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MINISTÉRIO DA CIÊNCIA, TECNOLOGIA E INOVAÇÕES

PÁTRIA AMADA BRASIL

State of the Climate in Latin American and the Caribbean (LAC) 2020

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Latin America and the Caribbean is one of world regions where climate change effects and impacts such as heatwaves, decreases in crop yield, wildfires, coral reef depletion and extreme sea level events are projected to be more intense.

Thus, limiting global warming well below 2 °C, as prescribed in the Paris Agreement, is essential to reduce the risks in a region already facing economic and social asymmetries to its sustainable development.

Overarching question:

"***What are the status and trends of the state of climate indicators in LAC, associated impacts and key needs for adapting to climate variability and change?***"

UN CLIMATE CHANGE CONFERENCE UK 2020
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WORLD METEOROLOGICAL ORGANIZATION
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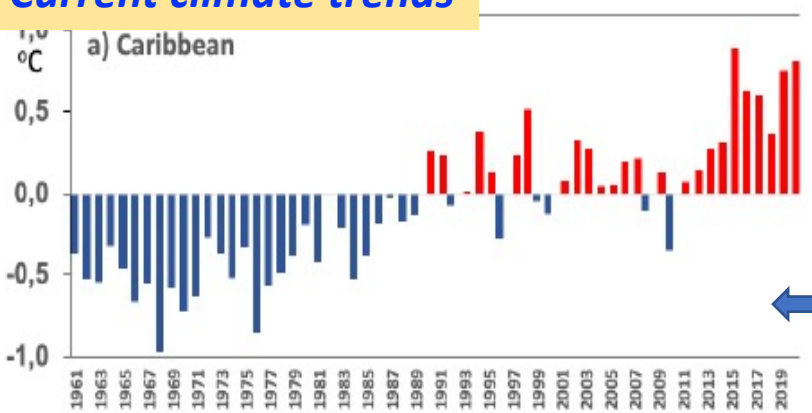
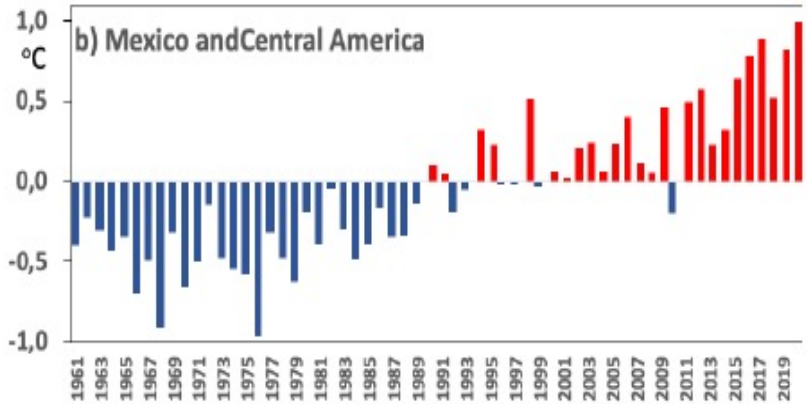
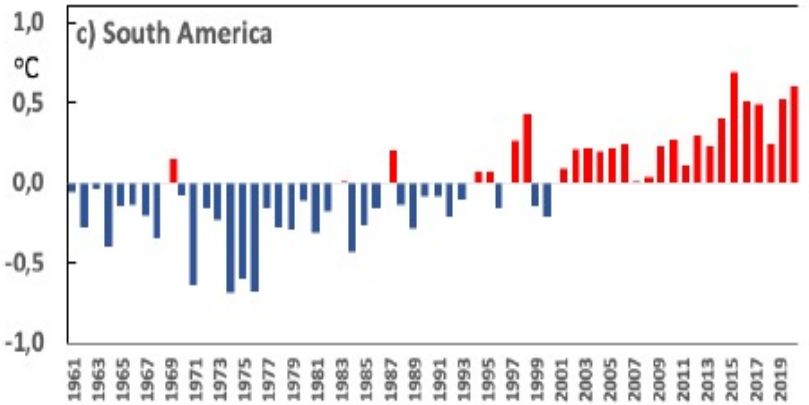
United Nations
Framework Convention on
Climate Change

Current climate trends







Annual mean regional Temperature Anomalies in 2020 relative to 1981-2010

Temperature Rise

2020 was among the three warmest years on record in Central America and the Caribbean, and the second warmest year in South America, with *1.0°C, 0.8°C and 0.6°C above the 1981-2010 period, respectively.*

Glacier Mass

Glaciers are important freshwater sources for water consumption, power generation, agriculture and ecosystem conservation.

However, glaciers in the region have been **losing mass.**

The rate of loss has been strengthening since 2010, in line with an increase in temperatures and a significant reduction in precipitation.

Sea Level Rise

In Latin America and the Caribbean **more than 27% of the population live in coastal areas**, with an estimated 6–8% living in areas that are at **high or very high risk** of being affected by coastal hazards.

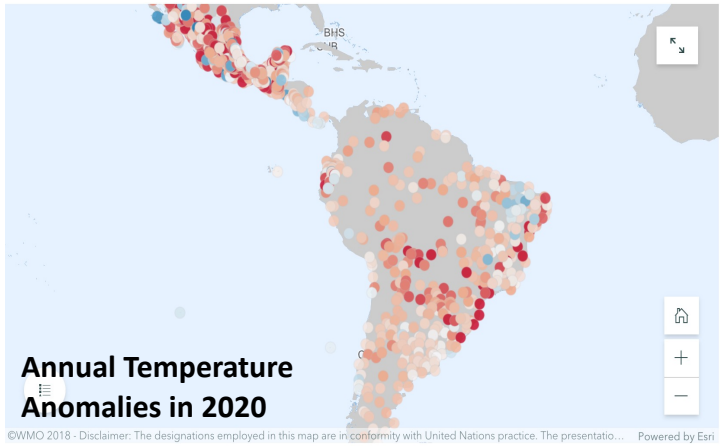
Sea level trends from January 1993 to June 2020 around South America shows that the rates of sea level change on the **Atlantic side (3.69mm/yr)** are also higher than on the Pacific side (2.63mm/yr). Averaging **3.6mm per year**, between 1993-2020, **sea level in the Caribbean has been rising at a slightly higher rate than the global average of 3.3mm/year.**

Precipitation

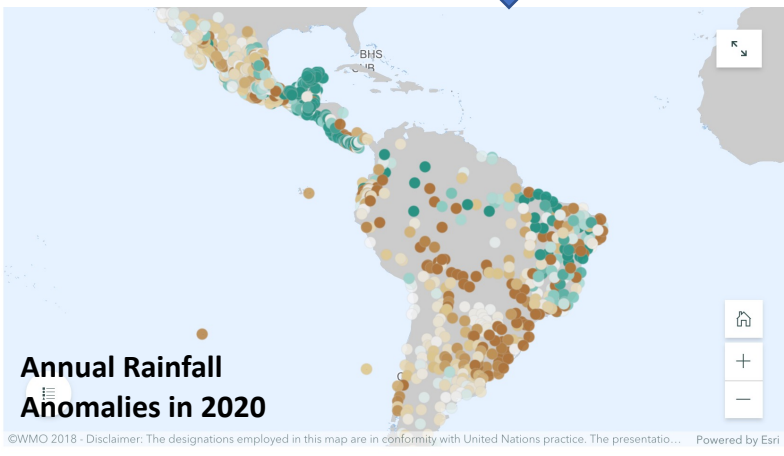
Below-normal rainfall was recorded in Mexico, as well as many countries in Central America, such as Panama, Guatemala, Belize and Nicaragua.

Annual precipitation totals in 2020 were also below the long-term average in many parts of South America - including the central Andes, southern Chile, Northern South America, the Amazon and Pantanal regions and Southeastern South America.

However, **above average rainfall** was observed in southern Paraguay, parts of Peru and the semiarid region of Northeast Brazil, in the Pacific coast of Costa Rica, El Salvador and Jalisco in Mexico.



Temperature Anomalies in Latin America and the Caribbean in 2020 (Reference period: 1981-2010)



Precipitation Anomalies in Latin America and the Caribbean in 2020 (Reference period: 1981-2010)

Associated impacts and adaptation to climate change

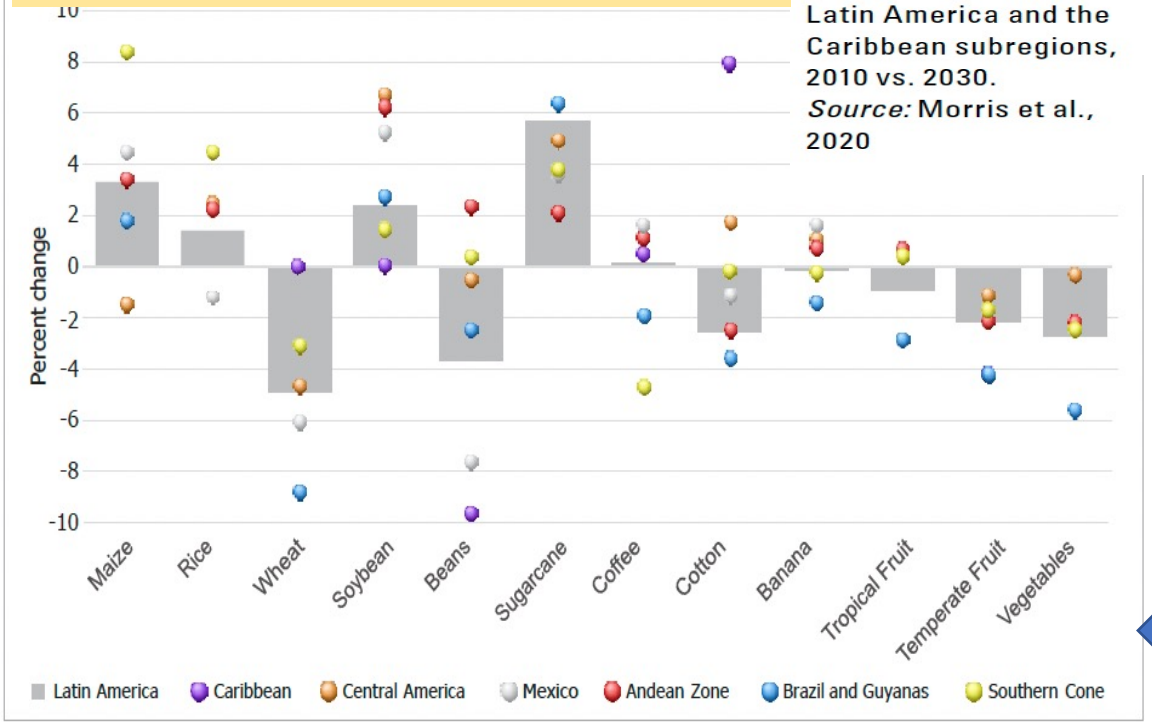


Figure 20. Projected changes in yields due to climate change in the Latin America and the Caribbean subregions, 2010 vs. 2030. *Source:* Morris et al., 2020

Socio-economic Development, Displacement & Infrastructure

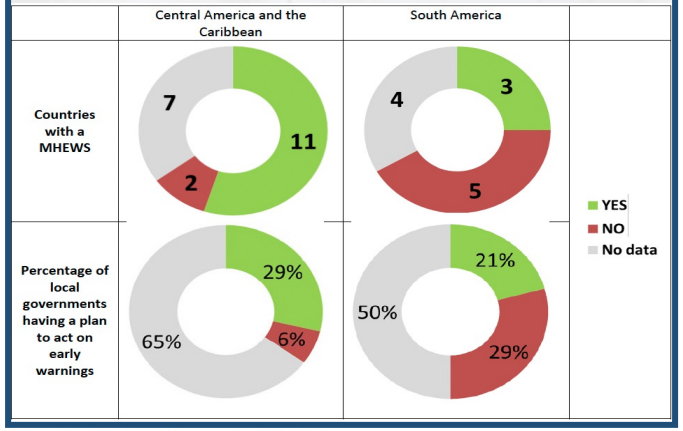
Hurricanes Eta and Iota caused **2.159 billion USD in total losses in Honduras**, representing **0.8% GDP** in addition to 7.4% related to COVID 19.

Approximately 4 million people were affected, and 287,315 hectares of crops were damaged. Communications were cut off to more than 95,000 people in 68 communities.

Improving Multi-hazard Early Warning Systems

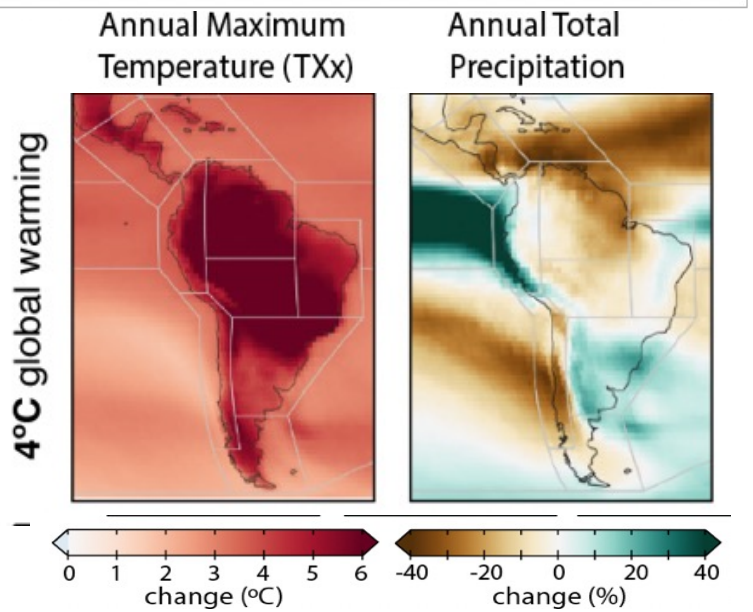
Strong climate hazard monitoring linked to early warning systems can **inform anticipatory action** and contingency plans to **reduce disaster risk and disaster impacts on lives, livelihoods, and food security.**

However, **early warning systems are underdeveloped in LAC region**, particularly in South America.



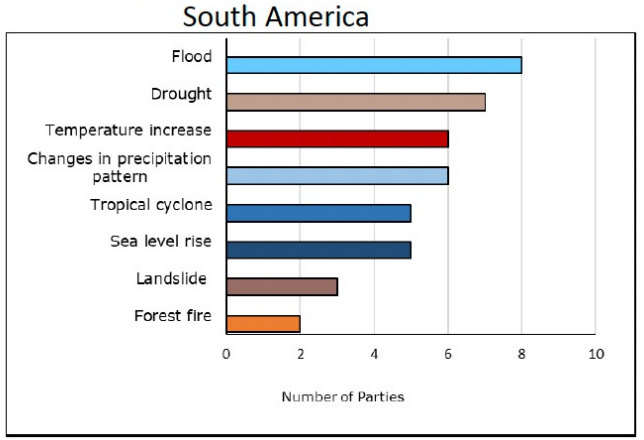
Food Security

Extreme weather events affected over **8 million people** across Central America, **exacerbating food insecurity** in countries already crippled by economic shocks, COVID-19 restrictions, and conflict.



Projected changes in annual mean temperature (T), annual total precipitation at 4°C global warming relative to 1850– 1900. Results are based on simulations from the CMIP6 multi-model ensemble (32 global climate models) using the SSP5-8.5 scenario to compute the warming levels.

Hazard types of highest concern



Priority areas for adaptation