

Metals in Pools 11 and 12

EVS 248 Environmental Geology and Hydrology

Fall Semester

The purposes of this lab are

1. to use public databases as a source of data, and
2. to use Excel to perform basic statistical analysis and graphing.

The U.S.G.S. maintains a number of databases of scientific observations available to the public. Earlier in the semester, we used some of this data for analysis of flood statistics. For this lab, we'll use data from sediment analyses in pools 11 and 12 in the Mississippi River. In particular, we will look at lead (Pb) and zinc (Zn) in the two pools, asking two questions:

1. Are Pb and Zn levels significantly correlated?
2. Are levels of Pb and Zn significantly different between the two pools?

In order to answer these two questions, perform the following tasks”

- Plot Pb versus Zn using Excel's scatterplot capabilities.
- Use the Data Analysis Toolpak to perform a regression of Pb versus Zn to determine if the relation is statistically significant.
- Create histograms of Pb in both pools 11 and 12.
- Perform a t-test of Pb between pools 11 and 12.
- Repeat the above steps for Zn.

Prepare a brief report with plots of your findings.