

# Invasion, climate change and conservation: Antarctic perspectives

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Of the five drivers of biodiversity change identified by the Millennium Ecosystem Assessment<sup>1</sup>, climate change and biological invasions are most significant for terrestrial systems in the Antarctic, although over-exploitation may have large, indirect effects too because of its considerable significance in marine systems. Understanding the effects of these drivers on Antarctic biodiversity presupposes a detailed knowledge of spatial variation in diversity at a variety of scales. Whilst knowledge of biodiversity variation in the Antarctic is now better than it has ever been<sup>2,3</sup>, much still remains to be done. In particular, the way in which climate change, biological invasions and over-exploitation are likely to interact to change systems needs much more attention. In this talk, an overview of knowledge of biodiversity patterns in the Antarctic is presented, with particular attention being drawn to recent work in the Cape Hallett region and on Marion Island. More specifically, first, the ways in which biodiversity information can affect conservation planning at small<sup>4</sup>, and large<sup>5,6</sup> spatial scales in the region is discussed. Second, interactions between climate change and biological invasions are illustrated using new information from work on springtails at Marion Island<sup>7</sup>. Finally, using interactions between caterpillars, mice and albatrosses as a case study, the subtle interactions between marine and terrestrial systems are illustrated<sup>8</sup>.

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