Kentucky GIS Conference

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The Kentucky GIS Conference:

The Kentucky GIS Conference took place from October 12 – 14, 2015 in Owensboro, KY. The first day consisted of workshops designed to keep attendees up to date with the latest technologies in GIS. I participated in the workshop, Introduction to Geoprocessing in an Open Source Environment: Using QGIS to Implement Common ArcGIS Workflows. With this workshop, I was not only introduced to the processes of GIS, but I learned how an open-source system can be beneficial both financially and graphically for map making. As this was my first exposure to GIS, I learned how the software worked by layering data to create maps. I was then able to begin thinking about how I could use this to communicate the results of my project. During the next two days of the conference, a representative from Esri set up a lab where participants could take detailed learning modules for ArcGIS. There I was able to learn about the software tailored to beginners. Furthermore, the conference included talks from students and professionals in geospatial fields. At the talks, I learned about how to apply GIS to specific fields, including meteorology. Some of the topics of the talks included:

- Mapping the Geospatial Impacts on Recent Earthquakes in Nepal
- The Influence of Tropical Cyclones on Warm Season Precipitation and Droughts in KY and TN
- Mapping Water Quality in Kentucky Lake and the Ohio River Using Remote Sensing
- Story Maps as an Education Tool

The conference introduced me to the applications of remote sensing as well as mapping software, and it led me to resources to help me learn more about the specific processes. Talking to professionals in the field allowed me to make valuable contacts and learn about what I should be doing as a student to prepare myself for a career.

Research on Evapotranspiration:

I am in the process of modeling evapotranspiration (ET) in Indiana using a software called RefET from the University of Idaho. The project compares the measured ET in Purdue Agricultural Centers in seven locations across Indiana with each model's predicted ET based on measured solar radiation, relative humanity, wind speed, and air temperature. I am also using the RefET software to estimate ET based on weather stations at airports in the state, which expands the scope of the project to include several more data locations. Next, I plan to extend the scope of the project to account for gridded data from NASA's MOD 16 product. Using gridded data would allow me a more complete understanding of how ET works at different locations across Indiana.

Applications of GIS Conference to ET Research:

I plan to implement the ideas and programs that were introduced to me at the Kentucky GIS Conference in my research on ET. Some ways that I can use GIS and remote sensing include:

- Make maps of results for better and more through communication with the public
- Employ story maps as a method of reporting research findings
- Use NASA satellites to find gridded data for ET in Indiana (specifically, MOD 16)
- Evaluate gridded data using an understanding of GIS