



Polar Expo

Poster Abstracts

SCAR and IASC have a wide range of members, activities, and partners. These SCAR and/or IASC affiliated groups are being given the opportunity to share their work with the broader community at Polar2018, beyond the scientific program of the conference. Accordingly, upon request, each of these groups has been allocated a poster as part of our “PolarExpo.” Posters will be hung during the business meetings and Open Science Conference at Polar2018. This document provides the titles, abstracts, and contact points for each of the posters being presented.

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AECO - Association of Arctic Expedition Cruise Operators

Website: www.aeco.no

Contact: Edda Falk, edda@aeco.no

AECO's poster would give an overview of how the expedition cruise industry is contributing to Arctic science and science communication. AECO's members regularly sail to remote parts of the circumpolar Arctic and are in a position to make considerable contributions to Arctic science. Cruise passengers are eager to learn more about the region that they visit, and educational activities such as lectures and citizen science add value to their experience. The expedition cruise industry welcomes the opportunity for increased dialogue with the scientific community.

AECO's efforts include:

- Collection of crowdsourced hydrographical data used as to supplement official charts. These data are shared with national hydrographic services.
- Collection of statistics, sailing plans and post-visit reports from the activity of AECO members. This data is used to inform policies and services. AECO's tools for tourism management have been the subject of scientific studies.
- Observing wildlife behavior and distribution.
- Beach cleanups where the collected marine litter is submitted for analysis.
- Carrying out water samplings and other measurements that are used in research.
- Hosting researchers or science officers on board the vessel.
- Engaging passengers in citizen science.
- Communicating Arctic science to passengers (regarding wildlife, climate change, geology, etc.).
- Documenting the economical impact of tourism in Northern communities.

Poster Number 646

Antarctic Biodiversity Portal

Website: www.biodiversity.aq

Contact: Anton Van de Putte, antonarctica@gmail.com

The Antarctic Biodiversity Portal provides access to Antarctic Marine and Terrestrial Biodiversity Data as well as a host of tools for biodiversity data Analysis. The Antarctic Biodiversity Portal builds on SCAR -MarBIN and forms the thematic node for data publication to the Ocean biogeographic Information System and the Global Biodiversity Information Facility. It is currently funded by Belgian Science Policy as part of the EU-Lifewatch e-infrastructure to support biodiversity research.

Poster Number 651 Bottom

Antarctic Climate Change in the 21st Century (AntClim21)

Website: www.scar.org/antclim21

Contact: Tom Bracegirdle, tjbra@bas.ac.uk

The goals of AntClim21 are to deliver improved regional predictions of key elements of the Antarctic atmosphere, ocean and cryosphere for the next 20 to 200 years and to understand the responses of the physical and biological systems to natural and anthropogenic forcing factors. A primary form of data that we see being used by AntClim21 are the global coupled atmosphere-ocean model runs that form the basis of the Fifth Assessment Report (AR5) of the Intergovernmental Panel on Climate Change (IPCC). Palaeo-reconstructions of selected time periods, recognised as past analogues for future climate predictions, will be used to validate model performances for the Antarctic region.

This poster will describe these goals in more detail and show how AntClim21 is addressing them. The outcomes of past and ongoing workshops show how improvements in climate projections are being achieved by reaching across disciplinary boundaries, introducing community-agreed methods for assessing climate models and making the best use of measurements of the climate system across a wide range of sources.

Poster Number 622

Antarctic Sea ice Processes and Climate (ASPeCt)

Contact: Marilyn Raphael, raphael@geog.ucla.edu

ASPeCt is an expert group on multi-disciplinary Antarctic sea ice zone research within the SCAR Physical Sciences program. ASPeCt has the key objective of improving our understanding of the Antarctic sea ice zone and its response to climate change. This understanding is to be achieved through focussed field programs, systematic monitoring of the ice cover, analysis of remote sensing and numerical modelling. The ASPeCt group complements and contributes to other international science programs in Antarctica such as the Southern Ocean Observing System (SOOS) and SCAR Horizon. ASPeCt also fosters international collaborations in existing and proposed research programs within national Antarctic programs. ASPeCt has included a component of data rescue of valuable historical sea ice zone information that has before resided only within national programmes and placed it in data archives that are internationally accessible. ASPeCt also continues to compile and archive data from previous and ongoing sea ice projects on for example, sea ice biology and sea ice biogeochemistry from ice cores and will be undertaking new projects to reference or compile other sea ice data sets that are less accessible now. ASPeCt's poster will highlight the recent research carried out by the ASPeCt scientists.

Poster Number 616 Top

Antarctic Seismic Data Library System (SDLS)

Website: <https://sdls.ogs.trieste.it>

Contact: Paolo Diviacco, pdiviacco@ogs.trieste.it; Frank Nitsche, fnitsche@ldeo.columbia.edu

The Antarctic Seismic Data Library System for Cooperative Research (SDLS) was created in April 1991 under the auspices of SCAR to provide open access to all multichannel seismic reflection (MCS) data collected south of 60° S to study the structure of the earth's crust of Antarctica. The SDLS is based on a web portal that currently hosts more than 300,000 kms of seismic lines and on several branches worldwide that hosts physical archives of the data and has library branches worldwide at which researchers may view and study MCS data. The SDLS has also created a website (<https://sdls.ogs.trieste.it/>) which provides access to unrestricted MCS data in the library. At the poster we will present the background and history of SDLS, show an overview of the current data holdings and illustrate ways the data can be found, visualized and accessed including a newly updated web portal and the GeoMapApp visualization tool.

Poster Number 618 Top

AntEco

Website: <https://www.scar.org/science/anteco/home>

Contact: Jan Strugnell, jan.strugnell@jcu.edu.au; Huw Griffiths, HJG@bas.ac.uk

Biological diversity is the sum of all organisms in a system. These organisms collectively determine how ecosystems function and underpin the life-support system of our planet. The SCAR-Biology Programme - State of the Antarctic Ecosystem (AntEco) has been designed to focus on past and present patterns of biodiversity across all environments within the Antarctic, sub-Antarctic and Southern Ocean regions. The broad objectives of the programme are to increase the scientific knowledge of biodiversity, from genes to ecosystems that, coupled with increased knowledge of species biology, can be used for the conservation and management of Antarctic ecosystems.

Poster Number 645

AntVolc

Website: <https://antvolcscar.wordpress.com>

Contact: John Smellie, jls55@le.ac.uk

AntVolc is the SCAR Expert Group on Antarctic Volcanism. It has > 100 members from 11 countries. It exists to promote the study of Antarctic volcanism & increase its profile internationally, publish databases, identify science priorities and develop collaborations. The poster will introduce and publicise AntVolc.

Poster Number 612 Bottom

Arctic and Antarctic science highlights from the UK research community

Website: <https://www.bas.ac.uk/uk-national-committee-for-antarctic-research/>

Contact: Katie Gosling, katsli@bas.ac.uk

The UK National Committee for Antarctic Research (UKNCAR) promotes and coordinates the UK's interest in the activities of the Scientific Community on Antarctic Research (SCAR) and other areas of international Antarctic scientific activity. It is a multi-disciplinary committee under the auspices of the Royal Society, the national body representing UK interests to the International Council for Science. UKNCAR members represent a range of UK scientific interests in Antarctica. The Committee is informed about community science activities, concerns and potential future developments through consultation with Committee members and their scientific networks.

The Natural Environment Research Council Arctic Office acts as a central hub of information on the UK's engagement with Arctic research and the diverse community of UK-based Arctic researchers. The Head of the Office represents the United Kingdom on the IASC Council. Through engagement with the UK Arctic and Antarctic Partnership the Office supports the further development of cooperation between Arctic and Antarctic researchers.

The poster will present some Arctic and Antarctic science highlights from the UK research community.

Poster Number 604

Arctic Vegetation Archive, Classification, and Map

A framework for examining Arctic terrestrial change

Website: <http://www.geobotany.uaf.edu>

Contact: Skip Walker, dawalker@alaska.edu

A circumpolar framework of arctic tundra vegetation is needed for a wide variety of purposes including studying and modeling past and future changes to arctic ecosystems. A circumpolar arctic vegetation classification and map were first proposed in 1992 and became a priority project of the Conservation of Arctic Flora and Fauna (CAFF), the biodiversity working group of the Arctic Council. Here we present an update on the Arctic Vegetation Archive (AVA), Arctic Vegetation Classification (AVC), and Circumpolar Arctic Vegetation Map (CAVM), an outcome of a workshop from the 2017 Arctic Science Summit Week, in Prague, CZ. Recent advances in analysis of large vegetation databases make the AVA and AVC much more feasible than they were in 1992. A prototype arctic vegetation-plot archive was produced for Alaska (the AVA-AK), and approximately 30,000 vegetation plots from across the Arctic have been identified for inclusion in the AVA. The AVC will use the Braun-Blanquet approach to define and name plant communities. The next step will be to assemble similar archives for other regions of the Arctic. New data are currently being added from Canada, including 1964 data from the Lewis Glacier region, Baffin Island. The first Circumpolar Arctic Vegetation Map was a polygon-based map in GIS format with numerous themes. Several of the themes have been widely applied by the Arctic science community. A new raster version of the map provides a much higher resolution map and will increase its application for climate- and vegetation-change modeling.

Poster Number 617

Association of Polar Early Career Scientists (APECS)

Website: www.apecs.is

Contact: Gerlis Fugmann, gerlis.fugmann@apecs.is

The Association of Polar Early Career Scientists (APECS) is an international and interdisciplinary organization for undergraduate and graduate students, postdoctoral researchers, early faculty members, early career professionals educators and others with interests in Polar and Alpine regions and the wider cryosphere.

APECS' goals include creating opportunities for the development of innovative, international, and interdisciplinary collaborations among current early career polar researchers as well as recruiting, retaining and promoting the next generation of polar enthusiasts. Specifically we aim to:

- Create a network of polar researchers across disciplines and national boundaries to meet, share ideas and experiences, and develop new research directions and collaborations;
- Provide the opportunity for career development for both traditional and alternative polar and cryosphere professions;
- Promote education and outreach as an integral component of polar research and to stimulate future generations of polar researchers

The poster will highlight a variety of current and upcoming APECS activities.

Poster Numbers 639 & 640

CliC, the Climate and Cryosphere Project of the World Climate Research Programme (WCRP)

Website: <http://www.climate-cryosphere.org/>

Contact: Gwénaëlle Hamon, gwen@climate-cryosphere.org

The Climate and Cryosphere Project (CliC) (www.climate-cryosphere.org) is one of five core projects of the WMO/ICSU/IOC World Climate Research Programme (WCRP) (<http://www.wcrp-climate.org>) together with CLIVAR, GEWEX, SPARC, and CORDEX. The projects organize their work through various focused initiatives, experiments, scientific advisory committees, and panels. CliC encourages and promotes research into the cryosphere and its interactions with the global climate system. It highlights emerging issues, encourages communication between researchers with common interests in cryospheric and climate science, promotes international cooperation, and highlights the importance of this field to policy makers, funding agencies, and the general public. CliC also publishes scientific papers on the role of the cryosphere in the global climate system and recommends directions for future study.

Poster Number 633 Top

Comité Nacional SCAR

Contact: Alvaro Soutullo, a.soutullo@gmail.com

Uruguay's National SCAR Committee has been recently created and involves scientists from life sciences, geosciences and physics sciences that have had a distinguished contribution to promote scientific research in Antarctica.

Poster Number 611

Cutting barriers in snow knowledge

Contact: Martin Schneebeli, schneebeli@slf.ch

The main content will be about the goals of the initiative, the snow science winter school, and future plans.

Poster Number 652

Czech Polar Research Infrastructure

Website: <http://polar.prf.jcu.cz/>

Contact: Josef Elster, jelster@prf.jcu.cz

Czech Polar Research Infrastructure consists of two parts: the Czech Antarctic Research Infrastructure (hosted by the Masaryk University in Brno) and the Czech Arctic Research Infrastructure (hosted by the University of South Bohemia in České Budějovice). The Czech Polar Research Infrastructure represents a unique infrastructure providing support for scientific research and university education in both Polar Regions. As the Polar Regions are particularly sensitive to the global climate change, the understanding of mechanisms of geo- and eco-system transformation in the Arctic and Antarctic regions is essential for the global understanding of climate change processes. The geographical location of the RI's respective bases on James Ross Island in Antarctica (J. G. Mendel Research Station) and in Billefjorden in Svalbard archipelago (J. Svoboda Research Station) are excellently chosen, as both areas are not well accessible from the stations of other countries, what gives an excellent and unique research opportunity to the scientific community. These geographical areas also represent transitional zones, in case of Antarctica at the boundary between Maritime and Continental Antarctica and in case of the Arctic between the wet coastal and dry inland areas of the High Arctic zone, what makes the infrastructure attractive. The Czech Polar Research Infrastructure covers studies in palaeo-climatological, palaeo-environmental research, multidisciplinary ecological – biotechnological and geoscientific studies describing the impact of the climate change on the Antarctic and Arctic ecosystems.

Poster Number 601

ESSO-National Centre for Antarctic and Ocean Research, Goa, India

Website: <http://www.ncaor.gov.in>

Contact: Dr. M. Ravichandran, Director, NCAOR, mravi@ncaor.gov.in

ESSO-National Centre for Antarctic and Ocean Research (NCAOR) is an autonomous R&D Institution under the Ministry of Earth Sciences, Government of India. NCAOR is mandated for coordinating and implementing the Indian Polar activities in the Arctic, Antarctic, Southern Ocean and the Himalayas. Indian polar expedition history dates back to 1981 when the first scientific expedition to Antarctica was undertaken from the shores of Goa, India. Dedicated Southern Ocean expeditions began in 2004. With a bipolar focus research was initiated in the Arctic during 2007. NCAOR took up a challenge to reach the South Pole (2010-11) marking the centenary of the first arrival of Roal Amundsen, at the geographic south pole. India commissioned its 3rd Antarctic Research Base 'Bharati' in the Larsemann Hill during 2012 and a permanent Research Base 'Himansh' in Himalaya during 2016. India also embarked on an important IODP Expedition to Arabian Sea to understand the initiation of the Indian monsoon.

The poster highlights India's endeavours in polar sciences to understand polar and its surrounding ocean-atmosphere climate changes. The Indian national polar research programs address globally significant research problems and challenges with the collaboration of international organisations SCAR/IASC. The poster is a glimpse of polar scientific research and operations which addresses the key questions identified by the SCAR-HORIZON roadmap and working group of IASC. Besides, NCAOR has also initiated studies on Himalayan Glaciers to understand the influence of changing climate. India, as a member of SCAR, COMNAP, ATCM, AFoPS, CCAMLR, IASC, NySMAC and other international forum's plays an important role in international global issues and observations.

Poster Number 609

Expert Group on Antarctic Biodiversity Informatics (EG-ABi)

Website: <https://www.scar.org/science/egabi/abi/>

Contact: Bruno Danis, bdanis@ulb.ac.be

The purpose of EG-ABi is to foster the application and development of biodiversity informatics in the SCAR community, and it does this by coordinating and participating in a range of projects across the SCAR biodiversity science portfolio. The poster will present a range of projects in which the group is involved.

Poster Number 647 Top

Forum of Arctic Research Operators (FARO)

Website: <http://faro-arctic.org/>

Contact: James Drummond, james.drummond.dal@gmail.com

The Forum of Arctic Research Operators (FARO) aims to facilitate and optimise logistics and operational support for scientific research in the Arctic. The forum encourages international collaboration for all those involved in Arctic research.

Poster Number 648

French National Committee for Arctic and Antarctic Research (CNFRA)

Website: www.cnfra.org

Contact: Yan Ropert-Coudert, docyaounde@gmail.com

As SCAR National Correspondent, CNFRA's mission is:

- to promote French scientific studies and research in the Arctic, Subarctic, Antarctic and Sub-Antarctic regions;
- to ensure France's representation on the Scientific Committee on Antarctic Research (SCAR) and its working groups;
- foster international cooperation and support the interaction of French research in international programs;
- provide a forum for the development of scientific programs;
- to contribute to the communication and information on scientific research undertaken in the polar and subpolar regions.

CNFRA's missions are aimed at promoting and valuing all disciplines and scientific research carried out in the Arctic, Antarctic and Sub-Antarctic regions.

It organizes annual scientific days of polar research with the following objectives:

- encourage meetings between young researchers and experienced researchers;
- to enable young researchers to present the innovative aspects of their work;
- to foster interdisciplinary synergies;
- to take stock of current topics.

In addition, CNFRA has regular relations with IPEV, the National Agency for Scientific Research Support in the Polar Regions.

Poster Number 610

German National Committee SCAR/IASC

Website: www.scar-iasc.de

Contact: Sascha Willmes, willmes@uni-trier.de

The German National Committee (GNC) SCAR/IASC acts as a national corresponding body to SCAR and IASC. The GNC is planning and coordinating activities of German university research in the field of polar research together with the Alfred-Wegener-Institute, Helmholtz Centre for Polar and Marine Research (AWI), and associated national institutions that also provide logistics for universities. The GNC SCAR/IASC coordinates its work on the national level with the DFG commissions, that are responsible for the specific branches within geosciences, and also cooperates with further potentially affected DFG panels. The GNC nominates German members of working groups and committees of SCAR and IASC as well as the German delegate for the IASC council. The director of AWI and the chair of the GNC are the German delegates to SCAR.

Poster Number 600

GIANT

Website: <https://scar.org/science/giant/giant/>

Contact: Mirko Scheinert, Mirko.Scheinert@tu-dresden.de

As interest in earth sciences and the effects of change within Antarctica have grown over the years the need of earth monitoring observatories have increased. GIANT is an expert group established to oversee the development of geodetic infrastructure across the Antarctic Continent to facilitate the monitoring of its physical processes. The group has acted as an advisory committee to help coordinate various infrastructure associated with earth monitoring techniques such as GNSS, gravity meters as well as the installation of tide gauges to monitor sea level change.

Poster Number 614 Bottom

GRAPE (GNSS Research and Application for Polar Environment)

Website: www.grape.scar.org

Contact: *Giorgiana De Franceschi*, giorgiana.defranceschi@ingv.it

GRAPE (GNSS Research and Application for Polar Environment) was established in 2012 and deals with the monitoring of neutral and ionized atmosphere at bi-polar latitudes. The main objective is the investigation of atmospheric response to solar activity and its effects on GNSS based systems and applications. A new initiative is on going by proposing a new scientific programme named RESOURCE (Radio Sciences Research on AntarctiC AtmospherE). It aims to gather the communities that investigate the polar atmosphere by means of radio probes into a common shared initiative. RESOURCE takes advantage of the experience of the GRAPE group which has demonstrated the potentialities of the GNSS data and expertise sharing to monitor and observe the atmosphere. RESOURCE will build upon the GRAPE important legacy by enhancing interactions between the scientists who measure and utilise the entire radio spectrum, either as an auxiliary or principal observation, to study the atmosphere.

Poster Number 653 Top

Herbivory Network

An international research network to study herbivory in northern and alpine environments

Website: <http://herbivory.biology.ualberta.ca>

Contact: Ingibjörg Svala Jónsdóttir, isj@hi.is

The Herbivory Network (<http://herbivory.biology.ualberta.ca>) is an international research network that brings together scientists from Arctic and alpine regions to investigate the role of herbivores in these changing ecosystems. Plant-herbivore interactions are central to the functioning of tundra ecosystems, through their effects on biodiversity, energy flows and nutrient cycling, and can influence their resilience to ongoing environmental changes. However, the outcomes of plant-herbivore interactions vary over space and time, leading to different impacts of herbivory at different sites and times. The causes of this are presumably related to ecosystem-specific conditions, such as herbivore diversity, human management, geological substrate or productivity among others. To accurately forecast the future of tundra ecosystems under changing environmental conditions, we need to understand the drivers of the spatial and temporal variation that influence the outcomes of plant-herbivore interactions. Effectively addressing these questions at a global scale requires coordinated research efforts. The Herbivory Network covers this gap, by fostering collaborations and facilitating multi-site comparisons through the use of common experimental protocols. One of the priorities of the Herbivory Network is to integrate observation sites and methodologies, to develop a set of common protocols and design a geographically-balanced, coordinated distributed experiment. The implementation of these collaborative research efforts will improve our understanding of traditional human-managed systems that encompass significant portions of the sub-Arctic and alpine areas worldwide. The Herbivory Network was initiated with the support of the Terrestrial Working Group of IASC.

Poster Number 619

History of Antarctic Research Expert Group

Website: <https://www.scar.org/science/historygroup/history-eg/>

Contact: Cornelia Lüdecke, C.Luedecke@lrz.uni-muenchen.de

In addition to the more overall description of the work of the SCAR History EG the poster will showcase some examples of our work with including national and international aspects as well as diverse perspectives.

Poster Number 634 Bottom

IASC Atmosphere Working Group

Website: <https://iasc.info/working-groups/atmosphere>

Contact: Thomas Spengler, Thomas.Spengler@uib.no, wangrui@pric.org.cn

The scientific scope of the Atmosphere Working Group includes scientific research towards understanding and prediction of Arctic change, and considering the fate of perennial sea ice and the global atmospheric consequences of its disappearance. This includes past climate states, investigation of Arctic processes across data sets and approaches, and climate model projections. The scope includes local and regional impacts of Arctic change.

With the benefit of the AWG's diverse background in expertise, we decided to define our scientific scope to include research towards understanding and prediction of Arctic change, where we identified five core topics:

- Clouds, Water Vapor, Aerosols, Fluxes
- Arctic Air Pollution
- Coupled Arctic climate system
- Arctic Weather extremes
- Linkages (two way): Role of the Arctic in the global climate system

These topics have been put under the three pillars of 1) MOSAiC (Multidisciplinary drifting Observatory for the Study of Arctic Climate), 2) PACES (air Pollution in the Arctic: Climate, Environment and Societies), and 3) YOPP/PPP (Year of Polar Prediction/Polar Prediction Project).

This poster will include information on AWG members from the 23 IASC member countries, as well as recent and upcoming Atmosphere Working Group activities and initiatives.

Poster Number 627

IASC Cryosphere Working Group

Website: <https://iasc.info/working-groups/cryosphere>

Contact: Francisco Navarro, francisco.navarro@upm.es, pablo.sgamez@upm.es

The scientific scope of the Cryosphere Working Group includes any scientific or engineering research relating to the Arctic and sub-Arctic cryosphere, including its interactions (past, present, and future) with the climate, oceans, and biosphere. It shall also include the promotion of sound practices for the management of scientific data relating to the Arctic cryosphere and its interactions with other components of the Arctic system.

While the CWG is interested in all elements of the cryosphere, we have structured our activities across three distinct themes:

- Atmosphere-glacier-ocean interactions: implications on the pan-Arctic glacier mass budget
- Cutting barriers in snow knowledge
- Causes, impacts and prediction of extreme Cryospheric events

This poster will include information on CWG members from the 23 IASC member countries, as well as recent and upcoming Cryosphere Working Group activities and initiatives.

Poster Number 628

IASC Marine Working Group

Website: <https://iasc.info/working-groups/marine>

Contact: Lee Cooper, cooper@umces.edu, Jeanette.Axelsson@polar.se

The Marine Working Group (MWG) of the International Arctic Science Committee (IASC) provides a basis for coordinating arctic research in marine systems for the 23 member countries of IASC, including cross-cutting objectives independent of discipline. The MWG also seeks to encourage and facilitate two-way communication between working group members from each member state of IASC and their national science constituencies. Another important goal is to provide support for early career scientists and include their involvement in international research coordinated by IASC member countries, including expanding roles for IASC Fellows in MWG tasks.

Specific work goals are integrated into the MWG Work Plan in 2017 and include project coordination and support for prominent initiatives that include: renewal of the Arctic in Rapid Transition network that has provided a mechanism for the early career science community to become engaged in international arctic research; implementation of the Multidisciplinary drifting Observatory for the study of Arctic Climate (MOSAiC); contributing to the Workshop on Arctic Glaciology and Proglacial Marine Ecosystems, and expansion of the Distributed Biological Observatory on a pan-Arctic basis. Strengthening international cooperation with Russian scientists remains a key goal, including support for IASC's Russian Arctic (ISIRA) activities that are seeking to improve conditions for marine research within Russia's Exclusive Economic Zone. Finally, identifying new mechanisms to involve the MWG in Arctic Council observer activities and meetings are critical to connecting research with governmental affairs at the international level.

Poster Number 629

IASC Social & Human Working Group

Website: <https://iasc.info/working-groups/social-human>

Contact: Peter Sköld, peter.skold@umu.se, gunnar.gunnarsson@iasc.info

The scientific scope of the Social and Human Working Group (SHWG) includes all aspects of social sciences and humanities research in the Arctic, as well as their connections with other IASC Working Groups. It is acute to integrate the social and human perspective into international efforts to address issues of climate and environmental change. Not only does human behavior have an enormous influence on the environment, but their changing natural environments also directly and indirectly affect people. A wide range of topics is therefore of interest to the SHWG, including human health and well-being; exploitation and development of natural resources; governance and law; vulnerability and resilience in changing social-ecological systems; and histories, perceptions, and representations of the Arctic. As demonstrated by the supported activities in 2017/18, SHWG members address these topics in all manners of ways: by going into depth on core concepts, by bringing a global perspective to the Arctic, or by working closely with local stakeholders.

In addition to these, the SHWG continues to develop its cross-cutting activities along the research priorities that emerged from the ICARP III – Roadmap for the Future. The ICARPIII process concluded that more research is needed into ‘Cultural Responses to Long-Term Arctic Change.’ In light of this, the SHWG continued to support the Sustainable Arctic Infrastructure Forum (SAIF) and launched a new cross-cutting initiative entitled ‘Long-term impacts, vulnerability and resilience in Arctic social-ecological systems’ (SESs). The SESs session at ASSW 2017 focused on the paleo-history, as a starting point for further investigation into what factors contribute to long-term vulnerability and resilience in complex human-environment relationships.

Poster Number 630

IASC Terrestrial Working Group

Website: <https://iasc.info/working-groups/terrestrial>

Contact: Phil Wookey, philip.wookey1@stir.ac.uk, galina.antonovskaya@gmail.com

The scientific scope of the Terrestrial Working Group shall include any scientific research on arctic terrestrial and freshwater environments, landscapes and biota, and their responses to, and interactions with, other components of the Earth system. The remit encompasses the dynamics of the Arctic system; past, present and future.

Terrestrial Working Group priorities include:

- Biodiversity, land and freshwater ecosystem services;
- Natural resources and their sustainable use;
- Life in extreme terrestrial environments
- Biotechnologies (e.g. low temperature biotechnology and biodiscovery; drinking and waste water treatment);
- Atmospheric pollutants and terrestrial and freshwater contaminants;
- Permafrost landscapes and water.
- Determining the role of connectivity in the functioning of Arctic terrestrial systems, including connections within the Arctic and the global system.

This poster will include information on TWG members from the 23 IASC member countries, as well as recent and upcoming Terrestrial Working Group activities and initiatives.

Poster Number 631

IASC Cross-Cutting Activities

Website: <https://iasc.info/activities/cross-cutting>

Contact: Allen Pope, allen.pope@iasc.info; Gunnar Gunnarsson, gunnar.gunnarsson@iasc.info

Since 2011, in addition to disciplinary support, IASC has allocated funds for cross-cutting activities, that is proposals which are supported by at least two of the five IASC Working Groups. The objective of this Working Group-spanning program is to promote system-scale activities within IASC and to encourage the IASC Working Groups to explore interdisciplinary activities, in particular across the natural and social sciences.

This poster will include information on recent and upcoming IASC Cross-Cutting activities and initiatives.

Poster Number 632

IASC Fellowship Program

Website: <https://iasc.info/capacity-building/fellowship>

Contact: Maja Lisowska, maja.lisowska@us.edu.pl

The IASC Fellowship Program is meant to engage Early Career Scientists (ECS) in the work of the IASC Working Groups (WGs). IASC Fellows are doctoral or postdoctoral researchers who actively participate in selected activities of the IASC WGs. The total duration of the IASC Fellowship Program is 1+2 years. After the first year the Fellows have an opportunity to stay involved up to 2 more years. The further involvement is individually decided by the WG Steering Group and the Fellow.

The IASC fellowship Program opens for new candidates every year around late September and is due mid-November. The call and the selection is held in collaboration with APECS.

Poster Number 642

IASC Medal

Website: <https://iasc.info/medal>

Contact: Allen Pope, allen.pope@iasc.info; Gunnar Gunnarsson, gunnar.gunnarsson@iasc.info

IASC Medals are awarded in recognition of exceptional and sustained contributions to the understanding of the Arctic. In this poster or posters, we will showcase the IASC Medallists (awarded since 2010), as well as provide some information about past applicants to encourage strong, diverse applications in the future.

Poster Number 625

IASC Secretariat

Website: <https://iasc.info/iasc/organization/secretariat>

Contact: Allen Pope, allen.pope@iasc.info; Gunnar Gunnarsson, gunnar.gunnarsson@iasc.info; Federica Scarpa, federica.scarpa@iasc.info

The Secretariat is responsible for the daily operations of IASC. Rannís, the Icelandic Centre for Research, began hosting the IASC Secretariat from January 2017 and has committed to do so for 5 years. The Secretariat is based in Akureyri, Iceland.

Poster Number 626

IASSA Working Group Gender in the Arctic

Website: <https://gender-arctic.jimdo.com>

Contact: Gertrude Saxinger, gertrude.saxinger@univie.ac.at

The IASSA Working Group Gender in the Arctic provides a platform for networking in order to foster knowledge exchange and developing research initiatives that are informed by Gender and Intersectionality Studies' approaches. This poster highlights the upcoming workshop of the Working Group on "Queering Indigeneity: Indigenous Queer Intersections in the Arctic" - which is held as a side event to the UArctic Congress on the 6th of September 2018.

In the Arctic, queer identities and issues are rarely discussed in public, especially in Indigenous communities. Besides the common heteronormative discrimination in society, many Indigenous queer individuals are ostracized in their communities and as the result, relocate to more urban settings. The workshop examines these experiences and practices from both an academic and activist perspective. It presents Indigenous perspectives on queerness and interrogates assumptions of Indigenous heteronormativity.

The workshop consists of three sessions: an academic panel on queer Indigenous studies, an activist panel on queer Indigenous experiences and reflections and a concluding academic-activist round table discussing the future prospects and challenges of queering Indigeneity and the need for queer Indigenous studies in the Arctic.

Poster Number 650

ICOMOS:IPHC (International Committee on Monuments and Sites: International Polar Heritage Committee)

Website: <http://iphc.icomos.org/>

Contact: IPHC Secretariat, IPHC@ICOMOS.org

The International Polar Heritage Committee (IPHC) is an international scientific committee within the International Council on Monuments and Sites (ICOMOS).

The IPHC was founded 1st November 2000 and focuses on the preservation and protection of polar (Arctic and Antarctic) heritage. It is a non-political organisation made up of members of ICOMOS members from countries with an active polar interests. Individual members also have their own wider networks of experts who become an additional resource for others involved in polar heritage protection. The committee does not work directly with indigenous heritage but when necessary it cooperates closely with groups that do.

The International Council on Monuments and Sites / Conseil International des Monuments et des Sites is a non-governmental organisation of professional cultural heritage workers, which serves as an advisory body to UNESCO on matters related to world heritage. It was founded in 1965, and now has national committees in more than 100 countries. In addition to national committees ICOMOS has many specialist international scientific committees.

Poster Number 655

Implementation of a Wind Turbine in Antarctica

Website: www.cco.gov.co

Contact: Cesar Jimenez Lozano, st.jimenez.fac@gmail.com

The objective of this project is the design and manufacture of a Wind Turbine prototype in Colombia for its implementation in Antarctica. Taking advantage of extreme wind currents, which are abundant and constant throughout the year, being a friendly energy with the environment and the best option when implementing a Colombian Antarctic base, contributing to the policies of the Antarctic treaty, being a model of development for the country as pioneers in the field of implementation of renewable energies and in turn, managing to mitigate the logistical impact of fossil fuels, a task that requires excessive labor and many hours of flight which are unnecessary before the possibility of using an Aeolian Turbine, saving high costs of these operations. During the month of December of the year 2015 there was a participation in the Antarctic Base of Marambio with the objective of identifying in what and how much electrical energy is consumed, as well as a preliminary measurement of winds with a portable weather station, the previous thing to design the Turbine prototype which was implemented for the current year 2018 in the Antarctic Base of Marambio, obtaining positive results with Polar winds of 40 knots, temperatures of -50°C and generating between 3 and 5 KW, being the implementation of it a great success since a challenge and experience for the deployment of the generator from Colombia and its installation. Both missions are possible thanks to the collaboration of host country Argentina.

Poster Number 618 Bottom

Integrating Climate and Ecosystem Dynamics (ICED)

Highlights of the SCAR co-sponsored the Integrating Climate and Ecosystem Dynamics in the Southern Ocean (ICED) programme

Website: www.iced.ac.uk

Contact: Rachel Cavanagh, rcav@bas.ac.uk

Southern Ocean ecosystems provide globally important ecosystem services: maintaining biodiversity, influencing biogeochemical cycles and in supporting fisheries they affect global food security. They are also being affected by rapid climate driven changes, with impacts being observed at every trophic level in the ecosystem. Understanding the impacts of change in these ecosystems requires integrated (end-to-end) ecosystem analyses at regional and circumpolar scales. Developing those analyses has been the focus of the Integrating Climate and Ecosystem Dynamics in the Southern Ocean (ICED) programme. This 10 year programme has three major scientific objectives: 1) understand how climate processes affect ecosystem structure and dynamics, 2) understand how ecosystem structure and dynamics interact with biogeochemical cycles, and 3) determine how ecosystem structure and dynamics should be incorporated into management approaches for sustainable exploitation. These are being achieved through three key activities; circumpolar data synthesis and mining, field coordination and modelling. Here we highlight major current ICED activities focused on particularly on the development of multidisciplinary coordination, end-to-end analyses and models, and scenarios and projections of the impacts of future change.

Poster Number 653 Bottom

International Association of Cryospheric Sciences

Website: www.cryosphericosciences.org

Contact: Ian Allison, ian.allison@utas.edu.au

The International Association of Cryospheric Sciences (IACS) is the Association of the International Union of Geodesy and Geophysics (IUGG) responsible for the promotion of studies of the cryosphere (which includes snow, sea ice, lake and river ice, glaciers and ice sheets) and for encouraging research on cryospheric sciences through collaboration. IACS is the eighth, and most recent, IUGG Association, and was launched in 2007 in recognition of the importance of the cryosphere in the study of Earth System Science, particularly at a time of significant global change.

IACS has historic connections going back to the establishment of the Commission Internationale des Glaciers (International Glacier Commission), founded in 1894, and has responsibility within the International Science Council (ISC) for the World Glacier Monitoring Service (WGMS).

IACS is structured around five disciplinary Divisions:

- Snow and Avalanches;
- Glaciers and Ice Sheets;
- Sea Ice, Lake and River Ice;
- Cryosphere, Atmosphere and Climate;
- Planetary and other Ices of the Solar System.

SCAR, IASC, and IACS share a common interest in ice and snow on Earth and each is an organization affiliated with ISC. Accordingly, the three organizations have signed a Letter of Agreement to combine their efforts in selected fields and activities in order to raise their level of joint scientific impact and to avoid unnecessary duplication.

Poster Number 657 Top

International Bathymetric Chart of the Southern Ocean (IBCSO)

Contact: Boris Dorschel, Boris. Dorschel@awi.de

IBCSO 50°S as part of the The Nippon Foundation—GEBCO Seabed 2030 Project

Poster Number 614 Top

International Permafrost Association (IPA)

Website: <https://ipa.arcticportal.org/>

Contact: Sarah Strand, contact@ipa-permafrost.org

The International Permafrost Association (IPA) disseminates knowledge concerning permafrost and promotes research and cooperation among people and organizations engaged in scientific investigation and engineering work on permafrost. The IPA supports the production of scientific products (e.g. permafrost maps and databases) and education and outreach resources through our Action Groups, Interest Groups, and Standing Committees. Additionally, the IPA initiates and oversees Regional and International Conferences on Permafrost. The IPA developed and works closely with the Global Terrestrial Network for Permafrost (GTN-P), which provides open-access permafrost data.

Poster Number 658

International Union of Biological Sciences (IUBS)

Website: <http://www.iubs.org/>

Contact: Andres Barbosa, barbosa@mncn.csic.es

The International Union of Biological Sciences (IUBS), established in 1919, is a non-governmental and non-profit organization. IUBS is an umbrella organization for international scientific associations, provides a platform for their interactions, dissolving disciplinary and national boundaries. It is the only international body that represents the entire spectrum of biological sciences. IUBS currently unites more than 110 national/scientific and institutional members. They constitute three types of Membership: ordinary, scientific, and associate members.

The objectives of IUBS are:

- to promote the study of biology, with special emphasis on evolution, taxonomy, ecology, biodiversity etc and implications of climate change on biological world.
- to initiate, facilitate and coordinate research, education and capacity building and other scientific activities that require international and interdisciplinary cooperation
- to facilitate international and interdisciplinary discussions/dialogue on topics such as biodiversity, ecosystem function and services in the context of climate change, taxonomy, bionomenclature, etc.
- to ensure dissemination of the results of cooperative research in connection with scientific programmes supported by IUBS.
- to support the organization of international conferences on the topic of IUBS's interests and assist in the publication of their reports.

Poster Number 633 Bottom

International Union of Geodesy and Geophysics

Website: <http://www.iugg.org/>

Contact: Ian Allison, ian.allison@utas.edu.au

The International Union of Geodesy and Geophysics (IUGG) is the Union of the International Science Council (ISC) dedicated to advancing, promoting, and communicating knowledge of the Earth system, its space environment, and the dynamical processes causing change. IUGG, founded in 1919, is an international non-governmental organization which currently consists of eight semi-autonomous associations dealing with cryospheric sciences; geodesy; geomagnetism and aeronomy; hydrological sciences; meteorology and atmospheric sciences; physical science of the oceans; seismology and physics of the Earth's interior; and volcanology and chemistry of the Earth's interior. It has also established a number of Union Commissions to promote study of interdisciplinary problems.

Through its constituent Associations, Commissions, and services, IUGG convenes international assemblies and workshops, undertakes research, assembles observations, gains insights, coordinates activities, liaises with other scientific bodies, plays an advocacy role, contributes to education, and works to expand capabilities and participation worldwide.

IUGG has been an active ISC Union Member of SCAR since its establishment (as the “Special Committee on Antarctic Research”) in 1958.

Poster Number 657 Bottom

International Union of Geological Sciences (IUGS)

Website: <http://www.iugs.org>

Contact: Carlo Alberto Ricci, carloalberto.ricci02@gmail.com

IUGS is one of the largest (121 national members) and most active ICSU unions. It promotes and encourages the study of geological problems, especially those of global significance. The poster illustrates the union's aims and activities and its connections with the geological research in the Antarctic region.

Poster Number 654

ISAES 2019

Contact: Jongkuk Hong, jkhong@kopri.re.kr

This poster introduces plan of XIII International symposium on Antarctic Earth Sciences (ISAES) of SCAR. The symposium will be held in 2019 in Incheon, Korea. Korea Polar Research Institute(KOPRI) is responsible for running the symposium. We are considering Songdo Convensia, a convention center located in Incheon, for the venue and the period will be decided soon. Detailed information will be posted.

Poster Number 637

ISIRA (International Science Initiative in the Russian Arctic)

Website: <https://iasc.info/isira>

Contact: Yulia Zaika, yzaika@inbox.ru

The International Science Initiative in the Russian Arctic (ISIRA) is a Russian and international cooperative initiative to assist Arctic science and sustainable development in the Russian Arctic, and is an Advisory group of IASC. The last few years have been marked with considerable changes of group's working directions and priorities. With this poster we would like to emphasize these changes, and suggest new working mode as well as call for collaborations with other groups of IASC and international networks and organizations.

Poster Number 624

JEGHBM

Website: <http://www.medicalantarctica.com/>

Contact: Anne Hicks, annehicks1@nhs.net; Nathalie Pattyn, nathalie.pattyn@mil.be

The Joint Expert Group on Human Biology and Medicine is dedicated to understanding the factors that impact health and wellness and on improving the delivery of healthcare to those experiencing the challenges and isolation of the Arctic, Antarctic and space environments. This group represents the merger of the SCAR Expert Group in Human Biology and Medicine and the COMNAP Medical Network (Medinet); membership is composed of the health and medical leadership of national programs with a presence in the polar regions and from national space programs. The group has worked to align its objectives and ways of working with the aims and strategies of both COMNAP and SCAR. JEGHBM draws on a vast pool of international experience consisting of doctors, psychologists and human physiologists and biologists who are actively engaged in medicine support and medical and biomedical research in the Antarctic, as well as linkages to the Arctic, Space Medicine, and other areas where healthcare is undertaken in remote and austere environments.

Poster Number 647 Bottom

Korea Polar Research Institute (KOPRI)

Website: <http://www.kopri.re.kr/eng/>

Contact: Chaerin Jung, cjung@kopri.re.kr

The Korea Polar Research Institute (KOPRI), a government-affiliated research institution, is the lead agency for the Republic of Korea's national polar program for both the Arctic and the Antarctic. Serving as a research entity and logistics service provider, KOPRI conducts and coordinates Korea's Arctic and Antarctic research programs, provides logistical support, and manages research infrastructure.

KOPRI's main areas of research include the atmosphere, biodiversity and ecosystem, geological evolution, glaciers, marine environment, meteorites and paleoclimate, with the causes and impacts of climate change as the key theme. To this end, KOPRI actively partakes in international joint research programs and multilateral research activities. At the heart of KOPRI's endeavors lies Korea's major research infrastructure that helps its researchers to determine the roles of the polar regions in the global system and reveal their mysteries and diversity. KOPRI manages and operates Korea's two Antarctic research stations, the King Sejong and the Jang Bogo Station, as well as the Arctic Dasan Station in Ny-Alesund and the icebreaking research vessel Araon.

For the past three decades, KOPRI has devoted its passion and commitment to explore the uncharted field of Antarctic research. This year, as KOPRI commemorates the 30th anniversary of the establishment of the King Sejong Station, it renews its long-standing commitment to research collaborations as KOPRI embarks on a new era in polar research.

Poster Number 607

Operational Meteorology in the Antarctic Expert Group

Website: <https://www.scar.org/science/opmet/opmet/>

Contact: Steve Colwell, src@bas.ac.uk

Over the past couple of years this group has concentrated on establishing links between other groups working in the same area of operational meteorology in Antarctica. The main links are to the Antarctic Meteorology and Climate Workshop group which holds annual meeting in June or July and SCAR provides some funds to pay for accommodation for representatives from some countries to attend. Also a link between SCAR and the WMO EC-PHORS (Panel of Experts on Polar and High Mountains Observations, Research and Services) where it is possible to carry out monitoring of the meteorological observations that come from Antarctica via AntON (Antarctic Observing Network) which helps to identify problems with the data that is currently coming out from Antarctica.

This Poster will show some of the work that the group is currently doing.

Poster Number 649 Bottom

PACES

Website: www.pacesproject.org

Contact: Steve Arnold, s.arnold@leeds.ac.uk

PACES is an initiative, co-sponsored by IASC and IGAC, which aims to review existing knowledge and foster new research on the sources and fate of Arctic air pollution, its impacts on climate, health, and ecosystems, on the feedbacks between pollution and natural sources, on climate responses, and on societal perspectives, including sustainability, adaptation and economic feedbacks. PACES coordinates international research efforts on these topics in collaboration with existing and other planned initiatives, such as HTAP, AMAP, PEEEX, YOPP, IASOA, MOSAiC and ArcticStar and motivates trans-disciplinary research related to Arctic air quality. We will present an overview of ongoing activities in PACES, specifically around local Arctic air pollution, its processing and impacts, and new initiatives targeted at better quantifying import of pollution to the Arctic from lower latitudes. Activities include proposals for new international field experiments, modelling activities and collaborations with social scientists.

Poster Number 613

Pacific Arctic Group

Website: <https://pag.arcticportal.org/>

Contact: Takashi Kikuchi, takashik@jamstec.go.jp

The Pacific Arctic Group (PAG) is a group of organizations and individuals having a Pacific perspective on Arctic science. Originally organized under the International Arctic Science Committee (IASC), the PAG is now an independent affiliate of the IASC and has as its mission to serve as a Pacific Arctic regional partnership to plan, coordinate and collaborate on science activities of mutual interest. PAG is engaged in project development and sampling in the Pacific Arctic Region, currently in rapid transition with major sea ice loss, to investigate climate, oceanography, air-sea ice interactions, ecosystems, and modeling. For the above purpose, we have a spring meeting that is mainly focused on business issues during the annual international Arctic Science Summit Week, and a fall meeting at various locations in alternating PAG countries after the field season to review accomplishments during the previous summer and outlooks for the future. PAG continues to develop and implement long-term marine monitoring activities, such as the Distributed Biological Observatory (DBO) and Pacific Arctic Climate Ecosystem Observatory (PACEO). We suggest that the success of these coordinated, international observatories show they are key to continued time-series monitoring of environmental change in the Arctic. Further information on the PAG can be found at: <https://pag.arcticportal.org/>.

This presentation will outline the goals of PAG, highlight ongoing projects, and introduce interaction with other international organizations.

Poster Number 623

Polar Knowledge Canada

Website: <https://www.canada.ca/en/polar-knowledge.html>

Contact: James Lascelle, james.lascelle@polar.gc.ca

Polar Knowledge Canada (POLAR) is a Canadian federal government agency established in June 2015. POLAR's mandate is to strengthen Canada's leadership on Arctic issues and advance knowledge to improve economic opportunities, environmental stewardship and the quality of life of its residents and all other Canadians. POLAR also has a mandate to promote the development and dissemination of knowledge of the circumpolar regions, including the Antarctic.

POLAR fulfills a brokering role, strengthening connections between the Canadian polar research community and decision makers. It also facilitates collaboration and partnerships in Canada's Arctic, including at the Canadian High Arctic Research Station (CHARS) campus in Cambridge Bay, Nunavut, and within the circumpolar regions. POLAR serves as a main point of contact for the international community interested in conducting research in Canada's Arctic and collaborating with Canadians on Antarctic research. POLAR represents Canada as its adhering body to the International Arctic Science Committee (IASC) and the Scientific Committee on Antarctic Research (SCAR). POLAR is also exploring opportunities to develop a Canadian Antarctic Research Program.

Canadian polar researchers have expertise in a range of research disciplines, and contribute highly valued intellectual and technical expertise to enhance our collective understanding of the changes occurring in then the polar regions, and the implications globally.

Poster Number 606

PolarTREC - Teachers & Researchers Exploring and Collaborating

Website: <http://www.polartrec.com>

Contact: Janet Warburton, warburton@arcus.org

PolarTREC is a program administered by Arctic Research Consortium of the United States. This poster will highlight the teacher and researcher teams that have worked together in the Arctic and the Antarctic.

Poster Number 641

Polish Polar Research

Website: <http://www.kbp.pan.pl>

Contact: Wojciech Majewski, wmaj@twarda.pan.pl

The poster will focus of current involvement of Polish polar research.

Poster Number 605

Portuguese National Antarctic Committee

Website: <http://www.propolar.org/>

Contact: Adelino Canario, acanario@ualg.pt

The Portuguese Polar Program (PROPOLAR) - Promoting Portuguese Polar science: The PROPOLAR is based at IGOT-ULISBOA and funded by the FCT and its mission to support science mainly includes: (i) promoting the development of high standard Portuguese science in the Polar regions (ii) providing access of Portuguese scientists to Polar regions, (iii) contributing to international Antarctic logistics by managing the Portuguese freighted charter flight between Punta Arenas and King George Island, and (iv) endorsing and supporting the dissemination of scientific knowledge by organizing the annual national Polar science conferences, as well as education and outreach activities. In the past seven years, PROPOLAR has funded 74 research projects (56 in the Antarctic and 18 in the Arctic), provided access to an average of 22 Portuguese scientists per year to the Antarctica, with the support of 8 national polar programs. Logistical and scientific cooperation is in place with Argentina, Brazil, Bulgaria, China, Poland, South Korea, Uruguay and the United States of America. Since Portugal has no permanent infrastructure in the Polar Regions, research is based on international cooperation in science and logistics and on the management and sharing of the Portuguese Antarctic flight with partner programs since 2011. PROPOLAR's flight is operated by DAP using a BAE-146 (ci 60 PAX) flying between Punta Arenas and King George Island. The scheduling is programmed with the CPE (Spain) and seats are provided free of cost to partner Antarctic Programs, which in turn support field assess to PROPOLAR, including station time and transport to field sites. Within this framework, each year 15-20 Portugal-based scientists conduct research in Antarctica, framed in ci. 8-10 projects selected in national competitive calls and evaluated by an international panel of referees. PROPOLAR has contributed to significant developments in Polar Science in Portugal with over 150 papers published in international peer-reviewed journals since 2007.

Poster Number 608

Quantarctica

Website: www.quantarctica.npolar.no

Contact: Kenichi Matsuoka, matsuoka@npolar.no

Quantarctica” is a geospatial data package built on the free, open-source, cross-platform QGIS software with a wide range of cartographic basemap layers, scientific datasets, and satellite imagery. It operates entirely offline, so it can be used during fieldwork and cruises. Quantarctica was first released in 2013, becoming an official SCAR product in 2014. Its version 3 has released in February 2018; it includes over 150 new basemap and scientific data layers, which widens the thematic coverage from Glaciology and Geophysics to other themes such as Atmospheric Science, Biology, Oceanography, Social Sciences, and more. Its geographical coverage was extended to 40oS, including sub-Antarctic islands. A workshop will be organized at "A Dischma" from 12:30 – 14:00 on Thursday 21 June to share user's experiences.

Poster Number 651 Top

Rapid Arctic Transitions due to Infrastructure and Climate

Contact: Skip Walker, dawalker@alaska.edu

The Rapid Arctic Transitions due to Infrastructure and Climate (RATIC) initiative is an IASC initiative to address the large scale and differing nature of infrastructure and climate impacts in different parts of the Arctic. The complex, multidisciplinary and cumulative nature of the impacts to social and ecological systems require new methods to assess cumulative effects and promote sustainable methods to manage the changes. We illustrate the initiative with recent multi-scale cumulative effects research from the Prudhoe Bay region, Alaska. The results indicate that warming has exceeded a climatic threshold that had kept ice-wedges and ice-wedge polygons in a relatively stable state during the previous few decades. Melting ice wedges are creating a more heterogeneous landscape with unknown consequences to regional ecosystems, local people, and infrastructure. An unprecedented flood in 2016 caused extensive damage to the Dalton Highway. The Prudhoe Bay oilfield is one among many areas of the Arctic that are undergoing rapid infrastructure development.

The RATIC initiative is aiming to address the combined effects of infrastructure development and climate change by:

- (1) examining the drivers of Arctic infrastructure across the diversity of Arctic cultures, economic systems, political environments, and ecological systems;
- (2) monitoring and understanding the vulnerabilities, resilience and cumulative effects of Arctic infrastructure on the diverse group of Arctic social-ecological systems that are currently undergoing change;
- (3) planning, managing, and shaping future Arctic infrastructure.

A major challenge is how to address the fragmentation of presently intact natural landscapes by urban infrastructure, and large networks of roads, and pipelines so that the existing communities, cultures, and ecosystems can thrive.

Poster Number 615

SCAR 2020 Hobart Meetings

Website: www.scar.org

Contact: Eoghan Griffin, eoghan@scar.org

A poster contribution for the organisers of the SCAR 2020 Meetings in Hobart, Australia.

Poster Number 638

SCAR 60th Anniversary

Website: www.scar.org

Contact: Eoghan Griffin, eoghan@scar.org

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 2018 represented SCAR's formal 60th 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.

Poster Number 635

SCAR Capacity Building Education and Training Committee

Website: <https://www.scar.org/capacity-building/capacity-building/>

Contact: Eoghan Griffin, eoghan@scar.org

SCAR is committed to helping scientists in all of its Member countries to participate in understanding scientifically the physical, biological, chemical and geological processes at work in the Antarctic region, to use that understanding to predict change both there and elsewhere in the world, and to provide objective and independent advice to policy makers, especially the Antarctic Treaty System. To achieve that goal requires that efforts be made to raise national scientific capacities, especially in developing countries. SCAR is also committed to promoting the incorporation of Antarctic science in education at all levels.

The SCAR CBET Committee was established to address these goals and to help Members' scientists achieve the following objectives: to engage in high quality international scientific research; to benefit from SCAR's activities; to make best use of data and information; to provide objective and independent scientific advice to their own governments; to make best use of Antarctic examples to illustrate key scientific principles in schools and universities.

Poster Number 643

SCAR Fellow: Jilda Alicia Caccavo

Contact: Jilda Alicia Caccavo, ergo@jildacaccavo.com

As part the SCAR fellowship I was awarded in 2016, I took on a project investigating trophic relationships in the context of population connectivity in the critical forage species Antarctic silverfish (*Pleuragramma antarctica*). This project was an international collaboration between the University of Padua in Italy where my PhD is based, with samples from the Alfred Wegener Institute (AWI) in Bremerhaven, Germany, and the work being carried out at the Oceanographic Laboratory (LOV) in Villefranche-sur-Mer, France. We sought to provide a more comprehensive outlook on silverfish diet in the Weddell Sea by employing a lipids-based analysis illustrative of feeding over periods of weeks to months by analyzing fatty acid composition in adult *P. antarctica* and potential prey species. The question of diet variation within the Weddell Sea was framed in a hydrographic context by comparing diet in fish located along a trough inflow in the Filchner Trough, with those collected along the continental shelf near Halley Bay. While the AWI and the University of Padua have collaborated in the past, this project represents a new collaboration between the LOV and the University of Padua, emphasizing the importance of trophic analyses in understanding population ecology. Beyond this investigation into *P. antarctica* diet in the Weddell Sea, project development is in the works to continue this collaboration investigating Antarctic toothfish (*D. mawsoni*) trophic ecology in the Weddell Sea in a similar conceptual framework.

Poster Number 644 Bottom

SCAR Fellow: Ryan Reisinger

Contact: Ryan Reisinger, ryan.r.reisinger@gmail.com

The oceans are under significant anthropogenic pressure and are undergoing rapid environmental change. Marine predators such as seabirds and marine mammals are considered ocean sentinels because they integrate environmental signals through their prey. They can therefore provide information about the status of, and changes in, their environment. They are also important because of their functional role in marine ecosystems and due to their cultural value. The Southern Ocean has a rich predator fauna which has been the subject of numerous animal tracking studies. These data provide the opportunity to identify spatial areas that are used by multiple top predator species, indicating diverse and abundant prey resources and therefore signifying Areas of Ecological Significance. Here, I show SCAR-funded research in which tracking data were collated for 14 marine predator species around the Subantarctic Prince Edward Islands; habitat models were built to predict areas of high ecological significance, and to investigate the environmental factors underlying these areas. I show preliminary results from work to forecast these habitat model predictions for future climates. I also present the work of the Retrospective Analysis of Antarctic Tracking Data (RAATD) project, an initiative of the SCAR Expert Group on Birds and Marine Mammals supported by the Commission for the Conservation of Antarctic Marine Living Resources. The RAATD project has collated tracking data for ~4,060 individuals of 17 predator species and is using these data in a similar habitat modelling framework to identify Areas of Ecological Significance throughout the Southern Ocean.

Poster Number 644 Top

SCAR GeoMAP Action Group

Website: <https://www.scar.org/science/geomap/geomap/>

Contact: Simon Cox, s.cox@gns.cri.nz

The SCAR GeoMap action group has been building a detailed digital geological dataset of Antarctica. We have been capturing existing geological map data, refining its spatial reliability, improving representation of glacial sequences and geomorphology. The initiative is aimed towards continent-wide perspectives and for cross-discipline use, our international team is collaboratively classifying and describing around 72,000 distinct areas that cover 51,000 km². The dataset will describe 'known geology' of rock exposures rather than 'interpreted' sub-ice features. Glacial deposits are an important focus for their potential to contain records of ice fluctuations of relevance to climate change. Here we present background on: (1) Completion, or very near-completion, of the first version of a continent-wide dataset. All rock outcrops will have geological attributes assigned to them in GeoSciML suitable for use at 1:250,000 (or more-regional) scale. (2) The large number of hard-copy geological maps and data sources, which range in scale and quality. (3) Development of local legends, which highlight geological variation across the region. (4) Progress towards a unified classification scheme. (5) Bibliographic links referencing authors of key original work. (6) Potential for the dataset to provide fresh perspectives, for example, through combined geological legends and interrogation of continent-wide time-space plots.

Poster Number 612 Top

SCAR Humanities and Social Sciences Expert Group

Website: <http://antarctica-hasseg.com/>

Contact: Daniela Liggett, daniela.liggett@canterbury.ac.nz

This poster will give a brief overview of the purpose, structure and activities of the SCAR Humanities and Social Sciences Expert Group (HASSEG). HASSEG brings together researchers in the humanities and social sciences with an interest in the Antarctic region. The group facilitates the exchange of news, publications and research ideas, and organizes regular conferences and workshops. HASSEG is currently co-chaired by Associate Professor Elizabeth Leane, University of Tasmania (Australia), and Dr Daniela Liggett, University of Canterbury (New Zealand).

Anyone with a research interest in the Antarctic from a humanities or social science perspective is welcome to join HASSEG.

Poster Number 634 Top

SERCE (Solid Earth Response and influence on Cryosphere Evolution)

Website: <https://www.scar.org/science/serce/serce/>

Contact: Pippa Whitehouse, pippa.whitehouse@durham.ac.uk

SERCE (Solid Earth Response and influence on Cryospheric Evolution) is a scientific research programme of SCAR. The overarching objective of SERCE is to: 'Advance understanding of the interactions between the solid Earth and the cryosphere to better constrain ice mass balance, ice dynamics and sea level change in a warming world.'

This objective can be accomplished through the integrated analysis and incorporation of geological, geodetic and geophysical measurements into models of glacial isostatic adjustment (GIA) and ice sheet dynamics. The programme is designed to synthesize and integrate the extensive new geological and geophysical data sets obtained during and subsequent to the International Polar Year with modeling studies, in a timeframe to contribute to IPCC AR6.

Primary activities of SERCE include organizing events that facilitate collaborative research on the interactions between the solid Earth and the cryosphere, and supporting attendance at such activities by Early Career Researchers and scientists from countries with emerging Antarctic programs. We advocate the ongoing collection of relevant data sets, particularly geodetic and seismic data, and encourage the open and freely available provision of such data to the scientific community.

In 2017 we co-hosted a training school in Glacial Seismology and a workshop on Glacial Isostatic Adjustment and Elastic Deformation; in early 2018 we are co-hosting a workshop on Geothermal Heat Flux across Antarctica and a summer school on Polar Geodesy. This poster highlights recent activities and outputs that contribute to the research goals of SERCE.

Poster Number 620

SO-CPR

Website: <https://www.scar.org/science/cpr/>

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The Southern Ocean Continuous Plankton Recorder (SO-CPR) Survey commenced in 1991 with the purpose of mapping spatial and temporal variations in zooplankton pattern, and to make use of the sensitivity of plankton to environmental change as an early warning indicator of the health of the Southern Ocean ecosystem. The CPR can collect surface zooplankton continuously for 450 nautical miles during a single tow at normal ship speed. Therefore, it is ideal for sampling large areas quickly and mapping the distribution of the surface zooplankton community in relation to ocean environments over large ocean scales. Approximately 250,000 nautical miles have been sampled since the commencement of the SO-CPR Survey in 1991, representing some 50,000 samples for 260 zooplankton taxa coupled with environmental data. Much of this work has already been published in numerous CPR based research papers, atlases, reviews and theses (more than 50 in total).

Poster Number 616 Bottom

Southern Ocean Observing System (SOOS)

Website: www.soos.aq

Contact: Phillipa Bricher, data@soos.aq

The Southern Ocean Observing System (SOOS) was established by the Scientific Committee on Antarctic Research (SCAR) and the Scientific Committee on Oceanic Research (SCOR) in 2011, with the mission to facilitate the collection and delivery of essential observations on dynamics and change of Southern Ocean systems. Towards this mission, SOOS has developed a number of networks and products, many of which will be important to the work of the SCAR community. SOOS has established several regional networks (Regional Working Groups) to better coordinate national and international collection of observations in different sectors of the Southern Ocean. These Regional Working Groups will develop, coordinate and implement the observing system in their defined region. The regions align with the natural areas of focus of nations involved in Southern Ocean activities and are open for all those who are interested. The Southern Ocean is large, remote, and logistically difficult to work in. These challenges make it imperative that researchers working in these waters maximise the value of the ship-time available to them and of the data they collect. The Southern Ocean Observing System and its collaborators are developing discovery tools to make it easier for researchers to make the best possible use of the available resources.

DueSouth is a database of Upcoming Expeditions to the Southern Ocean. It is a space where researchers can find out where ships are going, when they will be going, and who will be on-board them. It is also a tool for researchers to share their own field plans so that others can find them. We hope that it will spark new opportunities for the deployment and retrieval of sampling equipment, for standardising research methods across nations, and for helping to avoid duplication of measurements. DueSouth is a collaboration between SOOS and the Australian Antarctic Data Centre.

SOOSmap is an interactive web-map of circumpolar datasets of ocean observations. In SOOSmap, users can search by platform type, observation type, space, time, nation, or research program to find the most relevant data. Clicking on an observing platform will allow the user to explore the data collected by that platform before they download it to their own computer. So far, SOOSmap is serving up data from Argo, CTD casts, continuous plankton recorders, marine mammals, moorings, gliders, and tide gauges, with more layers being added every month. SOOSmap is a collaboration between SOOS and the European Marine Observation Data Network.

Poster Number 649 Top

Swiss Committee on Polar and High Altitude Research

Website: <http://www.polar-research.ch>

Contact: Gabriela Schaepman-Strub, gabriela.schaepman@ieu.uzh.ch

The Swiss Committee on Polar and High Altitude Research is a committee of the Swiss Academies of Arts and Sciences within the Platform Science and Policy of the Swiss Academy of Natural Sciences (SCNAT). This poster will highlight the committee's objectives, and related national and international contributions, which are as follows:

- To provide the legal body to represent Switzerland in international committees on polar and high altitude research such as the Scientific Committee on Antarctic Research (SCAR) and the International Arctic Science Committee (IASC).
- To promote the career of young outstanding scientists in polar and high altitude research by the attribution of the Prix De Quervain. This year's awardees will be celebrated during a public event @ Polar2018 (22 June, 18.30, Room Aspen)!
- To sensitize the society to polar and high altitude research issues by the means of the symposium organized for the attribution of the Prix De Quervain.
- To be active in early recognition of research needs and issues in the thematic fields concerning the committee.
- To stimulate the interdisciplinary and transdisciplinary exchange and cooperation in polar and high altitude issues concerning research, international law and society.

Poster Number 603

Terrestrial – Multidisciplinary distributed Observatories for the Study of Arctic Climate (T-MOSAiC)

Website: www.t-mosaic.org

Contact: João Canário, joao.canario@tecnico.ulisboa.pt

T-MOSAiC has been proposed as a pan-Arctic, land-based program that would extend the activities that are currently in advanced planning for the IASC flagship program MOSAiC: 'The Multidisciplinary drifting Observatory for the Study of Arctic Climate', MOSAiC is a multinational year-round study (2019-2020) of the central Arctic Ocean to measure the coupling between atmosphere, sea ice, ocean and ecosystem processes.

The objective of the satellite program T-MOSAiC is to coordinate complementary activities that could both aid and benefit from MOSAiC (especially the modelling components) by extending the work to the lands surrounding the Arctic Ocean and to the northern communities who live on those lands.

Poster Number 621

Tinker-Muse Prize 10th Anniversary

Website: www.museprize.org

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The “Tinker-Muse Prize for Science and Policy in Antarctica” is a US\$ 100,000 unrestricted award presented to an individual in the fields of Antarctic science and/or policy who has demonstrated potential for sustained and significant contributions that will enhance the understanding and/or preservation of Antarctica. The Tinker Foundation’s goal is to establish a prestigious award that recognizes excellence in Antarctic research by honouring someone in the early to mid-stages of his or her career. The Prize is inspired by Martha T. Muse’s passion for Antarctica and is a legacy of the International Polar Year 2007-2008. The prize-winner can be from any country and work in any field of Antarctic science and/or policy. The goal is to provide recognition of the important work being done by the individual and to call attention to the significance of understanding Antarctica in a time of change.

2018 marks the 10th awarding of the Tinker-Muse Prize and the 10th winner of the Prize will receive their award at the Polar2018 meetings on June 21st.

This poster will celebrate both the achievements and ambitions of the 10 winners for the future of Antarctic research.

Poster Number 636

U.S. National Committee for SCAR and IASC

Website: <http://dels.nas.edu/prb>

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The United States has a long, rich history of supporting cutting-edge Arctic and Antarctic research. Most of this work is supported through the U.S. federal agencies, including the National Science Foundation (NSF), National Aeronautics and Space Administration (NASA), National Oceanic and Atmospheric Administration (NOAA), Department of Energy (DOE), and others. U.S. engagement in international polar science programs occurs in large part through SCAR and IASC. The Polar Research Board (PRB) of the National Academies of Sciences, Engineering, and Medicine serves as the U.S. National Committee for both SCAR and IASC; and in this role, appoints leading researchers from across the country to help expand and represent the interests of U.S. scientists in these organizations. U.S. representatives to SCAR include a lead and alternate delegate and members of the three main Scientific Groups (Geosciences, Life Sciences, Physical Sciences). U.S. representatives to IASC include a lead and second delegate and members of the 5 main IASC Working Groups (Terrestrial, Cryosphere, Marine, Atmosphere, and Social and Human Dimensions). A primary tool used by the IASC delegates to connect to the U.S. research community is the Interagency Arctic Research Policy Committee's (IARPC) online collaboration portal.

Poster Number 602

World Meteorological Organisation Executive Council Panel of Experts on Polar and High Mountain Observations, Research and Services (EC-PHORS)

Website: <https://www.wmo.int/pages/polar/>

Contact: Steve Colwell, src@bas.ac.uk

The World Meteorological Organisation (WMO) has many Regional Climate Centres (RCC) around the world that produce monthly to seasonal long range forecasts, analysis of forecast products and carries out data quality control.

The WMO has proposed the idea of an Antarctic RCC and the implementation work is being carried out by the service task team within the World Meteorological Organisation Executive Council Panel of Experts on Polar and High Mountain Observations, Research and Services (EC-PHORS) group.

The first task is to engage with and notify the stakeholders about this and to organise a scoping workshop in May 2019.

The poster will give more details about the proposed Antarctic RCC and also contain contact details for people and organisations who wish to find out more about the project.

Poster Number 656