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Partnering for solutions

Climate security and fisheries adaptation: CSIRO collaboration in the Pacific

Leo Dutra| 26 October 2026

with B. Fulton, AVM Levu, L Thomas, J Lopes, J Butler, S Brodie, S Boylan, J Crosswell, A Steven, W-J Powell, A McCarthy, F D'Avila, T Eruita, T Barnabas, W Tabuia, S Ririmae, S Topo, H Kaniki, L Nenai, R Lal and many more…



Australia's National Science Agency

The shared challenge: climate change and livelihoods

Increase in land-based activities

More extreme weather events

Rising sea level

Population growth

A more acidic ocean

Higher seawater temperatures









A toolkit applied to support livelihoods adaptation:

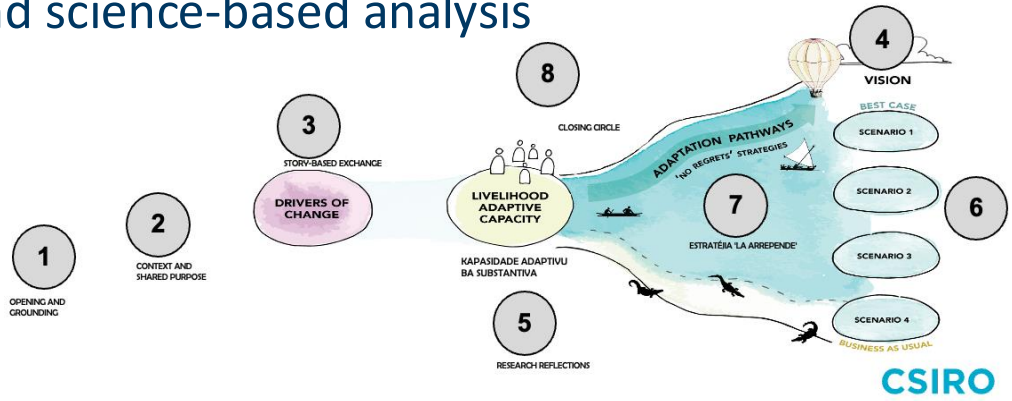
Bringing local knowledge and science-based analysis to support adaptation











What do communities rely on and what change is already occurring?

Governance mapping – how are resources being managed?

What ecosystem items (goods) and services are important and to whom?

Vulnerability: How will climate and population change impact goods and services?

Adaptation pathway planning: What is needed inside & outside the community?

Extra tools: FishPath (fisheries management options), vulnerability tables, and modelling)

Community storybooks and adaptation plans finalised and available

Handbook of this process public by end of 2026

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Where AI could add value

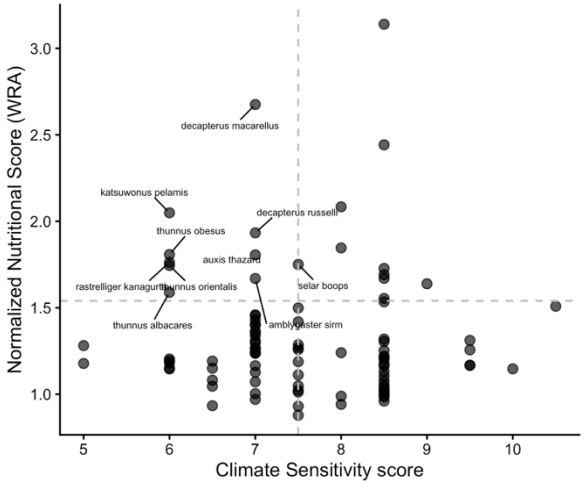
AI won't replace local knowledge or government decisions. It can help connect, scale and accelerate data analysis that supports decisions



Local knowledge → helping organise and synthesise community input faster



Structured planning → linking climate data with local priorities more efficiently



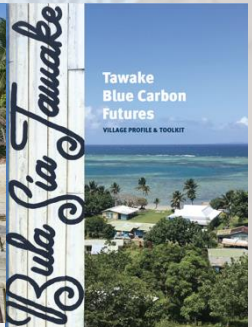
Systems modelling → data analysis and testing adaptation options across more places, faster

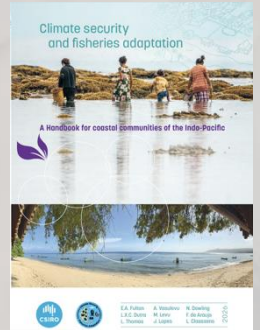
RIFFS preliminary outputs – Solomon Islands

One size doesn’t fit all

- Governance, geography, and culture differ across every Pacific context
- Communities' time and willingness to engage is valuable (and limited)
- Data and knowledge should remain owned by communities and countries
- Outputs need to be practical and usable — not just reports







Upcoming: end of 2026

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Aligning priorities

Which part of this spectrum (community engagement, planning tools, modelling) is most urgent for your country?

What would make AI-supported tools trustworthy and usable in your context?

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Thank you

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Recent Projects

1. Pacific Blue Carbon Program - Livelihoods (Fiji)
2. Climate Security and Fisheries Adaptation (Fiji, Timor-Leste)
3. Food System Pathways (Kiribati, Solomon Islands)
4. Resilient Infrastructure for Future Food Security (RIFFS) (Solomon Islands)

Relevant reports

Tawake Blue Carbon Futures: Village Profile and Toolkit. Brisbane: CSIRO; 2026. http://hdl.handle.net/102.100.100/777421?index=1

Food System Pathways Guidebook - Solomon Islands. Nelson: Cawthron Institute; 2026. http://hdl.handle.net/102.100.100/778903?index=1

Food System Pathways Guidebook - Kiribati. Nelson: Cawthron Institute; 2026. http://hdl.handle.net/102.100.100/778902?index=1

Food System Pathways Storybook: Ijo Maringi, Solomon Islands. Nelson: Cawthron Institute; 2026. http://hdl.handle.net/102.100.100/778901?index=1

Food System Pathways Storybook: Abaiang Island, Kiribati. Canberra: ACIAR; 2026. http://hdl.handle.net/102.100.100/778900?index=1

CSIRO Knowledge Brokering Support Program: https://research.csiro.au/pkb/knowledge-brokering-support-program/

Climate security and Fisheries Adaptation: a handbook for coastal communities of the Indo-Pacific. CSIRO; upcoming end of 2026.