Preliminary Information
Concerning the Outer Limits of the Continental Shelf of Tokelau

I Introduction

Tokelau is a non-self-governing territory of New Zealand, a State Party to the United Nations Convention on the Law of the Sea (UNCLOS), which it signed on 10 December 1982 and ratified on 19 July 1996.

New Zealand advises that it intends to submit information to the Commission on the Limits of the Continental Shelf (the Commission) in respect of the outer limits of Tokelau's continental shelf beyond 200 nautical miles, in accordance with the provisions of article 76 of UNCLOS.

Preliminary analysis indicates that the continental shelf of Tokelau as defined in accordance with Article 76 extends beyond 200 nautical miles of the territorial sea baseline in both the west and the east, through the natural prolongation of the Tokelau landmass along the submerged elevation named Robbie Ridge (Figure 1).

This document provides preliminary information indicative of the outer limits of Tokelau's continental shelf beyond 200 nautical miles, and a description of the status of preparations and intended date of making a submission. This information is provided without prejudice to the final submission or its consideration by the Commission, and satisfies the time period referred to in Article 4 of Annex II to UNCLOS, consistent with decision SPLOS/183 of the eighteenth meeting of States Parties to UNCLOS held in New York in June 2008.

Consistent with Article 76, paragraph 10, and Article 9 of Annex II to UNCLOS, this preliminary information is submitted without prejudice to any future delimitation of boundaries with Tokelau's neighbouring States.

II Preliminary information indicative of the outer limits of the continental shelf

There is very limited published literature on the geology of Tokelau.

The islands of Tokelau are interpreted as coral atolls that have formed on top of subsiding seamount-chain volcanoes that were once sub-aerial. The islands have been mapped as part of the Tokelau Seamount Chain formed on 50–65 Myr old oceanic crust (Koppers and Staudigel 2005, Koppers et al. 2007). The seamounts beneath Tokelau rise from an elevated 700x250 km area of seafloor referred to as Robbie Ridge (Mammerickx 1992).

Taylor (2006) proposed a plate reconstruction which fitted the Ontong-Java Plateau back against the Manihiki Plateau. Taylor (2006) proposed that the Robbie Ridge was part of the Manihiki Plateau that docked in the Stewart Basin, Ontong-Java Plateau. As such, Robbie Ridge would be considered a component of the 125 Ma large igneous province (LIP) that was once the combined super-LIP comprising the Ontong-Java, Manihiki and Hikurangi Plateaus. Robbie Ridge

stands approximately one kilometre above the surrounding seafloor (Figure 1) and will be compensated by a crustal root several kilometres thicker than adjoining ocean crust. Robbie Ridge forms the basement for Tokelau and is distinct from "rocks of the deep ocean floor" formed by normal seafloor spreading processes.

As such, Robbie Ridge forms the natural prolongation of Tokelau and the continental margin extends to where Robbie Ridge gives way to the deep ocean floor. This is well defined around much of Robbie Ridge (Figure 1).

The continental margin extends beyond 200 nautical miles of Tokelau's territorial sea baseline in two areas. These areas of extended continental shelf (shaded purple in Figure 1) lie:

a) West of Tokelau's 200 nautical mile line; and
b) East of Tokelau's 200 nautical mile line via the bridge from Robbie Ridge to the Manihiki Plateau

The areas of extended continental shelf indicated on Figure 1 do not extend beyond the 350 M constraint established by Article 76, paragraph 5, of UNCLOS.

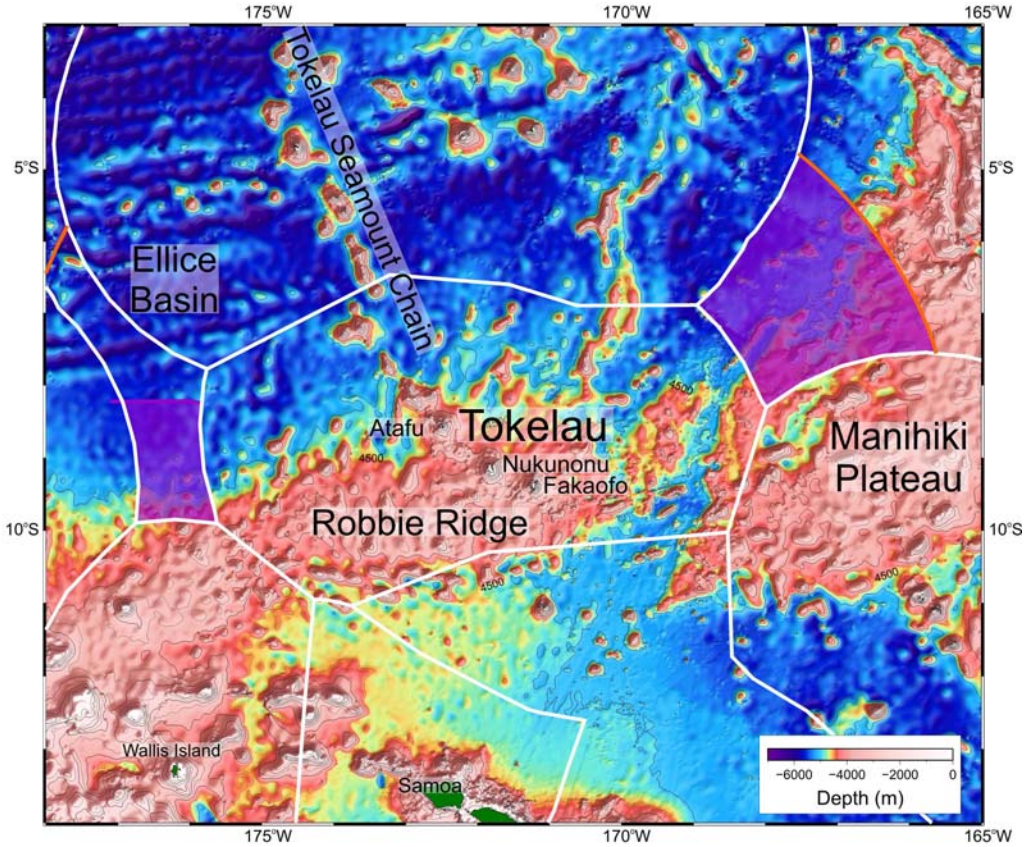

Figure 1. Potential areas of extended continental shelf of Tokelau shaded in purple. Orange lines mark the 350 nautical mile constraint line. White lines mark the 200 nautical mile lines of Tokelau and adjoining States (the boundaries with Kiribati, the Cook Islands and Samoa have not yet been settled formally by treaty).

III The status of preparation of the submission

New Zealand is actively involved in the preparation of a full submission in respect of Tokelau to the Commission in accordance with Article 76, paragraph 8, of UNCLOS. The submission will be based on historically collected data, with no new data collection undertaken specifically for the submission preparation.

A desktop study was undertaken in early 2009. The desktop study has identified areas of extended continental shelf both west and east of Tokelau (Figure 1).

The precise extent of these areas of extended continental shelf remains to be confirmed by further data examination and modelling. Bathymetric profiles, upon which the foot of the continental slope points may be established, have been identified. Detailed examination of these profiles will be undertaken to establish the position of the foot of the continental slope, and the corresponding edge of the continental margin. Gravity models will also be prepared in support of natural prolongation considerations.

New Zealand plans to present its submission in respect of Tokelau to the Commission within a period of five years from May 2009.

References

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