Press Release

FOREL

polar research platform

FHA FOREL HERITAGE ASSOCIATION

FOREL RESEARCH PLATFORM

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Forel Heritage Association - Explore, understand, and share knowledge to better protect.

The members of the Forel Heritage Association (FHA) share a common passion for the polar regions: these immense icy territories, both strikingly calm and extremely dynamic, of raw beauty that leaves a lifelong impression, and at the same time true sentinels of the balance of our planet.

The story of the FHA began in 2019 with a preparatory expedition to Greenland aboard ATKA, a 15-meter sailboat with a double aluminum hull. This expedition demonstrated the potential of a sailing vessel for coastal research in polar regions, while also revealing the operational limitations of such a small vessel.

It therefore became essential to find a ship that could meet the requirements of modern scientific research while retaining a strong identity and spirit. The expedition sailing vessel Paratii-2 quickly emerged as the obvious choice. Designed at the initiative of the famous Brazilian navigator and explorer Amyr Klink and drawn by naval architects Olivier Petit and Luc Bouvet—also responsible for the schooner Tara and the Tara Polar Station—this exceptional vessel already had an extraordinary history, including circumnavigations of the Southern Ocean, wintering missions, and Arctic expeditions.

At 29 meters long, with an aluminum hull, two balestron rigs, and a large aft hold originally designed for versatility, the vessel offered unique potential to become a true onboard scientific workspace integrating laboratories and technical areas. A major refit carried out in 2023–2024 turned this vision into reality. The sailboat was renamed Forel in memory of François-Alphonse Forel, the father of limnology, born in 1841 in Morges, Switzerland.

At the same time, recent advances in the miniaturization of scientific instrumentation—developed with the support of the two Swiss Federal Institutes of Technology—have made it possible to install high-performance measurement devices in a limited space while ensuring real-time data transmission.

The scientific expeditions conducted in Greenland in 2024 and 2025 by renowned Swiss and Canadian scientists confirmed the relevance of the project by enabling the deployment of interdisciplinary research programs covering oceanography, the cryosphere, air–sea exchanges, the study of anthropogenic pollutants, biodiversity analysis, and social science programs focusing on the interactions between polar environments and local communities.

The vessel also serves as a bridge between cultures: as a cutting-edge scientific platform, it builds connections between international researchers and local populations, encouraging dialogue, knowledge sharing, and the co-construction of knowledge.

Above all, this project is the result of teamwork bringing together sailors, engineers, scientists, institutional partners, and science communication specialists around a shared ambition: to design an agile, robust, and scientifically advanced tool. Conceived as both a research and knowledge-sharing platform, it addresses a clearly identified need within the international scientific community, which now highlights Forel as a missing link for the study of polar coastal areas.

Understanding what is happening at the poles has become urgent. These regions are warming faster than the rest of the planet, with major global consequences. Better understanding these phenomena means better raising awareness, better protecting our environment, and better supporting the adaptation of human societies to climate change.

The Forel Heritage Association aims to place science at the service of understanding polar regions, sharing knowledge, and supporting societal action in a world undergoing rapid climate transformation.

Patrick Aebischer, Chairman of the FHA
Stéphane Aebischer, Director of the FHA

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In my view, Forel is a true floating embodiment of Switzerland's spirit of innovation: addressing today's major challenges in polar environments by bringing highly advanced technologies while minimizing the footprint of research on these particularly fragile ecosystems.

Jérôme Chappellaz
Co-Chair of the FOREL Scientific Advisory Board

FOREL is an exciting high-technology platform, ideally suited for innovative research in the rapidly changing coastal environments of polar and subpolar regions.

Warwick Vincent
Co-Chair of the FOREL Scientific Advisory Board

Our future is being shaped at the poles.

Polar regions, long perceived as remote and pristine, are now at the heart of the Earth's major climate balances. They are warming faster than any other region on the planet and are experiencing extreme temperature variations. These transformations are not confined to high latitudes. Through the major convection currents linking the poles to tropical regions, they directly influence the global climate, the oceans and, ultimately, our societies.

Understanding the poles means anticipating the future of the planet, grasping its global challenges and imagining solutions to address them. It is in this spirit that the Forel Heritage Association was founded, with its headquarters located on the EPFL campus in Lausanne, Switzerland.

Why Arctic coastal research is essential.

Arctic coastal areas are among the environments most vulnerable to climate change. The accelerated retreat of glaciers, the degradation of permafrost, and increasing coastal erosion are profoundly transforming these landscapes and the ecosystems associated with them. These changes also have direct consequences for local communities, whose ways of life are closely tied to these territories.

Despite their strategic importance, these regions remain difficult to access. Large oceanographic vessels are poorly suited to polar coastal navigation, while land access is often impossible. There is therefore a critical need for lightweight, versatile platforms capable of operating close to the coastline.

It is precisely to address this challenge that the FOREL platform was designed: a Swiss-flagged sailing vessel and a unique scientific tool created to explore the land–air–ocean in polar and subpolar environments, while fostering respectful and sustainable interaction with local communities.

Top left: © Valentin Proult — Top right: © Julien Girardot

FHA
FOREL HERITAGE ASSOCIATION

The Forel Heritage Association

Founded in 2024, the Forel Heritage Association is a non-profit organization dedicated to scientific research, training, and public awareness in the polar regions. It manages and operates the FOREL research vessel.

Its mission is structured around four complementary pillars:

- Operate the sailing vessel FOREL, a polar and sub-polar research platform available to the international scientific community
- Conduct coastal research focusing on the land–air–ocean continuum
- Develop new scientific instruments in collaboration with world-renowned universities
- Train young sailors and scientists to address the challenges of polar environments
- Raise awareness of environmental issues through educational programs and partnerships with Indigenous communities

Through its activities, the Association also pays tribute to François-Alphonse Forel (1841–1912), a Swiss scientist and founding father of limnology (the scientific study of lakes), whose pioneering and interdisciplinary spirit continues to inspire environmental research today.

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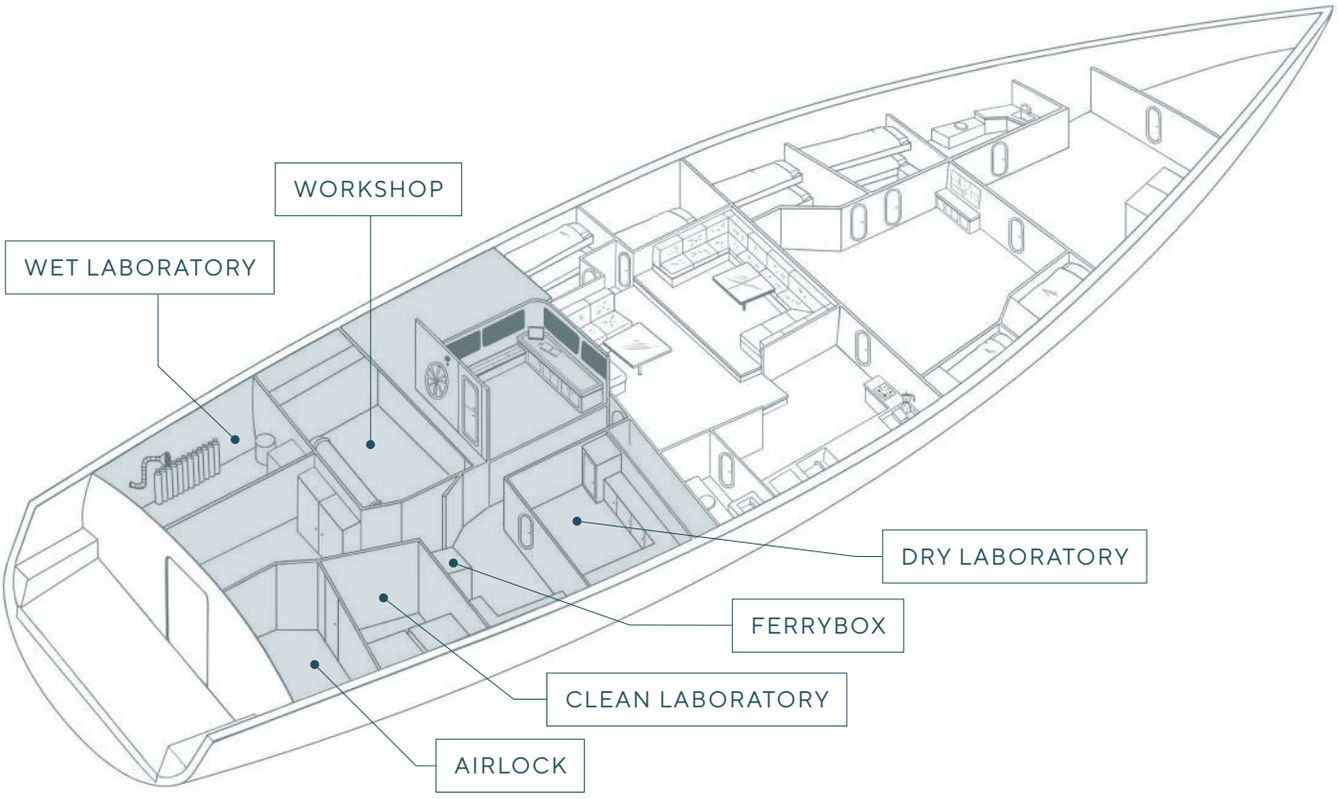


Forel, a scientific platform serving the polar regions

Its size and maneuverability make it an ideal tool for coastal research, where large research vessels cannot operate. Its lifting keels and appendages allow the vessel to beach at low tide.

Vessel characteristics

OWNER	FOREL HERITAGE ASSOCIATION
FLAG	SWITZERLAND
LENGTH	28,6 M
BEAM	8,5 M
DRAFT	2,0 À 5,0 M*
MASTS	2 AERORIG
SAIL AREA	295 M²
PROPULSION	2 × 400 HP
ENERGY	2 × 27 KW
FUEL TANKS	30 000 LITRES
BERTHS	12
SHELL	ALUMINIUM

*retractable appendages

6 crew members

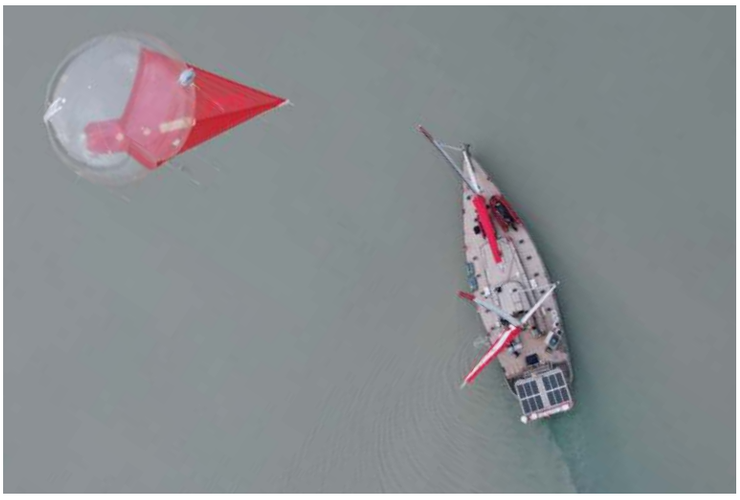
Two rotating teams of professional sailors

- **Captain**
- **First mate**
- **Engineer**
- **Oceanography technician**
- **Deckhand**
- **Cook**

Scientific equipment

- WINCH (1,500 M CABLE)
- CTD-ROSETTE
- FERRYBOX
- METEOROLOGICAL STATION
- ATMOSPHERIC RACK AND AIR INLET
- LABORATORIES (WET, DRY AND CLEAN)
- LABORATORY EQUIPMENT

First expeditions



2024: A foundational year

The year 2024 marked the operational launch of FOREL. This first season aimed primarily to test and validate the vessel's potential as a polar scientific platform.

Two research programs were successfully conducted in southwest Greenland:

→ GreenFjord, a Swiss program dedicated to the multidisciplinary study of Arctic fjords https://greenfjord-project.ch

→ Benthos, carried out by students from the laboratory of Professor Philippe Archambault (Université Laval, Canada), focusing on benthic ecosystems.

These missions confirmed the scientific and operational capabilities of FOREL.

2025: A year of development

In 2025, FOREL continued its development momentum by doubling both the number of expedition days at sea and the number of research programs conducted on board.

The first phase of the expedition took place in the St. Lawrence Estuary and Gulf, as well as in the Saguenay Fjord in Canada. Four research programs were successfully carried out, directly contributing to the conservation of subarctic ecosystems and the management of marine protected areas.

The mission then continued in Greenland with an international multidisciplinary program, including a campaign along the northwest coast of Greenland, as well as the continuation of the GreenFjord/EPFL project in the southwest.

From left to right:
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Innovative technologies have been deployed, such as a tethered balloon (Helikite) for atmospheric sampling — a first from a sailing vessel — as well as autonomous aerial and aquatic systems such as the MEDUSA robot, which enables autonomous sampling in remote or hazardous areas.

FOREL has hosted scientists from leading institutions in Canada, Switzerland, France, and South Africa, confirming its role as an international reference platform for coastal polar research.

2026: A year of consolidation

The FOREL research sailing vessel will conduct three major research campaigns along the west and east coasts of Greenland from May 27 to October 1, 2026.

The main objective is to better understand the impact of climate change on Greenlandic fjords, their ecosystems, microbiomes, and biogeochemical cycles.

Seven scientific programs involving international research teams will be conducted, covering the following topics: carbon fluxes, microbiology, zooplankton, nanoparticles, robotics, atmospheric research, and glacial and sedimentary dynamics.

Beyond the scientific objectives, these campaigns also aim to strengthen collaborations with Greenlandic communities and institutions.

LEG 1A

North Atlantic Crossing
Lorient – Kangerlussuaq (May 27 – June 12)

FOREL will depart from the pontoons of the Cité de la Voile Éric Tabarly on the morning of May 27 to cross the North Atlantic and reach Kangerlussuaq, where the first scientific teams will come aboard.

LEG 1B

West Coast of Greenland
Kangerlussuaq – Narsaq (June 16 – July 17)

For this leg, FOREL is partnering with the CASCADES program, a joint initiative of INQ, SPI, and IPEV, which will take place along the west coast of Greenland and the east coast of the Canadian Arctic. https://swisspolar.ch

From a scientific perspective, this leg will focus on three main themes:

- → Reconstructing the history of glaciers and analyzing sediment and carbon fluxes to fjords (Prof. Frédéric Herman, UNIL);
- → Studying microbial processes in the air, water, and sediments (Prof. Julia Schmale, EPFL);
- → Assessing the role of zooplankton and fish larvae in the biological carbon pump (Prof. Caroline Bouchard, ULAVAL).

LEG 2

East Coast of Greenland
Narsaq – Ittoqqortoormiit (July 27 – August 14)

FOREL will then continue its route toward the east coast of Greenland, sailing north to Ittoqqortoormiit. A new team of researchers will embark in Narsaq.

For about twenty days, the vessel will serve as a research platform for two teams from EPFL, who will conduct work around the following two themes:

- → Exploring polar microbiomes using advanced molecular approaches and robotic sampling with drones (PhD. Lucas Paoli, EPFL);
- → Testing innovative robotic technologies to access hard-to-reach sampling areas (Prof. Mirko Kovac, EPFL).

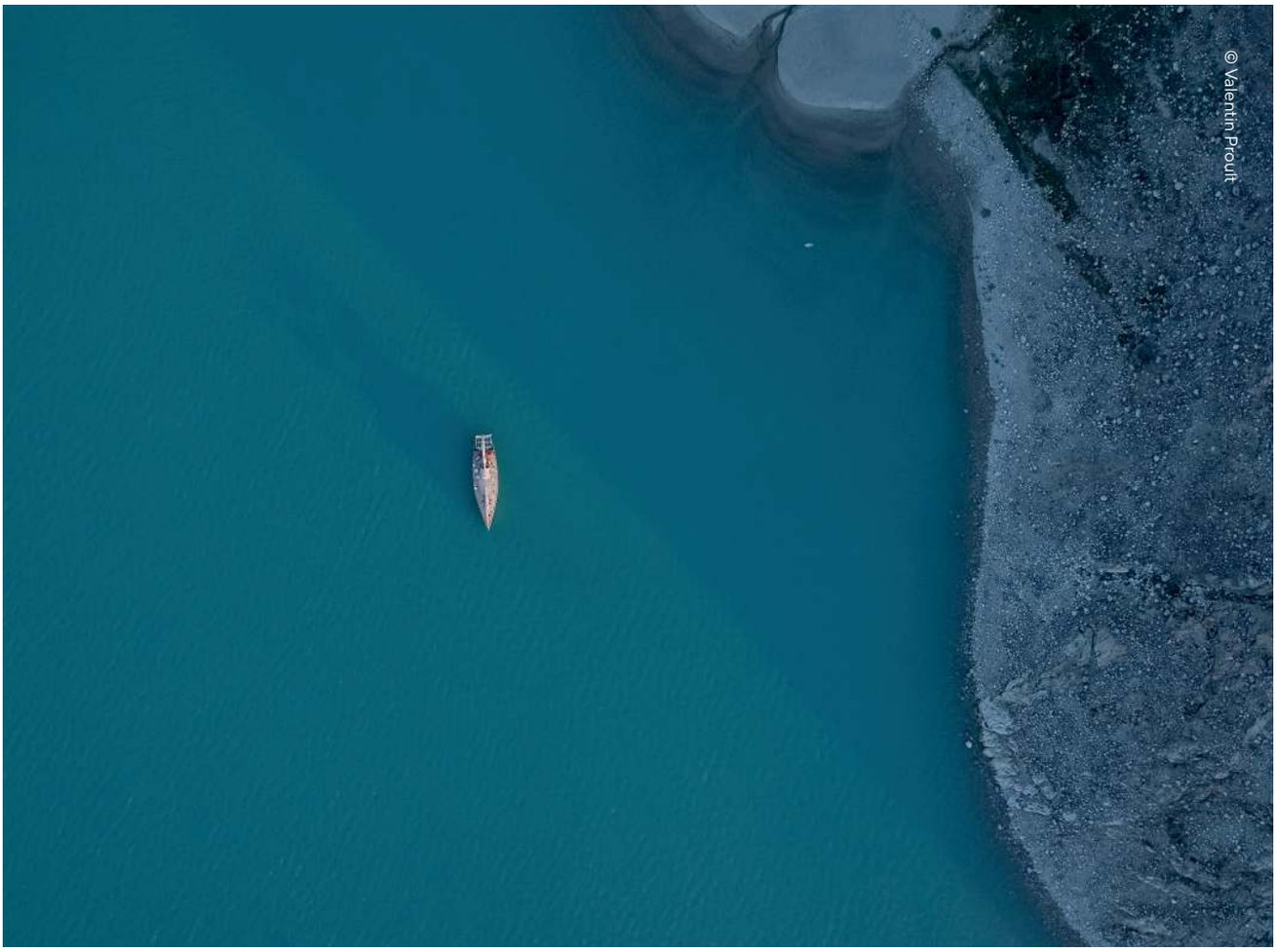
LEG 3

East Coast of Greenland
Ittoqqortoormiit – Narsaq (August 20 – September 11)

To conclude the 2026 mission, FOREL will sail back from Ittoqqortoormiit to Narsaq. During this leg, the vessel will host two teams from Université Laval. The research programs on contaminants and particles, already conducted in 2025 on the west coast of Greenland, will be deployed in 2026 on the east coast in order to obtain comparative results between the two coasts and the different ocean currents. In particular, the work will focus on:

- → Characterizing natural and anthropogenic micro- and nanoparticles present in the fjords (Prof. Julien Gigault, ULaval);
- → Studying the role of the microbial loop in the export of organic matter to the bottom of fjords (Prof. Catherine Girard, ULaval).
- → Teams will also collect water samples throughout the transits in order to measure contaminants and chemical elements present in the water. FOREL is expected to return to Lorient, its home port, around the end of September or early October 2026.


ITTOQQORTOORMIIT
KANGERLUSSUAQ
LEG 3
LEG 2
NARSAQ
LEG 1B
LEG 1A
LORIENT



2027-2028:

Starting in 2027, the Forel Heritage Association aims for the vessel FOREL to operate two missions per year: one summer mission and one winter mission.

→ Summer 2027: Several options are currently being considered, but the summer expedition will most likely take place in the Canadian and/or Greenlandic Arctic.

→ Winter 2027–2028: The vessel FOREL is expected to carry out its first winter mission in the Saguenay Fjord, Quebec (Canada). The ship would be frozen into the fjord's waters to test the platform in an ice-covered environment, in preparation for future polar missions.

This mission will also enable the development of research methods applicable to Arctic and Antarctic coastal regions, as well as the development and evaluation of under-ice technologies for future deployments.

World-class scientific governance.

The Association's scientific strategy is developed with the support of a leading international Scientific Advisory Board. Its role is to guide the major research priorities and contribute to the definition of future calls for projects. Composed of globally recognized researchers in the fields of climate science, oceanography, and marine biology, this Board ensures the excellence, credibility, and impact of the work carried out aboard FOREL.

FOREL Scientific Committee

Jérôme Chappellaz
Paleoclimatologist & Oceanographer, EPFL (Switzerland), Co-Chair

Warwick Vincent
Limnologist & Microbial Ecologist, Université Laval (Canada), Co-Chair

Marcel Babin
Oceanographer, CNRS / Université Laval (Canada)

Stéphane Blain
Microbial Oceanographer, CNRS / Sorbonne Université (France)

Antje Boetius
Marine Biologist, President & CEO, Monterey Bay Aquarium Research Institute (USA)

Françoise Gaill
Marine Biologist, CNRS / Université Pierre et Marie Curie (France)

Philippe Gillet
Geophysicist, Former Vice-President, EPFL (Switzerland)

Gerald Haug
Climatologist & Geologist, Director, MPI (Germany) & ETH Zürich (Switzerland)

Bethany Jenkins
Marine Microbiologist, Vice President for Research, University of Rhode Island (USA)

Scientific Coordination Committee

Julia Schmale
Atmospheric Science, EPFL (Switzerland)

Philippe Archambault
Oceanography, Université Laval (Canada)

Mirko Kovac
Engineering, EPFL (Switzerland)

Lucas Paoli
Microbiology, EPFL (Switzerland)

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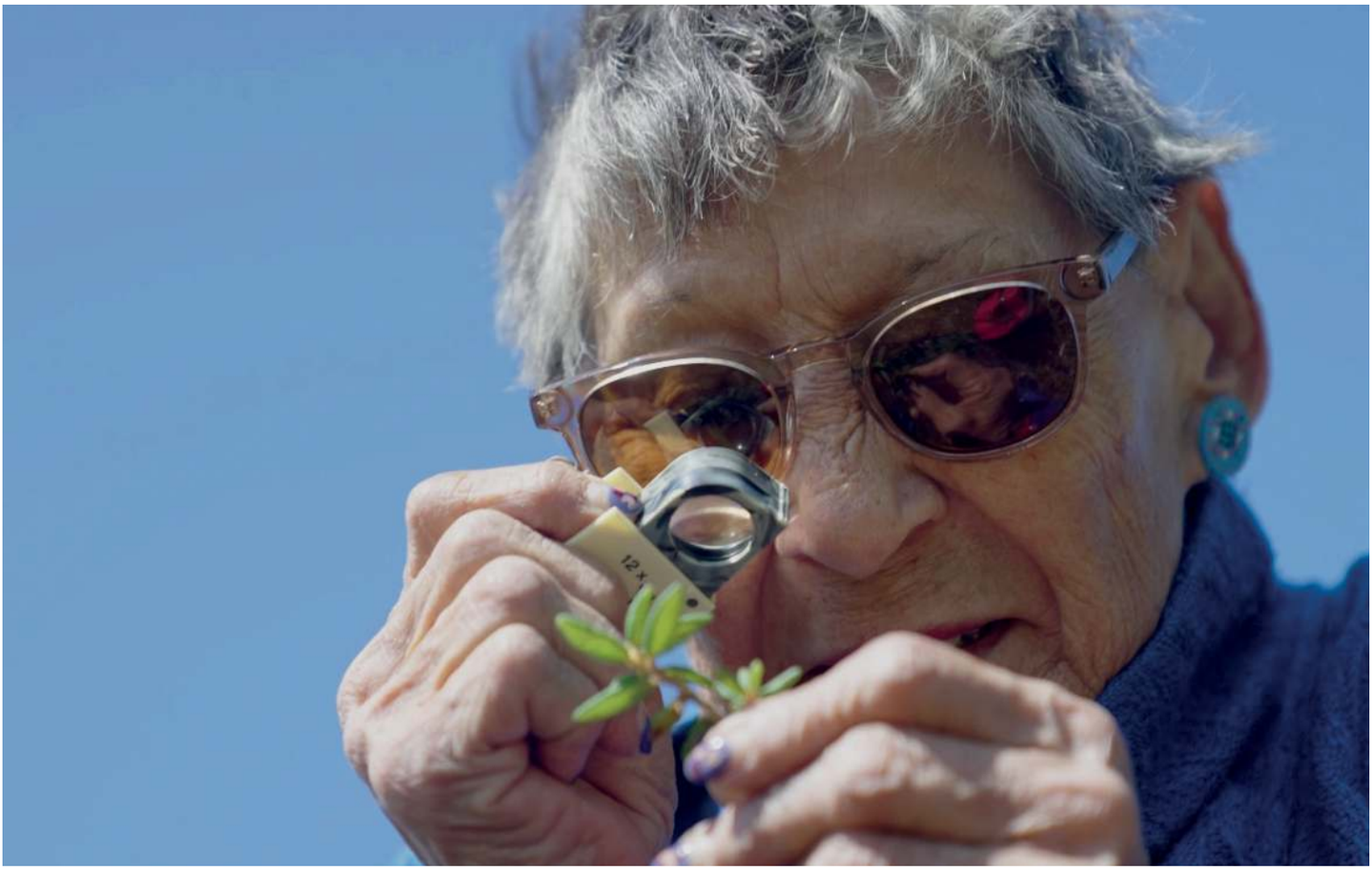

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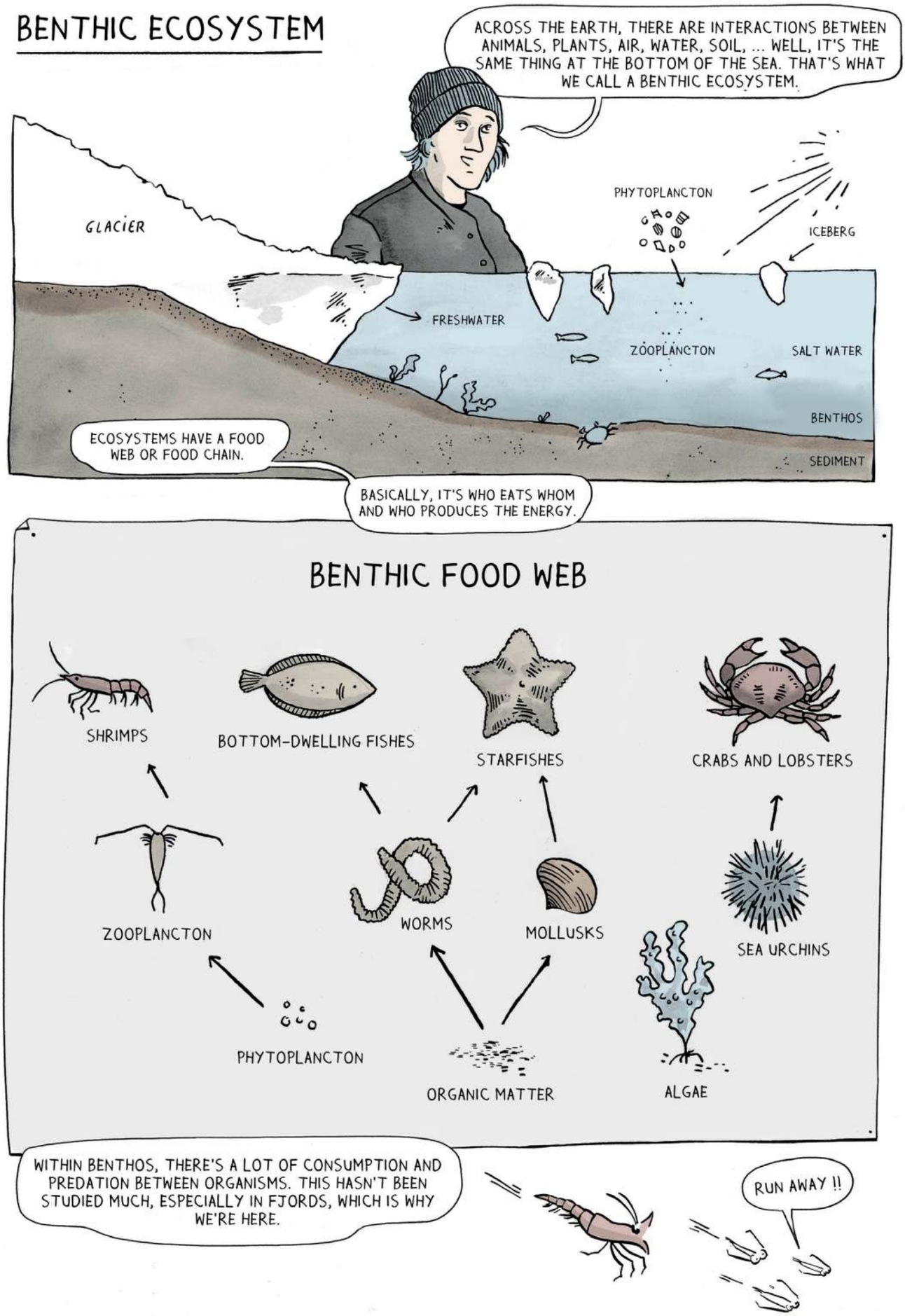
Raise awareness, communicate, share

Research only truly fulfills its purpose when it is shared. Public awareness is therefore an integral part of the mission of the Forel Heritage Association.

Among the initiatives carried out are:

- → educational partnerships, notably with the Éric Tabarly Sailing Museum (Cité de la Voile Éric Tabarly) in Lorient;
- → public visits and exhibitions during stopovers in Europe and North America;
- → strong engagement with Greenlandic communities, fostering dialogue and local participation in the scientific process;
- → accessible educational resources, such as the mini-comic series The FOREL Notebooks, videos, and a mini-series presenting the scientific work conducted on board;
- → artistic residencies on board, helping document and share the scientific adventure through a sensitive and alternative perspective.



Excerpt from the publication *The Forel notebook*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Communication and Outreach Partners

Cité de la voile Éric Tabarly

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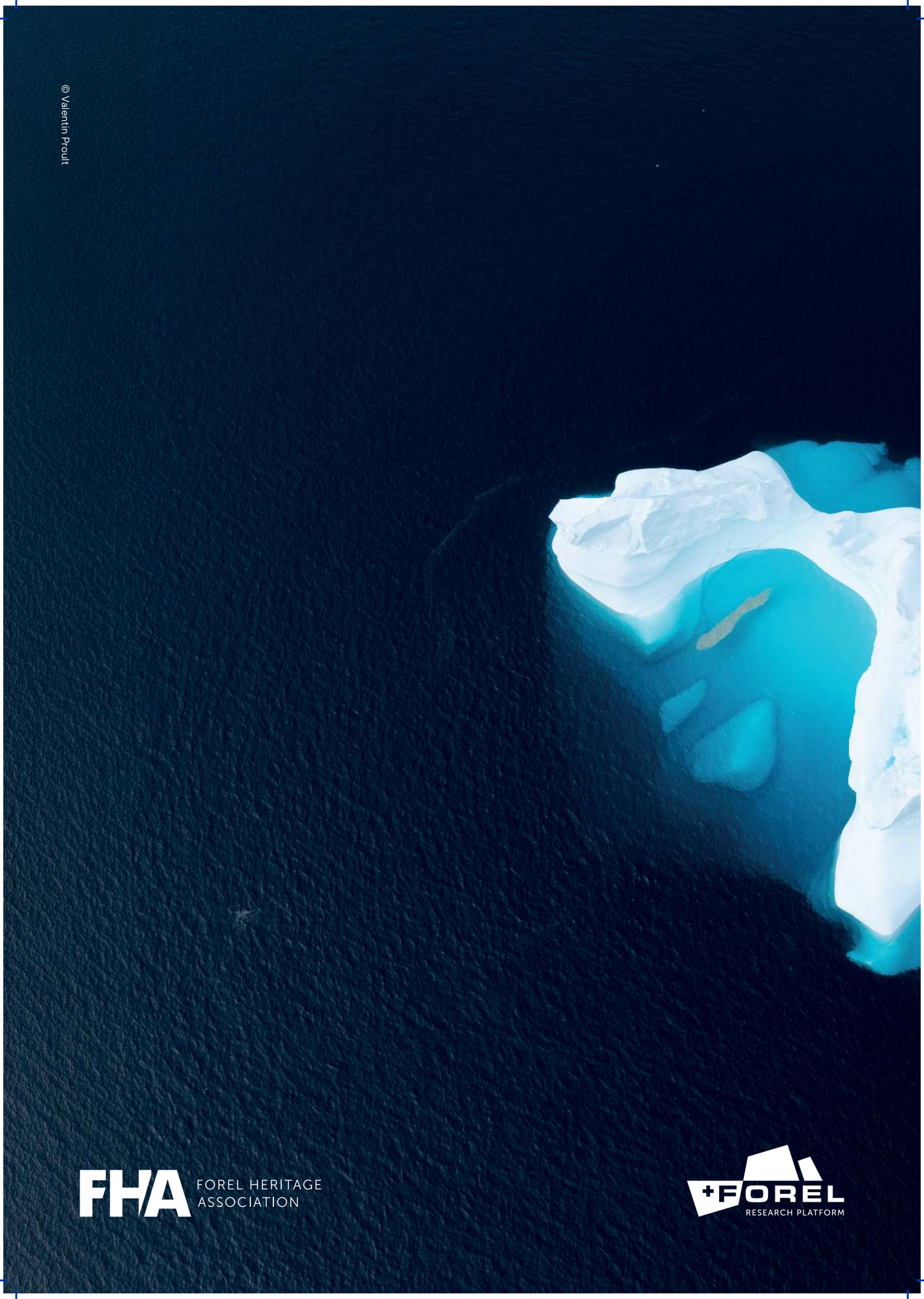
Support FOREL, Invest in the Future

By supporting the Forel Heritage Association, you directly contribute to a better understanding of polar regions, the education of future generations, and the preservation of ecosystems that are essential to global climate balance.

FOREL is not just a sailing vessel: it is a bridge between science, polar territories, and society—an international project rooted in Switzerland and aligned with the challenges of our time.

Contact
contact@forel-heritage.org

For more information
www.forel-heritage.org



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