ICEYE

Flood analyst tasks

Notes

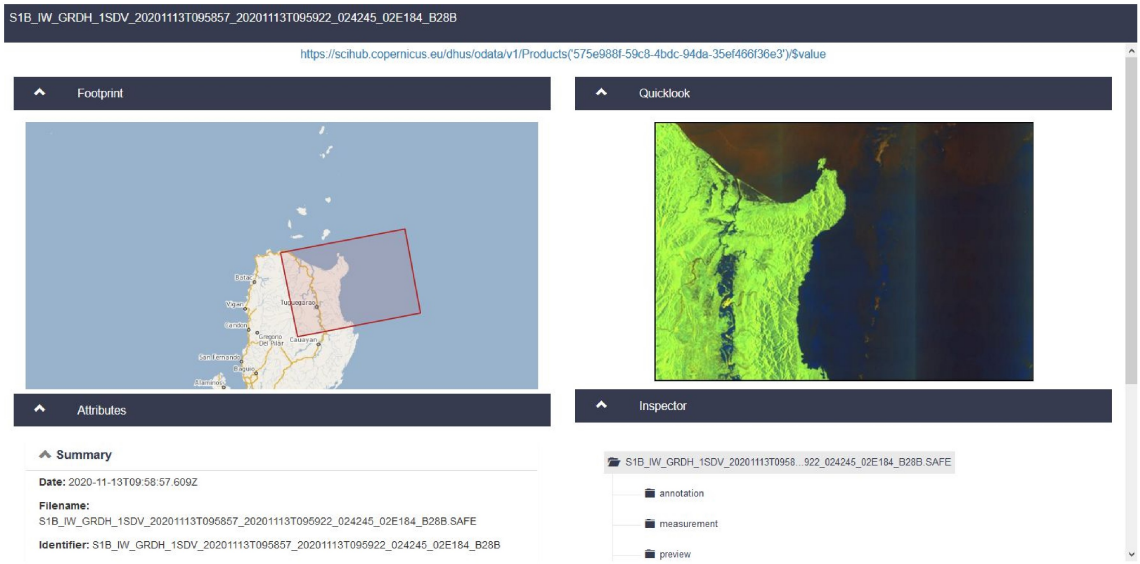
- Please take necessary assumptions where needed, but make sure to comment/defend why an assumption was made.
- We are interested in how you approach problems.
- Be creative & quantitative.
- Attempt all tasks.
- Spend no more than a few hours in total on the tasks.

Flood analyst tasks

Task

During a flood event, it is critical to map the extent of the flood in order to assess the impact on individual property or infrastructure. The following tasks are in support of identifying maximum flood extent. Please spend no more than a few hours in total to execute the task.

1. Use the Sentinel 1 data to create a raster mask of flood extent using the indicated SAR images. If you complete your analysis using other remote sensing or vector data, please report. Discuss your choices & limitations. Provide visualizations of your outputs in the form of images or slides.



Sentinel-1 Data Description
Date: 2020-11-13T09:58:57.609Z
Identifier: S1B_IW_GRDH_1SDV_20201113T095857_20201113T095922_024245_02E184_B28B
Instrument: SAR-C
Mode: IW
Satellite: Sentinel-1

1. How would you assess the error or uncertainty in this mask? What additional observations are required?

2. Include a Python script that vectorizes the raster mask and calculates statistics about the region. (BONUS) Download any building vector footprints (such as from Open Street Map) and assess the fractional flood impact in a residential area. Use whichever area you can find or create data for, it does not need to be perfect or comprehensive for the region.