



SCAR Fact Sheet

Understanding the wide-ranging regional and global effects of change in Antarctica and the Southern Ocean is the task of Science. Antarctic scientists have been providing information about the state of the continent and its surrounding seas since polar exploration began. That work was galvanized by the International Geophysical Year of 1957-58. Realizing the importance of continuing international Antarctic collaboration at the end of the IGY, the Scientific Committee on Antarctic Research (SCAR) was established to facilitate and coordinate it. SCAR held its first meeting in The Hague on 3-5 February 1958, and February 5th represents SCAR's formal birthday.

SCAR's scientific work is achieved through the engagement and support of thousands of researchers from around the world who together comprise the SCAR community, supported by SCAR's 43 national committees reporting to their national academies of science or equivalent bodies. SCAR adds value to national scientific activities by addressing topics covering the whole of Antarctica or the surrounding Southern Ocean in ways impossible for any one nation to achieve alone. A key part of its mission is to provide independent and objective scientific advice to the policy makers of the Antarctic Treaty and other intergovernmental bodies.

Full Members: Argentina, Australia, Belgium, Brazil, Bulgaria, Canada, Chile, China, Ecuador, Finland, France, Germany, India, Italy, Japan, Korea (Rep. of), Malaysia, Netherlands, New Zealand, Norway, Peru, Poland, Russia, South Africa, Spain, Sweden, Switzerland, United Kingdom, Uruguay, USA,

Associate Members: Austria, Colombia, Czech Republic, Denmark, Iran, Monaco, Pakistan, Portugal, Romania, Thailand, Turkey, Ukraine, Venezuela.

ICSU Scientific Union Members: International Astronomical Union (IAU); International Geographical; Union (IGU); International Union for Quaternary Research (INQUA); International Union of Biological Sciences (IBU); International Union of Geodesy and Geophysics (IUGG); International Union of Geological Sciences (IUGS); International Union of Physiological Sciences (IUPS); International Union of Pure and Applied Chemistry (IUPAC); and Union Radio Scientifique International (URSI).

Awards received: the Prix Biodiversité of the Prince Albert II of Monaco Foundation (2013). The Prince of Asturias Award for International Cooperation (Spain, 2002)

Building Capacity: SCAR is committed to building capacity through Early Career Fellowships, Visiting Professor Awards, and Education and Training.

The SCAR Horizon Scan: determined key priorities for scientific investment for the next decade. Kennicutt II, M. C. et al., 2014. Six Priorities for Antarctic Science. Nature 512.

SCAR Strategic Plan: SCAR has established a Strategic Plan for the period 2017-2022 (<https://www.scar.org/horizon/strategic-plans/774-2017-strategic-plan/file/>).



60 Years of Significant Antarctic Science Discoveries

Antarctic scientists working with SCAR have been involved in many leading scientific discoveries, for example of:

- The Ozone Hole, and elucidation of its chemistry;
- The history of the ice sheet and its implications for changing sea level;
- The circulation of the Southern Ocean and its role in the storage and emission of CO₂ and heat;
- The fossil flora of Antarctica, which was covered by flourishing vegetation 100 million years ago, and of Antarctic dinosaurs;
- The 600 million year journey of Antarctica from North Pole to South Pole, under the influence of plate tectonics;
- The sub-ice topography, including the existence of subglacial rivers and lakes;
- The amazing circum-Antarctic land-free travel of albatrosses;
- The extraordinary diversity of marine life;
- The detection of neutrinos originating in outer space;
- Antarctica as an analogue for life and other aspects of planetary development elsewhere.

Range of Fields Covered by SCAR Science:

- How sensitive are the ice sheets to warming?
- How does Antarctica's solid earth respond to changing ice load?
- What is Antarctica's biodiversity, from genes to ecosystems?
- How resilient are Antarctica's ecological systems in the face of climate change?
- Can we improve projections of change in physical and biological systems?
- Mapping Antarctica's geology and magnetic anomalies and the ocean's seabed.
- Understanding and mapping Antarctica's volcanic activity.
- Studying biogeochemical change at the sea-ice interface, and ocean acidification.
- Observing change in the Southern Ocean and its plankton.
- Studying the effects of oceanic change on marine ecosystems.
- Using new technologies to monitor and study birds and mammals.
- Investigating clouds and aerosols in the Antarctic atmosphere.
- Reviewing annual climate-related change and its effects in the region.
- Improving our understanding of the behaviour of the sea ice zone and of ice shelves.
- Planning land, ocean and ice drilling projects to study past climate change.
- Studying the balance between ice mass change and sea level.
- Examining the distribution and variability of ozone in the upper atmosphere.
- Evaluating the history and sociology of Antarctic exploration and research.
- Developing Codes of Conduct for Antarctic research and conservation.
- Mapping and sampling sub-ice topography, lakes and rivers.

For information about SCAR, see its website: www.scar.org. The SCAR Office is at the Scott Polar Research Institute, Lensfield Road, Cambridge, CB2 1ER, UK