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- Theme 3:**



Julian Gutt, chief officer

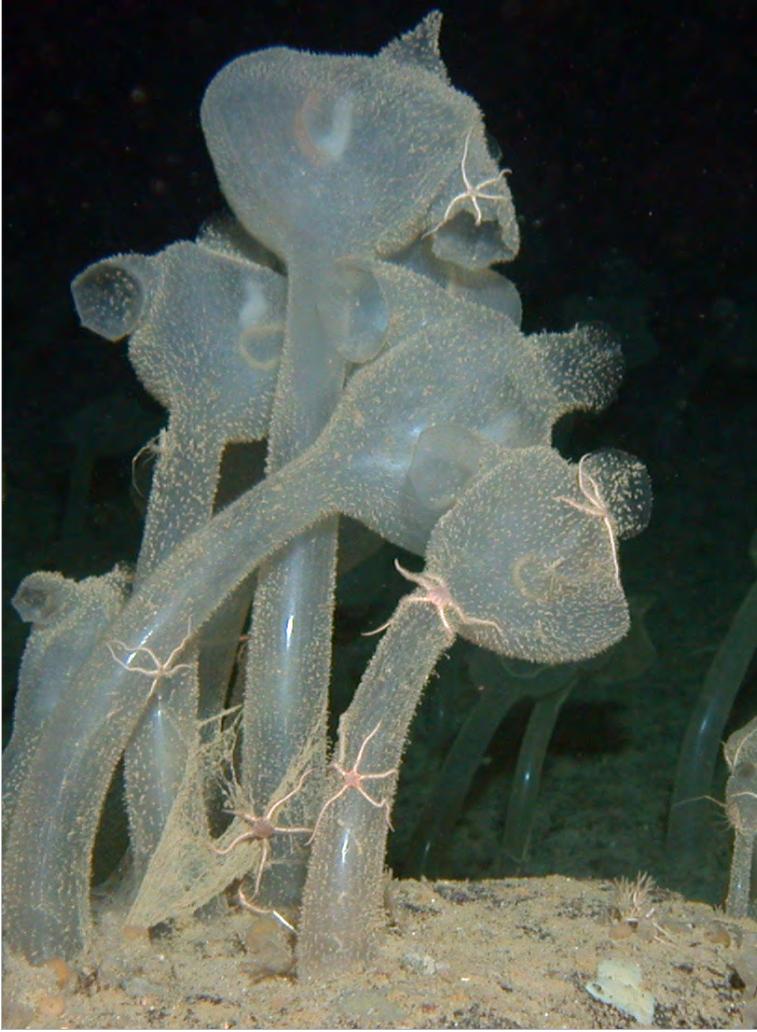
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Antarctic Thresholds - Ecosystem Resilience and Adaptation

A SCAR biology research program



How close to the cliff are we?



MISSION STATEMENT

Some Antarctic ecosystems are undergoing very rapid environmental change, whereas others appear to be relatively stable. It is essential to understand the current functioning of biological systems to determine thresholds and predict upcoming ecosystem services.

Biological process studies will focus on three levels ranging from molecules through populations to ecosystems. These will permit the inclusion of the Antarctic in a wider ecological debate about changes across the global biosphere.

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OBJECTIVES

Provide a platform for the exchange of ideas and knowledge and, gather the ultimate advances in research on ecological response to environmental change.

Cooperate in an interdisciplinary manner with other Antarctic-specific programs and projects of global ecological relevance.

Support early-career scientists and newly emerging national programs.

Disseminate and communicate novel scientific results to the public and provide a scientific base for appropriate recommendations to decision makers.

Provide an informal network to support coordination of ship- and land-based expeditions and meta analyses.

ACHIEVEMENTS

High-end **scientific output** in the form of peer-reviewed papers and special volumes on biological processes related to climate and other environmental variability.

Capacity building through topical workshops organized by members of the AnT-ERA Steering Committee, e.g. on *Molecular and Genetic Advances* (Napoli, 2014) and *Interactions between Biological and Environmental Processes* (Barcelona, 2015). The main focus was cross-program interdisciplinary cooperation.

Dissemination of knowledge within the scientific community and to other stakeholders, e.g. ATCM (ACCE report updates and contributions to the *Antarctic Environments Portal*), during side program of the Paris climate conference in 2015 (COP21), and to the public via the webpage which includes *Scientific and other Highlights*, *News* (including job opportunities), AnT-ERA related documents and a list of AnT-ERA related research projects. Leading scientists of AnT-ERA regularly chair sessions and mini-symposia of SCAR Open Science Conferences and Biology Symposia, and are also members of the International Steering Committees as well as the International Organizing Committees of these events.

Support of **early-career scientists**, mainly through travel mini-grants and supervision and the organization of meetings of the Association of Polar Early Career Scientists (APECS).

Research projects under the leadership of the AnT-ERA Steering Committee members, e.g. major contributions to expeditions in waters around the the Antarctic Peninsula, in the Ross Sea and, for comparative reasons, around Greenland.

Figures: C. Cheng, P. Convey, J. Gutt, AWI/Marum, F. Hinz, H. Link, NASA, J. Turner

