

Exercise-1A

Sentinel-2 Data Access in Google Earth Engine (GEE)

1. Go to GEE script for Sentinel-2 using the following link:
Note: you will have to login to GEE using the email your used for registration.

Sentinel-2 Data Access:

<https://code.earthengine.google.com/3c451afacfca4913d617b4f26942c8b2>

2. Run the script and replicate the results from the demonstration.
3. Modify Lines 50–52:
 - Change the var name in line 50: `date_072020`
 - Change the date range in line 51: `2020-07-19` to `2020-07-21`
 - Change the print statement in line 54: `print(date_072020);`
4. Change the var name (`date`) in line 83:
`Map.addLayer(date_072020.mean(), visualization, 'RGB_1');`
5. Run the script (you are changing the date of RGB_1 image only).
6. Go to the Layers in the map pane and only select RGB_1.
7. Take a screenshot of the image and save it to your computer (you will submit this in your homework).

Exercise-1B

Landsat 8 Data Access in GEE

1. Go to the following link:
Landsat 8 Data Access
<https://code.earthengine.google.com/11f95abf6d0f6217da75065ff499d17a>
2. Run the script and replicate the results from the demonstration.
3. Explore images for different date ranges (Line 11): select 1-2 months range
Landsat images are available every 16-day.
4. You can draw a polygon or rectangle around the lake of your interest on the map by clicking here.



5. You will see the second polygon/rectangle included in the geometry (Erie).
6. Run the script again.
7. Do you see Landsat 8 images for the lake you selected in addition to Lake Erie?
8. Take a screenshot of the cloud-free Landsat 8 image for the lake you selected.

Exercise-1C (Optional) GLORIA Data Access

1. Go to the GLORIA data access site:
<https://doi.org/10.1594/PANGAEA.948492>
2. Scroll down and download the zip file on your computer

Download Data

 [Download dataset](#)

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3. Unzip the file and open GLORIA_meta_and_lab.
 4. Select a lake (other than Lake Erie) and subset the file for that lake.
 5. Select a date when *in situ* GLORIA data are available for this lake.
 6. Using the Sentinel-2 data access script, follow Exercise-1A to select a date-range and check if Sentinel-2 images over this lake are available for the date when GLORIA data are there.