**XI Statistical Conference
of the Americas**
Side Event
*Caribbean activities related to
measure environment, climate
change and disasters indicators
for policy decision-making*

Overview of activities related to measuring climate change and disasters in the Latin America and the Caribbean region

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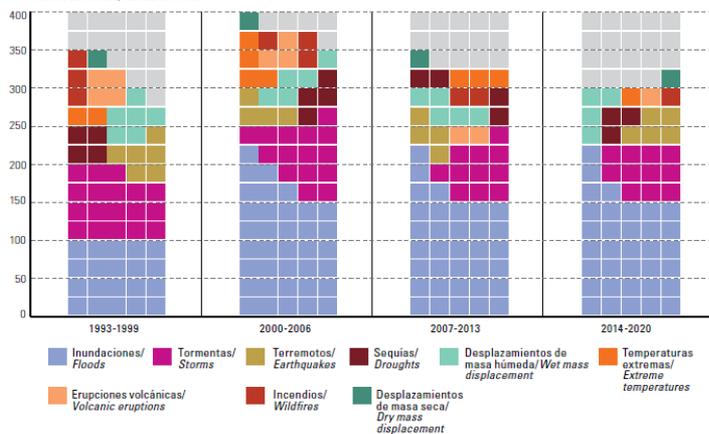
UNITED NATIONS

ECLAC

State of the art in the LAC region of environment, climate change and disasters statistics

- Indicators that require environment, climate change and disaster statistics to be compiled:
  - Of SDG targets and goals almost **70%**, and **50%** of SDG indicators
  - Of SENDAI FW: **100%** of indicators
  - Of Paris 2015 Agreement on Climate Change: **100%**

- There is an ever-growing **demand** for these metrics, both from **international and national agreements and development plans and policy targets.**

- Of the three pillars of sustainable development, the newer and weakest is monitoring/measuring **environment, climate change and disaster dynamics**

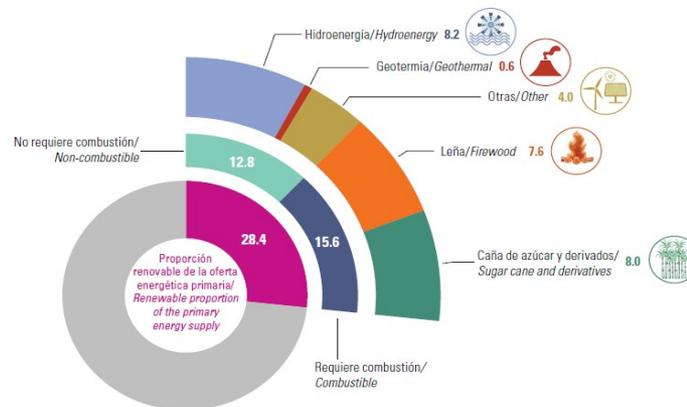## What is **not measured, can not be properly managed or solved**

Latin America and the Caribbean: number of extreme events and disasters
Número de eventos/*Number of events*

Legend:
- Inundaciones/*Floods*
- Tormentas/*Storms*
- Terremotos/*Earthquakes*
- Sequías/*Droughts*
- Desplazamientos de masa húmeda/*Wet mass displacement*
- Temperaturas extremas/*Extreme temperatures*
- Erupciones volcánicas/*Volcanic eruptions*
- Incendios/*Wildfires*
- Desplazamientos de masa seca/*Dry mass displacement*

América Latina y el Caribe: oferta de energía primaria renovable por recurso energético, 2018[A]
Latin America and the Caribbean: supply of primary renewable energy by energy resource, 2018[A]
(En porcentajes/*Percentages*)

- Hidroenergía/*Hydroenergy* 8.2
- Geotermia/*Geothermal* 0.6
- Otras/*Other* 4.0
- Leña/*Firewood* 7.6
- Caña de azúcar y derivados/*Sugar cane and derivatives* 8.0
- No requiere combustión/*Non-combustible* 12.8
- Requiere combustión/*Combustible*
- Proporción renovable de la oferta energética primaria/*Renewable proportion of the primary energy supply*
- 28.4
- 15.6

Regional challenges to produce environment, climate change and disasters statistics and indicators

Statistical challenges:

- Insufficient and/or irregular collection of environmental, climate change and disasters **data** within National Statistical Systems.

- **Newer sources** of statistical information underutilized (i.e., remote sensing, geospatial, monitoring stations and administrative records)

- **Methodologies** to measure some aspects of climate change and adaptation, and disaster risk, impact and resilience are under development

Institutional challenges:

- **Institutionalization** and regular **budget** allocation needed in both NSOs and line ministries and authorities in the context of National Statistical Systems

- **Inter-agency technical capacities and common language** is needed (hence this project) for all teams in all relevant institutions

- Insufficient **institutionalized regular statistical cooperation** among NSO - Ministry of Environment – Disaster/Emergency, line Ministries and academia

ECLAC regional capacity-building on climate change and disaster-related statistics and indicators

1. Demand-driven inter-institutional **capacity building** to LAC countries
   - In-person **workshops**
   - **Online training course on ES/CC/D**
   - **Remote TA/training on EA/EEA**
   - Quarterly **webinars** on environment, climate change and on SDG/SENDAI indicators production
   - **Regional Network** of ES
   - **Assessment of Use of Geospatial** Technology in NSOs
   - Support on the Global Set Climate Change Statistics and Indicators Consultation for LAC

NOTE: Since 2016, more than 900 public officials from LAC countries have been trained, without including webinars or online training courses

- Countries that have received TA and Workshops
- Countries that have received TA
- Countries that have received Workshops
- Countries that have participated in regional workshops
- Regional and national workshops on climate change and disasters

2. **Methodological** development
   - **FDES in Spanish**
   - **Methodological Guidance Manual Environmental Indicators**
   - **Environment Statistics Biblioguide**
   - **Damages and Losses (DaLA) Methodology**

3. **Production** of key regional **environment indicators**
   - **CEPALSTAT** database and geoportal, **Statistical Yearbook** and **Statistical News**

4. **Secretariat** of two **working groups** of the Statistical Conference of the Americas
   - Methodological framework for the measurement of disaster-related indicators of the SDGs and the Sendai framework for disaster risk reduction
   - Recommendations for the Generation of Environmental Statistics and Indicators with Geospatial Information and the use of Non-Conventional Sources

5. **Partnership and Cooperation with UN and regional organizations** and **Regional Coordination through GGIM Americas** between Official geospatial community and NSOs
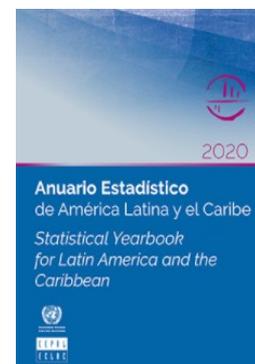
Availability of climate change and disasters-related statistics and indicators in Latin American and the Caribbean Region

Available data +

Depending on the country the situation varies, but in general:

➤ **Climate process drivers:**
- Statistics relatively more available (energy, agriculture, other economic activities and GHG net emissions).

➤ **Climate change evidence:**
- Historical data series available for precipitation and temperature variation (terrestrial and seas).

➤ **Climate change impacts and vulnerability:**
- Data available for occurrence and impact of disasters on affected people. Economic losses due to disasters less available.
- Sea level rise data is less available

➤ **Mitigation**
- Energy renewability, energy intensity of GDP, forest cover and disaster preparedness data relatively more available.

➤ **Adaptation:**
- The least developed and more difficult to capture statistically (spatially specific programs and measures).

Available data −

# Concentrations: Global Atmospheric CO$_2$ Historical Levels in 2019
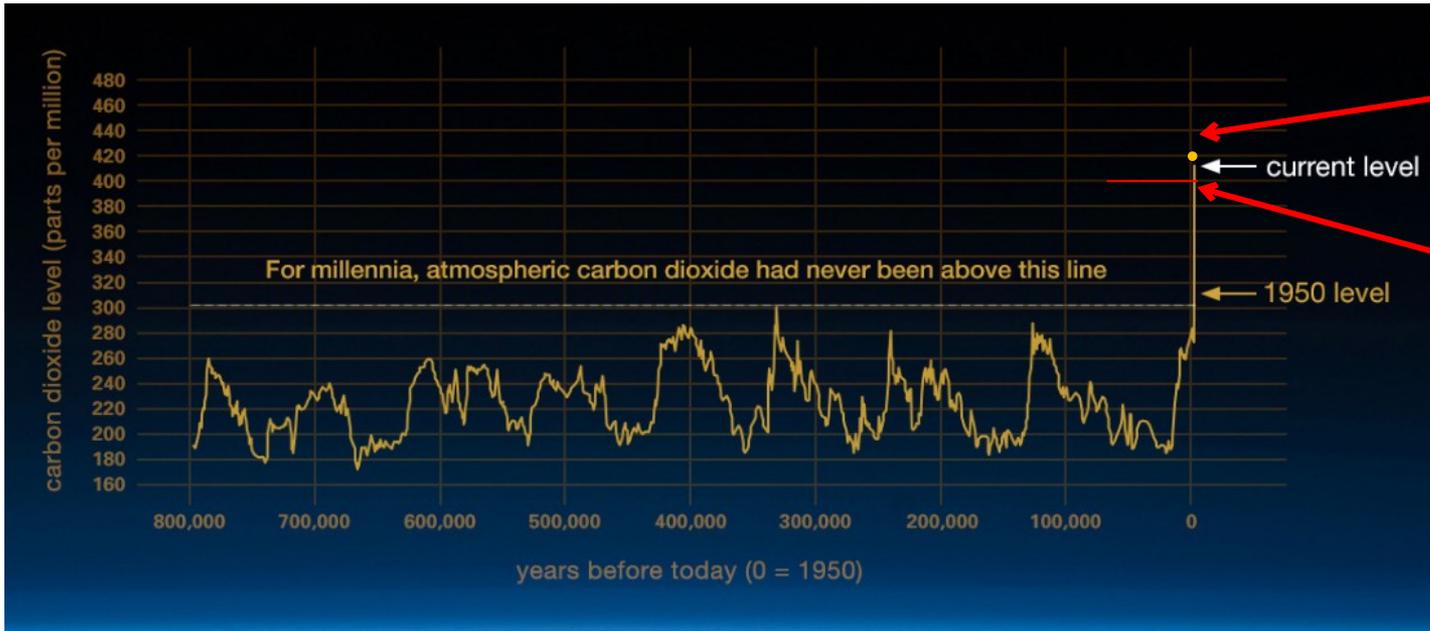
Historical high May 19 415.26 ppm (NOAA)

Carbon dioxide officially passed the symbolic 400 ppm mark, point of no return

Mauna Loa Observatory reported an atmospheric co$_2$ concentration of over **415.26** parts per million (ppm), far higher than any point in the last 800,000 years.

Source: Mauna Loa Observatory. National Oceanic and Atmospheric Administration (NOAA)
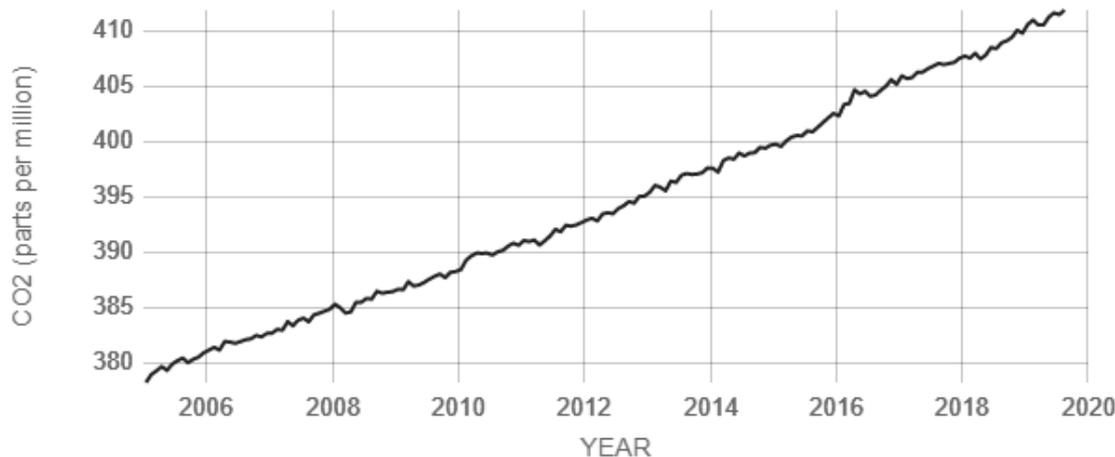
Last measurement August 2019: 412 ppm (NASA)

Source: climate.nasa.gov

Drivers: LAC: Evolution of GHG emissions
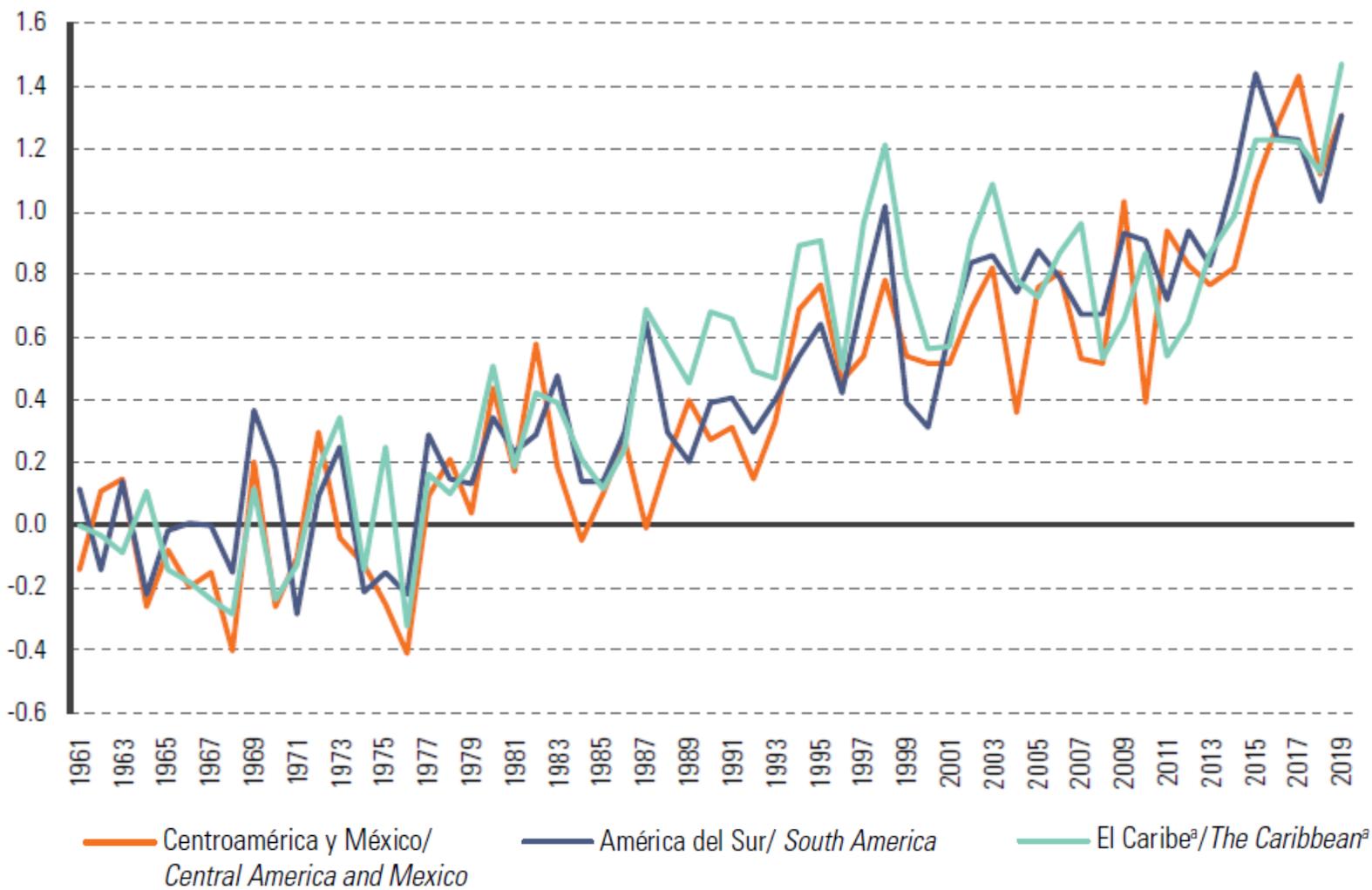
(MtCO$_2$e) 1990-2018 y percentage 2018

Chart Title

Latin America

Rest of the World

Caribbean

Latin America and the Caribbean (MtCO2e)

Rest of the world (MtCO2e)

— Latin America   — Caribbean   — Rest of the World

2018

Latin... er-ic... Car-ibbean 0.1%
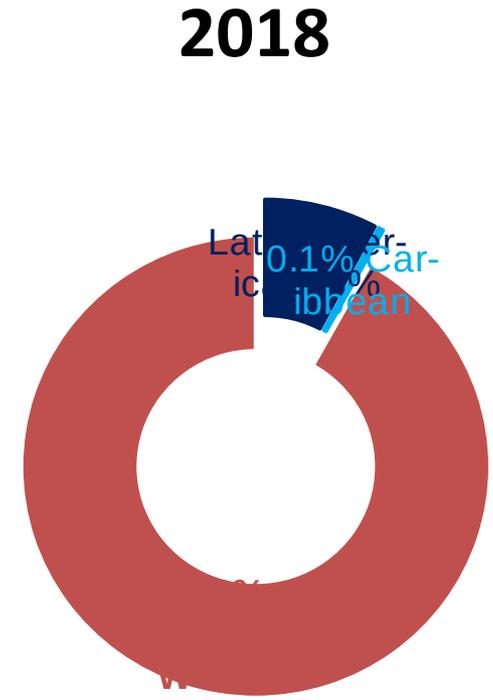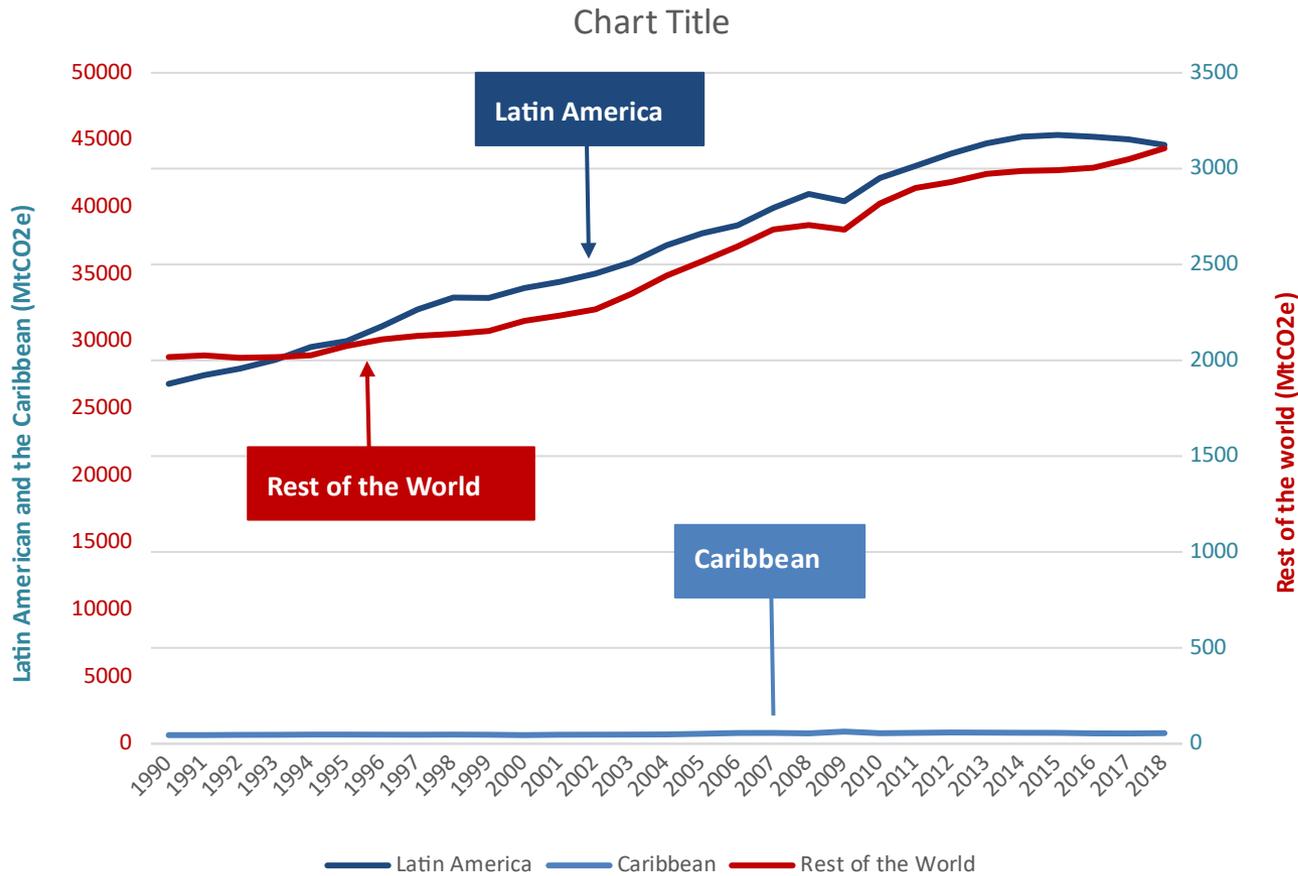
Source: CEPALSTAT based on CAIT, http://cait.wri.org/

Evidence: LAC Average Annual Temperature Variation, 1961-2019 (°C)

Centroamérica y México/ Central America and Mexico
América del Sur/ South America
El Caribeª/ The Caribbeanª

[A] FAO, Base de datos estadísticos (FAOSTAT) [en línea] http://www.fao.org/faostat/es/#home.
ª Incluye Cuba y la República Dominicana.

[A] FAO, Database for Statistical Data (FAOSTAT) [online] http://www.fao.org/faostat/en/#home.
ª Includes Cuba and the Dominican Republic.
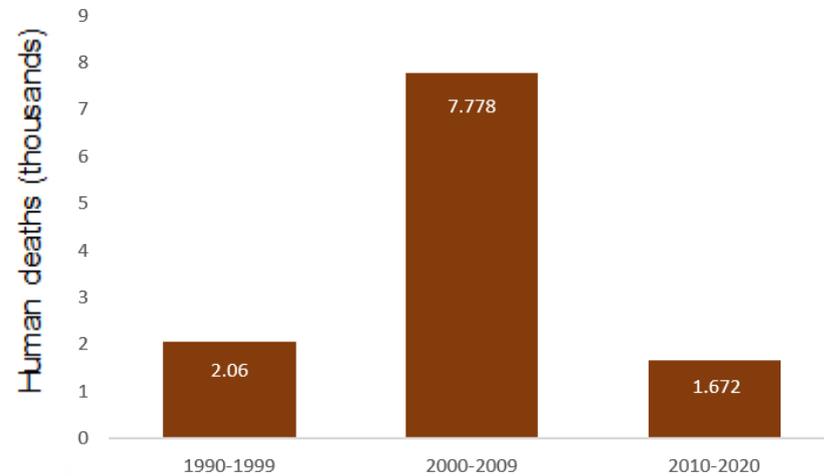
Impact: Caribbean: Hazardous Events and Disasters
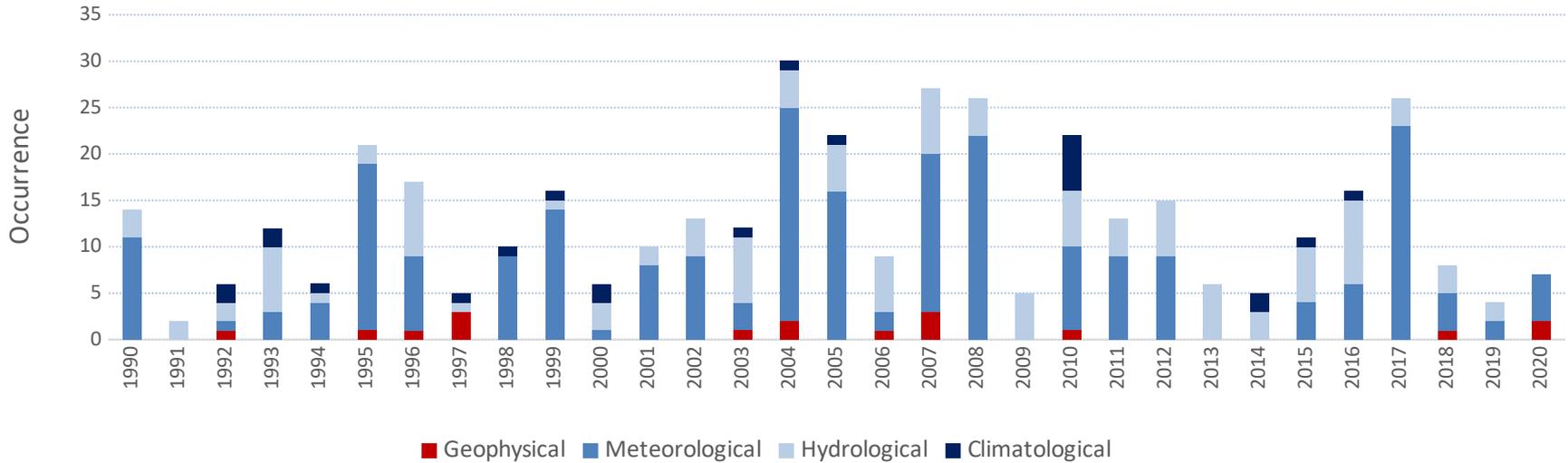
CARIBBEAN: Directly affected persons (in need of immediate basic (water, shelter, food) and medical assistance)
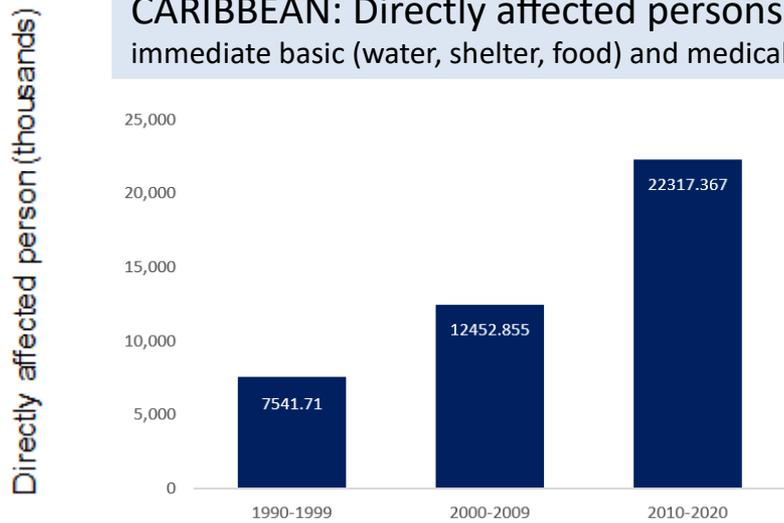
CARIBBEAN: Human deaths

[A] Centro de Investigaciones sobre la Epidemiología de los Desastres (CRED), Base de Datos Internacional sobre Desastres (EM-DAT) [en línea] http://www.emdat.be/.
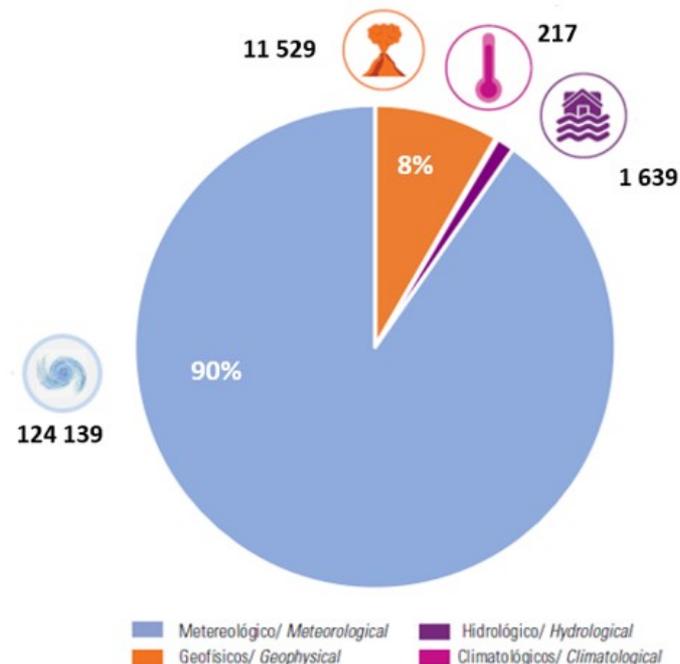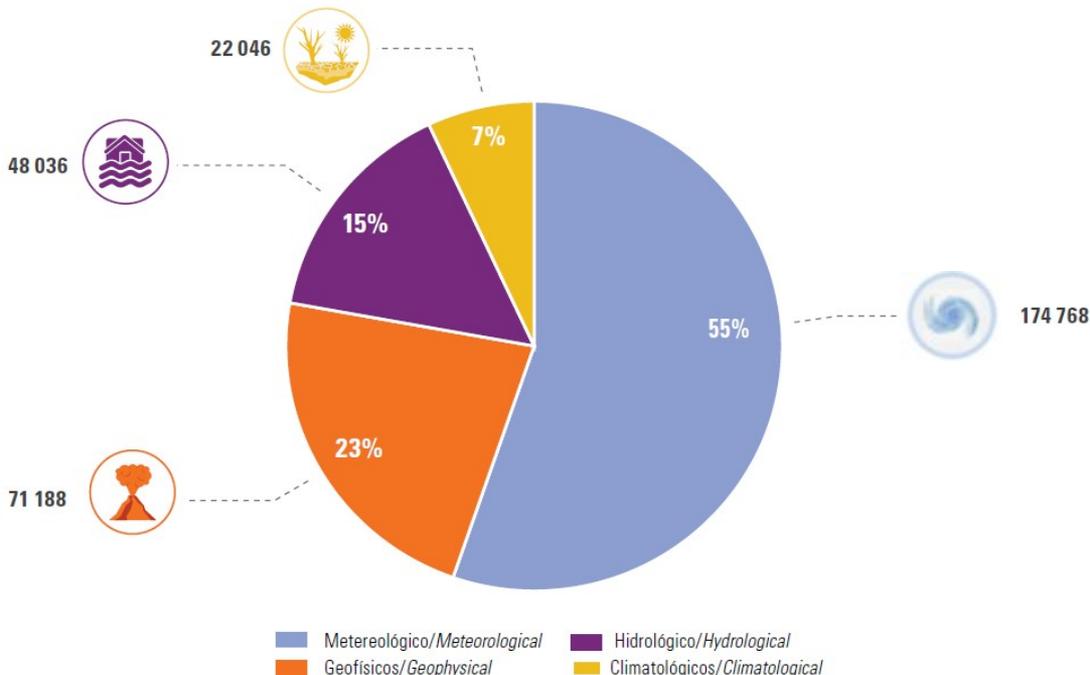
[A] Centre for Research on the Epidemiology of Disasters (CRED), International Disaster Database (EM-DAT) [online] http://www.emdat.be.

Impact: LAC: Economic cost of disasters by type, 1970-2020

(En millones de dólares y porcentajes/Millons of dollars and percentages)

Latin America and the Caribbean

22 046

48 036

71 188

174 768

7%
15%
55%
23%

Legend:
- Metereológico/*Meteorological*
- Geofísicos/*Geophysical*
- Hidrológico/*Hydrological*
- Climatológicos/*Climatological*

The Caribbean

11 529 — 217

1 639

124 139

8%
90%

Legend:
- Metereológico/ *Meteorological*
- Geofísicos/ *Geophysical*
- Hidrológico/ *Hydrological*
- Climatológicos/ *Climatological*

These damages and losses are only part of the story, as most disaster reports submitted to EM-DAT (63%) do not contain economic data.

NOTE: The VALUE of all damages and economic losses directly or indirectly related to disasters in the last 5 decades amounts to 323 billion dollars, this represents more than 4 times the GDP of the entire Caribbean for the year 2020

[A] Centro de Investigaciones sobre la Epidemiología de los Desastres (CRED), Base de Datos Internacional sobre Desastres (EM-DAT) [en línea] http://www.emdat.be/.

[A] Centre for Research on the Epidemiology of Disasters (CRED), International Disaster Database (EM-DAT) [online] http://www.emdat.be.

New project: Caribbean SIDS relevant climate change and disasters indicators for evidence-based policies

UN ECLAC : Caribbean First Strategy

Project Objective:

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.

Project Expected results:

At the national level:

✓ Strengthened national statistical and institutional capacities of Caribbean SIDS to sustainably produce and disseminate relevant internationally agreed climate change and disaster risk reduction indicators

At the regional level:

✓ Strengthened regional capacities of Caribbean SIDS stakeholders to use the indicators for sustainable evidence-based development policies

✓ Produce a geo-referenced resilience database of the occurrence and impact of hazardous events and disasters in Caribbean SIDS

NOTE: Starting this year with national workshops "Generating climate change and disasters indicators for policy decision-making" for the Small Island Development States (SIDS). Additionally, we will organize sub-regional workshops and prepare an online course so that all SIDS countries can benefit of this project.

Recommendations and Main Challenges

Towards a regional framework on climate change and disaster indicators

- **ECLAC**
  - Producing regional CC indicators, focusing on impact and adaptation (regional and subregional)
  - Building a list of regionally relevant indicators for climate change reporting (keeping in mind the UNECE list)
  - Focusing on occurrence and impact of disasters, environmental health, impact on agriculture and tourism, loss of mangroves and coral bleaching
  - Best use of the geospatial data on disasters is to integrate them into the official statistics on population, households, establishments, agriculture, land cover and land use Information to enable anticipating disasters, improving preparedness and providing quick relief support to people.
  - Fund raising for a first 3 to 4-year regional program
- **Member-States**: ECLAC and Regional Experts are supporting national production of climate change statistics and encourage Member States to:
  - Assess data availability on climate change to build on the existing
  - Develop CC indicators starting with the most relevant issues for the region (i.e., disasters and adaptation)

Main challenges

- Developing mitigation statistics other than renewables, electromobility, etc.
- Developing indicators to relate natural resource use, biodiversity with climate change and development
- Developing adaptation indicators as they are spatially specific (potential collaboration with UBA Germany)
- Developing indicators related to build back better
- Implementing global frameworks for providing geospatial support to disaster management

Some of our products and platforms

➢ **CEPALSTAT Database**

https://cepalstat-prod.cepal.org/portal/cepalstat/index.html?lang=es

➢ **Regional knowledge management platform**

https://agenda2030lac.org/en

➢ **Statistical Yearbook (Environment Statistics Chapter)**

https://www.cepal.org/es/publicaciones/ae

➢ **COVID-19 Observatory**

https://www.cepal.org/en/topics/covid-19

- COVID-19 impact in air pollution in cities (LA)

https://www.cepal.org/en/publications/45885-effects-quarantines-and-activity-restrictions-related-coronavirus-disease-covid

- COVID-19: systems approach to disaster risk in the Caribbean

https://www.cepal.org/es/publicaciones/46731-la-pandemia-enfermedad-coronavirus-covid-19-oportunidad-aplicar-un-enfoque

➢ **Environment Statistics Biblioguide**

https://biblioguias.cepal.org/estadisticasambientales

➢ **Regional Network of Env Stats**

https://comunidades.cepal.org/estadisticas-ambientales/es

Thank you!

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Environment, Climate Change Statistics Area
ECLAC Statistics Division
https://www.cepal.org/en/topics/environmental-statistics