IGIF WORKSHOP FOR THE CARIBBEAN

Castries, St. Lucia

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Geospatial Information supporting resilience in the Caribbean

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UN-GGIM:Americas · UN-IGIF · CARIGEO Caribbean Geospatial Development Initiative · ECLAC · CARICOM · Organisation of Eastern Caribbean States

Background

In ECLAC we have been developing a project to generate indicators of **climate change and disasters** in the Small Island Developing Countries of the Caribbean (SIDS) to **support the design of evidence-based policies.**

"Caribbean First":

Promote the development of national and regional capacities

in statistics related to climate change and disasters.

About the project

- **Title**: "2023Q Develop indicators of climate change and disasters in the Small Island Developing Countries of the Caribbean (SIDS) to support the design of evidence-based policies."

- **Supported by**: tranche 12 of a United Nations Development Account.

- **Implementation period**: 2021-2023

- **Responsible**: Statistics Division and the ECLAC Subregional Office for the Caribbean

- **Partners:** DESA-NY, Escazú Agreement, Organization of Eastern Caribbean States and CARICOM. Recently, PARIS21 and the Caribbean Disaster Management Agency (CDEMA).

- **"Caribbean First"** Promote the development of national and regional capacities in statistics related to climate change and disasters.

- **Resolution 98 (XXVII)** of the Caribbean Development and Cooperation Committee.

About the project

- This project is designed to **enhance the climate change and disaster risk reduction statistical and institutional capacities** of target countries in the Caribbean to improve policy coherence in the implementation of the SDGs, the SAMOA Pathway, the Paris Agreement, and the Sendai Framework.

- The main expected outcome of the project is an **improved capacity of national statistical offices, and national environment, climate change and disaster risk reduction stakeholders** in the four target/pilot countries to produce, sustain, disseminate and use relevant internationally-agreed climate change and disaster indicators and their underlying statistics.

Some relevant outcomes

Diagnosis on the availability of environmental statistics using the Self-Assessment Tool for Environmental Statistics (HADEA) in eight Caribbean countries: Suriname, St. Lucia, Antigua & Barbuda, St. Kitts & Nevis, Dominica, St. Vincent & the Grenadines, Grenada, and Belize.

REGIONAL DATA AVAILABILITY
8 PILOT COUNTRIES

ESSAT COMPONENT	Available	Not Available
6 — Environmental protection, management and participation	50%	50%
5 — Human settlements and environmental health	74%	26%
4 — Extreme events and disasters	81%	19%
3 — Waste	41%	59%
2 — Environmental resources and their use	49%	51%
1 — Conditions and environmental quality	58%	42%

PERCENTAGE
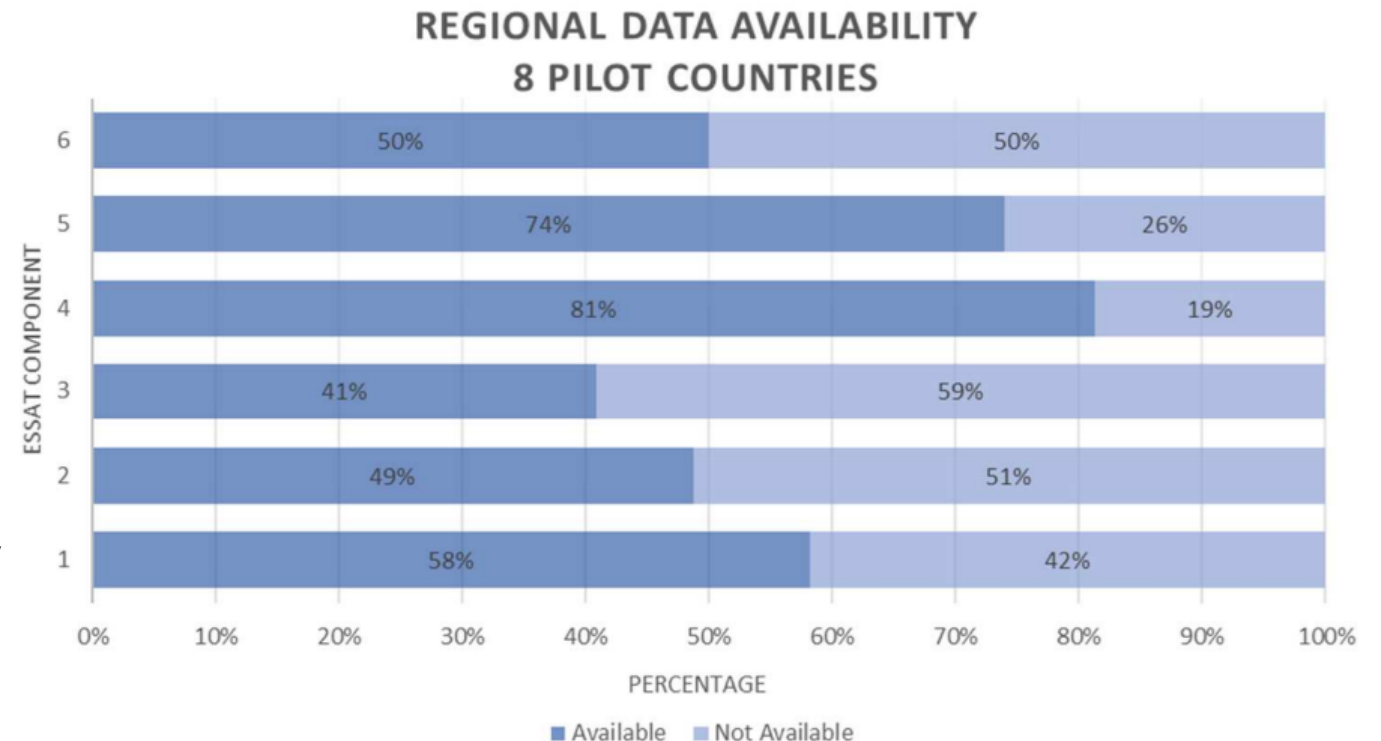
Some relevant outcomes

Workshops and Events

Some relevant outcomes
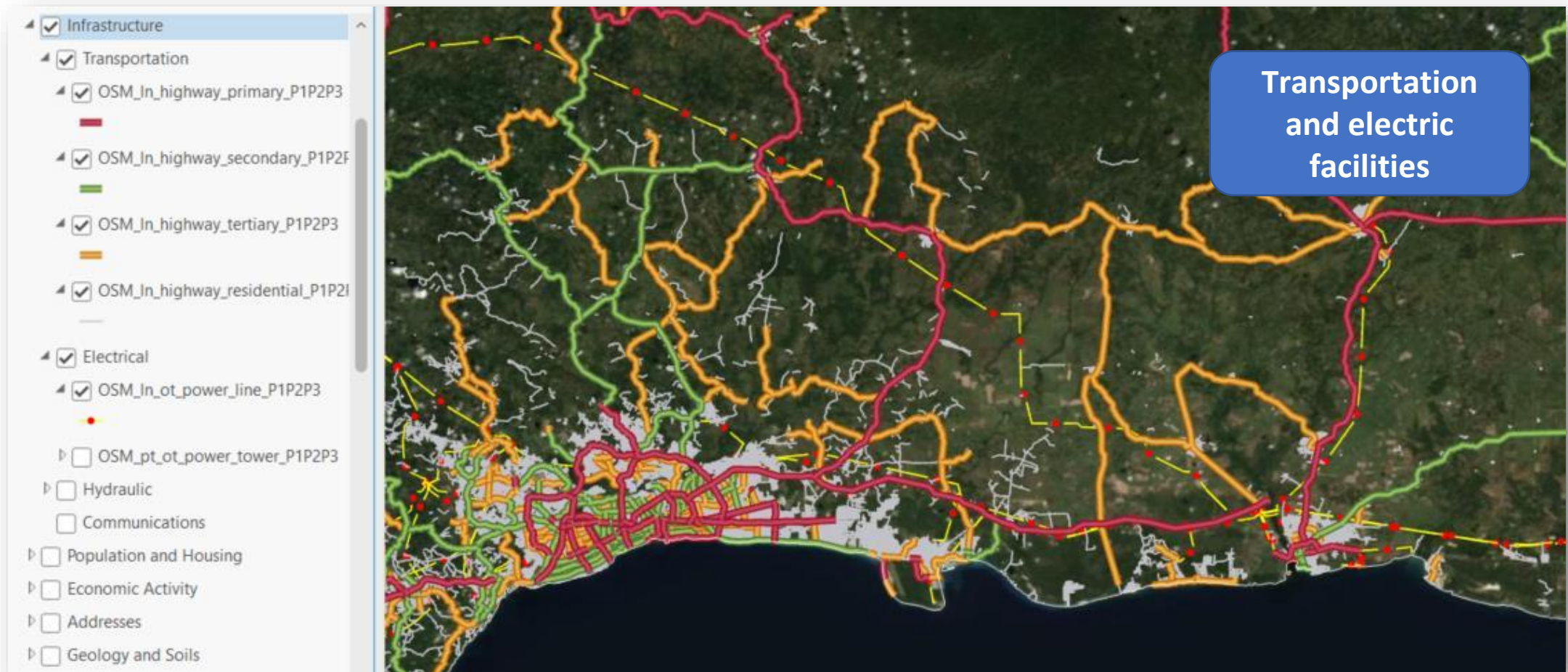
Geospatial databases for resilience

Some relevant outcomes

Geospatial databases for resilience

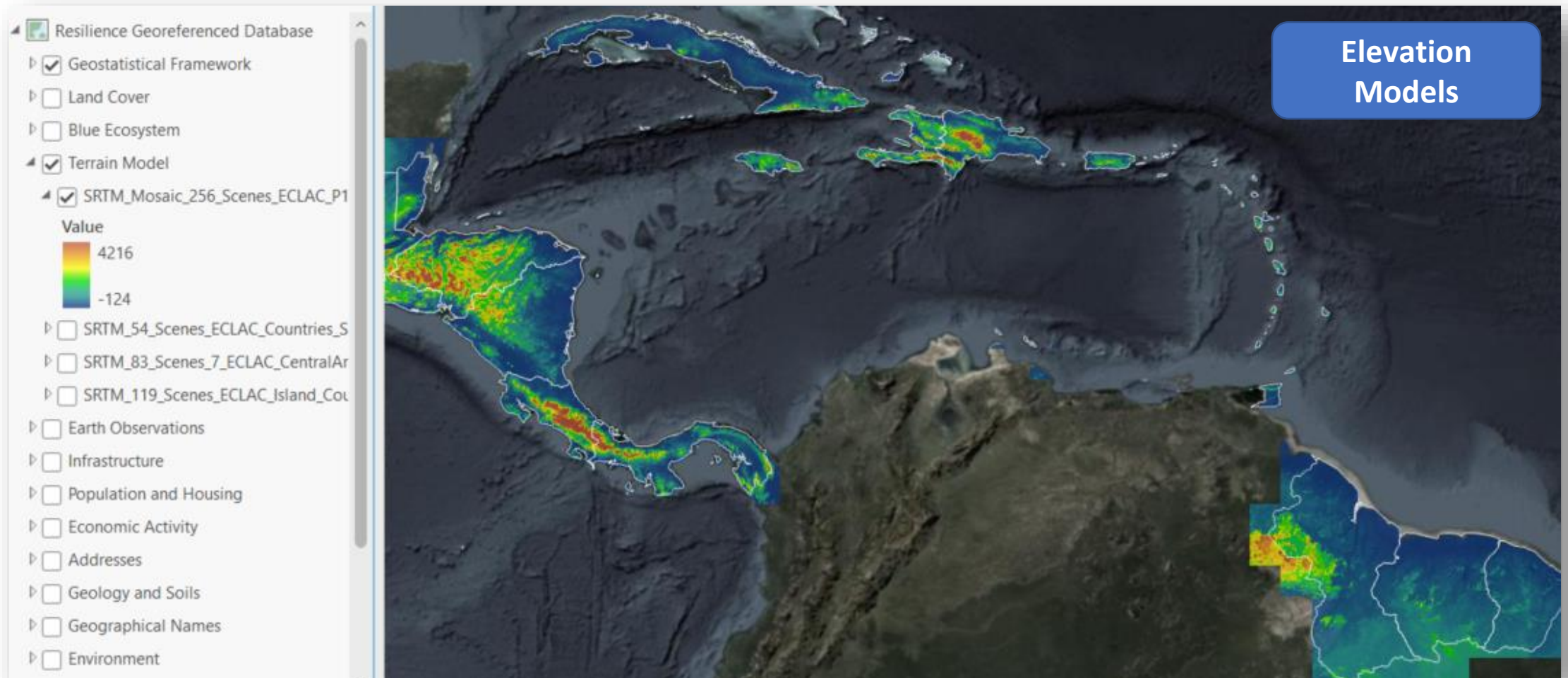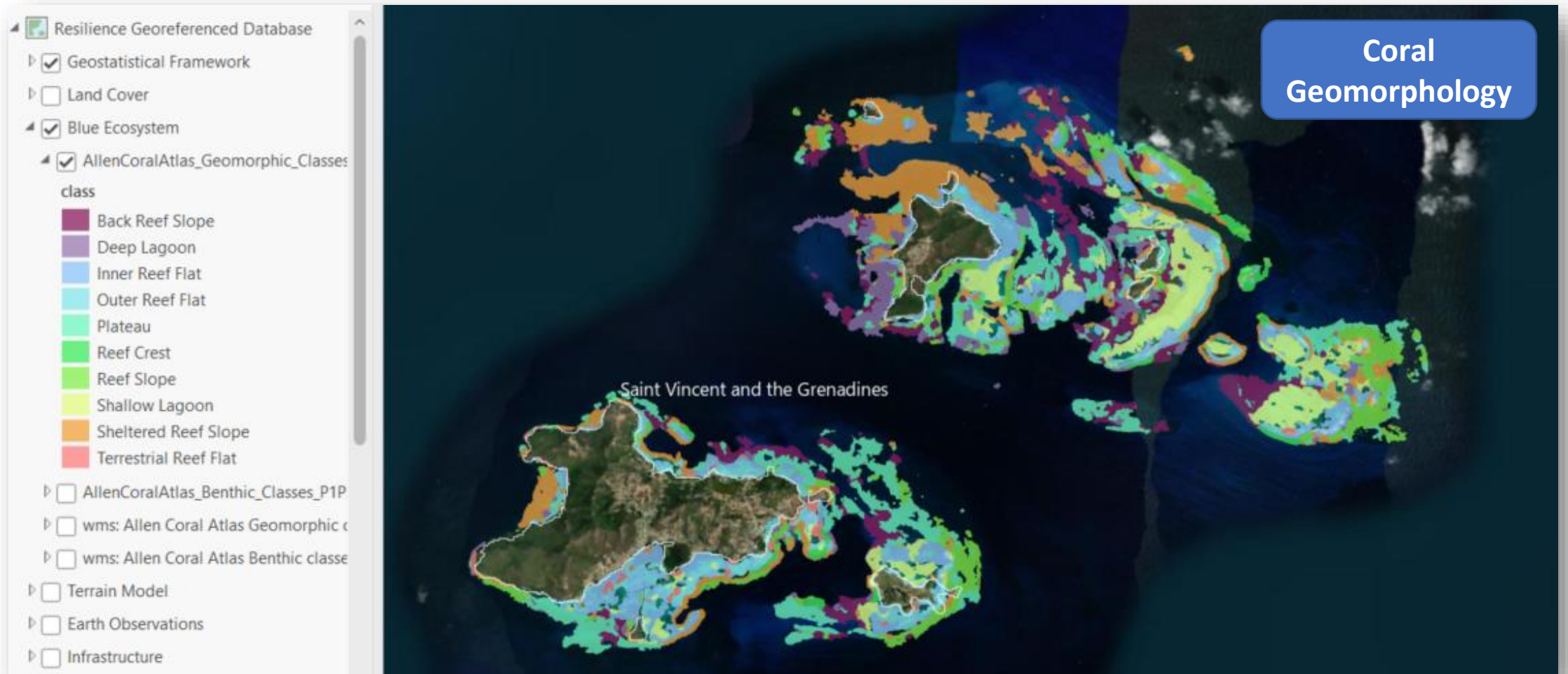Hospitals and schools location

Some relevant outcomes

Geospatial databases for resilience

Some relevant outcomes

Geospatial databases for resilience

Some relevant outcomes

Geospatial databases for resilience

Some relevant outcomes

Geospatial databases for resilience

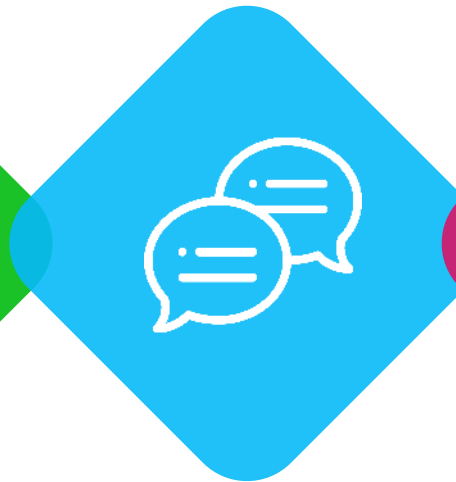# Some relevant outcomes

Geospatial databases for resilience

Some relevant outcomes
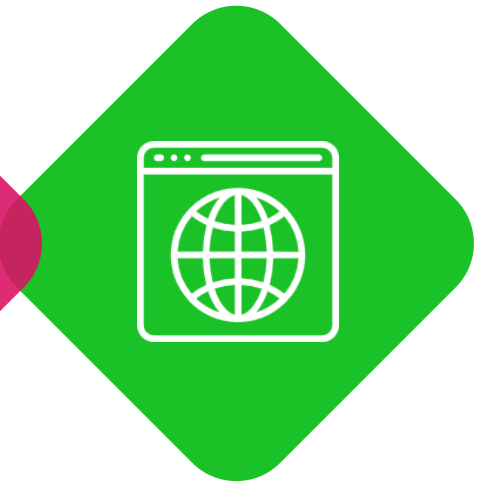
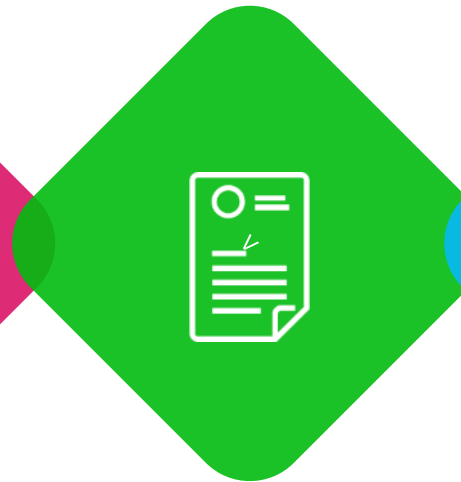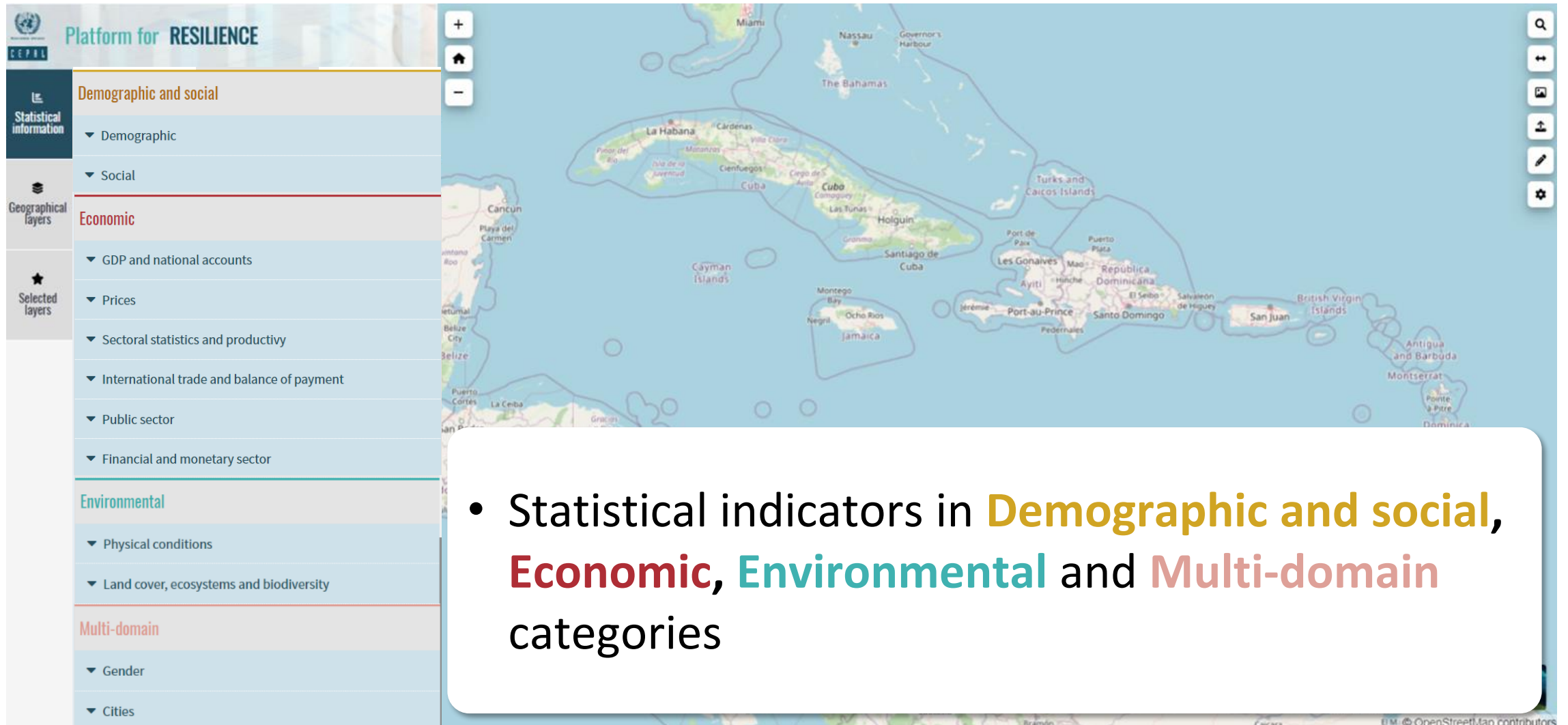### Geospatial Platform for Resilience

OPEN SOURCE

INTEROPERABLE

ACCESSIBLE

ADAPTABLE

MULTIPLE SOURCES
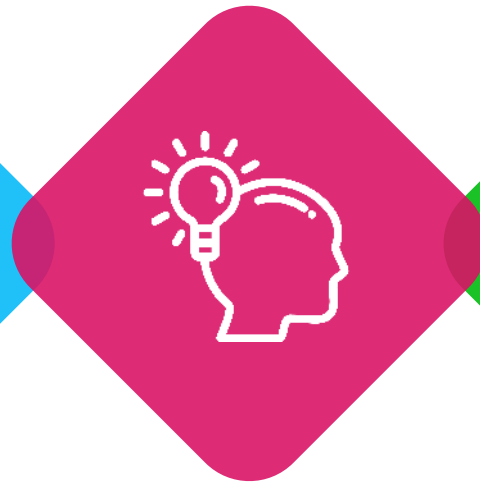
Platform for Resilience: Statistical Information

- Statistical indicators in **Demographic and social**, **Economic**, **Environmental** and **Multi-domain** categories

Platform for Resilience: Geographical layers

Data sources: GlobeLand30

- **Geographical layers display:**
Baseline, infrastructure, socio-natural disasters vulnerabilities, exposure and risks.

Platform for Resilience: Tools

- Some tools for Statistical and geographic layers:

| Layer Information | Geodata Download | Compare | Download map | Upload data |

Draw → Lines / Polygons / Points

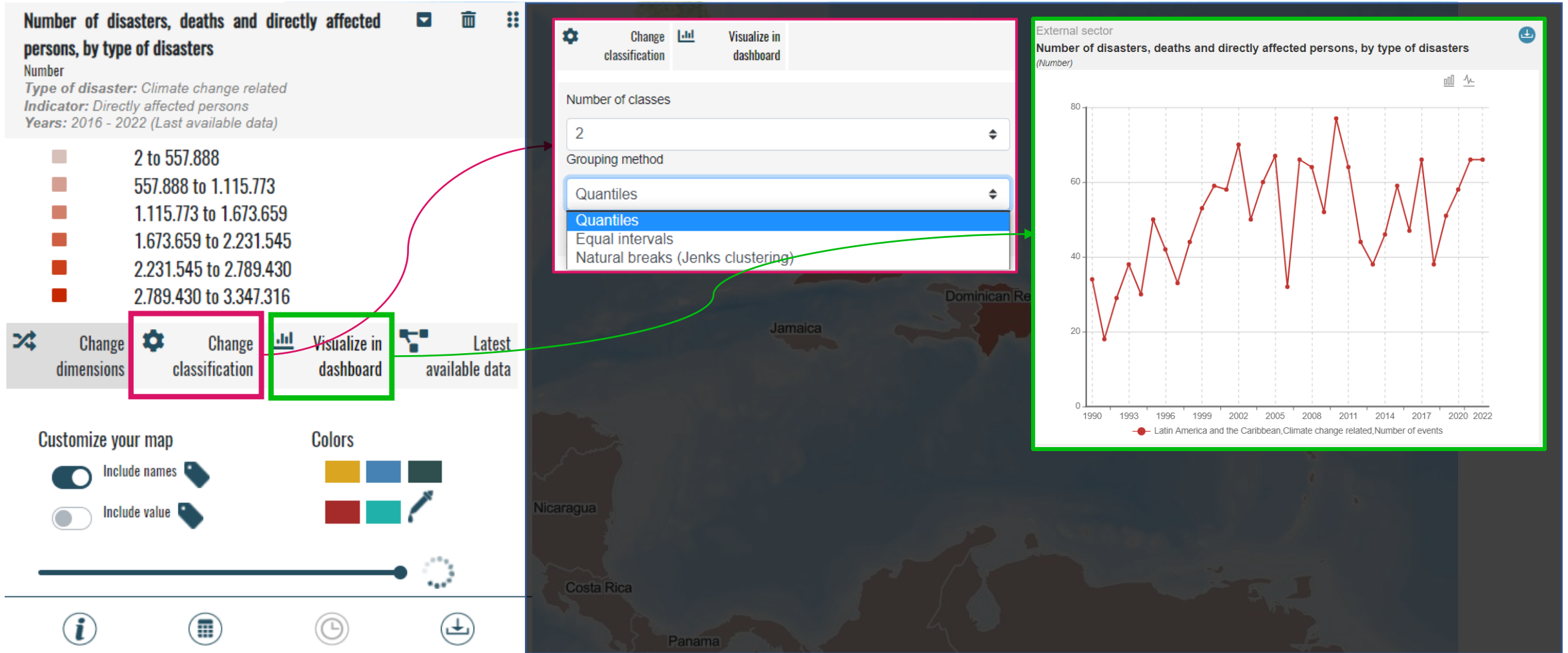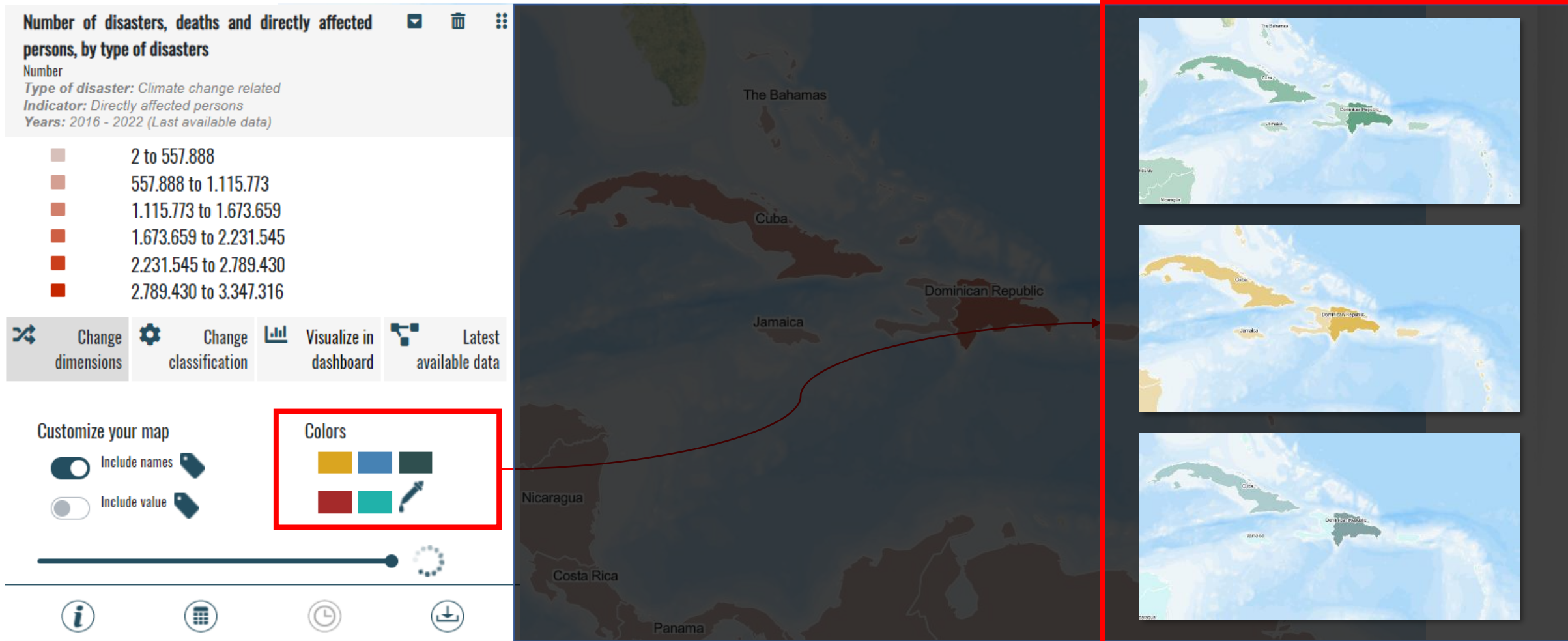Drawing tools may be used to:

1. Define an interest area by the user.
2. Later, the user can request demographic and urban data for that specific defined area.
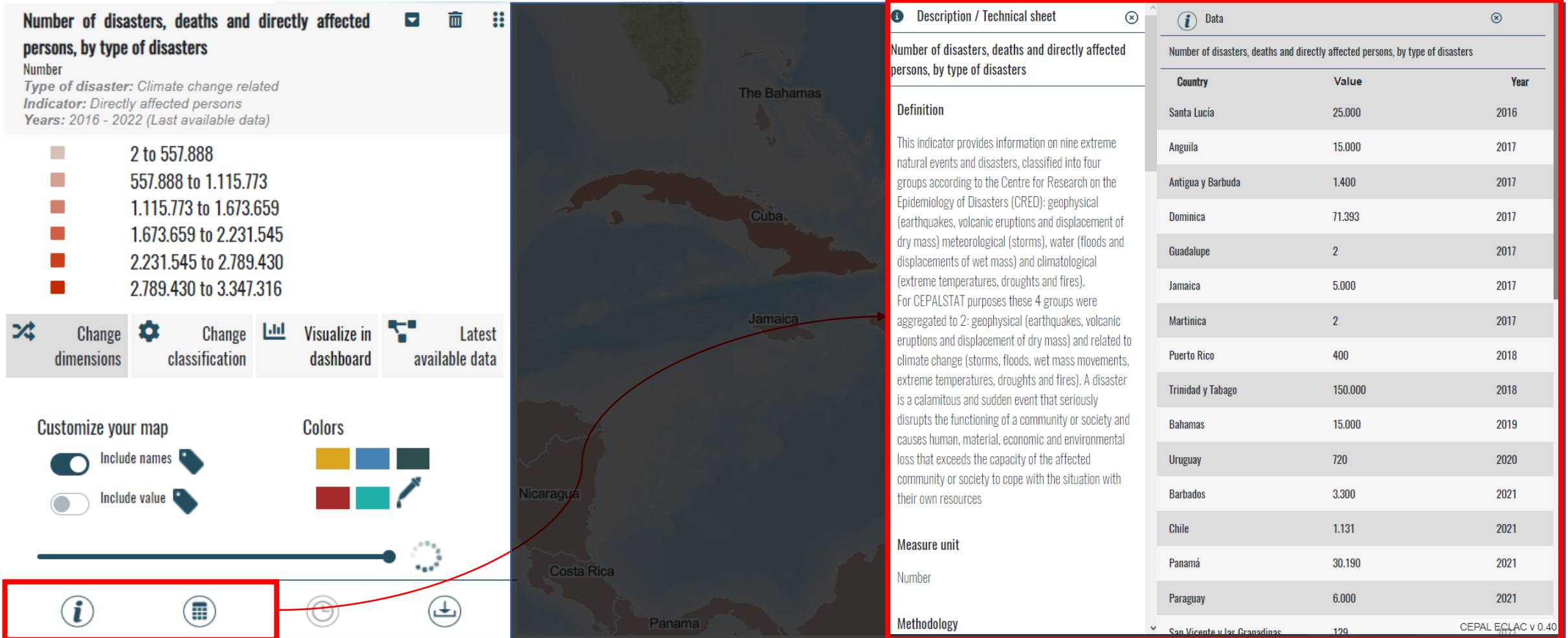
Platform for Resilience: Customization tools

- **Tools to re-classificate and customize the visualization of data.**
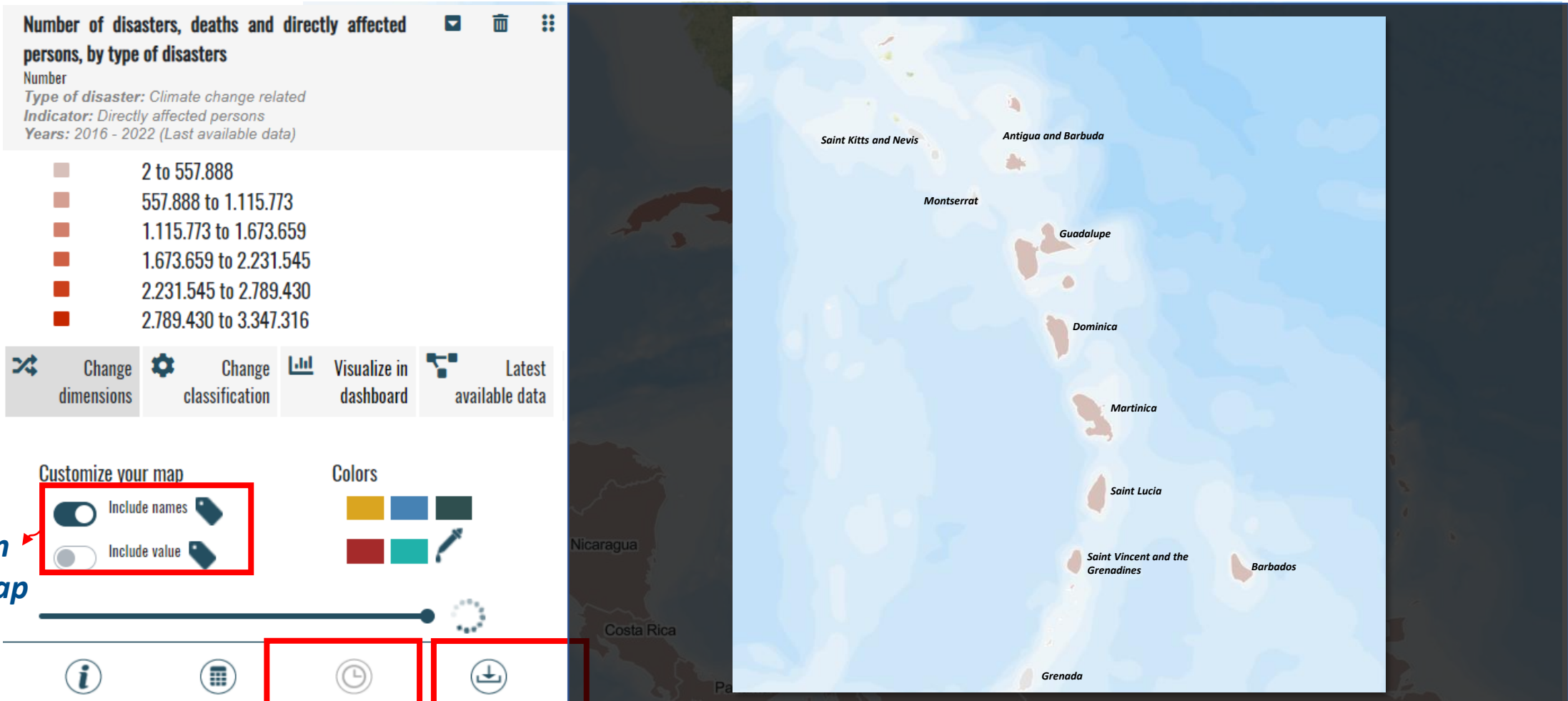
Platform for Resilience: Customization tools

- **Tools to re-classificate and customize the visualization of data.**

Platform for Resilience: Information

Number of disasters, deaths and directly affected persons, by type of disasters
Number
Type of disaster: Climate change related
Indicator: Directly affected persons
Years: 2016 - 2022 (Last available data)

- 2 to 557.888
- 557.888 to 1.115.773
- 1.115.773 to 1.673.659
- 1.673.659 to 2.231.545
- 2.231.545 to 2.789.430
- 2.789.430 to 3.347.316

Change dimensions | **Change classification** | **Visualize in dashboard** | **Latest available data**

Customize your map
Include names
Include value

Colors

Description / Technical sheet

Number of disasters, deaths and directly affected persons, by type of disasters

Definition

This indicator provides information on nine extreme natural events and disasters, classified into four groups according to the Centre for Research on the Epidemiology of Disasters (CRED): geophysical (earthquakes, volcanic eruptions and displacement of dry mass) meteorological (storms), water (floods and displacements of wet mass) and climatological (extreme temperatures, droughts and fires). For CEPALSTAT purposes these 4 groups were aggregated to 2: geophysical (earthquakes, volcanic eruptions and displacement of dry mass) and related to climate change (storms, floods, wet mass movements, extreme temperatures, droughts and fires). A disaster is a calamitous and sudden event that seriously disrupts the functioning of a community or society and causes human, material, economic and environmental loss that exceeds the capacity of the affected community or society to cope with the situation with their own resources

Measure unit

Number

Methodology

Data

Number of disasters, deaths and directly affected persons, by type of disasters

Country	Value	Year
Santa Lucía	25.000	2016
Anguila	15.000	2017
Antigua y Barbuda	1.400	2017
Dominica	71.393	2017
Guadalupe	2	2017
Jamaica	5.000	2017
Martinica	2	2017
Puerto Rico	400	2018
Trinidad y Tabago	150.000	2018
Bahamas	15.000	2019
Uruguay	720	2020
Barbados	3.300	2021
Chile	1.131	2021
Panamá	30.190	2021
Paraguay	6.000	2021
San Vicente y las Granadinas	129	

CEPAL ECLAC v 0.40

- **Access to metadata and further information**

Platform for Resilience: Customization

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Change dimensions
Change classification
Visualize in dashboard
Latest available data

Customize your map
Include names
Include value

Colors

Labels seen in the map

Temporal analysis when available

Direct download of Datasets and indicators

Platform for Resilience: Tools

Compare

- **Compare two or more layers in one display screen**
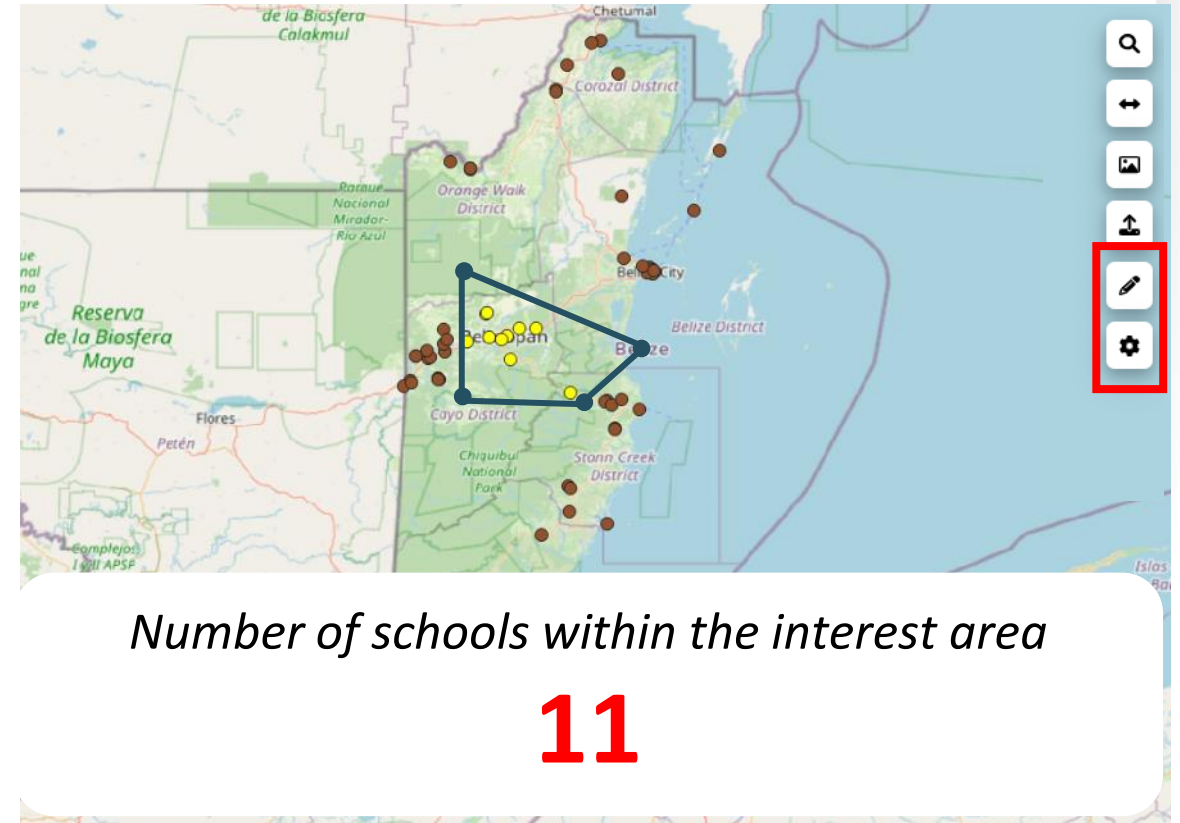
Platform for Resilience: Tools

Download map image
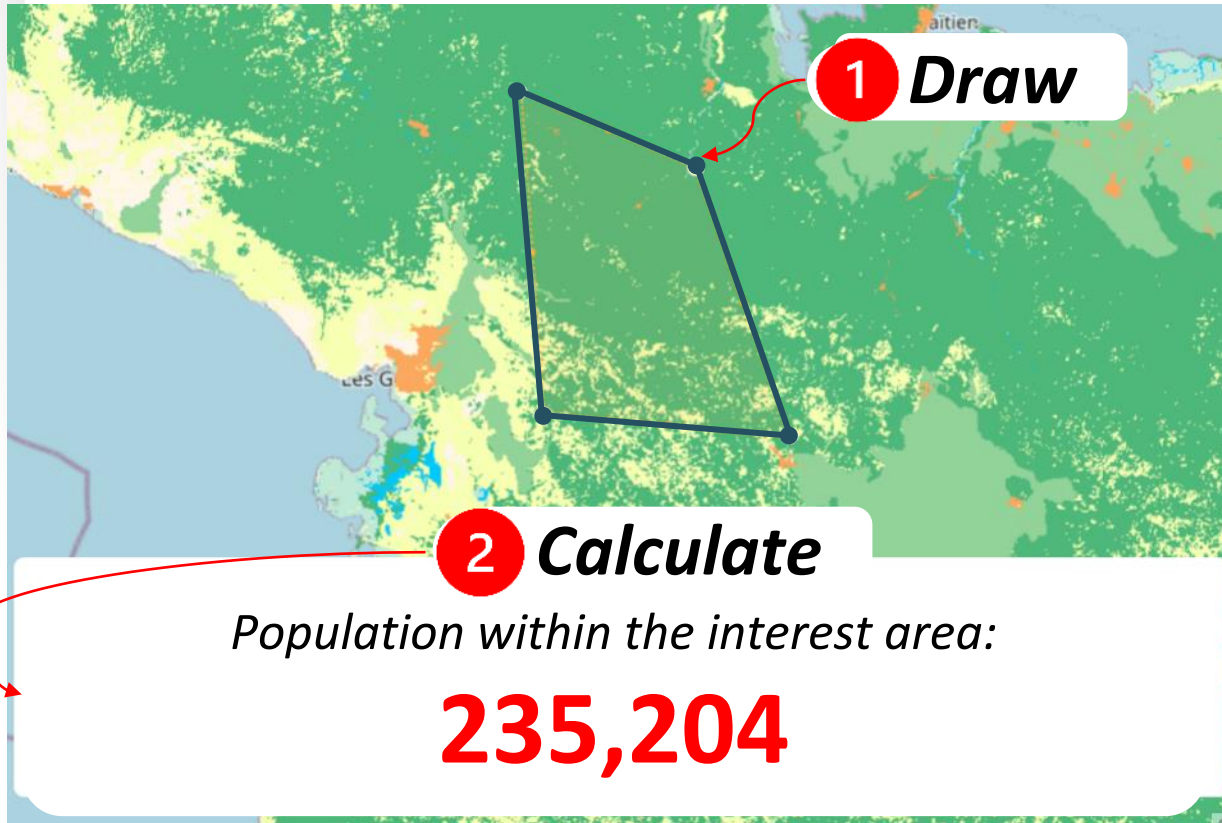
- **Download a map image in different formats for easy sharing.**

Platform for Resilience: Analyze Geospatial layers

Data sources: GlobeLand30
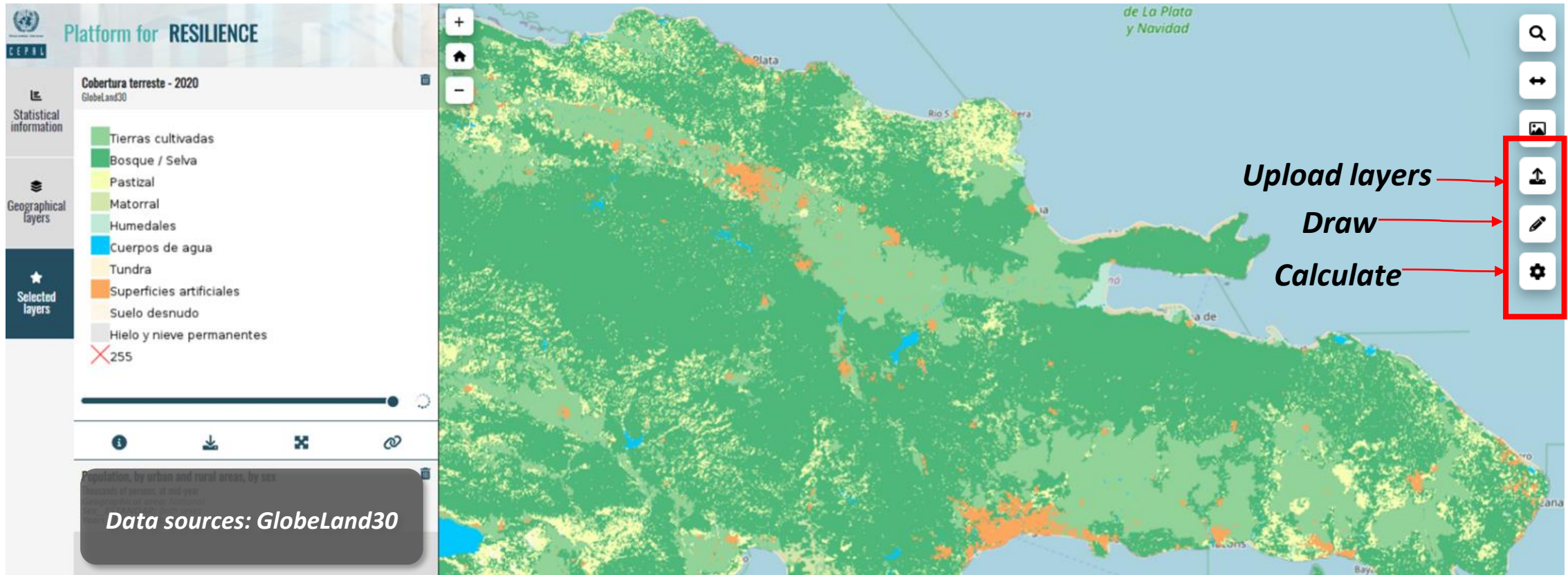
- **Calculate demographical statistics with geospatial layers**

Platform for Resilience: Demographic and infrastructure analysis

① Draw

② Calculate

Population within the interest area:

235,204

Number of schools within the interest area

11

Data sources:
- Land cover: GlobeLand30
- Population: Gridded Population of the World (GPW), v4
- Schools: Open Street Map export

Population exposed to high risk area

Platform for RESILIENCE

Cyclone Hazard Frequency and Distribution
null

Low risk
Medium risk
High risk

Data sources:
- *Cyclone Hazard: SEDAC (NASA)*
- *Population: Gridded Population of the World (GPW), v4*

① Draw

② Calculate

Population within a medium to high risk area of cyclone hazard in the selected area

3,803,365
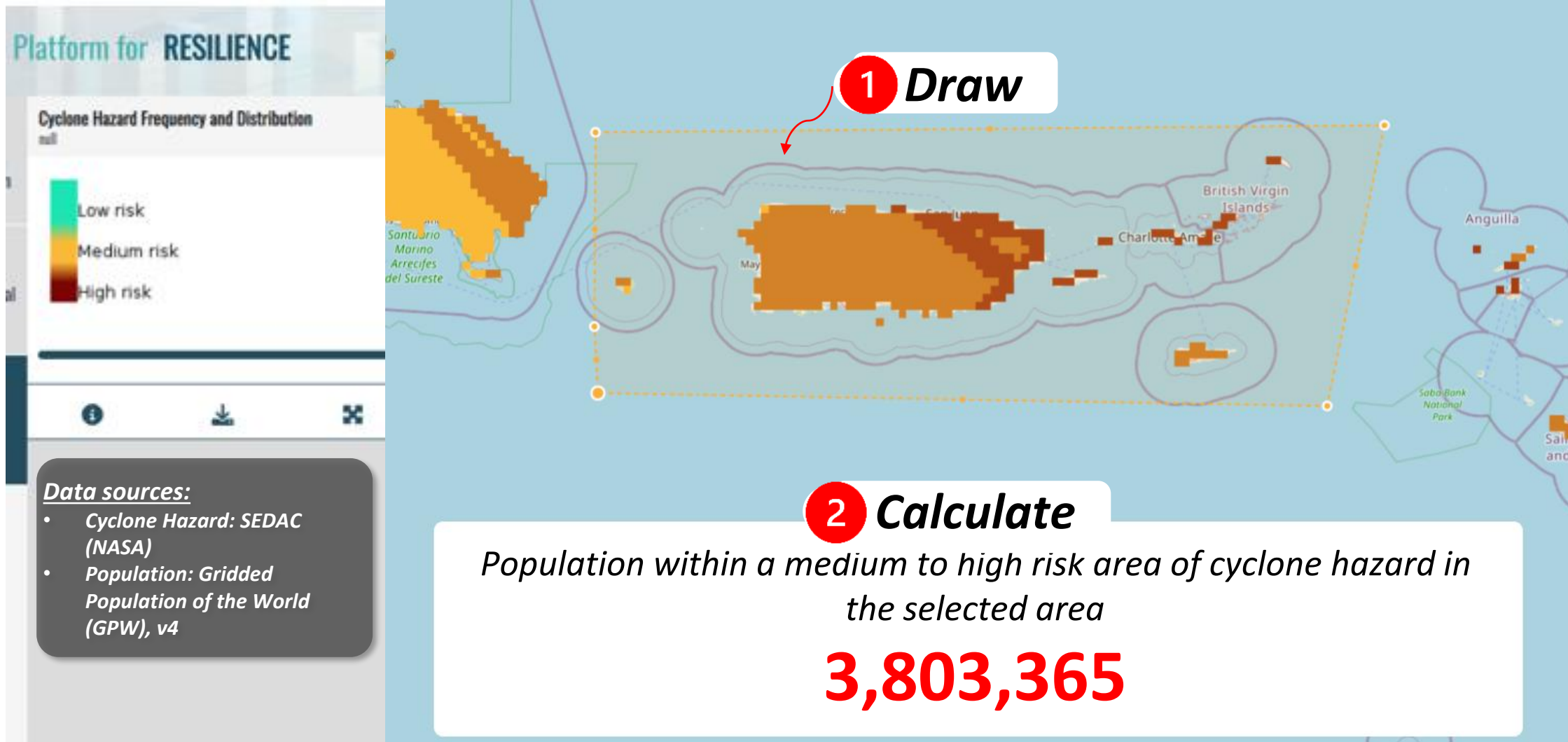
Saint Lucia population, buildings and schools within a low risk exposure to cyclones.

① Draw

② Calculate

Population: **11,183**

Number of schools: **12**

Number buildings: **3,091**
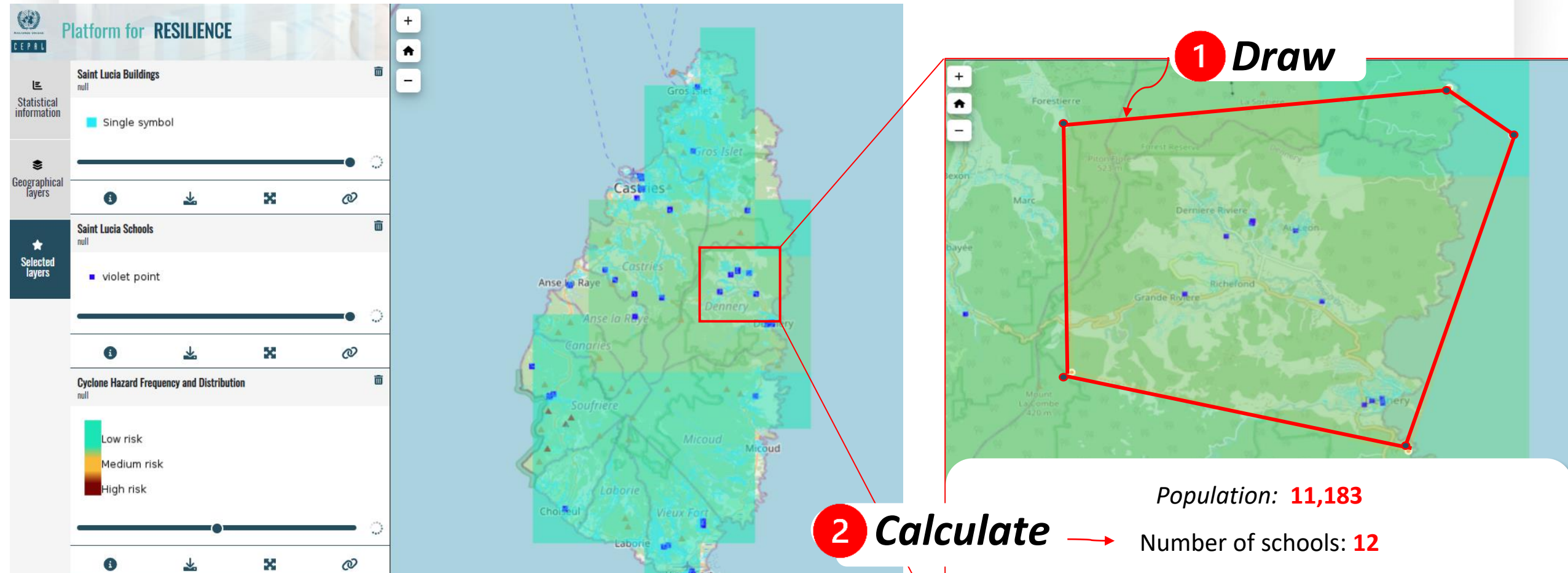
- **Calculate population and count infrastructure** within the selected area.

How the IGIF can support this relevant project?

Strengthening the national geospatial initiatives through establishing the necessary institutional arrangements

Providing guidance to integrate statistical and geospatial information

Providing open-source and sustainable platforms

Promoting the application of national geospatial data inventories to be aware of the existing data.

Improving interoperability among data and system by means of adopting geospatial standards.

Collaborative work agreements between national/international stakeholders.

Assisting the countries in the identification of gaps in the production of geospatial data and guide the elaboration of new data according to national governmental priorities and strategies.
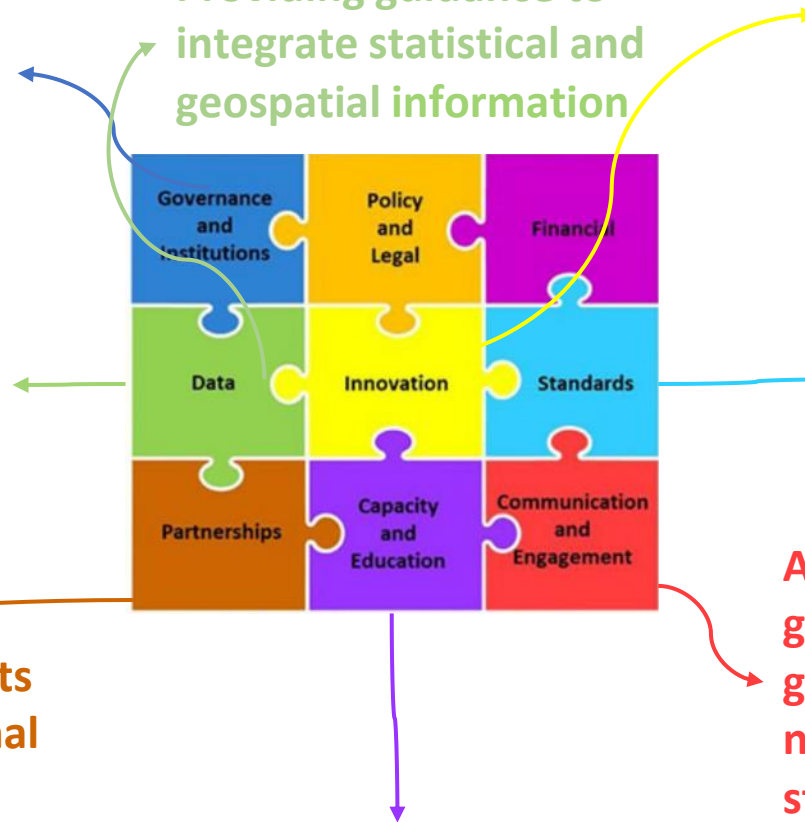
Helping the generation of added value to geospatial information by means of capacity building and training activities.