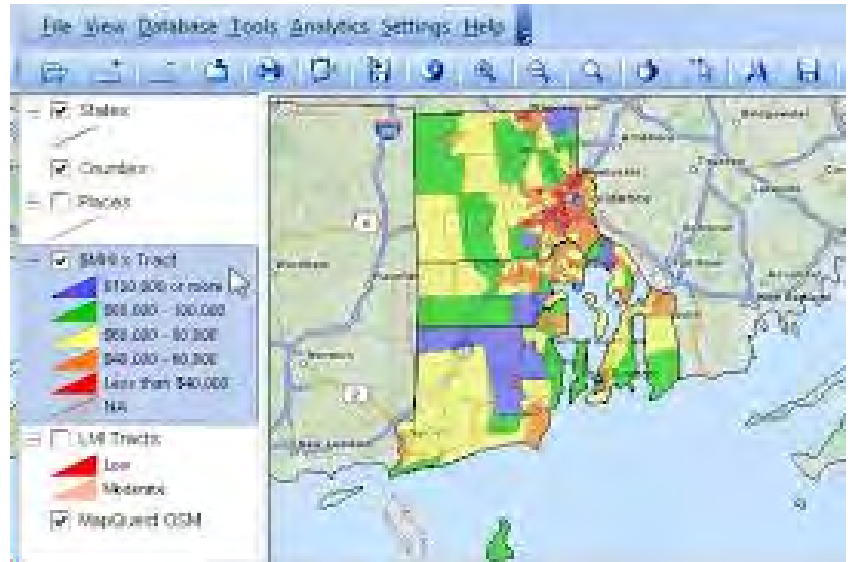# Land and Water Summit
Online Mapping

URI Memorial Union
March 19, 2016

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Mapping Community Data

Our goal today is to show you how you could collect information from around your school, enter the data into a spreadsheet and then transfer that to a visual display [Map]. After which you can share that map with others.

Decide on what you want to collect. We are going to collect some location data but it could be temperatures, trees, water quality, soil pH, etc.

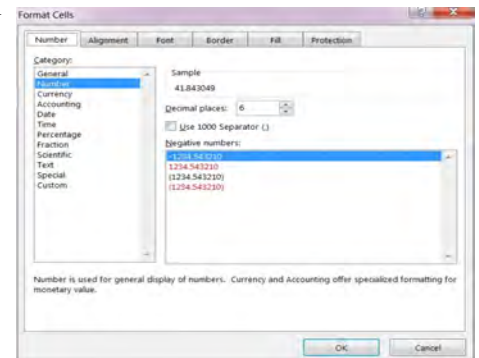**First**: Collect Data - Materials Needed: **GPS device; Data sheet & Clipboard**
Please work with a partner to collect latitude and longitude locations using the GPS provided or from your own device. When collecting with a GPS, decimal degrees is the best unit to use. Use the GPS to collect two different sets of data. Two signs, two storm drains, two trees, two invasive plant species. Try and move a few feet between locations. You will have ten - 15 minutes.

Date	Location / Object	Latitude	Longitude
2/16/16		41.	-71.
2/16/16		41.	-71.

Second: Transfer data into Excel, Google Sheets, Open Office, etc.
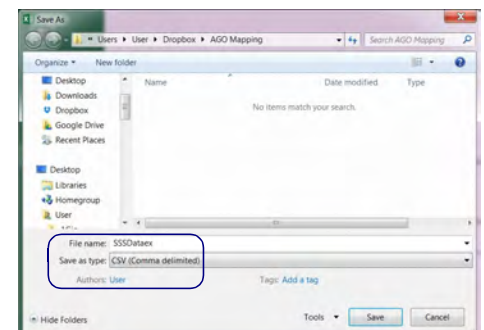   Once back in the lab open Excel or any of the other spreadsheet programs. Recreate the column headings above in the first row. Then type in the values; do not put in anything other than a number for Latitude, Longitude and Temperature [no N or W]. All longitudes in RI are negative numbers. Use the example above.

To see all the numbers in the Lat/Long columns the cells must be formatted to show six decimal places. Click on the cell A2 and drag the mouse over to cell B2 then down to include all of your Latitude and Longitude columns.; then while still on the cell right click and select **Format Cells**. Select number and increase the Decimal places to 6. Then click **Ok**. Check to make sure yours looks like the sample on the right. Then click **File; Save as;** name it and save it to the desktop or some other place you can find. It is saved as a file this program understands.

We are going to save this again in a format the AGO can understand. So click **File; Save as;** but we are going to change the **Save as Type** to Comma Separated Value [CSV]. Then click **Save**. **Yes**, you want to keep using this format.

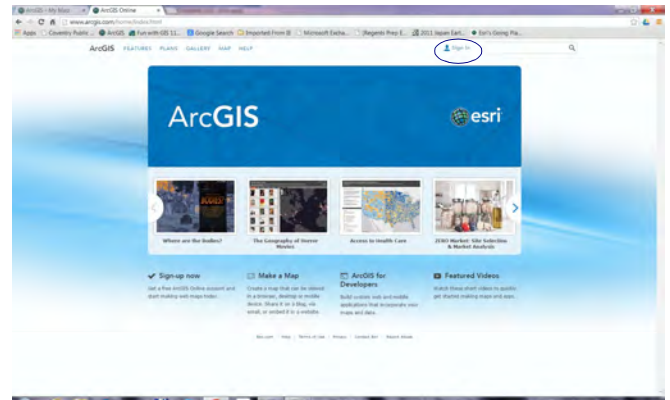Click **File; Close** and **Don't Save**. You should be back to the desktop.

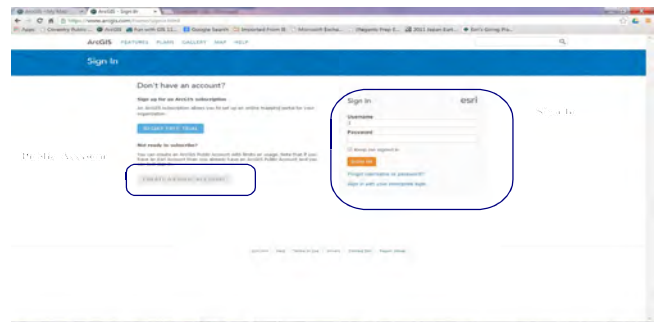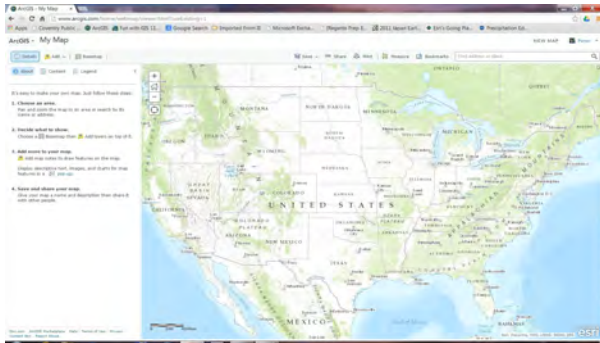We will now begin the Mapping portion.

Open a Web Browser
[Chrome, Firefox, Safari seem to work the best].
Search for ArcGIS.com. You can create maps right from here but you can't save them so Click the **Sign in** button. At this point you can either sign in to your account if you have one or create a public account. Once you are signed in you will be able to save, print, and share your maps.

Click the **Map** selection in the menu. Your screen should look like this:
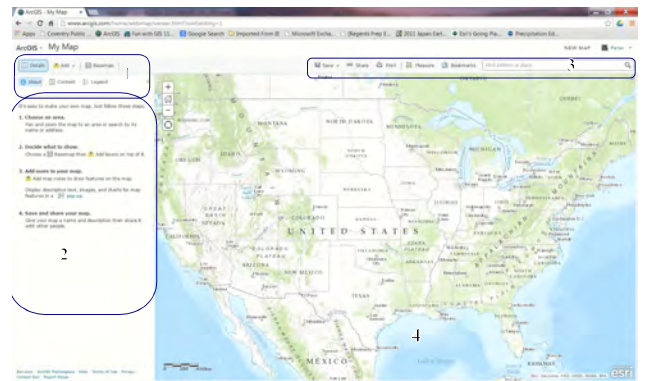
Some basics about the window, there are four basic areas

1. The **Details, Add, Basemap** section; this allows you to add new information to the map and change the way your map looks. We will play around with that shortly.

2. The **Table of Contents**; this displays what you have added to the map or a legend [Key] for the map.

3. The **Save, Share, Print, Measure, Bookmark, Find** area These commands do what they say. You first must save before you share.

4. The map itself. There are some basic controls which allow you to move around the map and change size. You can use these buttons [+] or your mouse. The **+** scrolls in; the **-** moves out; the House moves the map out to the default extent. The [house] circle will find where you are.

Let's find Scituate High School. In the Find area Type **Scituate High School** [be sure to choose the one in RI]. Press the Enter key and the map will display what it found. Let's bookmark this location so we can come back to it. Select **Bookmarks** next to the find area. Click **Add Bookmark** in the box type **Scituate HS**. Click the X to close the bookmark box. The map is set to a topographic display but there are other choices. Click on the **Basemap** button and select **Imagery with Labels**. You can select any that you like to see what they look like.

Now find you house or your school. Type the address in the **Find** box. When you are done and want to return to **Scituate HS**; click Bookmarks and select that bookmark .

Now let's map your temperature data. Click the **Add** button and select **Add Layer from File**. The file we saved is a CSV file so find that file and **Import Layer**. Once that is added to your map two or more points should show up where you collected your data. In your **Table of Contents** the new layer should be there but it just shows where you collected the data. Let's make it more descriptive. Under the name of the layer are three dots; click on these dots and a menu with a list comes up. Let's rename the layer to something that is representative of what the layer is about. Scroll down and click **Rename** and type in whatever name you feel is representative. Click **OK** when done.

Now we are going to change the points on the map to a more descriptive icon. The smart mapping feature has selected a drawing style for us **Types (Unique symbols)**. Which gives each data point a unique color. We can go a step further and select a unique symbol for each object by clicking on **Options** under the **Types (Unique symbols)**. Then click right on the colored dot to the left of the object name. Click on the down arrow at the end of the **Shapes** box, lots of choices come up. I selected **People and Places** then the a plant and a ?. .

Now we need to save all your work so click the **Save** button on, give your map a name and some tags [what your map is about so you or someone else can search for it] a short description and then click **Save Map**.

Next we need to make it so others can view our map. So click the **Share** button next to **Save**. Here we can decide who gets to see our map. Put a check next to **Everyone**. A short URL is created to our map, we can send this out in an email, put it on Facebook, or even put it on a Twitter page. You can create a group and send it or share it with only that group.

I have only touched the basics as to what you can do with this web site. Look at the attached resources available to you.

If you need help please contact me at petestetson@verizon.net.
Thanks for coming!