Project Number: SCS15002

Client: Dr. Christine Kirchhoff

Affiliation: Civil and Environmental Engineering

Consultant: Dooti Roy

Attendees: Dr. Christine Kirchhoff, Dr. Ming Hui Chen and Dooti Roy

Location: CLAS 326

Time and Date: 5:00-6:00 p.m., 01/29/2015

Meeting Summary:

In the initial meeting Christine explained her project plan to us. The origin of the data was explained and most of the variables were explained. Project goals and a rough future plan was laid down.

Main Points Discussed:

The data has been provided by Department of Energy and Environmental Protection (DEEP), State of Connecticut. Environmental Protection Agency or EPA is responsible for controlling storm water discharges from industrial facilities and municipalities. For each industry, mandatory checks happen at regular interval within the first few weeks of the storm and based on the quality of the discharge, a permit is issued/maintained by the industry. Several metrics are recorded during this checks including amount of oil and grease in the sample discharge, total amount of Phosphorus, total nitrate content, sample pH balance to ensure the acidity of the discharge is within allowed limits. This is impactful to society as the discharges drain into ponds, creeks, rivers nearby to the location of the industry.

The data records all industries in each of the 169 towns of the state of Connecticut starting from 1996 up to 2013. During this time period, each industry have undergone these checks. Some were within the limits where as others have tried to improve the quality of discharge. The data records all the relevant metrics along with geo-specific information such as size of the municipality, draining source etc.

Christine is primarily interested to find:

* Evaluate if the permit program is successful.
* Correlate discharge quality with location and facility type.
* Identify acute water problems in some areas.
* A particular class of industries faring worse than other?
* Storms of higher magnitude causes higher contaminant loading?
* Any trends showing over time documenting improving/deteriorating circumstances for a class of industry?

Action:

1. Christine will try to get a full understanding of the data from DEEP
2. Christine will provide SIC codes so that the old data can be reformatted so as to match the format/class divisions of the new data
3. Ask DEEP about a couple of industry classes where they expect to see changes in discharge quality.
4. Once the data is well understood, Dooti will provide a basic analysis for the above mentioned industry classes.