



EMPACTS

CHASING WATERFALLS

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CHASING WATERFALLS IN NWA/OZARK REGION

Arkansas is known as the Natural State; it has beautiful landscapes and outdoor sceneries that connect us with the nature.

There are lots of places to explore in Arkansas.

The most amazing natural feature in Arkansas are waterfalls.

PROJECT OVERVIEW

The project consists of a *Story Map* developed with *ArcGIS online's Cascade Builder*

The map gives an interactive view with cards on the side that have details regarding the geology and the experience through the field trips to the waterfalls to make it more user-friendly.

COMMUNITY

A benefit from it besides giving the hiking community a Map of waterfall locations in the region, it highlights some interesting geologic facts that surround the waterfall

The Story Publicly open to the people to check it out, and it can be accessed via the EMPACTS website.

CURRICULUM

The project can be tied up with the *Freshwater Resources Chapter* from our class.

- We can see how rivers and waterfalls shape the landscape
- We can see the significant amount of freshwater available in Northern Arkansas
- It is possible to infer several things from underground water resources by the amount of surface water these rivers and waterfalls discharge

CURRICULUM

Use of Mapping Software and Positioning Systems:

- Plotting points in a map using a GIS software (ArcGIS Online)
- Story maps builder using the esri Cascade Builder
- Google Maps as a GPS to locate the Waterfalls

TECHNOLOGY

The tools used to develop the project were:

- ArcGIS Online (Map and Plotting Points)
- ESRI Cascade Builder (StoryMap)
- ESRI Training Plan – How to Build a Cascade
- GoPro Hero 7 – Pictures and Videos

METHODOLOGY

The process started with visiting the waterfalls.

- Experience the hike
- Explore its surroundings and accessibility
- Take pictures from the waterfalls and gather samples of the rocks

After visiting 5 waterfalls, distributed in different locations, points were plotted in an Online Map.

Finally, the Cascade (Story Map) was created using the Cascade Builder of ESRI.

METHODOLOGY

Division of Labor:

- Juan Falquez:
 - Field Visiting
 - Arc GIS Mapping
 - Cascade Building and Story Map
 - Pictures
- Riley Steerforth:
 - Field Visiting
 - Pictures
 - Presentation
- Tanner Thompson:
 - Field Visiting
 - Pictures
 - Presentation

METHODOLOGY

TIMELINE

First Step:

- Visited Eden Falls near Kingston, AR
 - (10/13/2019)
- Visited Hemmed-In Hollow near Compton, AR
 - (11/17/2019)
- Visited Falling Water Falls near Witt Springs, AR
 - (11/24/2019)
- Visited Six Finger Falls near Witt Springs, AR
 - (11/24/2019)
- Visited Terry Keefe Falls near Witt Springs, AR
 - (11/24/2019)

METHODOLOGY

TIMELINE

Second Step:

- Developing the Map and plotting coordinates in it using ArcGIS Online
 - (11/30/2019)
- Completing Training Plan for the Cascade Builder in ESRI
 - (12/05/2019)
- Developing the Cascade Story Map in ESRI with the Cascade Builder App
 - (12/05/2019 – 12/11/2019)

PROJECT RESULTS

As a result:

- an ArcGIS Map was created which was used for the Cascade Builder to create the Story Map
- A Story Map using Cascade Builder with information about the waterfalls, their hiking trails and relevant geologic information from them.
 - The story map does include details about the personal experience of the field trips
- Pictures and Videos that show the waterfalls were taken to show the amazingness of the places.

This is a link to the Story Map: <https://arcg.is/0n9aDG>

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