ALA 11: Campus Mapping Scavenger Hunt: Human–Environment Interactions

Purpose: To identify, collect, map and analyze examples of human–environment interactions on campus, using mobile GIS tools.

Learning Objectives:

By the end of the activity, students will be able to:

- **Classify** human-environment interactions, distinguishing between dependence, adaptation, modification, sustainability, and environmental impact.
- **Collect** geospatial data and attribute information using ArcGIS Field Maps
- **Analyze** and **Communicate** spatial patterns on an interactive, dynamic map
- **Collaborate** in data collection, observation, documentation and discussion
- **Critically evaluate** human impacts on the environment, explaining how campus features influence or are influenced by the environment

Instructions -- Campus Mapping Scavenger Hunt: Human–Environment Interactions

1. Form groups of 2-3 students and go over tutorial as a class

2. Using the **ArcGIS Field Maps app** on a phone, your group must collect **10 total points** around campus *(Note: only one person per group needs to have the app to collect the data, but each group member must participate)*
   - Each group should collect at least ***2 points EACH*** for the following categories:
     - Dependence, Adaptation, Modification, Sustainability, Environmental Impact (positive or negative)

   - For each collected point, your group must include the following:
     - Group member names
     - Photo
     - Category
     - 1-2 sentences describing *how* and *why* the example of human-environment interaction

   - Each group has **35 minutes** to collect points. **Return to class when finished!**

3. Each student opens, views and analyzes the map on ArcGIS Online
   - In-class projection to show different features (symbology, filtering, etc.)

4. Class discussion:
   1. How does the campus depend, modify, or adapt to the environment? What are some environmental impacts?
   2. Which category was easiest or hardest to find?
   3. Are these categories always clearly separate, or do some features fit multiple categories?
   4. What patterns stand out, and where?
      - Is there clustering of specific interaction types?
   5. Do certain areas of campus show more sustainability features?
   6. What does this tell us as a whole about human-environment interactions on campus?
   7. What surprised you about the level of human modification on campus?
   8. If you were campus planners, what changes would you make?

Important Tips:

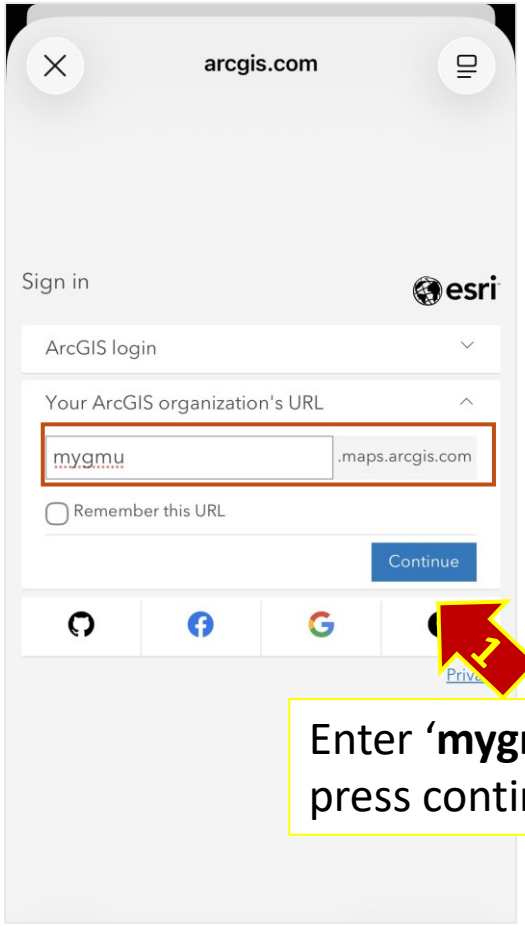
- Find unique locations and avoid duplicate points already mapped by other groups
  - Explore different areas of campus
- Avoid obvious and generic examples, and be specific in your explanation
- Take clear photos
- Coordinate as a group and ensure each group member contributes
- BE MINDFUL OF TIME!

Hints! For Identifying Human-Environment Interactions Across Campus

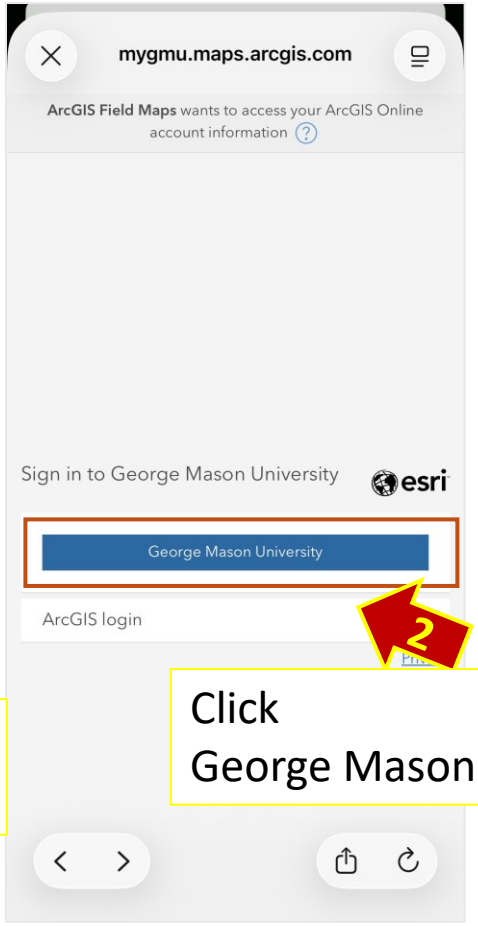
- Use the following guiding hints to help you identify strong examples for each category. *Remember: your goal is not just to find an example, but to explain why it fits the category.*
- **Dependence**
  - Look for things that rely on the environment to function.
  - Think about resources people use (water, sunlight, shade, soil).
  - Hint: What natural element is necessary for this feature to work?
- **Adaptation**
  - Look for ways humans adjust to environmental conditions.
  - Consider how buildings or spaces are designed for climate or weather.
  - Hint: How does this help people live more comfortably in this environment?
- **Modification**
  - Look for places where humans have changed the natural environment.
  - This includes construction, pavement, landscaping, or reshaping land.
  - Hint: What did this area look like before humans changed it?
- **Sustainability**
  - Look for actions that help reduce environmental impact or conserve resources.
  - Examples include energy-efficient systems, recycling, or green infrastructure.
  - Hint: How does this help protect the environment for the future?
- **Environmental Impact (Positive or Negative)**
  - Look for evidence of effects humans have on the environment.
  - This can include pollution, runoff, heat, or improvements like green spaces.
  - Hint: What are the consequences of this feature on the surrounding environment?

ArcGIS Field Maps App: Signing in

- ***Download ArcGIS Field Maps App*** from your phone's Appstore
- **Open App and Sign In**
  1. *Sign into ArcGIS Organization's URL (**mygmu**)*
  2. *Click on organization → George Mason University*
  3. *GMU Sign in page opens → Sign in using username and password*



Enter '**mygmu**'…
press continue



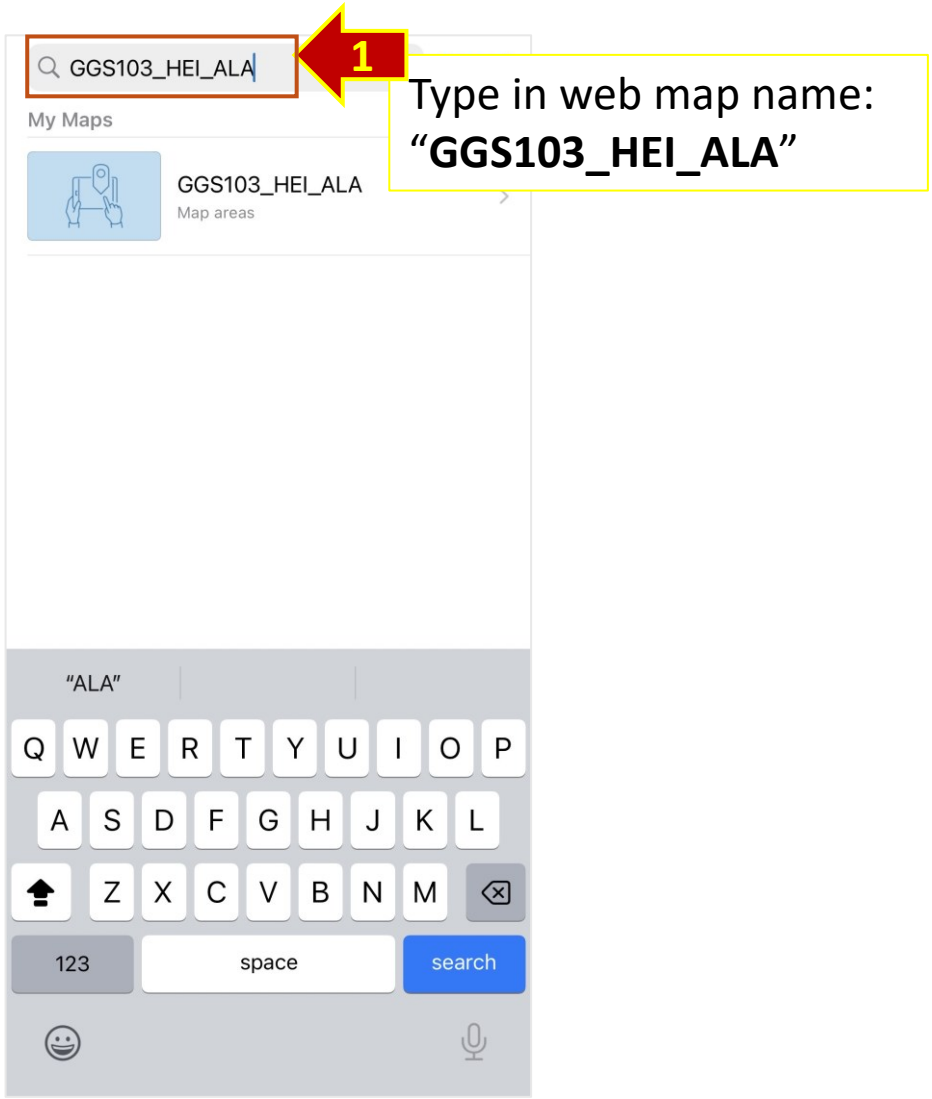
Click
George Mason University

Sign in with GMU username and password when prompted

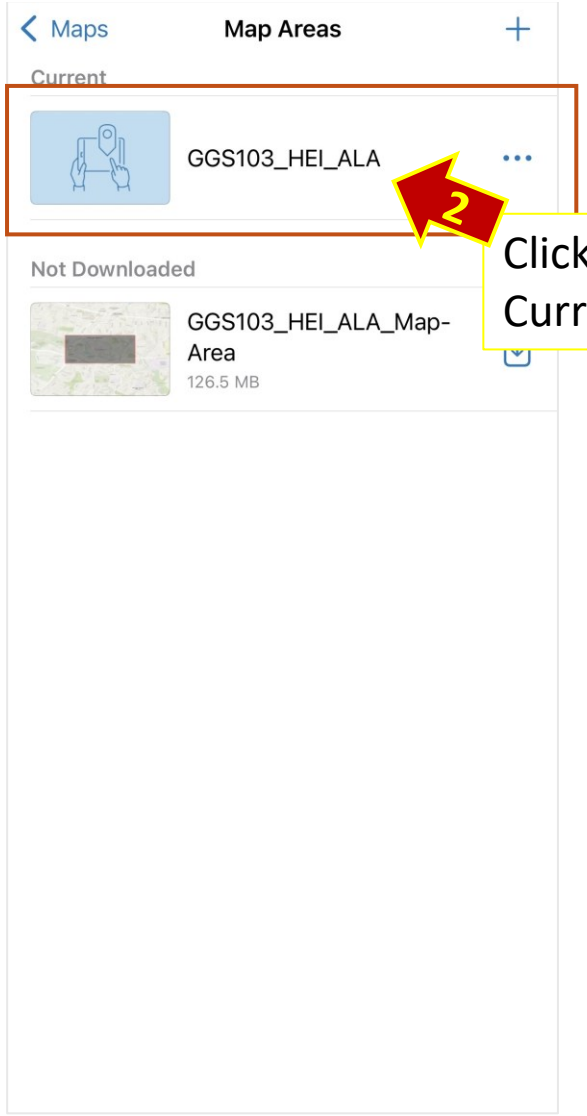
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ArcGIS Field Maps App: Opening Layer

1. Type in Web Map's name "GGS103_HEI_ALA"
2. Click on the map to open



Type in web map name: "**GGS103_HEI_ALA**"



Click on: Current Map

Alternative Ways To Open:

https://fieldmaps.arcgis.app/?itemID=570ad44c3d4a4646addefe545b07e728&referenceContext=open&portalURL=https%3A%2F%2Fmygmu.maps.arcgis.com

ArcGIS Field Maps App: Collecting Point Data

After the map opens on the phone…

1. Click + to add a new point
2. Move the center target (+) to where you want to place your point
3. Click '+ Add Point' to add the point to the map
4. Take a photo of your feature
5. Add group member names
6. SCROLL down and add rest of the attributes (type and description)
7. **SUBMIT YOUR POINT!**



Web Map Opens

1

Add New Point

Collect Data



7

LAST BUT MOST IMPORTANT STEP!!!
Submit your point!

2

Move to where you want to place your point

3

Click to place and ADD your point

4

Take photo

5

Add group names

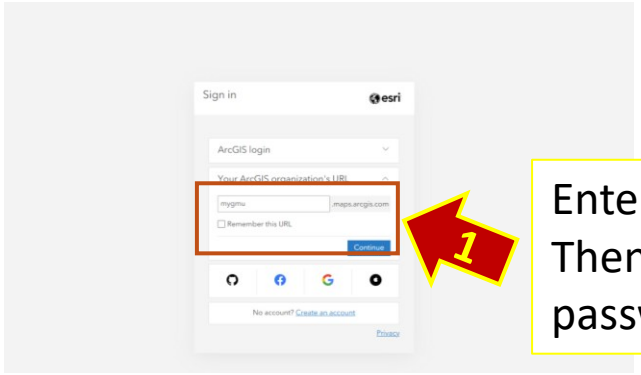
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SCROLL DOWN!
And fill out rest of the attributes!

ArcGIS Online: Viewing Map of Collected Points

- Go to ArcGIS Online: https://www.arcgis.com/index.html

1. Sign in using GMU Credentials

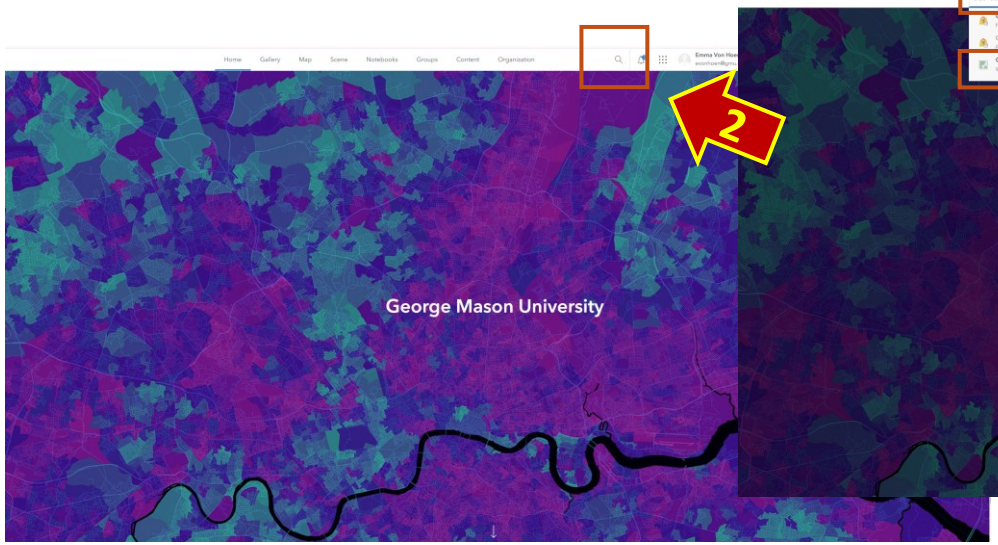


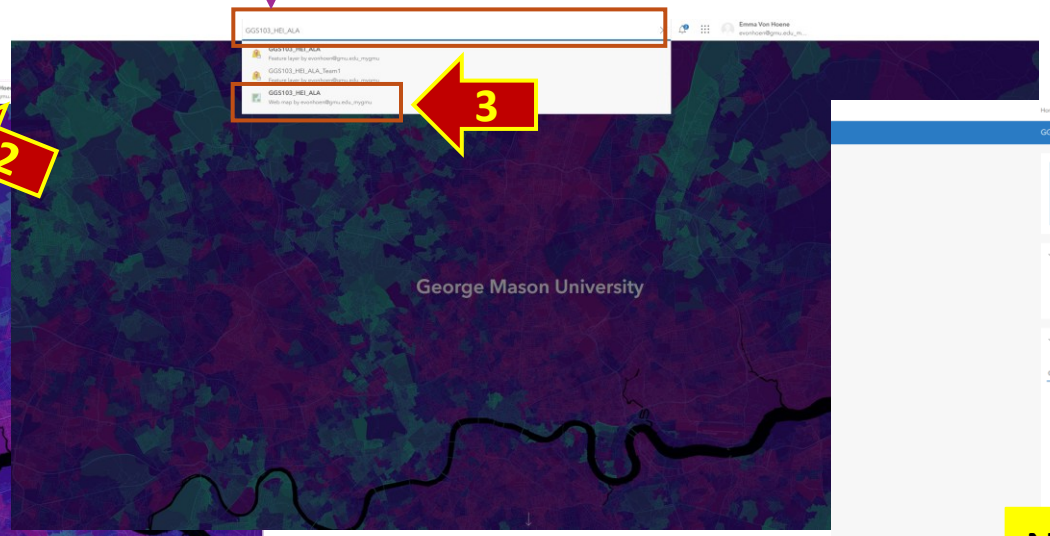
Enter '**mygmu**'…
Then enter your gmu username and password when prompted

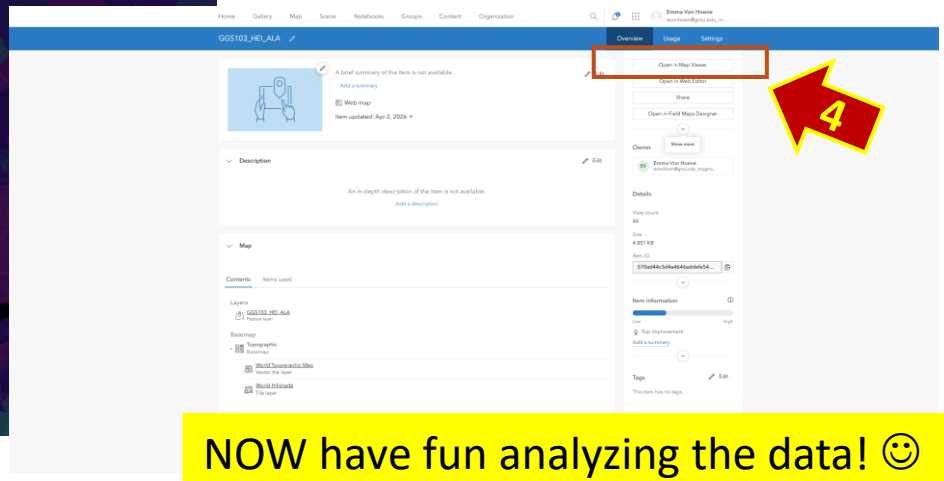
2. Click on the search icon

3. Search for the online interactive map "***GGS103_HEI_ALA***" AND ***click on the WEB MAP***

4. Click on 'Open in Map Viewer'







NOW have fun analyzing the data! ☺