

Invited research article

Socio-ecological lessons for the Anthropocene: Learning from the remote Indigenous communities of Central Australia



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ABSTRACT

The Anthropocene is generating new demands on societies to learn how to establish flexible and resilient socio-ecosystems. The proposed new epoch, driven in large part by human actions, enhances the need for new knowledge on how modernity could respond effectively to environmental extremes and change. New knowledge can be drawn from various sources, but one vital approach will be to learn from the wealth of ancient, traditional forms of cultural adaptation in societal margins, where people have interacted sustainably with difficult environments throughout the Holocene. To achieve that goal, adaptation research with the Anangu of the Alinytjara Wilurara region in South Australia is critically reviewed through the lens of socio-ecological theory. Complex, interactive local biophysical, cultural and political ecologies must be negotiated to learn to adapt to environmental extremes and change. A social learning approach successfully integrated local Indigenous and external knowledge to identify biophysical vulnerabilities, and generated risk narratives that are helping to guide spatial and systemic adaptation planning on heatwave, wildfire and bushfood management. Yet, political ecologies continue to inhibit support for Indigenous stewardship of local environments. Institutional investment into the knowledge and management activities of Indigenous people could generate sustainable development opportunities, while also providing universal lessons about stewarding local environments through periods of change.

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1. Introduction

The risks of the Anthropocene, including global climate change, are being clearly articulated systemically and spatially at different scales from the global to the local (Adger et al., 2005; Scholze et al., 2006; Zalasiewicz et al., 2011; Field et al., 2014; Steffen et al., 2015). The proposed epoch is defined by new relationships between people and the planet, where humanity is seen to be transforming and degrading global environmental systems (Crutzen, 2002; Castree, 2014). As Steffen et al. (2011, p739) state, “The need to achieve effective planetary stewardship is urgent.” Here, we outline an approach to learning about stewardship from Indigenous communities living in the semi-arid rangelands of Central Australia through a process of supporting adaptation to environmental change. The work is in response to the increasing concern that goals for adaptation to environmental change are un-aligned with the cultural and governance systems that frame societal decisions and actions (Adger et al., 2001; Head and Atchison, 2009;

Bassett and Fogelman, 2013; Bardsley, 2015a; Watts, 2015). In other words, there are significant gaps at differing scales between adaptation needs and the modern plans and actions that are being undertaken during the early Anthropocene.

To fill the gaps between environmental risks and actions to facilitate adaptation to those risks, responses need to be incorporated into decisions that are being made all the time—from the management of individual wellbeing, to spatial and environmental planning, through to national development policy (Etkin and Ho, 2007; Leiserowitz et al., 2013). Our research aimed to address this challenge by emphasising the need for learning from and with communities and institutions to normalise concepts of environmental change and help to integrate that knowledge into plans and actions (Bardsley and Sweeney, 2010; Bardsley and Wiseman, 2012a). The discussion is informed by experiences over a five year period, working on climate change adaptation planning with the Indigenous Alinytjara Wilurara (AW) natural resources management (NRM) Regional Board and communities in the north-west of South Australia (SA) (Fig. 1) (Government of SA, 2015a). Only approximately 3000 people live within the semi-arid region that is a similar size to the United Kingdom. Most people are of Pitjantjatjara, Yankunytjatjara or Ngaanyatjaara descent, and

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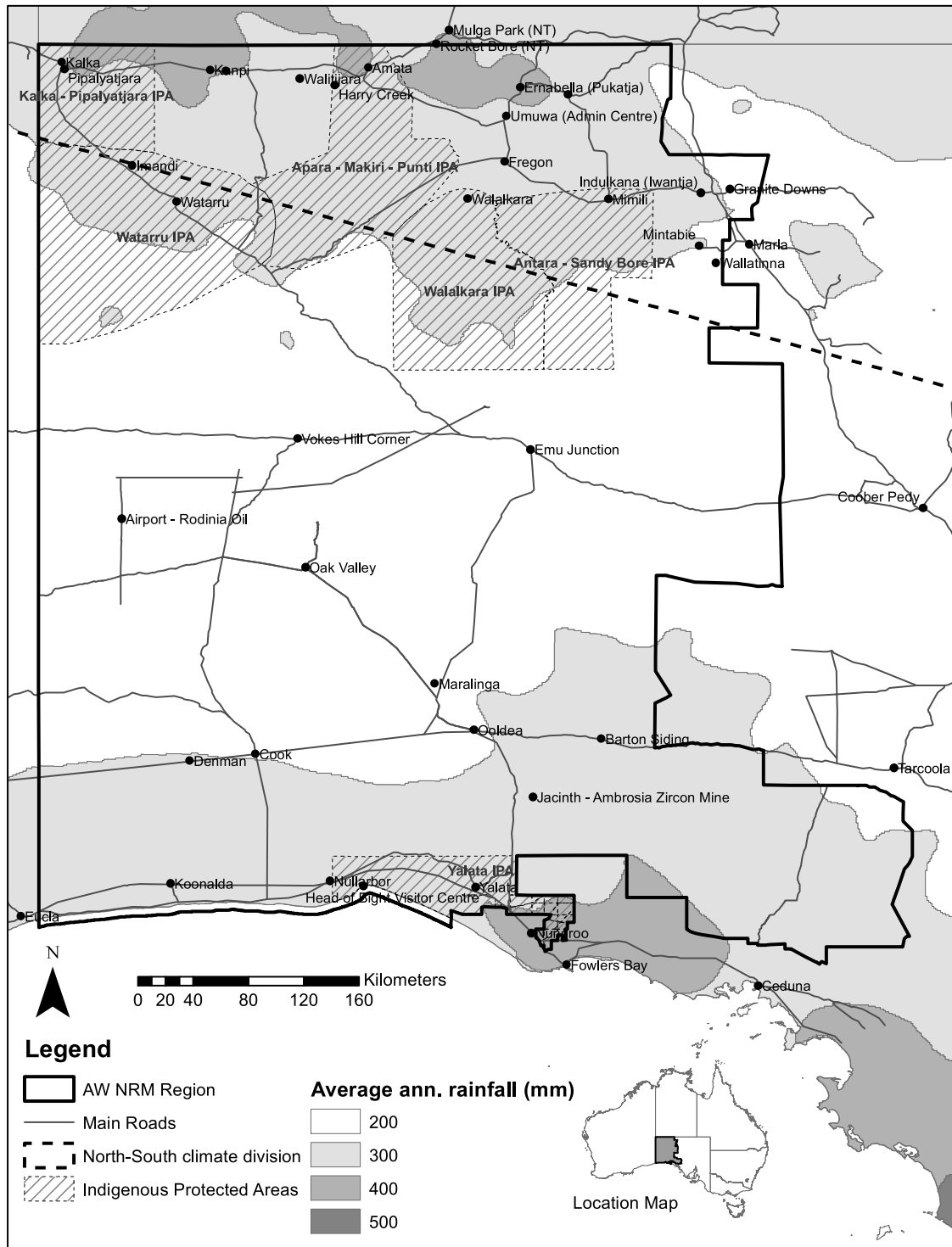


Fig. 1. The Alinytjara Wilurara Natural Resources Management region in South Australia.

they refer to themselves collectively as Anangu, which translates as ‘people’ in Pitjantjatjara language, and that term is used throughout this paper to refer to the local Indigenous people.

The Anangu are some of the most socially and economically disadvantaged people in Australia (Guerin and Guerin, 2010; Vinson et al., 2015), and the arid environment, remoteness and ongoing governance challenges add to their marginalisation. Nevertheless their cultural adaptation to extreme local environments in Central Australia throughout at least the Holocene epoch (Holdaway et al., 2008; Smith et al., 2008) provides important

messages for a globe struggling to manage environmental change. They have needed to learn and adapt to complex and extreme climatic and ecological change during that period, including fundamental shifts in cultural relationships with country over the last hundred years. Future projections of climate change suggest further degradation of rangeland condition is likely without new forms of environmental management (Bardsley and Wiseman, 2012b). For those reasons, the adaptation approach outlined in this paper integrates local traditional knowledge with scientific projections of environmental change to meet Anangu community

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