





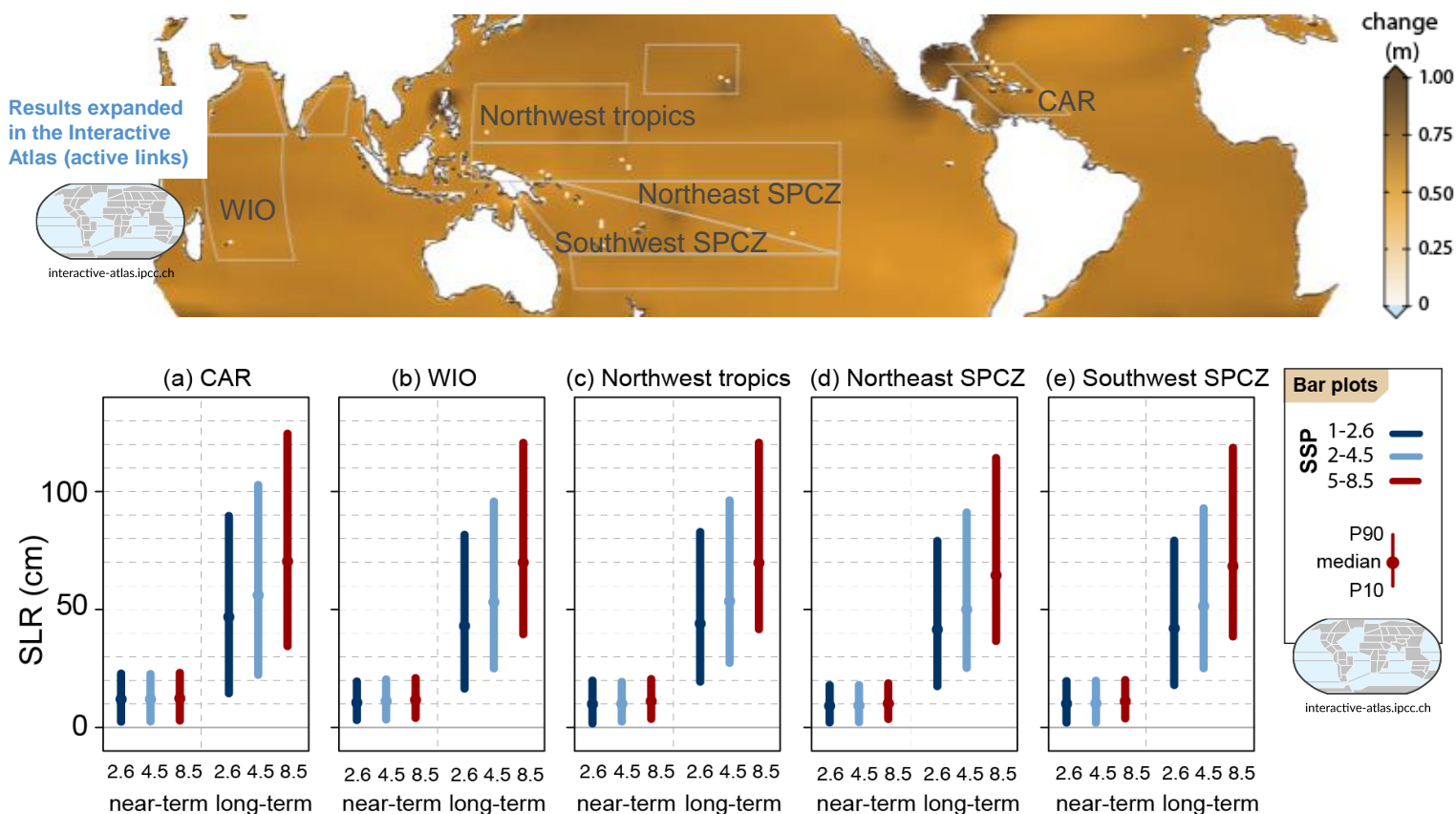


Regional fact sheet - Small Islands

Common regional changes

-  Observed warming (*high confidence*) in the Small Islands¹ has been attributed to human influence (*medium confidence*). Warming *will continue* in the 21st century for all global warming levels and future emissions scenarios, further increasing heat extremes and heat stress (*high confidence*).
-  Ocean acidification *has increased* globally as have the frequency and intensity of marine heatwaves in some areas of the Indian, Atlantic and Pacific Oceans except for a decrease over the eastern Pacific Ocean. Marine heatwaves and ocean acidification *will increase* further with 1.5°C of global warming (*high confidence*) and with larger increases at 2°C and higher.
-  Sea levels *will very likely continue* to rise around Small Islands, more so with higher emissions and over longer time periods (*high confidence*).
-  Sea level rise coupled with storm surges and waves *will exacerbate* coastal inundation and the potential for increased saltwater intrusion into aquifers (*high confidence*).
-  Sea level rise *will cause* shorelines to retreat along sandy coasts of most Small Islands.
-  Small Islands *will face* more intense but generally fewer tropical cyclones, except in the central north Pacific where frequency *will increase* (*medium confidence* at a global warming level of 2°C and above).

Relative sea level rise projections for 2080–2100 (SSP3-7.0) relative to 1995–2014



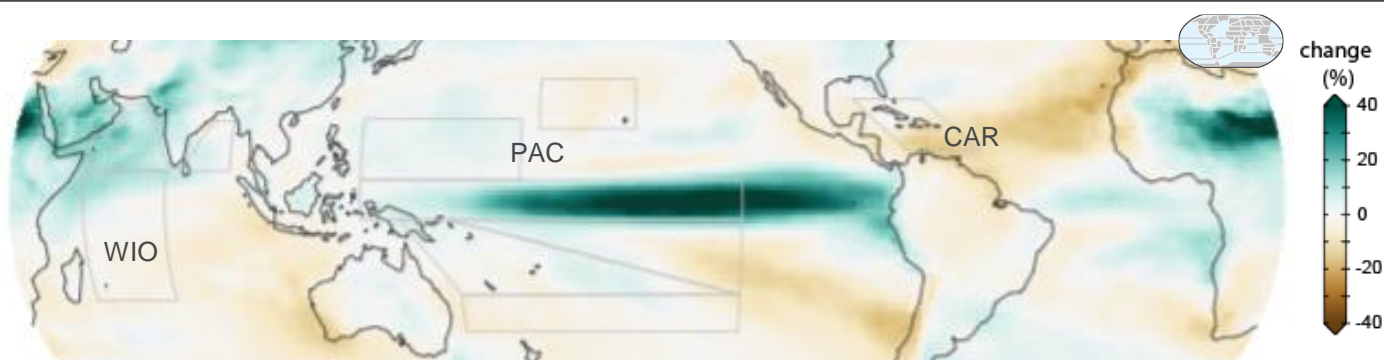
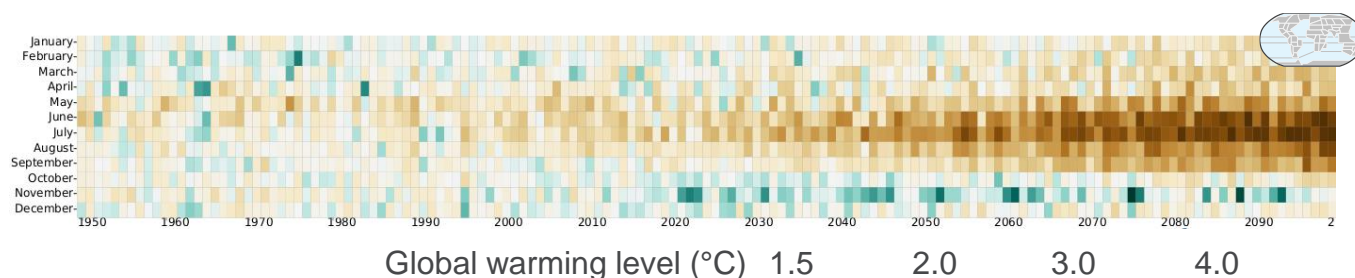
Regional mean changes in annual sea level in the near-term (2021–2040) and long-term (2081–2100) for three scenarios (SSP1-2.6, SSP2-4.5, and SSP5-8.5) relative to 1995–2014 for some Small Island Regions. Bar plots indicate median (dots) and 10th–90th percentile range (bars) across each model ensemble.

¹ The WGI AR6 assessment focused primarily on Small Islands in the Caribbean Sea (CAR), Pacific Ocean (PAC) and Western Indian Ocean (WIO).

Caribbean (CAR)

- Declining trend in rainfall during June–July–August in CAR **will continue** in coming decades (*high confidence* at 2°C global warming and above).
- Higher evapotranspiration under a warming climate **will result in** increased aridity and more severe agricultural and ecological droughts in CAR (*medium confidence* at global warming level of 2°C and above).

Change in monthly average precipitation relative to 1995–2014 for the Caribbean under increasing warming levels



Annual average precipitation change, mid-21st century relative to 1995–2014 (SSP3-7.0)

Western Indian Ocean (WIO)

- Declining trends in rainfall **are observed** in Western Indian Ocean islands over the past 50–60 years.

Pacific (PAC)

- Trends **vary spatially and seasonally** over Small Island regions in the Pacific. Rainfall **has decreased** in parts of the Pacific islands poleward of 20° latitude in both hemispheres (eastern Pacific and southern Pacific subtropics). This drying trend **will continue** in the coming decades, except in parts of western and equatorial Pacific.
- Heavy rainfall events **will increase** in the western tropical Pacific (*high confidence* at 2°C global warming and above).
- Higher evapotranspiration under a warming climate either **amplifies** or partially **offsets**, respectively, the effect of decreases or increases in rainfall resulting in increased aridity in parts of the Pacific (*medium confidence* at 2°C global warming and above).

Climate information for Small Islands

Though it is clear the climate of Small Islands **has** and **will continue** to change in diverse ways, constructing climate information for Small Islands is challenging due to lack of observations and high-resolution climate projections, as well as the representation and understanding of key modes of variability and their interplay with trends.

Links for further details

Common regional changes: Table 11.13, 12.4, 12.4.7, Atlas.10, TS.4.3.1, TS.4.3.2.7

Caribbean: Table 11.14, Table 11.15, 12.4.7, Atlas.10, Cross-Chapter Box Atlas.2

Western Indian Ocean: 12.4.7, Atlas.10, Cross-Chapter Box Atlas.2

Pacific: 12.4.7, Atlas.10, Cross-Chapter Box Atlas.2

Climate information for Small Islands: Cross-Chapter Box Atlas.2