



THE

Science & Education Report

MS Fridtjof Nansen 2026

MS Fridtjof Nansen

Circumnavigating Iceland - The
Land of Elves, Sagas and
Volcanoes

26 May 2026 — 2 June 2026





Science & Education Program

As we circumnavigated Iceland, we journeyed together through landscapes shaped by sea, weather, wildlife, history, and time.

Through lectures, workshops, time on deck, and moments ashore, we explored coastlines, fjords, islands, seabirds, whales, plants, clouds, and the forces shaping this northern route — while contributing to Citizen Science along the way.

We hope these shared experiences deepened your connection to the places we visited and inspired you to keep observing, recording, and caring for the natural world beyond this voyage.



Science & Education Program

Aboard HX vessels, we are guests in the places we visit, but through Citizen Science, you have become part of something bigger.

By observing, recording, and sharing data, you have helped contribute to global research and gained a closer connection to the natural world.

This journey does not end here. You can keep exploring, documenting, and caring for nature wherever you go.

History & Culture

While sailing around Iceland, we explored the island nation's cultural past. On board, we discussed the heritage of the Norse people who settled in Iceland from the 800s — who were they, and why did they brave the seas to reach this new land?

On land, we walked through different communities with local guides, who gave us a window into contemporary local culture and life in the remote settlements scattered around the Icelandic coast.

We also explored Iceland's folklore, tracing its roots back to Norse mythology and the stories of the Viking gods. We even witnessed it firsthand in Bakkagerði with its Álfaborg — City of Elves.



Geology

Iceland is a land of fire and ice, shaped by the meeting of the North American and Eurasian tectonic plates. With 14 major ice caps and around 130 volcanoes, its landscapes are both powerful and fragile — from the summit of Hvannadalshnúkur to glacial lagoons, geothermal areas, and the volcanic Westman Islands.

Here, nature and history are closely connected. The 1973 eruption on Heimaey reshaped the island and its harbour, showing how Icelanders have learned to live with powerful natural forces.





Wildlife Watch

As we travelled around Iceland, time on deck gave us the chance to take in the changing landscapes, weather, and wildlife around us.

Together, we searched for life at sea and along the coast, from seabirds riding the wind to whales, and other wildlife appearing around the ship. Each sighting helped us better appreciate this northern route and the connections between land, sea, and sky.

These moments reminded us that the journey was not only about the places we visited, but also about what we observed along the way.



Science Boat

Over three science boat sessions, you moved beyond observation and took part in hands-on exploration of the waters along our route.

Using the plankton net, CTD, and Secchi disk, you collected samples and measurements to better understand the hidden world beneath the surface, from tiny drifting organisms to water conditions and clarity.

These sessions were a reminder that science begins with curiosity, careful observation, and a willingness to ask questions about the world around us.

Secchi Disk

Looking into the water, it is easy to forget how much hidden life lies beneath the surface.

With the Secchi disk, you measured water clarity by lowering the disk until it disappeared from view, offering clues about plankton abundance and ocean conditions.

Some days, currents made measurements impossible, reminding us that nature sets the terms. Each reading helped contribute to a better understanding of our changing ocean.





CTD

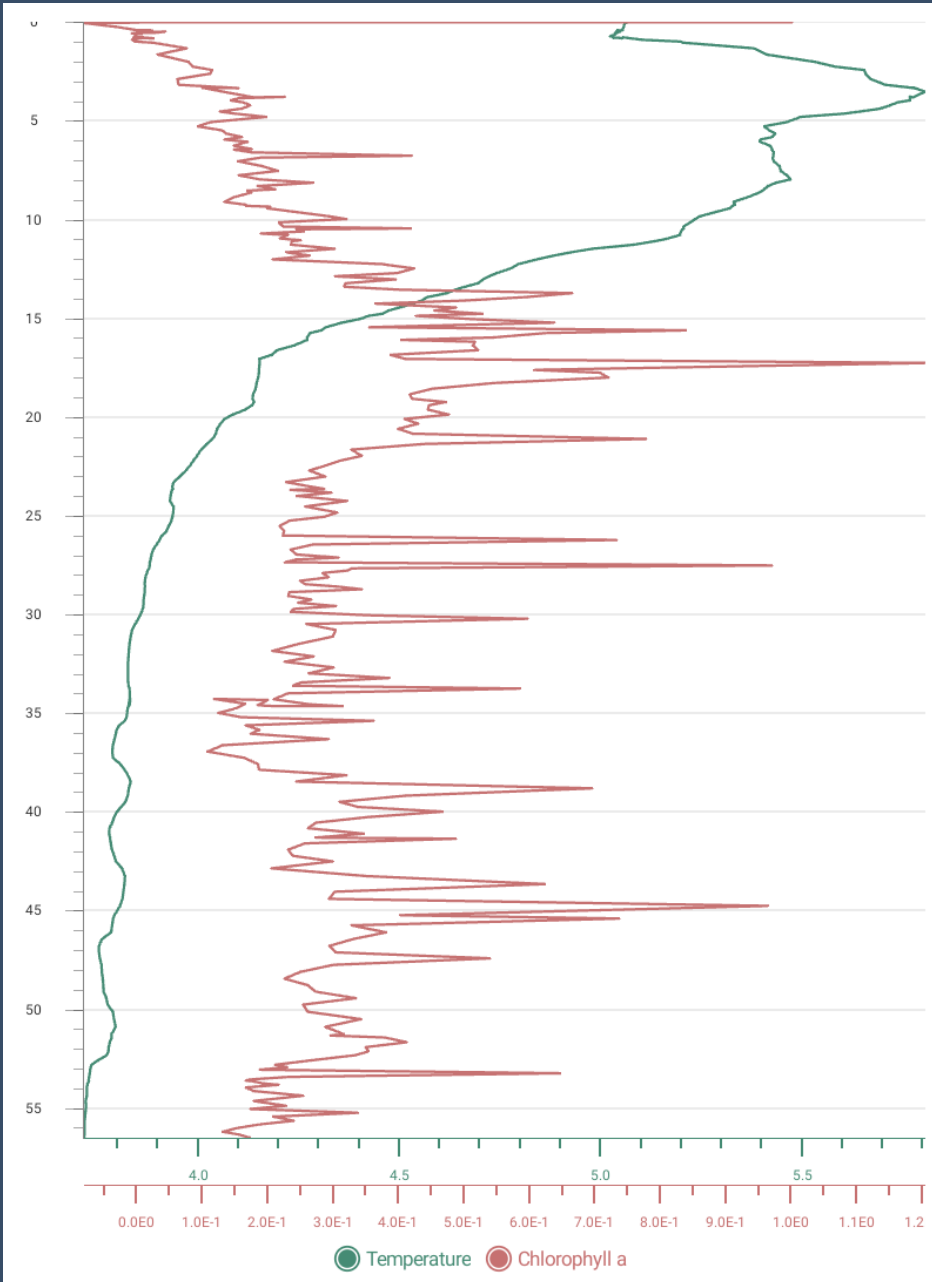
Beneath the surface, the ocean holds important clues about change.

With the CTD, you measured temperature, salinity, and depth, helping us better understand water conditions along our route.

Each profile added useful data on how freshwater, currents, and ocean layers shape these waters, one measurement at a time.

Depth Profile: Húsavík

Depth (m)



Our CTD profile from Húsavík shows a 3-degree Celsius difference in temperature between the surface and 55 m depth. The surface was much warmer compared to depth. The surface layer was likely warmed by the sun and atmosphere, while the deeper water layers are more impacted by the cold water input from the Arctic. There is a small underwater canyon that receives colder polar water from the north and allows for the productivity in the area. This is what attracts the whales to the 'whale capital' Húsavík.

Phytoplankton, shown here as a measure of chlorophyll-a ($\mu\text{g/l}$), was equally distributed at a slightly increased level throughout the water column. Our plankton sample showed a lot of zooplankton, which has likely been feeding on a recent phytoplankton bloom.

Temperature (°C)
Chlorophyll a ($\mu\text{g/L}$)

Water Sampling

During our expedition, we collected water samples from Vigur and Húsavík.

From the science boat, we deployed plankton nets, towing them through the water to capture these drifting life forms. The phytoplankton net (20 μm mesh) collected microscopic plant-like organisms, forming the base of the marine food web in these fjord and coastal systems.

Each tow offered a glimpse into the hidden world beneath the surface, helping us understand how these tiny organisms support life along the Icelandic coast.





Plankton Samples

Back in the Science Centre, we brought our Húsavík and Bakkagerði surface tow samples into focus under the microscope, revealing a hidden world of plankton.

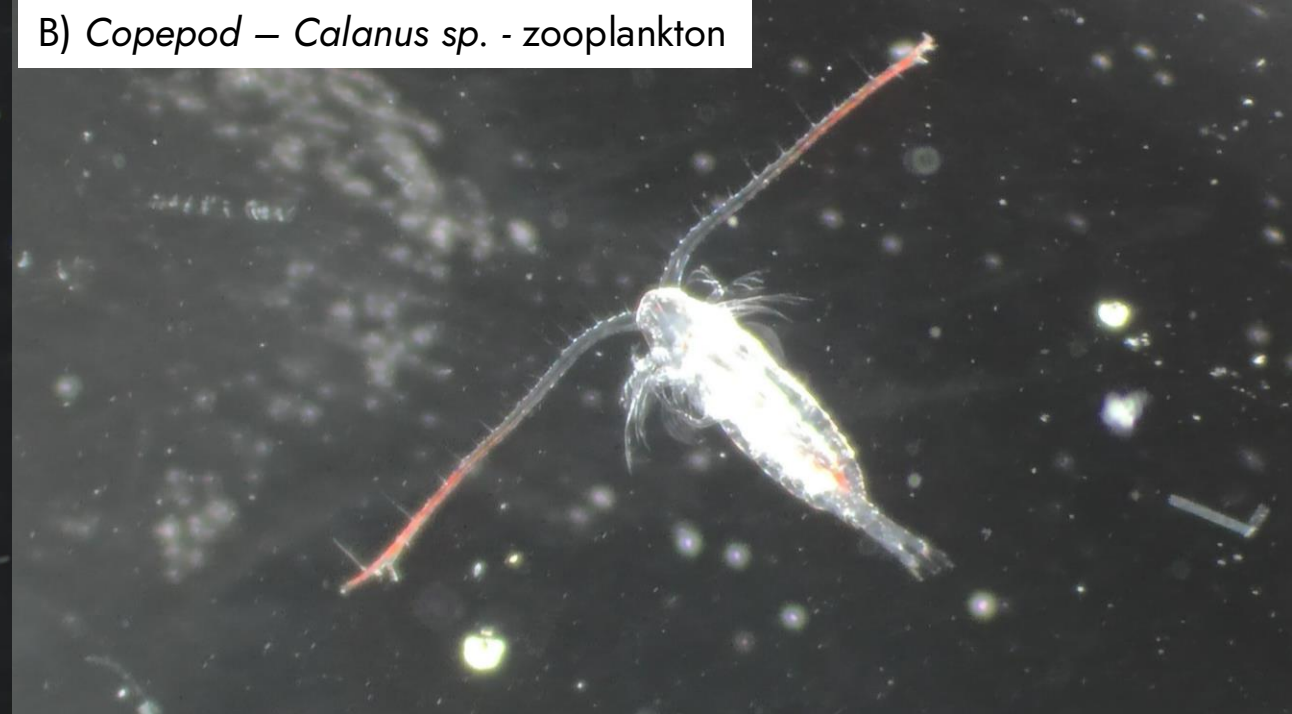
Using the main screen and smaller microscopes, you could explore each drop of water up close.

What appeared invisible to the naked eye quickly became a vivid reminder that these tiny organisms form the foundation of the rich ecosystems we have been travelling through.

A) Barnacle larvae - Cyprid - zooplankton



B) Copepod – *Calanus* sp. - zooplankton



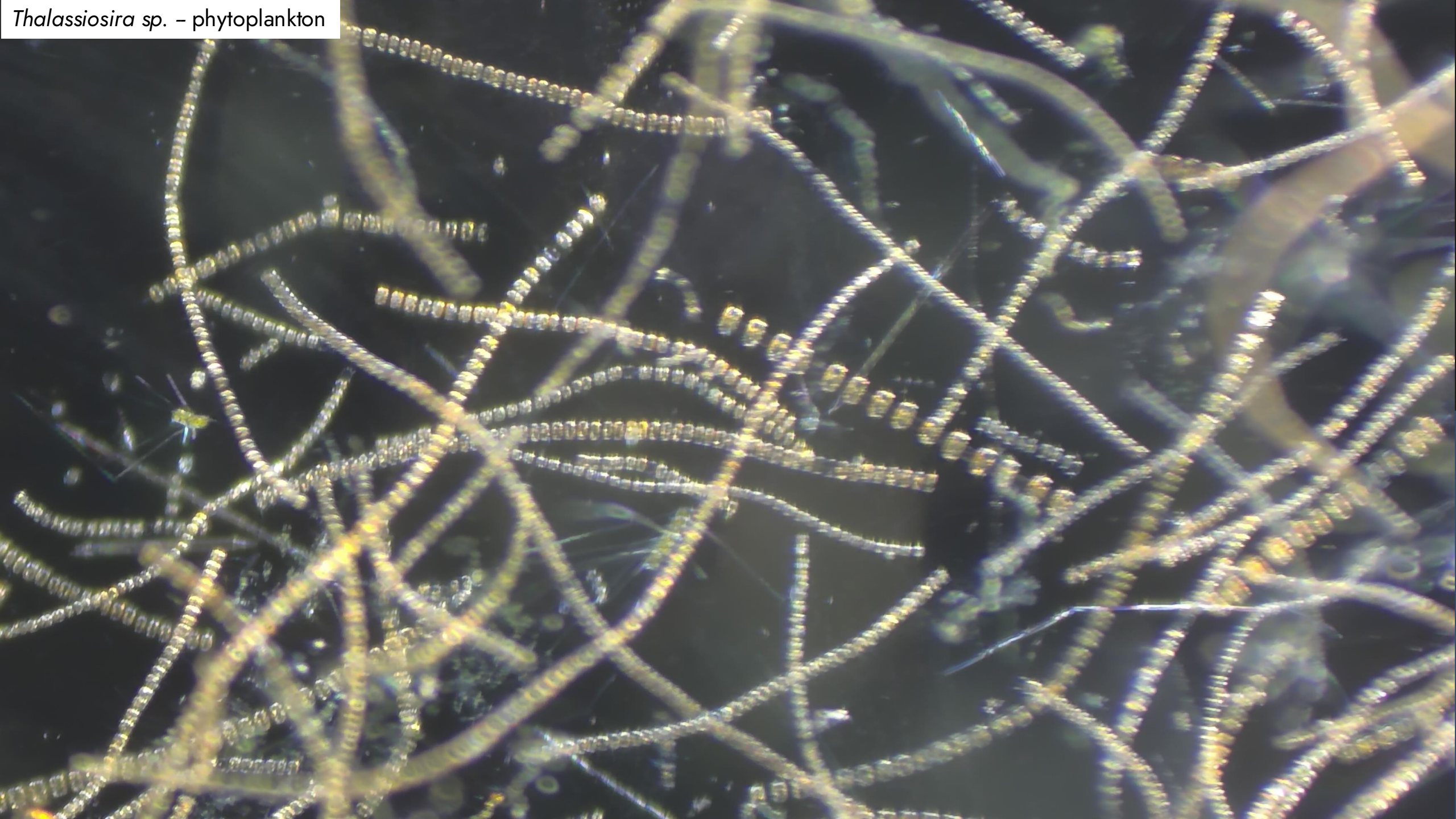
C) Lobster larvae - zooplankton



D) Hermit crab larvae - zooplankton



Thalassiosira sp. – phytoplankton



NASA Cloud Observer

During our voyage, we contributed to NASA's GLOBE Cloud Observations, collecting data on:

- 29 May (Akureyri)
- 31 May (Bakkagerði)
- 1 June (Heimaey)

By comparing our observations with satellite data, scientists can improve cloud classification, weather forecasting, and climate models.

You can continue contributing from home using the GLOBE Observer app.

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



iNaturalist

Throughout this voyage, you played a vital role in documenting the incredible biodiversity of Iceland.

Together, we gathered:

75 Observations

52 Species Identified

8 Observers Participating

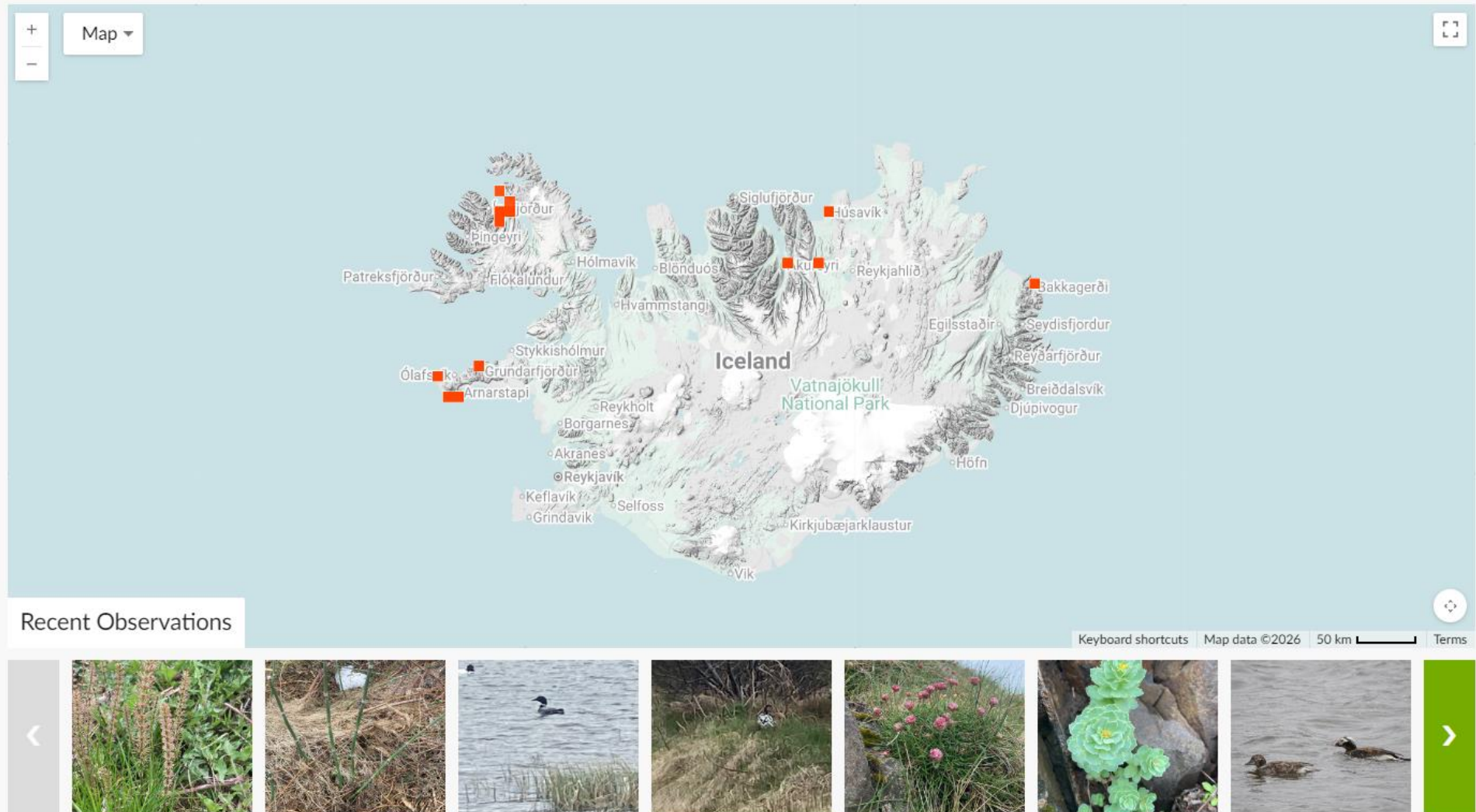
Each observation helps scientists build a clearer picture of biodiversity in arctic and sub-arctic regions.

Want to explore our findings? Link on the **link** here below to view our collective data and see the impact of your contributions:

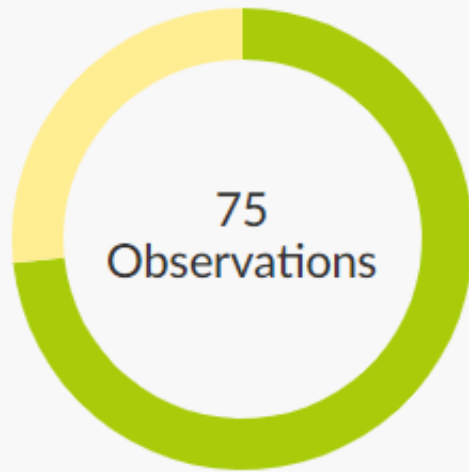
<https://www.inaturalist.org/projects/2026-may-26-june-2-reykjavik-to-reykjavik-ms-fridtjof-nansen>



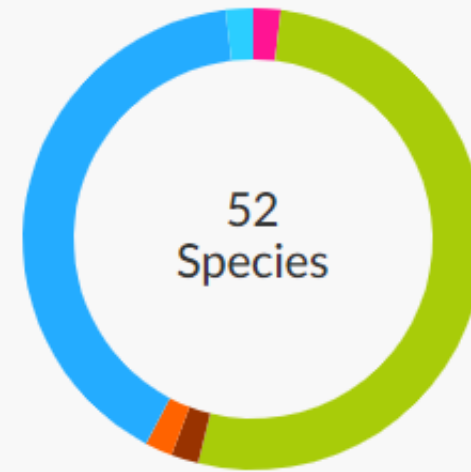
Map of Observations



Stats



- Research Grade
- Needs ID
- Casual



- | | |
|------------|-----------------|
| Unknown | Arachnids |
| Protozoans | Ray-Finned F... |
| Fungi | Amphibians |
| Plants | Reptiles |
| Chromista | Birds |
| Mollusks | Mammals |
| Insects | Other Animals |



eBird

Bird-watching isn't just a hobby, it's a powerful tool for science. eBird, a global citizen science platform, allows bird enthusiasts to record and share sightings, contributing valuable data for research and conservation.

During our voyage, our onboard ornithologists conducted 6 wildlife watches, completing 7 checklists and recording 35 bird species along the way. Every entry adds to a growing database that helps scientists track migration patterns, monitor populations, and understand bird behaviour in the North Atlantic.

Click the **link** to explore our data and see how your observations contribute to a global effort in avian research:

<https://ebird.org/tripreport/521254>

Happywhale

Cetaceans, whales, dolphins, and porpoises, always capture our attention. By submitting photos to Happywhale, we can help scientists track individual animals through their lives and movements.

During this voyage, our team and guests uploaded observations of humpback whales, that resulted in two matches.

You can [view](#) MS Fridtjof Nansen's Happywhale submissions from this voyage, follow individual whales for future updates, or upload your own photos from this voyage or past encounters.



Happywhale - Match

HRC-NB432 — “Chopper”



Happywhale - Match

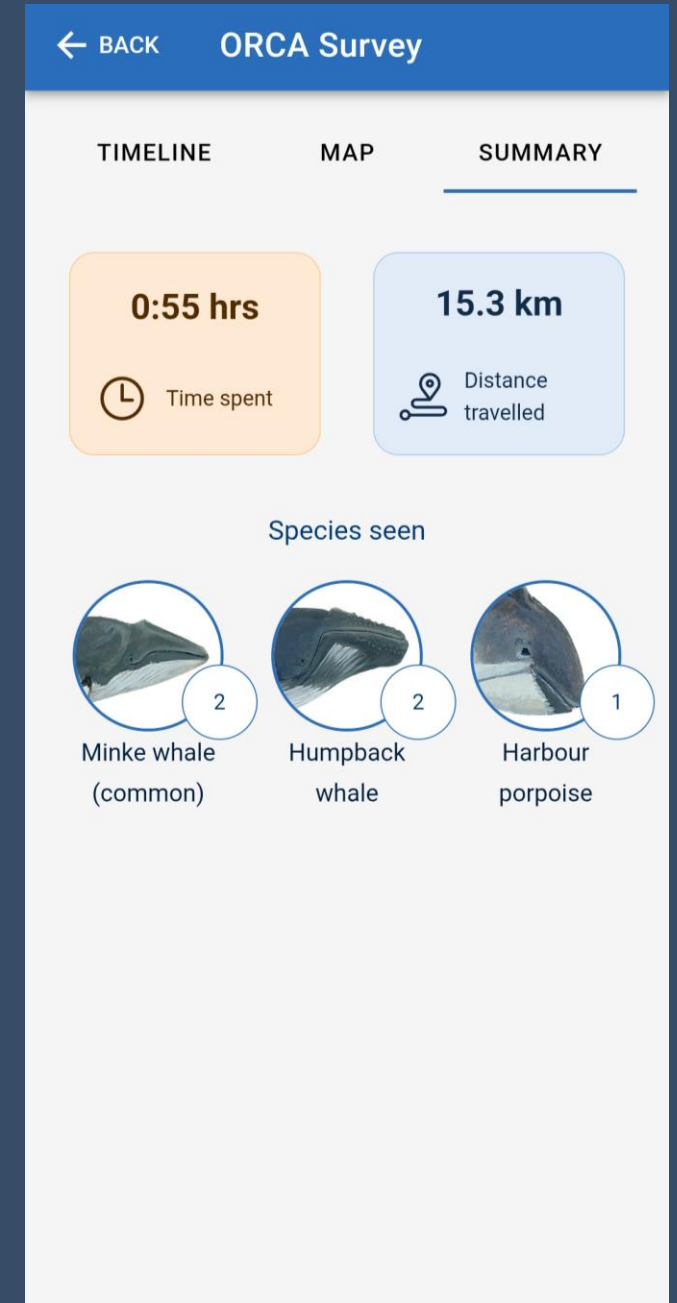
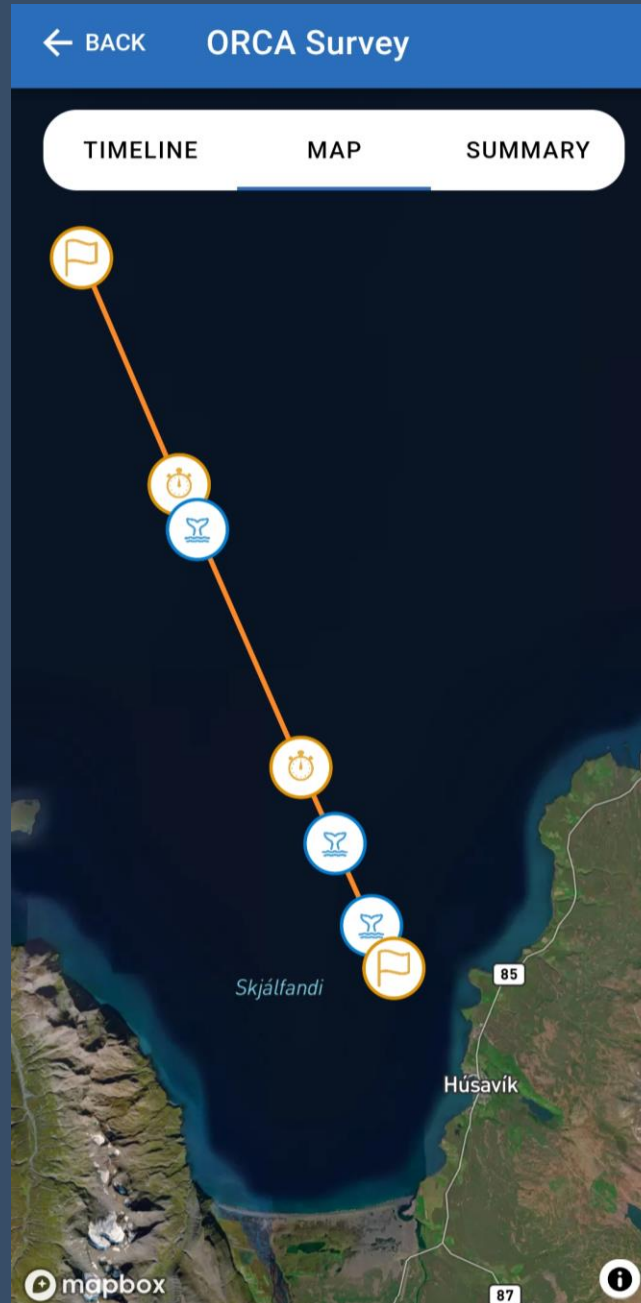
HRC-MN422— “Constellation”



ORCA

Whilst on your journey through the North Sea you were joined by ORCA Ocean Conservationist, Pete, who was collecting data on whales, dolphins and porpoises. This data was collected using the ORCA OceanWatchers app and sent back to ORCA to be made available for many organisations interested in cetacean conservation. It will also be made available on the ORCA website interactive map for anyone who wishes to get an overview of what you might find where.

On this journey a total of **5 hours** and **45 minutes** of data was collected, spanning a distance of **96.5 km**. **Four** species of cetacean were recorded during these surveys, with a total of **thirteen** Individuals recorded.



Sightings

Species	Number of individuals seen
Humpback whale (<i>Megaptera novaeangliae</i>)	5
Minke whale (<i>Balenoptera acutorostrata</i>)	5
Unidentified whale (<i>Balenoptera sp.</i>)	2
Harbour porpoise (<i>Phocena phocena</i>)	4

Wildlife List — Birds



Wildlife List — Birds

Scientific Name	English	Deutsch	Français
<i>Fulmarus glacialis</i>	northern fulmar	Eissturmvogel	Fulmar boréal
<i>Ardennagrisea</i>	sooty shearwater	Dunkelsturmtaucher	Puffin fuligoneux
<i>Morus bassanus</i>	northern gannet	Basstölpel	Fou de Bassan
<i>Phalacrocorax carbo</i>	great cormorant	Kormoran	Grand Cormoran
<i>Phalacrocorax aristotellis</i>	European shag	Krähenscharbe	Cormoran huppé
<i>Stercorarius parasiticus</i>	Arctic skua	Schmarotzerraubmöwe	Labbe parasite
<i>Stercorarius skua</i>	great skua	Skua	Grand Labbe
<i>Larus fuscus</i>	lesser black-backed gull	Heringsmöwe	Goéland brun
<i>Larus glaucoides</i>	Iceland gull	Polarmöwe	Goéland à ailes blanches
<i>Larus canus</i>	common gull	Sturmmöwe	Goéland cendré
<i>Larus marinus</i>	great black-backed gull	Mantelmöwe	Goéland marin
<i>Larus argentatus</i>	herring gull	Silbermöwe	Goéland argenté
<i>Larus hyperboreus</i>	glaucous gull	Eismöwe	Goéland bourgmestre
<i>Chroicocephalus ridibundus</i>	black-headed gull	Lachmöwe	Mouette rieuse
<i>Rissa tridactyla</i>	black-legged kittiwake	Dreizehenmöwe	Mouette tridactyle

Wildlife List — Birds

Scientific Name	English	Deutsch	Français
<i>Sterna paradisaea</i>	Arctic tern	Küstenseeschwalbe	Sterne arctique
<i>Uria aalge</i>	common guillemot	Trottellumme	Guillemot marmette
<i>Alca torda</i>	razorbill	Tordalk	Pingouin torda
<i>Cephus grylle</i>	black guillemot	Gryllteiste	Guillemot à miroir
<i>Fratercula arctica</i>	Atlantic puffin	Papageitaucher	Macareux moine
<i>Cygnus cygnus</i>	whooper swan	Singschwan	Cygne chanteur
<i>Branta bernicla</i>	brent goose	Ringelgans	Bernache cravant
<i>Anser anser</i>	greylag goose	Graugans	Oie cendrée
<i>Aythya marila</i>	greater scaup	Bergente	Fuligule milouinan
<i>Aythya fuligula</i>	tufted duck	Reiherente	Fuligule morillon
<i>Bucephala islandica</i>	Barrow's goldeneye	Spatelente	Garrot d'Islande
<i>Mareca penelope</i>	Eurasian wigeon	Pfeifente	Canard siffleur
<i>Anas platyrhynchos</i>	mallard	Stockente	Canard colvert
<i>Histrionicus histrionicus</i>	harlequin duck	Kragenente	Arlequin plongeur
<i>Somateria mollissima</i>	common eider	Eiderente	Eider à duvet

Wildlife List — Birds

Scientific Name	English	Deutsch	Français
<i>Clangula hyemalis</i>	long-tailed duck	Eisente	Harelde kakawi
<i>Mergus serrator</i>	red-breasted merganser	Mittelsäger	Harle huppé
<i>Gavia stellata</i>	red-throated diver	Sterntaucher	Plongeon catmarin
<i>Podiceps auritus</i>	Slavonian/horned grebe	Ohrentaucher	Grèbe esclavon
<i>Haematopus ostralegus</i>	Eurasian oystercatcher	Austernfischer	Huîtrier pie
<i>Charadrius hiaticula</i>	common ringed plover	Sandregenpfeifer	Pluvier grand-gravelot
<i>Pluvialis apricaria</i>	European golden plover	Goldregenpfeifer	Pluvier doré
<i>Calidris alpina</i>	dunlin	Alpenstrandläufer	Bécasseau variable
<i>Calidris canutus</i>	(red) knot	Knutt	Bécasseau maubèche
<i>Gallinago gallinago</i>	common snipe	Bekassine	Bécassine des marais
<i>Limosa limosa</i>	black-tailed godwit	Uferschnepfe	Barge à queue noire
<i>Numenius phaeopus</i>	whimbrel	Regenbrachvogel	Courlis corlieu
<i>Tringa totanus</i>	common redshank	Rotschenkel	Chevalier gambette
<i>Arenaria interpres</i>	ruddy turnstone	Steinwälzer	Tournepierre à collier
<i>Phalaropus lobatus</i>	red-necked phalarope	Odinshühnchen	Phalarope à bec étroit

Wildlife List — Birds

Scientific Name	English	Deutsch	Français
<i>Anas strepera</i>	gadwall	Schnatterente	Canard chipeau
<i>Gavia immer</i>	great northern diver	Eistaucher	Plongeon imbrin
<i>Lagopus muta</i>	rock ptarmigan	Alpensneeuwhoen	Lagopède alpin
<i>Columba livia</i>	rock dove/feral pigeon	Felsentaube	Pigeon biset
<i>Anthus pratensis</i>	meadow pipit	Wiesenpieper	Pipit farlouse
<i>Motacilla alba</i>	white wagtail	Bachstelze	Bergeronnette grise
<i>Turdus iliacus</i>	redwing	Rotdrossel	Grive mauvis
<i>Turdus merula</i>	common blackbird	Amsel	Merle noir
<i>Corvus corax</i>	common raven	Kolkrabe	Grand Corbeau
<i>Sturnus vulgaris</i>	European starling	Star	Étourneau sansonnet
<i>Acanthis flammea</i>	redpoll	Birkenzeisig	Sizerin flammé
<i>Troglodytes troglodytes</i>	(winter) wren	Zaunkönig	Troglodyte mignon



Wildlife

List — Marine Mammals

Wildlife List – Mammals



Scientific Name	English	Deutsch	Français
<i>Balaenoptera acutorostrata</i>	minke whale	Zwergwal	Petit rorqual
<i>Megaptera novaeangliae</i>	humpback whale	Buckelwal	Baleine à bosse
<i>Halichoerus grypus</i>	grey seal	Kegelrobbe	Phoque gris
<i>Phoca vitulina</i>	common / harbour seal	Seehund	Phoque commune
<i>Phocena phocena</i>	harbour porpoise	Schweinswal	Marsouin

The background of the slide features a deep blue underwater scene with two whales. A large, semi-transparent watermark consisting of the Roman numerals 'IX' is positioned on the left side of the image. The text 'Thank you for your participation!' is centered in the middle of the slide.

Thank you for your participation!