



First Expert Forum for
Producers and Users of
Disaster-related Statistics

Overview on activities related to measuring climate change and health in the Latin America and the Caribbean region

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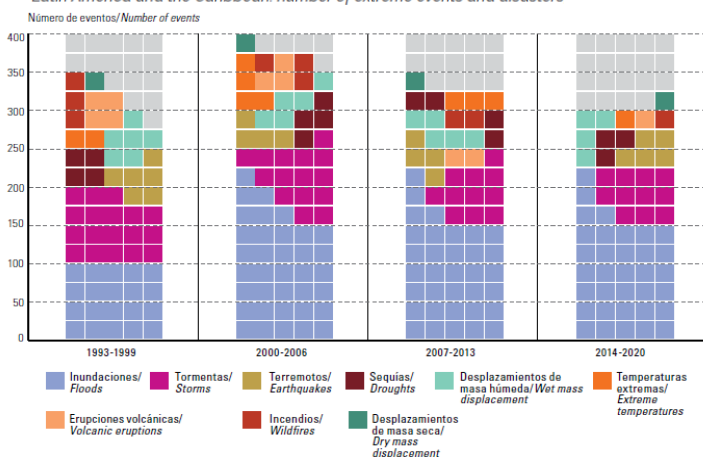


State of the art in the LAC region of environment, climate change and disasters statistics

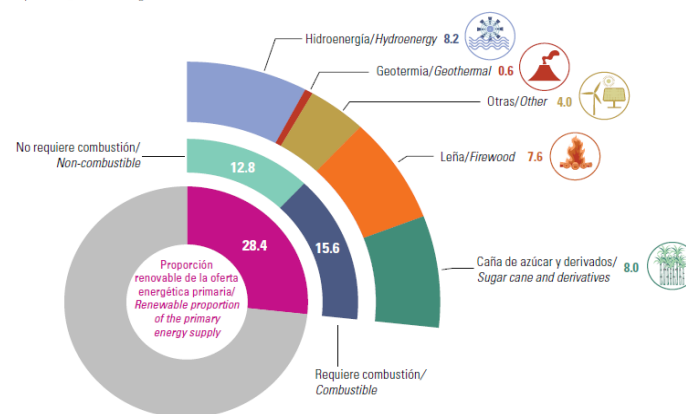
- Indicators that require environment, climate change and disaster statistics to be compiled:
 - Of SDG targets and goals almost **70%**, and **50%** of SDG indicators
 - Of SENDAI FW: **100%** of indicators
 - Of Paris 2015 Agreement on Climate Change: **100%**
- There is an ever-growing **demand**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



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)



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 Disaster statistics and indicators

1. Demand-driven inter-institutional **capacity building** to LAC countries
 - ✓ In-person workshops
 - ✓ **Online training course on ES**
 - ✓ **Remote TA/training on EA/EEA**
 - ✓ Quarterly webinars on environment on SDG/SENDAI indicators production
 - ✓ **Regional Network of ES**
 - ✓ **Assessment of Use of Geospatial Technology in NSOs**
2. **Methodological development**
 - ✓ **FDES in Spanish**
 - ✓ **Damage and Loss Assessment (DaLA)**
 - ✓ **Methodological Guidance Manual Environmental Indicators**
 - ✓ **Environment Statistics Biblioguide**
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
 - ✓ **Document to harmonize a methodological framework for the measurement of disaster-related indicators of the SDGs and the Sendai framework for disaster risk reduction**
 - ✓ **Recommendations on the Role of Official Statistics in Measuring Hazardous Events and Disasters in Spanish**
5. Partnership and **Cooperation with UN and regional organizations** and **Regional Coordination through GGIM Americas** between Official geospatial community and NSOs

+

Available data



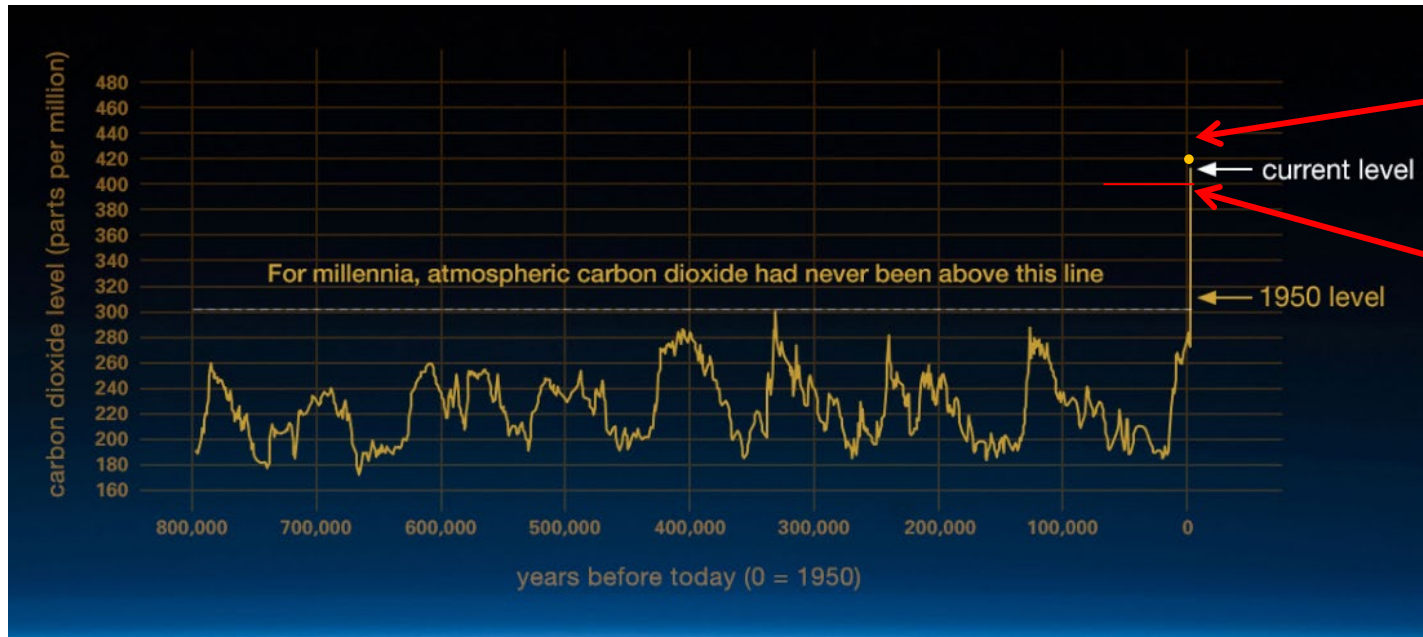
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Available data

- Concentrations (GHG)
- Emissions and mitigation efforts in LAC
- Evidence of CC in LAC
 - Regional and global warming evidence
 - Evidence of higher frequency of disasters
 - Evidence of greater disaster impact
- Adaptation



Concentrations: Global Atmospheric CO₂ Historical Levels in 2019

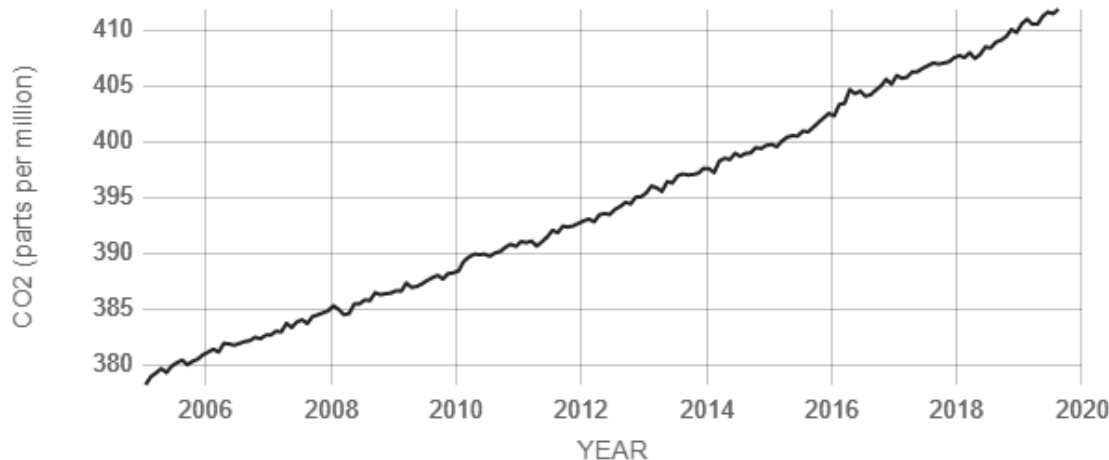


Historical high
May 19
415.26 ppm (NOAA)

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

Mauna Loa Observatory
reported an atmospheric
CO₂ concentration of over
415.26 parts per million
(ppm), far higher than any
point in the last 800,000
years.

Source: Mauna Loa Observatory, NOAA

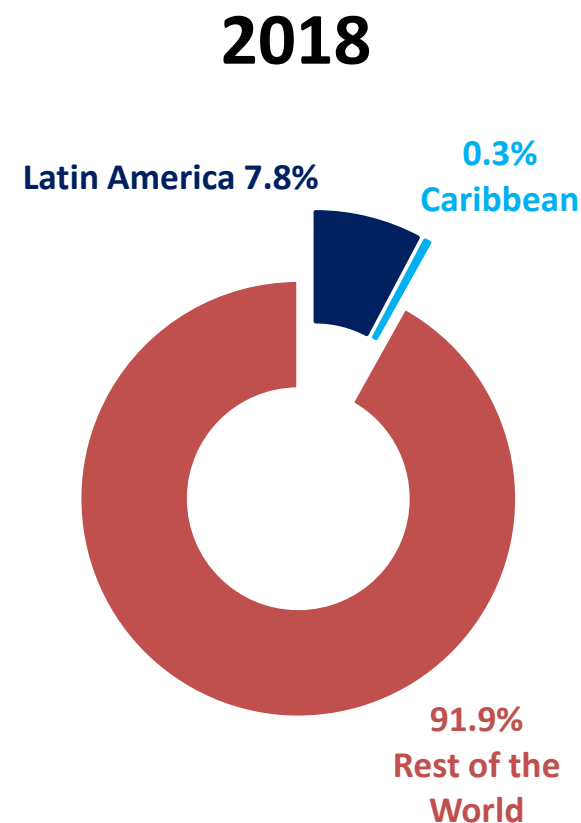
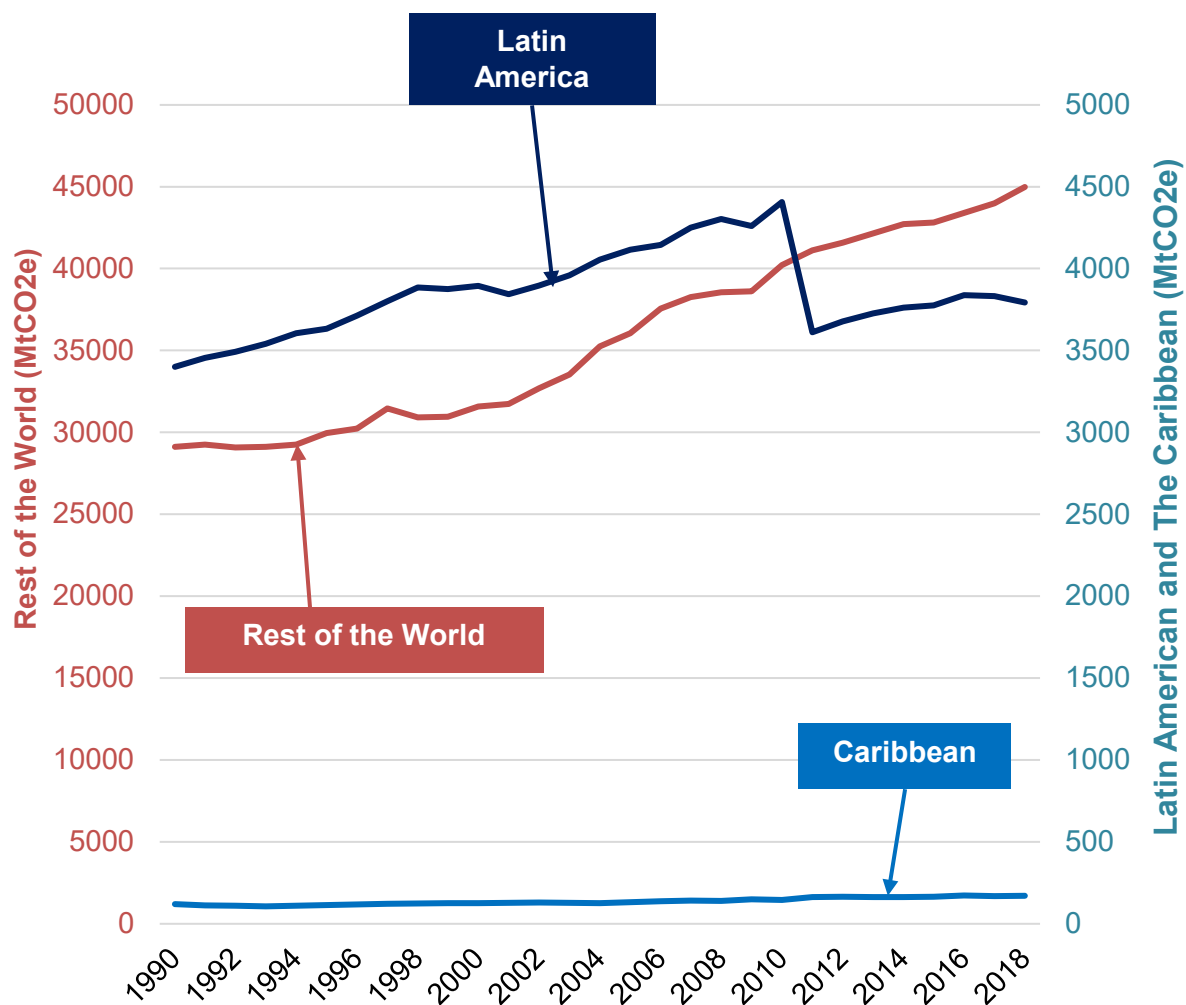


Last measurement
August 2019:
412 ppm (NASA)

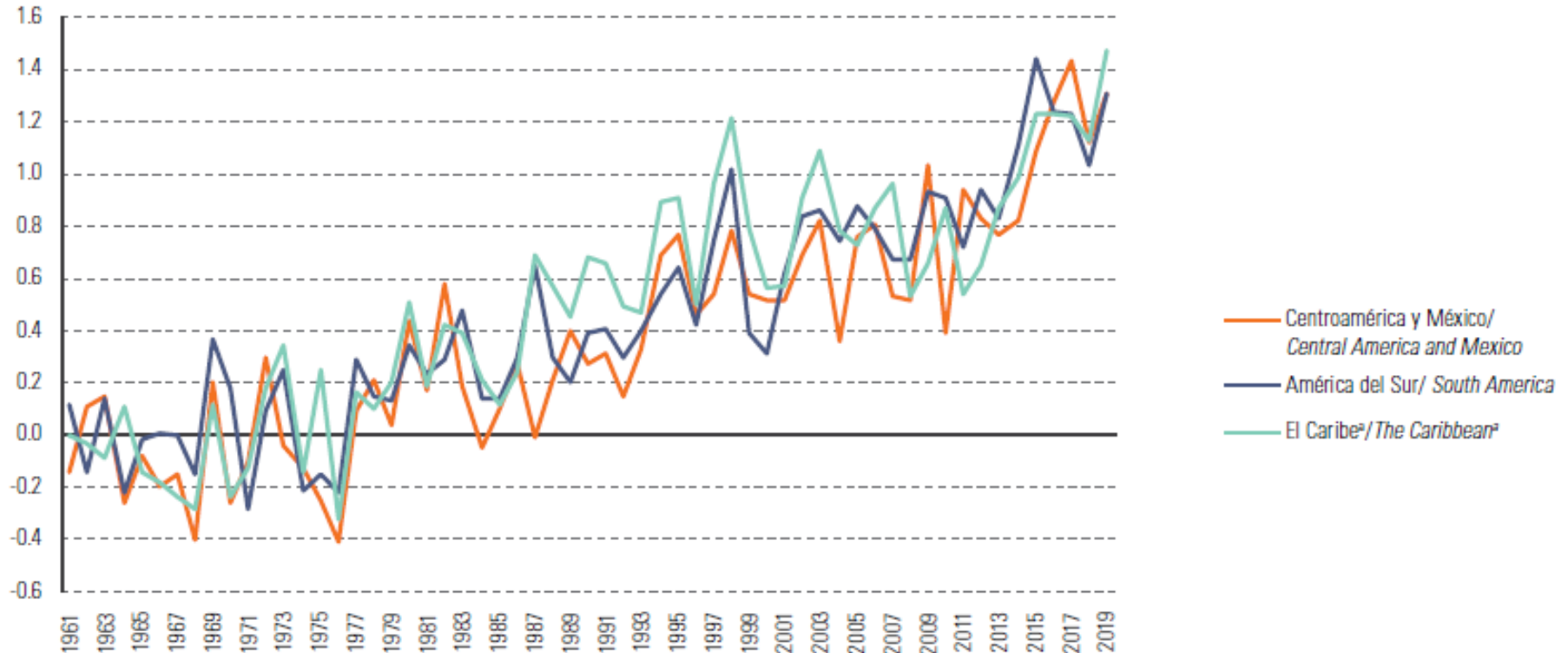
Source: climate.nasa.gov

Emissions: LAC: Evolution of GHG emissions

(MtCO₂e) 1990-2018 y percentage 2018



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



— Centroamérica y México/
Central America and Mexico

— América del Sur/ South America

— El Caribe^a/ The Caribbean^a

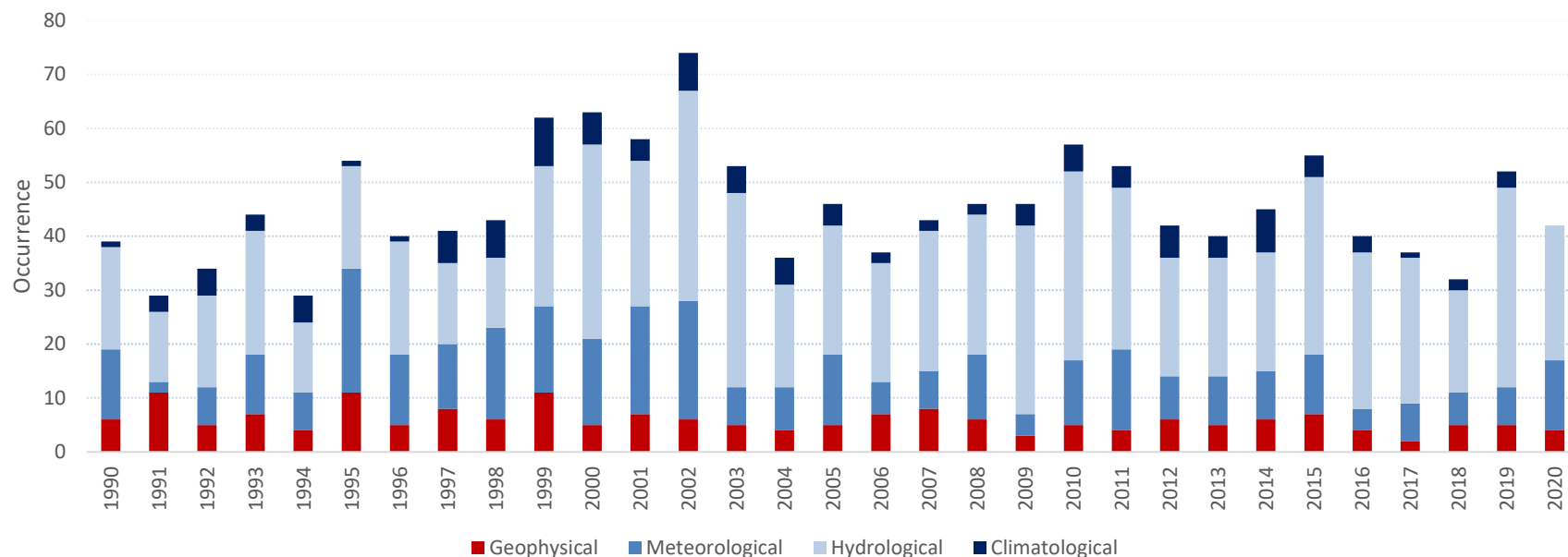
^[A] FAO, Base de datos estadísticos (FAOSTAT) [en línea] <http://www.fao.org/faostat/es/#home>.

^a Incluye Cuba y la República Dominicana.

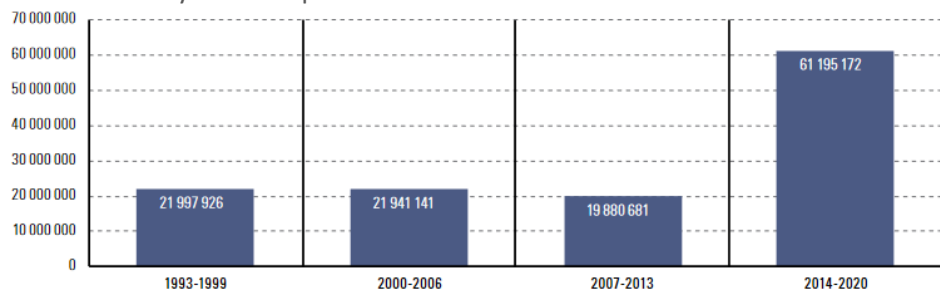
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^a Includes Cuba and the Dominican Republic.

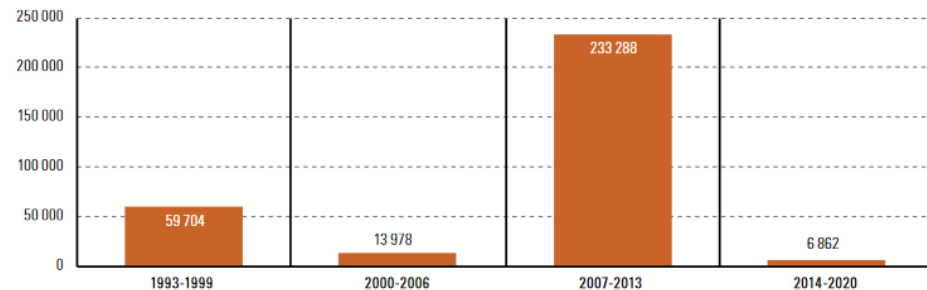
Evidence: Current regional impacts: Disasters



Directly affected persons



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/>.

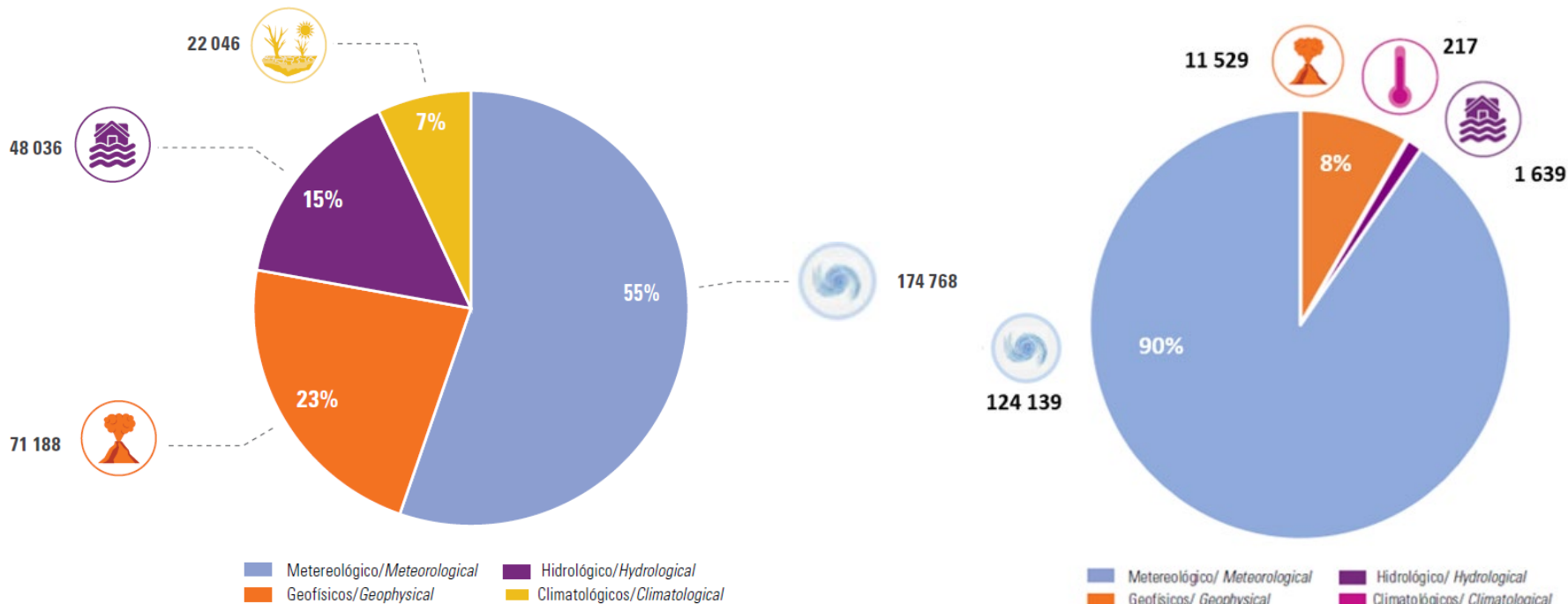
[A] Centre for Research on the Epidemiology of Disasters (CRED), International Disaster Database (EM-DAT) [online] <http://www.emdat.be/>.

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

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

Latin America and the Caribbean

The Caribbean



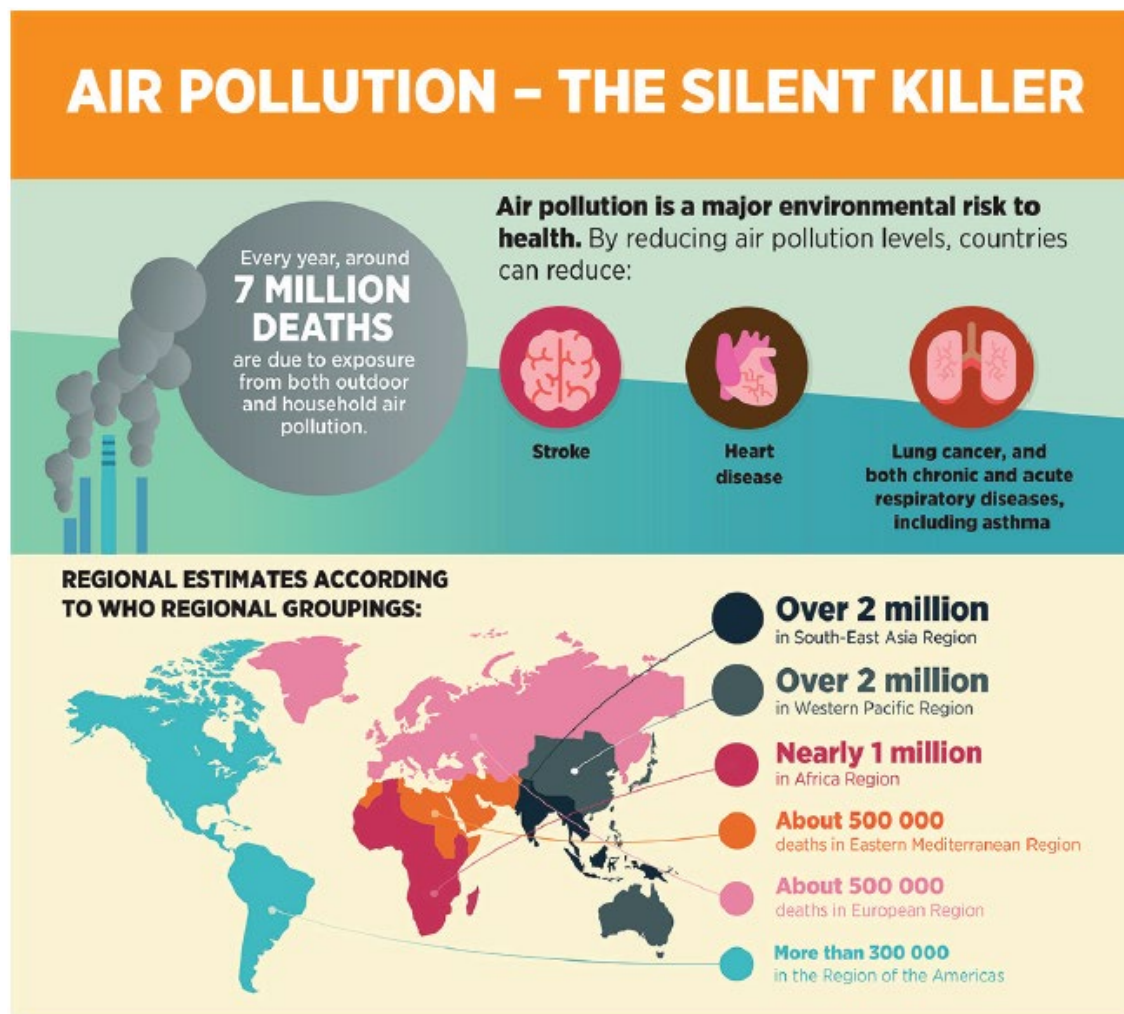
These damages and losses are only part of the story, as most disaster reports submitted to EM-DAT (63%) do not contain economic data.

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 2019

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Effects of the quarantines and activity restrictions related to (COVID-19) on air quality in Latin America's cities



Air pollution represents a major environmental health hazard.

According to the WHO, it is responsible for **300,000 deaths** every year in the Americas, and **9 in every 10** people are breathing polluted air at this very moment.

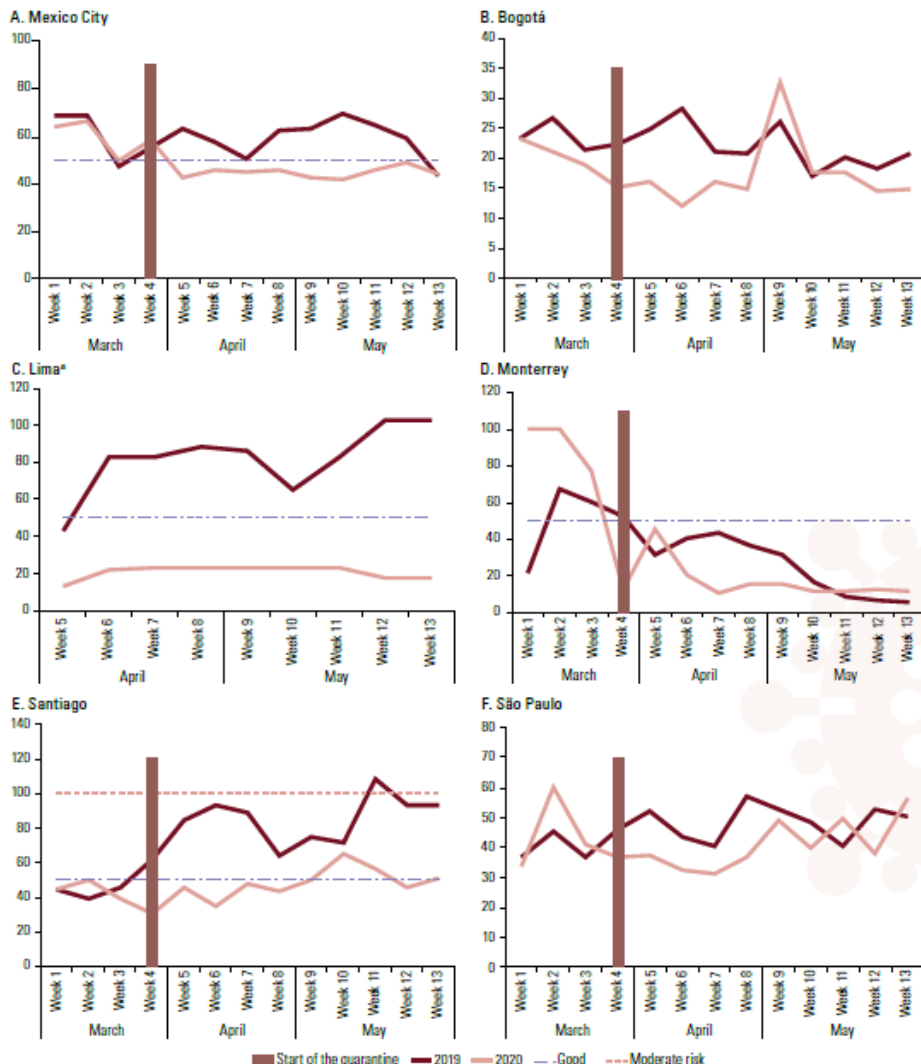
The air pollutants that are most harmful to human and environmental health are coarse particulate matter (PM₁₀) and fine particulate matter (PM_{2.5}), nitrogen dioxide (NO₂) and sulfur dioxide (SO₂).

Source: World Health Organization (WHO)

Some results for Latin America Cities

Air pollution from fine particulate matter PM_{2.5} and Nitrogen dioxide (NO₂)

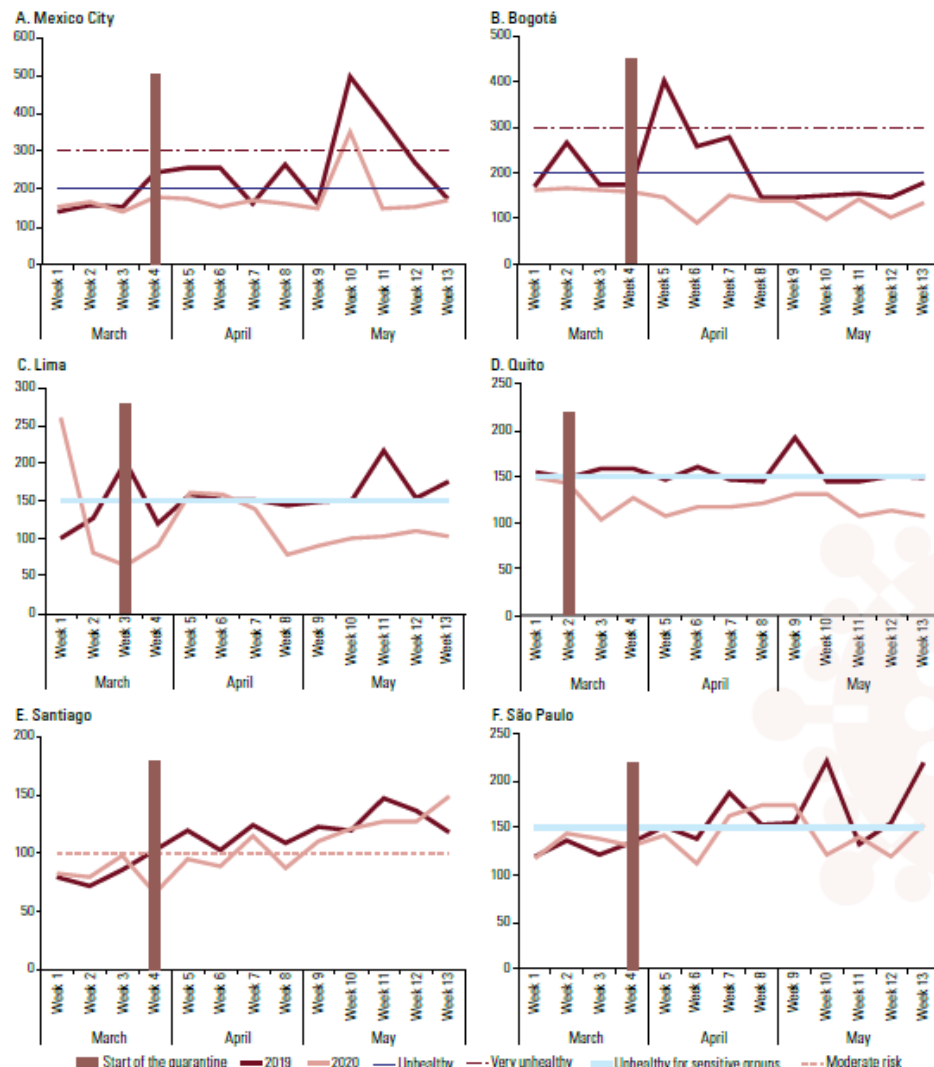
Latin America (selected cities): weekly average of maximum daily concentrations of nitrogen dioxide (NO₂), March–May 2019 and 2020 (Air Quality Index)



Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of data from *The World Air Quality Project* [online] www.aqicn.org.

*The quarantine in Lima started in March 2020.

Latin America (selected cities): weekly average of maximum daily concentrations of fine particulate matter (PM_{2.5}), March–May 2019 and 2020 (Air Quality Index)



Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of data from *The World Air Quality Project* [online] www.aqicn.org.

New project (DA12th): 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:

- ✓ Strengthened national statistical and institutional capacities of Caribbean SIDS to sustainably produce and disseminate relevant internationally agreed climate change and disaster risk reduction indicators
- ✓ Strengthened regional capacities of Caribbean SIDS stakeholders to use the indicators for sustainable evidence-based development policies
- ✓ Produce a georeferenced database of the occurrence and impact of dangerous events and disasters of Caribbean SIDS



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





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Thank you!

Environment, Climate Change Statistics Area
ECLAC Statistics Division

<https://www.cepal.org/en/topics/environmental-statistics>



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