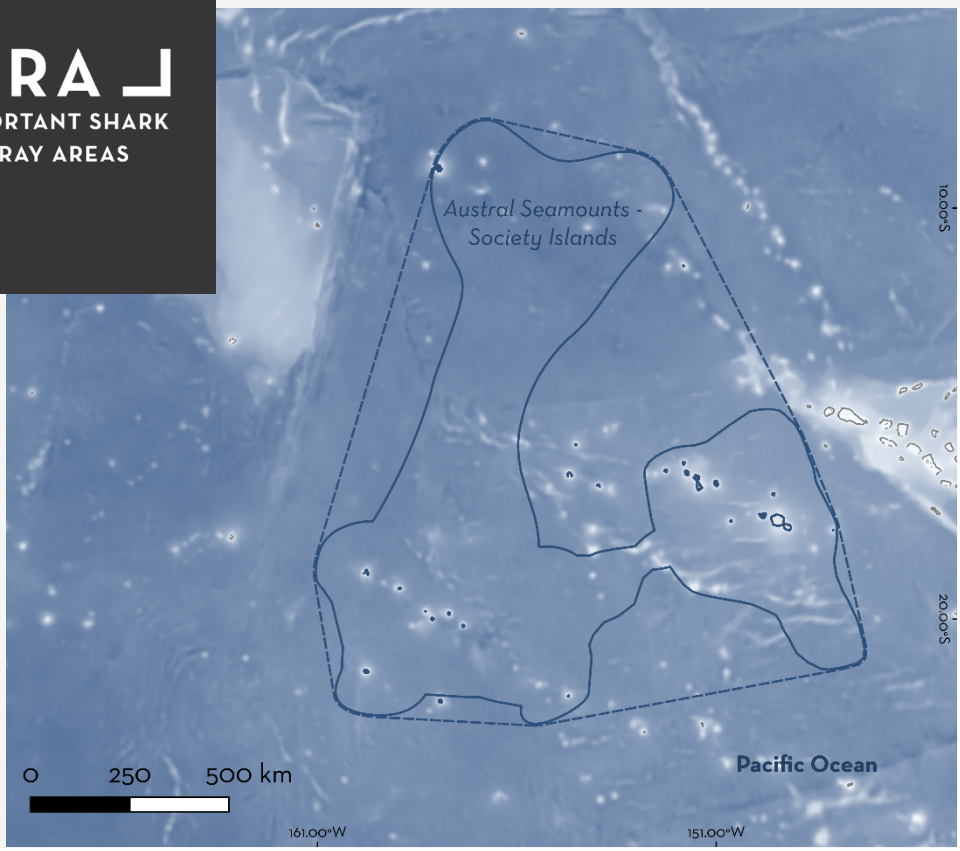
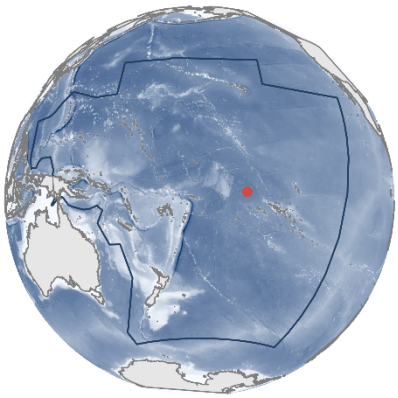
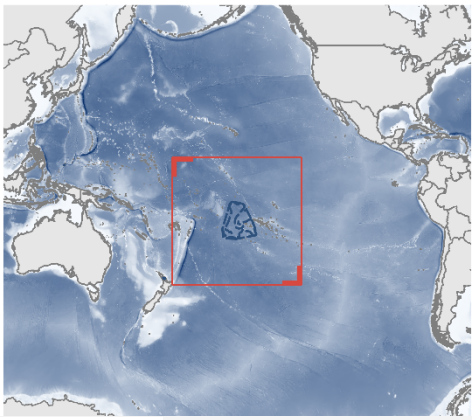
ISRA
IMPORTANT SHARK AND RAY AREAS







Blue lines indicate the area meeting the ISRA Criteria; dashed lines indicate the suggested buffer for use in the development of appropriate place-based conservation measures

AUSTRAL SEAMOUNTS–SOCIETY ISLANDS ISRA

New Zealand & Pacific Islands Region

SUMMARY

Austral Seamounts–Society Islands is located in the southern South Pacific Ocean between Cook Islands, French Polynesia, and Kiribati, and includes areas beyond national jurisdiction (ABNJ). The area is interspersed with seamounts and islands. It is influenced by the South Pacific Convergence Zone. Austral Seamounts–Society Islands overlaps with five Key Biodiversity Areas. Within this area there are: **threatened species** and areas important for **movement** (Oceanic Whitetip Shark *Carcharhinus longimanus*).

CRITERIA

Criterion A – Vulnerability; Sub-criterion C4 – Movement

COOK ISLANDS, FRENCH POLYNESIA, KIRIBATI, ABNJ

0–1,082 metres

1,016,520 km²

DESCRIPTION OF HABITAT

Austral Seamounts–Society Islands lies in the southern South Pacific Ocean between the Cook Islands, French Polynesia, and Kiribati, and includes areas beyond national jurisdiction (ABNJ). The area encompasses waters around Rarotonga (Cook Islands' largest island) within the southern Austral Seamounts area; extends northwards to include Penrhyn Atoll in the Cook Islands within the Penrhyn Basin of the northern seamounts group; and the Society Islands of French Polynesia to the east. It connects several major seamounts across international waters and several Pacific nation Exclusive Economic Zones (EEZ). The lagoon regions of islands are not included in the area.

The oceanography of the region is influenced by the South Pacific Convergence Zone which can seasonally influence the currents (PCCSP 2011). The southern part of the area is influenced by cyclonic activity from November–May, alongside northeastern trade winds. The northern part of the area is influenced by cyclonic activity from November–March, as well as southwestern trade winds. The dry season within the Cook Islands is from June–October (PCCSP 2011), while in the Society Islands the dry season is from May–September.

The area overlaps with the Proposed Central Pacific World Heritage Site Key Biodiversity Area (CK) (KBA) (KBA 2024a), Proposed Central Pacific World Heritage Site KBA (KI) (KBA 2024b), the Vostok Marine KBA (KBA 2024c), Tetiaroa, Moorea et Tahiti Marine KBA (FP) (KBA 2024d), and Raiatea Marine KBA (FP) (KBA 2024e).

This Important Shark and Ray Area is benthic and pelagic and is delineated from inshore and surface waters (0 m) to 1,082 m based on the global depth range of the Qualifying Species.

ISRA CRITERIA

CRITERION A – VULNERABILITY

One Qualifying Species considered threatened with extinction according to the IUCN Red List of Threatened Species regularly occurs in the area. This is the Critically Endangered Oceanic Whitetip Shark (Rigby et al. 2019).

SUB-CRITERION C4 – MOVEMENT AREAS

Austral Seamounts–Society Islands is an important movement area for one shark species.

This area encompasses multiple core movement areas as part of the large scale migration of Oceanic Whitetip Sharks between Austral Seamounts, Penrhyn Basin, and Society Islands (K Burkhardt unpubl. data 2024; V Udyawer & J Cramp unpubl data. 2024). Oceanic Whitetip Sharks undertake regular and predictable movements between seamounts and atolls across the EEZs of Cook Islands, French Polynesia, Kiribati, and ABNJ.

Between Rarotonga and Penrhyn Atoll, Oceanic Whitetip Sharks migrate seasonally, as indicated by a two-year movement study (2018–2020) of 11 Oceanic Whitetip Sharks tagged between January–May 2019 with PSAT tags off Rarotonga (combined tracking duration: 485 days; range = 81–182 days; mean = 121 days; V Udyawer & J Cramp unpubl data. 2024). Penrhyn Basin connects sites where they aggregate at Rarotonga in the Austral Seamounts groups with Penrhyn Atoll in the Cook Islands, through pelagic areas ABNJ and the EEZs of French Polynesia and Kiribati. Four of 11 individuals with usable tracks (36.4%) moved from Rarotonga directly to Penrhyn Atoll. Oceanic Whitetip Sharks spent on average 52% (range = 37–80%) of the track duration within the northern part of this area,

after making the migration from Rarotonga through the pelagic areas (V Udyawer & J Cramp unpubl. data 2024). The important seasonal usages of sites within the area (mainly reproductive areas) at Penrhyn Atoll (J Cramp & V Udawyer pers. obs. 2024) make it likely that Penrhyn Basin may be used as a navigational tool for Oceanic Whitetip Sharks to make their migration between the largest island of the Cook Islands in the south of its EEZ, to small atolls through pelagic areas in other EEZs.

In Austral Seamounts, four additional Oceanic Whitetip Sharks tagged in the aforementioned study indicate the migration between the EEZs of Cook Islands and French Polynesia. The combined tracking duration (165 days; range = 18–74 days; mean = 33 days) showed regular and predictable annual migration through the area using seamounts as layovers as part of their large-scale migration (V Udyawer & J Cramp unpubl data 2024). This important movement area around the Austral Seamounts overlaps with the important movement of Oceanic Whitetip Sharks in French Polynesia: around Society Islands and surrounding seamounts.

Oceanic Whitetip Sharks show residency near the main Society Islands and display feeding behaviour across the surrounding seamounts. Between 2022–2024, nine additional adult Oceanic Whitetip Sharks were tagged with SPOT/SPLASH fin-mounted satellite tags around Moorea Island (mean track duration = 153 days; range = 21–286 days). Despite being a highly migratory species with movements up to 4,000 km within a year in the Pacific Ocean (Musyl et al. 2011), eight of the sharks tagged in French Polynesia showed residency around Bora Bora, Maupiti, Tupai, Raiatea Huahine, Moorea, Tahiti, and further south to seamounts approximately 250 km southeast of Tahiti between March 2022–August 2024 (K Burkhardt unpubl. data 2024). Oceanic Whitetip Sharks spent most of their time within the area moving between the Society Islands where site fidelity was observed. They used Society Islands as a stopover area and moved to surrounding seamounts and ridges, where based on their movements, they may be feeding (K Burkhardt unpubl. data 2024). Large bathymetric features appear to play a pivotal role as foraging locations, where searching behavioural state was identified (34% of movement), revealing that sharks tended to switch to residential behaviour when associated with islands, seamounts, or bathymetric ridges (K Burkhardt unpubl. data 2024). Movements between bathymetric features and islands within the Society Islands appear continuous and consistent for Oceanic Whitetip Sharks, with shifts in movements observed to remain within a preferred sea surface temperature range (>25°C and <28°C) during seasonal transitions between austral summer and winter. This area is a stopover site for Oceanic Whitetip Sharks during their annual migrations across a broader region. Tracking data show that nine tagged sharks moved extensively through areas within French Polynesia, as well as in ABNJ, and the EEZ of Kiribati and Cook Islands (K Burkhardt unpubl. data 2024).

Oceanic Whitetip Sharks are a migratory species, however, outside this area, there is limited information on regular and predictable large-scale movement between multiple Pacific Ocean territories and ABNJ within this region.

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QUALIFYING SPECIES

Scientific Name	Common Name	IUCN Red List Category	Global Depth Range (m)	ISRA Criteria/Sub-criteria Met								
				A	B	C1	C2	C3	C4	C5	D1	D2
SHARKS												
Carcharhinus longimanus	Oceanic Whitetip Shark	CR	0–1,082	X					X			

SUPPORTING SPECIES

Scientific Name	Common Name	IUCN Red List Category
SHARKS		
Carcharhinus falciformis	Silky Shark	VU

IUCN Red List of Threatened Species Categories are available by searching species names at www.iucnredlist.org Abbreviations refer to: CR, Critically Endangered; EN, Endangered; VU, Vulnerable; NT, Near Threatened; LC, Least Concern; DD, Data Deficient.

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