**Workshop Title:** A flexible, state of the art approach to trend analyses for river water quality and nutrient loads to estuaries, Weighted Regressions on Time Discharge and Seasons (WRTDS)

**Dates/ Times:** 2:00-5:00 PM November 1st 2018, 9:00 AM – 4:00 PM November 2nd 2018

**Location:** UNC Institute of Marine Sciences, 3431 Arendell St. Morehead City, NC. Room 222.

**Instructors:**
**Dr. Robert Hirsch**, USGS Research Hydrologist, Emeritus
Dr. Hirsch is a world renowned expert on water quality, trend analyses, and material loading in rivers and has developed of many of the trend analysis and load calculation techniques in common use today, including WRTDS.

**Dr. Nathan Hall**, Research Associate, UNC Institute of Marine Sciences
Dr. Hall is using WRTDS to analyze trends in concentrations and loads in North Carolina's coastal rivers

**Workshop Goals:**
- Participants understand the challenges of determining trends in water quality and calculating material loads in rivers
- Participants understand how Weighted Regressions on Time Discharge and Seasons (WRTDS) works and how it addresses those challenges
- Participants can confidently analyze data using the R software implementation of WRTDS and generate graphical output using EGRET (Exploration and G Exploration for RivEr Trends)

**Objectives:**
- Provide lecture/ discussion on the WRTDS approach in comparison to other methods, how WRTDS works and how WRTDS provides information that other models cannot
- Demonstrate how to upload different sources of data into WRTDS
- Demonstrate the different types of model outputs using EGRET
- Have a guided WRTDS exploration session for participants to examine trends in concentration and loads (including uncertainty) from a data set of their own choosing.

**Accommodations:**

Lodging at the UNC-IMS dormitory (bunk house style) is available for $10/night. Pillows and blankets provided. Must bring own sheets and towels.

Bagels and coffee on Friday morning, and sandwiches for lunch on Friday will be provided.

**More information:** Address any questions to Nathan Hall. nshall@email.unc.edu