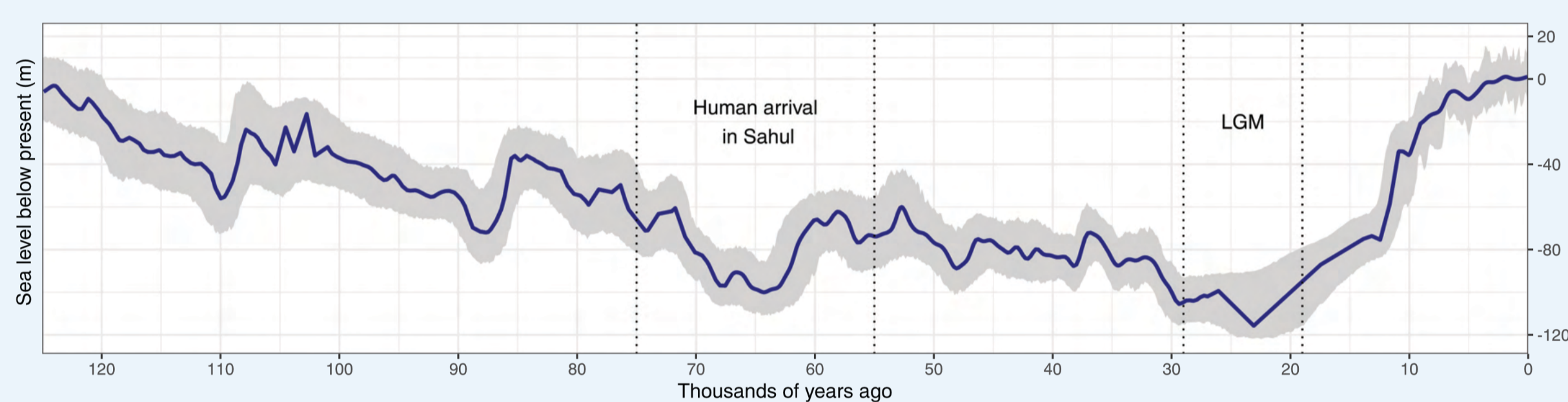


Chapter 1: Were there geographical influences on the persistence and emergence of Australian Aboriginal maritime cultures?

Background

In a review of Australian island archaeology, Bowdler (1995) found that island occupation by Aboriginal people is mostly a late-Holocene phenomenon. Sea levels reached their current position in the early-Holocene, about 8,000 years ago, forming all the modern islands and coastlines. This leaves an apparent hiatus in the mid-Holocene, where people generally didn't venture offshore. There are a few exceptions, such as the ever-maritime Kimberley (O'Connor 1999), but this model of late reoccupation has been generally supported by detailed work since (e.g. McNiven et al. 2014; Sim and Wallis 2016). The first arrivals to the continent must have been skilled mariners, to cross from the islands of Indonesia - so the suggestion that island use generally came late is surprising. Could this be related to the seascapes they inhabited prior to modern sea level? Were there always islands for people to visit - or were the steep LGM coastlines island-less, with no need for boats or island-visits?

Sea levels since the last interglacial (Grant et al. 2012).



Results

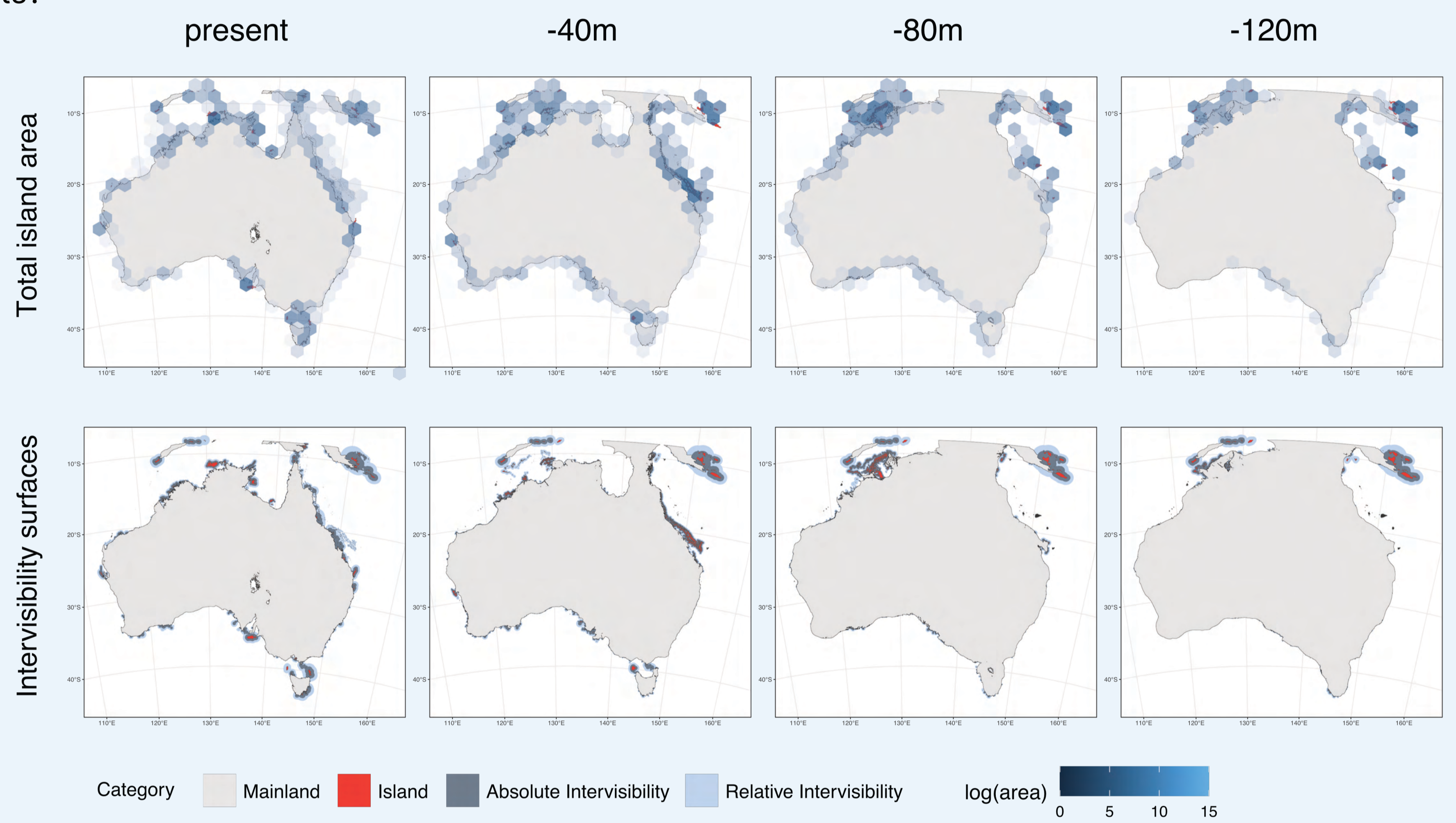
- Most places in Australia have many more islands during the Holocene than they did at any other time in the human past.
- Some notable exceptions to this rule are the Kimberley, and the Torres Strait. These are places with remarkable maritime cultures.
- Places like the Pilbara (where Murujuga is) had no islands during the (Last Glacial Maximum). As the Holocene archipelago formed, people were adapting to a new type of coastal environment.

Aims

- To understand the extent of island-rich coastlines around the Australian continent, and how this has changed over the human past.
- To review these changes in relation to the archaeology: do regional differences in the timing and nature of island occupation correspond to either enduring or ephemeral island-archipelago sequences?

Methods

- A fully-reproducible GIS analysis was carried out in the R programming language. This quantified island area and the intervisible seascapes as defined by Kealy (2017), for all sea levels since the last interglacial. See excerpts for the LGM (-120m), first peopling (-80m) and post-glacial (-40m).
- Literature review of Australian island archaeology and occupation phases.



Islands around Australia at selected sea levels. Detailed analysis will be presented in the paper.



Northern dune of Enderby Island, Murujuga.

Discussion

The late development of island-rich coastlines suggests that most of the people living in the newly-formed Holocene islands would have been presented with new environments, with broad opportunities for adaptation and invention. However, this is only a general pattern, and the interesting stories will be in the regional details.

The next two-thirds of my PhD project will focus specifically on the islands of Murujuga (NW Australia), where I am working to understand the timeline of island formation. In September, we finished sampling datable environmental material from beneath coastal dunes all across the archipelago, which we believe formed in the mid to late-Holocene.

This new field data will provide a direct insight into the beginnings of an environment that is now a key coastal habitat for important food sources such as turtles and shellfish (McDonald 2015). The wider Dating Murujuga project is working to understand the timing and context of occupation, especially the rock art production. This will be one piece of that story.

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Dating Murujuga's Rock Art Project (ARC LP190100724)

