Pools of the Mississippi River

Using Public Data

EVS 430 Advanced Quantitative Methods

The Upper Mississippi River have been converted into a staircase for the purposes of navigation. Behind each of the dams created is a reservoir referred to as a *Pool*, numbered by the dam. A variety of data is available for each pool. You will be assigned in class a pair of adjacent pools to compare. Your tasks are the following:

1. Where are you pools located? What major streams enter each pool? What is the surrounding landscape? What is of particular interest about the pools?

2. Prepare a map of your pools using the information from (1). Include (1) and (2) in the *Introduction* section of your report.

3. Find what chemical data is available for your pools using the website `http://www.umesc.usgs.gov/data_library/sediment_contaminants/sediment_contaminant_page.html`.

4. Identify two chemicals in each pool that have sufficient numbers of observations for you to successfully

   - compare using a t-test of means, and
   - determine if the chemicals are correlated.
   - Include the results of these tests in the *Results* section of your report.

5. Determine from online resources the standard methods for performing analysis of the chemicals. Include this in the *Methods* section of your report.

6. Discuss the significance of your findings and how you could use these finding for future research.

Submit a pdf file in IMRAD format. Make sure all figures are labelled.