* 1. **Create** “**layers**” of CTD data
     + Using sampling depths for water chemistry, take the nearest depth in CTD data (abs value) and use that value for all other variables (e.g., temp, conductivity, etc.)
     + Replace CTD depth with the sampling depth to create “layers” (e.g., 0.1m, 0.8m, etc.)
     + R File: 1\_FCR\_CTDlayers\_Site50\_ONLY\_replacedepth
  2. **Summarize** meteorological data on a daily basis
     + Calculate summary statistics (mean, median, sum, etc.) for meteorological data to go from hourly met data to daily statistics
     + R File: 2\_summarize\_daily\_met\_TIDY
  3. **Calculate** specific conductance for all CTD data at site 50 and remove CTD-generated specific conductance
     + R File: 3\_calculate\_spcond\_CTD
  4. **Format** fluoroprobe data
     + Pull out only relevant columns from 2017 data
     + Put 2014-2017 data together
     + Create “layers” and replace with proper depth labels
     + File created: Fluoro\_FCR50\_2014\_2017.csv
     + R File: 4\_format\_fluora
  5. **Calculate** light extinction coefficient
     + File created: FCR\_kd.csv
     + R File: 5\_calculate\_Kd.R
  6. **Merge** together FCR data sources
     + Pull together all important data sets with some small formatting before merging to make sure everything will align properly
       - TP/TN and NH4/NO3NO2 ratio columns created
       - New columns for inflow chem data created
     + File created: FCR\_merged\_2013\_2017.csv
     + R File: 6\_merge\_FCR\_data.R
  7. **Plot** at the data!
     + R File: 7\_plot\_fun.R
  8. Determine the **timestep** of the chlorophyll data we have
     + Create weekly divisions
     + Determine which weeks need to be interpolated (18 dates)
     + R file:
  9. **Interpolate** all data collected on a ~ weekly basis for weeks that were not sampled from the May 01-Oct 31 time frame
     + TN:TP and NH4NO3NO2:SRP ratio columns created with newly interpolated nutrient data
     + Dataset trimmed down to the May-Oct timeframe for 2013-2016
     + Column names changed (‘interp’ removed)
     + R file: 9\_interpolate\_allcollecteddata.R
     + File created: data\_interpolated\_MayOct13\_16.csv
  10. Using **inflow** data and **interpolated chemistry** data, calculate various summary statistics
      + Input files
        - Chemistry: data\_interpolated\_MayOct13\_16.csv
        - Inflow: inflow\_interpolation\_2013\_2017.csv
      + mean daily nutrients loads
      + mean daily residence time
      + mean daily water temperature at inflow (should this also include max and min??)
      + mean, min, max, and median flow (m3/s)
      + R file: 10\_inflow.R
      + File created: weekly\_plusinflow\_data\_2013\_2016.csv