**Satellite Remote Sensing of Particulate Matter Air Quality: Data, Tools, Methods, and Applications (aka AOD-PM)**

Week 2 Homework Assignment: Hands-on experience with GIOVANNI tools for MODIS Level 3 aerosol data sets.

**Exercise – Step by Step**

Step 1: Go to <http://giovanni.sci.gsfc.nasa.gov>

Step 2: Explore different sections (plotting options) on the website and familiarize yourself with some of the information, data, and services available through this web portal.

Step 3: Select, search, and download Aqua-MODIS Level L3 monthly mean Aerosol Optical Depth (dark target) time series using the following search criteria:

* Select a month between January 2004 – December 2014
* Select 5x5 degree box centered around the city where you live (make sure to select the same city as you did in the week 1 homework)
* Plot the time series of AOD
* Download the plot in .png and data as a .csv file
* Open the .csv file in excel and examine it

**Questions**

1. Name of the city for which data was downloaded:
2. Do you observe increasing or decreasing trends in AOD over the city?
	1. Yes
	2. No
	3. Other:
3. Fit a linear regression equation and provide the coefficients:
4. Calculate the minimum AOD value during the entire time period.
5. Calculate the maximum AOD value during the entire time period.
6. Calculate the mean AOD value during the entire time period.
7. Calculate the median AOD value during the entire time period.