

The potential impacts of climate change on Exclusive Economic Zones boundaries

Three GIS scenarios for 20 jurisdictions in the western and central Pacific region

By Levi Westerveld | levi.westerveld@gmail.com, University of Bergen. Supervision from Gidske L. Andersen (Geography) & Edvard Hviding (Anthropology)

1. Introduction

- Exclusive Economic Zones (EEZs) are maritime territories that extend **200 nautical miles** from a country's coastline. In it's EEZ, a country has **sovereign rights over all** resources.

- The United Nations Convention for the Law of the Sea (**UNCLOS**) determines how EEZs are calculated. Because the Convention was drafted in the 1960s, it **does not address climate change**.

- Legal scholars argue that **if a country's coast change due to sea level rise, then this could also have implications on the shape and extent of its associated EEZs**.

2. Scope of the study

- EEZs are particularly important in the **Pacific** where **they support large economic sectors such as fisheries and tourism**.

- The main goal of this study is to **develop scenarios that show what are the potential impacts of climate change on EEZ jurisdictions in the western and central Pacific region**.

3. Methods

- A **literature review** combined with **semi-structure interviews of legal scholars** from the study region were used to develop **3 legal scenarios** on the potential effects of climate change on the delimitation of EEZs.

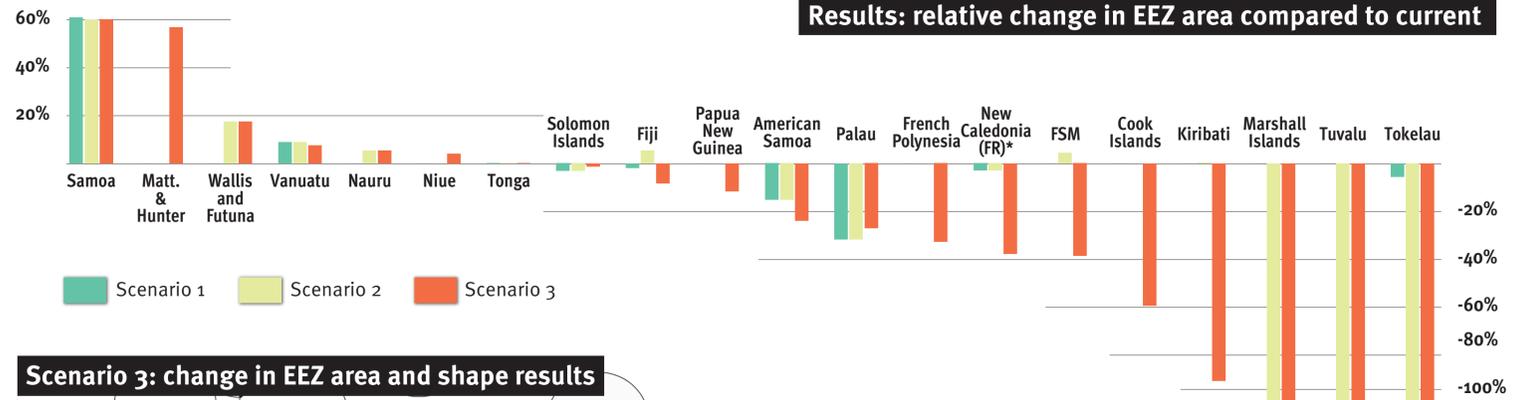
- Based on a classification of low-lying islands (Webb, 2016), and the latest data on the legal status (e.g. boundaries ratified by a treaty, or disputed boundaries), a **GIS analysis** was completed for each scenario, mapping potential **changes in shape, area and connectivity of each EEZ and the surrounding high seas**.

4. Results

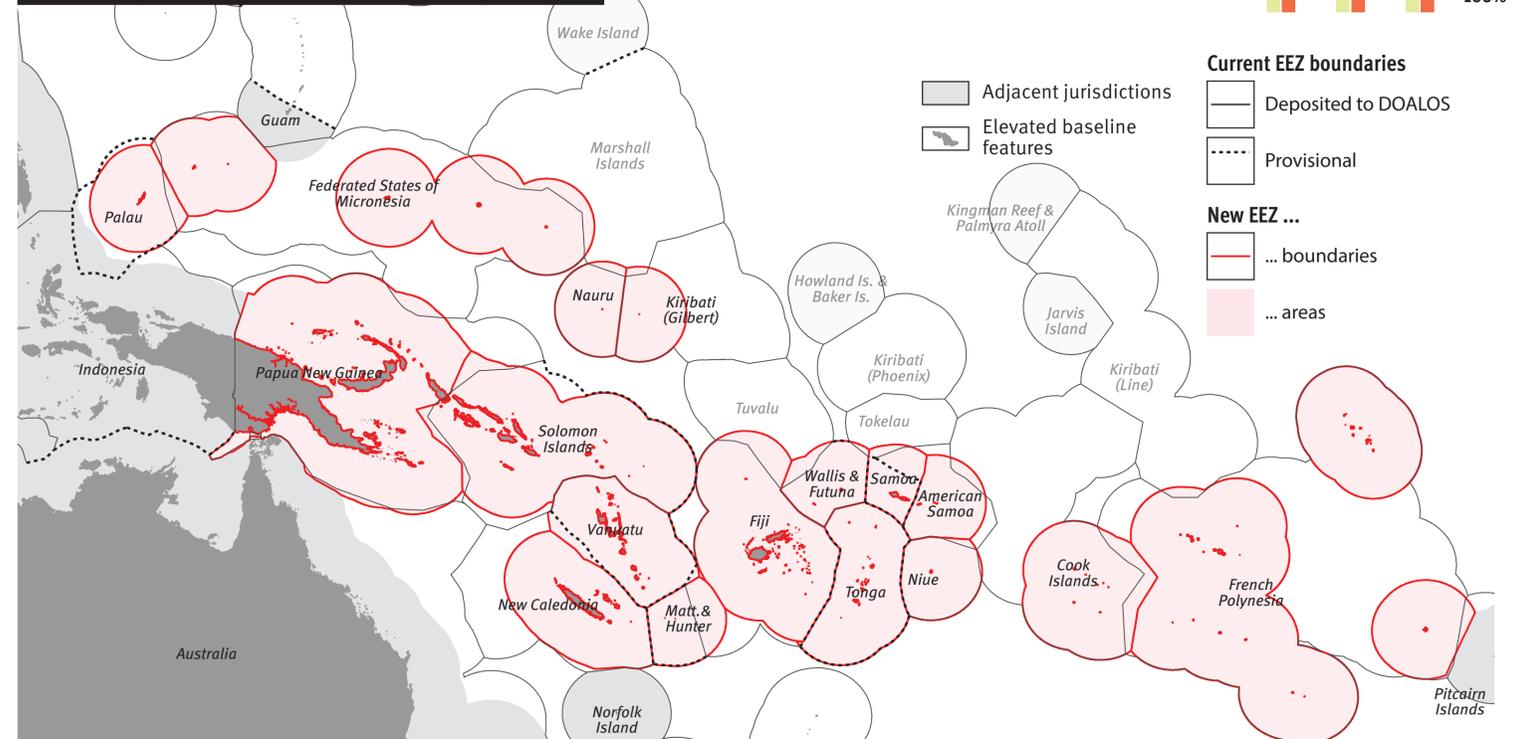
Scenario 1: deposited EEZ maritime boundaries are fixed regardless of changes in the coastline due to climate change effects, unless they are provisional (i.e. disputed).

Scenario 2: deposited EEZ maritime boundaries are fixed regardless of changes in the coastline unless **all** land in a jurisdiction is submerged due to the effects of climate change.

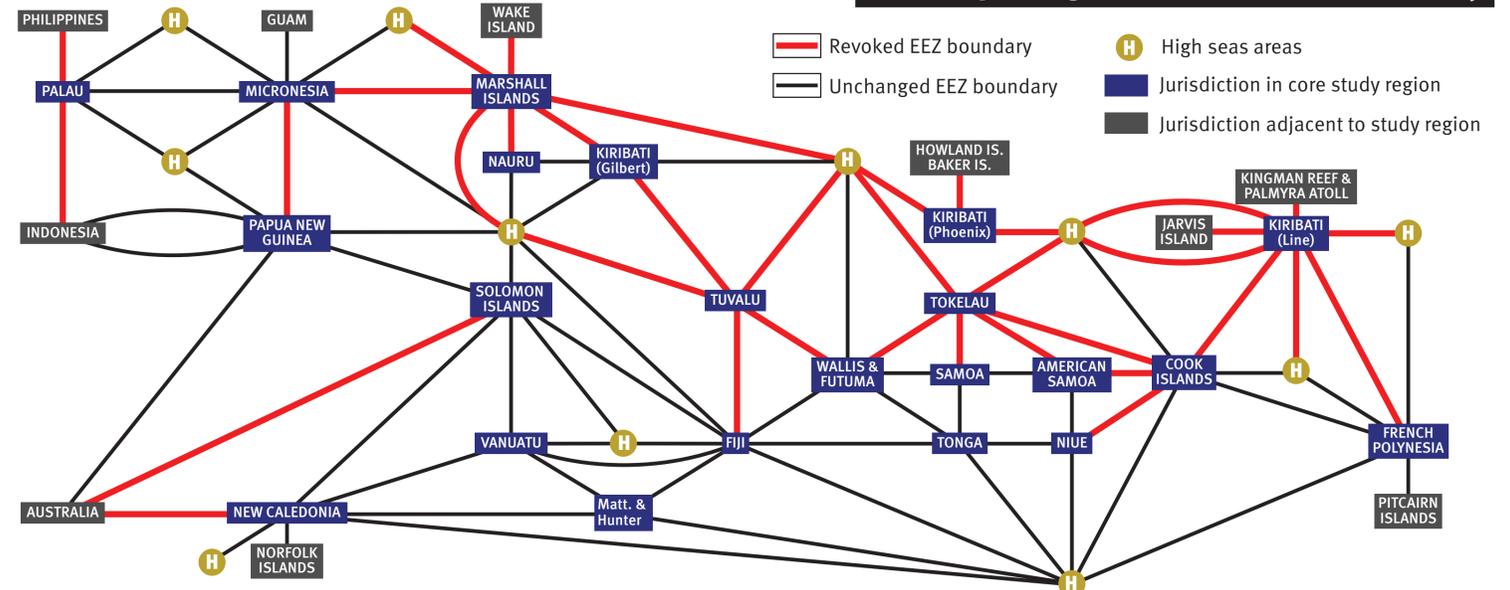
Scenario 3: All (fixed and provisional) EEZ maritime boundaries change if their associated coastlines are submerged.



Scenario 3: change in EEZ area and shape results



Scenario 3: change in EEZs boundaries connectivity



5. Conclusion

- In case of new equidistant treaty boundary between jurisdictions, some could extend and increase their EEZ area, most notably Samoa, by 60%.

- Scenario 3 has the largest impact with a total decrease in EEZ area of 41.5% in the study region, compared to 0.9% and 11.5% for scenarios 1 and 2.

- The hegemonic conceptualization of EEZ spaces is threatened by competing arguments on the potential impacts of climate change on maritime spaces.

References: Webb, A. (2016) A preliminary assessment of jurisdictional baseline feature vulnerability to climate change and sea level rise in the Tropical Pacific Island Region. University of Wollongong. doi: 10.13140/RG.2.2.11324.69767.

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