

Shades of climate risk

Categorizing climate risk for investors

Physical risks in Australasia

Top risks ^{1,2}		Key message	Observed Impacts	Projected Impacts towards 2050 (for a range of scenarios between 2°C and Business-as-Usual) ³	Examples of Impacted Sectors	Shade of Risk
Extreme weather events 	Cyclones (tropical hurricanes)	Increased damages in combination with sea level rise	No clear trend	Across all scenarios: Increase in intensity, but remain or decrease in number (low confidence)	Coastal infrastructure	
Flooding ⁴ 		Increased flood risk. Damage to settlements and infrastructure	Spatially varying trends, mostly in line with general mean rainfall changes (medium to high confidence)	Across all scenarios: Increase in most regions (medium confidence).	Infrastructure	
Drought 		Fire weather to increase in most of southern Australia (high confidence) and many parts of New Zealand (medium confidence).	No significant change (medium to high confidence)	Across all scenarios: Increase in drought in southern Australia and many regions of New Zealand (medium confidence). Inconsistent signals in other regions (low confidence)	Agriculture, infrastructure	

<p>Sea level rise </p>	<p>Rising sea level (and increase heavy rainfall) leads to erosion and inundation. Coral reefs and small oceanic island highly threatened</p>	<p>Current global observed change 3.2 mm/year</p>	<p>+22 cm (16 to 32 cm) sea level rise globally in 2050 compared to 1986-2005 almost regardless of emission scenario (medium confidence)</p>	<p>Coastal infrastructure</p>	<p>Coral reefs and small oceanic island highly threatened</p>
<p>Heat stress⁵ </p>	<p>Constraints on water resources in southern Australia. Wild fire damage to settlements in southern Australia and many parts of New Zealand.</p>	<p>Increase in warm spells across Southern Australia (medium confidence), otherwise, insufficient signal or literature (low confidence). Likely to very likely increase in hot days (high confidence)</p>	<p>Across all scenarios: Likely more frequent and longer heat waves (high confidence). Very likely increase in hot days (high confidence)</p>	<p>Infrastructure, agriculture (reduction in agriculture production in the Murray-Darling Basin and far south-eastern and south-western Australia)</p>	<p></p>

Legend:

-  *Immediate attention required: impacts are already observed with a significant probability to increase*
-  *Some attention is required: impacts are expected in the next few years*
-  *Caution: impacts could manifest towards mid-century*

¹ Reisinger, A., et al. (2014). Australasia. In V. R. Barros, et al. (Eds.), *Climate Change 2014: Impacts, Adaptation, and Vulnerability. Part B: Regional Aspects. Contribution of Working Group II to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change* (pp. 1371-1438). Cambridge, United Kingdom and New York, NY, USA: Cambridge University Press.

² Hewitson, B. C. et al. (2014). Regional context. In V. R. Barros et al. (Eds.), *Climate Change 2014: Impacts, Adaptation, and Vulnerability. Part B: Regional Aspects. Contribution of Working Group II to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change* (pp. 1133-1197). Cambridge, United Kingdom and New York, NY, USA: Cambridge University Press.

³ Based primarily on RCP2.6 and RCP8.5. If 2050 impacts were not available (based on 2046-2065), based on interpretation of 2071-2100 model results

⁴ Extreme precipitation definition used is frequency of 'very wet days,' defined here as the 90th percentile of daily precipitation on wet days

⁵ Extreme heat events definition used is frequency of 'warm days,' defined here as the 90th percentile daily maximum temperature