Directions

For each of the following samples, determine which land cover class the assessment unit should be classified as.

Each sample will contain a number of images of varying spatial resolutions. The first picture in each sample will be how the sample appears in Collect Earth Online, with the assessment unit shown outlined in yellow. The coordinates of each sample are listed. You may copy and paste the coordinates in the search bar of Google Earth Pro or other image viewing software in order to browse the full image catalog.

If the assessment unit is comprised of 51% or more of a single land cover class, you may classify the entire assessment unit as this class. The time period of interest for your image interpretation project is the year of 2022.

Use the classification schema listed on the next page to determine the criteria for each land cover class.

You are also welcome to post your own samples you encounter in your image interpretation project that you find to be challenging to classify as a separate post below.

Classification Schema:

The following classification schema comes from the European Space Agency's WorldCover Land Cover Map. Refer to the following land cover classification schema when deciding which land cover class each of the samples should be interpreted as. You can view the Worldcover product manual here.

Table 2: Coding of the Map and definition of the classes

Map code	Land Cover Class	LCCS code	Definition	Color code [RGB]
10	Tree cover	A12A3 // A11A1 A24A3C1(C2)-R1(R2)	This class includes any geographic area dominated by trees with a cover of 10% or more. Other land cover classes (shrubs and/or herbs in the understorey, built-up, permanent water bodies, ...) can be present below the canopy, even with a density higher than trees. Areas planted with trees for afforestation purposes and plantations (e.g. oil palm, olive trees) are included in this class. This class also includes tree covered areas seasonally or permanently flooded with fresh water except for mangroves.	0,100,0
20	Shrubland	A12A4 // A11A2	This class includes any geographic area dominated by natural shrubs having a cover of 10% or more. Shrubs are defined as woody perennial plants with persistent and woody stems and without any defined main stem being less than 5 m tall. Trees can be present in scattered form if their cover is less than 10%. Herbaceous plants can also be present at any density. The shrub foliage can be either evergreen or deciduous.	255, 187, 34
30	Grassland	A12A2	This class includes any geographic area dominated by natural herbaceous plants (Plants without persistent stem or shoots above ground and lacking definite firm structure): (grasslands, prairies, steppes, savannahs, pastures) with a cover of 10% or more, irrespective of different human and/or animal activities, such as: grazing, selective fire management etc. Woody plants (trees and/or shrubs) can be present assuming their cover is less than 10%. It may also contain uncultivated cropland areas (without harvest/ bare soil period) in the reference year	255, 255, 76
40	Cropland	A11A3(A4)(A5) // A23	Land covered with annual cropland that is sowed/planted and harvestable at least once within the 12 months after the sowing/planting date. The annual cropland produces an herbaceous cover and is sometimes combined with some tree or woody vegetation. Note that perennial woody crops will be classified as the appropriate tree cover or shrub land cover type. Greenhouses are considered as built-up.	240, 150, 255
50	Built-up	B15A1	Land covered by buildings, roads and other man-made structures such as railroads. Buildings include both residential and industrial building. Urban green (parks, sport facilities) is not included in this class. Waste dump deposits and extraction sites are considered as bare.	250, 0, 0
60	Bare / sparse vegetation	B16A1(A2) // B15A2	Lands with exposed soil, sand, or rocks and never has more than 10 % vegetated cover during any time of the year	180, 180, 180
70	Snow and Ice	B28A2(A3)	This class includes any geographic area covered by snow or glaciers persistently	240, 240, 240
80	Permanent water bodies	B28A1(B1) // B27A1(B1)	This class includes any geographic area covered for most of the year (more than 9 months) by water bodies: lakes, reservoirs, and rivers. Can be either fresh or salt-water bodies. In some cases the water can be frozen for part of the year (less than 9 months).	0, 100, 200
90	Herbaceous wetland	A24A2	Land dominated by natural herbaceous vegetation (cover of 10% or more) that is permanently or regularly flooded by fresh, brackish or salt water. It excludes unvegetated sediment (see 60), swamp forests (classified as tree cover) and mangroves see 95)	0, 150, 160
95	Mangroves	A24A3C5-R3	Taxonomically diverse, salt-tolerant tree and other plant species which thrive in intertidal zones of sheltered tropical shores, "overwash" islands, and estuaries.	0, 207, 117
100	Moss and lichen	A12A7	Land covered with lichens and/or mosses. Lichens are composite organisms formed from the symbiotic association of fungi and algae. Mosses contain photo-autotrophic land plants without true leaves, stems, roots but with leaf-and stemlike organs.	250, 230, 160

Zanaga, D., Van De Kerchove, R., Daems, D., De Keersmaecker, W., Brockmann, C., Kirches, G., Wevers, J., Cartus, O., Santoro, M., Fritz, S., Lesiv, M., Herold, M., Tsendbazar, N.E., Xu, P., Ramoino, F., Arino, O., 2022. ESA WorldCover 10 m 2021 v200. https://doi.org/10.5281/zenodo.7254221

Sample 1 Coordinates: 9.394780907, -0.912448863

Mapbox Imagery (No Date):

CNES/Airbus/Google Imagery: January 2022

Planet NICFI Imagery (May 2022):

CNES/Airbus/Google Imagery (June 2022)

Planet NICFI Imagery (August 2022):

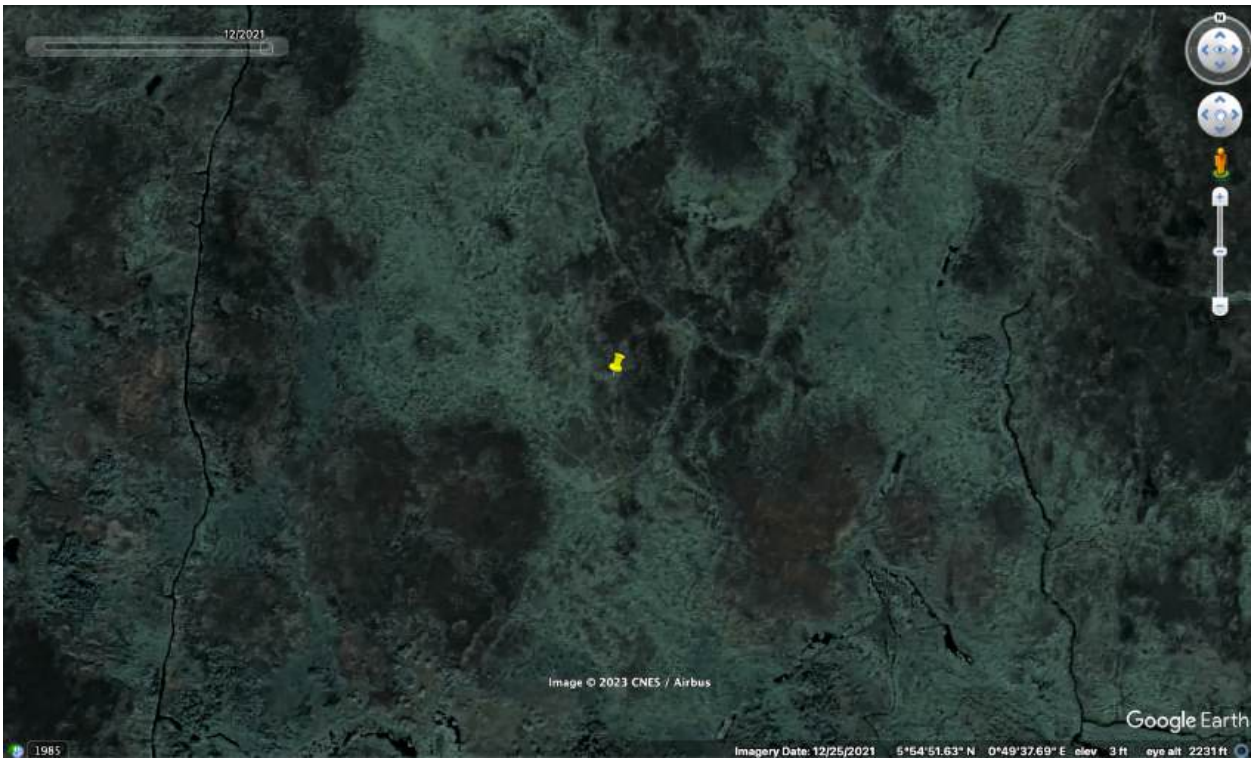
CNES/Airbus/Google Imagery (November 2022) :

Sample 2 Coordinates: 9.394780907, -0.912448863

Mapbox Imagery – Zoomed Out (No date)

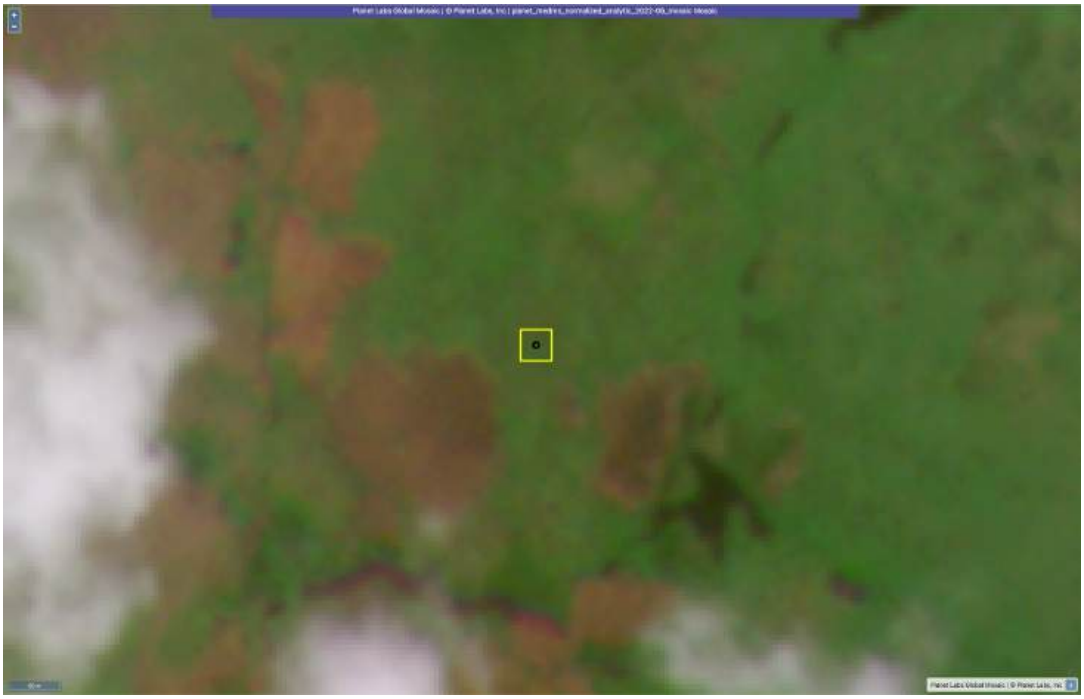
Mapbox Imagery – Zoomed In (No date):

CNES/Airbus/ Google Imagery (December 2021):



Planet NICFI (January 2022):

Planet NICFI (June 2022):



Planet NICFI August 2022

Planet NICFI (December 2022):

Sample 3 Coordinates: 10.781779705, -2.448208673

Mapbox (No date) [see scale bar in bottom left]:

Maxar/Google (March 2017):

Maxar/Google (October 2022):

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Sources

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