

CE 492

Air Pollution Assignment #1

Using the Internet, find the answers to the following questions. Good places to start are <http://www.epa.gov/airlinks/>, <http://www.epa.gov/ebtpages/air.html>, and <http://www.dnr.state.wi.us/org/aw/air>.



1. How many ozone action days were there in Wisconsin last year? What has been the trend, if any, in the number of ozone action days for the last five years?
2. What has been the long term national trend in emissions for VOCs? Since 1970, how has the Clean Air Act affected this? (See the appendices to the 25 year report at <http://ceq.eh.doe.gov/nepa/nepanet.htm>.)
3. Describe the pattern of ozone formation in Wisconsin and the Upper Peninsula on June 25, 2003.
4. Find two good sites with air pollution information and give their Internet addresses.

For the next assignment you will need to use Caline4. You can download it from the link on the course website or get it from the CAE lab by transferring the Caline4 programs from the directory Q:\CL4_1 to the C:\Documents and Settings\Temp directory.

5. Parents of students of Sheepshead School are concerned about the air pollution impact of traffic on the road resulting from a proposed alternative to Highway 17. The link geometry and receptor positions are the same as those on Ex2a.dat.



Open the program Caline4 and open the file for example 2a. Add a fifth receptor for the school at X = 300, Y = 1300. Look at the data under each of the tabs and perform an initial run of the program using the multi run - worst case option. Record the CO concentration at each receptor site. Increase the traffic volumes by 50% and repeat the analysis. What is the percentage change in CO concentration at each receptor with the increased traffic? How does that compare to the ambient CO concentration? Show your results as a simple chart that can be used at a public meeting.

Due March 8, 2005.