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Planet ArcGIS Pro Add-In V. 2.0

An Esri ArcGIS® Pro Add-In for Discovering, Streaming and Downloading Planet's Daily Imagery and Basemaps

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+ OVERVIEW

The Planet ArcGIS Pro add-in enables ArcGIS Pro users to more easily discover, stream, and download Planet imagery and basemaps. The Add-In will create a Planet Imagery tab within the ArcGIS Pro ribbon that contains tools for working with daily imagery and basemaps. The ArcGIS Pro Add-In V2 builds on the V1 capabilities that previously included the ability to discover, stream and download basemaps.

+ REQUIREMENTS

- ArcGIS Pro 2.2+
- The user needs access to a paid Planet subscription or a Planet trial account
- The user will need to have a subscription plan that allows for downloading in order to use the download functions

+ INSTALLATION

- Download the Add-In: <https://learn.planet.com/new-arcgis-v2-ty.html>
- Install the Add-In according to standard Esri directions: <https://pro.arcgis.com/en/pro-app/get-started/manage-add-ins.htm>

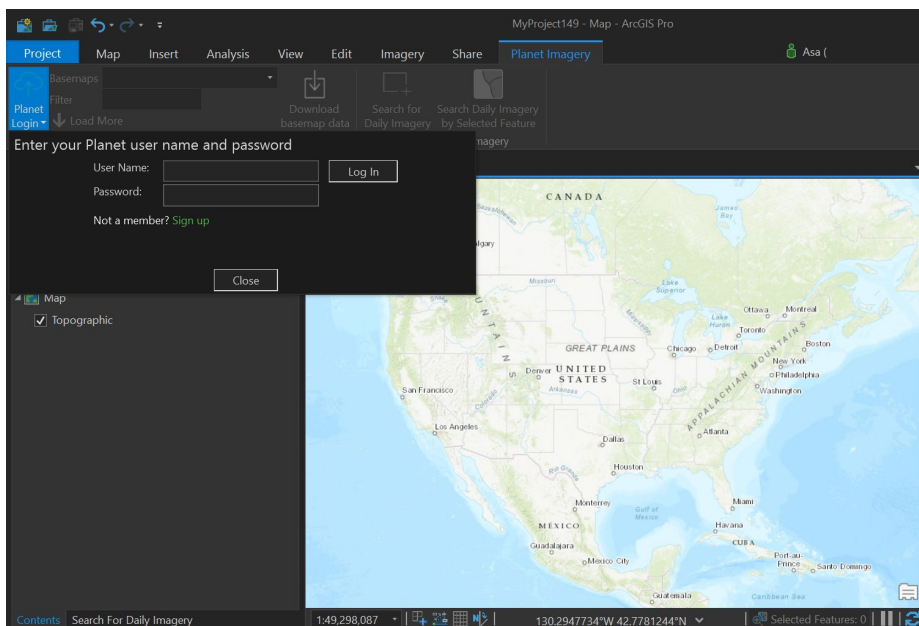


PLANET ARCGIS PRO ADD-IN TAB FOR BASEMAPS

PLANET LOGIN SECTION

The login interface allows users to login with their Planet username and password. Once authenticated, the Add-In features will be enabled.

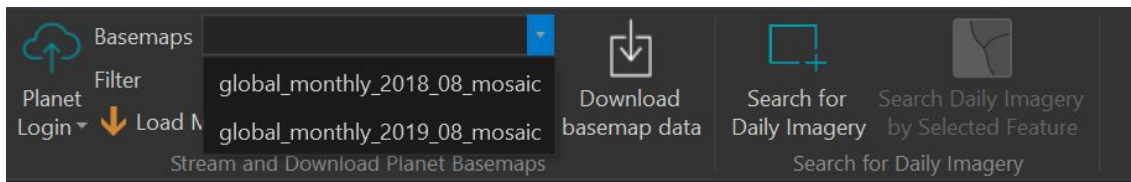
- 1.) Click on the “Planet Imagery” tab in the ArcGIS Pro top ribbon
- 2.) Enter your Planet username and password and click “Login”
- 3.) If a user does not have a Planet account they can click the “Sign Up” link to access a 14-day free trial
- 4.) Once logged-in, the imagery available to your account will be made available through the tools in the tab



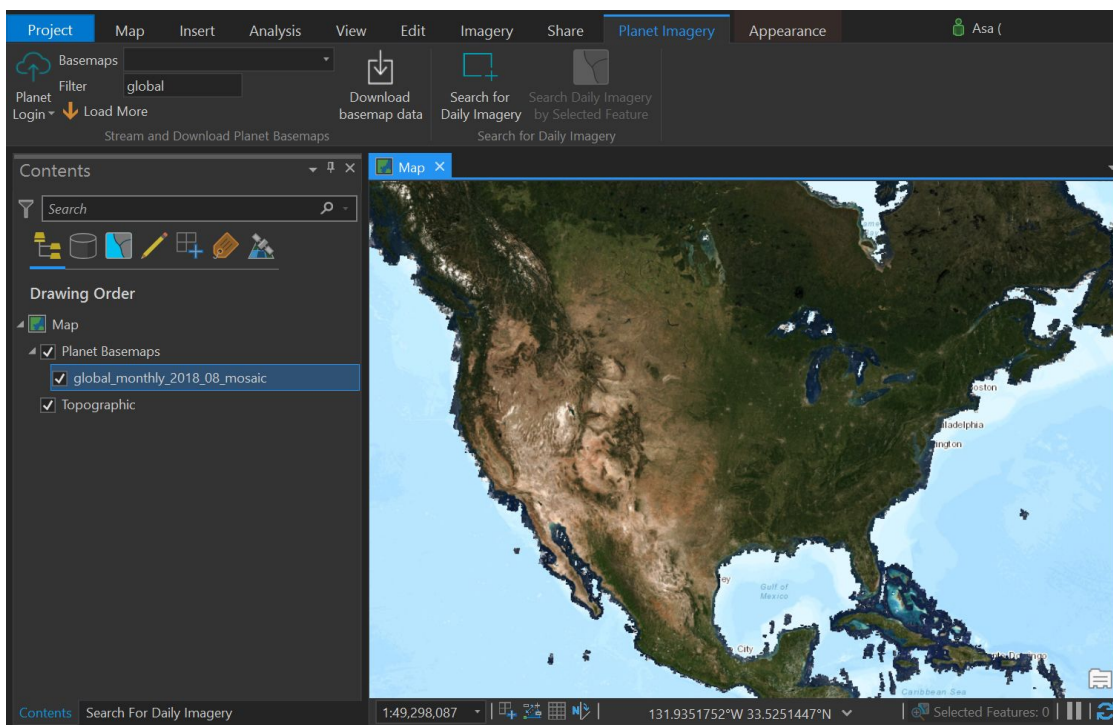
STREAM BASEMAPS

This section of the Planet Imagery tab displays tools for searching, streaming, and downloading Planet Basemaps that the user has access to (via their unique Planet account).

Clicking the drop-down arrow next to the Basemaps tab will display a list of Planet Basemaps the user has access to. The Filter tab below the Basemaps tab gives users the ability to filter their Basemap results using a key-word search (e.g., “global”).



Selecting a basemap title will add the basemap to the active map view as a wmts layer, which will be made available in the Table of Contents (TOC) under the layer title: “Planet Basemaps.” Expanding the “Planet Basemaps” layer drop-down will expose any additional basemaps that the user has selected.

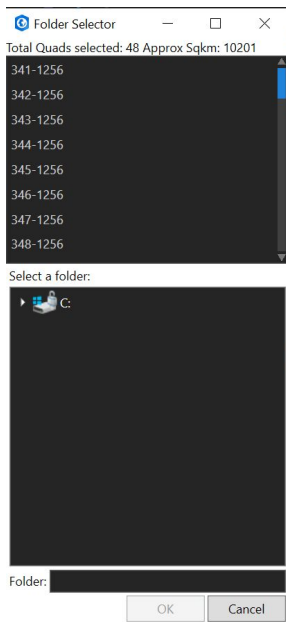


DOWNLOAD BASEMAPS

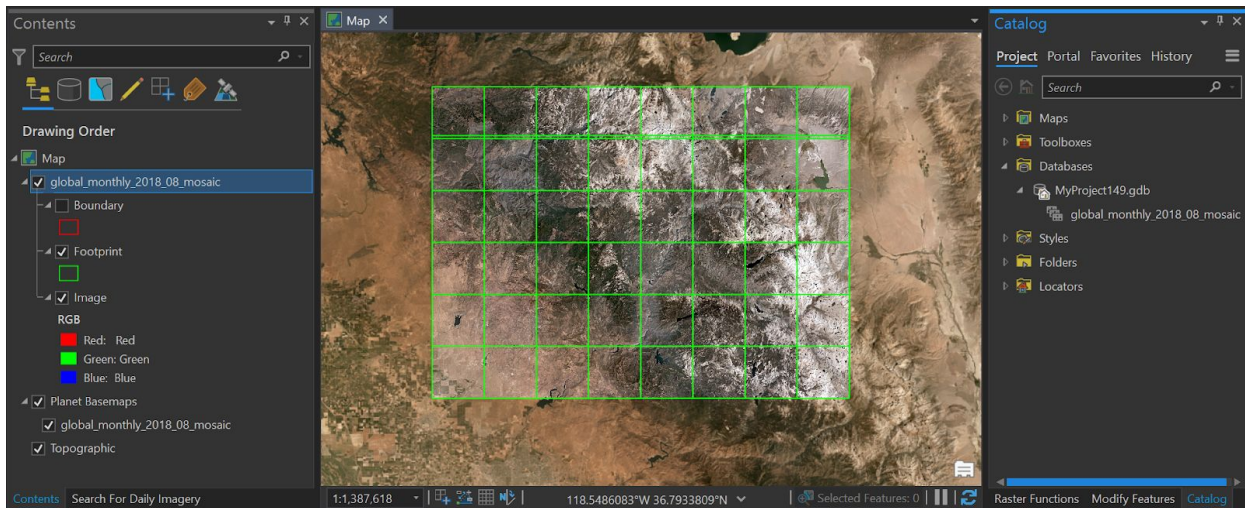
The Download basemap data button in the Stream and Download Basemaps add-in section allows a user to download each basemap’s source data as a set of tiled quads (.tif). Once downloaded, the tool will automatically generate an ArcGIS mosaic dataset around the quads, which will be added to the ArcGIS Pro project’s default geodatabase. Mosaic datasets provide the foundational data store for creating Esri image services and time-enabling raster data in ArcGIS. The raster mosaic will be added to the active map once generated.

- 1.) Select the basemap whose source data you’d like to download in the table of contents (TOC). Only one basemap layer can be selected at a time.
- 2.) Once your layer is selected, click the Download Basemap Data button from the ribbon

- 3.) The ArcGIS Pro construct polygon tool will appear in your active map. Select the line tool (default) to create a polygon
- 4.) Create a polygon sketch of your area of interest
- 5.) Once the sketch is complete a pop-up window will appear showing:
 - a.) The number of Planet quads that cover that AOI
 - b.) The approximate area in square kilometers (sqkm)
 - c.) A list of the quad IDs
 - d.) A directory browser to navigate to your download location
- 6.) Select your download location using the pop-up browser and select OK



- 7.) Once all the tiles have downloaded, ArcGIS Pro will automatically wrap them into an ArcGIS mosaic dataset which will be added to the ArcGIS Pro project's default geodatabase. The mosaic will also be added to the table of contents when complete

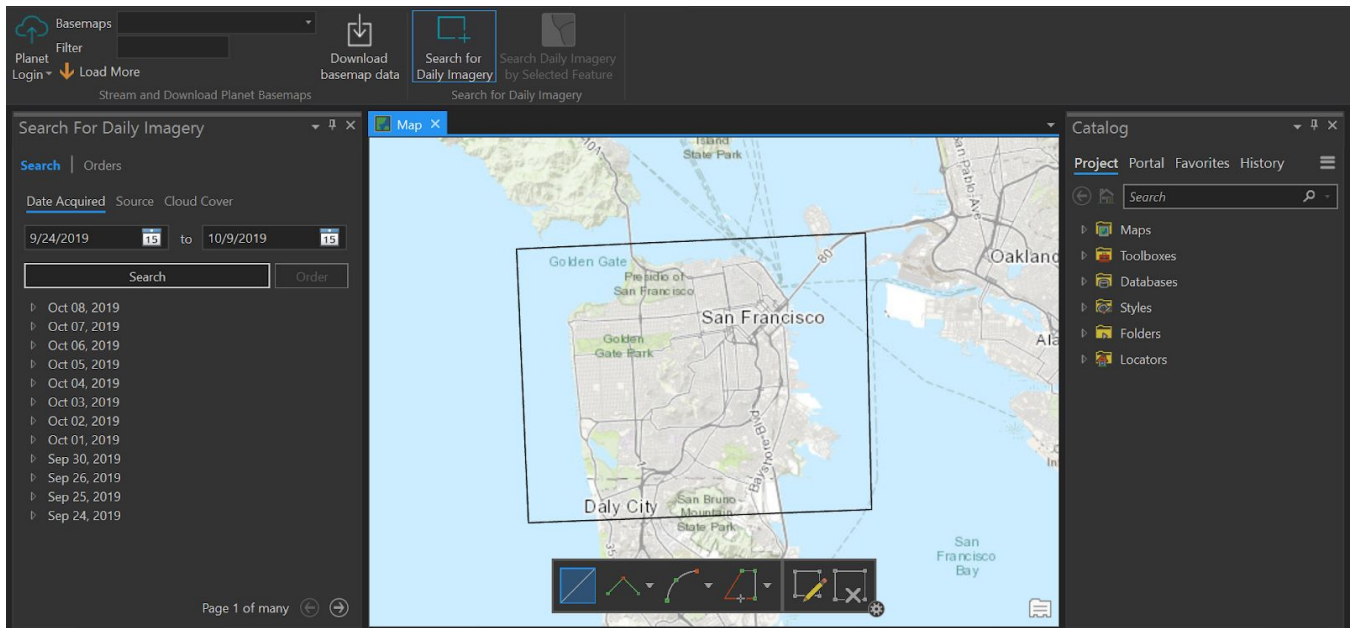


PLANET ARCGIS PRO ADD-IN TAB FOR DAILY IMAGERY

SEARCH FOR DAILY IMAGERY

The Search for Daily imagery tab of the Add-In allows users to search for Planet imagery using a draw AOI tool or a select feature tool. The draw AOI tool expects users to create a polygon. Once created, the tool will pop-up a Search for Daily Imagery panel on the left-hand side of the ArcGIS Pro document.

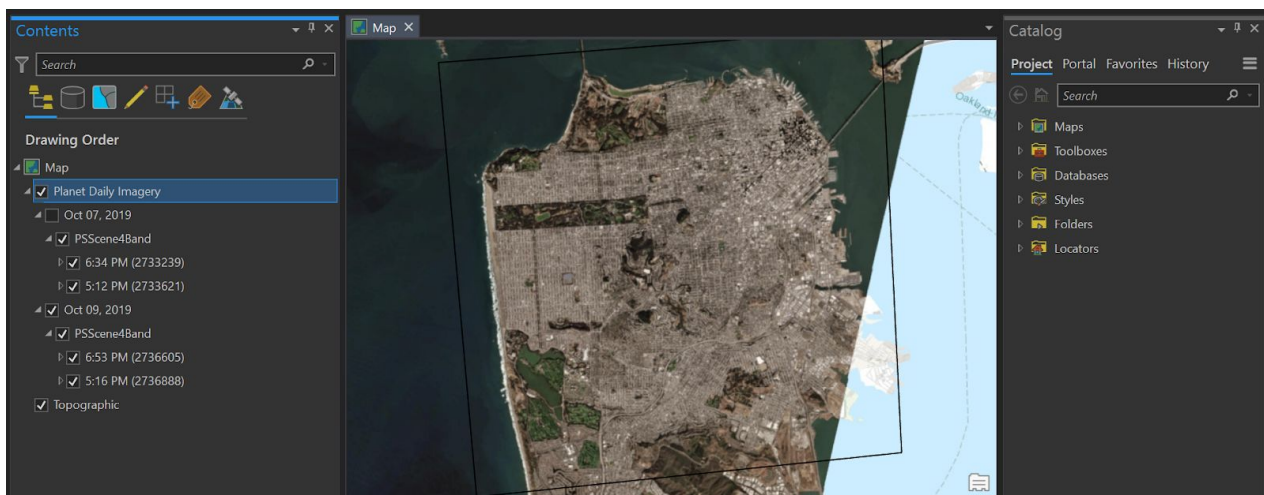
The Search for Daily Imagery panel lets users to specify a date range, instrument filter and cloud cover filter. These filters will be applied to the AOI when a user selects Search. The results will be displayed below the filters and organized chronologically by date.



STREAM DAILY IMAGERY

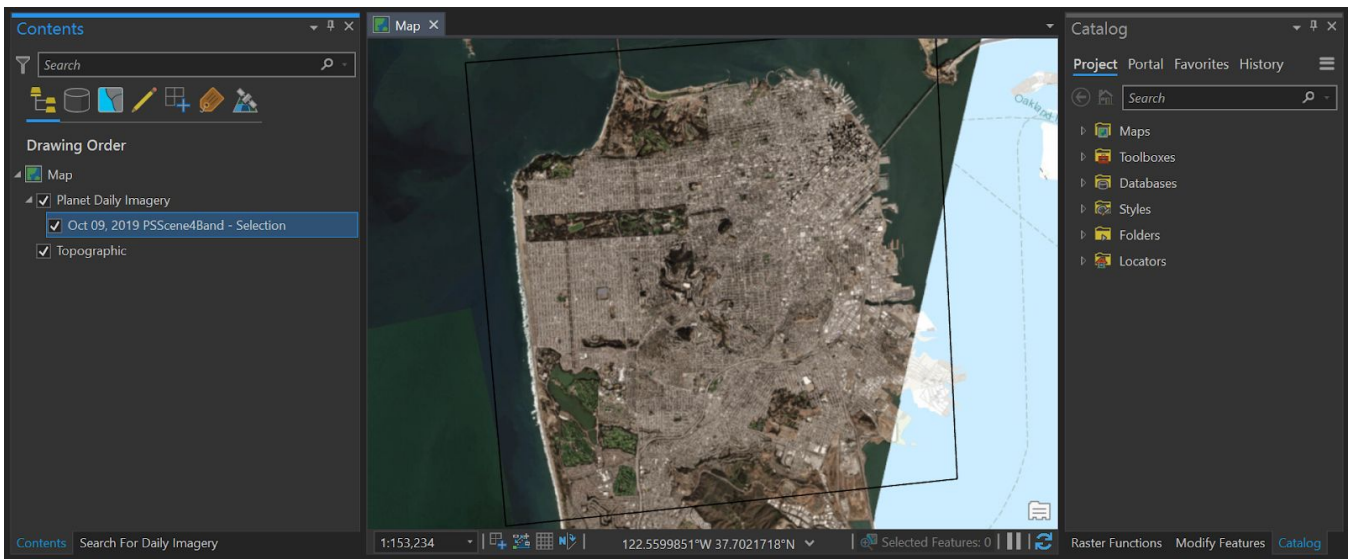
Each image in the search results can be streamed into your ArcGIS using the web map tile service (WMTS) protocol. There are two ways to stream images in the ArcGIS Pro Add-In:

- 1.) Select the drop-down arrow to the left of the date in the search results, and select the checkbox to the left of the image collection you'd like to stream (users can check multiple images from many dates)



When selected from the search results, images will be appended under the top-layer drop down: Planet Daily Imagery, and will be organized by dates in descending order. Users can drill down into the sensor type and exact time of collection by expanding the drop-down menu.

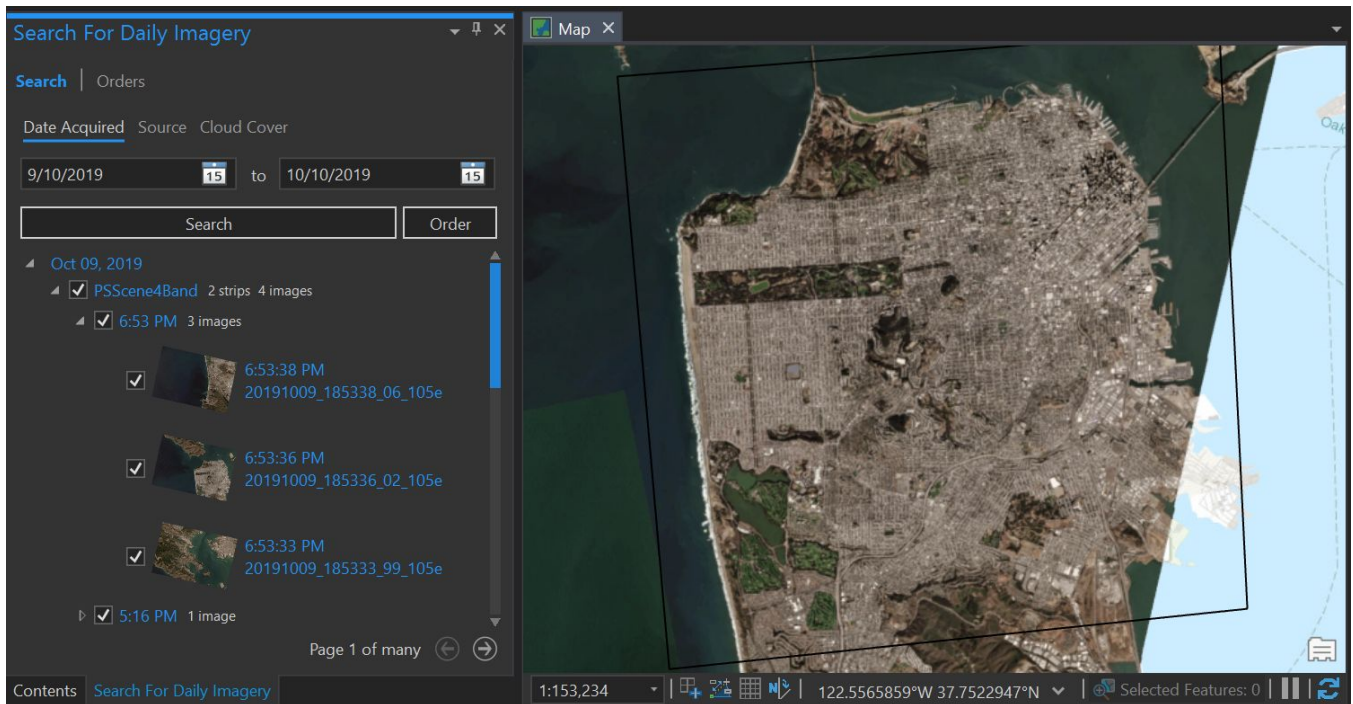
- 2.) Users can also right click a search and select “Add selected as wmts service”. This will create a unique wmts layer in the TOC for that image. The Add-In also creates a convenient tab at the bottom of the TOC so users quickly toggle between their TOC layers and the Planet Search interface.



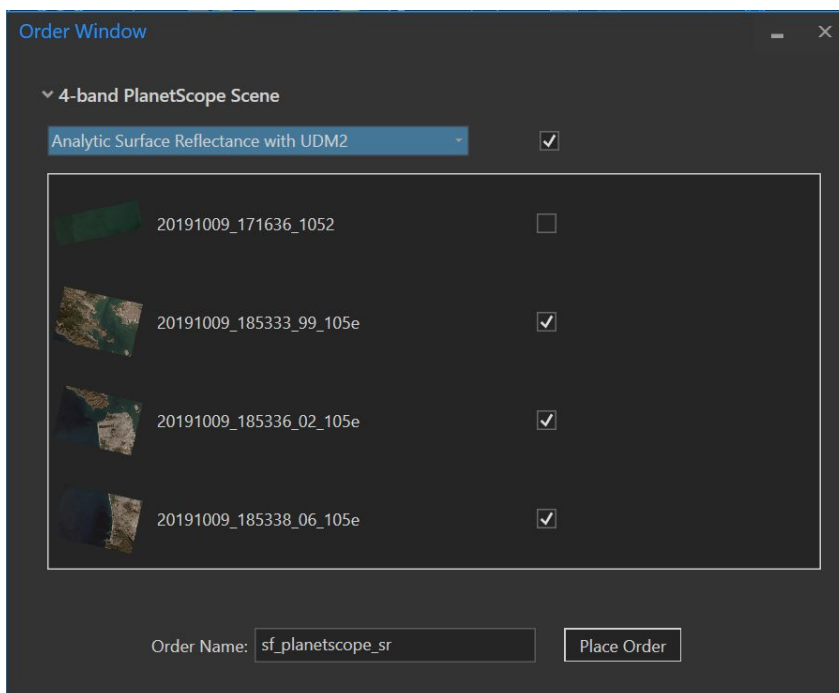
DOWNLOAD DAILY IMAGERY

ArcGIS Pro users can download Planet Imagery directly within the ArcGIS Pro Add-In. To order an image or images:

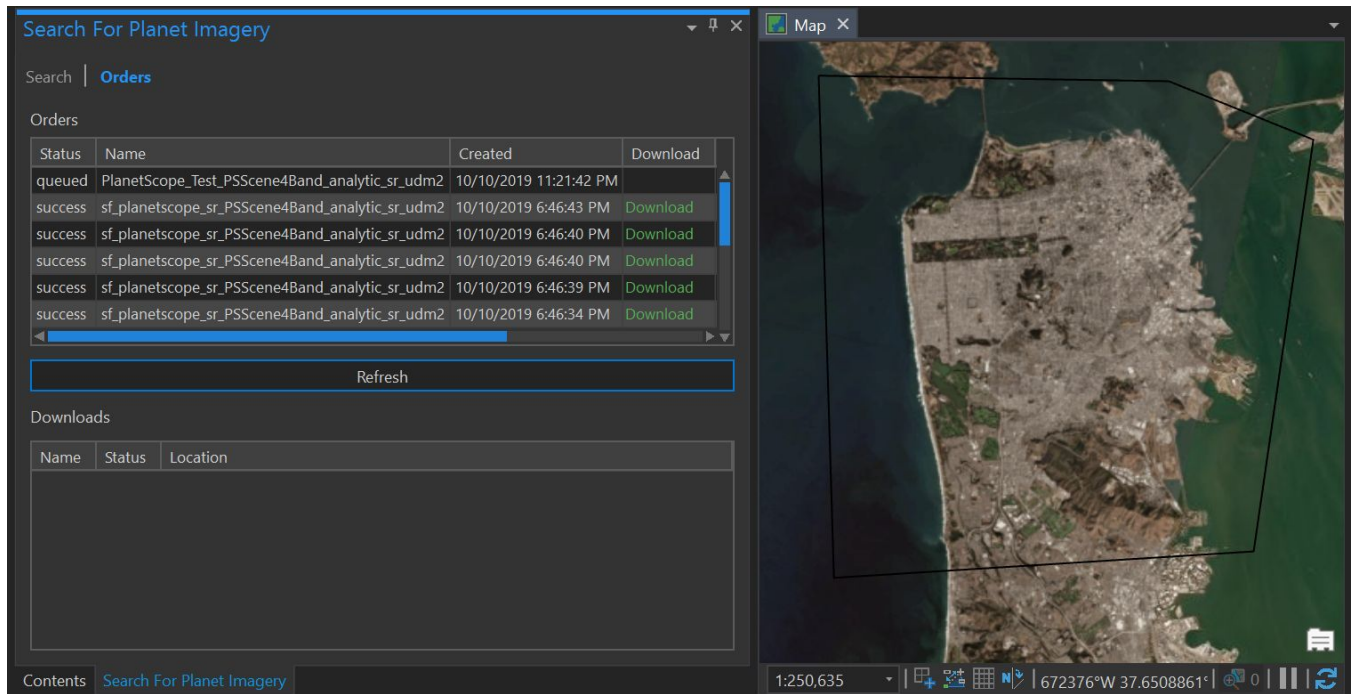
- 1.) First select the images you'd like to order by clicking the checkbox next to each image in the search results pane



- 2.) Click Order. This will pop-out the Order window.
- 3.) Confirm the images you're ordering in the Order Window, and select an asset type (e.g., in the example below the order is for PlanetScope4Band images surface reflectance corrected with a useable data mask)



- 4.) Give your order a name and select Place Order
- 5.) Once an order has been placed, users can check the status of their orders by toggling on the Orders Pane from the Search panel. The Orders Pane will show the queued order, as well as the status of past orders. Once an order is complete, users can download the images from the Orders Pane and bring them to their working directory.



+ KNOWN LIMITATIONS

- The Planet Basemaps API only returns 50 quads per query
- Add-In has only been tested with ArcGIS Pro 2.2+
- The Add-In has only best tested in WGS84 and NAD83 Datums