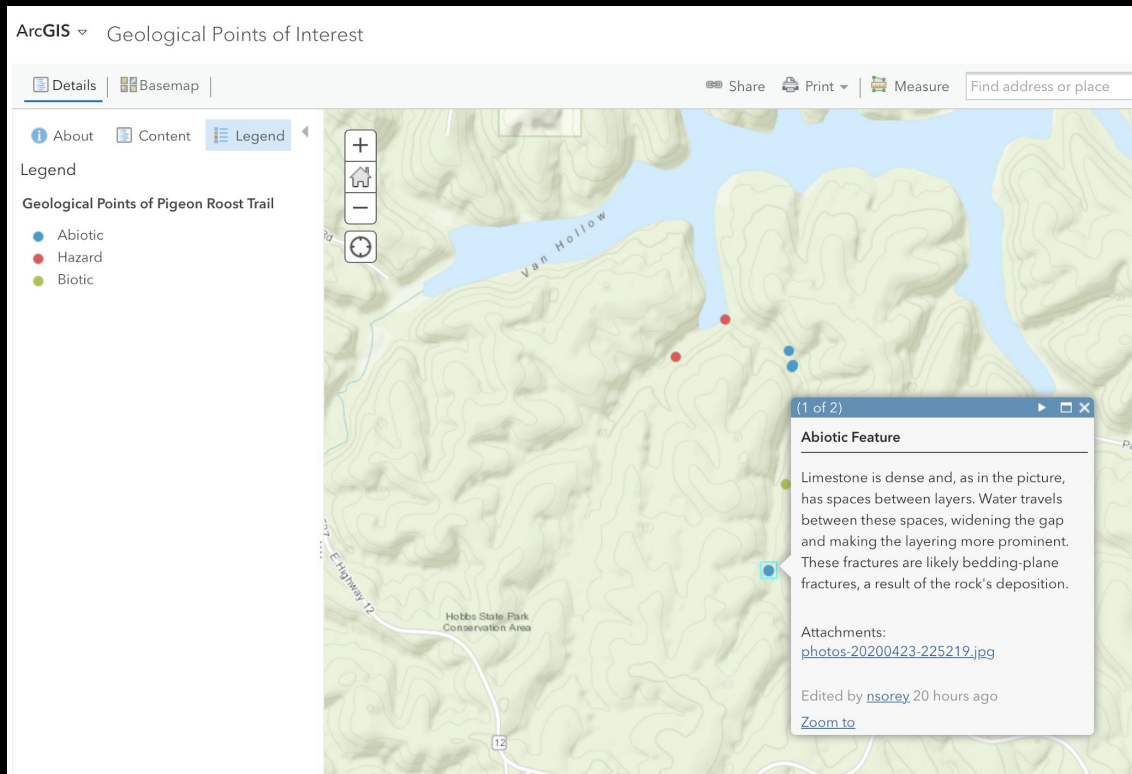


EMPACTS

Geological Points of Interest at Hobbs State Park



Team member: Clayton Bramel

GEOL 1134

Instructor: Paul Lowrey

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Introduction Hobb

Hobbs State Park, home of the historic War Eagle Mill, is a 12,054-acre tract of Ozark landscape along the southern shore of Beaver Lake. Most of this Karst terrain was at one time a limestone sea bed, but is now covered with a diverse population of plants and animals. Hobbs is also home to many geological points of interest such as sink holes, cliffs and crags, and interesting rock formations caused by erosion. Many visitors to Hobbs State Park are unaware of the Karst terrain they are visiting, not knowing how we effect it and how it affects us. This project sets out to educate the public on the geologic points of interest located at Hobbs, how we effect them, and how they affect us. This project will do so by creating a story map of geological points of interest at Hobbs State Park, a map that did not exist before this project.

Project Overview

At first, we set out to make a map of several trails located at Hobbs, but due to Coronavirus and remodeling, several trails were closed for a majority of the semester. This allowed me to focus on a few trails than I would have been able to. Of all the open trails, Pigeon Roost offered the most data.

Although I contacted the park service several times to get information, they never got back to me. One park employee I ran into on the trail was very helpful: he shared several points of interest that were not mapped, yet very interesting.

Three days (9am-6pm) were spent gathering data, taking notes and photos, and searching the area for points of geological interest. In total, fifteen points of interest were recorded, photographed and pin-pointed on a map.

The outcome was not what was anticipated, but much was learned when it was all said and done. In the end, what sets this project apart from others was the extensive amount of data that came from the field research. Each point of interest was selected, researched, and uploaded to a Survey123 data base for future Empact projects. A story map outlining points of interest was created and shared to several Facebook groups based in Northwest Arkansas.

Community

- ◆ Nwacc Geology students and teachers.

Future students will be able to utilize and add onto the Survey123 data gathered for this project, and teachers will be able to use this for their class materials and as reference.,

- ◆ Facebook users in several active NWA groups.

A link to the this map was added to several hiking and trail groups on Facebook for users to interact with and use.



Curriculum

A stylized graphic of a mountain range with three peaks, rendered in a dark gray color, positioned on the right side of the slide.

Demonstrated a foundation in environmental geology prerequisite for higher level courses (Scientific geologic observation and descriptions)

Recognized the relationships between humans and the environment, particularly the effects of population growth on natural systems including soil degradation and desertification. (The affects a man made lake has on the environment)

Demonstrated the ability to utilize Global Positioning Systems and GIS technology

(survey123)

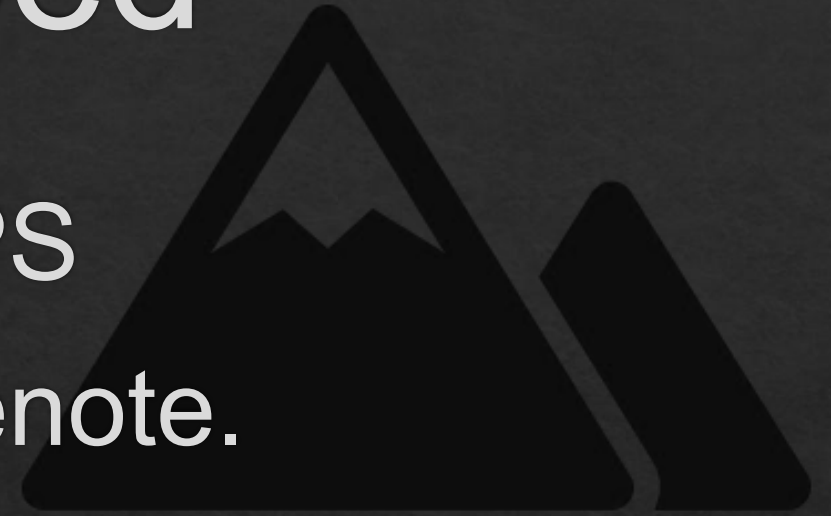
Technology

- ◆ Dell Laptop
- ◆ ArcGIS
- ◆ Internet (research, maps, information)
- ◆ Samsung Galaxy s6 Active (Phone)
- ◆ Survey 123
- ◆ PowerPoint
- ◆ Laser measure and tape measure



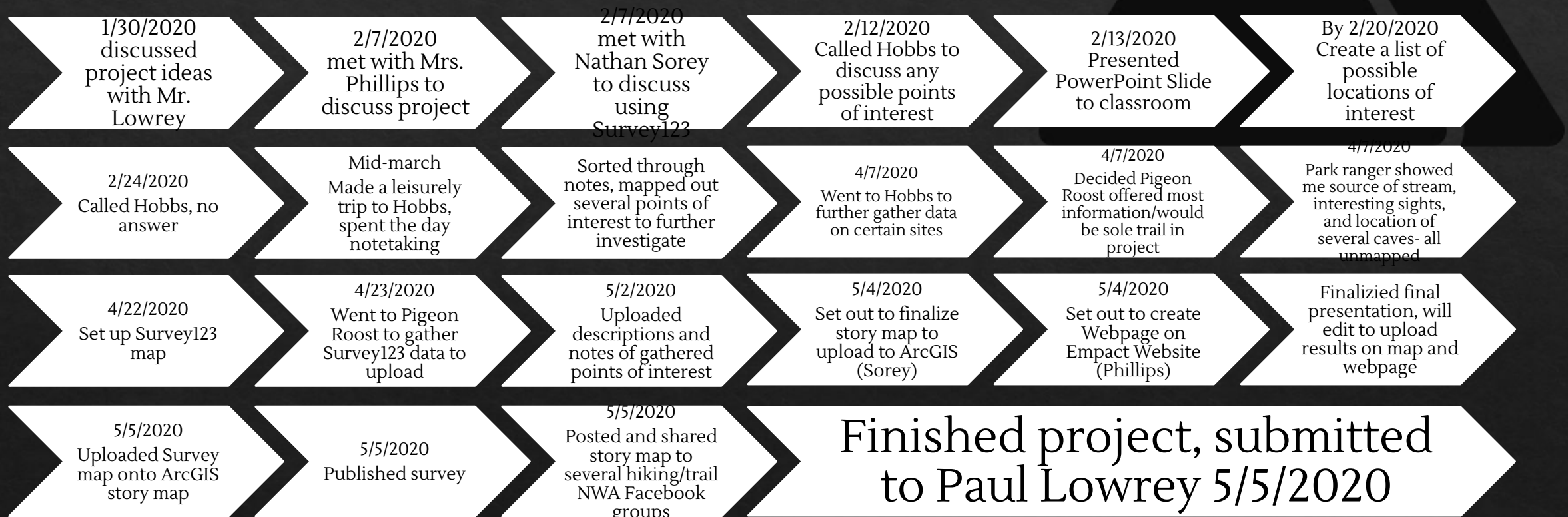
Skills Developed

- Navigated by map and GPS
- Used Powerpoint and Onenote.
- Documented points of interest with a camera
- Website and map edited (Survey123)



Tasks were done by Clayton B unless noted by parenthesis at end of arrow insert

Methodology



Expected Outcome

A stylized graphic of three mountain peaks in shades of gray, positioned on the right side of the slide.

1. A knowledge of the Hobbs State Park area terrain, geography, and landscape.
2. A understanding of how a man-made lake impacts a karst landscape region.
3. A map that gives the users a location and description of points of geological interest at Hobbs State Park.
4. A understanding of story map building and website creation.

Click on the map below and follow the link to the interactive map.

The screenshot shows the ArcGIS web interface for a map titled "Geological Points of Interest". The interface includes a top navigation bar with "ArcGIS", "Geological Points of Interest", "Modify Map", and "Sign In". Below this is a toolbar with "Details", "Basemap", "Share", "Print", and "Measure" options, along with a search bar labeled "Find address or place".

On the left side, there is a legend titled "Geological Points of Pigeon Roost Trail" with three categories: "Abiotic" (blue dot), "Hazard" (red dot), and "Biotic" (green dot). The map itself is a topographic map showing contour lines, a lake labeled "Van Hollow", and several roads including "E Highway 12", "Page Sawmill Rd", "Rambo Rd", and "Huckleberry Hills Rd". A "Hobbs State Park Conservation Area" is also labeled. A scale bar at the bottom indicates distances in feet (1400, 1443, 1400, 1400).

A pop-up window titled "(1 of 2) Abiotic Feature" is open over a blue point on the map. The text in the pop-up reads: "Limestone is dense and, as in the picture, has spaces between layers. Water travels between these spaces, widening the gap and making the layering more prominent. These fractures are likely bedding-plane fractures, a result of the rock's deposition." Below the text, it lists "Attachments: photos_20200423-225219.jpg" and "Edited by nsorey 20 hours ago". A "Zoom to" button is also present.

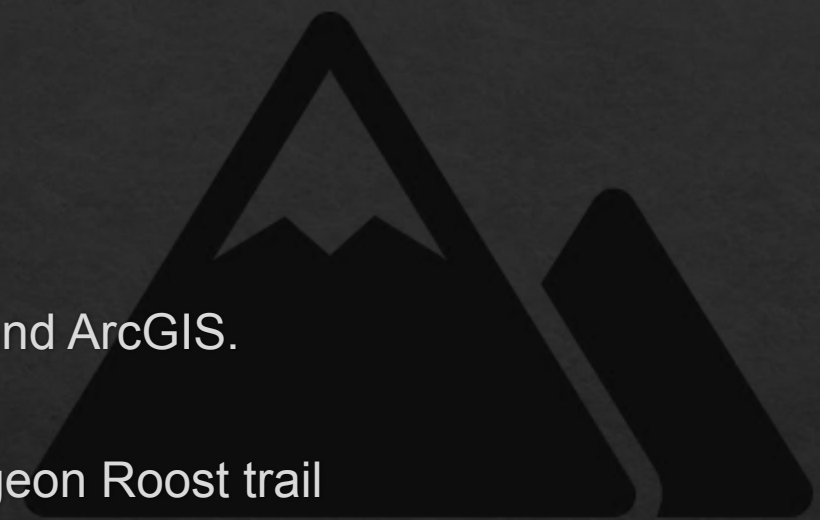
The Outcome

What was produced;

- ◆ A map was developed using data gathered through Survey123 and ArcGIS.
- ◆ A Webpage was created for the EMPACT website
- ◆ A detailed collection of geological points of interest at Hobbs' Pigeon Roost trail

What skills were gained;

- ◆ Ability to survey, collect, and organize data through the use of Survey123, OneNote, and using lasers to measure distances/objects.
- ◆ Identifying different rock types and their properties.



Acknowledgements

A stylized graphic of a mountain range, consisting of several dark grey, rounded triangular peaks of varying heights, set against a dark background.

I would like to thank Paul Lowery, the awesome teacher of Environmental Geology, for everything he has done this semester. His passion for the subject matter and his caring for the student's outcome truly made this class unique, and was the greatest contribution to this project.

I would also like to thank Nathan Sorey, GIST Specialist and

Professor Dianne Phillips for their help in organizing the project and their contributions to developing a webpage and map.

Several of the really cool points of interest wouldn't have been included were it not for the help of the park ranger that contributed.

Thanks to Hobbs state park and all their help.

References

- Hobbs Arkansas State Park Website

<https://www.arkansasstateparks.com/parks/hobbs-state-park-conservation-area>

- Hobbs State Park Information Brochure

https://res.cloudinary.com/miles-extranet-dev/image/upload/v1528212815/ArkansasSP/migration_documents/17/Hobbs_2013PIB_web-updated.pdf

- Trails of Hobbs

https://res.cloudinary.com/miles-extranet-dev/image/upload/v1528212813/ArkansasSP/migration_documents/17/HobbsTRAILSnew2011vrsn.pdf

- Hobbs contact phone number

479-789-5000

- Story map link

<https://storymaps.arcgis.com/stories/a51804cfa0034796a579aaed6f12aead>

<https://www.arcgis.com/home/webmap/viewer.html?webmap=a1acfbbc240d4014b59e281b902d72e5&extent=-93.9572,36.2833,-93.9151,36.3102>

