

Report on the 2018 Antarctic Nearshore and Terrestrial Observing System (ANTOS) Expert Group Workshops

WORKSHOP 1: ANTOS Scientific Committee Workshop, Genoa, Italy, 11–13th June 2018

The workshop was hosted by Stefano Schiaparelli at the Università degli Studi di Genova (sponsored by the Italian National Scientific Commission for Antarctica, CSNA).



Attendees

In person: Stefano Schiaparelli (Italy), Byron Adams (USA), Megumu Tsujimoto (Japan), Elie Verleyen (Belgium), Emmanuelle Sultan (France), Sharon Robinson (Australia), Charlie Lee, Craig Cary, Vonda Cummings (NZ).

Remotely (via skype): Dana Bergstrom (Australia), Dolores Deregibus, Marcella Libertelli (Argentina).

Workshop summary

The Antarctic Near-shore and Terrestrial Observation System (ANTOS) is a SCAR Expert Group convened to coordinate a biologically focused, international effort to collect data necessary to assess environmental and biological variability and change in terrestrial and near-shore habitats across the Antarctic continent and Subantarctic islands. Long-term goals of ANTOS include the establishment of technical guidelines for an internationally-coordinated installation of sensor networks, and standards for long-term data collection, storage, and sharing among national programs.

The ANTOS scientific committee met to evaluate the progress made in the past year, and to discuss tasks for the coming years and plans for their implementation.

The majority of the workshop was focused on analysis and summary of results of an international survey of existing 'monitoring' data. These are described below:

ANTOS Phase I Survey Results:

The overall results of the ANTOS survey which was conducted in 2017-18 were summarized and analyzed in order to identify the characteristics of proposed sites in Antarctica in selecting ANTOS installation locations and sites. Among 388 responses received during the survey, 111 responses of the representatives from 20 countries were valid (complete and informative). Among those responses, a total of 76 unique sites were identified, including 21% Marine sites, 38% Terrestrial sites, and 41% both Marine & Terrestrial sites. Areas of interest were focused in the Antarctic Peninsula area, followed by the Ross Sea area. Sites fell within 28 different areas (Sub-Antarctic 5 sites; Antarctic 23 sites). Habitat types and type and duration of the collected measurements varied considerably within these.

ANTOS Site Evaluation Criteria:

Based upon the summary of the first survey results, the committee prioritised the characteristics of the sites and developed seven evaluation criteria for future ANTOS site selection. These are (in no particular order):

1. Both marine & terrestrial measurements taken
2. Length of the monitoring (for each of the measurements)
3. Frequency of the data collection (for each of the measurements)
4. Accessibility of pre-existing data
5. Location of the site
6. Existing data stream (physical and biological)
7. Logistical feasibility (institutional support)

ANTOS Phase II Survey Design:

The committee concurred that a "Phase II ANTOS survey" was needed to gain more specific information with which to prioritise the proposed sites and discussed the questions to be answered in the next survey. Although this survey will be open to all, it will specifically target participants of the first survey to gain more detailed information on the data stream available including the frequency and duration of the measurements collected, the observed environmental/ ecological responses, and views on the uniqueness/value of the sites. The second survey is scheduled to be launched in September 2019 and will be open for around two months.

ANTOS Site Selection Decision Tree:

In order to objectively clarify the priorities and to ensure transparency in selecting the final ANTOS sites, a step by step decision tree was developed (Appendix A).

ANTOS Tasks and Implementation Plan: 2019-2020

The tasks for ANTOS for the following years are given here, in chronological order:

Survey II: Re-survey the Antarctic and sub-Antarctic community for more detailed information on existing and proposed observation sites. This will augment and enhance information gained from Survey I. [Sept-Nov 2019].

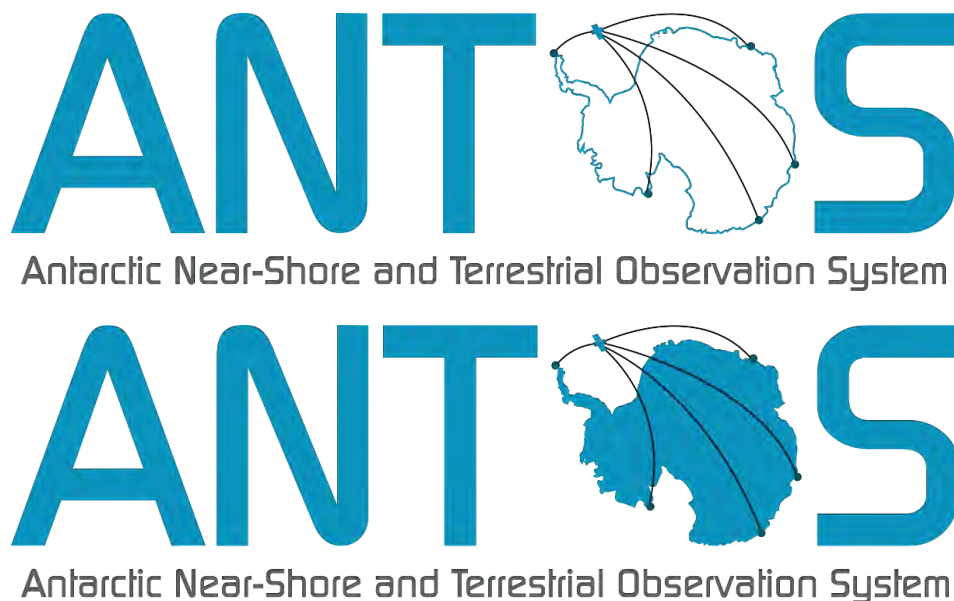
ANTOS prospectus: Development of a series of prospectus describing the purpose and value of ANTOS, targeting different audiences, including (i) the Antarctic community, (ii) policy makers, and (iii) operators/logistics. [May 2020].

Selection of ANTOS sites: Based on the findings of Surveys I and II, recommendation and notification of 25 proposed ANTOS sites to be released [July 2020].

Protocol & Guidelines: Produce drafts of protocol and guideline documents for ANTOS environmental measurements, and biodiversity baseline assessments, to be reviewed by the community. Working group meetings will be held in 2019/2020 for their development [August 2019-April 2020]. The final, peer reviewed versions will be released to the public by August 2020.

ANTOS logo

The ANTOS logo was designed during the workshop.



Beyond 2019

ANTOS site establishment

Workshops providing updates on site establishment, data streaming

SCAR OSC (Hobart 2020)

SCAR Biology (New Zealand 2021)

Workshop 2, ANTOS at the SCAR Open Science Conference in Davos, Switzerland, 16th June 2018

Summary

The ANTOS Expert Group hosted a workshop at the 2018 SCAR Open Science Conference (OSC) in Davos, Switzerland on 16 June, 2018. The workshop was attended by 40 researchers representing 13 countries (Australia, Belgium, China, France, Italy, Japan, Netherland, NZ, South Africa, Spain, Sweden, UK, USA). The purpose of the workshop was to report to the international research community on progress toward the expert group goals and to gather opinions and comments on the guidelines and planning toward implementing ANTOS as a long-term program from the community.

At this workshop, ANTOS committee members reported on progress and deliverables from previous workshops that will direct the design and implementation of ANTOS, and attendees at the workshop provided opinions and comments on the developed guidelines and plans of the ANTOS implementation at Antarctic sites.

Agenda:

- A. Welcome & Introductions
- B. Description of ANTOS
- C. Survey (including the summary of the first survey results and the design of the upcoming second survey)
- D. Evaluation criteria & Decision trees
- E. Implementation plan
- F. Where to next?

Attendees list:

Name	Organization	Nation
Aleks Terauds	AAD	Australia
Gwen Fenton	AAD	Australia
Justine Shaw	University of Queensland	Australia
Zbynek Malenovsky	University of Tasmania	Australia
Sharon Robinson	University of Woollongong	Australia
Melinda Waterman	University of Woollongong	Australia
Yi-Ming Gan	RBINS	Belgium
Annick Wilmotte	University of Liege	Belgium
Ron Li	Tongji University	China
Fang Peng	Wuhan University	China
Emmanuelle Sultan	MNHM	France
Thomas Saucede	University of Burgundy	France
Stefano Schiaparelli	University of Genoa	Italy

Megumu Tsujimoto	NIPR	Japan
Ricard Roura	ASOC	Netherlands
Fiona Shanhun	Antarctica New Zealand	NZ
Fraser Morgan	Landcare Research	NZ
Vonda Cummings	NIWA	NZ
Gary Wilson	Otago University	NZ
Marwan Katurji	University of Canterbury	NZ
Craig Cary	University of Waikato	NZ
Charles Lee	University of Waikato	NZ
Ian McDonald	University of Waikato	NZ
Ian Hawes	University of Waikato	NZ
Ian Meiklejohn	Rhodes University	South Africa
Bettine van Vuuren	University of Johannesburg	South Africa
Donicla Monsanto	University of Johannesburg	South Africa
Conxita Avila	University of Barcelona	Spain
Michael Axelsson	University of Gothenburg	Sweden
Huw Griffiths	BAS	UK
Steve Roberts	BAS	UK
Peter Convey	BAS	UK
David Walton	BAS	UK
Anne D Jungblut	NHM	UK
Cath Waller	University of Hull	UK
Jack Buckingham	University of Hull	UK
Diana Wall	Colorado State University	USA
Bryon Adams	MCM-LTER	USA
Eric Sokol	NEON, MCM-LTER	USA
Berry Lyons	The Ohio State University	USA

Appendix A: Site Selection Decision Tree

