Group Assignment: Water Measurement

DUE: Tuesday, September 13, in class

In a group of three to four people, create your own unit for measuring **volumes** of water. This unit should be based on something you can measure or for which you can find out the volume. This unit can be large (i.e. Lake Erie) or small (i.e. a bathtub), but it should be familiar to people in general.

It MUST be a unit of VOLUME (length * width * depth).

Once you have decided on the nature of your unit of volume, answer the following questions.

1.   List the names of your group's members.

2.   What is the name of your unit? _____

3.   What will be the accepted abbreviation for your unit? _____

4.   Give its equivalence in:

               cubic feet   _____

               gallons   _____

               acre-feet   _____

5.   Use your textbook, an atlas, or another source (internet sources are okay) to find some common water volume data. Choose data that will be well-expressed in your new unit. (For example, a bathtub of water is a good measure for representing daily household water use. Lake Erie is a good measure for representing water use by states or the sizes of other large lakes.) Give five or more items of data using your unit.

6.   List the sources for any data that you used (i.e. the volume of Lake Erie, state water use data, etc.)

Water Measurement: Practice Problems

1.   A watershed with an area of 20 mi^2 receives 2 inches of precipitation. What is
        the volume of the precipitation in:

        cubic feet?   _____ ft^3

        cubic meters?   _____ m^3

        gallons?   _____ gal

        acre-feet?   _____ ac-ft

2.   How much precipitation (in inches) is needed to produce 2 million cubic feet of
        water over a watershed with an area of 1 square mile?

3.   A square reservoir that is 300 feet on a side contains 20 feet of water. If it is
        drained at a rate of 50 cfs, how many hours will it take to drain the reservoir?