READ ME

Outline of each step

1. First wave of Data
   a. Site_weather_Dep netcdf files format for use (all variables are in induvial data frames)
      i. Process_NETCDF_Data_For_Use.R
         1. ## This script process NETCDF data output from CMAQ bidi
         2. ## Format:
         3. ## Set Up lists of variables and File names
         4. ## Function to pull them from NETCDF (Pull_Var)
         5. ## Function to convert Var to data frame (Mat_to_Data_Frame)
         6. ## Loop to apply Pull_Var and use same Loop to apply Mat_to_Data_Frame *applys to all variables
         7. # previously applied to Pull_Var because a list of variables was created in the Pull_Var loop
         8. ## CSV FILES WILL BE FOUND IN WORKING DIRECTORY
      ii. Process_Individual_CSV_Var_Data_Over_Watershed.R
         1. ## This script takes the watersheds and aggragates the variables across each and then writes a CSV file for each variable that includes the
         2. # new number, date, and watershed id
      iii. Grabbing_ALL_Points.R
         1. ## This script is to grab the closest grid point to the stations and make a dataframe for that variable and a .CSV for each variable
   b. Nutrient_data, csv file format for use
      i. Process_CSV_Nutrient_Data.R - made a key in this file to deal with the lat and long col row thing that Ellen explained in an email once upon a time
2. Merge data
   a. Hydrology, excel sheet converted to separate csv files and formatted in r for use (all stations are in one data frame)
3. Regression model
   a. Load_Dataframe
   b. GLS_With_Function
      i. Outline what this is..
   c. CV_Custom
      i. This is a cool code, what it does is split the regression model up in to n sample groups, and regresses leaving each group out once. Then it predicts the left out group and plots the predicted vs measured values.
         1. Special note, if n is a factor of total sample size comment out the remainder portion, if it is not make sure remainder is included