PITCAIRN ISLANDS

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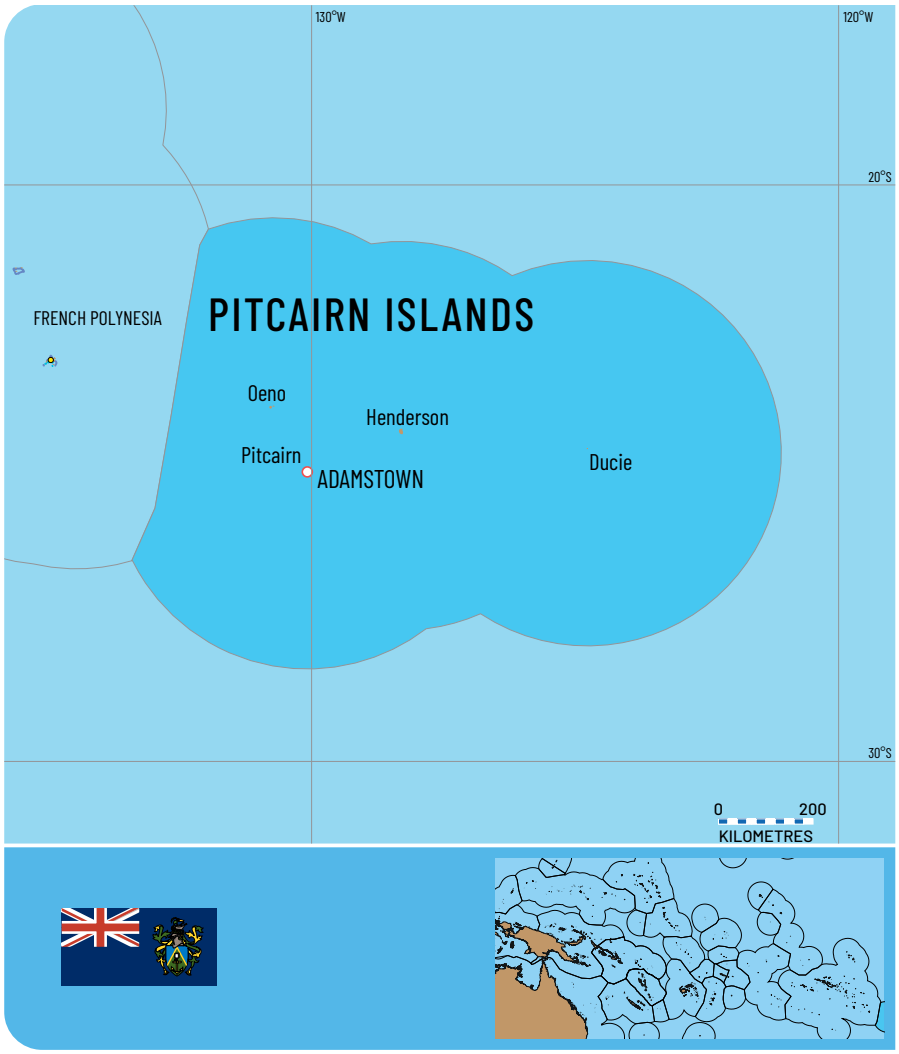
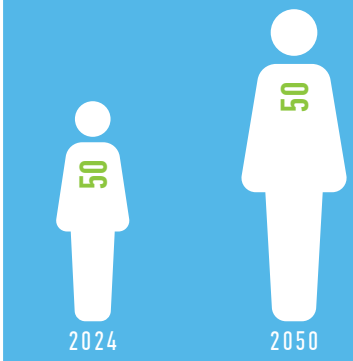
PITCAIRN ISLANDS





n/a n/a

POPULATION [i]

EEZ AREA
836,108 km²

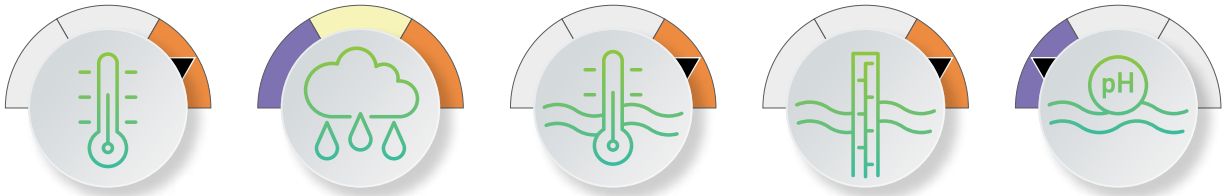
LAND IS 0.01% OF EEZ

LAND AREA [ii]
47 km²

* Annual average using 2014–2024 data

SUMMARY OF CLIMATE CHANGE PROJECTIONS

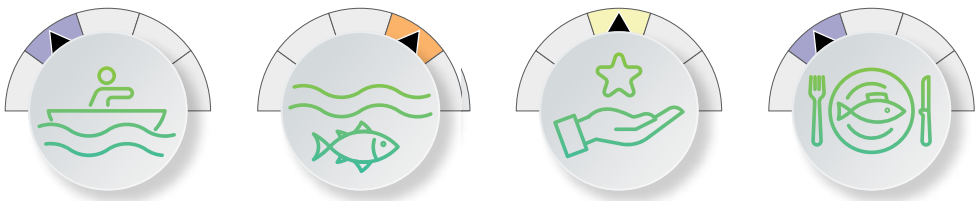
2050



CHANGE SCALE

DECREASE | STABLE | INCREASE

SUMMARY OF CLIMATE CHANGE IMPLICATIONS[iii]



CHANGE SCALE

LARGE DECREASE | SMALL DECREASE | STABLE | SMALL INCREASE | LARGE INCREASE

i Data source: SPC Pacific Data Hub https://pacificdata.org/population-dashboard
ii Data source: SPC Statistics for Development Division https://sdd.spc.int
iii Relative to the Reference Periods 2010–2020 for coastal fisheries and 1980–2010 for oceanic fisheries.

RECOMMENDED ADAPTATION ACTIONS

These recommended adaptations are based on the key vulnerabilities and implications of climate change for fisheries and aquaculture (further details in Chapter 10) and should be initiated or strengthened. A range of supporting policies are provided in Table 10.1 for decision-makers to select those that are most appropriate to their context and priorities. Central to all future adaptation are the following principles:

1. Strengthen data collection by improving (or establishing) national fisheries and aquaculture monitoring systems linked to management decision-making.
2. Integrate local knowledge to inform adaptation actions for coastal and freshwater ecosystems, food security, and cultural heritage. Equity - especially gender equity – and social inclusion need to be a key focus.
3. Implement effective governance, including through community-based management and scaling-up of successful initiatives, to ensure adaptation actions reflect local needs and priorities.
4. Diversify and secure funding to support national- and community-level actions, alongside capacity building to sustain adaptation initiatives.

Food and nutrition security

Recommended adaptations

Food and Nutrition 1: Implement sustainable ecosystem-based approach to fisheries management

Food and Nutrition 7: Promote education and awareness on the importance of protecting aquatic habitats, species and the foods they supply

Economies and government revenue

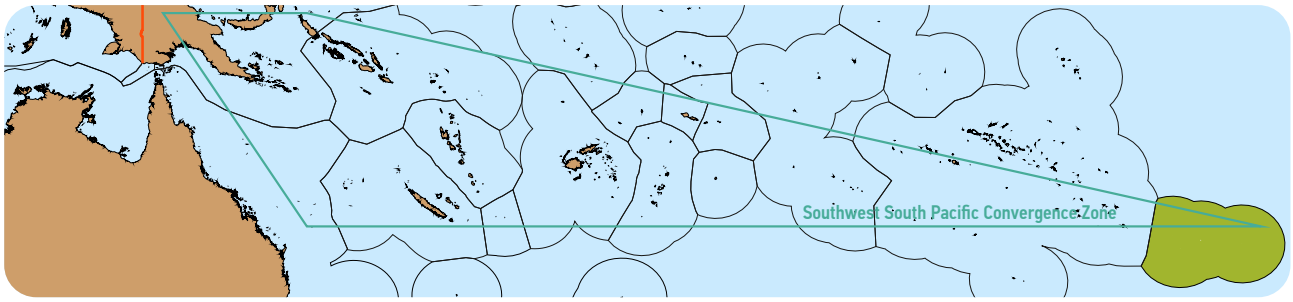
Recommended adaptations

Economic Revenue 3: Implement energy efficiency programs for fisheries and aquaculture

Economic Revenue 4: Promote improved safety at sea

Economic Revenue 6: Climate-proof infrastructure

Projected changes in atmospheric and oceanic climate



Pitcairn Islands is mostly in the Southwest Pacific Convergence climate zone and is expected to experience the following climate changes by 2050 under a medium greenhouse gas emissions scenario (SSP2-4.5) and a high emissions scenario (SSP5-8.5)[iv], relative to 1995–2014 baseline (further details in Chapter 2).

		AIR TEMPERATURE	RAINFALL	SEA SURFACE TEMPERATURE	SEA LEVEL	OCEAN pH
2050	MEDIUM EMISSIONS (SSP2-4.5)	+0.7 to +1.1 °C	-2.3 to +5.5 %	+0.6 to +1.1 °C	+0.1 to +0.3 m	-0.1
	HIGH EMISSIONS (SSP5-8.5)	+0.9 to +1.6 °C	-2.8 to +6.4 %	+0.8 to +1.5 °C	+0.2 to +0.4 m	-0.1
	CONFIDENCE [v]	HIGH	MEDIUM	HIGH	HIGH	HIGH

Pitcairn Islands is also expected to experience the following changes to regional climate processes by 2090 under a medium and high greenhouse gas emissions scenario, relative to 1995–2014 baseline.

		TROPICAL CYCLONES	EL NIÑO SOUTHERN OSCILLATION (ENSO)	MARINE HEATWAVES
2090	MEDIUM EMISSIONS (SSP2-4.5)	Decrease in frequency; Increase in intensity	ENSO will continue as a source of interannual variability; La Niña and El Niño extremes are projected to increase	2–9 times more frequent (global projection)
	HIGH EMISSIONS (SSP5-8.5)			3–15 times more frequent (global projection)
	CONFIDENCE [v]	LOW TO MEDIUM	LOW	N/A

		OCEAN CIRCULATION	OCEAN STRATIFICATION	OCEAN OXYGEN CONTENT	NITRATE CONCENTRATION
2090	MEDIUM EMISSIONS (SSP2-4.5)	Intensification and poleward extension of northern and southern hemisphere subtropical gyres		−6.6 %	−0.60 mmol/m^3
	HIGH EMISSIONS (SSP5-8.5)		+0.58 kg/m^3 (between 0 and 200 m); Mixed layer depth shoals by 19.5 m (global)	−11.2 %	−1.00 mmol/m^3
	CONFIDENCE [v]	MEDIUM	VERY HIGH	HIGH	N/A

CONFIDENCE SCALE

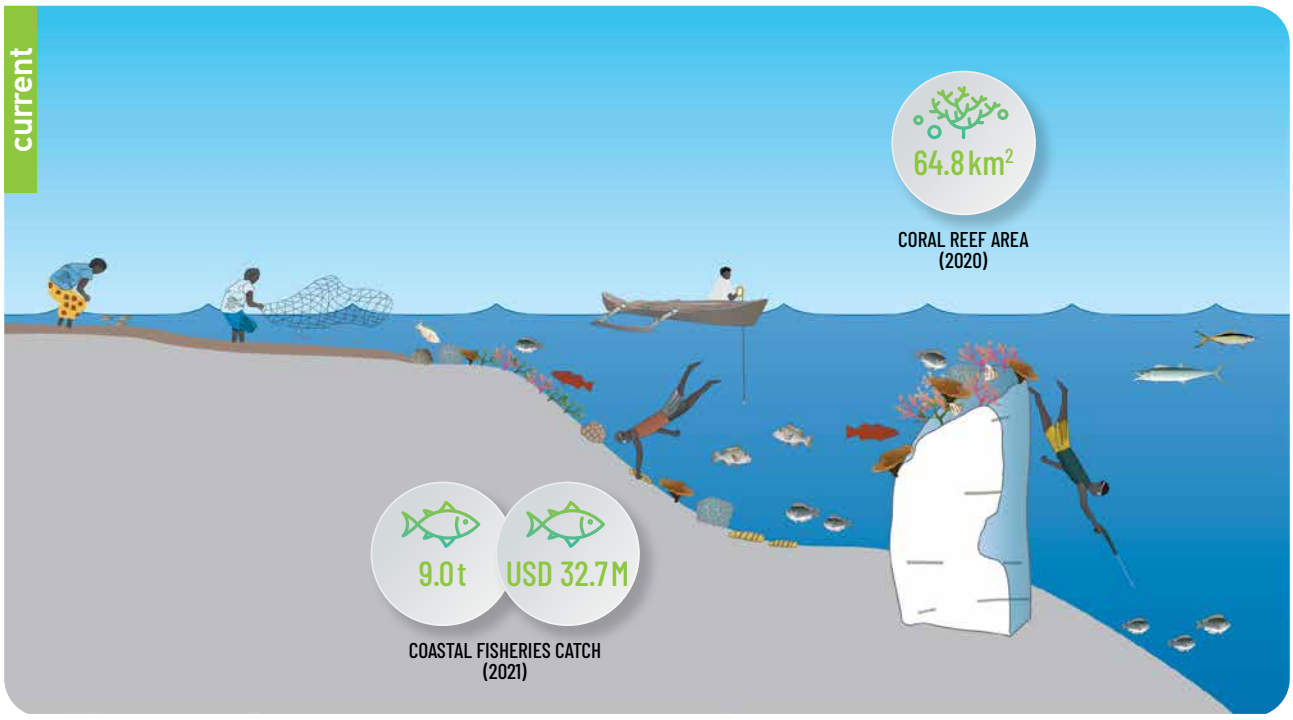
VERY LOW	LOW	MEDIUM	HIGH	VERY HIGH

iv The shared socioeconomic pathways (SSP) represent plausible futures of how society's choices might affect greenhouse gas emissions, and how those choices might influence climate change.

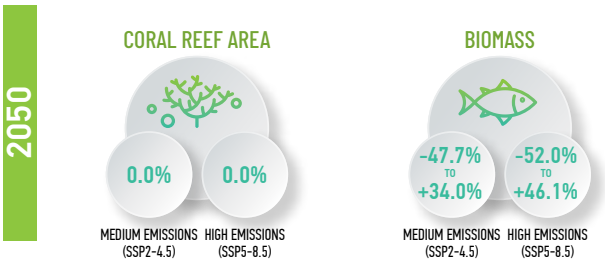
v Confidence levels reflect uncertainty in attribution of the observed impact to climate change.

Coastal fisheries

Coastal fisheries in Pitcairn Islands target demersal fish (including coral trout, groupers and parrotfish), invertebrates for sale (e.g. lobster), and nearshore pelagic fish (including tuna and wahoo) using a range of fishing methods. These species are critically important for food, local livelihoods and jobs (further details in Chapter 3).



Coastal fish and invertebrates are expected to be directed impacted by increasing sea surface temperature, ocean acidification (declining pH), and changing rainfall patterns, and indirectly impacted by declines in coastal habitats (coral reefs, seagrass meadows and mangroves) by 2050. This will drive changes in habitat area, fish biomass and coastal fisheries catches.

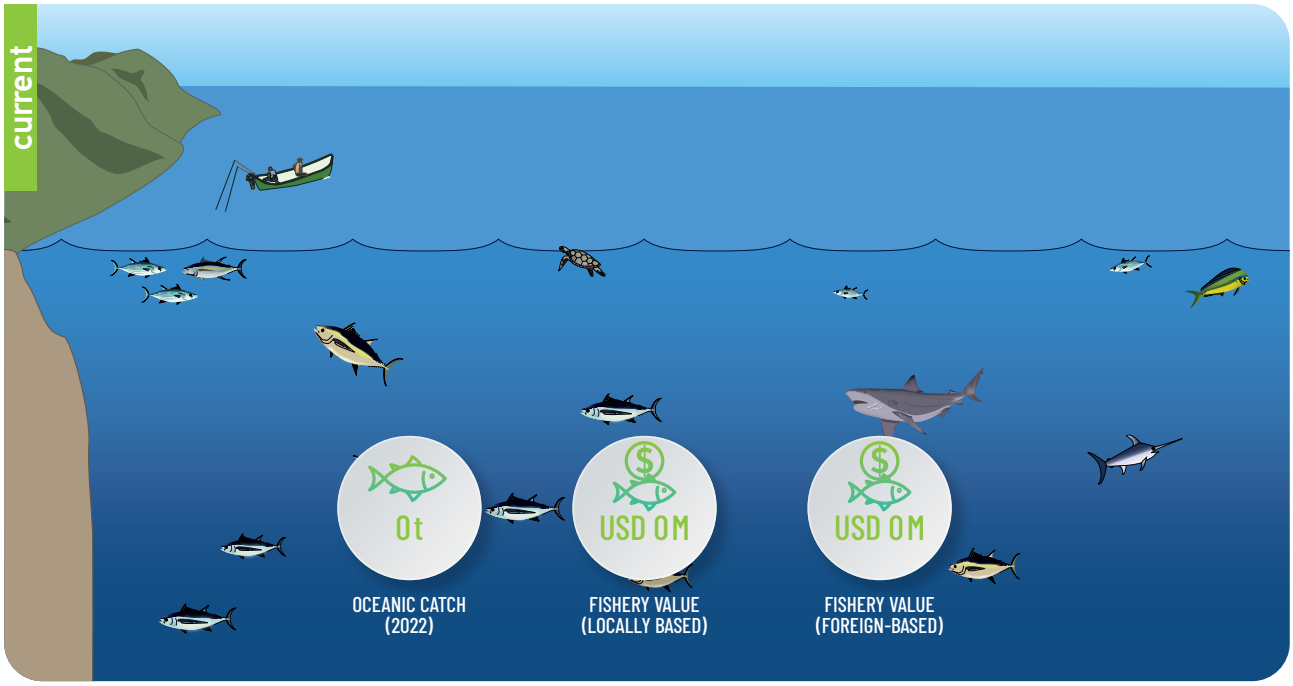


Stock assessments are lacking so the status of coastal fisheries cannot be determined.

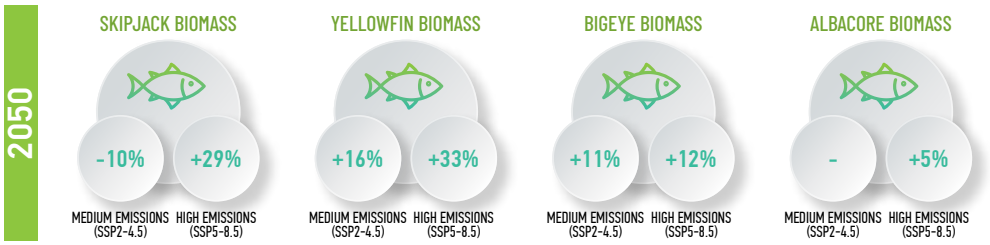
vi Relative to the Reference Period 2010–2020.

Oceanic fisheries

There is no locally based offshore fishing fleet, and due to the Pitcairn Islands Marine Protected Area, established in 2016, there is no authorised foreign-based offshore fishing within Pitcairn Islands' exclusive economic zone[vii].



PROJECTED BIOMASS (WITHOUT FISHING) RELATIVE TO 2001–2010 REFERENCE PERIOD



Freshwater and estuarine fisheries

There is no current freshwater or estuarine fisheries production, but future opportunities may exist.

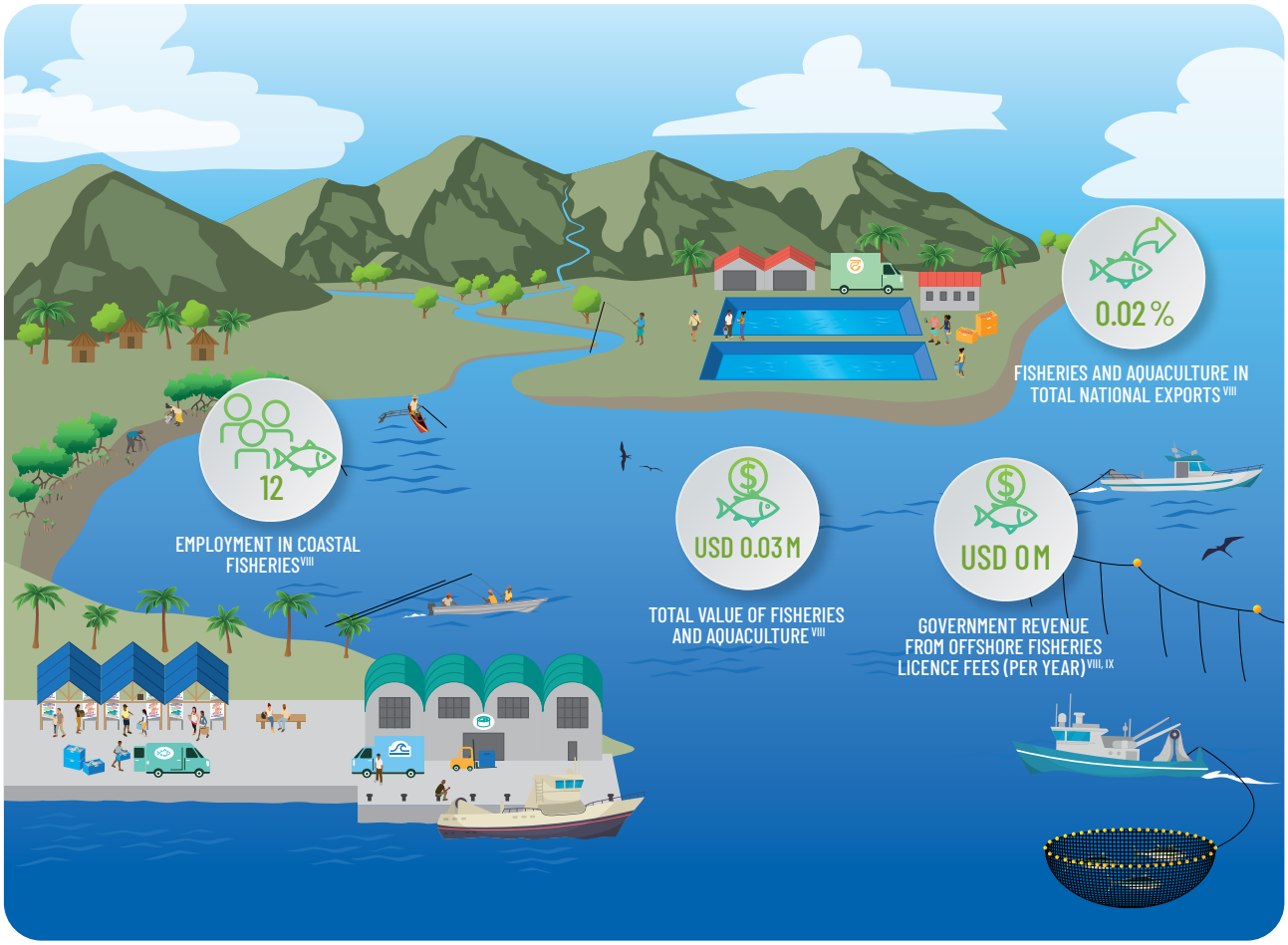
Aquaculture

There is no current aquaculture production, but future opportunities may exist.

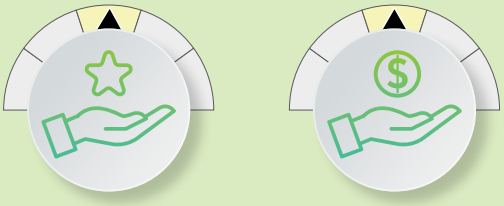
vii Data from 2021: Gillett R., Fong M. (2023) Fisheries in the economies of Pacific Island countries and territories (Benefish Study 4). Pacific Community (SPC), Noumea, New Caledonia.

Livelihoods and economies

Fisheries are important for local trade, and provide household income, livelihoods and jobs in Pitcairn Islands (further details in Chapter 7).



Due to the low contribution of fisheries to GDP, no significant impacts on livelihoods or GDP are expected. No significant impact is expected on government revenue because no purse-seine fishing is likely occurring in the EEZ.



CHANGE SCALE

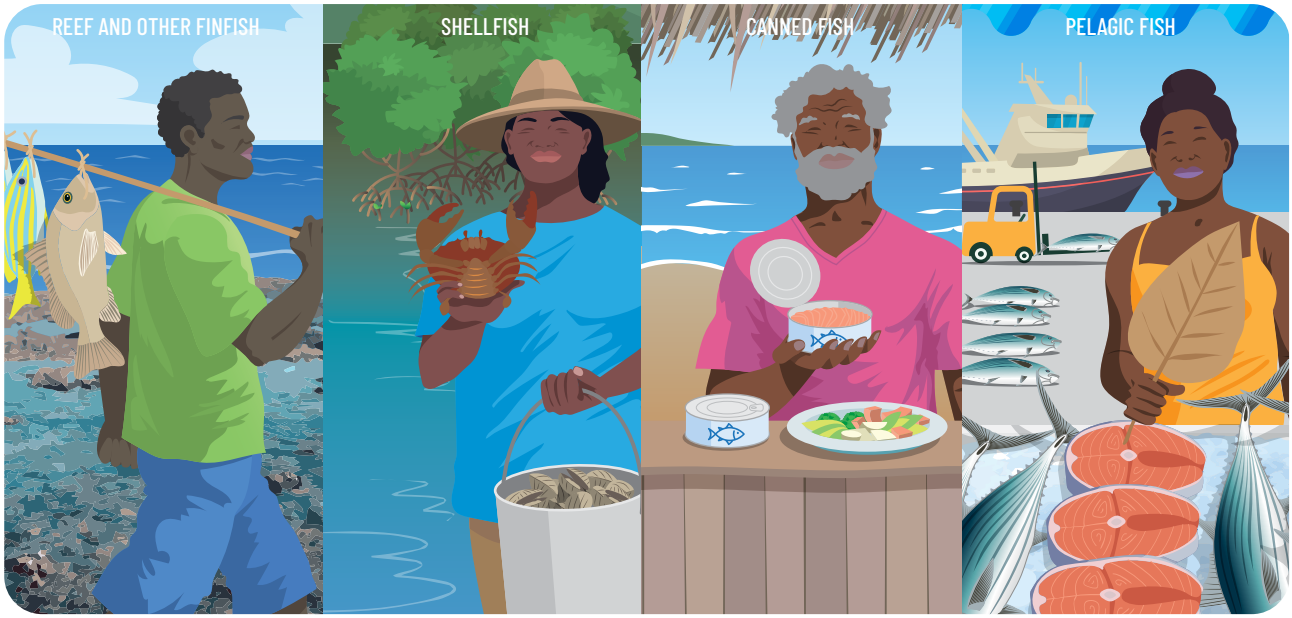
LARGE DECREASE	SMALL DECREASE	STABLE	SMALL INCREASE	LARGE INCREASE

viii Data source: Gillett R., Fong M. (2023) Fisheries in the economies of Pacific Island countries and territories (Benefish Study 4). Pacific Community (SPC), Noumea, New Caledonia.

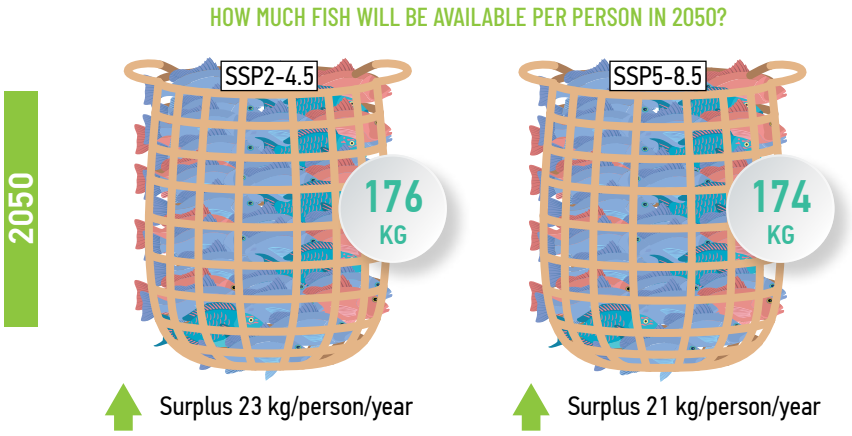
ix Average value 2017-2021

Aquatic food security

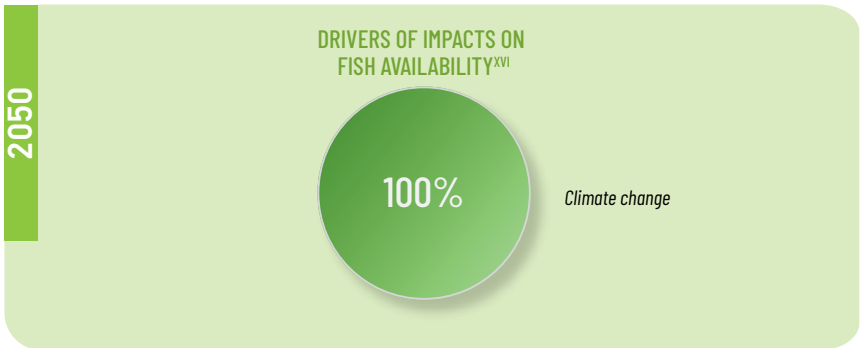
Aquatic (blue) foods provide a critically important source of nutrition in Pitcairn Islands, and current consumption is 153 kg/person/year, including locally and imported reef and other finfish, shellfish, canned fish and pelagic fish (further details in Chapter 8)[x].



Pitcairn Islands is not projected to experience a deficit in fish supply by 2050 based on current fisheries catch rates and average consumption. However, fish supply is expected to decrease as a result of climate change impacts on coastal fisheries. There will be sufficient, but decreasing, available whole fish by 2050[xi] and sufficient access to aquatic foods. This means that Pitcairn Islands has **low vulnerability** and will remain aquatic food secure by 2050.



To meet the future needs of the population and address declining catches for local consumption under climate change, sustainable coastal and estuarine fisheries management is essential.



x Data estimated for whole fish from: Sharp M.K., Andrew N.L. (2024) Aquatic food consumption in the Pacific region. Food Systems Brief No. 22. Pacific Community, Noumea, New Caledonia. Note that reef and other finfish include freshwater and estuarine fish.

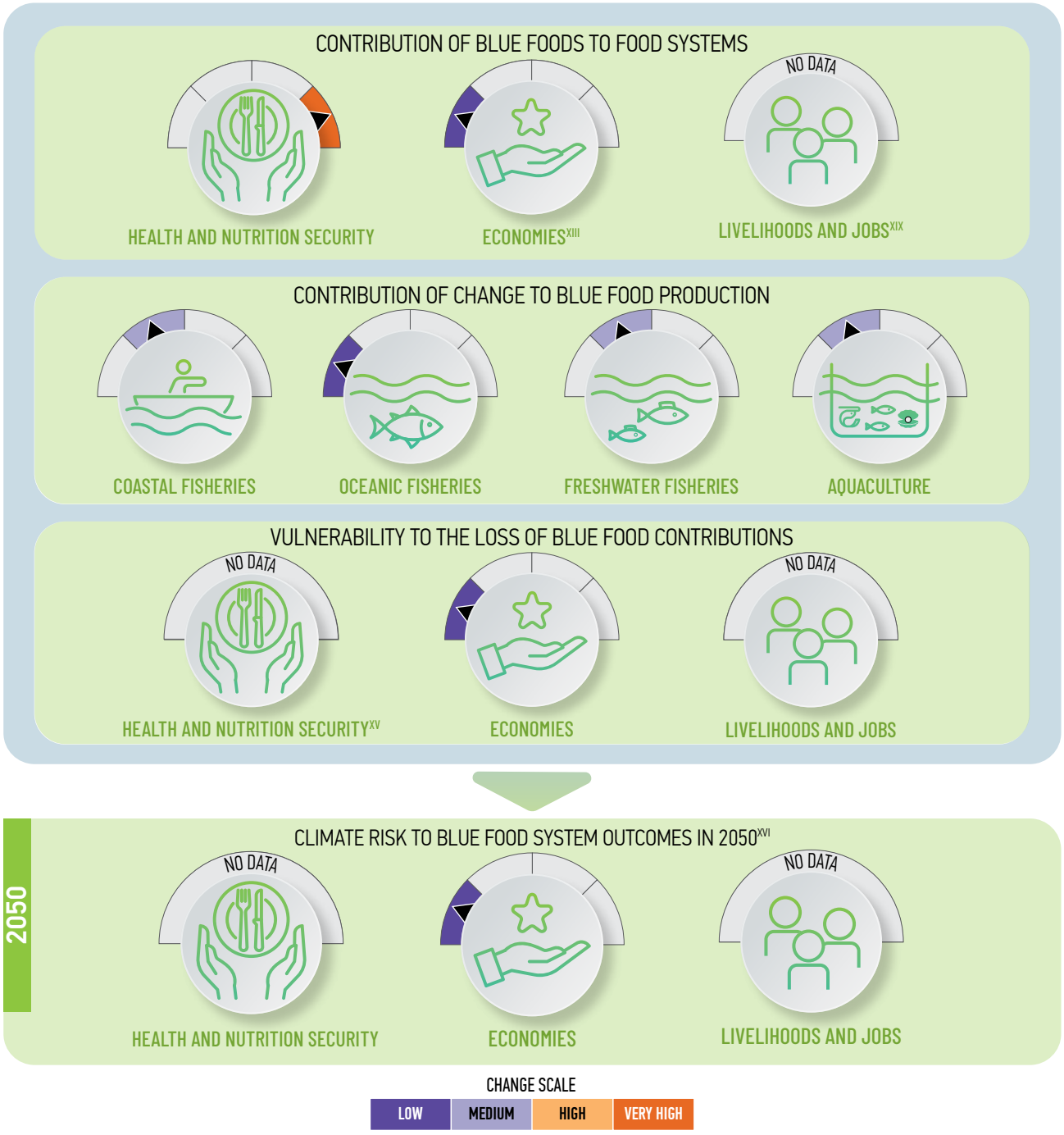
xi Based on projected coastal, estuarine and freshwater fisheries catches by 2050 from Chapters 3 and 5.

xii Based on current aquatic food consumption levels.

Blue food production systems

In the Pacific Islands region, blue foods contribute significantly to nutrition security and health, economies, livelihoods and jobs. By comparing contributions, climate impacts, and vulnerabilities across these outcomes, priority climate actions can be identified for sustaining their role in sustainable development under climate change (further details in Chapter 9).

In Pitcairn Islands, blue foods are highly important for nutrition security and health. Compared to other Pacific islands, projected climate impacts to blue food production by 2050 are medium to high. Socioeconomic conditions make Pitcairn Islands' sustainable development less vulnerable to climate-induced losses.



Altogether, the contributions of blue foods to sustainable development in Pitcairn Islands face low levels of climate risk, though data gaps in nutrition and livelihoods hamper a holistic assessment. Priority climate actions can focus on adapting blue food production systems, for instance through improved fisheries and catchment management.

xiii Including variables such as total fisheries production value and foreign access fees.
xiv Including variables such as total number of jobs across supply chains, share of households for which fishing is the main source of income and gender equity considerations.
xv Including nutrition-related health outcomes such as nutrient deficiencies and noncommunicable diseases.
xvi Risk is shown for a high-emissions scenario (SSP5-8.5). Rapid emissions reduction would reduce climate risk.