Collect Earth Online Module 2 Supplementary Material

Identifying an Asset ID and Visualization Parameters in GEE

SERVIR Science Coordination Office
Curriculum Development Team
Micky Maganini
Contact: mrm0065@uah.edu

Prepared for “From Data to Geo-Information for Natural Resources Management” at ITC
Quartile 2 2022-2023

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Introduction

In this document, we will find the asset ID of an Image in Google Earth Engine (GEE). We will also identify suitable visualization parameters. Both of these will be needed to import the image into Collect Earth Online. For this example, we will focus on the study area of Ghana. Click here to view the complete GEE script.

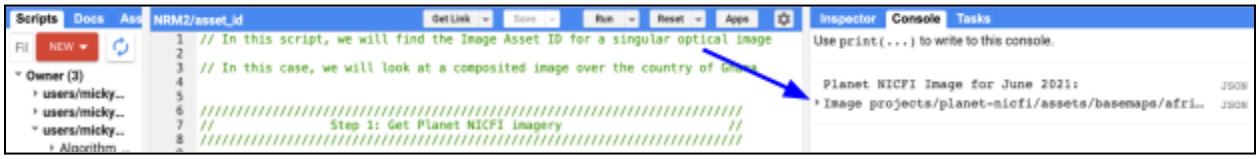
It is recommended that you have the script linked above open in a separate window and follow along as we walk through the code in the following tutorial.

Image Asset ID

To see the ID of an image, we can print the image to the console using the **'print'** command in GEE. Click the link above and run the script to see an example. On line 45, we can see how to print an image to the console:

```
45  // Print the image to the console to see the asset ID. When you click "Run"
46  // at the top of this document, this image will be printed under the "Console" tab.
47  print('Planet NICFI Image for June 2021:', nicfi_jun_2021)
48
```

Run this code by clicking the **"Run"** button towards the top of the page. When we run this code, the following will appear in the console (to the right of the code under the tab that says **"Console"**). Click the dropdown menu (indicated by the blue arrow in the image below).



Clicking this menu will expand the image, showing you more information about the image (as shown in the image below). We are interested in the image ID, which is listed next to the text that says **"id"** (indicated by the blue arrow in the image below).

You may have to zoom out in order to see the entire Image Asset ID (Command + Shift + - on Mac, Ctrl + Shift + - on PC). Make a note of the image asset id.

Visualization Parameters

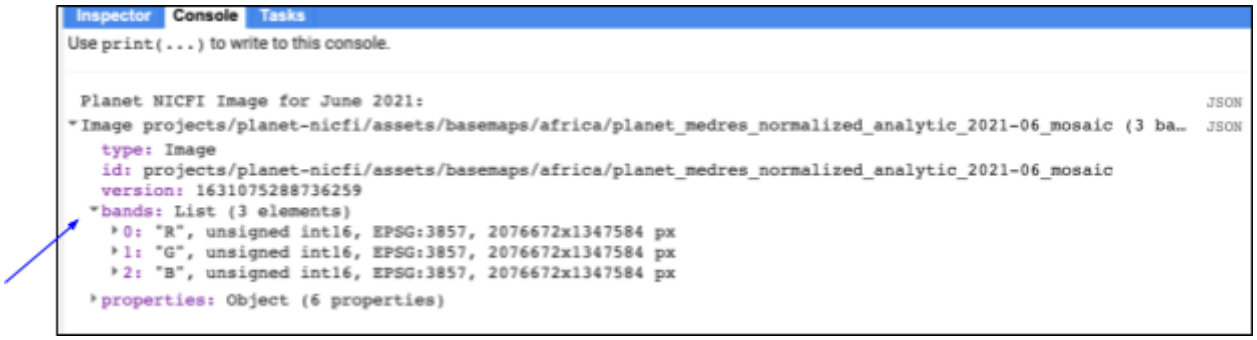
When we import a Google Earth Engine Image Asset into Collect Earth Online, we also need to specify visualization parameters. Visualization Parameters consist of three components: the bands needed to visualize the image, the minimum value, and the maximum value. First, we need to select the three bands assigned to the red, green, and blue channels, respectively. We do this on Line 39, by using the **'.select'** method – as shown by the image below.

```
38  // Let's Select the Red, Green, and Blue Bands for visualization purposes.
39  var nicfi_jun_2021 = nicfi_jun_2021.select(['R', 'G', 'B'])
40
```

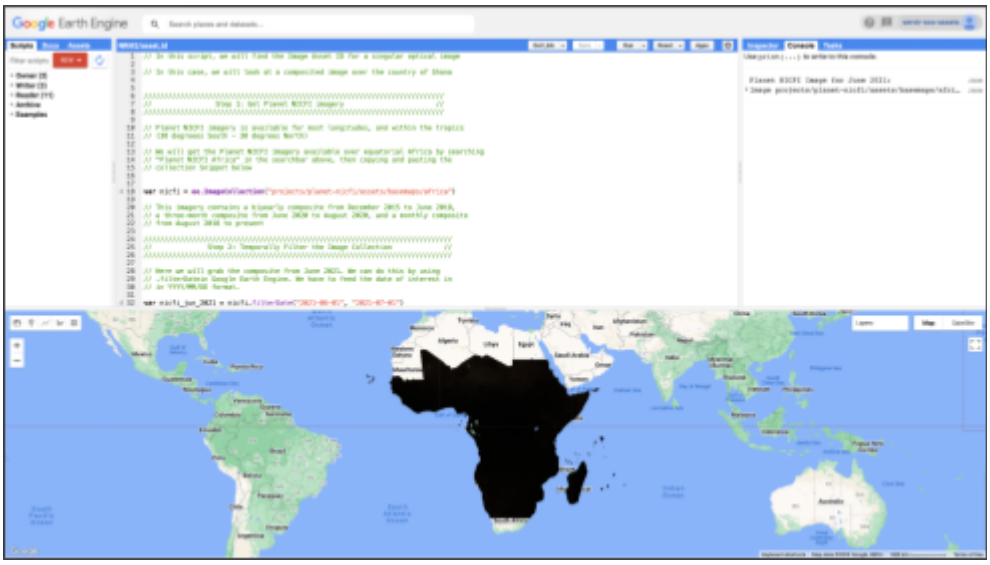
When we use the select command, we are choosing a fraction of the available bands used by the source of the image. Satellites like Sentinel-2 have 12 bands, but we need to pick three bands to assign to the red, green, and blue "channels" for visualization.

In this case, with the Planet data we are selecting the "R", "G", and "B" bands, which correlate to red, green, and blue, respectively. This will help us to create what is called a "true color composite", which is an image similar to one your camera takes, and simulates what the human eye would see from the point of view of the satellite. We can also assign different bands to these channels to create what is called a false color composite.

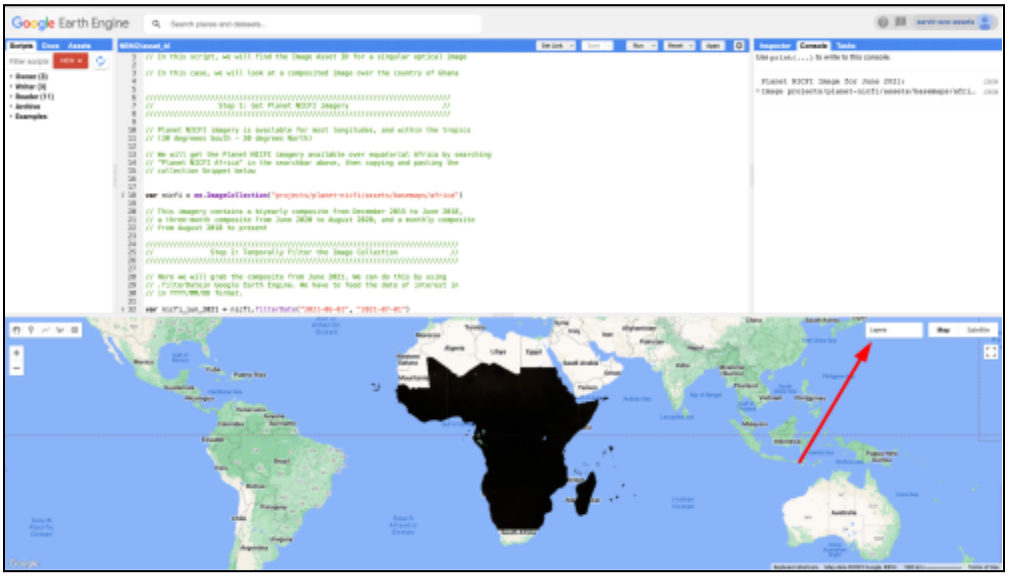
When we print our image to the console, we can then click the dropdown menu on the text that says **"bands"** (indicated by the blue arrow in the image below) to see the bands that our image consists of.



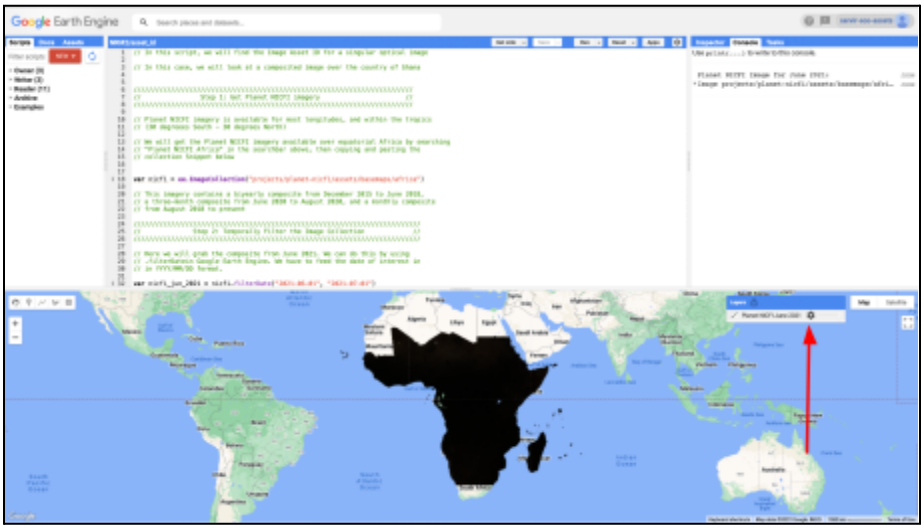
As we can see, there are three bands of our image, “R” for red, “G” for green, and “B” for blue. Next we must determine the minimum and maximum value to use in Collect Earth Online. In order to determine suitable visualization parameters, view the example script linked in the introduction paragraph, then click run. Upon clicking run, you will see the following display in the map window.



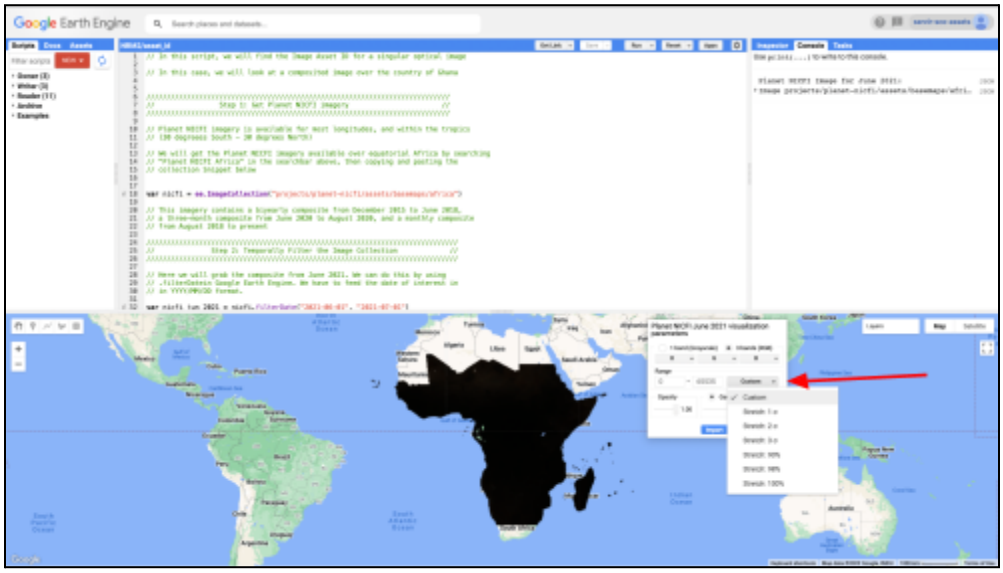
Our imagery is appearing as black because we did not specify any visualization parameters within our google earth engine code. In order to change this, hover over the **“Layers”** button (indicated by the red arrow in the image below).

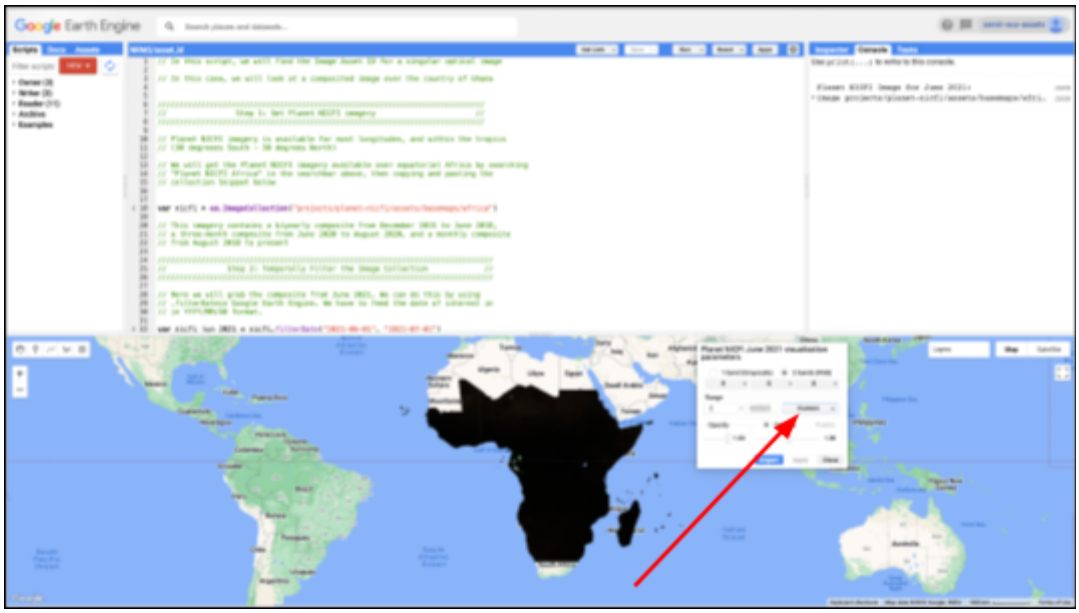


When you hover over the layers button, Google Earth Engine will display all of the layers you have added to your map. In this case, that is just one layer, the “Planet NICFI June 2021” layer. Hover over this layer, and you will see a gear icon (as indicated by the red arrow in the image below).



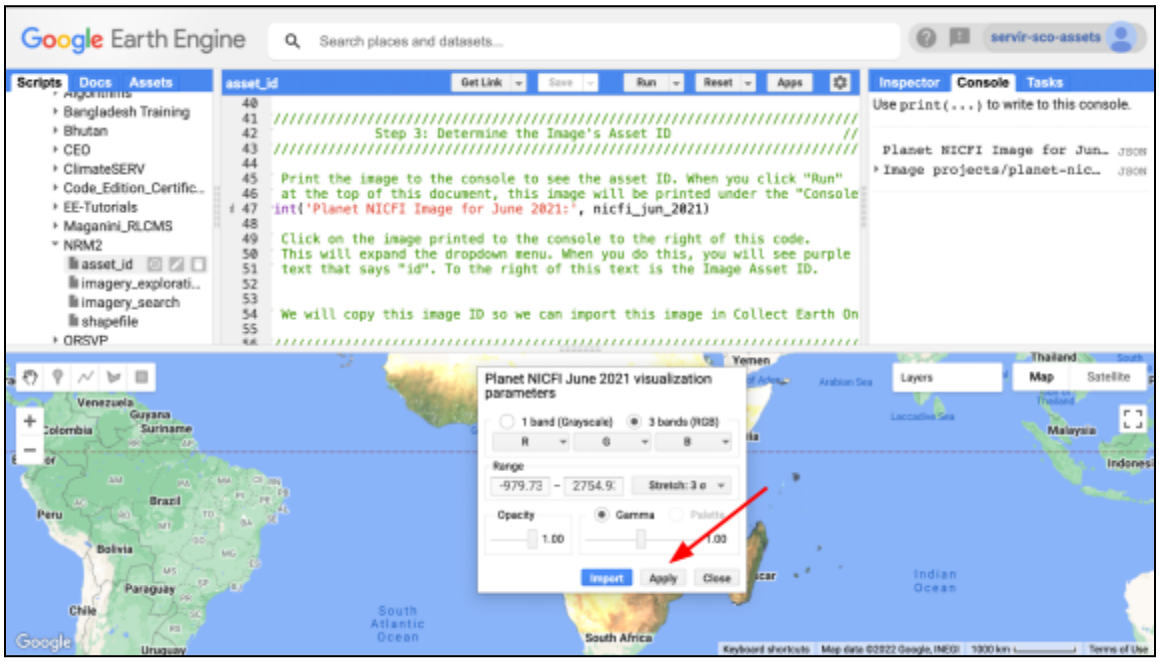
Click this gear icon. This will display the visualization parameters menu, as shown in the image below.



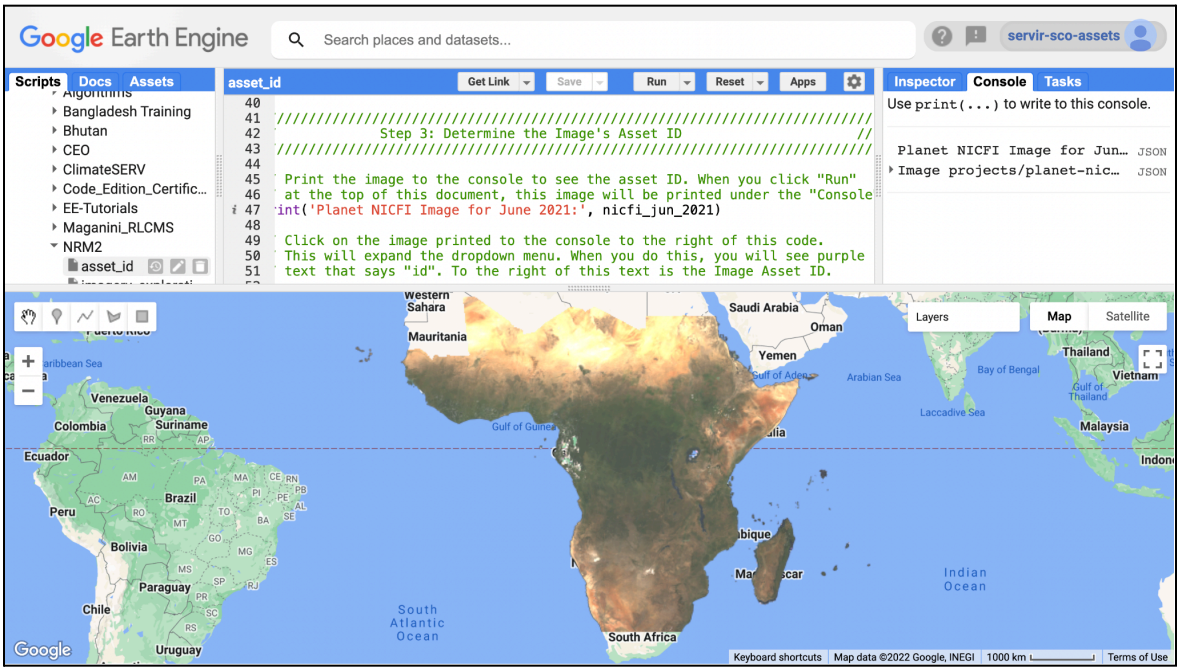


To determine useful min and max values, click the dropdown menu (where it currently says **"Custom"**). Experiment with different stretching values until the imagery does not appear too dark or washed out. To learn more about image stretching, [click here to read ArcGIS's documentation regarding symbology and scroll down to the header that says "Stretch"](#).

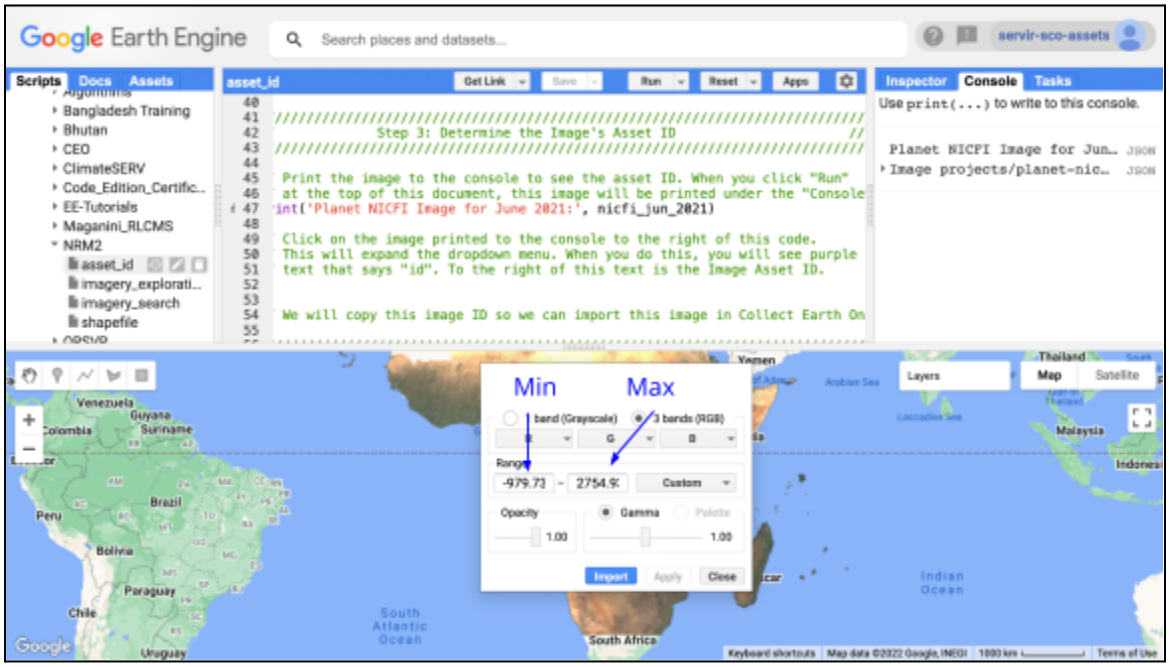
After clicking on a stretching scheme, click the **"Apply"** button shown in the image below.



After clicking apply, the imagery will no longer appear as black, but will display more colors similar to the image shown below.



Zoom in to your area of interest and make sure that you are able to adequately visualize different land cover classes. Make a note of the minimum and maximum reflectance values this stretch uses, which appear under the text that says **"Range"** in the visualization parameters menu (indicated by the arrows in the image below).



Acknowledgements

Collect Earth Online has received financial support from NASA, The U.S. Agency for International Development (USAID), SERVIR, the Food and Agriculture Organization (FAO), the U.S. Forest Service, SilvaCarbon, Google, and Spatial Informatics Group. It was co-developed as an online tool housed within the OpenForis Initiative of FAO.

Collect Earth Online was initially developed by SERVIR, and is now supported by a broad base of partners. CEO was inspired by Collect Earth, a desktop software developed by FAO. The development team includes Arthur Luz, Jordan Combs, Matt Spencer, Richard Shepherd, Oliver Baldwin Edwards, Sif Biri, Roberto Fontanarosa, Francisco Delgado, Githika Tondapu, Billy Ashmall, Nishanta Khanal, John Dilger, Karen Deyson, Karis Tenneson, Kel Markert, Africa Flores, Emil Cherrington, and Eric Anderson.

The Collect Earth Online curriculum was organized by SERVIR's Science Coordination Office with individual modules created by NASA's Earth Observatory, the Spatial Informatics Group, and SERVIR SCO. Individual modules were developed by Crystal Wespestad (Spatial Informatics Group), Holli Riebeek (NASA Earth Observatory), Robert Simmon (NASA Earth Observatory), Billy Ashmall (SERVIR Science Coordination Office) Micky Maganini (SERVIR Science Coordination Office), NASA Earth Observatory, NASA, and the US Agency for International Development. Review of the material was conducted by SERVIR's Science Coordination Office, specifically Kelsey Herndon, Emil Cherrington, Billy Ashmall, Diana West, Katie Walker, Lauren Carey, Jacob Abramowitz, Jake Ramthun, Natalia Bermudez, Stefanie Mehlich, Emily Adams, Stephanie Jimenez, Vanesa Martin, Alex Goberna, Francisco Delgado, Biplov Bhandari, and Amanda Markert. Crucial insight regarding the development of the curriculum materials was provided by Claudia Paris and Andrea Puzzi Nicolau.

Review of the material was also conducted by Bart Krol and Laura Cray of ITC (The Faculty of Geo-information Science and Earth Observation at the University of Twente). The course and unit banner images were created by Gianluca Ambrosi of ITC.

Sources

- Development Team: https://sams.servirglobal.net/detail/7
- All other info: https://www.collect.earth/about/