

The image features two whales swimming in deep blue water. One whale is in the foreground, larger and more detailed, while another is behind it. Large, semi-transparent blue letters 'H' and 'W' are overlaid on the background. The text 'Science & Education Report' is centered in white.

Science & Education Report

MS Roald Amundsen

24 Jan – 09 Feb 2024

Antarctic Circle Expedition





Science & Education Program

Our Science and Education Team accompanied you during your expedition to the remote areas of the Antarctic Peninsula.

We explored the natural landscapes, abundant wildlife and rich history of our destination.

We hosted lectures and practical activities on board and explored our destinations during small boat cruises and landings.

History & Culture

We explored the historical heritage of Antarctica, visited several historical research bases and learned about the exploration of the white continent.





History Roundtable

We enjoyed **2** wonderful and instructive History Roundtables.

The first has been under the lead of our Historians and Marine Biologist specialized on whales and talked together about whaling in the different regions of the world.

The second session was about explorers of the Heroic Age of Polar Exploration.

Arts & Crafts

We had fun in different Arts & Crafts sessions: watercolour or acrylic painting, clay penguins, origami or educational cloud chart painting – we let our sometimes long-forgotten inner artist out!





NASA Globe Cloud Observer

We observed the clouds and submitted our observations via NASA GLOBE Observer on **5** occasions.

Our cloud observations will help NASA improve our understanding of Earth's atmosphere and climate by providing valuable data for scientific research and climate modeling.

[View our data](#) on the global map

iNaturalist

We recorded our observations of anything living and wild on the biodiversity platform iNaturalist.

14 observers contributed pictures of **121** observations of **38** different species to our voyage's project.

Contributing our sightings in remote areas like Antarctica helps fill knowledge gaps, enabling researchers to better understand and conserve biodiversity in these regions.

View our data submitted on [our iNaturalist project](#) for this trip!





Science Boat

101 enthusiastic participants joined our **15** Science Boats during our voyage, contributing to the FjordPhyto project and the Secchi Disk study through hands-on sampling. Together we explored oceanographic research tools and techniques.

Our collected data and samples will aid researchers in studying how environmental changes affect the phytoplankton community.

[View our data](#) submitted to the Secchi Disk Project



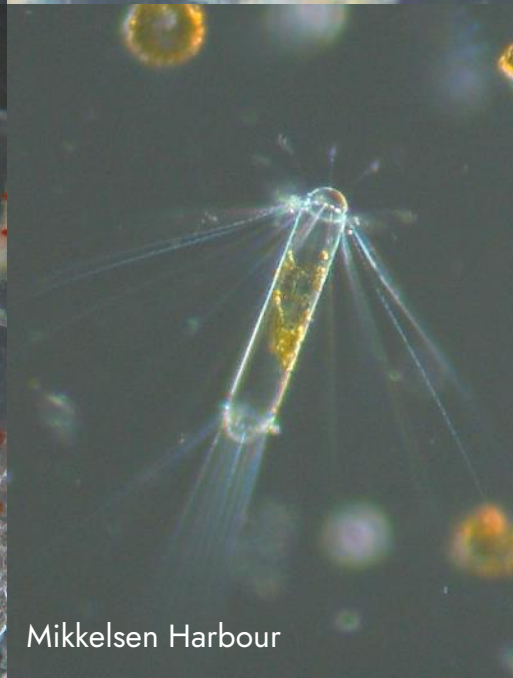
Horseshoe Bay



Brown Bluff



Antarctic Krill, Stonington Island



Mikkelsen Harbour

Plankton Samples

We examined our plankton samples from our science boats under our state-of-the-art microscopes, observing key phytoplankton like diatoms.

We also had sessions on the zooplankton, like Antarctic krill and their essential role as a keystone species in the Antarctic food web.

Underwater Drone

We deployed our Blueye Pioneer underwater drone on **1** occasion to explore the Southern ocean in support of our guest researcher Manuel Novillo.

From depths of 115 m up to the intertidal zone we explored the fragile and fascinating epibenthos community, including giant sea stars, sponges, cold-water corals and dragonfish!

View the highlights from our underwater drone footage [on YouTube](#)



Guest Scientists

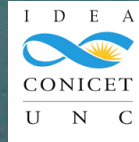
In the past year, HX has contributed over 1,000 cruise nights to scientists on ships throughout fleet, to conduct their research in some of the most remote areas on Earth.

Learn more about the guest scientists that joined our voyage on the following pages.

[Visit our Science & Education Hub online](#)
to find out more



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Exploring the Unseen

This project aims to develop cost-effective and scientifically rigorous survey methodologies to register fish and benthic species diversity using underwater drones in the West Antarctic Peninsula continental shelf. Our onboard scientists intend to refine these techniques by exploring different fjords where MS Roald Amundsen conducts activities, addressing the impact of global warming on shaping inshore communities, display and clarifying the role of inshore areas as spawning grounds for Antarctic fishes.

The pilot project, supported by Hurtiruten Foundation, has not only produced beautiful videos for our guests, but also benefits the scientific community, and the general public's awareness and understanding of the importance of protecting the Southern Ocean's unique ecosystems.

Heading: 123°

Camera: -10°

Depth: 38.3 m

Polar Whale Watch

Polar Whale Watch deployed teams of marine mammal observers on our vessel to estimate whale abundance and distribution, in the Antarctic Peninsula and Scotia and Ross seas.

During our voyage, Elling and Manu counted XX whales.





Snow algae

Our guest researchers Colby and Molly from Western Washington University joined our voyage to investigate snow algae.

The study of these microorganisms that grow on snow and ice is important as they significantly influence polar ecosystems, by affecting snowmelt and global climate patterns.

Wildlife List - Birds





Wildlife List – Seabirds

SCIENTIFIC NAME	ENGLISH	DEUTSCH	FRANÇAIS	NORSK
<i>Larus dominicanus</i>	Kelp Gull	Dominikanermöwe	Goéland dominicain	Taremåke
<i>Leucophaeus scoresbii</i>	Dolphin Gull	Blutschnabelmöwe	Goéland de Scoresby	Magellanmåke
<i>Sterna hirundinacea</i>	South American Tern	Falklandseeschwalbe	Sterne hirundinacée	Svaleterne
<i>Sterna vittata</i>	Antarctic Tern	Antarktikseeschwalbe	Sterne couronnée	Sørhavsterne
<i>Stercorarius antarcticus</i>	Brown Skua	Subantarktiskua	Labbe antarctique	Sørhavsjo
<i>Stercorarius maccormicki</i>	South Polar Skua	Antarktiskua	Labbe de McCormick	Sørjo
<i>Stercorarius chilensis</i>	Chilenian Skua	Chileskua	Labbe du Chili	Kaneljo
<i>Diomedea epomophora</i>	Southern Royal Albatross	Südkönigsalbatros	Albatros royal	Kongéalbatross
<i>Phoebetria palpebrata</i>	Light-mantled Albatross	Graumantelalbatros	Albatros fuligineux	Gråalbatross
<i>Thalassarche chrysostoma</i>	Grey-headed albatross	Graukopfalbatros	Albatros à tête grise	Gråhodealbatross
<i>Thalassarche melanophris</i>	Black-browed Albatross	Schwarzbrauenalbatros	Albatros à sourcils noirs	Svartbrynalbatross
<i>Fregetta tropica</i>	Black-bellied Storm Petrel	Schwarzbauch-Sturmschwalbe	Océanite à ventre noir	Svartbukstormsvale
<i>Oceanites oceanicus</i>	Wilson's Storm Petrel	Buntfoot-Sturmschwalbe	Océanite de Wilson	Wilsonstormsvale
<i>Ardenna gravis</i>	Great shearwater	Kappensturmtaucher	Puffin majeur	Storlire
<i>Ardenna grisea</i>	Sooty Shearwater	Dunkler Sturmtaucher	Puffin fuligineux	Grålire
<i>Daption capense</i>	Cape Petrel	Kapsturmvoegel	Damier du Cap	Flekkpetrell

Wildlife List – Seabirds

SCIENTIFIC NAME	ENGLISH	DEUTSCH	FRANÇAIS	NORSK
<i>Fulmarus glacialisoides</i>	Southern Fulmar	Silbersturmvogel	Fulmar argenté	Sørhavhest
<i>Halobaena caerulea</i>	Blue Petrel	Blausturmvogel	Prion bleu	Blåpetrell
<i>Macronectes giganteus</i>	Southern Giant Petrel	Riesensturmvogel	Pétrel géant	Sørkjempepetrell
<i>Pachyptila desolata</i>	Antarctic Prion	Taubensturmvogel	Prion de la Désolation	Antarktishvalfugl
<i>Pagodroma nivea</i>	Snow Petrel	Schneesturmvogel	Pétrel des neiges	Snøpetrell
<i>Thalassoica antarctica</i>	Antarctic Petrel	Antarktissturmvogel	Pétrel antarctique	antarktispetrell
<i>Pterodroma mollis</i>	Soft-plumaged Petrel	Weichfeder-Sturmvogel	Pétrel soyeux	silkepetrell
<i>Procellaria aequinoctialis</i>	White-chinned Petrel	Weißkinn-Sturmvogel	Puffin à menton blanc	Hvithakepetrell
<i>Eudyptes chrysolophus</i>	Macaroni penguin	Goldschopfpinguin	Gorfou doré	Gulltoppingvin
<i>Pygoscelis adeliae</i>	Adelie Penguin	Adeliepinguin	Manchot d'Adélie	Adeliepingvin
<i>Pygoscelis antarcticus</i>	Chinstrap Penguin	Kehlstreifpinguin	Manchot à jugulaire	Ringpingvin
<i>Pygoscelis papua</i>	Gentoo Penguin	Eselspinguin	Manchot papou	Bøylepingvin
<i>Spheniscus magellanicus</i>	Magellanic Penguin	Magellanpinguin	Manchot de Magellan	Magellanpingvin
<i>Leucocarbo atriceps</i>	Imperial Shag	Kaiserscharbe	Cormoran impérial	Knoppskarv
<i>Leucocarbo bransfieldensis</i>	Antarctic Shag	Antarktiskharbe	Cormoran antarctique	Antarktisskarv

Wildlife List – Water & Land birds

SCIENTIFIC NAME	ENGLISH	DEUTSCH	FRANÇAIS	NORSK
<i>Chloephaga picta</i>	Upland Goose	Magellangans	Ouette de Magellan	Sebragås
<i>Chionis albus</i>	Snowy Sheathbill	Weißgesicht-Scheidenschnabel	Chionis blanc	Antarktisslirenebb



e-Bird

We recorded checklists of the birds during our wildlife deck watches and on shore.

A total of **31** different bird species were observed across **50** checklists uploaded to eBird.

Our submissions help eBird to enhance the scientific understanding of bird distribution and abundance, contributing valuable data for conservation efforts and ornithological research.

View our data on our [e-Bird trip report](#)

An aerial photograph of two whales breaching the surface of the ocean. The water is a deep, clear blue-green. Two distinct white plumes of water are being ejected from the whales' blowholes, indicating they are surfacing. The whales' dark, sleek bodies are partially visible above the water. The overall scene is dynamic and captures a natural marine behavior.

Wildlife List – Marine Mammals



Wildlife List – Marine Mammals



SCIENTIFIC NAME	ENGLISH	DEUTSCH	FRANÇAIS	NORSK
<i>Balaenoptera bonaerensis</i>	Antarctic minke whale	Südlicher Zwergwal	Rorqual à museau pointu de l'Antarctique	Antarktis Vågehval
<i>Balaenoptera borealis</i>	Sei whale	Seiwal	Rorqual de Rudolphi	Seihval
<i>Megaptera novaeangliae</i>	Humpback whale	Buckelwal	Baleine à bosse	Knølhval
<i>Orcinus orca</i>	Killer whale, orca	Schwertwal, Orca	Orque	Spekkhogger
<i>Lagenorhynchus obscurus</i>	Dusky dolphin	Schwarzdelfin	Lagénorhynque obscur	Mørkdelfin
<i>Lagenorhynchus cruciger</i>	Hourglass dolphin	Stundenglasdelfin	Dauphin sablier	Korsdelfin
<i>Otaria byronia</i>	South American sea lion	Mähnenrobbe	Lion de mer d'Amérique du Sud	Søramerikansk sjøløve
<i>Hydrurga leptonyx</i>	Leopard seal	Seeleopard	Léopard de mer	Leopardsel
<i>Leptonychotes weddellii</i>	Weddell seal	Weddelrobbe	Phoque de Weddell	Weddellsel
<i>Lobodon carcinophaga</i>	Crabeater seal	Krabbenfresser	Phoque crabier	Krabbeetersel
<i>Mirounga leonina</i>	Southern elephant seal	Südlicher See-Elefant	Eléphant de mer austral	Sydlig sjøelefant
<i>Arctocephalus gazella</i>	Antarctic fur seal	Antartischer Seebär	Otarie à fourrure antarctique	Antarktis pelssel

Happywhale

We submitted our photos of the identifying features of the cetaceans we observed to Happywhale to learn more about the whales we spotted on our voyage.

Until now, encounters with **33** individual whales were registered, including **5** that were entirely new to science!

We adopted and named 7 of the whales we encountered during our voyage. If any of our whales will be spotted in the future, Happywhale will share their findings about the individuals with us!

[View our submissions](#) to Happywhale





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