There are any folders and scripts in this project. A lot of these folders and scripts are processing data downloaded from GEE, clipping it, projecting it, and don’t need to be run by the user. I’m including a short description of all the scripts and folders in this project, but I think there’s two important parts of this project that are mostly contained in the ‘analyze\_my\_frolicing\_script.ipnyb’ and the makeMapsTool in the frolic\_map\_tool.aprx ArcGIS file.

**Part I: What ecoregions, landcover classes, and lithology zones did the user hike thorugh?**

**analyze\_my\_frolicing\_script.ipnyb**

I have a feeling this only works on my computer since it is in the ‘raster\_proj’ environment that I made, so I’m included some screenshots of me running it on the Navajo\_Knovs.gpx file. The .gpx file is converted to a .shp file, saved in the ‘data\_orig’ folder. It is then intersected with .shp and .tif files downloaded for the extent of Utah using Google Earth Engine (and these are saved in the intersection folder), and uses dictionaries created from .csv files to print out which ecoregions, landcover, and lithology zones(s) the user was in. This also creates the same maps that Part II does. I included 5 screenshots titled ‘analyze\_demo1’ through ‘analyze\_demo5’ to demonstrate.

**Part II: Making maps of the user’s hike in ecoregions III and ecoregion IV, lithology zones, and landcover classes.**

Using the makeMapsTool (in the default arcgispro-py3 environment) this tool lets the user type in the pathname of a .gpx file (and I provide many that I and my friends have done in the data\_gpx\_files folder) and creates a pdf of that hike in the main folder. I have three hikes from the ‘data\_gpx\_files’ outputs folder and their pdf map outputs included.

**Files in this project:**

**Scripts:**

analyze\_my\_frolicing\_script : this script requires certain modules not included in the default arcgispro-py3. It does the three main objectives of this project, and I included screenshots of each. (

make\_maps\_arcgispro\_python : this is the python file used in the makeMapsTool

make\_maps\_arcgispro : this is the notebook used to make the python file for the makeMapsTool

ecoregion\_intersection\_count: this takes the ecoregion .shp files from GEE and performs stats—this is also done more concisely and with fewer annotations in the main ‘analyze\_my\_frolicing\_script’

raster\_clip\_count: this takes the rock and nlcd .tiff files from google earth engine and performs stats—this is also done more concisely and with fewer annotations in the main ‘analyze\_my\_frolicing\_script’

converting\_gpx\_files: converts .gpx files to .shp and tif files and performs stats—this is also done more concisely and with fewer annotations in the main ‘analyze\_my\_frolicing\_script’

clipping\_data\_extent: google earth engine data is clipped to the extent of Utah here

**Projects:**

frolic\_map\_tool : this is the project containing the makeMapsTool which creates a pdf file in the main folder named based on the user’s input file. I included many examples files that can be run in the ‘data\_gpx\_folders’

frolic\_map1: this is where I broke many things trying to get arcgispro to allow me to use the raster\_proj environment, and/or the cloned arcgispro-py3 environment. I haven’t given up on this yet.

**Data:**

Data: contains the processed data from google earth engine used in this project

Data\_orig: contains the unclipped data from google eath engine used in this project, and data I downloaded and didn’t incorporate into the project

Data\_converted: where the user’s converted .gpx file is saved

Intersections: intersections between the user’s .gpx file and the data in the ‘data\_orig’ folder

Data\_gpx\_files: downloaded hikes and trail runs from consenting friends on Strava, user can also use their own