**Module 4 - Transcript**

**Describe the problem, topic, concept or task accomplished in this Module**

The main task this week was to become passingly familiar with JavaScript, Leaflet, JavaScript Object Notation or JSON, and Representational State Transfer (REST) calls. Once basic techniques were understood, we completed 3 leaflet tutorials and created our own custom web map.

The basics of the tools are as follows:

JavaScript is simple and powerful front-end scripting language. One of the perks of JavaScript is that it can easily be linked into an html. It can also create and contain a wide variety of variables, functions, loops, objects, events, and operators.

Leaflet is an open-sourced web mapping library. It is free to used contains stylesheets that are easily linked to an html file. By using leaflet you can easily create custom maps with markers and popups.

JSON is a user-friendly data type that can be used for creating objects and sending and receiving data. It was originally created in JavaScript but has spread to many different coding languages. A subset of JSON is GeoJSON, which is often used for web mapping programs such as leaflet or ESRI. GeoJSON can store a JSON object property called “properties” such as a point feature with a properties property which holds information about the point.

REST is a communications protocol with outlines was of getting information from a backend server. REST can be used to get data from either a controlled or uncontrolled website. Some of the main methods used in REST are GET, POST and DELETE. REST can gather data is a variety of ways. In the GET method uses a servers endpoint to retrieve specific data, POST is similar, except it allows the server to conduct logic to ensure the return of the correct data while DELETE removes the specified data or object from the backend server.

**Define what software, data, analysis or results were used or accomplished in this Module**

For this week I used Notepad ++ to create my html document used in lab 4. I linked my html files to a leaflet stylesheet and used MapBox for my background maps. When I needed to find coordinates for the custom map in lab 4 I used the Aggie Maps interactive webmaps.

**Discuss the value of the outcomes of this Module**

This week was a wonderful crash-course into the world of JavaScipt and webmaps. I enjoyed in the video the advise of finding the code you are looking for and tweaking it until it works for what you want, but also feel I could create some basic mapping code from scratch. I imagine that this knowledge will come in handy, not just for the remainder of the class but in the workforce as well.

**Additions:   How could verify that your Javascript customized map that has a connection to Rest pulling of GIS layers is still working and does not have a broken link.  See Gulfstorm.org of example of broken Rest connection.**

There are many ways to check for a broken link in JavaScript while pulling GIS data. The one option covered this week is to add a verification code to the send request. Once the send the request to the REST endpoint to get the data we can check to see if the request.status is a success (200) or not.