

Towards an Antarctic Near shore and Terrestrial Observing System (ANTOS)

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Continental Antarctic ecosystem responses to climate change are still largely uncertain. This is due to both a paucity of available biodiversity data and, insufficient climate data at appropriate spatial scales across the continent. In order to sufficiently understand and appropriately respond to the impacts of climate change on the Antarctic continent, evidence of climate change impacts on Antarctic ecosystems across continental scales needs to be provided to scientists, environmental managers and decision-makers. This requires a concerted effort of integration of long-term studies and data across Antarctica, with international collaborative research efforts to establish the current state and diversity of Antarctic ecosystems and determine future change in ecosystem structure, functioning or services.

The Antarctic Near-shore and Terrestrial Observation System (ANTOS*) SCAR Expert Group aims to establish a network of monitoring sites using consistent methodologies to identify change in the environment at biologically relevant scales across Antarctica. A tiered measurement system has been suggested, with three primary tiers for terrestrial and near-shore marine measurements, ranging from low cost, basic monitoring methodologies to higher cost, more complex methodologies. Where possible data will be logged and transmitted in real time. This is an international initiative, aiming to establish the consistent collection of long-term biological and environmental data, in order to assess environmental variability and change across the entire Antarctic continent. This data will be crucial for informing future Antarctic management at both national and international levels.

*<https://www.scar.org/science/antos/home/>