1. Title: ST 380 project proposal: How Soil Moisture in North Carolina is Effected by the Amount of Solar Radiation and by Soil Type.
2. Team members: Meagan Bird, Rebecca Register
3. Description:

   For this project we will be completing a statistical analysis based on the raw data of various meteorological parameters observed in North Carolina and stored in the North Carolina State Climate Office CRONOS Database. Based on Rebecca having taken MEA 130 (Introduction into Weather and Climate) and MEA 135 (the lab to MEA 130) and Meagan being a meteorology major, we have sufficient background knowledge of this data set in order to pursue this topic. Although many parameters are available, as of right now we would like to focus on how solar radiation in W/m^2 is related to the soil moisture (m^3/m^3) not only between different days with varying degrees of the solar radiation but also between different locations with varying types of soil. We plan on using R to plot graphs that represent our data and then use that data to find probabilities of soil moisture given the soil type and the amount of solar radiation.

   In order to collect data from a wide range of days we have been granted internal user access through Dr. Ryan Boyles who is the current State Climatologist and a Meteorology professor here at NC State.

4. Data sources: The link to our data is:
Parameters:  http://www.nc-climate.ncsu.edu/dynamic_scripts/cronos/map/?type=weather
Site selection:  http://www.agr.state.nc.us/research/locations.htm

   As a proposal for extra credit, we would like to create a portfolio in addition to our project. This portfolio would contain all of our data with pictures of each location. We could also include other parameters to expand upon our research.