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Climate Change in the Pacific 2022:

Historical and Recent Variability,
Extremes and Change



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**NEW ZEALAND
FOREIGN AFFAIRS & TRADE**
Manatū Aorere

Climate Change in the Pacific 2022:

Historical and Recent Variability,
Extremes and Change

Simon McGree, Grant Smith, Elise Chandler, Nicholas Herold, Zulfikar Begg, Yuriy Kuleshov, Philip Malsale and Mathilde Ritman



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Abbreviations

ARI	average return interval (or annual recurrence interval)	PACCSAP	Pacific–Australia Climate Change Science and Adaptation Planning
CLiDE	Climate Data for the Environment	PCCM	Pacific Climate Change Monitor
COSPPac	Climate and Oceans Support Program in the Pacific	PCCSP	Pacific Climate Change Science Program
CSIRO	(Australian) Commonwealth Scientific and Industrial Research Organisation	PDO	Pacific Decadal Oscillation
ECMWF	European Centre for Medium-Range Weather Forecasts	PNG	Papua New Guinea
EEZ	exclusive economic zone	PSLGM	Pacific Sea Level and Geodetic Monitoring
ENSO	El Niño–Southern Oscillation	RCC	Regional Climate Centre
ERA5	European Centre for Medium-Range Weather Forecasts reanalysis version 5	RMI	Republic of the Marshall Islands
FSM	Federated States of Micronesia	SHTC	Southern Hemisphere Tropical Cyclone
GA	Geoscience Australia	SPC	Pacific Community (formerly South Pacific Commission)
GPD	generalized Pareto distribution	SPCZ	South Pacific Convergence Zone
IPCC	Intergovernmental Panel on Climate Change Research	SPEI	Standardised Rainfall Evapotranspiration Index
IPO	Interdecadal Pacific Oscillation	SPREP	(Secretariat of the) Pacific Regional Environment Programme
ITCZ	Intertropical Convergence Zone	SST	sea surface temperature
MJO	Madden–Julian Oscillation	The Bureau	(Australian) Bureau of Meteorology
NIWA	(New Zealand) National Institute of Water and Atmospheric Research	WMO	World Meteorological Organization
NOAA	(United States) National Oceanic and Atmospheric Administration	WPM	West Pacific Monsoon

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