

Original: English

Paper reference	Working paper 6
Title:	Pacific regional climate change assessment
Author(s):	Johanna Johnson and Technical Working Group members

Summary/short description/key points:

This paper provides an update to Heads of Fisheries on the Pacific regional assessment of climate change implications for fisheries and aquaculture – 10-year update.

A summary of progress is provided on the Australian Department of Foreign Affairs and Trade and New Zealand Ministry of Foreign Affairs and Trade funded “Assessment of climate change implications for fisheries and aquaculture in the Pacific Islands region”. This initiative commenced in mid-2022 with contributions from over 50 scientists and practitioners, and is due to be completed in late 2024. The content includes technical chapters on Pacific fisheries (coastal, oceanic, freshwater), aquaculture, livelihoods and economies, and blue foods. There are also summaries of results for each of the 22 PICT, with recommended adaptations. These outputs will require consultation with national agencies and other regional organisations and stakeholders to ensure their outcomes are useful and meet the needs of SPC’s members.

Recommendations:

Members and partners are invited to note the progress that has been achieved in the last 12 months on the Pacific regional climate change assessment for fisheries and aquaculture.

Member and partners are also invited to discuss the findings of the regional assessment, including:

- projected climate variability and change in the region;
- implications for coastal, oceanic and freshwater fisheries, and aquaculture;
- implications for livelihoods, economies and blue food systems; and
- recommended adaptations to inform national policy, planning and investment.

Note that a brief summary of results will be provided by lead authors at HOF16. An overview of the publication structure is outlined in Annex 1.

Members and partners are invited to review and discuss the proposed delivery for the 22 PICT summaries, and provide feedback on how best to communicate the country-level results. Note that an example country-level summary will be provided at HOF16 for discussion purposes.

*The Pacific regional assessment of climate change implications for fisheries and aquaculture – 10-year update.*

1. The Australian and New Zealand Governments are supporting the update to the 2011 assessment of climate change vulnerability of Pacific Ocean resources, particularly fisheries and aquaculture and the livelihoods, economies and blue food systems they support.
2. The update includes coastal, oceanic and freshwater fisheries and consideration of supporting habitats, and aquaculture, implications for livelihoods, economies and blue foods. It provides recommended adaptations and management measures to minimise climate change impacts and maximise opportunities. For example, the role that aquaculture can play in addressing climate change challenges through mitigation actions in PICT. The technical re-analyses are complete and draft technical chapters are in the final stages of independent review and revision. The update includes summaries of the assessment findings for each of the 22 PICT and targeted adaptations for each member state, which are in development.
3. The results of this project have contributed to the climate rationale included in the Funding Proposal for the GCF regional tuna programme.
4. The project has been led by a science manager and editor based as a contractor at SPC Noumea in the FAME Division. The editor has coordinated all the technical science analysis components, including the Technical Working Group that has met four times during the project, guiding and leading the science writing process with all authors, the independent reviews, and the design and publication process with the FAME Fisheries Information and Knowledge Section.
5. Resourcing for publication and extension of results includes design and layout of the book (as an e-book and printed), infographics, policy briefs and fact sheets, videos, and a web tool. The dissemination of the project results aims to reach a diverse audience and is outlined in the Communication Strategy developed by the FAME Communications Officer. The dissemination of results is an important deliverable of the initiative, and input from member states will be key to ensuring effective communication.
6. Project completion is expected by November 2024, with an official launch in Q3 of 2024.
7. This initiative has aimed to follow a “bottom-up” process so that outcomes and outputs best support member needs. To facilitate this dialogue, senior staff member within each national fisheries agency have been consulted as focal point to seek input on the project. Discussions at HOF meetings will also inform the communication and publication processes.

*Annex 1. Structure of the Pacific regional climate change assessment publication*

Section/Chapter	Summary of content	Authors (*lead author)
<b>SECTION 1: INTRODUCTION</b>		
1. Introduction to the tropical Pacific Islands region and the implications of climate change for fisheries and aquaculture	Overview of the Pacific Islands region (social, ecological, cultural and economic context), what has changed since 2011 and knowledge gaps, assessment framework and approach to conducting the climate change assessment. Alignment with the SPC Strategic Plan 2022–2031.	Johanna Johnson*, Colette Wabnitz, Michelle Tigchelaar , Peter Gehrke, David Welch, Julie-Anne Kerandel
2. Observed and projected changes in atmospheric and ocean climate of the tropical Pacific Islands region	Latest climate change projections for the Pacific Islands region based on IPCC AR6, the IPCC Oceans and Cryosphere data and downscaled NextGen outputs.	Leanne Webb*, Savin Chand, Geoff Gooley
<b>SECTION 2: SUMMARY FOR PACIFIC ISLAND COUNTRIES &amp; TERRITORIES</b>		
American Samoa	Individual country and territory summaries: <ul style="list-style-type: none"> <li>- Key features (demography, geography, memberships and management);</li> <li>- Atmospheric &amp; ocean climate;</li> <li>- Coastal fisheries;</li> <li>- Oceanic fisheries;</li> <li>- Freshwater fisheries;</li> <li>- Aquaculture;</li> <li>- Social and economic implications (livelihoods, blue foods);</li> </ul> Adaptations and suggested policies.	Contributions from TWG from each chapter content; synthesis and collation by Science Editors
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Wallis & Futuna		
<b>SECTION 3: CLIMATE CHANGE IMPLICATIONS FOR FISHERIES AND AQUACULTURE</b>		
3. Implications of climate change for coastal fisheries in the tropical Pacific Islands region	Technical analyses and detailed results for the Pacific Islands region in assessing the vulnerability of coastal fisheries to regional climate change.	David Welch*, Johanna Johnson, Elizabeth Fulton, Julia Blanchard, Bradley Moore, Denisse Fierro Arcos, Jessica Zamborain-Mason, Katie Sambrook, Andrew Halford, Bianca Molinari, Dieter Tracey
4. Implications of climate change for oceanic fisheries in the tropical Pacific Islands region	Technical analyses and detailed results for the Pacific Islands regio in assessing the vulnerability of oceanic fisheries to regional climate change.	Patrick Lehodey*, Inna Senina, Simon Nicol, Johann Bell, Beatriz Calmettes, Romain Forestier, Thomas Gorgues, Christophe

		Menkes, John Hampton, Mathieu Lengaigne, Alex Sen Gupta, Peter Williams
5. Implications of climate change for freshwater and estuarine fisheries in the Pacific Islands region	Technical analyses and detailed results for the Pacific Islands region in assessing the vulnerability of freshwater fisheries to regional climate change.	Peter Gehrke*, Lina Pandihau, Lekima Copeland, Boga S. Figa, Marcus J. Sheaves
6. Implications of climate change for aquaculture in the Pacific Islands region	Technical analyses and detailed results for the Pacific Islands region in assessing the vulnerability of aquaculture to regional climate change.	Ruth Garcia Gomez*, Jamie Whitford, Jeff Kinch, Cathy Hair, Chinthaka Hewavitharane, Antoine Teitelbaum, Pranesh Kishore, Tim Pickering
<b>SECTION 4: CLIMATE CHANGE INFORMATION TO SUPPORT MANAGEMENT AND POLICY</b>		
7. Implications of climate change for livelihoods and economies based on fisheries and aquaculture in Pacific Islands region	Evidence synthesis of how the documented current and predicted impacts of climate change on Pacific fisheries and aquaculture is likely to impact livelihoods, economic revenue, and the contributions by oceanic and coastal fisheries and aquaculture to community income and jobs.	Julie-Anne Kerandel*, Marina Abas, Rodney Beard, Peter Gehrke, Ruth Garcia Gomez
8. Implications of climate change for blue food <sup>1</sup> systems in the Pacific Islands region	Evidence synthesis of how the documented current and predicted impacts of climate change on Pacific fisheries and aquaculture is likely to impact blue food systems and the contributions by oceanic and coastal fisheries and aquaculture to subsistence for communities.	Michelle Tigchelaar*, Colette Wabnitz, William Cheung, David Welch, Peter Gehrke, Inna Senina
9. Adaptations and supporting policies to manage the impacts of climate change on fisheries and aquaculture in the Pacific Islands region	Synthesis of the potential adaptations and supporting policies that have been implemented since 2011, their success in minimising climate change impacts, and recommendations for future actions.	Johanna Johnson* with input from TWG

<sup>1</sup> Blue foods refer to food derived from aquatic animals, plants or algae that are caught or cultivated in freshwater and marine environments. Blue protein refers to fish and shellfish caught or cultivated in freshwater and marine environments that provide a source of protein for human consumption.