

SWISS POLAR INSTITUTE

EPFL



Swiss Federal Institute for Forest,
Snow and Landscape Research WSL

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Paulsen

Update from Switzerland

FARO meeting

www.swisspolar.ch
@Swisspolar

30.3.2020

1) SPI overview and news

- Funding schemes for supporting international access (SPI schemes, SNSF, EU programmes)
- Science plan
- Health and Safety activities (2019 onwards)

2) SPI funded science in the Arctic

- Map of main regions of work
- Number of funding distributed (2019-2020)

3) Large campaign and infrastructure plans (next 3-5 years)

- GLACE 2019
- Arctic Century 2020
- Swiss flagship programme 2021-2024

4) Experience with international access/availability for access

5) Switzerland's 'number 1 operational challenge'

A) Funding opportunities for access and field work

- **Polar Access Fund:** Field trip funding for PhD students and young post-docs
- **SPI Exploratory Grant:** Support for logistics costs/new collaboration for polar science projects
- **SPI Technogrants:** Funding for development and testing of technologies for/in extreme environments
- Organisation of **expeditions** or funding for access to int'l expeditions
+ H&S courses, medical checks, field pharmacies, outreach, ...
- Main funding body for polar/Arctic science is **SNSF**
- **EU funding** is increasingly important but future status (Horizon Europe) unsure



SPI Polar Access Fund grantees 2018

B) Swiss Polar Science plan

Based on the current strengths of Switzerland in polar science, the Swiss Polar Institute has proposed four priorities for the period 2020-2025:

- Cryosphere through time – Processes, and responses
- Carbon, nitrogen and water cycle nexus – Present, past and future
- Biodiversity and ecosystem functions
- Technology in extreme environments

SPI is currently devising programmes, funding and partnerships to implement these priorities from 2021



C) Health and Safety activities

- **Organisation of courses for health and safety** in polar regions and remote environments
- Support and incentives for participation in **safety courses** given by providers such as Air Zermatt (HUET)
- Lending out **field pharmacies** in partnership with telemedicine provider GRIMM
- Development of **health check forms and other field services (telemedicine)** in partnership with providers such as GRIMM (Groupe Intervention Médecine de Montagne)



SPI funded science in the Arctic

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- A “**tripolar community**” – Arctic, Antarctic and remote high altitude regions
- From anthropology and atmospheric sciences to medicine, glaciology and oceanography ...
- SPI funding for Arctic work in **11 CH research institutions**
- Currently 3 Swiss teams on **MOSAiC** expedition –with SPI co-funding



Funding patterns at SPI (2019-2020)

- During 2019 and the beginning of 2020, SPI has granted funding towards 26 Swiss research projects (excluding expeditions)
- Out of these projects, **18 have a geographic focus in the Arctic**, the others either focus on Antarctica or High Altitude regions.
- Regions of special interest: Greenland / Svalbard / Eastern Russian Arctic / Beaufort Sea



Large campaign and infrastructure plans

A) GLACE Expedition 2019

- Clockwise circumnavigation of Greenland
- 2 stages around Greenland (leg 1 and 2)
- 7'250 nautical miles, 62 days
- 15 scientific projects selected by international panel after open call in summer 2018
- 69 scientists from 15 countries
- originally planned to take place in Sept / Oct 2019



Large campaign and infrastructure plans

A) GLACE Expedition 2019

1. Arctic Sea Ice on GLACE (**USA**)
2. Greenland Lake Coring Expedition (**Canada**)
3. Paleoenvironmental Arctic Change (**Russia**)
4. Fish and Zooplankton Around Greenland (**Greenland**)
5. Gaining a Holistic View of Terrestrial Biodiversity in Greenland (**Switzerland**)
6. Impact of Glacial Meltwater Discharge of Freshwater-Marine Coupling Across the Greenland Shelves (**Canada**)
7. Observing the State and Change of Greenland's Sea Ice Cover (**Germany**)
8. Greenland Ice and Sediment Transect (**Switzerland**)
9. Identifying Microscopic Ocean Particles that Form Ice Crystals in Arctic Clouds (**Switzerland**)
10. Impact of Greenland Ice Melt on Ocean Productivity (**Switzerland**)
11. Understanding the Multiple Facets of Arctic Airborne Particles and Their Impacts (**Switzerland**)
12. Seabed Properties around Greenland and Flora and Fauna Sampling in Remote Areas (**Greenland**)
13. Measuring Levels and Impacts of Plastic Pollution around Greenland (**South Africa**)
14. Past Arctic Sea Ice Extent from Ice Cores (**United Kingdom**)
15. Water and Trace Elements in Air, Snow and Ice (**Switzerland**)

A) GLACE Expedition 2019

- Postponed in June 2019 because Danish government did not grant maritime work permit
- Looking for new research vessel to perform expedition in 2022

Large campaign and infrastructure plans

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B) ARCTIC CENTURY expedition summer 2020

International expedition onboard research icebreaker Akademik Tryoshnikov



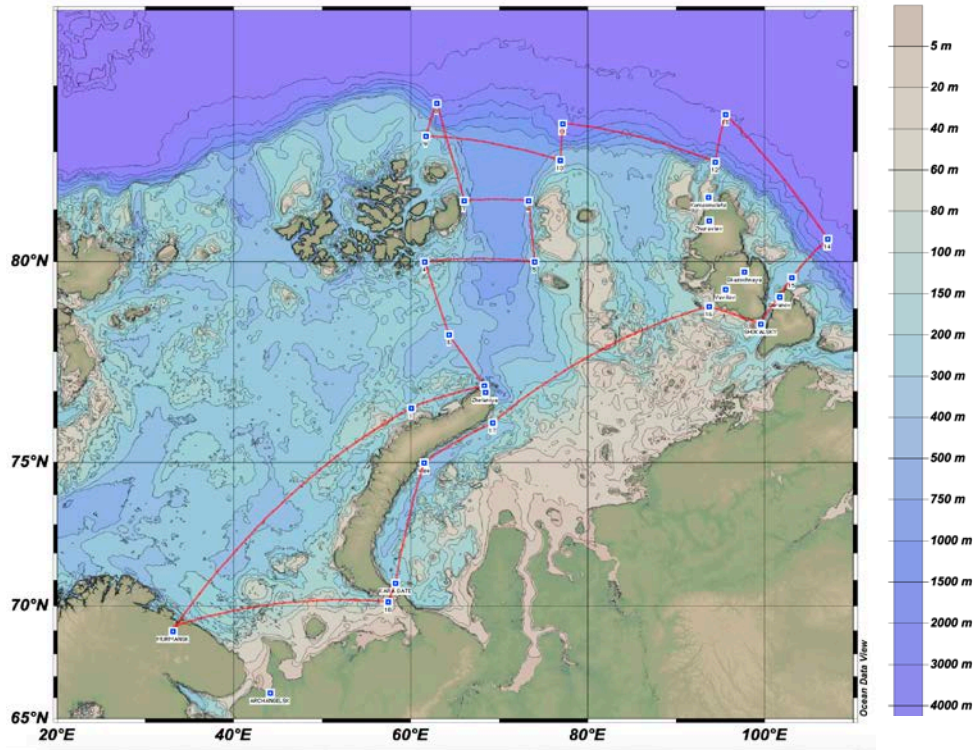
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B) ARCTIC CENTURY expedition summer 2020

- An international science expedition to mark the 100th anniversary of the Arctic and Antarctic Research Institute, Saint Petersburg, Russia
- Collaborative initiative involving AARI, GEOMAR/AWI and the SPI
- Science program includes marine-, terrestrial-, atmospheric- and cryosphere research (Novaya Zemlya, Severnaya Zemlya, Kara Sea, St. Anna Trough, Laptev Sea, Shokalsky Strait)
- Co-operation with international initiatives and projects
 - Synoptic Arctic Survey (SAS)
 - T-MOSAiC
 - The Changing Arctic Transpolar System (CATS)
- 30 days expedition leaving from- and returning to Murmansk (15.8. - 15.09.2020). (Un)loading in Kiel, Germany.

Large campaign and infrastructure plans

B) ARCTIC CENTURY expedition summer 2020



C) Swiss Flagship programmes from 2021

- Following the definition of scientific priorities for the Swiss community
- Effort to gather funding to launch large 3-5 years programmes/coordinated campaigns from 2021
- Process to identify programmes through bottom-up process and call to start in 2020
- Aim is to implement synergetic programmes with interdisciplinary dimension and international partnerships/collaborations (access, data, ...)
- More news soon...

Feedback from Switzerland

- Access is organised directly by research groups – either through platforms or through bilateral contacts
- Teams seem to repeat access to same stations (also because of simplicity)
- Link of certain access initiatives / portals with EU funding sometimes causes confusion (eligibility)
- From the SPI point of view, we see a lack of information on the wealth of access opportunities and funding available
- On our new website and in future events and news, we want to increase the visibility of access initiatives and portals
- We would be glad to transmit information on opportunities to the community through our usual channels (close to 1400 addresses in CH)

Switzerland's number 1 operational challenge

... is...

insecure access to the field due to permit procedures and authorities

- (Often) unpredictable criteria for granting access
- Changing circumstances even in well-known regions due to geopolitical changes
- Details requested in permit forms exclude that permits can be requested (and granted) early in expedition planning calendar
- Embassies are helpful but have little impact or grasp of such technical processes
- Particularly acute for non-Arctic countries

Same applies to insecurity regarding **samples and data retrieval from the field**

Switzerland is a vertical polar nation with a strong scientific contribution to a global debate that concerns us all



Thank you for your attention!
(and stay safe)