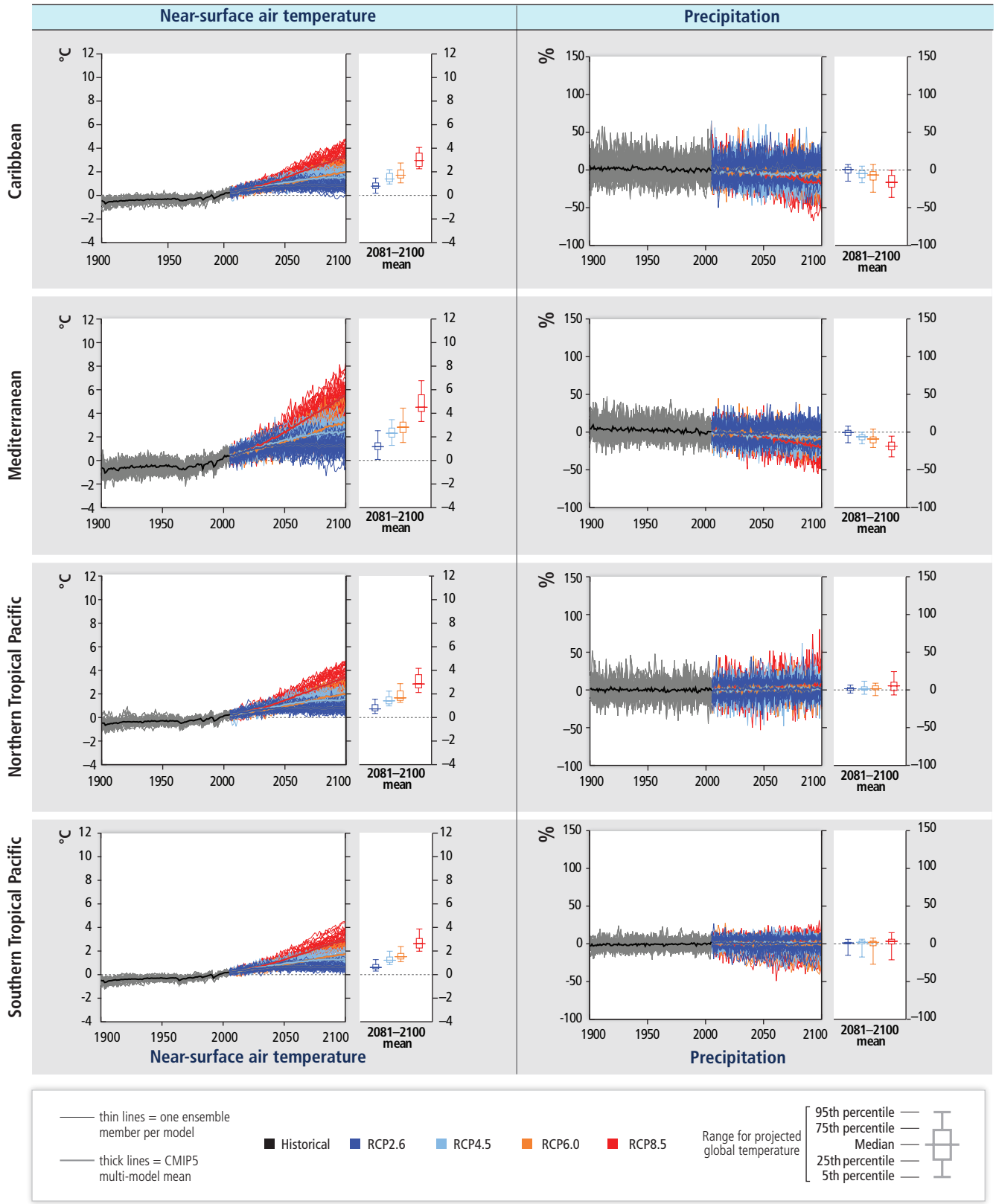
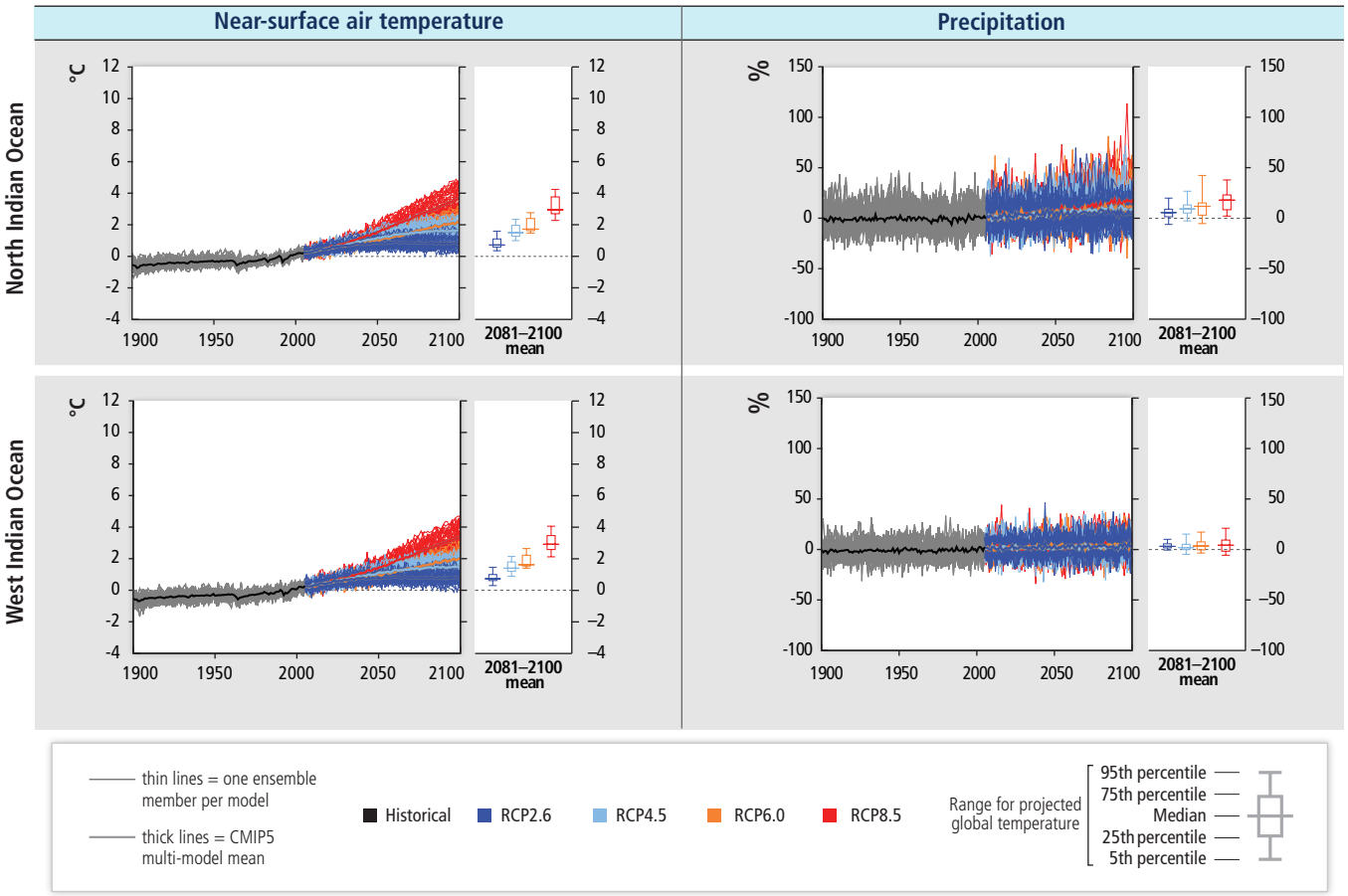


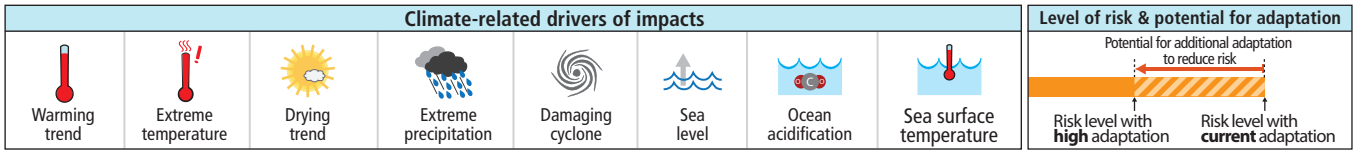
Annual change in temperature and precipitation relative to 1986–2005 for six small islands regions. Note that the model ensemble averages in the figure are for grid points over wide areas and encompass many different climate change signals. [WGII AR5 Figure 29-3]

Continued next page →

Figure 29-3 (continued)



Key regional risks from climate change in Small Islands and the potential for reducing risk through mitigation and adaptation. Key risks result from high hazard, high vulnerability, and/or high exposure. They are identified based on assessment of the literature and expert judgments. Risk levels are estimated through the 21st century for the current state of adaptation and for a hypothetical highly adapted state. [WGII AR5 Table 29-4]



Key risk	Adaptation issues & prospects	Climatic drivers	Timeframe	Risk & potential for adaptation (Very low – Medium – Very high)
Loss of livelihoods, coastal settlements, infrastructure, ecosystem services, and economic stability (*high confidence*) [29.6, 29.8, Figure 29-4]	• Significant potential exists for adaptation in islands, but additional external resources and technologies will enhance response. • Maintenance and enhancement of ecosystem functions and services and of water and food security • Efficacy of traditional community coping strategies is expected to be substantially reduced in the future.		Present Near term (2030–2040) Long term (2080–2100) 2°C 4°C	
Decline and possible loss of coral reef ecosystems in small islands through thermal stress (*high confidence*) [29.3.1.2]	Limited coral reef adaptation responses; however, minimizing the negative impact of anthrogopenic stresses (ie: water quality change, destructive fishing practices) may increase resilience.		Present Near term (2030–2040) Long term (2080–2100) 2°C 4°C	
The interaction of rising global mean sea level in the 21st century with high-water-level events will threaten low-lying coastal areas (*high confidence*) [29.4, Table 29-1; WGI AR5 13.5, Table 13.5]	• High ratio of coastal area to land mass will make adaptation a significant financial and resource challenge for islands. • Adaptation options include maintenance and restoration of coastal landforms and ecosystems, improved management of soils and freshwater resources, and appropriate building codes and settlement patterns.		Present Near term (2030–2040) Long term (2080–2100) 2°C 4°C	

photo: Maeslant storm surge barrier in Rotterdam, Netherlands. © Asahi Shimbun / Getty Images