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Pacific Contributions to the IPCC Report





THE ROLE OF THE IPCC IS...

“... to **assess** on a comprehensive, objective, open and transparent basis the **scientific, technical and socio-economic information** relevant to understanding the scientific basis of risk of human-induced climate change, its potential impacts and options for adaptation and mitigation.”

“IPCC reports should be **neutral with respect to policy**, although they may need to **deal objectively with scientific, technical and socio-economic factors** relevant to the application of particular policies.”

PRINCIPLES GOVERNING IPCC WORK, PARAGRAPH 2

SOURCE: [HTTP://WWW.IPCC.CH/PDF/IPCC-PRINCIPLES/IPCC-PRINCIPLES.PDF](http://www.ipcc.ch/pdf/ipcc-principles/ipcc-principles.pdf)

6

Assessment Report Cycles

1990, 1995, 2001, 2007, 2013-14, 2015-2023

14

Special Reports

1997, 1999, 2000, 2005, 2011, 2012, 2018, 2019

 1992 Supplementary report
 1994 Special report

9

Guidelines for national GHG inventories, good practice guidance

1995, 1996, 2000, 2003, 2006, 2013, 2019

6

Technical Papers

1996-2008





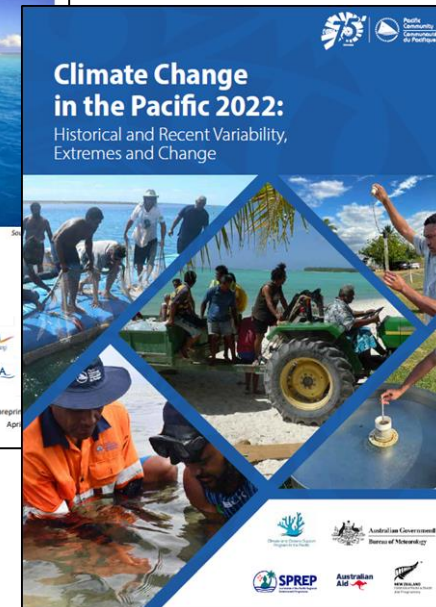
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Background: historical/current climate

Key findings from the Pacific Climate Change Monitor (2021)

- The region has warmed by 1.1°C since 1951
- The duration of marine heatwaves has increased since the 1980s
- Sea level has risen 10-15 cm since 1993
- The Pacific Ocean has become 12% more acidic since 1988
- Historical rainfall trends are unclear due to poor data coverage and high climate variability
- Cyclone trends are mixed



Key role of COSPPac, PICS Panel/PICOFs and Pacific Climate Change Data Portal



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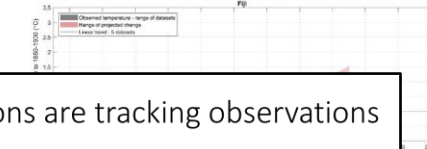
Background: future climate

Key findings: IPCC WG1/Pacific Next Gen (2021/22)

- Further warming, with more heatwaves
- Further sea level rise, with more extreme sea level events
- Change in annual rainfall
- An increase in cyclone intensity
- An increase in extreme daily rainfall intensity
- Further ocean acidification

Temperature projections are tracking observations

"Tracking" projections from PACCSAP (Figure 2.4): temperature projections presented in the PACCSAP report are relative to the 1986-2005 historical period (or "baseline"), a period centred on 1995. We can ask the question "are the projections getting it right so far?" This graph shows that since 1995, the observed temperature change is within the range of what was projected by the climate models, suggesting the projections are a good guide to what's happening.



Annual rainfall projections are tracking observations

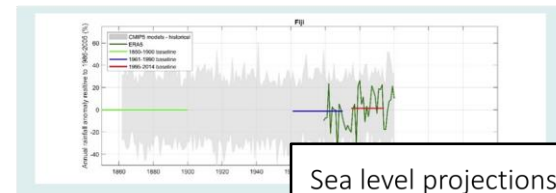
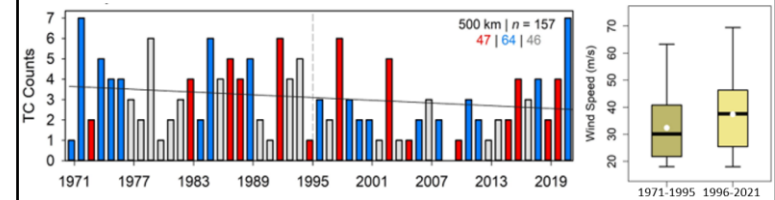


Figure 3.1 Area-average of Fiji annual rainfall (%) relative to the 1986-2005 historical period (or "baseline"), the range of CCM3 models (grey shaded area), the range of CCM3 models (grey shaded area), the range of CCM3 models (grey shaded area), the range of CCM3 models (grey shaded area).

Sea level projections are tracking observations



Cyclone projections are tracking observations





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Achievements - Regional:

- *Next Generation Climate Projections for Western Tropical Pacific write-shops (tpps://www.rccap.org/)*
 - *IPCC WG1 & 2 science*
 - *3 x in-person/f-2-f workshops in Apia, 2019, supported by Australian Govt funding (APCP)*
 - *NMSs, regional/national/Aust universities, SPREP & CSIRO*
 - *Multiple Aust-Pacific authored peer-reviewed journal papers:*
 - Marine heatwaves*
 - Tropical cyclones*
 - Drought*
 - Extreme rainfall*
 - *Ongoing research mentoring and collaborations*
 - *IPCC AR7 citations*
- *USP write-shops*


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Research Paper



Impacts of marine heatwaves on tropical western and central Pacific Island nations and their communities

Neil J. Holbrook^{a,b,*}, Vanessa Hernaman^c, Shirley Koshiba^d, Jimaima Lako^e, Jules B. Kajtar^{a,b}, Patila Amosa^f, Awneesh Singh^g

Climatic Change (2021) 166:19
<https://doi.org/10.1007/s10584-021-03112-1>




Historical and future drought impacts in the Pacific islands and atolls

Viliamu Iese¹ · Anthony S. Kiem²  · Azar Tile Tofaeono³ · Dewi G.C. Kirono⁴  · Va Robson Tigona⁵ · Filipe Veisa⁵ · Kisolet P. Arieta Daphne⁹ · Vaiola Vainikolo¹⁰ · Niko

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<https://doi.org/10.1007/s10584-022-03391-2>

Severe tropical cyclones over southwest Pacific Islands: economic impacts and implications for disaster risk management

Anil Deo¹  · Savin S. Chand¹ · R. Duncan McIntosh^{2,3} · Bipen Prakash⁴ · Neil J. Holbrook⁵ · Andrew Magee⁶ · Alick Haruhiru⁷ · Philip Malsale²

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A Pacific Island countries regional dialogue with the Intergovernmental Panel on Climate Change (IPCC)

The Key Options for Engagement with the IPCC includes

- Enhance Pacific engagement with the IPCC in terms of both contributions to the IPCC process.
- Improve accessibility of IPCC information, data and tools.





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Regional IPCC dialogue Outcomes

The Key 3 Recommendations;

1. Support the establishment of a regional policy coordination mechanism to coordinate National IPCC Focal Points and regional priorities.
2. Expand outreach to provide clear pathways for engaging with the IPCC through a supported coordination function.
3. Support the development of an IPCC capacity-building program



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Pacific Webinars on IPCC Assessment Report 6 (AR6)



- 3 Pacific Webinar on IPCC Assessment Report 6 (AR6) Working Group 1: The Physical Science, Working Group 2: , Working Group 3 Climate Change and Mitigation & the Synthesis Report (SYR) by the PCCC hosted at SPREP in partnership with the Institute for Climate, Energy & Disaster Solutions of the Australian National University .
- In partnership with Climate Analytics the PCCC hosted the 3 “Intergovernmental Panel on Climate Change sixth assessment report Synthesis Report (SYR) Final Government Distribution (FGD).
 - 15 factsheets designed to convey and communicate the key findings of the latest Intergovernmental Panel on Climate Change (IPCC)




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PACIFIC FACTSHEET KEY FINDINGS APRIL 2023 1

Key Findings


SELECTION OF KEY FINDINGS RELEVANT TO THE PACIFIC
From the United Nations Intergovernmental Panel on Climate Change's (IPCC's) Synthesis Report. This is the final report in the IPCC's Sixth Assessment Cycle (AR6), integrating all IPCC reports from the past 7 years.




Limiting global warming to 1.5°C instead of 2°C would increase benefits from reduced impacts and related risks, and reduce adaptation needs, despite increasing mitigation costs.



It is certain that human activities have caused the climate (ocean, land, and atmosphere) to warm at a rate never seen before.




The carbon budget for limiting warming to 1.5°C will be exceeded by the CO₂ emissions created from existing fossil fuel infrastructure alone.




Between 1850 to 2019 accumulated net CO₂ emissions amount to around 80% of the total carbon budget needed to limit the global temperature rise to 1.5°C.


Many climate change-driven impacts and risks are larger for small islands than for larger landmasses.




At 1.5°C risks to health, livelihoods, water supply, food security, human security and economic growth will increase.



There are affordable and practical measures for adaptation and mitigation that can be taken now.




More finance is needed to support the Pacific in taking effective adaptation and mitigation actions.




PACIFIC FACTSHEET CLIMATE TRENDS TO DATE APRIL 2023 1

Climate Trends to Date


SELECTION OF KEY FINDINGS RELEVANT TO THE PACIFIC
From the United Nations Intergovernmental Panel on Climate Change's (IPCC's) Synthesis Report. This is the final report in the IPCC's Sixth Assessment Cycle (AR6), integrating all IPCC reports from the past 7 years.




Human activities are responsible for global warming since 1850.




Climate change has led to large damages and irreversible losses in land, freshwater, coastal and ocean ecosystems.



Global CO₂ emissions continued to rise to their highest levels in the last decade.




Many adaptation options have been effective at reducing climate risks.




The impacts from climate change are larger and more severe than reported in previous IPCC assessments. Impacts we have seen include:


Displacement




Mental health challenges




Local extinctions




Economic losses




Lower fish catch



Small island states in the South Pacific are disproportionately affected by climate-driven displacement.



Although people living in the Pacific emit less than the global average, they are among the most affected by climate change in the world.





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Pacific Webinar on the IPCC AR6 : Synthesis Report (SYR)

PACIFIC FACTSHEET PROJECTIONS APRIL 2023 1

Projections

SELECTION OF KEY FINDINGS RELEVANT TO THE PACIFIC
From the United Nations Intergovernmental Panel on Climate Change's (IPCC's) Synthesis Report. This is the final report in the IPCC's Sixth Assessment Cycle (AR6), integrating all IPCC reports from the past 7 years.

Only deep, rapid and immediate GHG emissions reductions would limit the warming close to 1.5°C across the century.

At 1.5°C risks to health, livelihoods, food security, water supply, human security and economic growth will increase

More sea level rise is already unavoidable. Sea level will remain higher for thousands of years

Coral reefs are projected to decline by a further 70–90% globally at 1.5°C of global warming

Some impacts that the Pacific may experience include:

- More intense tropical cyclones
- More intense monsoon rainfall
- Increased ocean acidification
- More marine heatwaves

We will reach 1.5°C of warming in the early 2030s under nearly all emission scenarios

Pacific Island Nations have higher climate-related risk than the global average

PACIFIC FACTSHEET RESPONSE OPTIONS APRIL 2023 1

Response Options

SELECTION OF KEY FINDINGS RELEVANT TO THE PACIFIC
From the United Nations Intergovernmental Panel on Climate Change's (IPCC's) Synthesis Report. This is the final report in the IPCC's Sixth Assessment Cycle (AR6), integrating all IPCC reports from the past 7 years.

The benefits of immediate global climate action include avoided future damages and reduced adaptation costs

There are practical, effective and low cost actions for adaptation and mitigation that can be taken now

Faster financial support and technology transfer to Pacific Island Countries & Territories is needed to allow increased action

Reducing warming to 1.5°C and below 2°C would require an exceptional increase in global mitigation efforts between 2030–2050

Early action on adaptation and mitigation will be beneficial in both the near and long-term, reducing climate-risks for humans and ecosystems

Some important response options include:

- Providing access to early warning systems, and weather and health insurance for the most vulnerable
- Adapting farming practices and farm water management
- Protecting, restoring and reducing pollution in oceans
- Restoring fish populations
- Increasing protection, accommodation and planned relocation to respond to sea level rise
- Making infrastructure systems more resilient



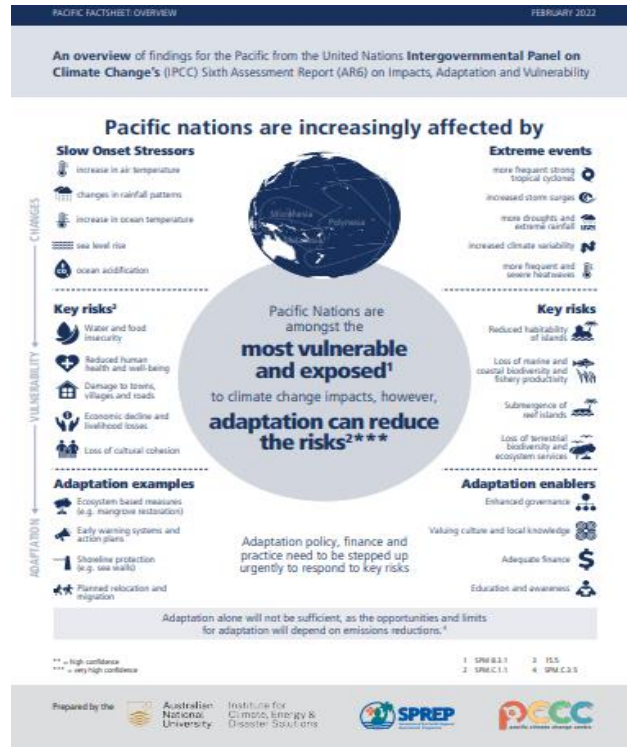
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IPCC AR6 Working Group 2 (WG2): Impacts, Adaptation & Vulnerability

• IPCC WG2 7 Pacific factsheets

- Water and Sanitation
- Infrastructure and Settlements
- Marine Ecosystems and Fisheries
- Health and Wellbeing
- Food
- Disaster Risk Management
- summary factsheet



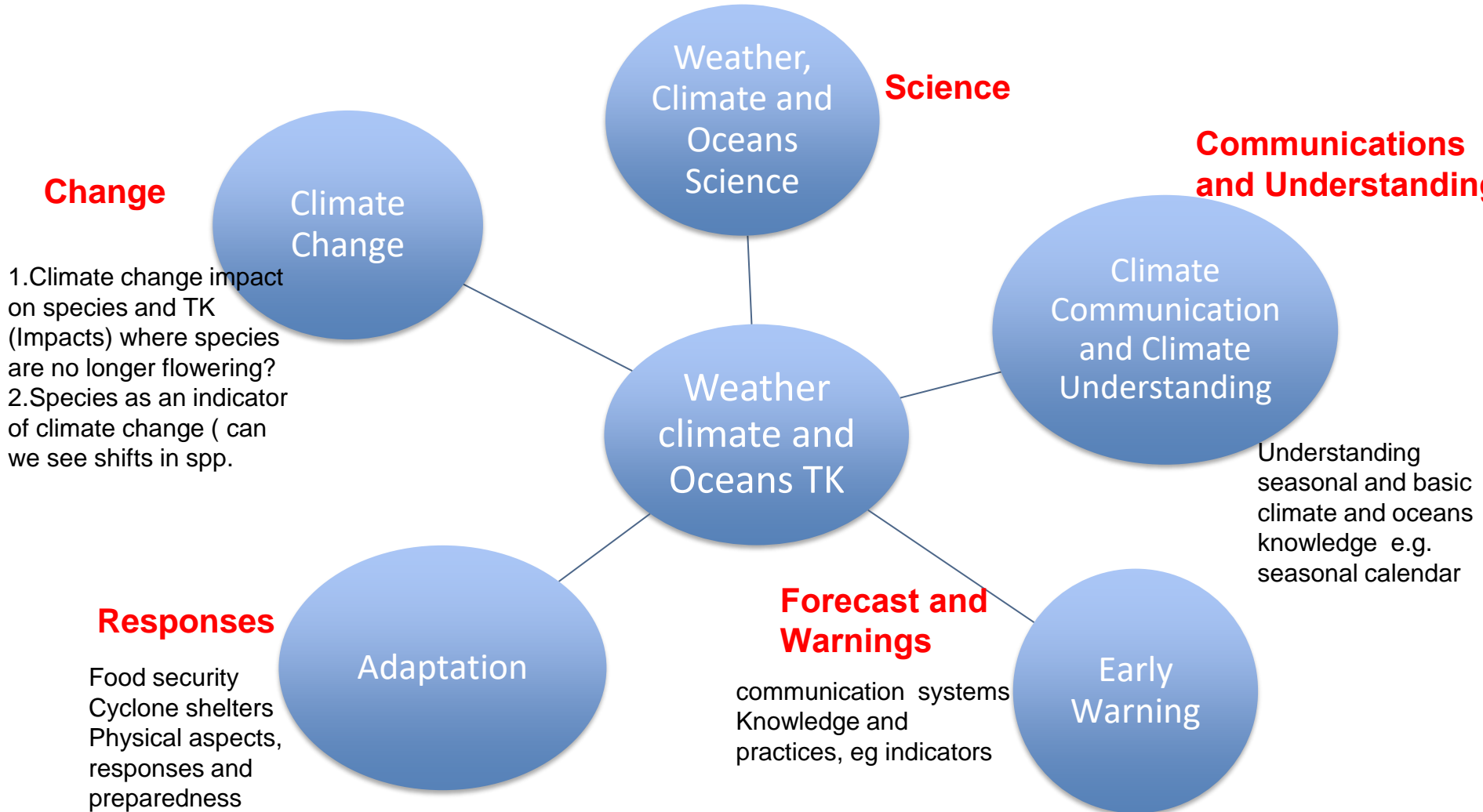


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COSPPac
Climate and Oceans Support
Program in the Pacific

LCIPP Landing Points





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