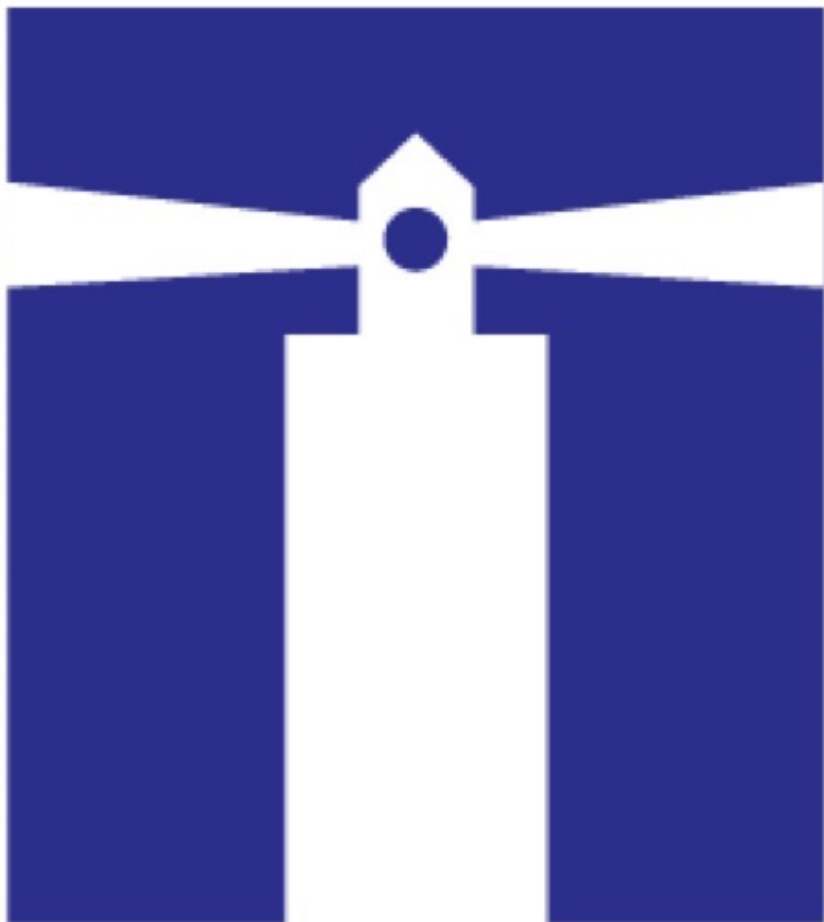


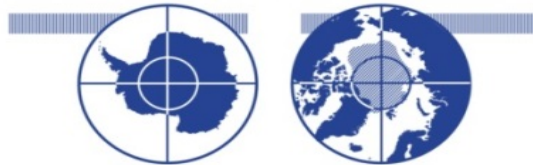
FORUM OF ARCTIC RESEARCH OPERATORS



faro-arctic.org, faro-arctic@bios.au.dk

**F A R O**

COMMITTEE ON POLAR RESEARCH  
POLISH ACADEMY OF SCIENCES



## *Updates from Poland*

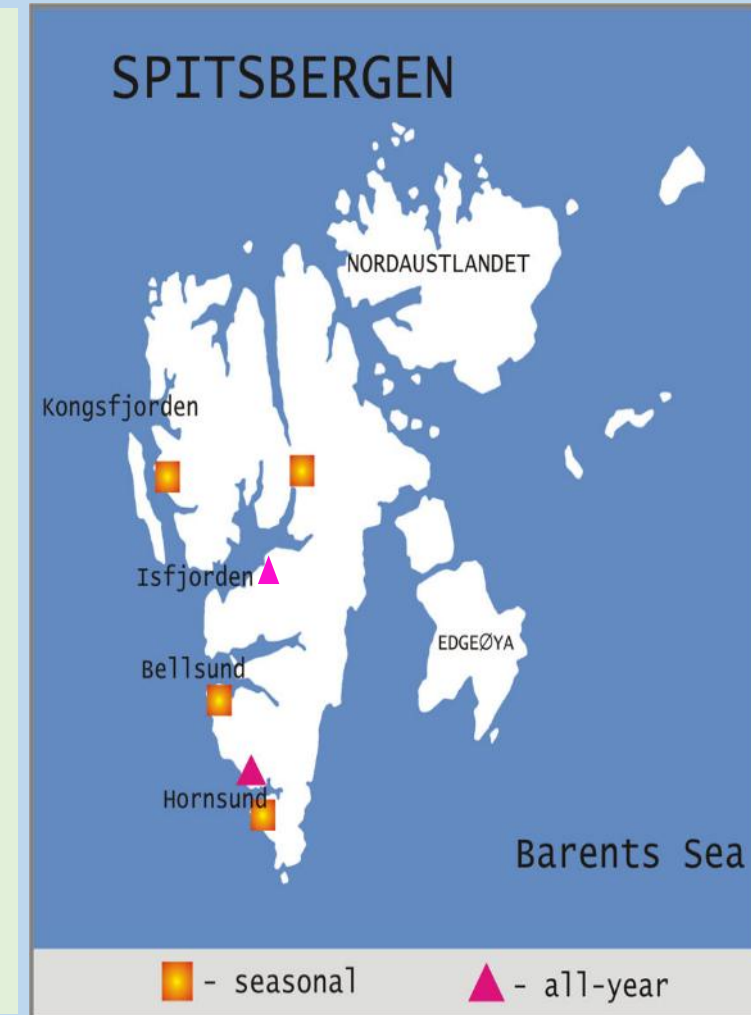
**ASSW 2025**

**FARO Annual Meeting, Boulder,  
20 March 2025**

Presented by Piotr Głowacki & Dariusz Ignatiuk

# Current Polish infrastructure in the Arctic

- **Polish Polar Station in Hornsund at Svalbard**  
*(operating all year round since 1978)*
- **Research vessel OCEANIA**  
*(operating around Svalbard seas June-August since 1987)*
- **Scientific-Training vessel HORYZONT II**  
*(operating in Svalbard seas June-September since 2000)*
- **Adam Mickiewicz University Polar Station in Petuniabukta**  
*(seasonal station June-September since 2015)*
- **Nicolaus Kopernicus University Polar Station in Kaffioyra**  
*(seasonal station May-September since 1975)*
- **University of Wroclaw Polar Station BARANOWKA**  
*(seasonal station May-October since 1971)*
- **BERA - Logistics and Research Centre Svalbard**  
*(operating all year round with SIOS support since 2023)*



# Polish Polar Station Hornsund in 2024

- Winter crew – 8
- Technical staff – 6 persons (June - September)
- 26 research groups - spent 1261 person-days
- Polish scientists – 64 persons
- Foreign scientists – 29 persons

(Belgium, Czech Republik, Finland, France, India, Italy, Norway, Switzerland, UK, USA)



# Seasonal station at Kaffiøyra (Oscar II Land)



NICOLAUS COPERNICUS  
UNIVERSITY  
IN TORUŃ

Faculty of Earth Sciences  
and Spatial Management

15 June – 15 September 2024



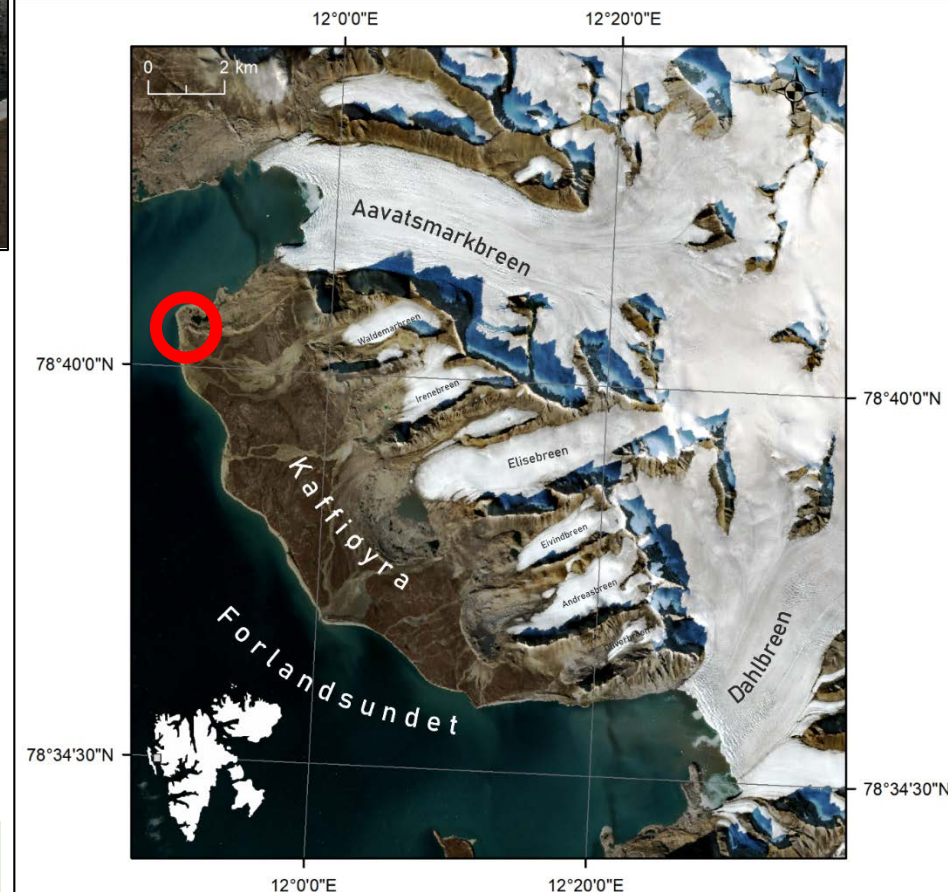
**Leader: Prof. Ireneusz Sobota**

## Main Research Disciplines

- Earth Sciences
- Glaciological Monitoring
- Hydrological Monitoring
- Meteorological Monitoring
- Permafrost Monitoring



**6 scientists from Poland, 4 from Norway, 13 from Taiwan**





# Seasonal station **BARANOWKA** (Wedel Jarlsberg Land)

owner: University of Wroclaw

**8 - 15 July 2024**

**5 scientists from Poland**

**2 - 18 August 2024**

**5 scientists from Poland**

**Used by University of Silesia**



**Leader: Prof. Piotr Owczarek**

*Mapping Arctic shrubs  
ecosystems under the umbrella  
of Spatio-temporal patterns in  
Arctic tundra greening and  
browning - identification of key  
environmental factors*

**Leader: Dr. Elżbieta Łepkowska**

*Investigate short-term changes in  
polar environment parameters, the  
water and sediment cycle  
(Werenskioldbreen)*





# MONITORING OF THE BREELVA RIVER DRAINING THE WERENSKIOLD GLACIER

Pressure and temperature sensors for water and air - HOBO  
Distance sensor SR50  
Surface water velocity radar sensor OTT SVR 100  
Flow measurements in the river using a Valeport 801 hydrological flowmeter  
Water level monitoring using time-lapse camera



*Monitoring of river turbidity - sensor and manual measurements*  
*Monitoring of specific electrical conductivity in water*

RI map - Observation Facility Catalogue  
AWS Breelva: <https://sios-svalbard.org/node/153242>  
Timelapse BREELVA: <https://sios-svalbard.org/node/153244>



# Old Calypsobyen Cabin - Researchfjorden, Bellsund, (used by Marie Curie-Sklodowska University in Lublin)

**XXXII Polar Expedition to Calypsobyen**

**11 July – 8 August 2024  
10 scientists from Poland**

*r*  
**Climatology, glaciology and  
permafrost, ornitology**

**Leader: Dr hab. Paweł Mergo**



**Seasonal station in Petuniabukta**  
**owner: Adam Mickiewicz University in Poznan**

**Billefjorden: 21 scientists from Poland + 10 from UNIS**  
**1 from Czech Republik, 3 from Estonia**

**1 July – 5 September 2024**

**Interdisciplinary scientific research focusing on monitoring of  
natural environment, biology, and chemistry**

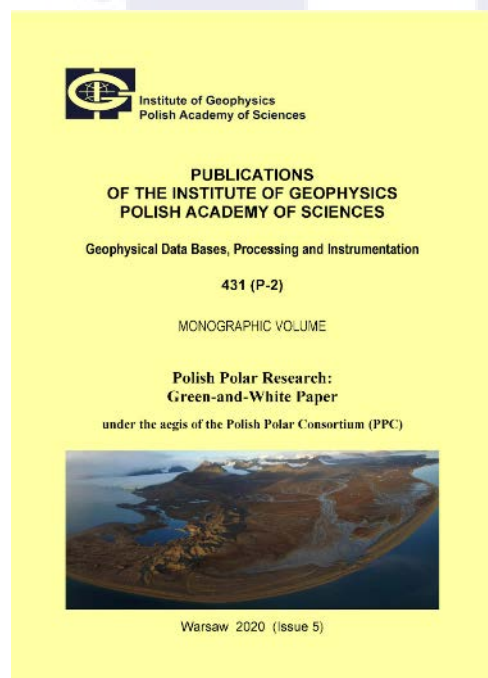
**Leader: Dr. Krzysztof Rymer**





## MOTIVATION:

Infrastructure has been developed as a result of years of efforts by the Polish polar community to harmonise logistical and scientific research activities based on the Longyearbyen (Svalbard).





**The BERA centre was established under the auspices of the Centre for Polar Studies.**

Seven Polish Partners in the BERA Centre Agreement (with delegates):

- 1 – The University of Silesia in Katowice (Dariusz Ignatiuk)
- 2 – The Institute of Oceanology Polish Academy of Sciences, Sopot (Wojciech Moskal)
- 3 - The Institute of Geophysics Polish Academy of Sciences, Warszawa (Mateusz Moskalik)
- 4 - The Nicolas Copernicus University in Toruń (Ireneusz Sobota)
- 5 - The Maria Curie-Skłodowska University in Lublin (Sławomir Terpiłowski)
- 6 - The University of Wrocław (Mateusz Strzelecki)
- 7 - The Adam Mickiewicz University in Poznań (Krzysztof Rymer)

Head of BERA:  
Dariusz Ignatiuk



Manager of BERA:  
Katarzyna Stachniak



Wojciech Moskal



Mateusz Moskalik



Ireneusz Sobota



Sławomir Terpiłowski



Mateusz Strzelecki



Krzysztof Rymer





Logo visualization

Location: Hotellneset 22/537, 9171 Longyearbyen,  
Svalbard (coal coast; offshore zone)

The BERA Centre will improve logistics and research activities, save money, develop cooperation with international partners and open up new research horizons. In order to reduce carbon and microplastic emissions, efforts will be made to ensure that the implemented solutions are as environmentally friendly as possible (solar panels, electric vehicles, limiting the transport of equipment to the mainland). An important element of this infrastructure is cooperation with doctoral schools as well as the education and development of young academic staff.





## Present infrastructure

### Main building



### Infrastructure characteristics:

- (1) BERA building:
  - Workshop, dryroom, garage (approx. 50 m<sup>2</sup>)
  - First floor: conference room, meeting place, work space (Starlink)
- (2) two containers close to BERA
- (3) storage in the centre of Longyearbyen (approx. 130 m<sup>2</sup>)

### Additional storage space





unity of activities  
polar research operation centre  
storage and reloading facility for polish expeditions  
national and international networking  
branch meeting place administrative space  
education and lecture space  
field laboratory  
cost-efficiency  
reducing environmental impact  
multidisciplinary cooperation

## BAERA's operational goals

The planned and ongoing activities within the BERA Centre can be divided into three main tasks:

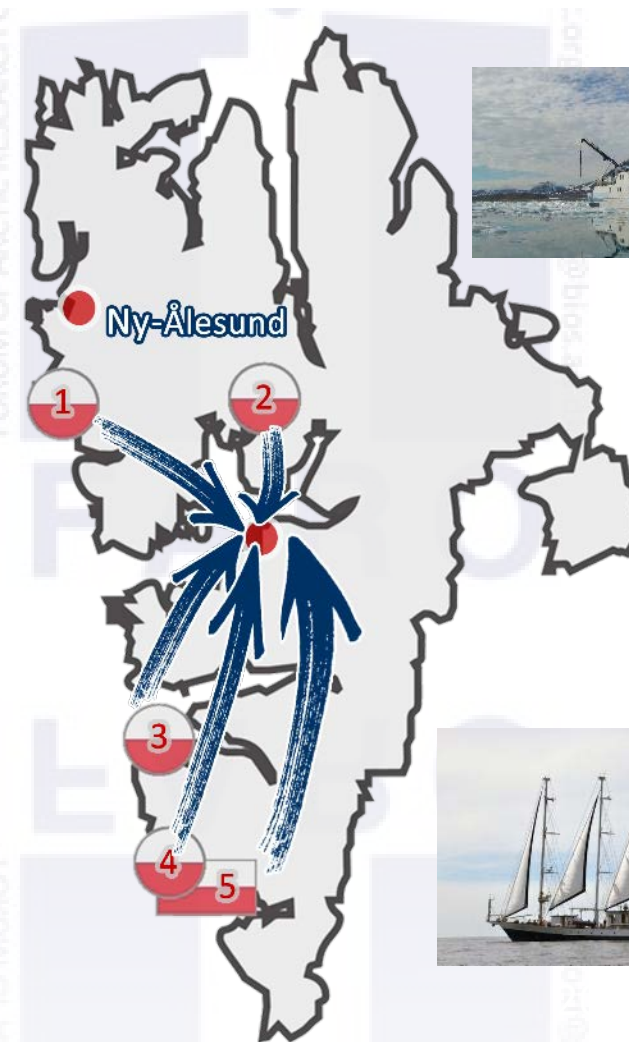
1. Supporting the logistics of material transport from Poland to Spitsbergen and back, cargo storage, and providing workshop facilities.
2. Supporting education and networking by providing avenues for organising scientific workshops and professional meetings.
3. Provide assistance with ongoing environmental monitoring, field research activities, and offering access to research infrastructure.





## Plans of development and cooperation:

- Part of the SIOS infrastructure from 2025
- Close cooperation with UNIS and NPI
- Cooperation with international partners
- Services for the research community
- Monitoring
- Workshops and trainings





# s/y OCEANIA AREX 2024

**Svalbard 15 June - 15 September**

**Crew 14 persons + 5 scientific groups**

**(40 scientists from Poland, USA, Finland, Italy, Norway and Taiwan)**

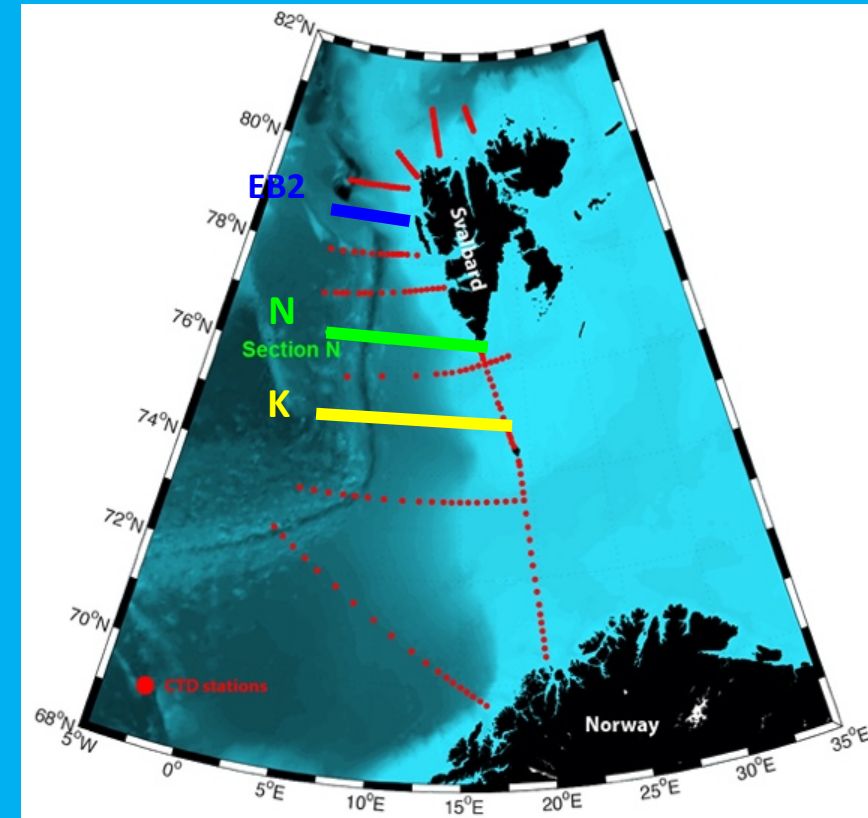


**Cruise coordinator:**  
**Dr. Agnieszka Beszczynska-Möller**

Several international, Norwegian and Polish research projects covering all disciplines of basic marine science.

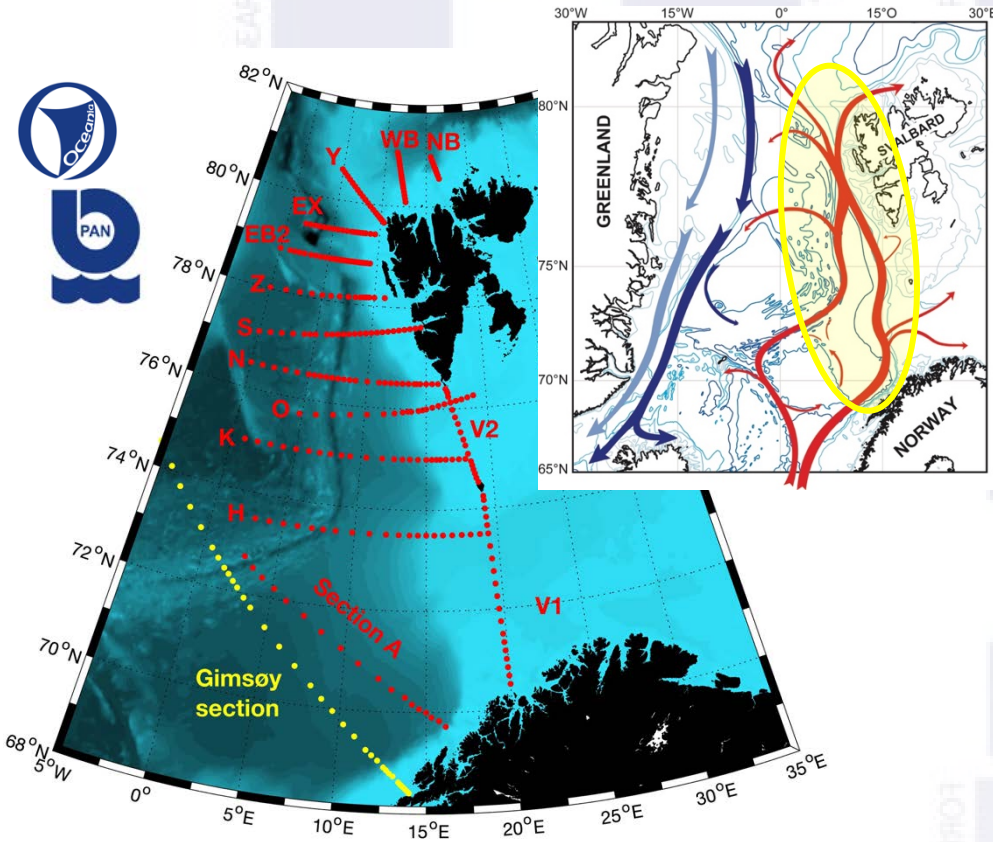
**Long time series of physical variables for ocean climate change.**

Additionally land based teams at Hornsund, Isfjorden and Kongsfjorden cooperating with OCEANIA.





# Long-term large scale Arctic monitoring program AREX 1987-2024 (ongoing)



- Annually repeated summer campaigns (June-September) **AREX Arctic Experiments** of the IOPAN research vessel RV Oceania (shiptime about 90 days)
- 38 AREX expeditions in 1987-2024, covering the main regions of the Atlantic inflow to the Arctic Ocean (eastern Norwegian and Greenland seas, Barents Sea Opening, Fram Strait, SW Nansen Basin, west Spitsbergen fjords (Hornsund, Kongsfjorden, Isfjorden, less regularly other fjords))
- Oceanographic measurements repeated on the regular station grid covering 10-15 repeated sections (since 2000), some sections since 1996 (CTD, VM-ADCP, LADCP)
- Optical, chemical, and biological measurements and water sampling on selected stations, continuous underway chemical and atmospheric measurements
- Complementary high resolution CTD sections with towed scanning CTD probe (scanfish) in the upper layer of ~ 300 m
- Extensive long-term measurement and sampling program in Svalbard fjords (Hornsund and Kongsfjord), mainly physical and biological observations, recently also more biogeochemical measurements
- 2-3 profiling Argo floats deployed each year since 2009 and occasionally glider deployments for collaborating partners

\* Since 2017 the Norwegian Gimsøy section (data courtesy Kjell-Arne Mørk, IMR) replaced the IOPAN section A





# **Scientific - training vessel *Horyzont II* on Svalbard in 2024**



**First trip (4 – 24 June)  
at Svalbard 12 -16 June**

**15 crew  
20 students  
27 members from expeditions**

**Second trip (20 August – 20 September)  
at Svalbard 28 August - 12 September**

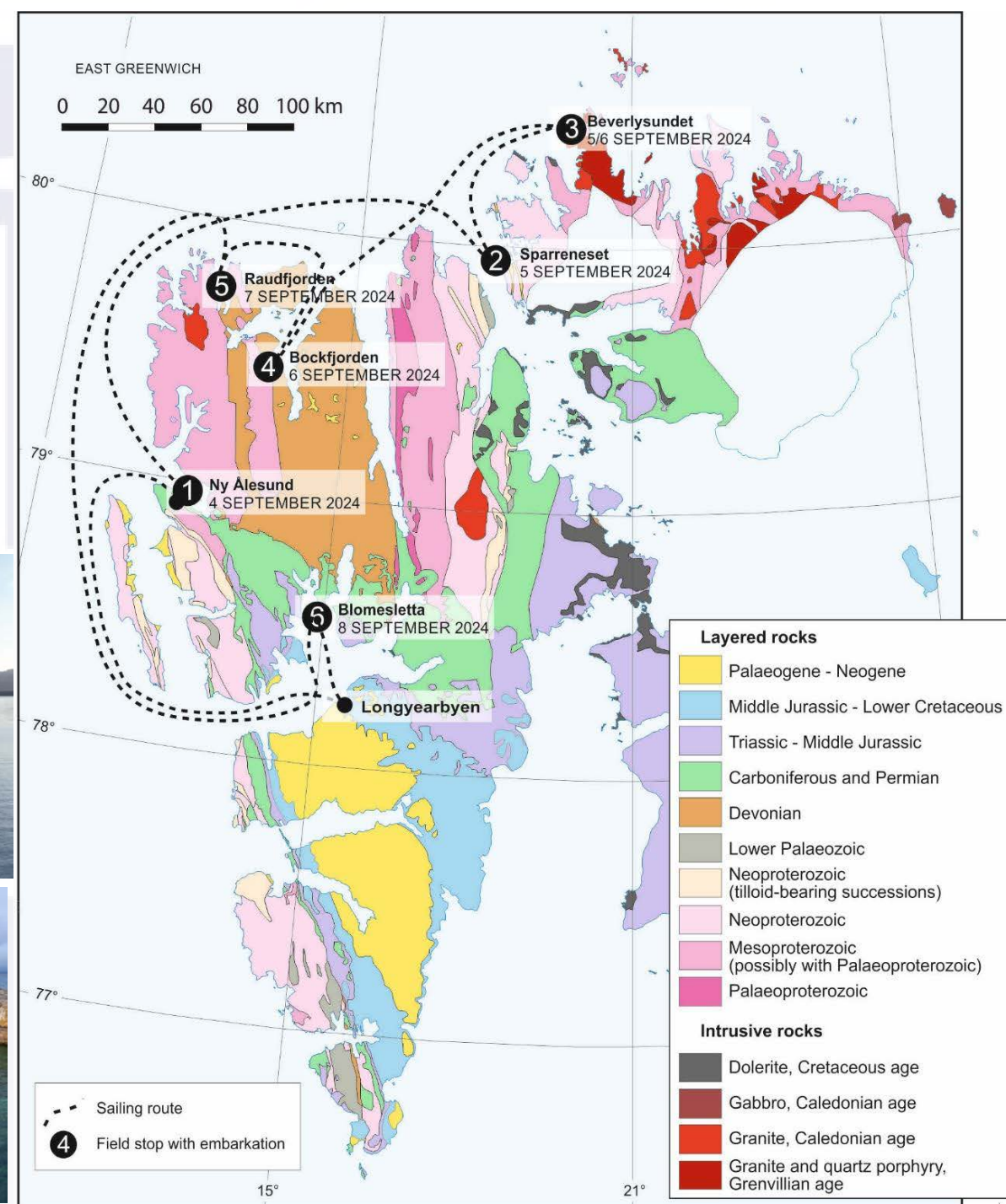
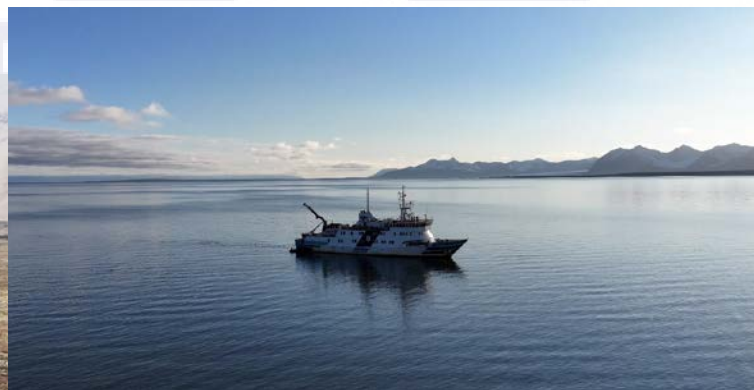
**15 crew  
17 students  
18 members from expedition**



# Geological Workshop at Svalbard vessel HORYZONT II 3–9 September 2024

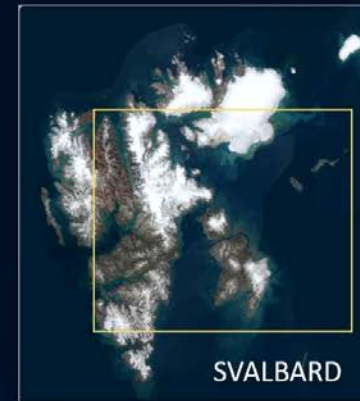
22 participants from Poland, Norway, Denmark,  
Germany, Sweden, UK and Australia

## SVALGEOBASE II: Tectono-thermal Evolution of Svalbard – from Metamorphic and Magmatic Processes to Geothermal Energy





# SCIENTIFIC EXPEDITION IN THE EDGEØYA AND BARENTSØYA REGION (AND AROUND SPITSBERGEN)



**S/Y Ocean A**

**18 August – 2 September 2024**

**10 participants from Poland,  
Norway, Finland and Australia**

**Leader: Prof. Krzysztof Michalski**



**The expedition was funded by the EEA and Norwegian  
Funds 2014-2021; project: HarSval: Bilateral Initiative  
aiming at Harmonisation of the Svalbard Cooperation**



# SCIENTIFIC RESEARCH CRUISE EASTERN SVALBARD - Joint pilot studies concerning impact of Arctic climate change on marine and coastal environment

**S/Y Ocean B**

**11 – 24 August 2024**

5

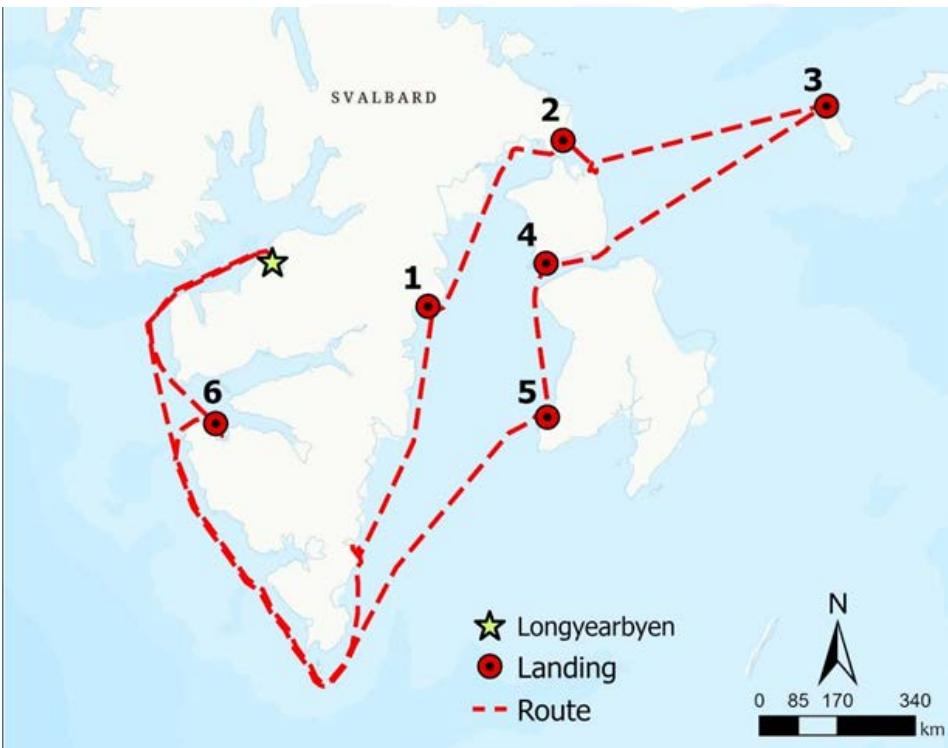
**8 participants from Poland and Norway**

**Leader: Prof. Mateusz Strzelecki**

The overarching aim of the cruise aimed to investigate the impact of coastal hazards on the stability of coastal systems as well as coastal pollution along new coastal zones emerging from melting ice along the eastern coast of Svalbard

*Cruise was a contribution to "Project: HarSval Bilateral initiative aiming at Harmonisation of the Svalbard cooperation. The activities were funded from the means of the EEA and Norway Grants 2014-2021."*

- Key achievements:
- Plastic pollution and water chemistry of coastal ponds along shores of Eastern Svalbard
- Postglacial relative sea-level change on Eastern Svalbard
- Coastal hazards impact on Cultural heritage - Kapp Pettersen case study





# University of Gdansk

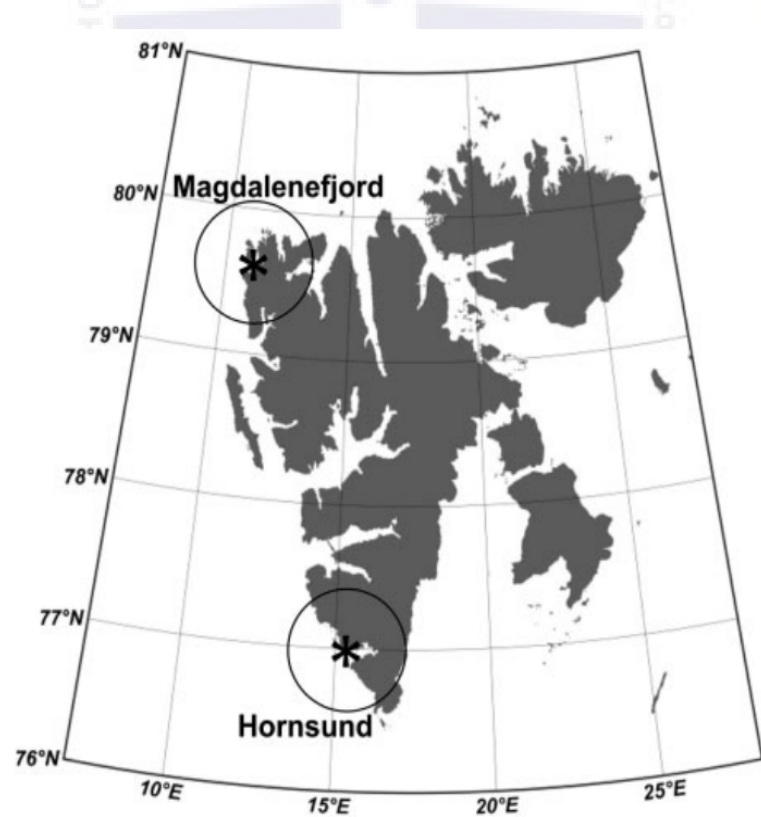
## LAPSE - Little Auk foraging ecology in the context of Size and Energy of their Preys

### The field group in Magdalenefjorden

(3 pers from Poland, 1 from Ukraine, 1 from Germany)

Leader: Prof. Dariusz Jakubas

Field activity:  
mid June - mid August 2024



### The field group in Hornsund

(1 pers from Belgium, 1 from France, 2 from USA,  
1 from Poland),

Leader: Prof. Katarzyna Wojczulanis-Jakubas



THANK YOU FOR YOUR ATTENTION

