Fate and Transport of Spilled Hazardous Materials
Mid Term Assignment

For this midterm assignment, each of you will examine:

- one example for a recent accident (for which a final NTSB report is not available, but hopefully you recall reading about). I also expect you to research newspaper sources for these accidents.

- two examples for better documented accidents. The following links are the main sources for the NTSB reports: [http://www.ntsb.gov/default.htm](http://www.ntsb.gov/default.htm) and [http://www.ntsb.gov/publictn/publictn.htm](http://www.ntsb.gov/publictn/publictn.htm). You are encouraged to select accidents from the NTSB website for which a report is available on the above web. Also use newspaper references to research your accidents.

- Besides these four accidents, I want each of you to identify and review one early warning system that local governments have installed to detect hazardous substances in drinking water systems. Some examples include:

  [http://yosemite.epa.gov/opa/admpress.nsf/34cef4854b892b8b8525645a004de9a4/754a0739ba5bc9c985256e99005a9f60!OpenDocument](http://yosemite.epa.gov/opa/admpress.nsf/34cef4854b892b8b8525645a004de9a4/754a0739ba5bc9c985256e99005a9f60!OpenDocument)

- Prepare a summary of tools from the four book chapters that will be useful in evaluating the fates and effects of spills of hazardous material. Describe how each tool can be used to address a specific problem related to releases of these materials and outline the data needs. A short example problem would also be helpful.

For the accidents, I would like you to prepare preliminary evaluations for each of the three spills (chemical, site, and evaluation information). These will include descriptions of the material involved in the accidents (summarize standard hazardous information and chemical characteristics for the chemicals involved), the amounts of material lost, the damage and effects caused, numbers of people involved, etc. In addition, I want you to outline how you would calculate the resulting concentrations and exposure durations for the accidents. Use the summaries you have prepared for the different tools from the book chapters and list the types of questions you would ask, and the data needs for each accident.

Basically, I want you to determine the data needs for complete evaluations for these accidents, and obtain as much of the needed data as possible, and note the missing information and how that might be obtained. You can do some preliminary calculations using the material we have covered in chapters 1 through 4. Your final exam will include a more detailed evaluation of one of the 3 accidents, including long-term social problems associated with the incident.

This mid term assignment will be due on October 28. Since I am giving you a rather long time to do this assignment, I expect a decent job. You should be able to do a pretty through search for accident, chemical, and site data during this time, and understand your problems pretty well. I will want a concise report (say, 15 pages, max) plus a presentation that you will give to the class for the first three assignment parts, and up to several pages for each chapter summary.