



<b>Agenda Item:</b>	6.c
<b>Paper No:</b>	RFMM5-WP6
<b>Title:</b>	Climate Change Variability Assessment Report

**Summary:**

This Paper provides an update to the fifth Regional Fisheries Ministerial Meeting on the Pacific regional assessment of climate change implications for fisheries and aquaculture – 10-year update.

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 food systems. Summaries of results are also being prepared for each of the 22 PICT, with recommended adaptations. Preliminary outputs were shared with the 16<sup>th</sup> meeting of the SPC Heads of Fisheries in April 2024, with a commitment to continue consultation with national agencies and regional organisations and stakeholders to ensure the outcomes are useful and meet the needs of members.

**Recommendations:**

Ministers are invited to:

- i. Note the progress on the Pacific regional climate change assessment for fisheries and aquaculture 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.
- ii. Note that officials will review and discuss the proposed delivery for the 22 PICT summaries, including feedback on how best to communicate the country-level results.
- iii. Note the book will be launched in early 2025 and provided to ministers electronically at their next annual RFMM meeting.

*ANNEX 1. The Pacific regional assessment of climate change implications for fisheries and aquaculture – 10-year update.*

1. A summary of progress is provided on the Australian Department of Foreign Affairs and Trade (DFAT) and New Zealand Ministry of Foreign Affairs and Trade (MFAT) funded “Assessment of climate change implications for fisheries and aquaculture in the Pacific Islands region”. This is an 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 PICTs. 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 PICTs 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 to SPC. 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 SPC 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 SPC. 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 Q4 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. The discussions at SPC HOF meeting has informed the communication and publication processes.

ANNEX 2. 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, Simon Nicol
2. Observed and projected changes in atmospheric and ocean climate of the tropical Pacific Islands region	Latest climate change projections for 2050 and 2090 in 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> </ul>	Contributions from TWG from each chapter content; synthesis and collation by Science Editors
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	<ul style="list-style-type: none"> <li>- Social and economic implications (livelihoods, blue foods);</li> </ul> <p>Adaptations and suggested policies.</p>	
<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>		

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<p>7. Implications of climate change for livelihoods and economies based on fisheries and aquaculture in Pacific Islands region</p>	<p>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.</p>	<p>Julie-Anne Kerandel*, Marina Abas, Rodney Beard, Peter Gehrke, Ruth Garcia Gomez</p>
<p>8. Implications of climate change for blue food<sup>1</sup> systems in the Pacific Islands region</p>	<p>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.</p>	<p>Michelle Tigchelaar*, Colette Wabnitz, William Cheung, David Welch, Peter Gehrke, Inna Senina</p>
<p>9. Adaptations and supporting policies to manage the impacts of climate change on fisheries and aquaculture in the Pacific Islands region</p>	<p>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.</p>	<p>Johanna Johnson* with input from TWG</p>

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<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.