Online Tool Seed Source Strength Data

# When

On 06/11/2015, use the new source strength data generated based on 2013 IL seed data to replace the old strength data. Rename the file “strengthdata” into “strengthdata\_backup\_20150611”, and add the new file “strengthdata”.

# What

The new source strength data was generated based on 2013 IL seed data, the original file is



According to the original data, the seeds are released between 8:00 and 18:00 from 08/29/2013 to 10/11/2013. So that will be totally 44\*11= 484 source strength values. Because the data in the original file is incomplete, so we need to generate the missing data.

# How

Then how to generate the missing data? For missing dates, use the closest previous and later day’s data to do linear interpolation. For missing hours, use the current day’s data to do interpolation. The following figure(from the paper “Horseweed (Conyza canadensis) gene flow through atmospheric seed emission, dispersion, and deposition”) shows the diurnal variation of normalized seed source strength (normalized by daily maximum, the diamonds are means and bars are standard deviations). The missing hours’ values are generated by scaling the other hours’ value according to the curve in this figure.

