

2021 Apr 26

Accessing Cloud Optimized GeoTIFFs in ArcGIS Pro

NOTE: if using **ArcGIS Pro 2.9.1**, this method will **NOT** work. For work-around, see the posting [Connecting to Google Cloud Storage in ArcGIS Pro](#)

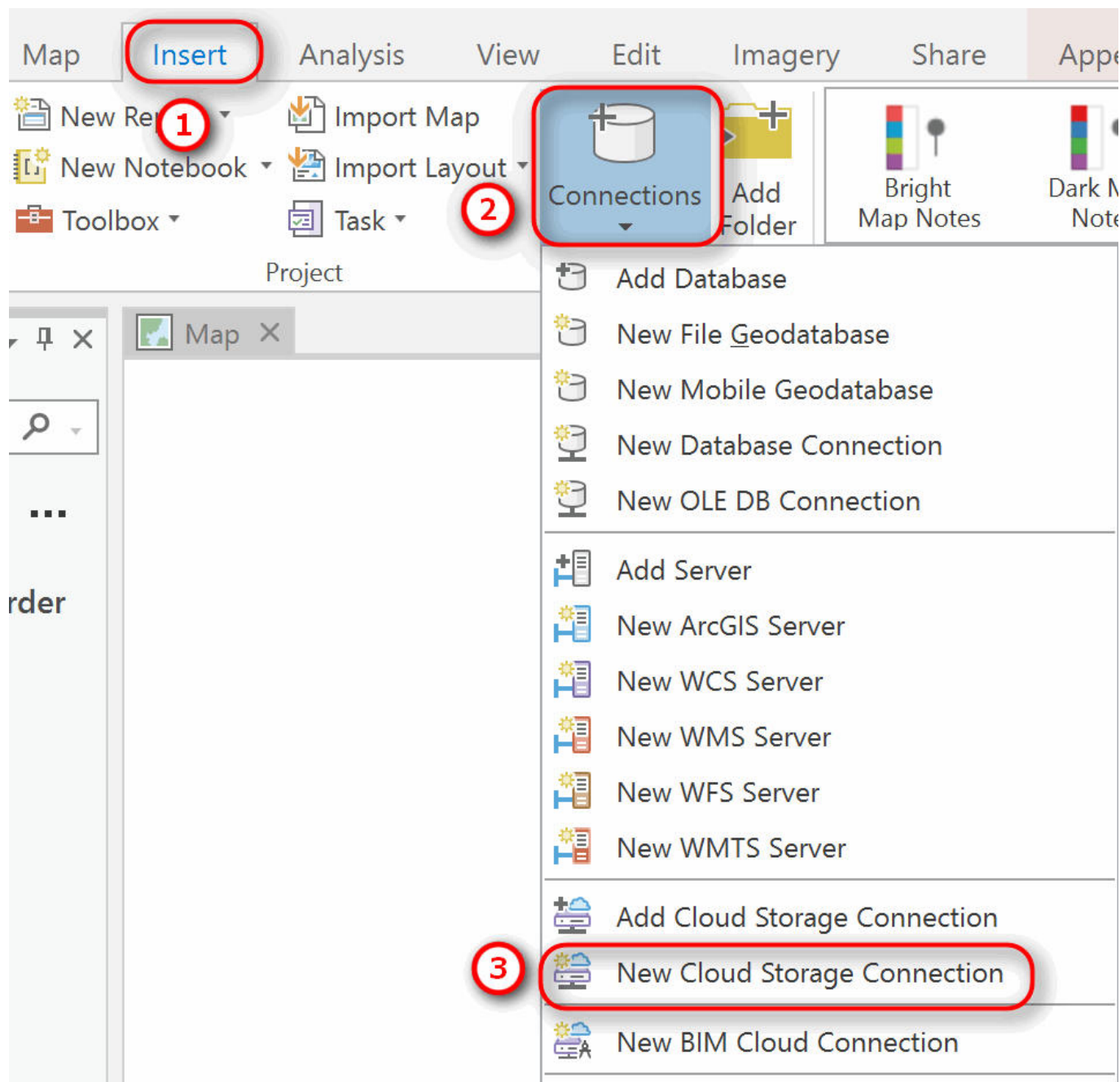
This is a continuation of my last post on hosting and accessing Cloud Optimized GeoTIFFs or COGs on AWS S3. In my last post, I showed how to access the COG on AWS S3 in QGIS, but now I want to access them in ArcGIS Pro. ESRI supports COGs - see documentation on [supported file formats](#) and [create cloud storage connection](#).

Below are the steps for connecting to COGs on AWS S3 in ArcGIS Pro - I am using Pro version 2.7.

Private Data Option

Create ArcGIS Pro Connection File

1. In ArcGIS Pro , add a New Map (optional)
2. Go to the Insert menu >> Connections >> New Cloud Storage Connection



In the Create Cloud Storage Connection window, fill in information for your AWS S3. Below is an example. Just make sure for **Service Provider**, that you select **AMAZON**.

Create Cloud Storage Connection

Fill in information here to your AWS S3

Connection File Name

testCOG

Service Provider

AMAZON

Bucket (Container) Name

cogaerials

Access Key ID (Account Name)

Secret Access Key (Account Key)

Region (Environment)

US West (Oregon)

Service Endpoint

s3-us-west-2.amazonaws.com

Provider Options

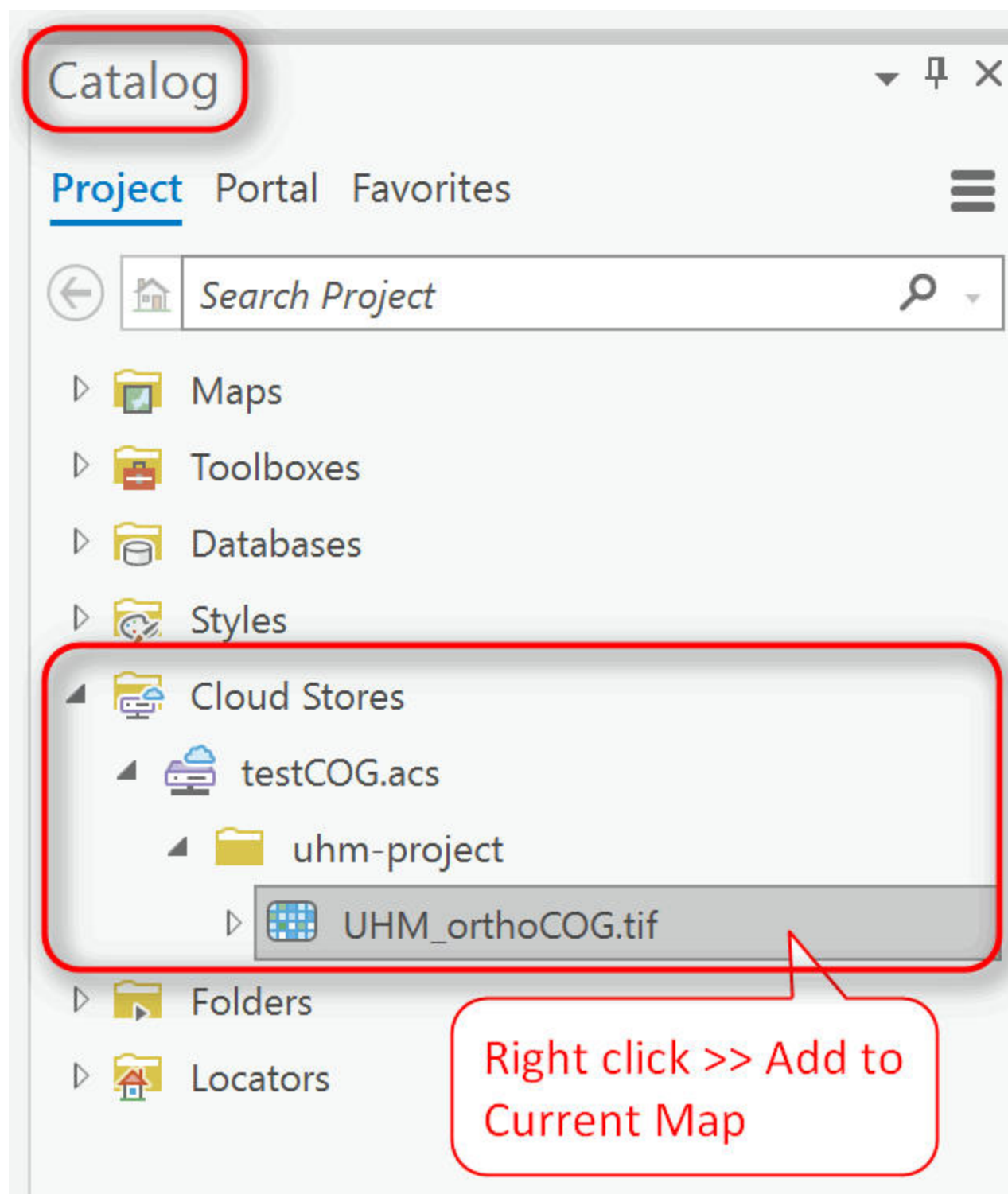
Name	Value
ARC_DEEP_CRAWL	NO

OK

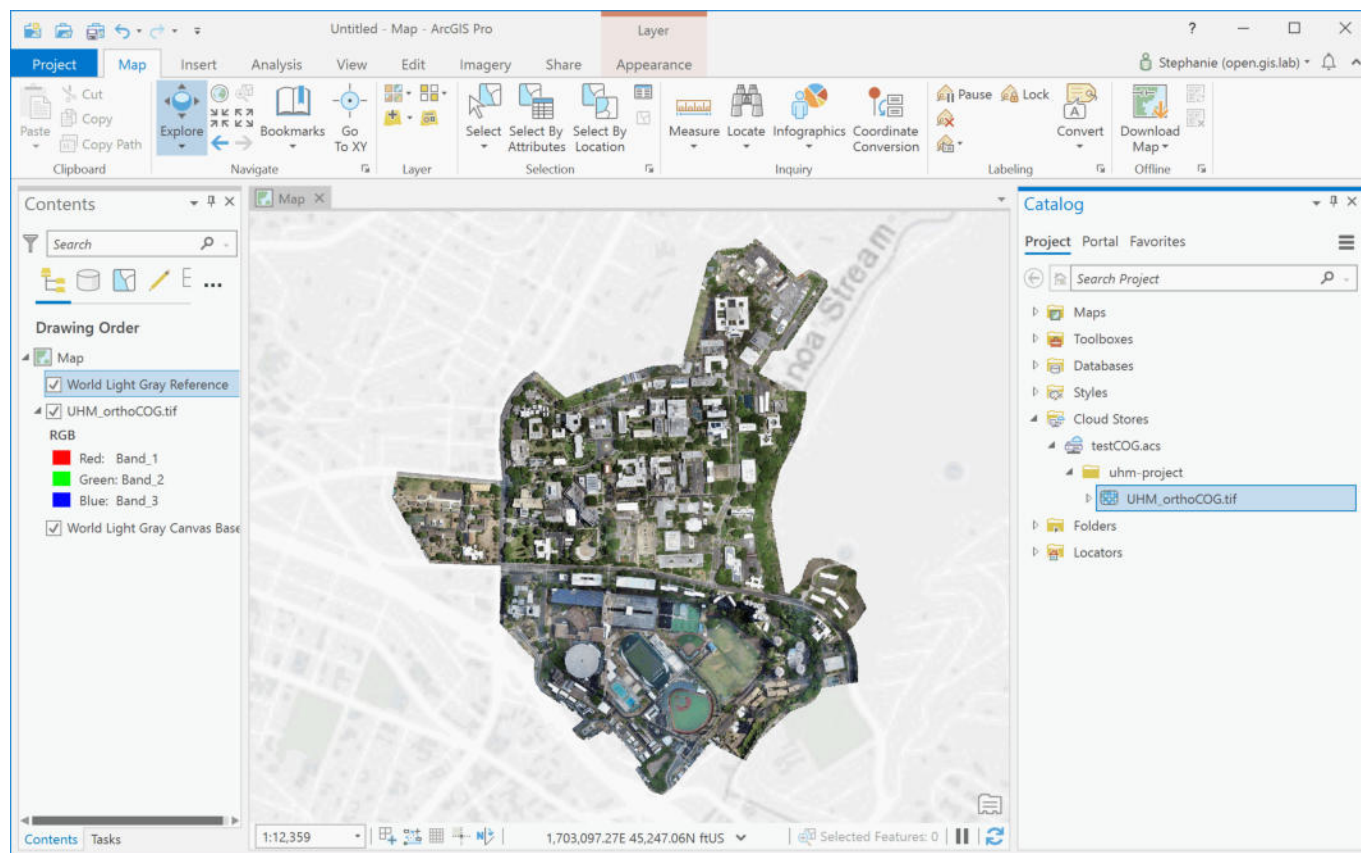
Cancel

Add COG to Map

If connection is successful, then it will be to Cloud Stores in the Catalog Pane. Here is the example of my COG on my private AWS S3.



Here is what my COG looks in ArcGIS Pro.



Public Data Option

OpenAerialMap COG Example

Here I am using a publicly accessible COG from [OpenAerialMap](#). You can use the [link here](#) if you want use the same COG I am for this example.

1. Click on the Image or Tile you want to use.
2. Then Right click on Download button >> Copy Link Address
3. Paste the link address into Notepad or something else - you will need the bucket name and subfolders to add the connection in Pro

 **OpenAerialMap**

Windward Community College

UPLOADED BY
Kyle Dixon



 Display as

TMS Thumbnail

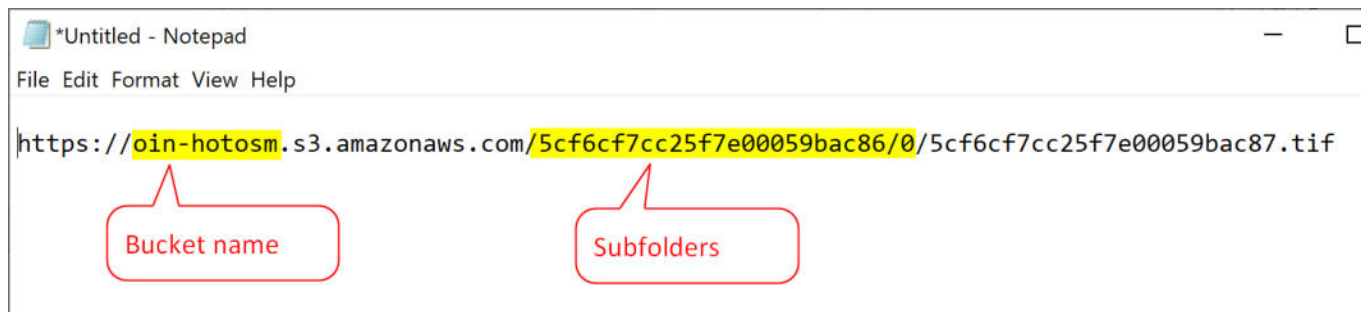
 Open in [iD editor](#) | [JOSM](#)

 Copy image URL [TMS](#) | [WMTS](#)

Right Click >> Copy Link Address

- Open link in new tab
- Open link in new window
- Open link in incognito window
- Save link as...
- Copy link address**
- Inspect Ctrl+Sh

Here I have pasted the link address I copied to Notepad. You will need the bucket name and subfolders to create the connection file in Pro.



Create ArcGIS Pro Connection File

1. Go to Insert menu >> Connections >> New Cloud Storage Connection. Or in Catalog Pane >> Right Click Cloud Stores >> New Cloud Storage Connection
2. In Create Cloud Storage Connection window:
 - Connection File Name: Give your connection file a name (e.g. TestPublicCOG)
 - Service Provider: Select AMAZON
 - Bucket (Container) Name: Copy and paste the bucket name and subfolders (e.g. oin-hotosm/5cf6cf7cc25f7e00059bac86/0) from the link you copied in the previous step
 - Leave the Access Key ID and options blank (OK if Public)

Create Cloud Storage Connection

Connection File Name
TestPublicCOG 1

Service Provider
AMAZON 2

Bucket (Container) Name
oin-hotasm/5cf6cf7cc25f7e00059bac86/0 3

Access Key ID (Account Name)

Secret Access Key (Account Key)
 can leave blank if public

Region (Environment)

Service Endpoint

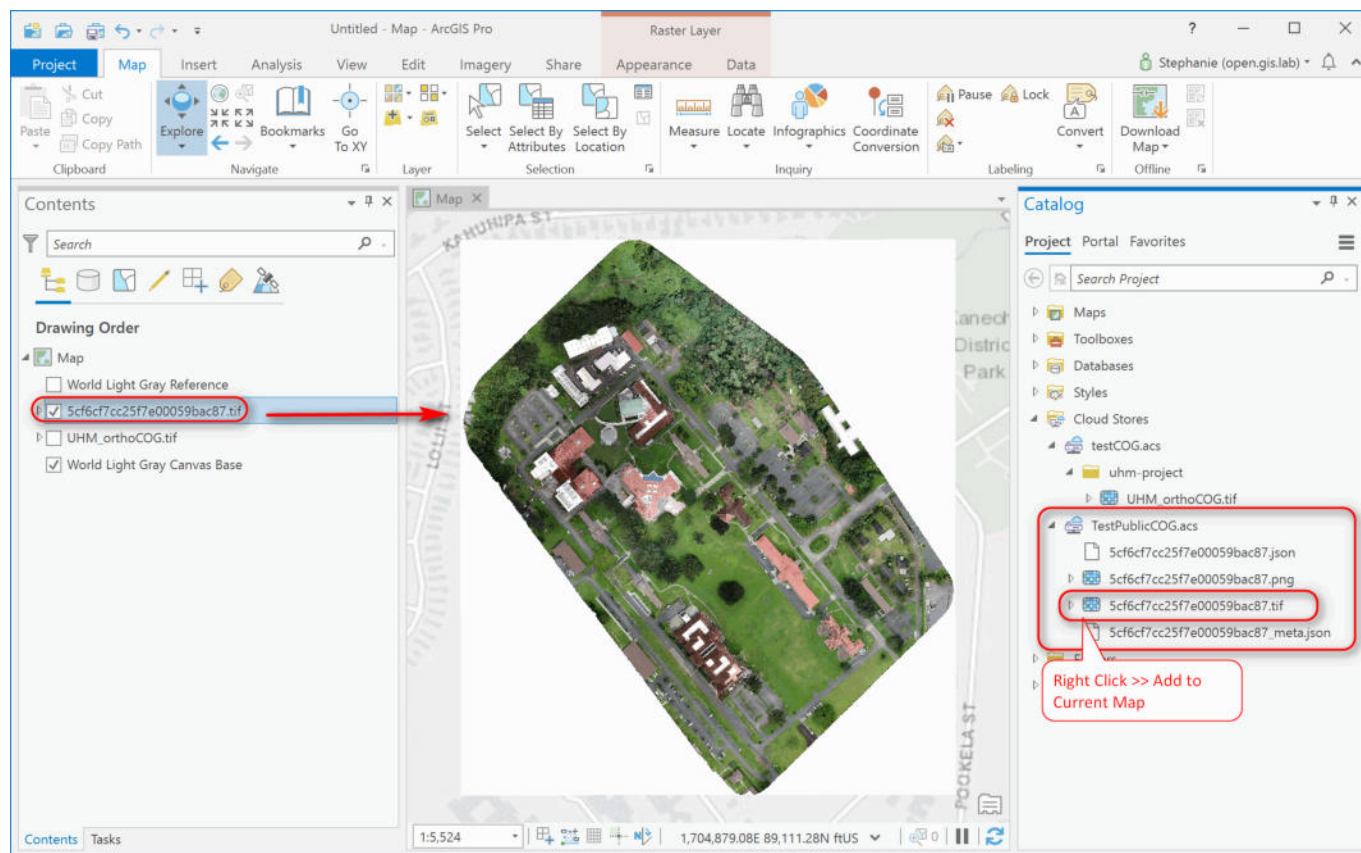
Provider Options

Name	Value
ARC_DEEP_CRAWL	NO

OK Cancel

Add COG to Map

If your connection is successful then you should see it in under Cloud Stores in the Catalog Pane. Here is the example COG from OpenAerialMap added to map.



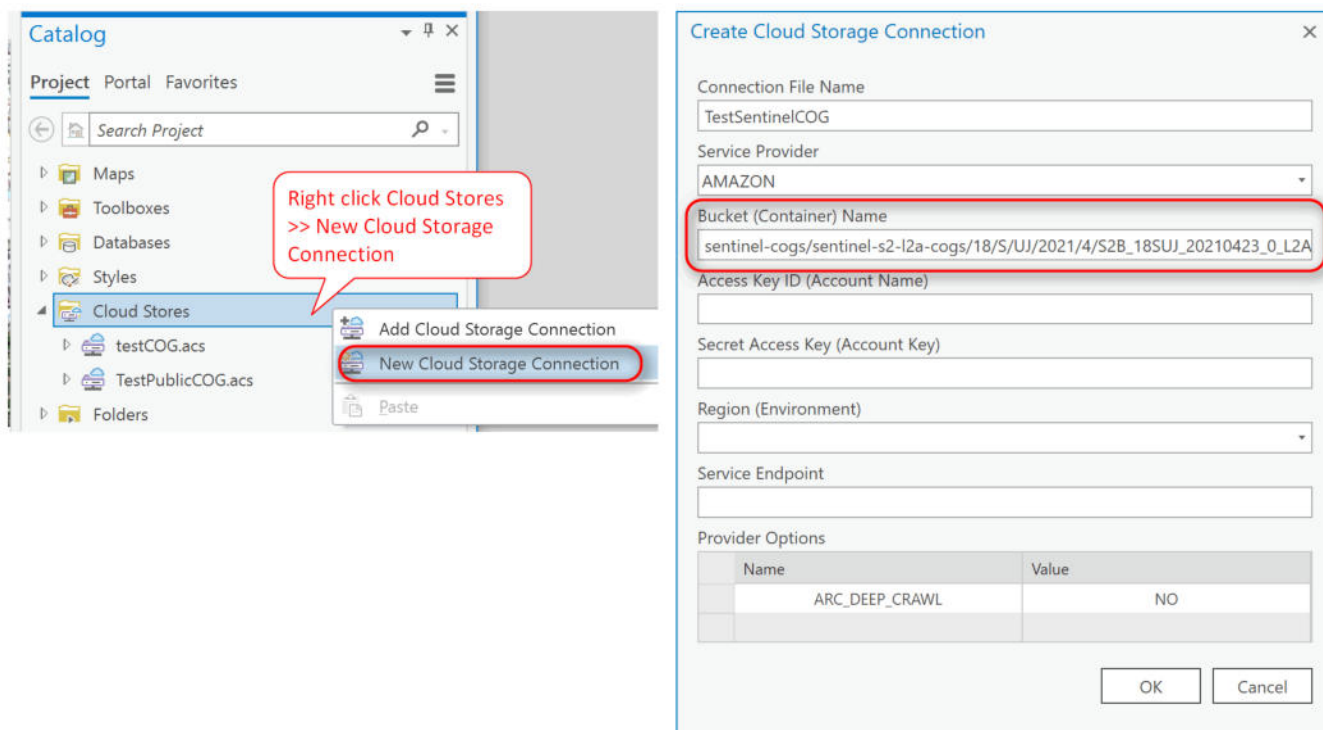
Sentinel 2 COG Example

[Sentinel-2 Cloud-Optimized GeoTIFFs](#) are available on AWS Open Data Registry. Searching for and downloading Sentinel imagery is a bit more complex so I'm not going to go over it in this post. But you can find more information on using [Earth Search](#) to find the data on AWS.

For my example connection file in ArcGIS Pro, I am using the [Search for recent imagery of Alexandria, VA](#) example given in the [Earth Search](#) site.

This is the href link I copied from the Alexandria, VA example: https://sentinel-cogs.s3.us-west-2.amazonaws.com/sentinel-s2-l2a-cogs/18/S/UH/2021/4/S2B_18SUH_20210423_0_L2A

In the New Cloud Storage Connection window I fill in the info and connect to the Sentinel imagery.



This is the Cloud Storage Connection Properties for the connection file I created.

Cloud Storage Connection Properties: TestSentinelCOG.acs

General

Service Provider
AMAZON

Bucket (Container) Name
sentinel-cogs/sentinel-s2-l2a-cogs/18/S/UJ/2021/4/S2B_18SUI_20210423_0_L2A

Access Key ID (Account Name)

Secret Access Key (Account Key)

Region (Environment)

Service Endpoint

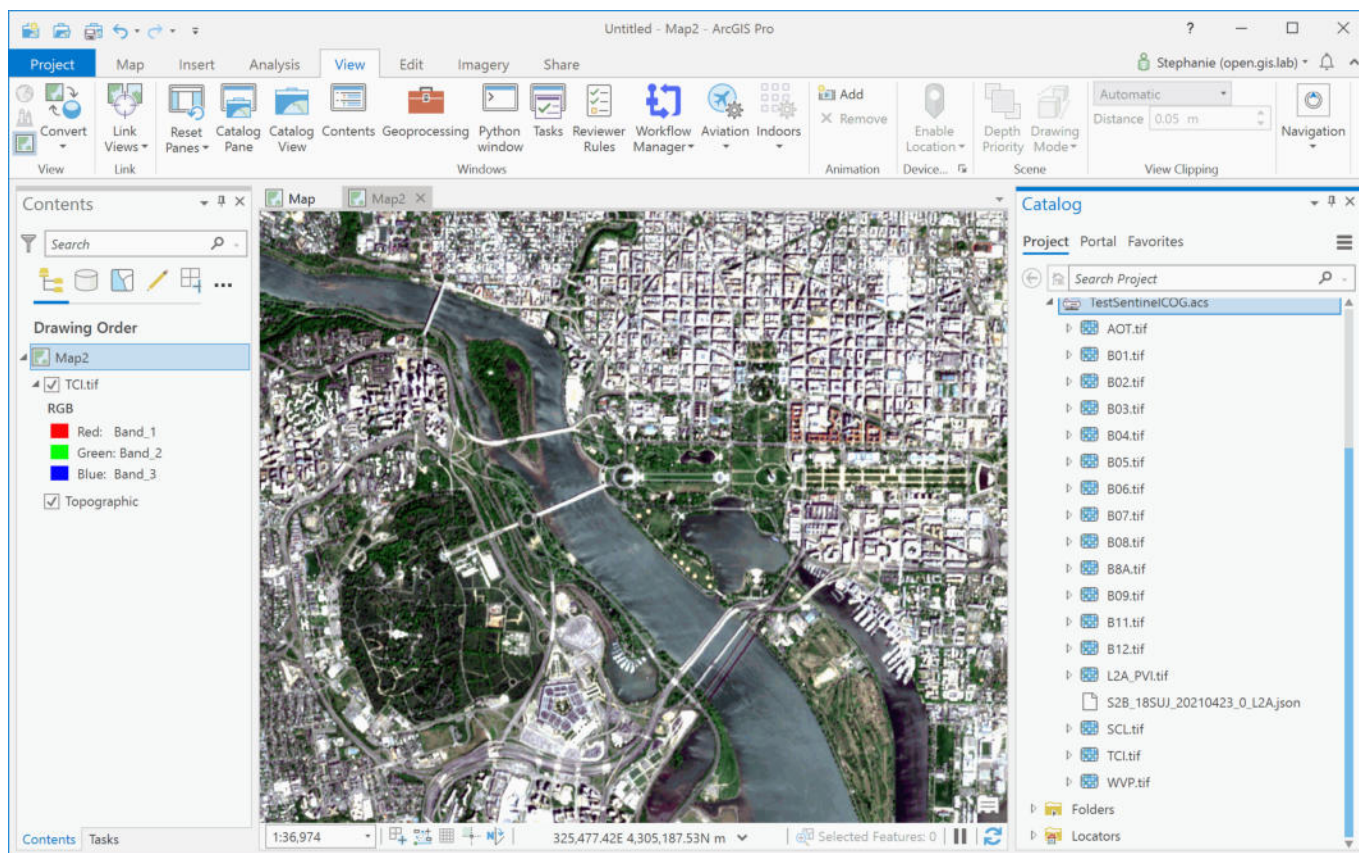
Provider Options

Name	Value
ARC_DEEP_CRAWL	NO
AWS_NO_SIGN_REQUEST	YES

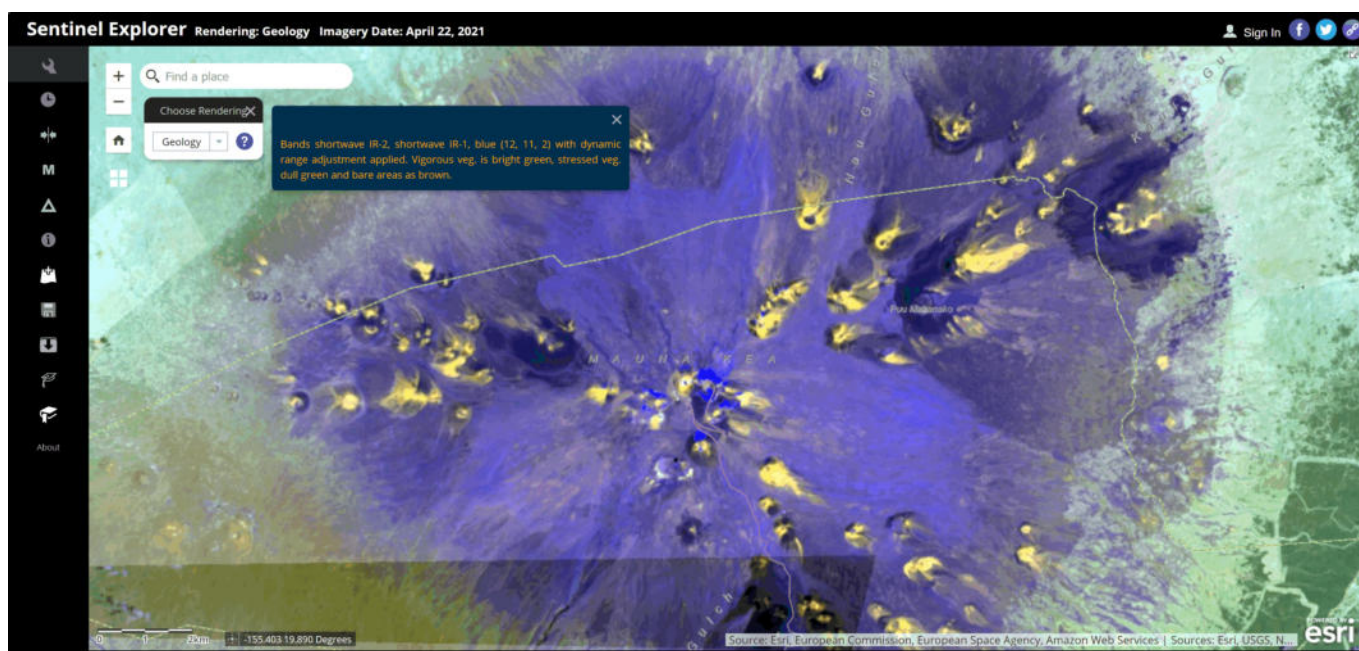
OK

Cancel

My connection was successful and I can see all the available imagery in the Catalog Pane. The image shown below is the TCL.tif (or True Color Imagery). Several band imagery (e.g. B01.tif, B02.tif) are available to use.



Before I end this post, for those who are interested ESRI has a nice [Sentinel Imagery Explorer](#) that you can use to explore Sentinel 2 imagery - snapshot shown below.



That's it for this post. Thanks for reading.

Comments (2)

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Post Comment...

David 4 years ago · 0 Likes

Hi there- Would you know/could share the steps to connect to google cloud store from arc gis pro 2.92 ?

Stephanie Saephan 4 years ago · 0 Likes

Hi David,

See my posting on Connecting to Google Cloud Storage in ArcGIS Pro. Hope that helps.

< Exploring a Digital Atlas of
Maps and Imagery on
Soar.Earth

Hosting and Accessing Cloud
Optimized GeoTIFFs on AWS
S3 >

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