Use of Earth observations to produce geospatial and statistical data:

GlobeLand30 and its applications for Latin American and Caribbean

Álvaro Monett Hernández

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GlobeLand30

30-meter resolution global land cover data product

Developed by the Ministry of Natural Resources of China

The version of 2000 and 2010 become open access in 2014.

China launched GlobeLand30 Update in 2017

Latest version: GlobeLand30 2020

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GLOBELAND30

www.globallandcover.com

GlobeLand30

Image source: mainly **30-meter** multispectral images

TM5 ETM+, and OLI multispectral images of Landsat (USA)

HJ-1(China Environment and Disaster Reduction Satellite)

2020: **16-meter** resolution GF-1(China High Resolution Satellite)

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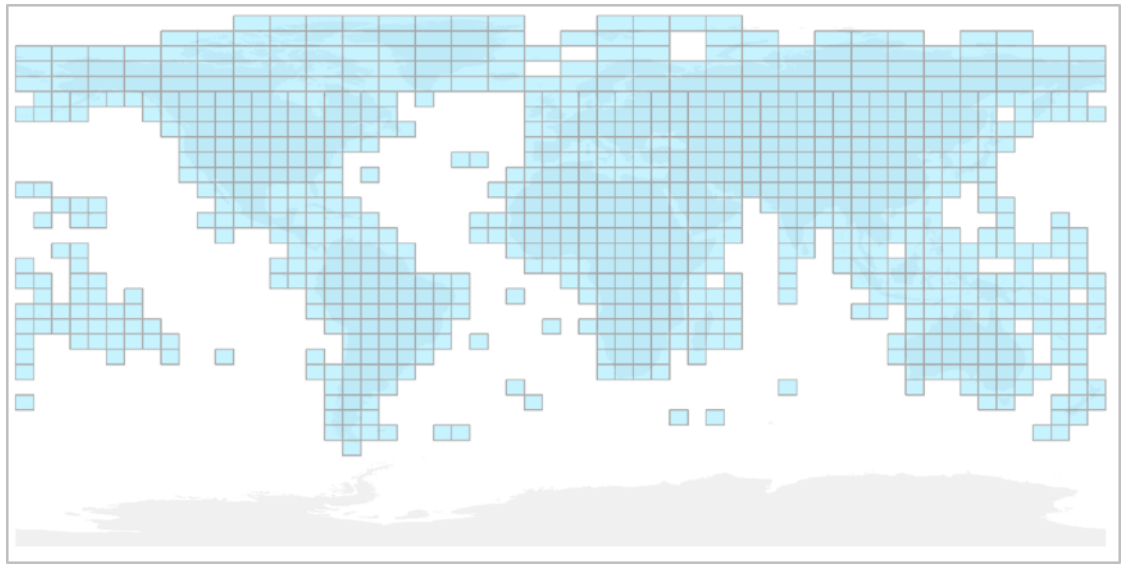
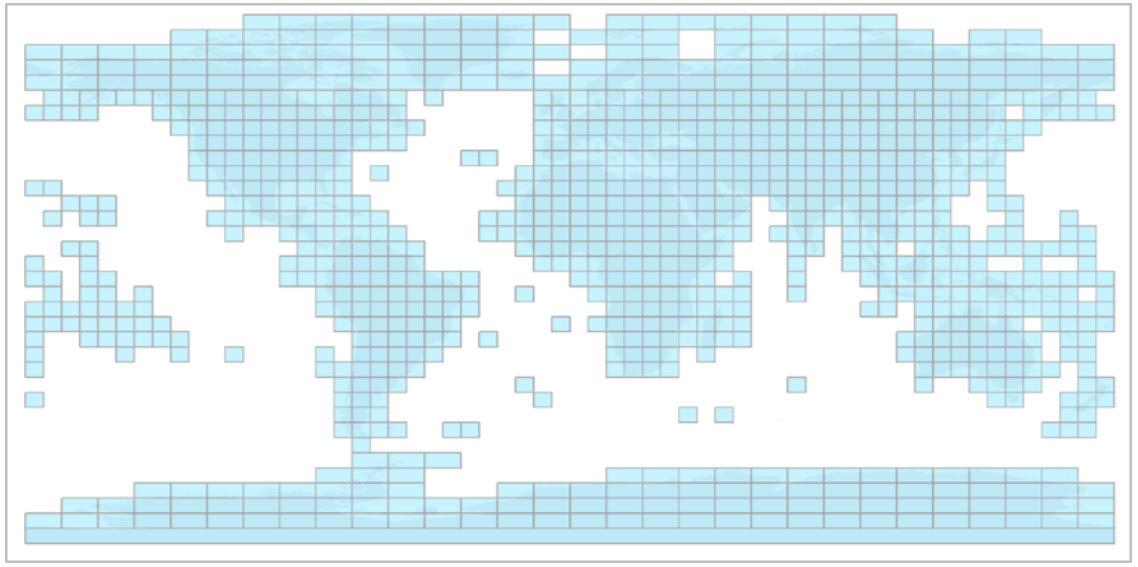
GlobeLand30 coverage

2000 - 2010



2020



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www.globallandcover.com

GlobeLand30 Classification system

Code	Landcover Class	Content
10	Cultivated land	It refers to the lands used for cultivating crops. Paddy fields, irrigated upland, rainfed upland, vegetable land, cultivated pasture, greenhouse land, land mainly planted with crops rarely with fruit trees or other trees, tea garden, coffee garden, and other economic cropland and so on are included in this category.
20	Forest	It refers to the lands covered with trees, the top density of which occupies over 30%. Deciduous broadleaf forest, evergreen broadleaf forest, deciduous coniferous forest, evergreen coniferous forest, mixed forest and sparse woodland the top density of which covers 10%-30% are included in this category.
30	Grassland	It refers to the lands covered by natural grass with cover density over 10%. The prairies, meadow steppes, alpine grasslands, desert steppes and lawns etc. are included in this category.
40	Shrubland	It refers to the lands covered with shrubs and the cover density over 30%. Mountain shrubs, deciduous and evergreen shrubs, and desert jungle in desert area with the cover density over 10% are included in this category.
50	Wetland	It refers to the junction lands of land and water area, which are constantly covered by biogas or hygrophyte plants and shallow water or wet soils. Inland marsh, lake marsh, river floodplain wetland, forest/shrub wetland, peat bogs, mangrove, salt marsh etc. are included in this category.
60	Water bodies	It refers to liquid water covered region in the land area. River, lake, reservoir, pit-pond etc. are included in this category.
70	Tundra	It refers to the lands covered by lichen, moss, hardy perennial herb and shrubs in the cold and high mountain area. Shrub tundra, grass tundra, wet tundra, alpine tundra, and barren tundra, etc. are included in this category.
80	Artificial Surfaces	It refers to the surfaces formed by man-built activities. All kinds of habitation in urban and rural areas, industrial and mining area, transportation facilities etc. are included in this category, while interior contiguous green land and water bodies in the construction land use.
90	Bare Land	It refers to natural covered lands with cover density lower than 10%. Desert, sand, gravel ground, bare rocks, saline and alkaline lands, etc. are included in this category.
100	Permanent snow and ice	It refers to the lands covered by permanent snow, glacier and icecap. Permanent snow, the glacier in the high-mountain region, and the icecap in the polar etc. are included in this category.

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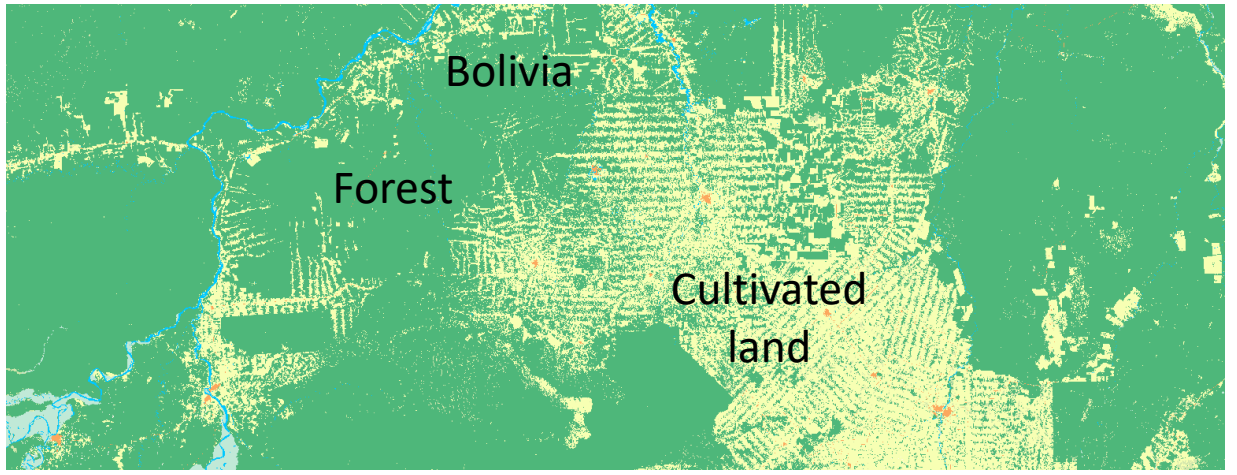
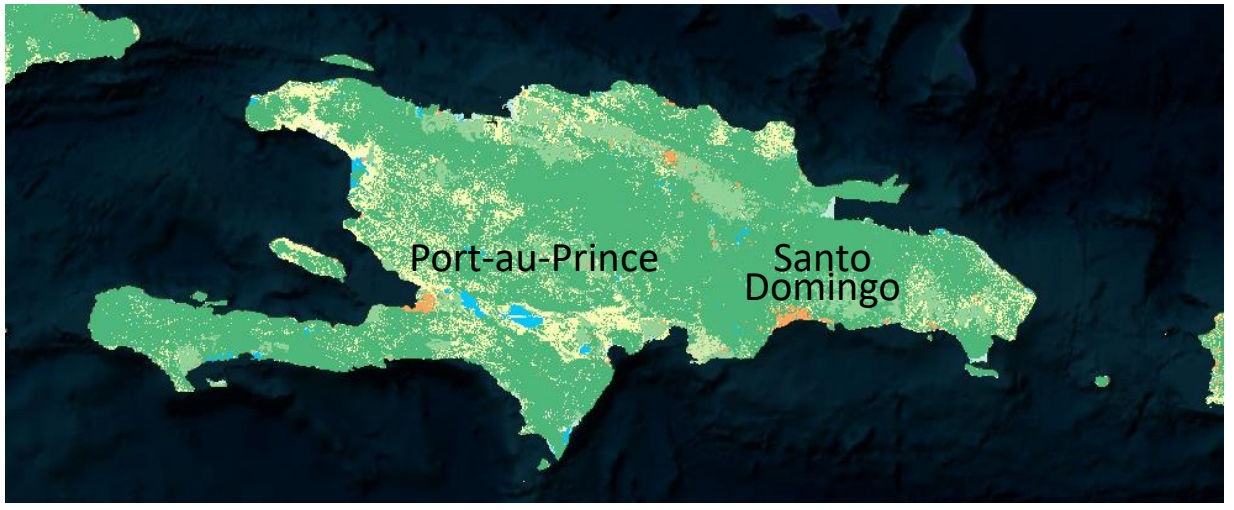
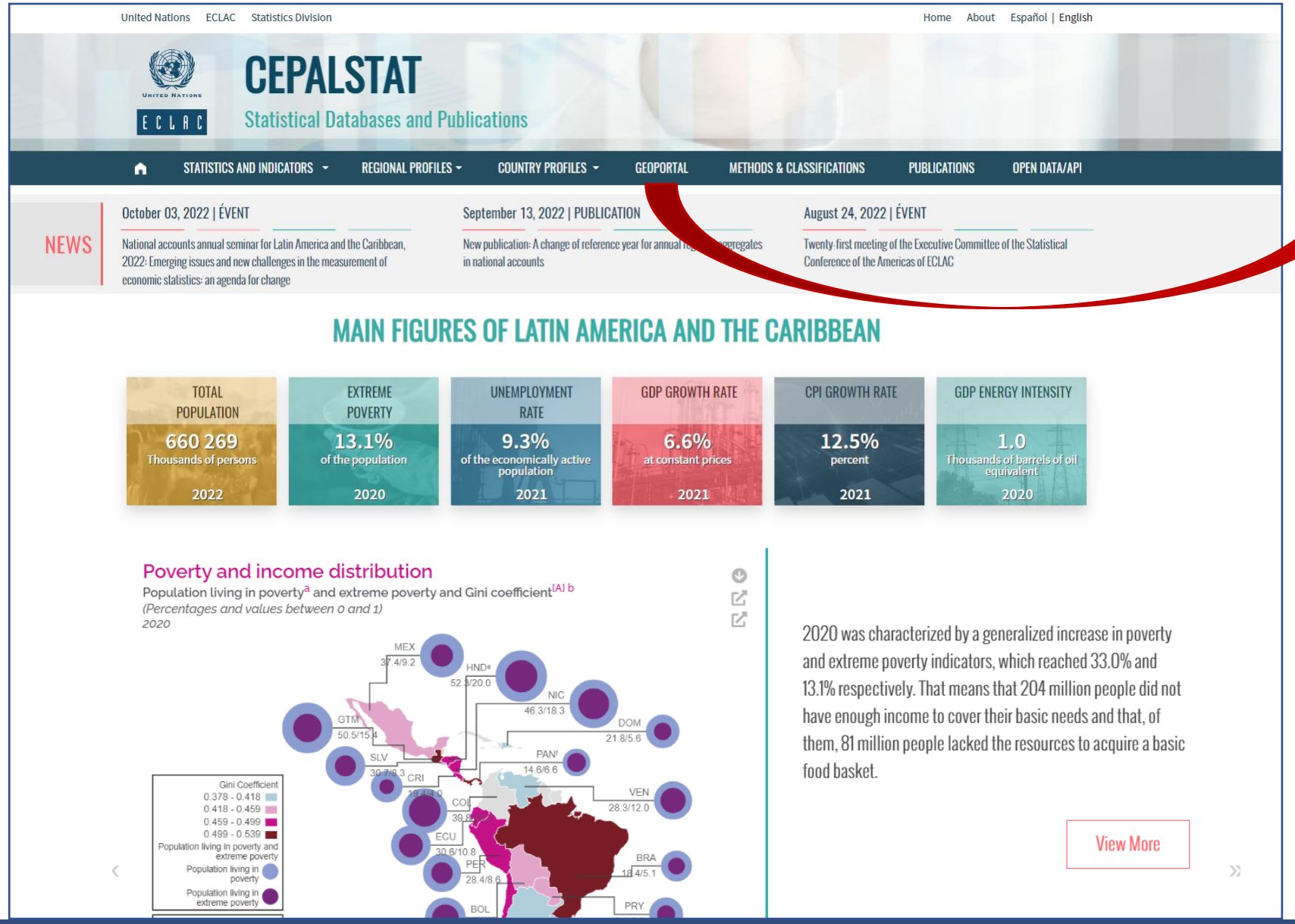
Wetlands
Grassland
Buenos Aires
River
Montevideo
Cultivated
land


Bolivia
Forest
Cultivated
land


Port-au-Prince
Santo
Domingo

Integration of GlobeLand30 into ECLAC Data Ecosystem



GEOPORTAL

statistics.cepal.org

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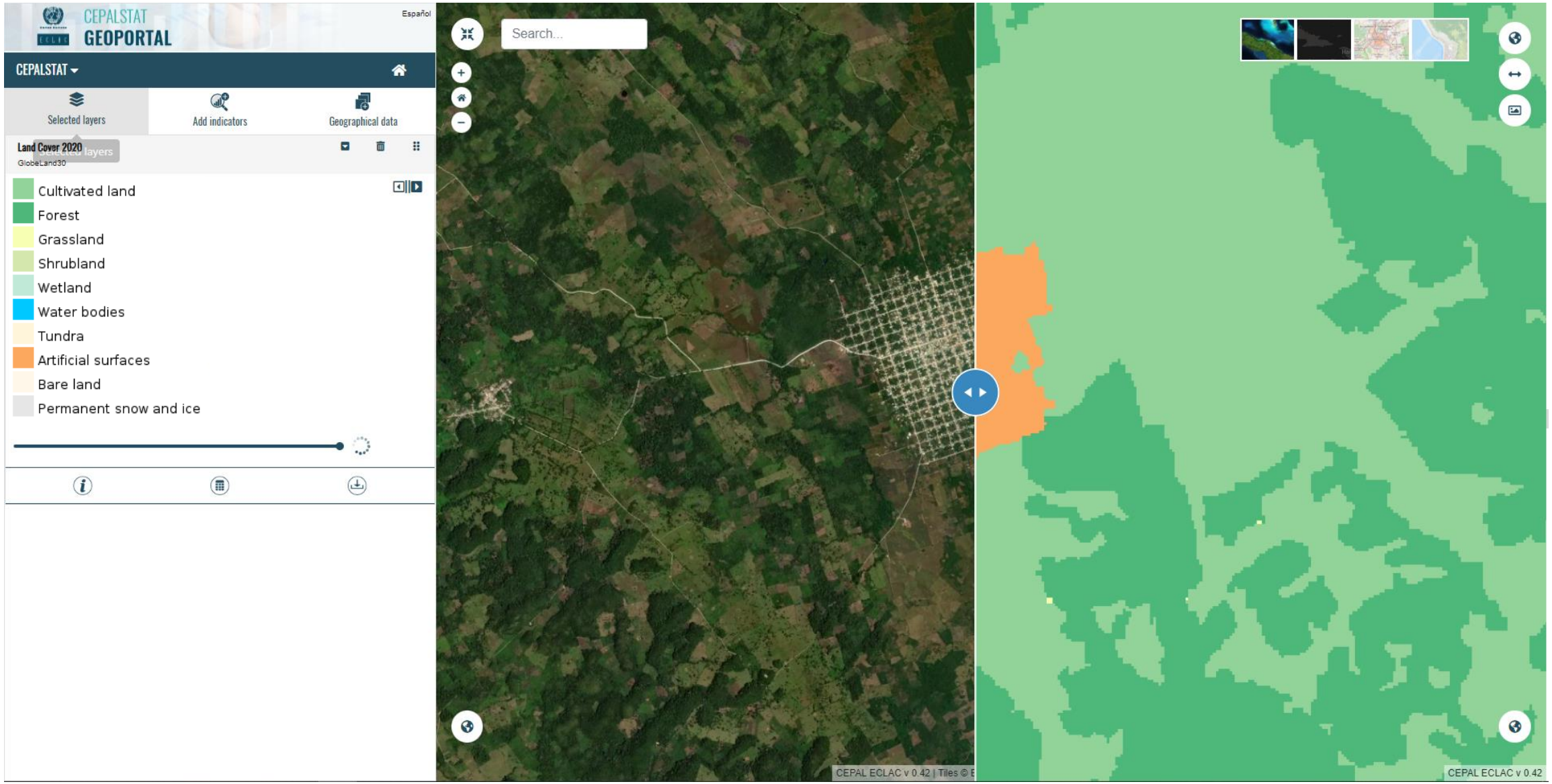

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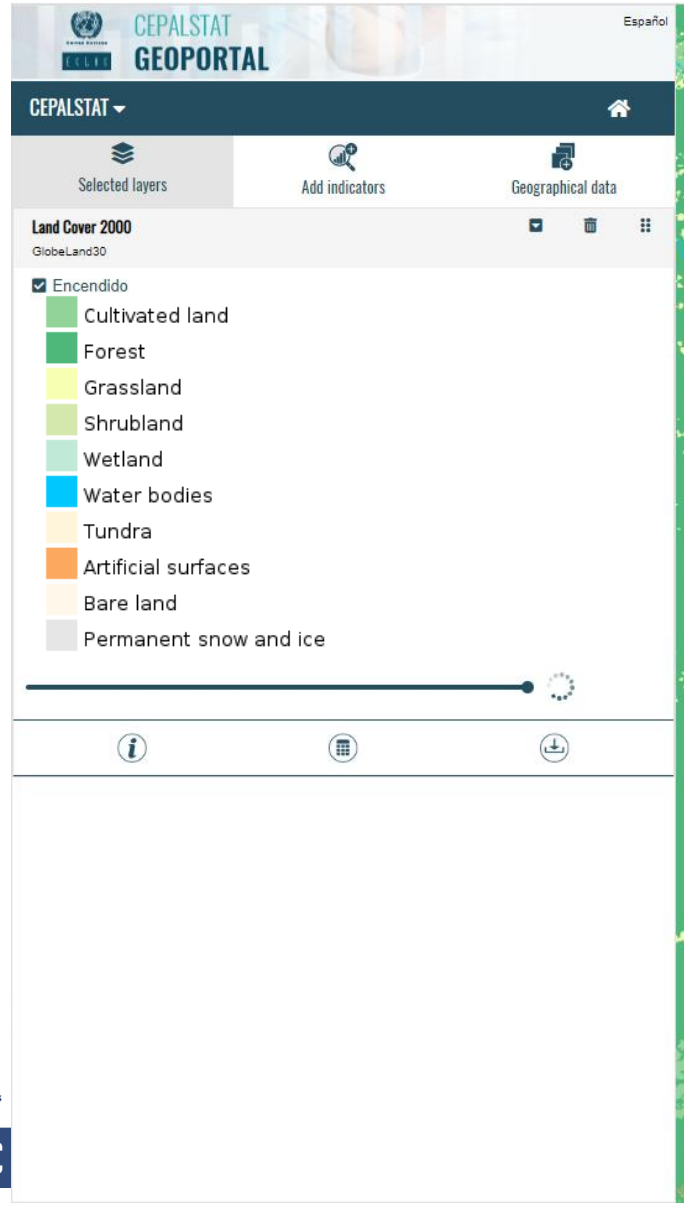

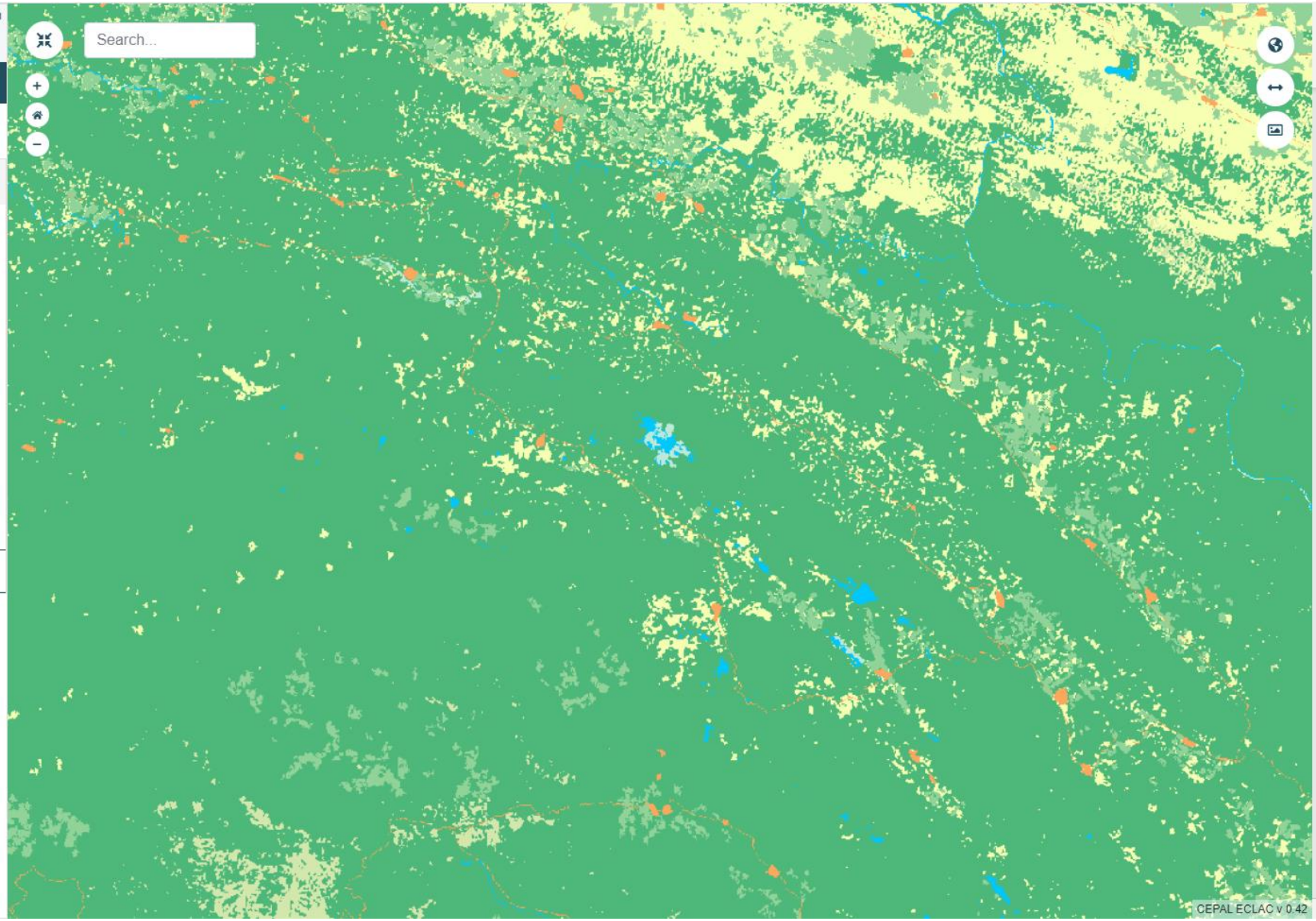

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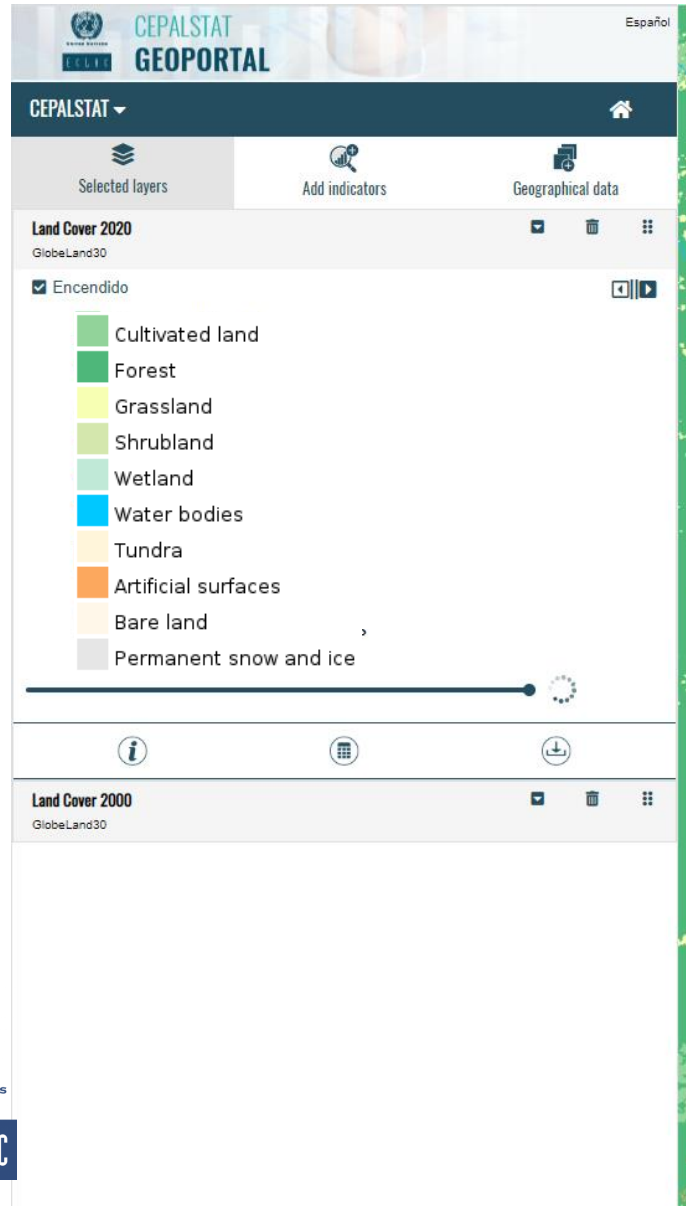

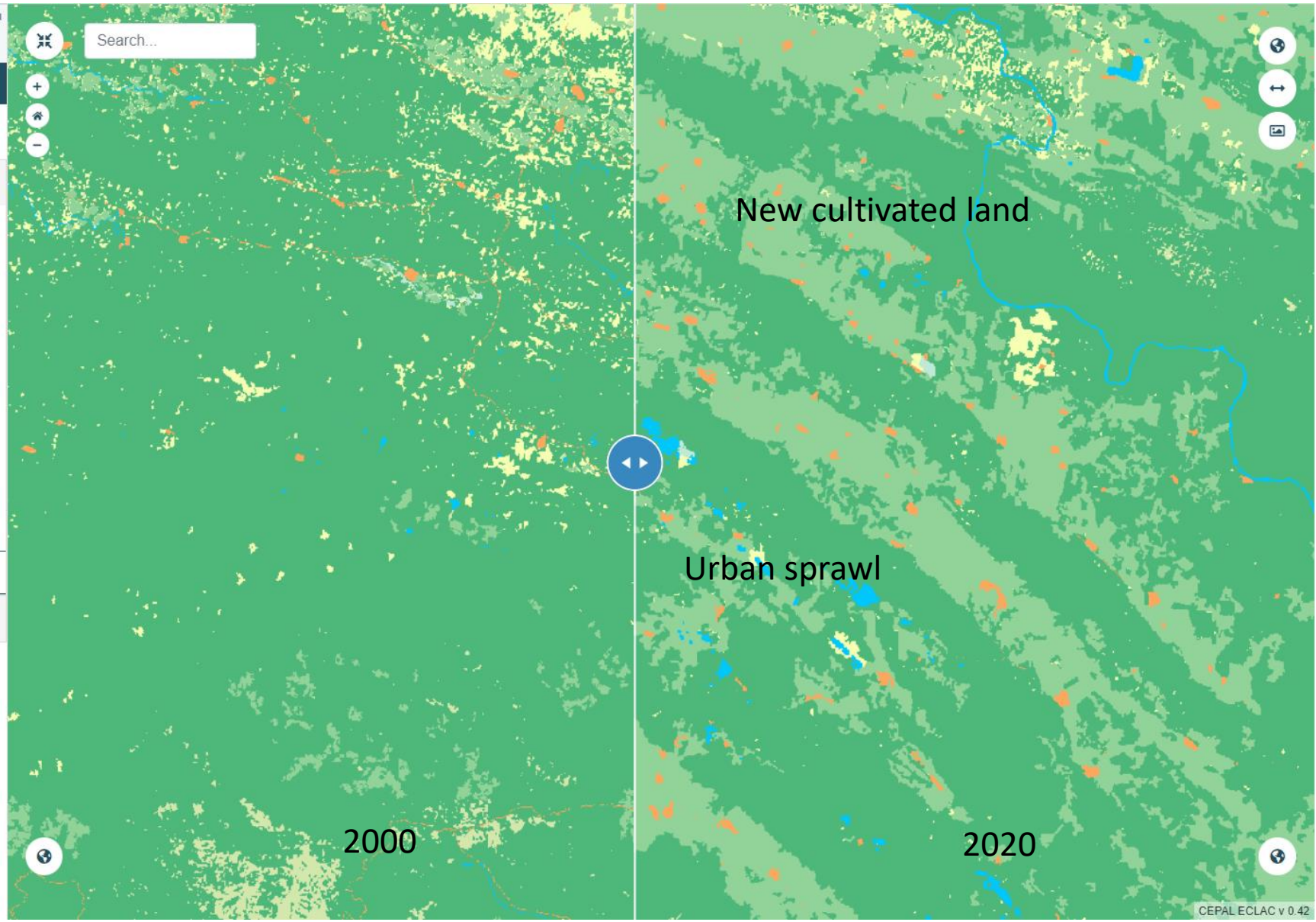

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Integration of GlobeLand30 into ECLAC Data Ecosystem

Use of Earth Observation products in ECLAC's projects

Growth of metropolitan areas

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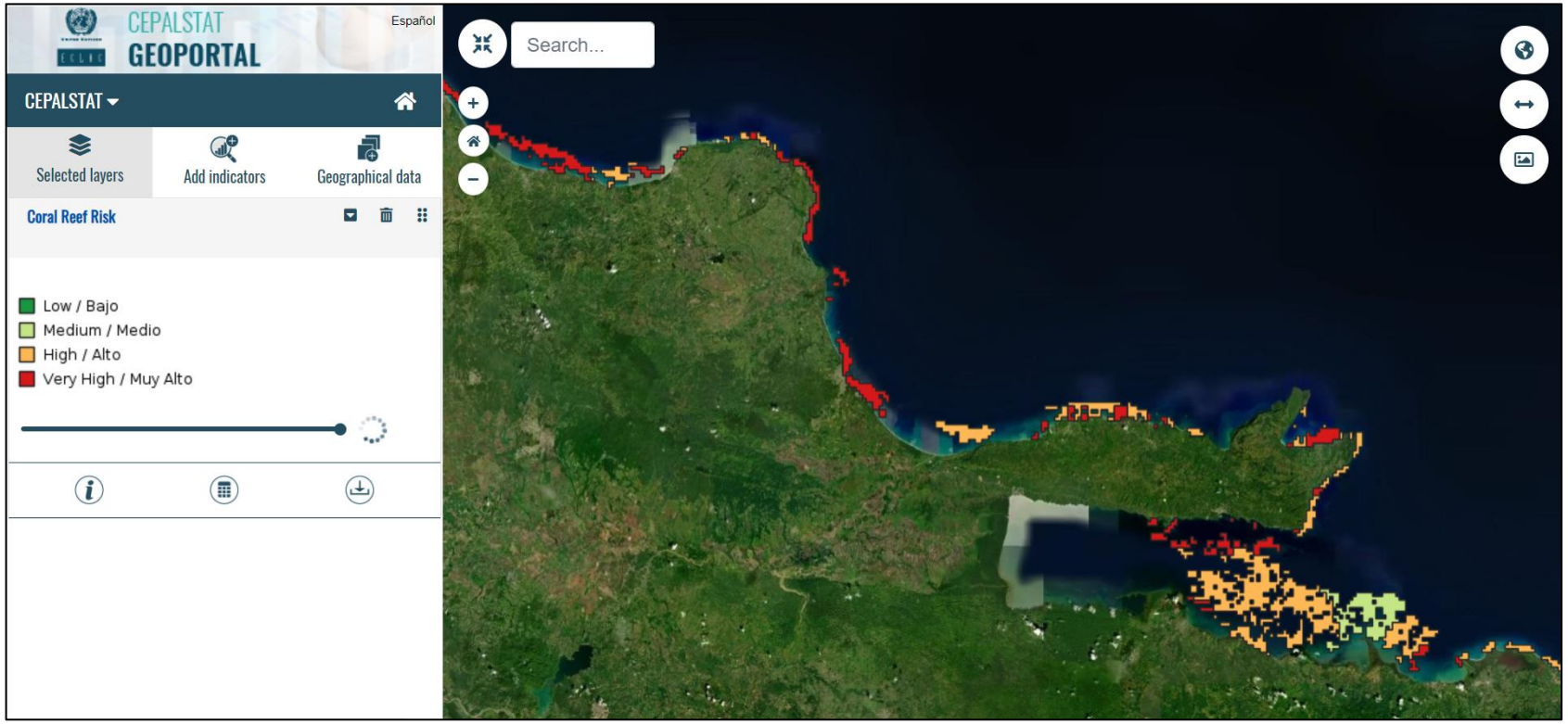
Use of Earth Observation products in ECLAC's projects



Coral Reef Monitoring

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Use of Earth Observation products in ECLAC's projects

Damage and Loss Assessment

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Use of Earth Observation products in ECLAC's projects

Target Contribute to progress on the Target, not necessarily the Indicator									Goal	Indicator Direct measure or indirect support to the Indicator					
							1.4	1.5	1 No poverty	1.4.2					
						2.3	2.4	2.c	2 Zero hunger	2.4.1					
					3.3	3.4	3.9	3.d	3 Good health and well-being	3.9.1					
									4 Quality education						
								5.a	5 Gender equality	5.a.1					
		6.1	6.3	6.4	6.5	6.6	6.a	6.b	6 Clean water and sanitation	6.3.1	6.3.2	6.4.2	6.5.1	6.6.1	
					7.2	7.3	7.a	7.b	7 Affordable and clean energy	7.1.1					
								8.4	8 Decent work and economic growth						
					9.1	9.4	9.5	9.a	9 Industry, innovation and infrastructure	9.1.1	9.4.1				
						10.6	10.7	10.a	10 Reduced inequalities						
	11.1	11.3	11.4	11.5	11.6	11.7	11.b	11.c	11 Sustainable cities and communities	11.1.1	11.2.1	11.3.1	11.6.2	11.7.1	
				12.2	12.4	12.8	12.a	12.b	12 Responsible consumption and production	12.a.1					
					13.1	13.2	13.3	13.b	13 Climate action	13.1.1					
		14.1	14.2	14.3	14.4	14.6	14.7	14.a	14 Life below water	14.3.1	14.4.1	14.5.1			
	15.1	15.2	15.3	15.4	15.5	15.7	15.8	15.9	15 Life on land	15.1.1	15.2.1	15.3.1	15.4.1	15.4.2	
								16.8	16 Peace, justice and strong institutions						
17.2	17.3	17.6	17.7	17.8	17.9	17.16	17.17	17.18	17 Partnerships for the goals	17.6.1	17.18.1				

Production of SDG statistics

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EO products processing workflow

Geospatial Raster (in progress)

Image processing products bank

Global

AirFlow/GDAL/ API

Image processing products Data Bank

Statistical data bank

API Restful Python/JSON

Geographical layers data bank

API Restful Python/GeoJSON

Statistical and Geographical Data Banks and Portals

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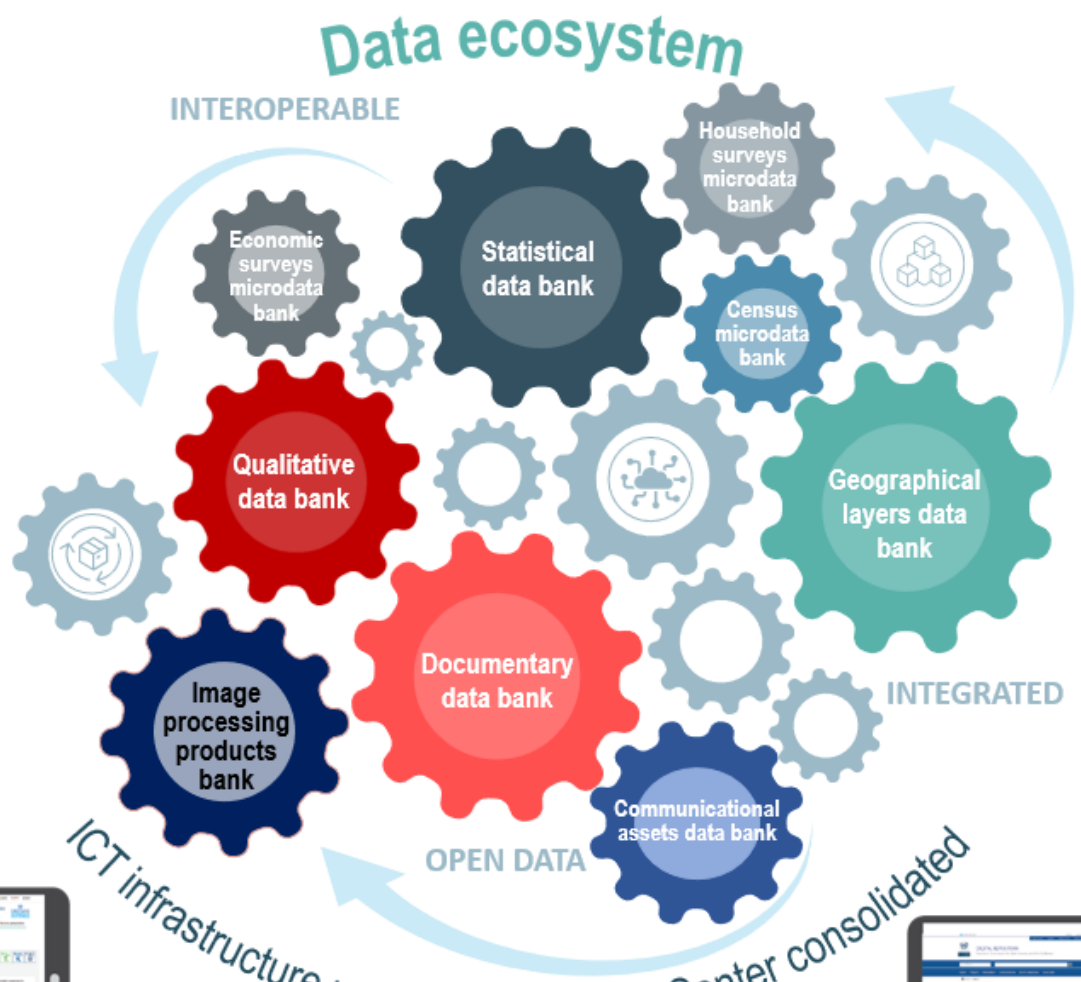
ECLAC strategy in dissemination regional data assets

Interoperable platforms integrating several types of data



CEPALSTAT

Information system on UN capacity building activities on SDG monitoring and reporting

Information system on National Statistical Capacities to produce the SDG Indicators

Web Statistical Yearbook

SDGs in Latin America and the Caribbean: Statistical knowledge management hub

CEPALGEO: Spatial data infrastructure of ECLAC

Comprehensive Development Plan website/geoportal

COVID-19 Observatory in Latin America and the Caribbean: Measures and actions at the national level

Observatories which track the region's economic and social situation

Digital Repository

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