed by limited numbers of discrete measurements. The continuous data also pose challenges. For example, the volume and density of data that are collected can be overwhelming, especially for programs that lack data management systems that can accommodate the continuous data. This workshop is intended to help monitoring programs that have limited experience with continuous data to build capacity and better manage their continuous data.

4:00-4:10   Intro/background
4:10-4:50   Test dataset #1 - Non-vented pressure transducer (ECO66G12_AW files)
- Modify (reformat, rename) 'raw' files (10 minutes)
- QC script (15 minutes)
- Aggregate (5 minutes)
- Stats scripts (10 minutes)

4:50-5:10   Test dataset #2 – Standalone temperature sensors + gage (WSR01 files)
- Run the 'raw' air and water temperatures files (already formatted) through the scripts (10 minutes)
- Add in gage data
  - GetGage script (5 minutes)

5:10-5:20   Potential places to make modifications
- UserDefinedValues
  - Thresholds
  - Including or excluding flagged values
  - Adding more variables (e.g., conductivity)
- Rmarkdown (rmd) files
  - Reports (QC, stats, aggregate)

5:20-5:30   Feedback - any additional features and functionality you'd like to see?
Other improvements?
Question and answer