



Science Recap

MS FRAM

MS FRAM

05th- 17th August 2025

Circumnavigating Svalbard



Credit: Martin Barreiro/ HX



Citizen Science

NASA Globe Observer

We collected 3 observations for NASA. You can [view our data](#) on the global map.

Inaturalist

We submitted around 200 observations to Inaturalist. [You can view our observations by clicking here.](#)

Ebird

We submitted 28 checklists to Ebird. You can view the [trip report for your voyage by clicking here.](#)

Planktonics Project – eDNA around Svalbard.

We collected water samples once during this voyage.



NASA Globe Cloud Observer

We collected 3 observations for NASA.

We observed lenticular clouds on multiple occasions. These are a unique type of cloud generated by high speed winds at high altitudes in mountainous environments.

Don't hesitate to continue looking at the sky back home, since every contribution helps scientists.

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



iNaturalist

On our voyage we submitted 200 observations covering a wide range of living species, from plants to animals passing to planktonic creatures.

Thank you very much for your contribution, and feel free to contribute to our project for this voyage when you are back home reviewing your photos.

[Click here to visit the iNaturalist Project for this voyage.](#)



eBird

On our voyage we conducted 28 surveys, observed 24 bird species and counted a total of 17,111 individuals. The most abundant species were the Bruennich's guillemot followed by the Kittywake. These data are crucial to document the abundance and distribution of emblematic polar and cosmopolitan species around Svalbard, both terrestrial and marine species.

Thank you very much for joining Julia during our wildlife watch and help us contributing to the greatest birding project at a worldwide scale !

[Click here to visit the Ebird Project for this voyage.](#)



HappyWhale

During our circumnavigation around Svalbard, we saw a diversity of marine mammals including polar bears, minke whales, belugas, walrus, harbour seals and bearded seals!

If you managed to take photographs of any markings or scarring on whales or seals, you can still submit these to happywhale.com once you are home.

You can do the same for any older photos you may have from years gone by, this can give us a better idea of how long individuals sighted recently have been alive since!

Thank you very much for joining Jenna during our wildlife watches.

[Click here to visit the HappyWhale Project.](http://happywhale.com)

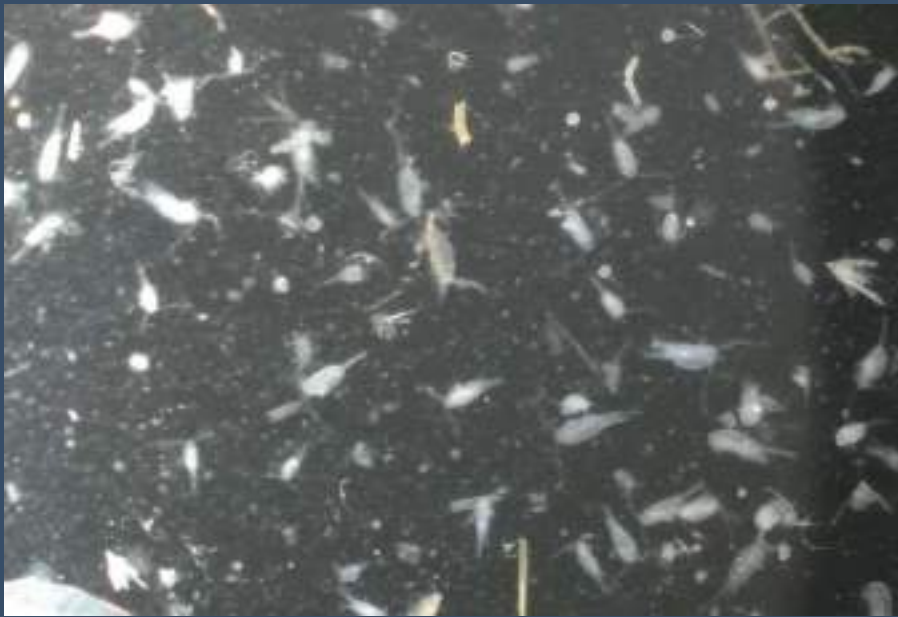


Science Boat

On our voyage we conducted 7 Science Boats during which we realized Secchi disc measurements & CTD profiles to characterize the water column parameters, and collected plankton & Niskin bottle samples for eDNA.

We used the microscopes in the science centre to identify plankton caught during the science boats. Phytoplankton was almost null in certain areas whereas zooplankton was abundant, with a variety of copepods, invertebrates larvae and eggs found in our samples. Please see the following slide for more pictures of plankton caught during our voyage.

[Click here to visit the Secchi Disc Project and view the Secchi data.](#)



Mr. Copepod. *Calanus finmarchicus* (below) and zooplankton soup (above)

Dinoflagellate *Triplos* sp. (above) and *Protoperidinium* sp. (below)



X 15

Planktonics Project — eDNA around Svalbard

This project aims to describe the diversity of jellies organisms present in waters around the archipelago of Svalbard using the eDNA technics. This consists of filtering water, extract and amplify the DNA preserved on the filters targeting specific groups of species. During our Science boat, we managed to collect one time in Chermisidøya for this project. Filters were kept frozen in our facilities until they will be picked up by the scientists to be analysed in the laboratory. This project has been founded in part by the HX Foundation.





Martin Engler & Dina Brode Roger

During our voyage, Martin from AWI Institute in Germany sampled 9 times to screen for hidden diversity thanks to the eDNA method.

Dina conducted nine interview and 2 discussions groups searching for different perceptions of risk management on-board expedition ships.

Please have a look at the following slides for a complete resume.



- 9 sampling locations
- Diverse sampling sites (Glaciers, run-off areas, converging fjords, clear water)
- 7 science boat sessions
- Water samples from 0.0 m to 10 m depth
- 2 samples each site
 - 1x eDNA analysis
 - 1x Chlorophyl analysis
- CTD measurements from 20 m to 60 m depth
- Visibility measurements with Secchi (0.87 m to 4.90 m)
- Filtration to 0.4 μm -membranes
- Stored at -20°C in ethanol



Disaster Risk Reduction / Response in an Arctic Context



Formal Research conducted on ship:

- 9 individual interviews with crew and staff
- 2 Group Discussions with guests (one in English, one in French)
- Daily fieldnotes with photos

Informal Research conducted on ship:

Observation of safety session

Observation of crew drill (1/2)

Participant observation of landings

Informal discussions with guests

Informal discussions with crew and staff

MS Fram Guest Scientist Overview
Circumnavigation of Svalbard, August 5-17 2025
Dina BRODE-ROGER, PhD

Dina Brode-Roger

During our voyage together Dina managed to interview 9 person, crew and guests, to understand better what is their perception of risk within an expedition ship.

She also actively engaged with guests during 2 groups of discussion during the voyage, retrieving interesting aspects from broader cultural views.



Geology report

Svalbard is a paradise for geologists — a land where deep time rises to the surface. Its mountains and valleys reveal a story stretching back over 2.5 billion years. Here, you'll find rich seams of coal formed in tropical swamps, marine fossils of ichthyosaurs and ammonites from long-vanished seas, and even the preserved footprints of dinosaurs pressed into Cretaceous sandstone.

The next slides highlights the surprising rocks formation we discovered during our voyage.

Faksevågen, Lomfjorden: 79°54.781'N, 17°67.976'E

Faksevågen, Lomfjorden sits on the Lomfjorden–Agardbukta Fault Zone, a major tectonic boundary in northeast Svalbard. The east side exposes nearly horizontal Carboniferous–Permian sandstones and carbonates (~330–260 Ma), intruded by a dark Early Cretaceous dolerite sill (~125 Ma) of the Diabasodden Suite. Opposite, the west and north sides show steeply dipping Precambrian basement metasediments (>1 Ga) with preserved ripple marks from ancient shallow seas. The contact across the fault records a missing interval of ~500 million years, separating Precambrian rocks from overlying late Paleozoic strata.

Ashton McDonalds



Ny-Friesland (Lomfjorden Supergroup): Akademikarbreen Group:

161 Undifferentiated limestone and dolomite

Veteranen Group:

162 Veteranen Group (undifferentiated)

163 Oxfordbreen Formation: sandstone, siltstone, greywacke, dolomitic sandstone and shale, limestone

164 Gåsgombreen Formation: quartzite and greywacke

165 Ringbreen Formation: shale, greywacke, quartzite, dolomite and limestone

166 Kortbreen Formation: limestone, dolomite, quartzitic sandstone, quartzite

Cambrian - Ordovician

Western Nordaustlandet:

Gothialhalvøya Group (Cambrian-Ordovician):

108 Kopp Sparve Formation: quartzitic sandstone, dolomite, marl

Oslobreen Group (Cambrian-Ordovician):

Carboniferous - Permian

Tempelfjorden Group (Permian):

Spitsbergen (except for southern Sørkapp Land):

16 Kopp Sparve Formation (Arktiskian - Torshov); stratified carbonate rocks, chert and sandstone

Gipadalen Group (Late Carboniferous - Early Permian):

Dickson Lend Sørgrupp (Spitsbergen):

30 Gipadalen Formation (Sakomnen - Arktiskian); dolomite and limestone

31 Worslekammen Formation (Worslekian - Sakomnen); dolomite and limestone

INTRUSIVE ROCKS

246 Dolerite (Diabasodden Suite, Early Cretaceous)





Beach clean-up

MS Fram is on a mission to collect ocean waste in the isolated locations we visit.

We collected 30.6kg of ocean waste during our voyage, bringing the total for the season to 116.6kg!

Wildlife List - Marine & Land Mammals



Cetaceans

Scientific Name	English	Deutsch	Français	Norsk	05/08	06/08	07/08	08/08	09/08	10/08	11/08	12/08	13/08	14/08	15/08	16/08	17/08
<i>Balaenoptera acutorostrata</i>	Common Minke Whale	Zwergwal	Petit rorqual	Vågehval					X			X					
<i>Balaenoptera musculus</i>	Blue Whale	Bleuwal	Rorqual bleu	Blåhval													
<i>Balaenoptera physalus</i>	Fin Whale	Finnwal	Rorqual commun	Finhval													
<i>Megaptera novaeangliae</i>	Humpback Whale	Buckelwal	Baleine à bosse	Kneihval													
<i>Delphinapterus leucas</i>	Beluga Whale	Weißwal	Beluga	Hvitval										X			
<i>Lagenorhynchus albirostris</i>	White-beaked Dolphin	Weißschnauzendelfin	Lagénorhynque à bec blanc	Kvitnas													
<i>Physeter macrocephalus</i>	Sperm Whale	Pottwal	Grand cachalot	Spennhval													
-	Unidentified whale	Nicht identifizierter Wal	Non identifié Baleine	Uidentifisert Hval		X											

Pinnipeds and Polar Bear

Scientific Name	English	Deutsch	Français	Norsk	05/08	06/08	07/08	08/08	09/08	10/08	11/08	12/08	13/08	14/08	15/08	16/08	17/08
<i>Erignathus barbatus</i>	Bearded Seal	Bartrobbe	Phoque barbu	Storkobbe							X						
<i>Phoca vitulina</i>	Harbour Seal, Common Seal	Seehund	Phoque veau-marin	Steinkobbe			X	X			X				X		
<i>Pusa hispida</i>	Ringed Seal	Ringelrobbe	Phoque annelé	Ringseel													
<i>Odobenus rosmarus</i>	Walrus	Walross	Morse	Hvalross		X		X	X				X			X	
<i>Cystophora cristata</i>	Hooded seal	Klappmützenrobbe	Phoque à capuchon	Klappmyss													
<i>Pagophilus groenlandicus</i>	Harp/Greenland seal	Sattelrobbe	Phoque du Groenland	Grønlandssæl													
<i>Ursus maritimus</i>	Polar Bear	Eisbär	L'ours blanc	Isbjørn			X										

Land Mammals

Scientific Name	English	Deutsch	Français	Norsk	05/08	06/08	07/08	08/08	09/08	10/08	11/08	12/08	13/08	14/08	15/08	16/08	17/08
<i>Rangifer tarandus</i>	Reindeer	Rehler	Renne	Svalbardrein		X	X						X		X	X	
<i>Alopex lagopus</i>	Arctic Fox	Polarfuchs	Ronard arctique	Fjellrev									X				

Wildlife List — Birds



Credit: Jan Hvizdal/ HX

Birds - Wildlife List - MS FRAM 05/08 to 17/08 2025																	
Scientific Name	English	Deutsch	Francais	Norsk	05/08	06/08	07/08	08/08	09/08	10/08	11/08	12/08	13/08	14/08	15/08	16/08	17/08
<i>Alle alle</i>	Little Auk/Dovekie	Krabbentaucher	Mergule nain	Alkekonge		x	x	x	x		x		x	x			
<i>Anser brachyrhynchus</i>	Pink-footed Goose	Kurzschnabelgans	Oie à bec court	Kortnebbgås											x	x	
<i>Arenaria interpres</i>	Ruddy turnstone	Steinwälzer	Tournepieyre à collier	Steinvender													
<i>Branta bernicla</i>	Brant Goose	Ringelgans	Bernache cravant	Ringgås				x									
<i>Branta leucopsis</i>	Barnacle Goose	Weißwangengans	Bernache nonnette	Hvitkinngås	x	x	x					x		x	x		
<i>Calidris alba</i>	Sanderling	Sanderling	Bécasseau sanderling	Sandløber					x			x					
<i>Calidris maritima</i>	Purple Sandpiper	Meerstrandläufer	Bécasseau violet	Fjæreplytt		x	x	x	x		x	x	x	x	x		
<i>Cephus grylle</i>	Black Guillemot	Gryllteiste	Guillemot à miroir	Teist		x	x	x	x		x	x	x	x			
<i>Charadrius hiaticula</i>	Common Ringed Plover	Sandregenpfeifer	Pluvier grand-gravelot	Sandlo		x											
<i>Clangula hyemalis</i>	Long-tailed duck	Eisente	Hareide boréale	Havelle		x	x							x			
<i>Fratercula arctica</i>	Atlantic Puffin	Papageitaucher	Macareux moine	Lunde		x	x	x				x		x		x	
<i>Fulmarus glacialis</i>	Northern Fulmar	Eissturmvogel	Fulmar boréal	Havhest	x	x	x	x	x	x	x	x	x	x	x	x	
<i>Gavia stellata</i>	Red-throated Diver/Loon	Sternaucher	Plongeon catmarin	Smålom		x	x										
<i>Lagopus mytus</i>	Rock Ptarmigan	Alpenschneehuhn	Lagopède alpin	Fjellrype													
<i>Larus hyperboreus</i>	Glaucous Gull	Eismöwe	Goéland bourgmestre	Polarmåke		x	x	x	x	x	x	x	x			x	
<i>Mergus serrator</i>	Red-breasted Merganser	Mittelsäger	Harle huppé	Siland													
<i>Pagophila eburnea</i>	Ivory Gull	Elfenbeinmöwe	Mouette blanche	Ismåke					x	x	x						
<i>Phalaropus fulicarius</i>	Grey/Red Phalarope	Thorshühnchen	Phalarope à bec large	Polarsvømmesnipe			x										
<i>Plectrophenax nivalis</i>	Snow Bunting	Schneeammer	Plectrophane des neiges	Snøspurv	x	x	x					x		x	x		
<i>Pluvialis apricaria</i>	European Golden Plover	Goldregenpfeifer	Pluvier doré	Heilo													
<i>Polgysticta stlleri</i>	Steller's Eider	Scheckente	Eider de Steller	Stellerand													
<i>Rissa tridactyla</i>	Black-legged Kittiwake	Dreizehenmöwe	Mouette tridactyle	Krykkje	x	x	x	x	x	x	x	x	x	x	x	x	
<i>Somateria mollissima</i>	Common Eider	Eiderente	Eider à duvet	Ærfugl	x		x	x	x			x			x	x	
<i>Somateria spectabilis</i>	King Eider	Prachteiderente	Eider à tête grise	Praktærfugl													
<i>Stercorarius longicaudus</i>	Long-tailed Skua/Jaeger	Falkenraubmöwe	Labbe à longue queue	Fjelljo				x	x								
<i>Stercorarius parasiticus</i>	Arctic Skua/ Parasitic Jaeger	Schmarotzerraubmöwe	Labbe parasite	Tyvjo		x	x	x	x		x	x	x	x	x	x	
<i>Stercorarius pomarinus</i>	Pomarine Skua/Jaeger	Spatelraubmöwe	Labbe pomarin	Polarjo							x						
<i>Stercorarius skua</i>	Great Skua	Skua	Grand Labbe	Storjo				x	x								
<i>Sterna paradisaea</i>	Arctic Tern	Küstenseeschwalbe	Sterne arctique	Rødnebbterne	x	x	x	x	x		x	x	x	x			
<i>Uria lomvia</i>	Brünnich's Guillemot / Thick-billed Murre	Dickschnabellumme	Guillemot de Brünnich	Polarlomvi		x	x	x	x			x	x	x	x		
<i>Xema sabini</i>	Sabine's Gull	Schwalbenmöwe	Mouette de Sabine	Sabinemåke					x								

Wildlife List — Flora



Flora - Wildlife List - MS FRAM 05/08 to 17/08 2025

[illegible]

A large blue whale and its calf are swimming in deep blue water. The adult whale is on the right, and the calf is on the left, slightly above it. The water is a deep, dark blue, and the whales are dark grey with some white markings. The lighting is soft, coming from the left, creating a slight glow on the water and the whales' skin.

THE

Thank you
EXPEDITION TEAM MS FRAM