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# Use of Earth observations to produce geospatial and statistical data:

GlobeLand30 and its applications for Latin American and Caribbean

Álvaro Monett Hernández

# 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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[www.globallandcover.com](http://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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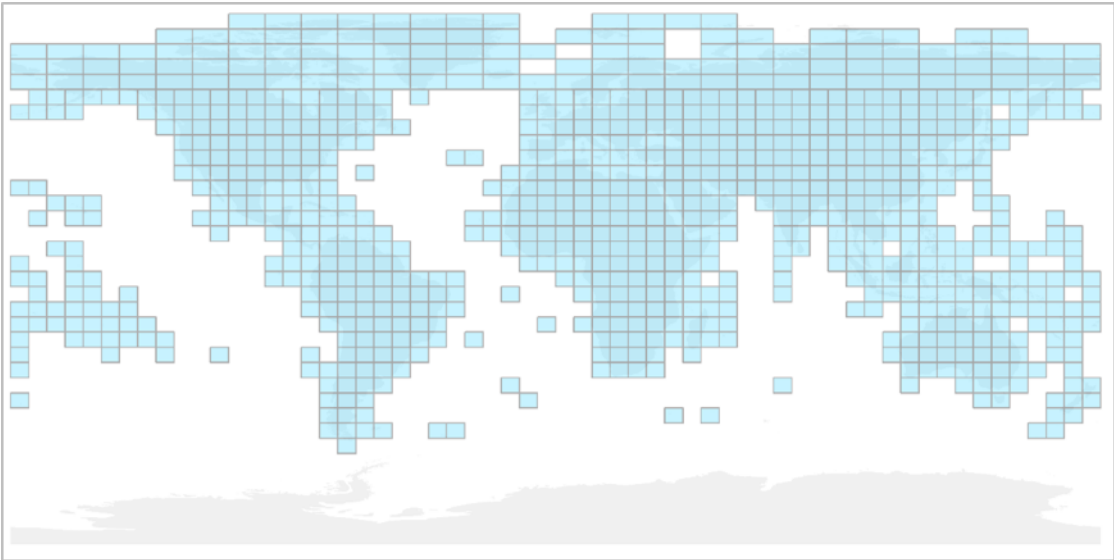
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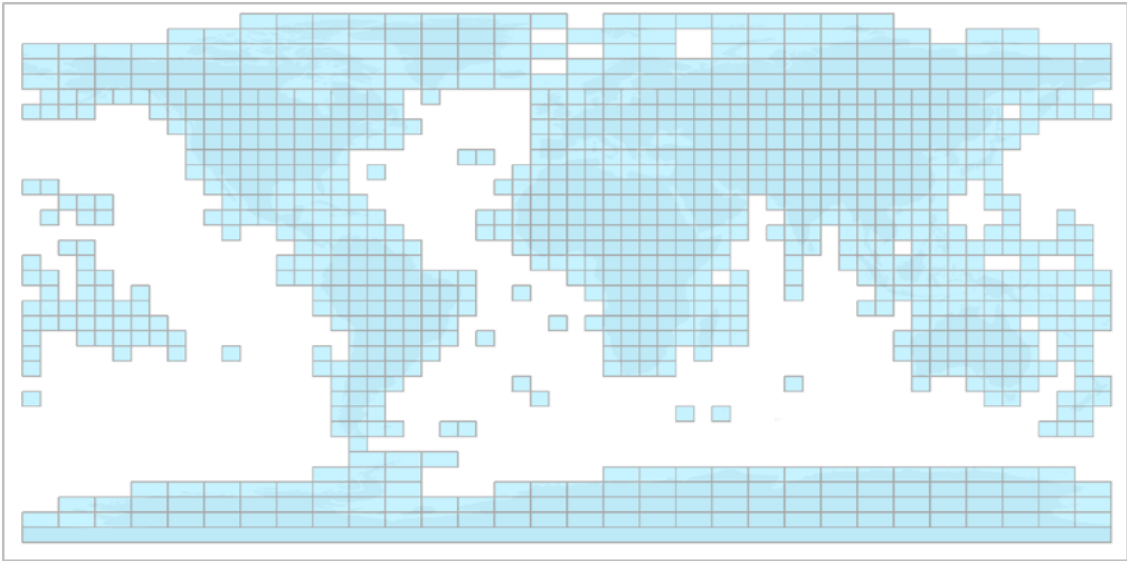
[www.globallandcover.com](http://www.globallandcover.com)

# GlobeLand30 coverage

2000 - 2010



2020



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[www.globallandcover.com](http://www.globallandcover.com)

# GlobeLand30 Classification system

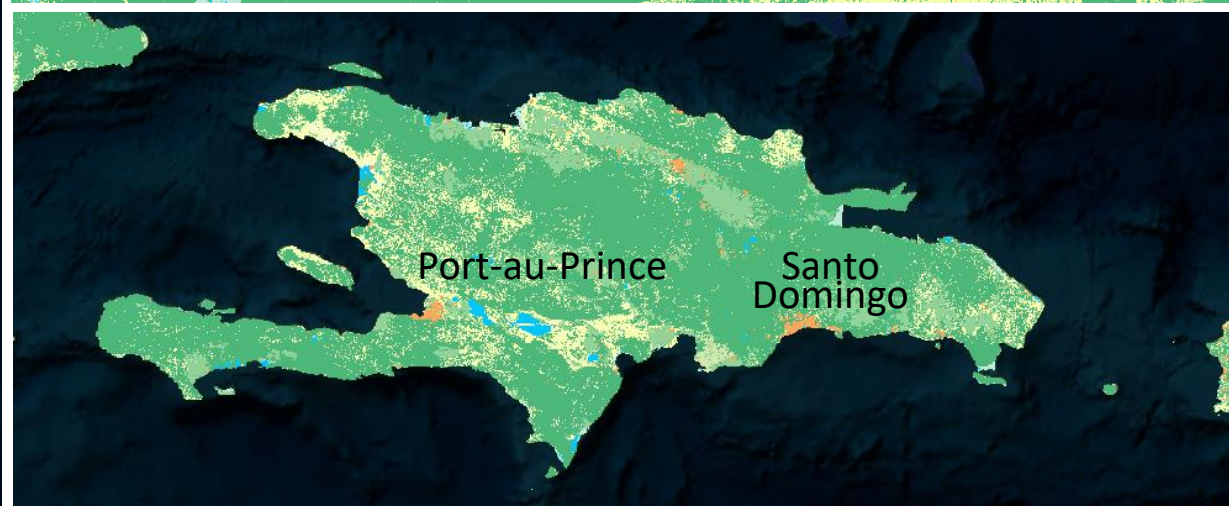
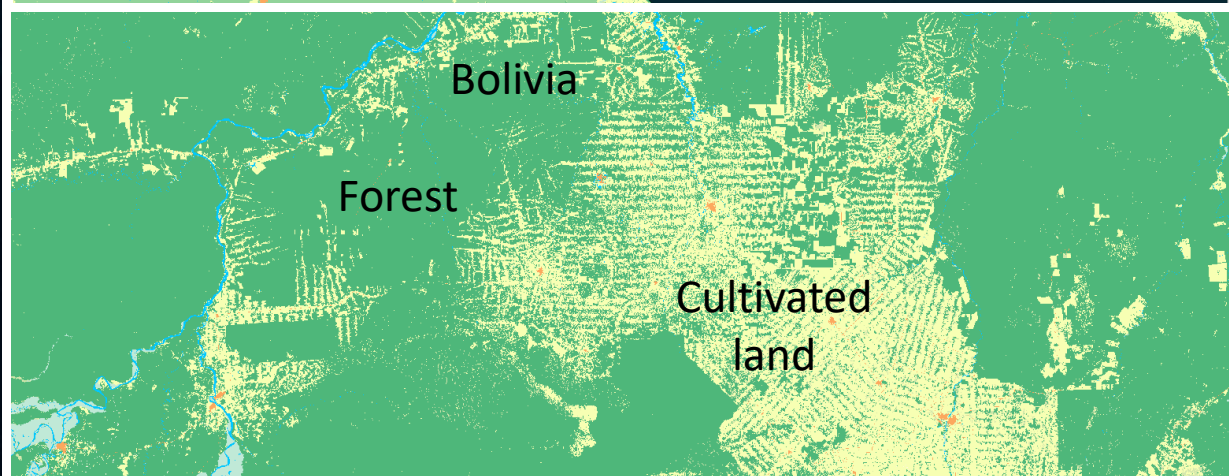
Code	Landcover Class	Content
10	Cultivated land	It refers to the lands used for cultivating crops. Paddy fields, irrigated upland, rainfed upland, vegetable land, cultivated pasture, greenhouse land, land mainly planted with crops rarely with fruit trees or other trees, tea garden, coffee garden, and 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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# Integration of GlobeLand30 into ECLAC Data Ecosystem

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**CEPALSTAT**  
Statistical Databases and Publications

STATISTICS AND INDICATORS REGIONAL PROFILES COUNTRY PROFILES **GEOPORTAL** METHODS & CLASSIFICATIONS PUBLICATIONS OPEN DATA/API

**NEWS**

- October 03, 2022 | ÉVÉNEMENT  
National accounts annual seminar for Latin America and the Caribbean, 2022: Emerging issues and new challenges in the measurement of economic statistics: an agenda for change
- September 13, 2022 | PUBLICATION  
New publication: A change of reference year for annual regional aggregates in national accounts
- August 24, 2022 | ÉVÉNEMENT  
Twenty-first meeting of the Executive Committee of the Statistical Conference of the Americas of ECLAC

### MAIN FIGURES OF LATIN AMERICA AND THE CARIBBEAN

INDICATOR	VALUE	UNIT	YEAR
TOTAL POPULATION	660 269	Thousands of persons	2022
EXTREME POVERTY	13.1%	of the population	2020
UNEMPLOYMENT RATE	9.3%	of the economically active population	2021
GDP GROWTH RATE	6.6%	at constant prices	2021
CPI GROWTH RATE	12.5%	percent	2021
GDP ENERGY INTENSITY	1.0	Thousands of barrels of oil equivalent	2020

### Poverty and income distribution

Population living in poverty<sup>a</sup> and extreme poverty and Gini coefficient<sup>IAI b</sup>  
(Percentages and values between 0 and 1)  
2020

COUNTRY	Gini Coefficient	Population living in poverty (%)	Population living in extreme poverty (%)
MEX	0.418 - 0.459	37.4	9.2
HND	0.459 - 0.499	52.1	20.0
NIC	0.499 - 0.539	46.3	18.3
DOM	0.378 - 0.418	21.8	5.6
PAN	0.418 - 0.459	14.6	6.6
VEN	0.418 - 0.459	28.3	12.0
BRA	0.418 - 0.459	18.4	5.1
PER	0.418 - 0.459	28.4	8.6
ECU	0.418 - 0.459	30.6	10.8
COL	0.418 - 0.459	38.5	12.0
SLV	0.418 - 0.459	30.7	6.3
GTM	0.418 - 0.459	50.5	15.4
SLV	0.418 - 0.459	30.7	6.3
CRI	0.418 - 0.459	18.7	7.0
BOL	0.418 - 0.459	30.6	10.8
PRY	0.418 - 0.459	18.4	5.1

**View More**

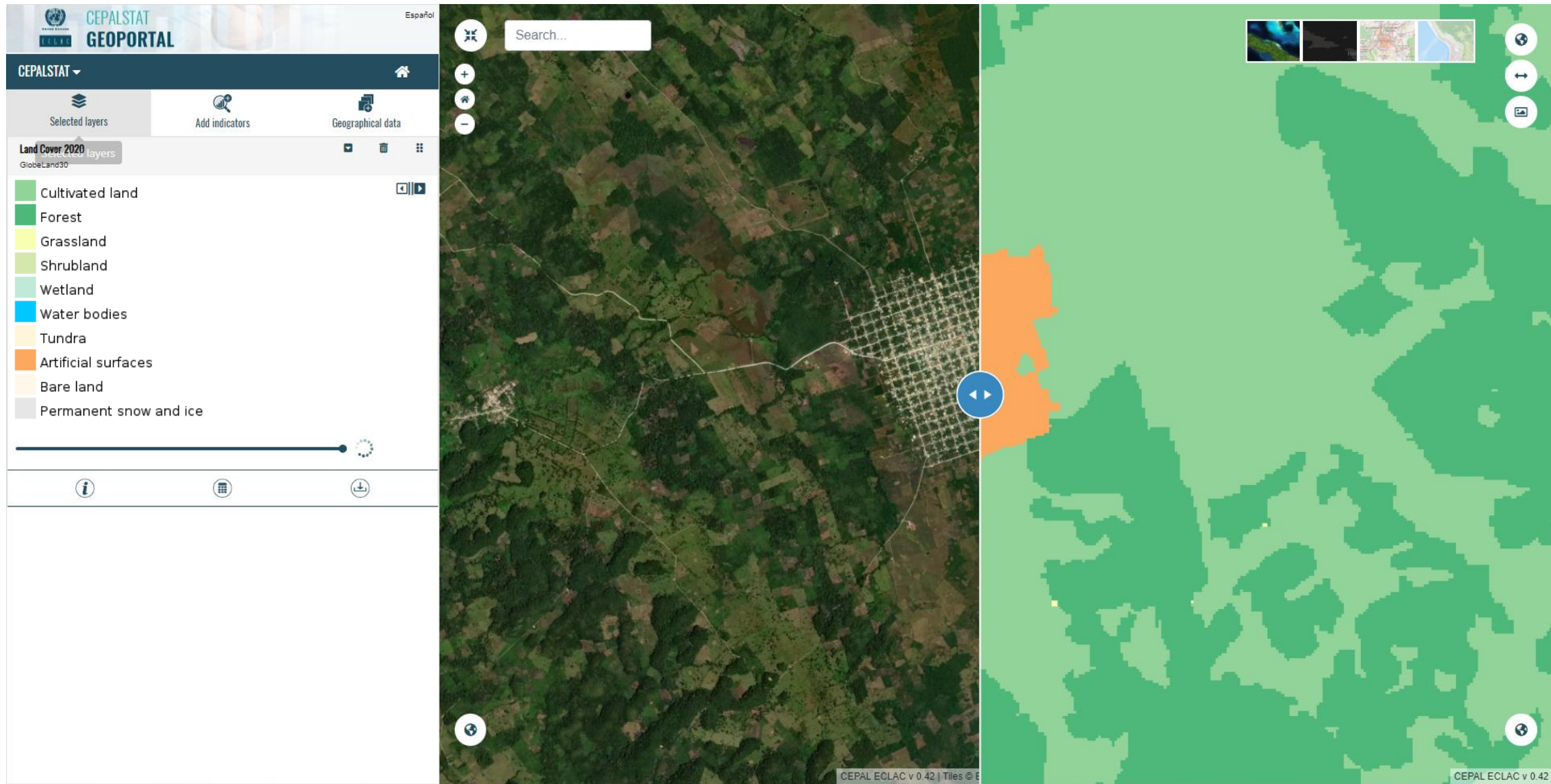
**GEOPORTAL**



statistics.cepal.org



# Integration of GlobeLand30 into ECLAC Data Ecosystem



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# Integration of GlobeLand30 into ECLAC Data Ecosystem

The screenshot displays the CEPASTAT GEOPORTAL interface. The top navigation bar includes the United Nations logo, the text "CEPASTAT GEOPORTAL", and the language "Español". Below this is a dark navigation bar with "CEPALSTAT" and a home icon. The main interface is divided into three sections: "Selected layers", "Add indicators", and "Geographical data".

The "Land Cover 2000" section is active, showing "GlobeLand30" as the selected layer. A legend titled "Encendido" (checked) lists the following categories with corresponding color swatches:

- Cultivated land (light green)
- Forest (dark green)
- Grassland (yellow-green)
- Shrubland (light green)
- Wetland (teal)
- Water bodies (blue)
- Tundra (orange)
- Artificial surfaces (orange)
- Bare land (light orange)
- Permanent snow and ice (grey)

The map area shows a detailed land cover classification of a region in South America, with various colors representing different land types. The interface includes a search bar at the top right, a zoom control on the left, and a bottom bar with information, layers, and download icons. The United Nations logo and "ECLAC" are visible in the bottom left corner, and "CEPAL ECLAC V 0.42" is in the bottom right corner.



# Integration of GlobeLand30 into ECLAC Data Ecosystem

CEPALSTAT  
GEOPORTAL

Spanish

CEPALSTAT

Selected layers | Add indicators | Geographical data

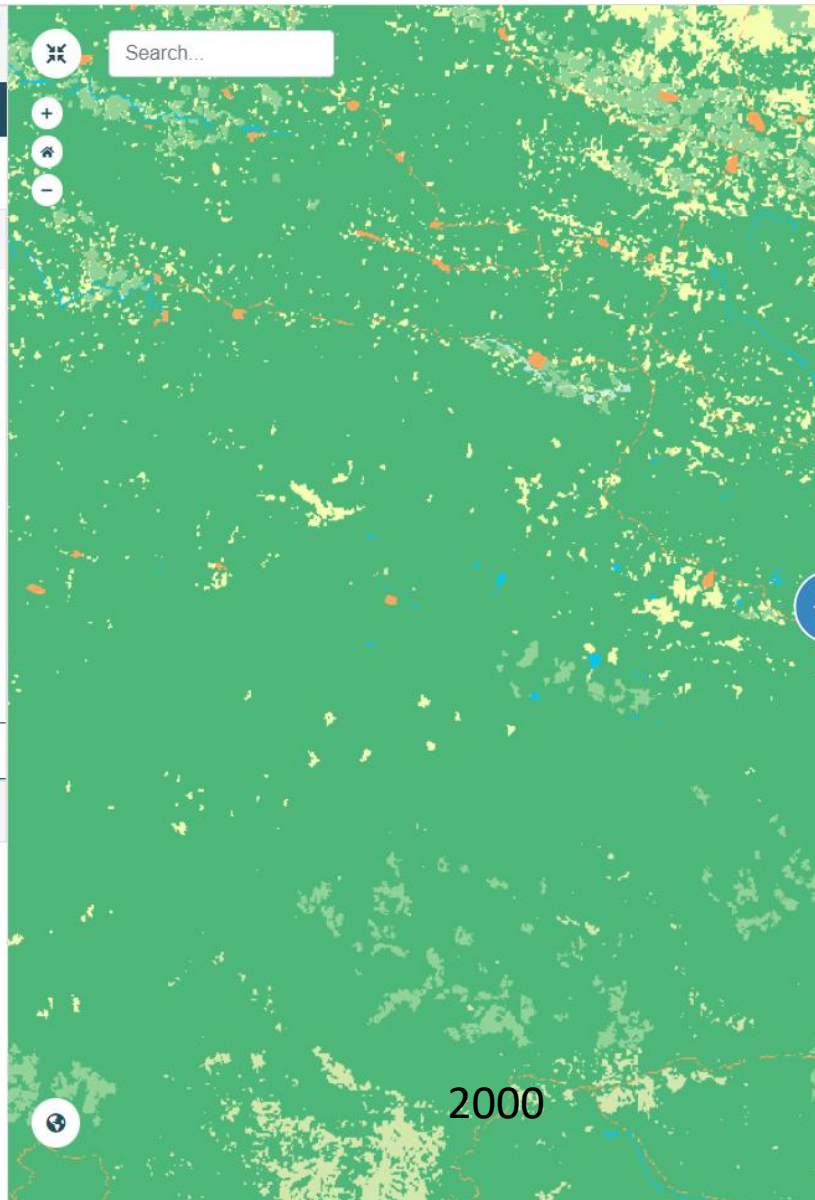
Land Cover 2020  
GlobeLand30

Encendido

- Cultivated land
- Forest
- Grassland
- Shrubland
- Wetland
- Water bodies
- Tundra
- Artificial surfaces
- Bare land
- Permanent snow and ice

Land Cover 2000  
GlobeLand30

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# Integration of GlobeLand30 into ECLAC Data Ecosystem

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## CEPALGEO

Spatial data infrastructure of the CEPAL

Search

HOME

BACKGROUND

GEOPORTAL

METHODOLOGY RESOURCES

GEOSERVICES OCG/OPEN DATA

**GEOPORTAL CEPALGEO**

Geospatial layers deployment in the ECLAC viewer

- Mediciones de caudal de DFO
- Limites administrativos
- Ambarito
- Hidrografía
- Relieve
- Clima
- Vegetación
- Edificaciones
- Infraestructura

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### METADATA CATALOG

Search standardized geospatial metadata harvested from the SDI initiatives of the region

### EARTH OBSERVATION PRODUCTS

Access to platforms and applications to explore and analyze satellite imagery products

### GEOSPATIAL METHODOLOGICAL RESOURCES

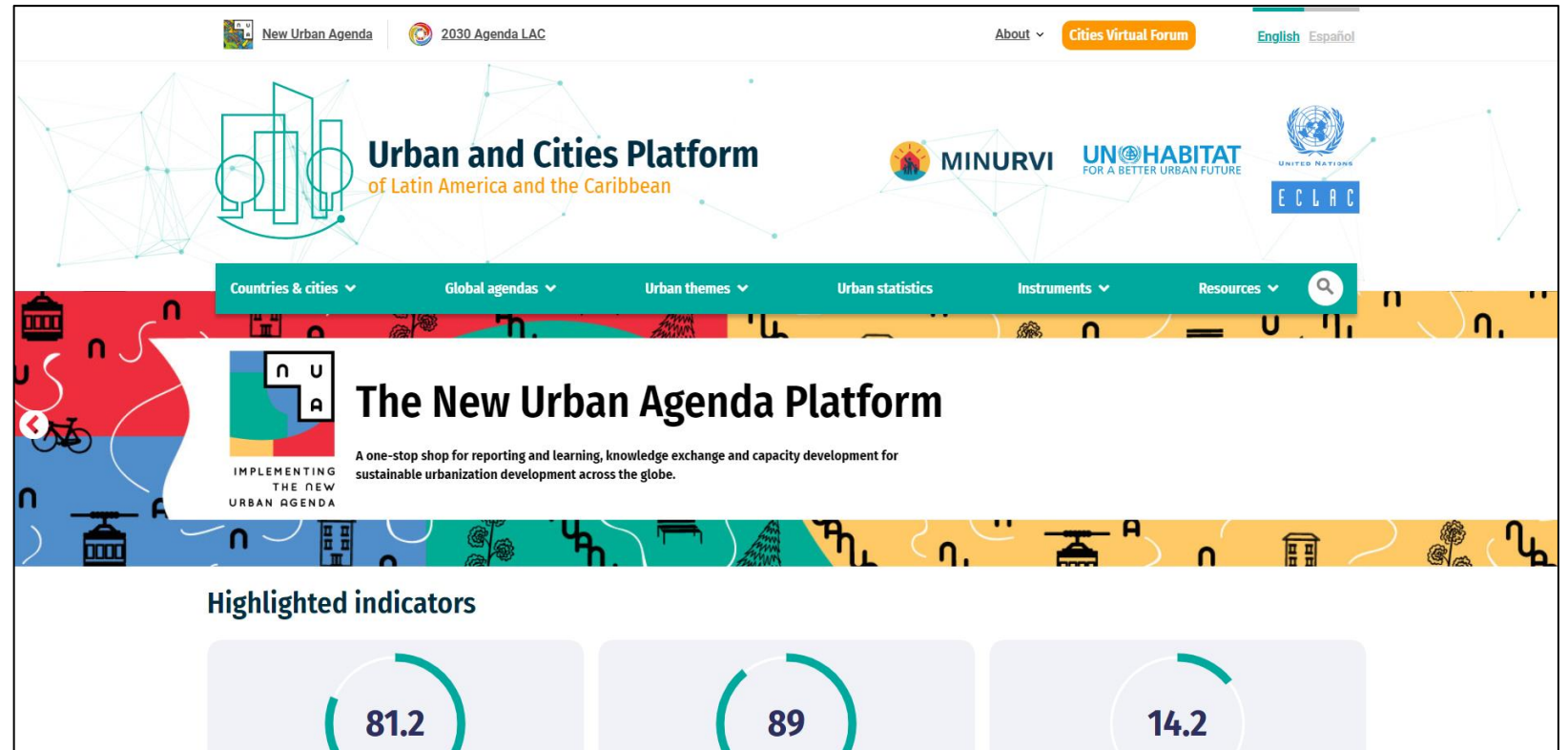
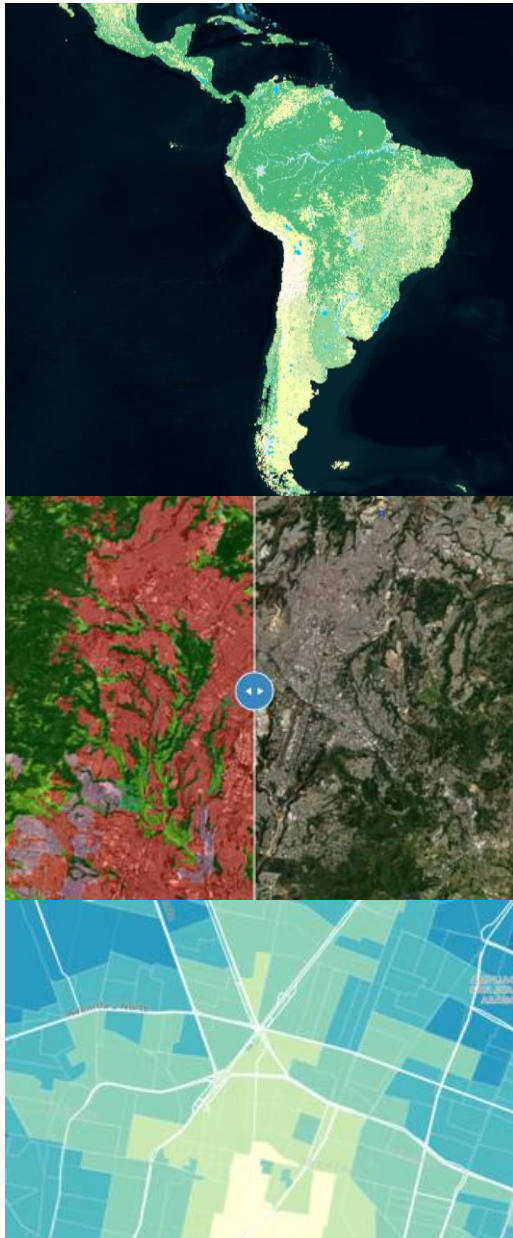
Methodological and technical documentation related to geospatial information management



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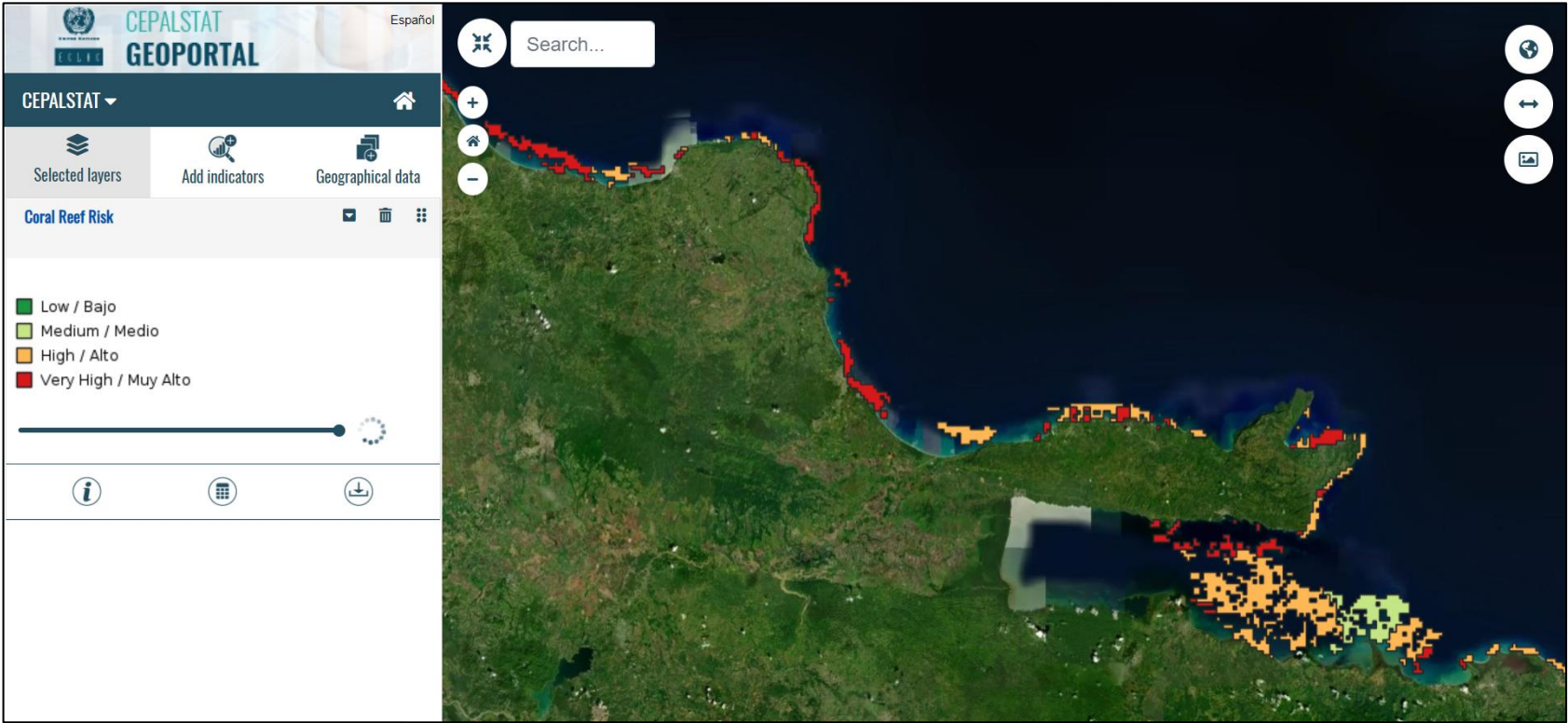
# Use of Earth Observation products in ECLAC's projects



Growth of metropolitan areas

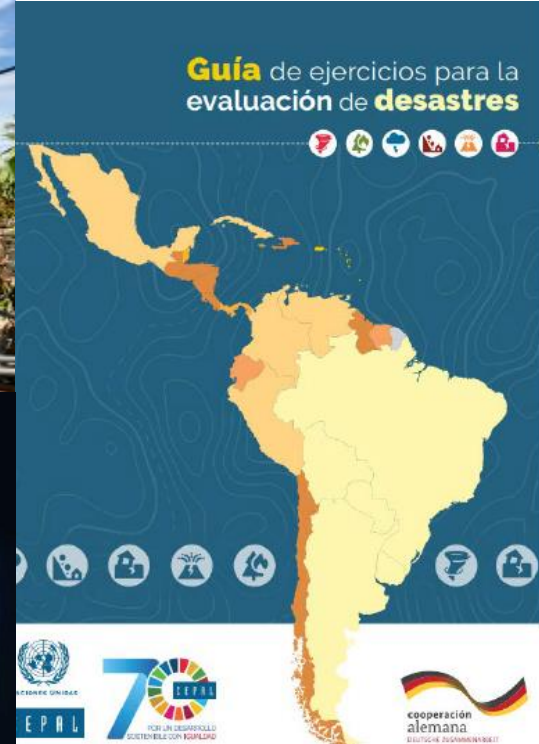
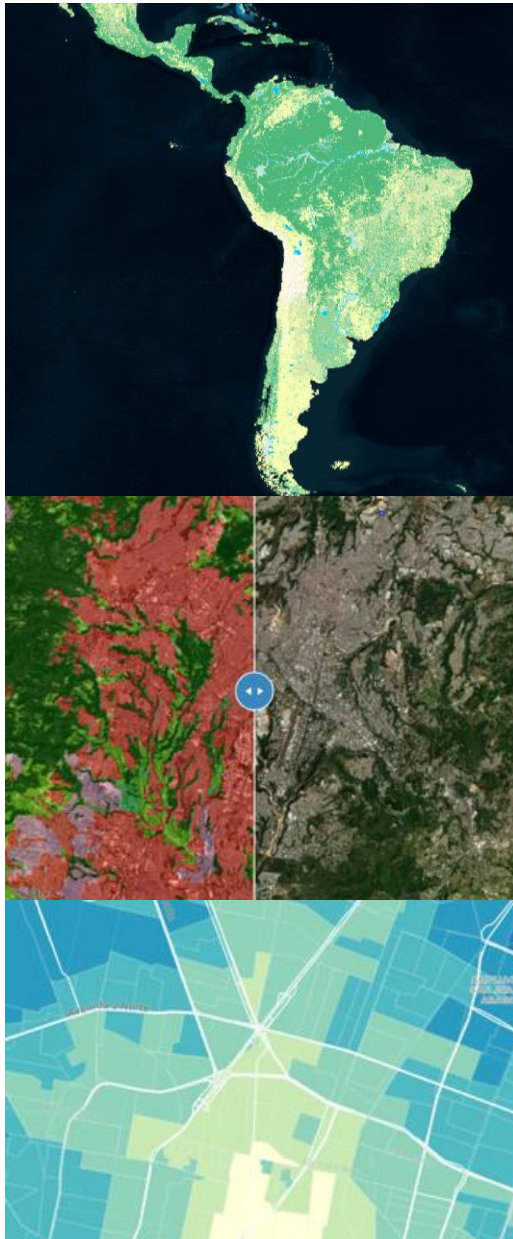


# Use of Earth Observation products in ECLAC's projects



Coral Reef Monitoring

# Use of Earth Observation products in ECLAC's projects



Damage and Loss Assessment

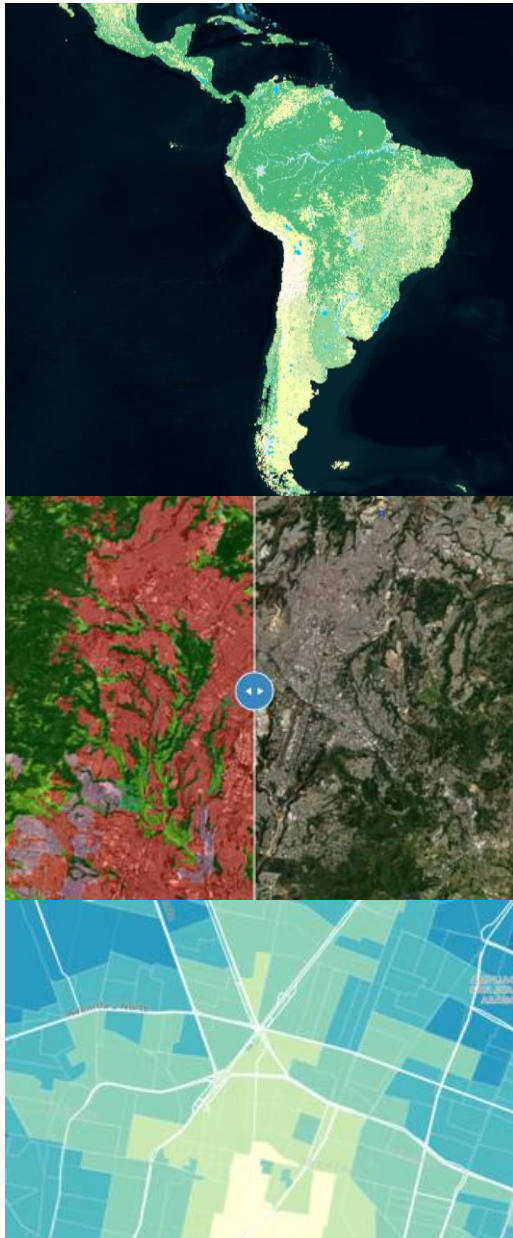


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# Use of Earth Observation products in ECLAC's projects



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	14.2					
					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			

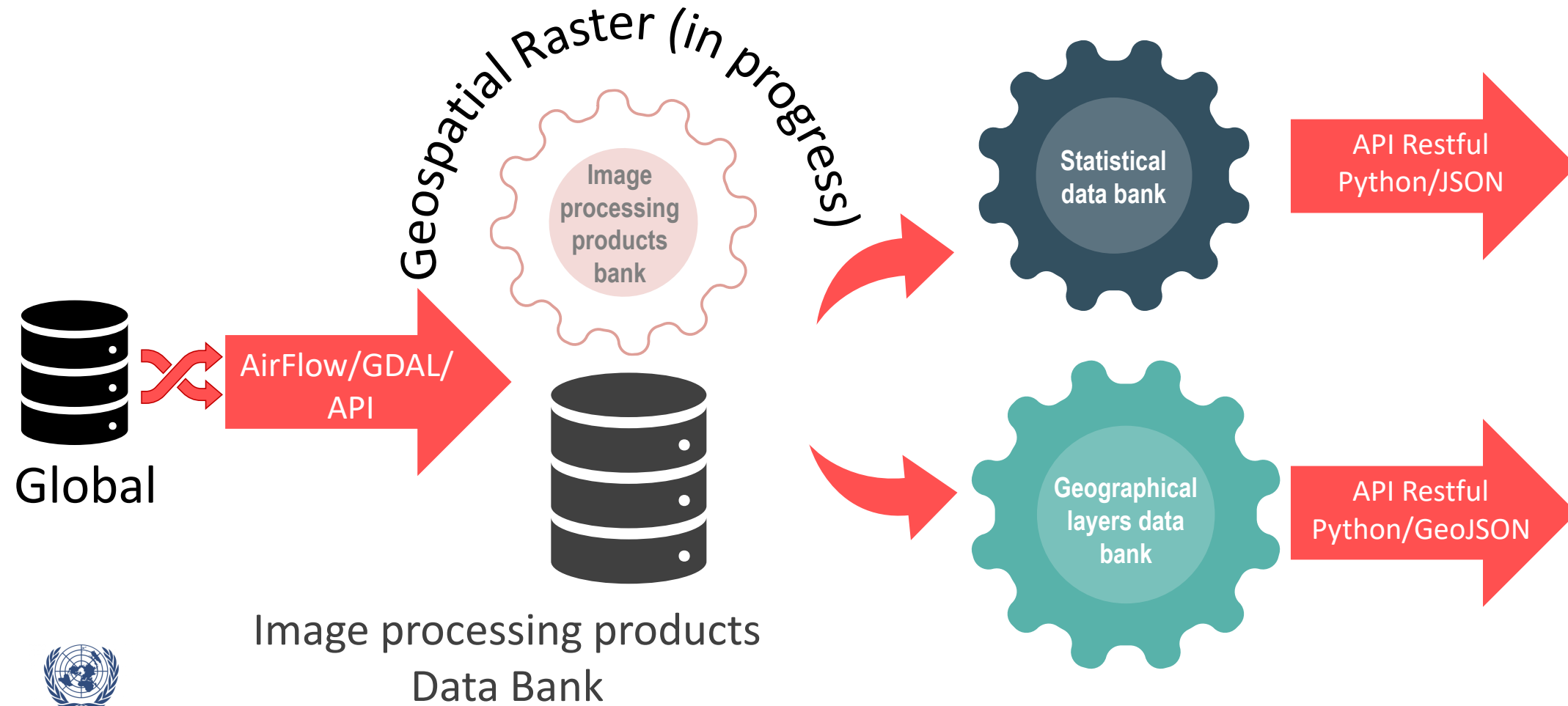
Production of SDG statistics



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# EO products processing workflow



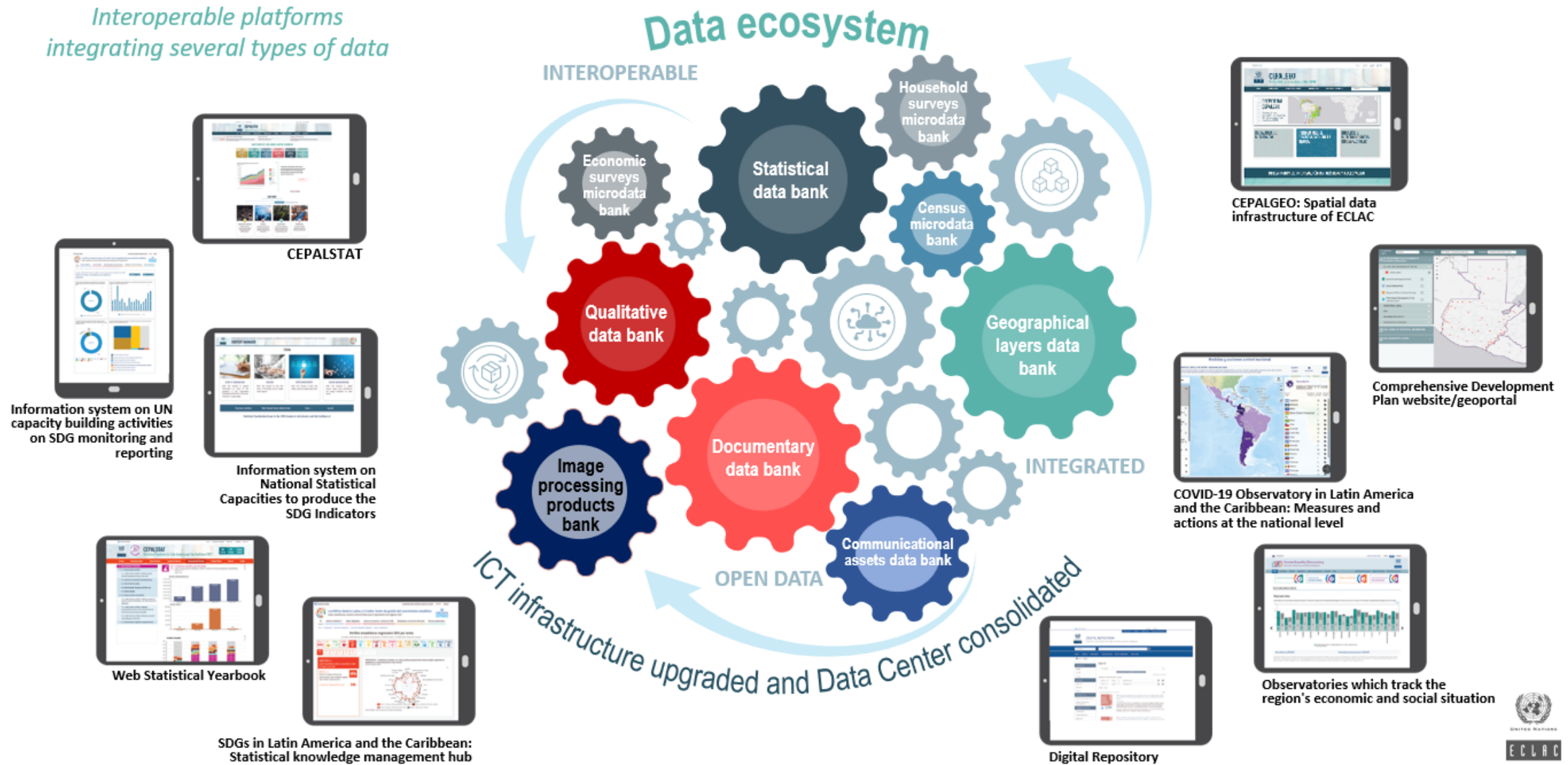
This block contains three screenshots of web portals. The top screenshot is the **CEPALSTAT** portal, showing a dashboard with various indicators and a table of data. The middle screenshot is the **CEPALGEO** portal, displaying a map of Latin America and the Caribbean with various layers and metadata. The bottom screenshot is the **GEOPORTAL** portal, which provides a comprehensive overview of geospatial information integration, including metadata catalogs, earth observation products, and geospatial methodological resources.



Statistical and Geographical Data Banks and Portals



# ECLAC strategy in dissemination regional data assets





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