

Final regional workshop of the project
2023Q “Caribbean SIDS relevant climate change and disasters indicators for
evidence-based policies”

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Platform for resilience

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Introduction



Definition

The resilience platform is an application developed for institutions and civil society, that may provide, consult or download geographic and statistical information, which serves as a basis for analysis, tactics and strategies in disaster prevention and response.

Conceptual model

Events

- Climatological
- Geophysical
- Hydrological
- Meteorological
- Antropogenic
- Biological
- Chemical
- Technological
- Socials

Context *



*Based on Global Statistical Geospatial Framework



Functionalities



References

Some relevant features

OPEN SOURCE



INTEROPERABLE



ACCESSIBLE



ADAPTABLE



MULTIPLE SOURCES



Content 1/3

Statistic information:

The screenshot displays the 'Plataforma de RESILIENCIA' interface. On the left, a sidebar menu is visible with the following sections:

- Información estadística**
 - Demográficos y sociales
 - Económicos
- Capas geográficas**
 - Ambientales
 - Temas transversales
- Capas seleccionadas**

The main area shows a map of the Caribbean region, including countries like Cuba, República Dominicana, Puerto Rico, and others. The map is overlaid with various data layers, and a toolbar on the right side provides navigation and interaction options. The bottom right corner of the map area includes the text '© OpenStreetMap contributors'.

Content 2/3

Geospatial layers:

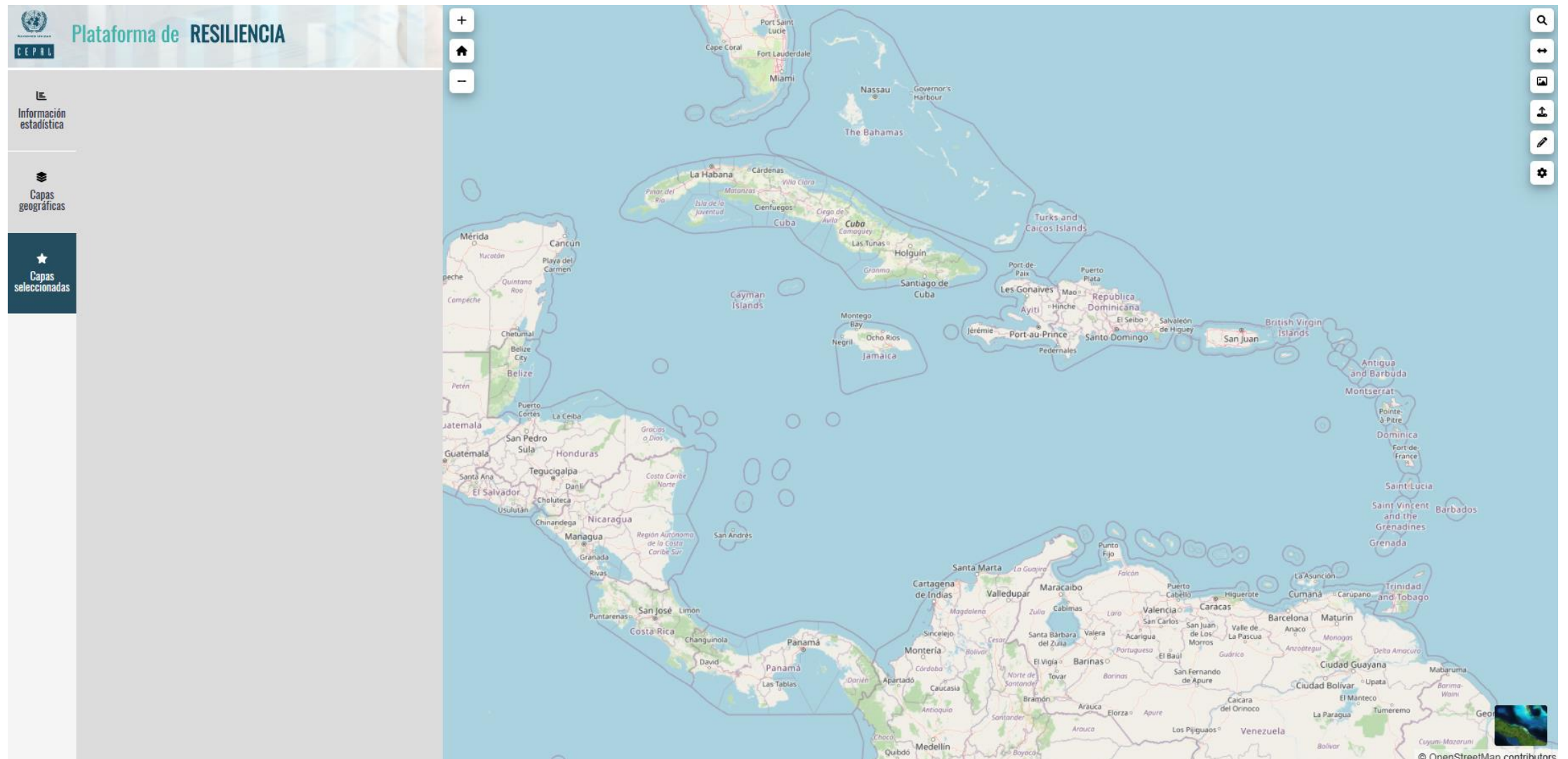
The screenshot displays the 'Plataforma de RESILIENCIA' web application. The interface is divided into a sidebar on the left and a main map area on the right. The sidebar contains several categories of geospatial layers:

- Información estadística:** Biota, Transporte.
- Capas geográficas:** Medio ambiente, Sociedad.
- Capas seleccionadas:** Información geocientífica, Aguas Continentales.
- Other layers:** Climatología, meteorología y atmósfera; Límites; Economía; Planeamiento catastral; Ubicación; Infraestructura; Océanos; Población; Salud; Comunicaciones.

The main map area shows a detailed view of the Caribbean region, including Cuba, the Dominican Republic, Haiti, and various islands. The map is overlaid with a grid and various geospatial layers. Navigation controls are visible on the right side of the map, including a search icon, a home icon, a zoom in/out icon, a full screen icon, a print icon, and a settings icon. The bottom right corner of the map area includes the text '© OpenStreetMap contributors'.

Content 3/3

Selected layers:



Tools 1/5

Some tools for Statistical and geographic layers:

The screenshot shows a web application interface with a map of La Plata. On the left, there is a legend for 'Geographical layers' with categories like 'Tierras cultivadas', 'Bosque / Selva', 'Pastoral', 'Matorral', 'Humedales', 'Cuerpos de agua', 'Tundra', 'Superficies artificiales', 'Suelo desnudo', and 'Hielo y nieve permanentes'. A search bar contains '255'. The main map area has several tool callouts: 'Layer Information' with an 'i' icon, 'Geodata Download' with a downward arrow icon, 'Compare' with a double-headed arrow icon, 'Download map' with a map icon, and 'Upload data' with an upward arrow icon. A 'Draw' tool callout with a pencil icon is expanded into a box containing three options: 'Lines' with a line icon, 'Polygons' with a square icon, and 'Points' with three colored dots icon. An arrow points from the 'Draw' box to the text on the right.

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.

Tools 2/5. Customization

The screenshot displays a data visualization tool interface. On the left, a map shows the number of disasters, deaths, and directly affected persons by type of disasters, categorized into five ranges. The 'Change classification' button is highlighted with a pink box. Below the map, there are options to 'Customize your map' (including 'Include names' and 'Include value' toggles) and 'Colors' (with a color palette and a brush tool). A 'Visualize in dashboard' button is highlighted with a green box. On the right, a line chart titled 'External sector' shows the number of disasters, deaths, and directly affected persons by type of disasters (Number) from 1990 to 2022. The chart is highlighted with a green box. A 'Change classification' panel is open, showing 'Number of classes' set to 2 and 'Grouping method' set to 'Quantiles'. The 'Quantiles' option is highlighted in blue. A red arrow points from the 'Change classification' button on the map to the 'Change classification' panel. A green arrow points from the 'Visualize in dashboard' button on the map to the line chart.

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

External sector

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

80

60

40

20

0

1990 1993 1996 1999 2002 2005 2008 2011 2014 2017 2020 2022

Latin America and the Caribbean, Climate change related, Number of events

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

Tools 3/5 . Metadata

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: [Yellow, Blue, Green, Red, Teal]

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

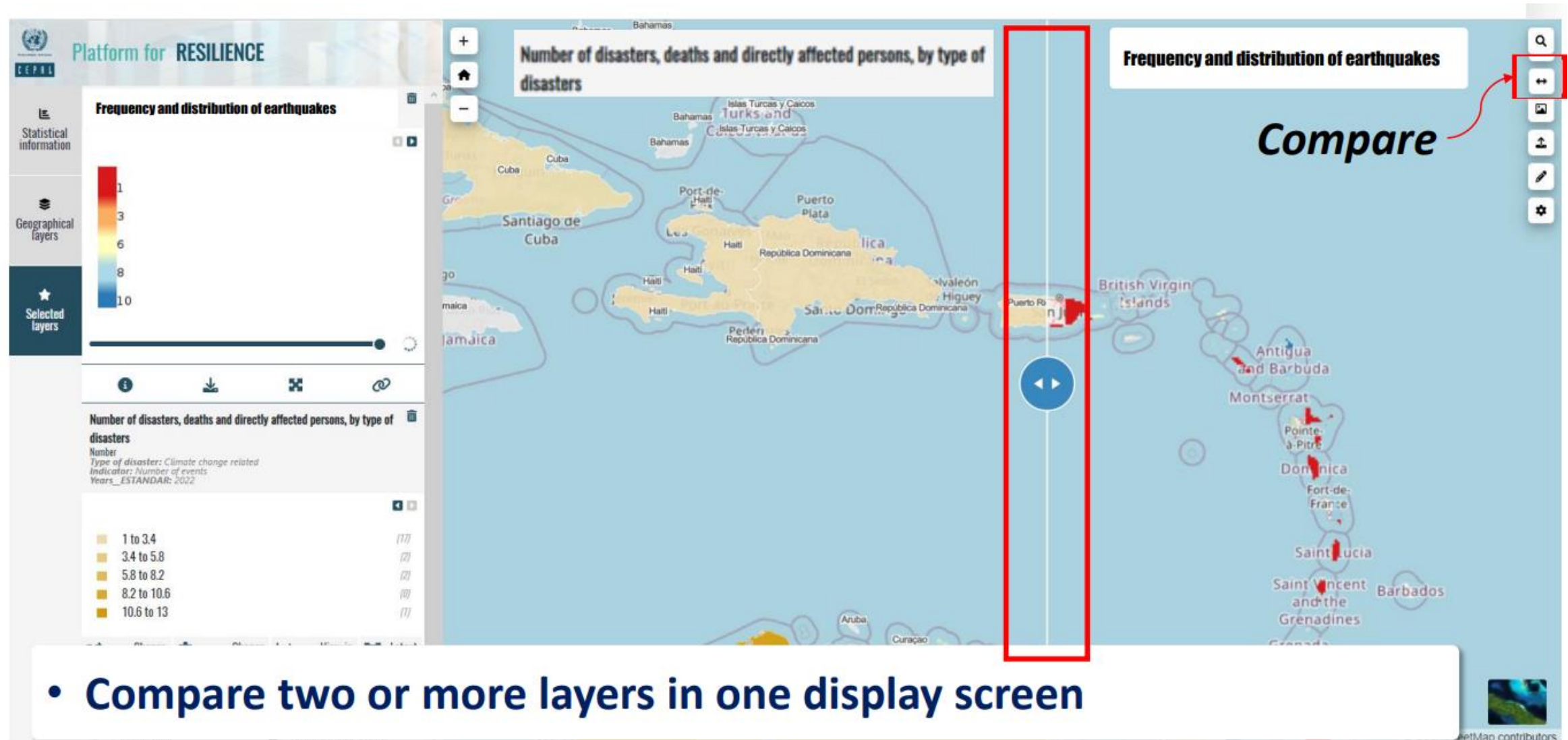
Methodology

Country	Value	Year
Santa Lucía	25.000	2016
Anguila	15.000	2017
Antigua y Barbuda	1.400	2017
Dominica	71.393	2017
Guadalape	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	120	

CEPAL/ECLAC v 0.40

- Access to metadata and further information

Tools 4/5 . Comparison



- Compare two or more layers in one display screen

Tools 5/5 . Downloading

The screenshot displays the 'Platform for RESILIENCE' interface. On the left, there is a sidebar with 'Statistical information' and 'Geographical layers'. The main content area shows a map of the Caribbean region with a red box highlighting the map area. To the right of the map, the text 'Download map image' is written in a large, bold font, with a red arrow pointing to a download icon in the top right corner of the map area. Below the map, there is a table with the following data:

Number of disasters, deaths and directly affected persons, by type of disasters	Number
Type of disaster: Climate change related	Indicator: Number of events
Years: ESTANDAR: 2022	
1 to 3.4	(17)
3.4 to 5.8	(7)
5.8 to 8.2	(7)
8.2 to 10.6	(10)
10.6 to 13	(11)

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

Geospatial calculations 1/3

Platform for RESILIENCE

Cobertura terrestre - 2020
GlobeLand30

- Tierras cultivadas
- Bosque / Selva
- Pastizal
- Matorral
- Humedales
- Cuerpos de agua
- Tundra
- Superficies artificiales
- Suelo desnudo
- Hielo y nieve permanentes
- 255

Upload layers

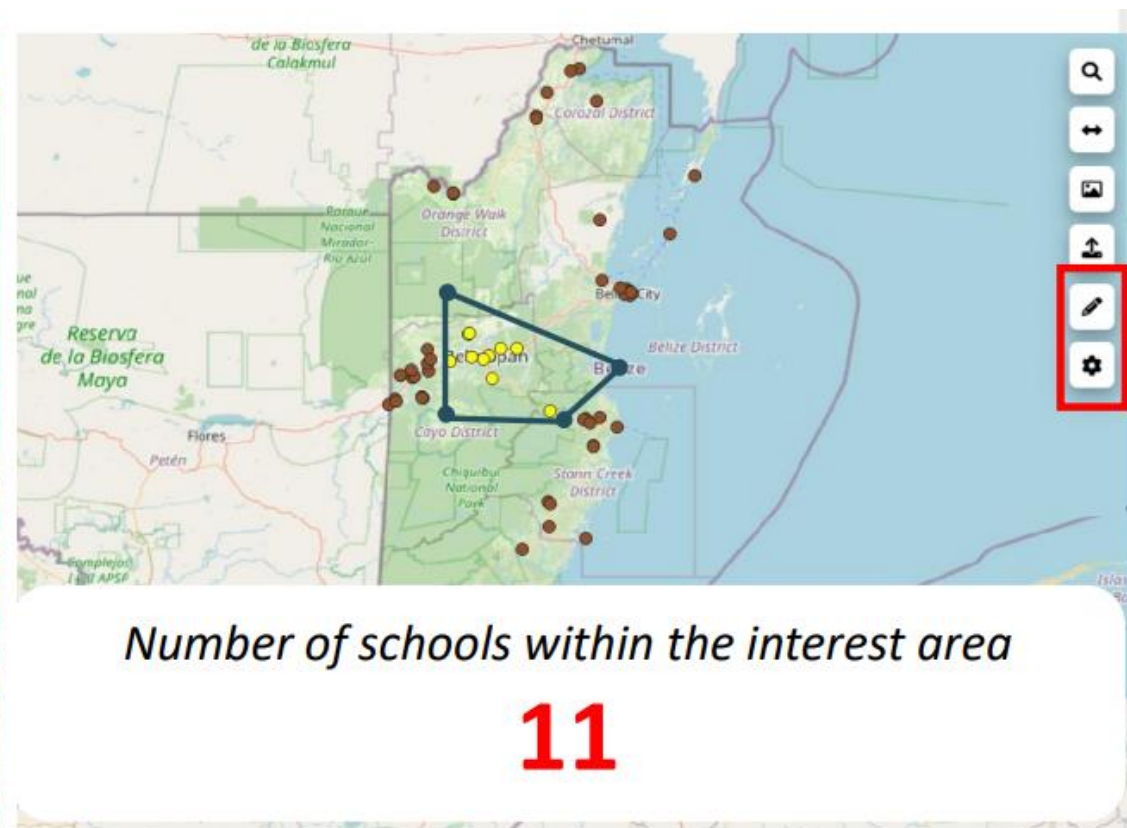
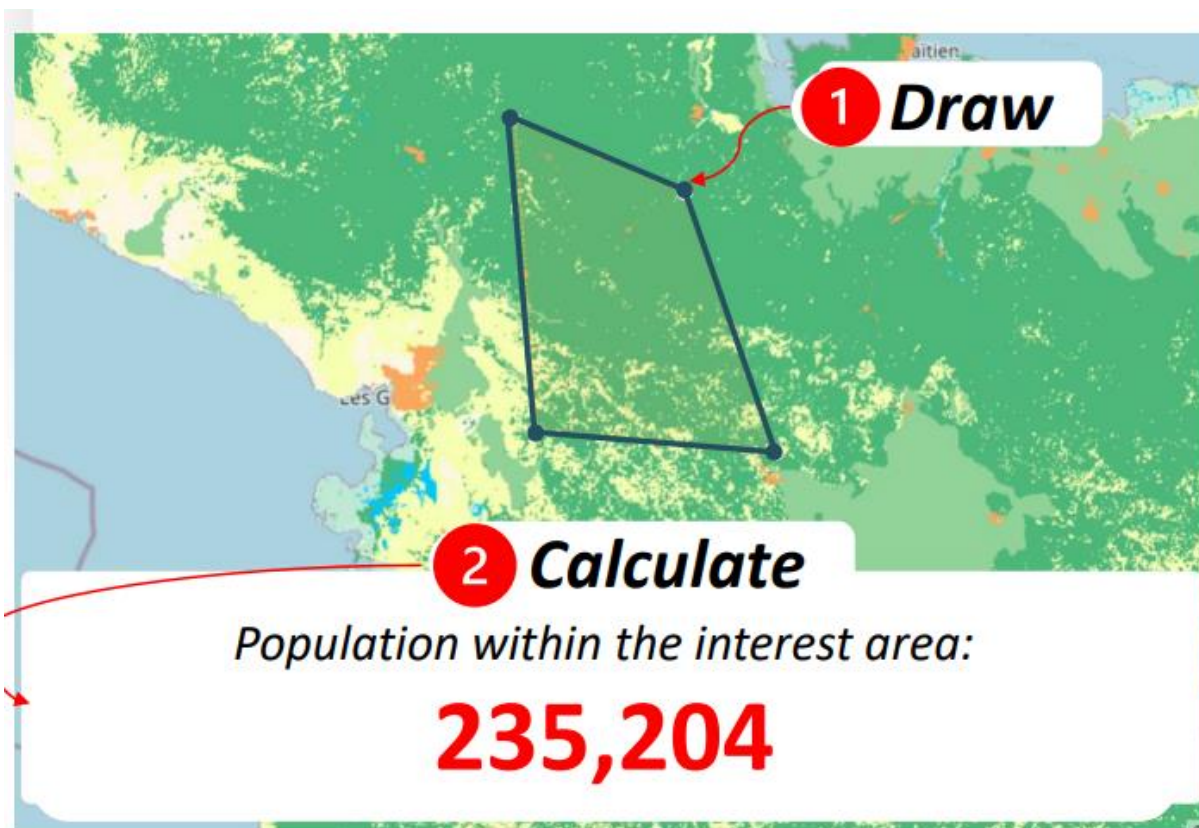
Draw

Calculate

Data sources: *GlobeLand30*

- Calculate demographical statistics with geospatial layers

Geospatial calculations 2/3 . Demographic and infrastructure analysis

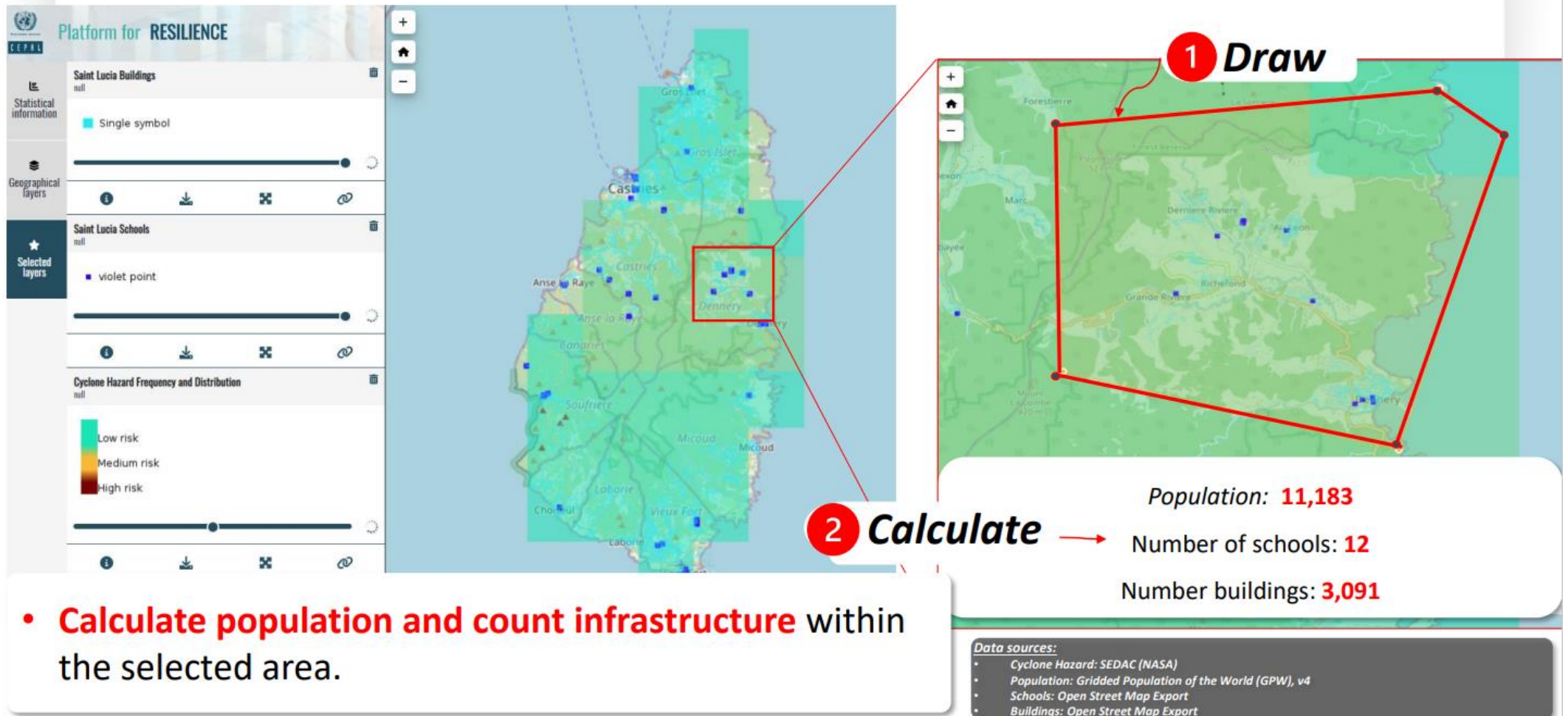


Data sources:

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

Geospatial calculations 3/3 . Population estimation

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



Lessons to learn

- Identification of gaps in geospatial data
- Linking the national geospatial initiatives (SDI's)
- Collaborative agreements with national/international stakeholders
- Capacity building in order to add value to geospatial and statistical information
- Improving data and systems interoperability by adopting geospatial standards

<https://geo.cepal.org/geo-resiliencia/?lang=en>

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Thanks



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