User Manual- Sentinel-1 SLC downloader (.SAFE and .zip + orbit files)

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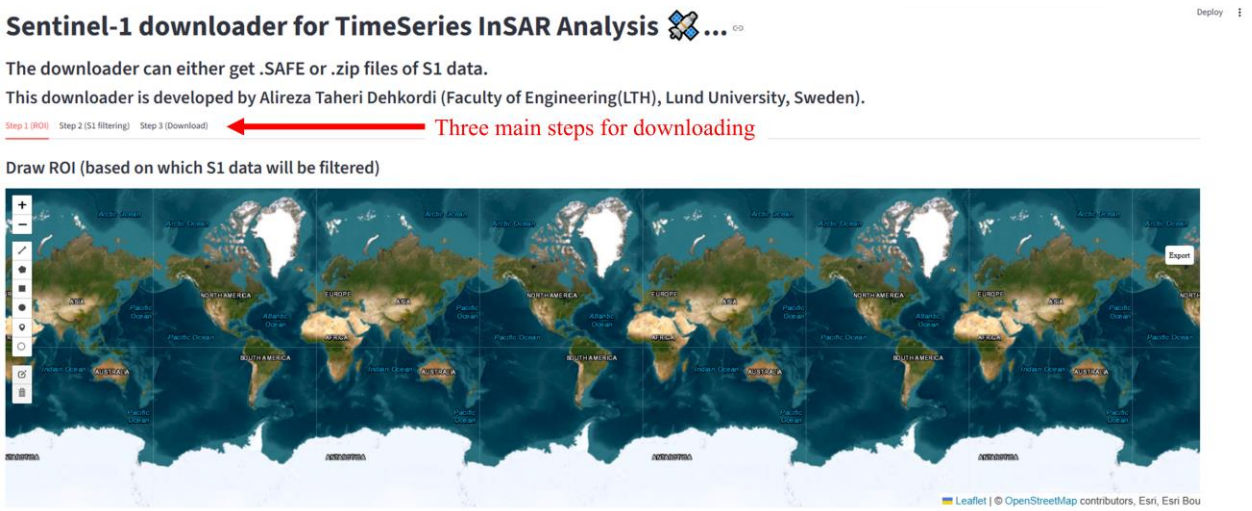
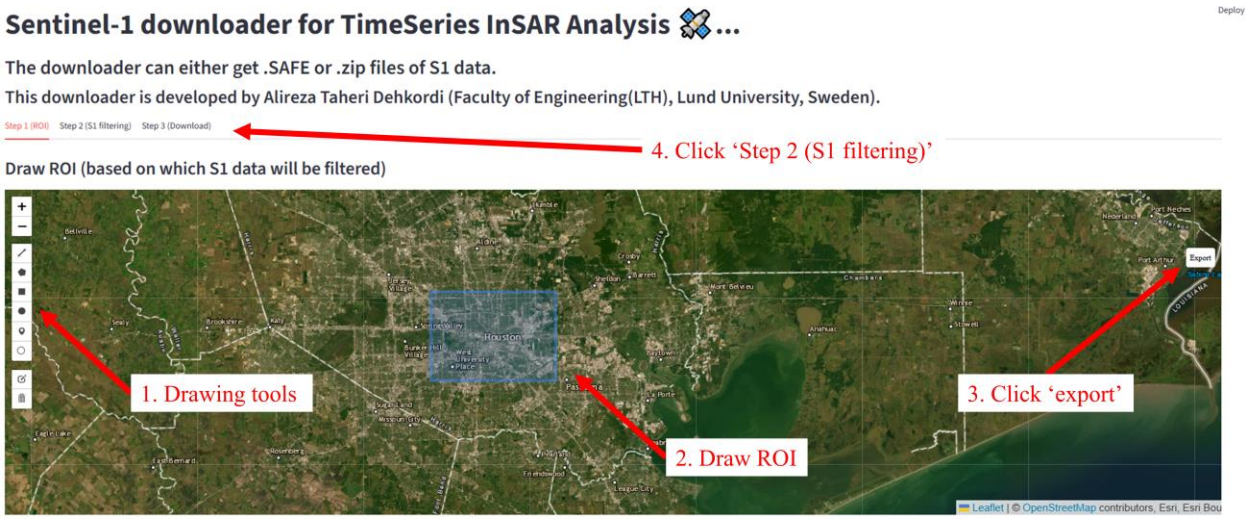
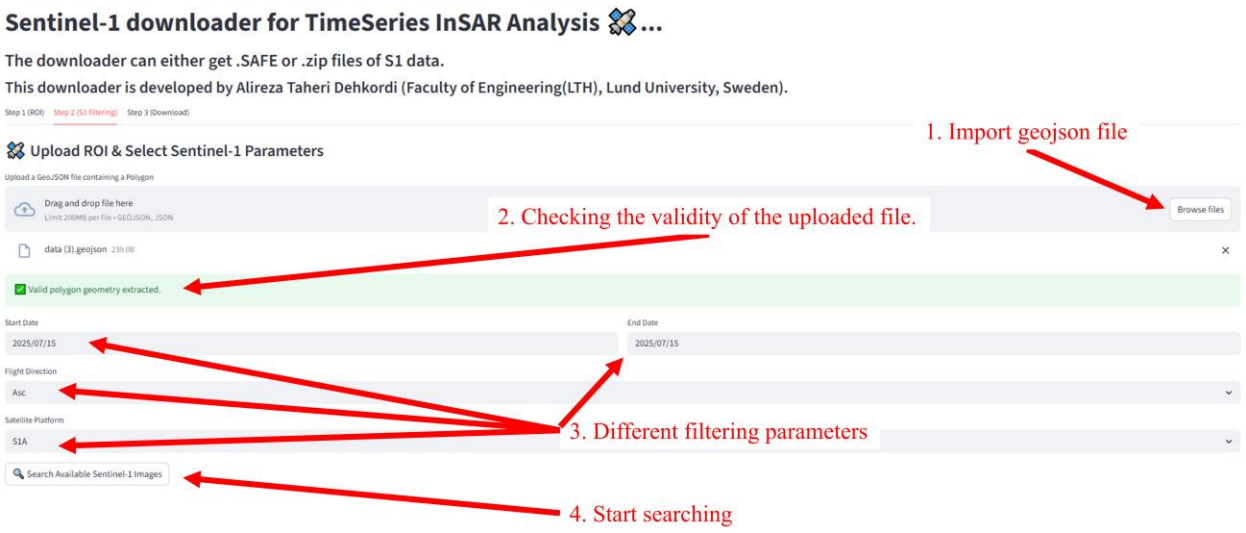
Once the downloader is launched, an interface will appear as shown in the figure below. The user starts at Step 1 (ROI), which is indicated in the top-left section.



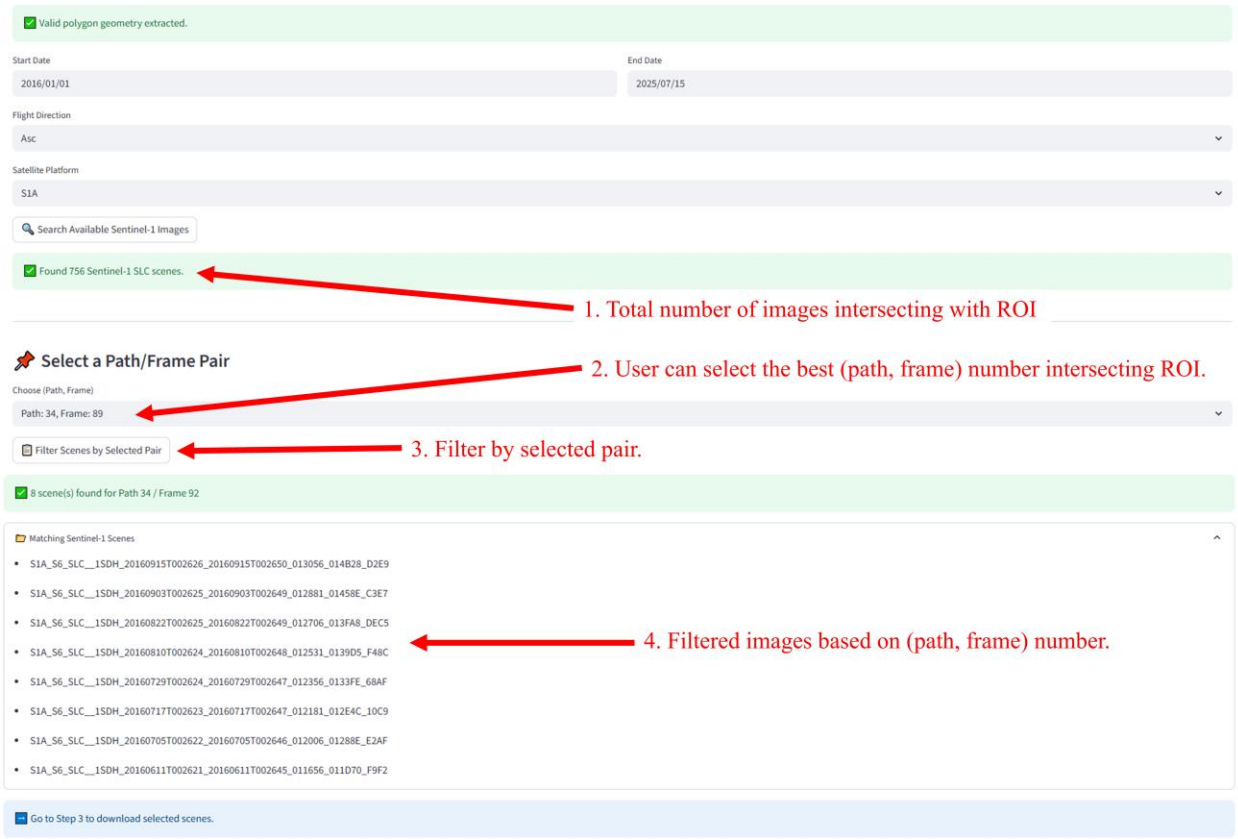
The user must draw the ROI (Region of Interest) using the drawing tools shown below, and then export the ROI as a GeoJSON file.



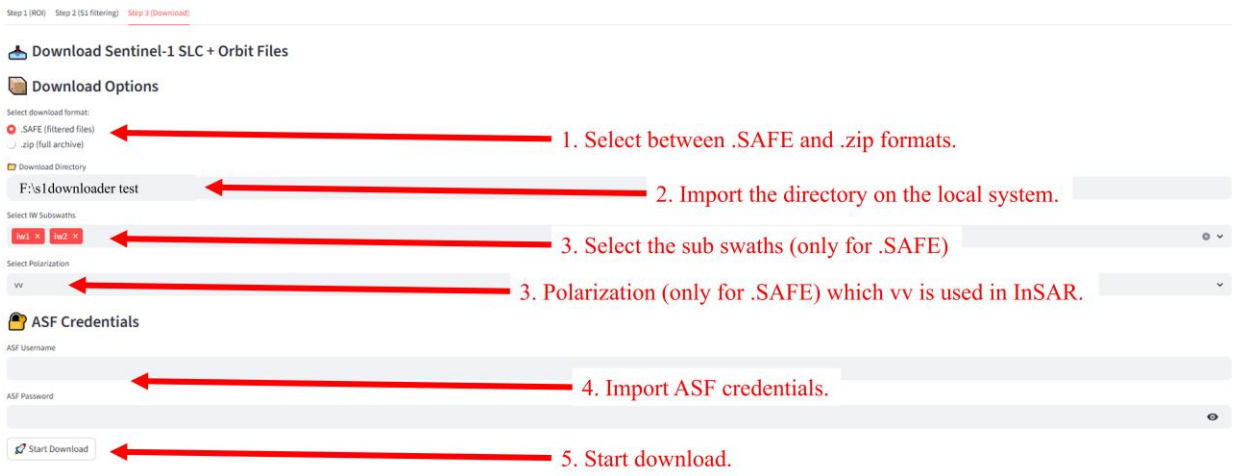
Then, the user proceeds to Step 2. In this step, they can upload the GeoJSON file exported in Step 1, or alternatively, they can directly upload their own file without using the drawing tools in Step 1. If the uploaded GeoJSON file is in a valid format, the user can define a time range, choose between ascending or descending flight modes, and select the satellite platform (S1A or S1B).



Then, by pressing the search button, a preliminary list of images that intersect with the ROI and meet the selected criteria is displayed. Since multiple scenes may cover the same ROI, a list of unique (path, frame) number combinations is presented for selection. The user should choose the combination that offers the best coverage of their region of interest. The optimal (path, frame) pair can be easily identified using the ASF Vertex API (https://search.asf.alaska.edu/#/). After selection, the number of matching scenes is shown to the user and these can be downloaded in Step 3.



In Step 3, the user selects whether they want to download .SAFE files or .zip files. For .SAFE files, the user must specify the desired subswaths — iw1, iw2, iw3, or a combination — depending on the location of the ROI within the scene. After providing ASF credentials, the download process begins and the selected data is saved to the specified directory. To obtain ASF credentials, users must register for an Earthdata Login profile.



For .zip files, only the download directory and ASF credentials are required. Note that in both cases (.SAFE and .zip), the precise orbit files for each image are also downloaded alongside the scenes.