Regional fact sheet – Central and South America

Common regional changes

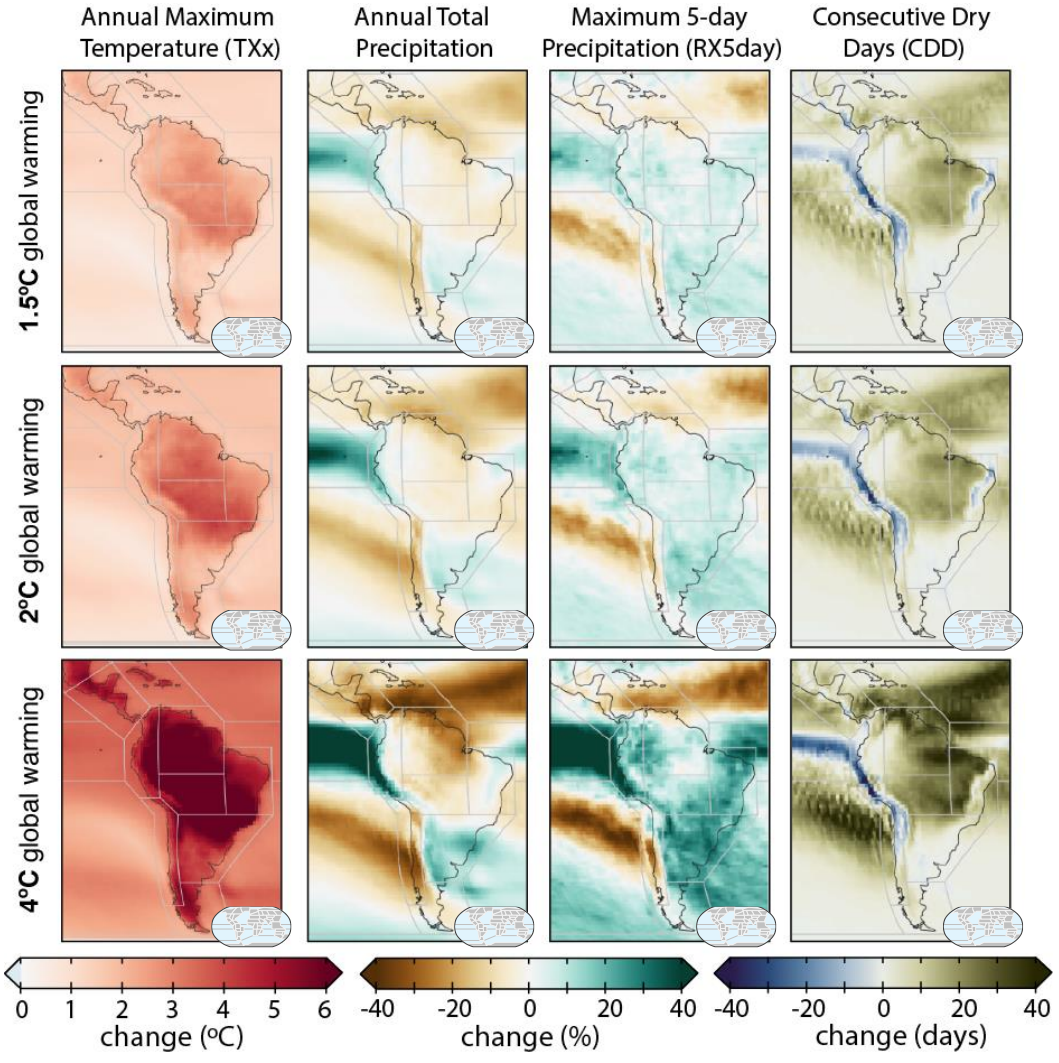
Mean temperatures have *very likely* increased in all sub-regions and will continue to increase at rates greater than the global average (*high confidence*).

Mean precipitation is projected to change, with increases in North-West South America (NWS) and South-East South America (SES) (*high confidence*) and decreases in North-East South America (NES) and South-West South America (SWS) (*medium confidence*). This is consistent among model projections by mid- and end of the 21st century for RCP4.5 and RCP8.5 scenarios.

Compared to global mean sea level, over the last three decades, relative sea level has increased at a higher rate than global mean level in the South Atlantic and the subtropical North Atlantic, and at a lower rate in the East Pacific.

Relative sea level rise is extremely *likely* to continue in the oceans around Central and South America, contributing to increased coastal flooding in low-lying areas (*high confidence*) and shoreline retreat along most sandy coasts (high confidence).

Marine heatwaves are also projected to increase around the region over the 21st century (*high confidence*).



Projected changes in annual mean temperature (T), annual total precipitation, annual maximum 5-day precipitation (RX5day) and annual consecutive dry days (CDD) at 1.5°C, 2°C, and 4°C (in rows) 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.

Results expanded in the Interactive Atlas (active links)

Links for further information:
TS sections: TS.4.3.1, TS.4.3.2, Box TS.6, Box TS.13, Figure TS.21a, Figure TS.24. **Chapters:** 8.3, 8.4, 8.6, 10.4, 11.3, 11.4, 11.9, Table 11.13, Table 11.14, Table 11.5, 12.4, Atlas.7.1, Atlas.7.2

SOUTHERN CENTRAL AMERICA (SCA)

- Aridity, and agricultural and ecological drought are increasing (*medium confidence*). Fire weather is projected to increase *(medium confidence*).

NORTHWESTERN SOUTH AMERICA (NWS)

- Decreases in snow and ice, and increases in pluvial/river flooding are projected with *high confidence*.
- Glacier volume loss and permafrost thawing will *likely* continue in the Andes Cordillera under all greenhouse emissions scenarios in this report, causing important reductions in river flow and potentially high-magnitude glacial lake outburst floods.

NORTHERN SOUTH AMERICA (NSA)

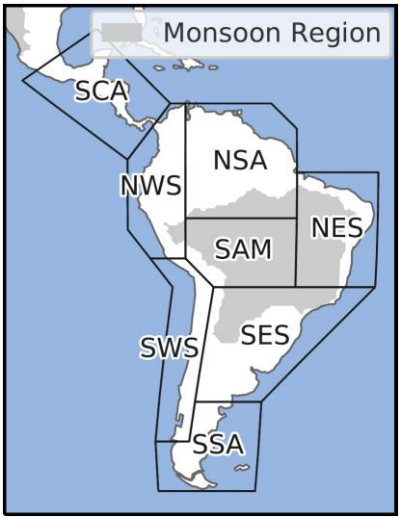
- The intensity and frequency of extreme precipitation and pluvial floods are projected to increase (*medium confidence*) for 2°C of global warming level and above.
- There is *high confidence* in a dominant increase in the number of dry days and drought frequency.

NORTHEASTERN SOUTH AMERICA (NES)

- The intensity and frequency of extreme precipitation and pluvial floods are projected to increase (*medium confidence*) for 2°C of global warming level and above.
- There is *high confidence* in a dominant increase in drought duration.

SOUTHWESTERN SOUTH AMERICA (SWS)

- The total land area subject to increasing drought frequency and severity will expand (*high confidence*). Projections of fire weather indices indicate an increased risk in the region (*high confidence*).
- Increases in one or more aspects between drought, aridity, and fire weather (*high confidence*) will potantially impact a wide range of sectors (including agriculture, forestry, health, and ecosystems), which will be assessed in the IPCC Working Group II report.
- Glacier volume loss and permafrost thawing will *likely* continue in the Andes Cordillera under all greenhouse gas emissions scenarios in this report, causing important reductions in river flow and potentially high-magnitude glacial lake outburst floods.



SOUTHEASTERN SOUTH AMERICA (SES)

- Increases in mean and extreme precipitation are observed since the 1960s (*high confidence)*. Drivers of this change include internal variability as well as external forcing, like increases in greenhouse gases and aerosols and ozone depletion.
- The intensity and frequency of extreme precipitation and pluvial floods are projected to increase (*medium confidence*) for 2°C of global warming level and above.

SOUTHERN SOUTH AMERICA (SSA)

- The intensity and frequency of extreme precipitation and pluvial floods is projected to increase (*medium confidence*) for 2°C of global warming level and above.
- The region has projections of increased agricultural and ecological drought for the mid-21st century, for 2°C of global warming level and above (*high confidence*).

SOUTH AMERICAN MONSOON (SAM)

- There is *low confidence* in projected precipitation changes, but *high confidence* that the South American monsoon will be delayed during the 21st century.
- There are projections of increased agricultural and ecological drought for the mid-21st century, for 2°C of global warming level and above (*high confidence*).
- Increases in one or more aspects between drought, aridity, and fire weather (*high confidence*) will affect a wide range of sectors, including agriculture, forestry, health, and ecosystems.
- The intensity and frequency of extreme precipitation and pluvial floods is projected to increase (*medium confidence*) for a 2°C of global warming level and above.
- Over the Amazon, the number of days per year with maximum temperatures exceeding 35°C would increase by more than 150 days by the end of the 21st century in the SSP5-8.5 scenario, while it is expected to increase by less than 60 days under the SSP1-2.6 scenario (*high confidence*).