



Science & Education Report

MS Fridtjof Nansen 2025

MS Fridtjof Nansen

Elemental Iceland — Circular Saga
from Reykjavík

10 May 2025 — 17 May 2025





Science & Education Program

From the volcanic beaches of the south to the glacier-carved fjords of the northwest, the Science and Education Team journeyed with you around Iceland's entire coast, uncovering the wonders of this unique island nation.

Through lectures, hands-on workshops, and cultural experiences ashore—from Heimaey's lava fields to the cliffs of the Westfjords—we explored Iceland's resilient wildlife, rich cultural heritage, and the powerful natural forces that continue to shape its landscapes.

We hope these shared moments—spotting whales off the northern coast, listening to the seabirds of Látrabjarg, or walking through centuries of geological history—have deepened your appreciation for Iceland and sparked a lasting curiosity for the natural world.



Science & Education Program

Aboard HX vessels, we are guests in Iceland's wild and ever-changing landscapes, but through citizen science, you've become part of something bigger. Science is for everyone, happening everywhere, every day, and your participation makes a difference.

By observing wildlife, collecting data, and contributing to global research projects, you've forged a deeper connection with Iceland's ecosystems, from seabird cliffs to volcanic shores.

This journey doesn't end here. You have the tools to keep exploring, documenting, and protecting nature wherever you go. Together, we can turn curiosity into action, fostering a future where people and the planet thrive.

History

Your journey through the north of Iceland has taken you into landscapes shaped by fire, ice, and ancient myths. Standing at the edge of Goðafoss—the “Waterfall of the Gods”—you may have imagined the moment when pagan idols were cast into the falls, a powerful story still carried in the roar of the water.

At Lake Mývatn, you walked among craters, lava formations, and steaming geothermal fields that revealed just how alive this land remains. The eerie beauty of Dimmuborgir and the sulfurous terrain of Námaskarð showed the wild creativity of Iceland’s volcanic forces, while the serene waters of the Mývatn Nature Baths offered a quiet moment to take it all in.

In the Diamond Circle, you explored dramatic contrasts—from the thunder of Dettifoss, one of Europe’s most powerful waterfalls, to the silent embrace of Ásbyrgi canyon, where ancient floods carved a lush horseshoe-shaped haven. These landscapes don’t just tell Iceland’s story—they invite us into it. We hope these sights and moments will stay with you, reminding you of the deep connection between nature, culture, and curiosity.



History

Your visit to the Snæfellsnes Peninsula offered a taste of Iceland in miniature—from volcanic peaks to black pebble beaches, lava caves, and dramatic coastal cliffs. One of the most iconic sights was Kirkjufell, the steep, solitary mountain rising above Grundarfjörður. Whether admired up close or viewed alongside the photogenic Kirkjufellsfoss waterfall, it's easy to see why this landscape has captured imaginations for centuries.

As you explored Djúpalónssandur's lava-strewn shoreline, ventured into the depths of Vatnshellir cave, or walked the cliffs of Arnarstapi, you stepped into a region shaped as much by story as by stone. Some say Kirkjufell resembles the back of a dragon, others believe it's home to huldufólk—the hidden people of Icelandic folklore. Onboard, Icelandic musician Andri Ivars brought these cultural threads to life through music, humour, and storytelling. From snow-covered volcanic slopes to tales whispered by the wind, Snæfellsnes continues to blur the line between myth and geology, reminding us that the landscape is never just scenery in Iceland. It's a story still being told.



Geology

Kirkjufell's striking shape tells a deeper story of Iceland's ever-changing landscape. Layer by layer, the mountain reveals a history shaped by both fire and ice—built from volcanic rock and ash, then sculpted by powerful glaciers over thousands of years.

Its steep slopes and exposed strata are the result of repeated glacial advances during the Ice Ages of the Pleistocene, carving away softer material and leaving behind the distinctive peak we see today. Kirkjufell stands not only as a beautiful landmark, but as a natural archive of Iceland's dynamic geological past—a place where the forces of eruption and erosion continue to meet.





Wildlife Watch

As we sailed around Iceland's rugged coastlines, you were invited to step out on deck and take in the ever-changing seascape—cliffs, rolling swells, and skies teeming with birdlife. But the most memorable moments often came in stillness, as we scanned the horizon together in quiet anticipation.

Throughout the journey, we encountered an incredible range of seabirds: Northern gannets diving with precision, puffins skimming just above the waves, eider ducks drifting along rocky shores, and countless others adding movement and character to the coastal air. Each sighting brought the shoreline to life, reminding us that even the most remote edges of the world are full of energy, pattern, and purpose.

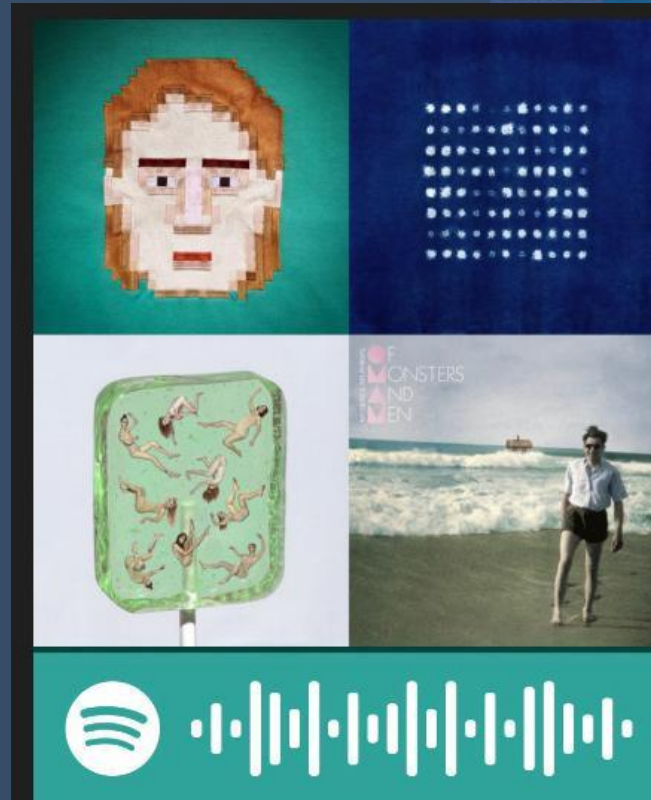
These encounters are more than passing impressions—they are reminders to stay curious, to look a little longer, and to care for the fragile web of life that depends on these cold northern waters.

Credit: Tiimo Heinz/HX

Music and Culture

In Iceland, music and storytelling are more than entertainment—they're part of how people connect, remember, and endure. From ancient sagas and poetic rímur to haunting folk tunes sung through long winter nights, these traditions have helped generations make sense of the world around them and stay closely tied to nature and community.

That enduring spirit of expression is still alive today. Whether through traditional melodies or modern pop, Icelandic music continues to reflect creativity, resilience, and a deep cultural pride. As we circumnavigated the island, our journey aligned with Eurovision week—an annual highlight in Iceland, where over 90% of the population tunes in. We joined the celebration by visiting the Eurovision Museum in Húsavík and watching the semi-finals together, adding a fun and festive twist to our exploration of Iceland's musical heartbeat.



**It brings nations
together like no
other event.
We laugh, we
sing, we party.**

- Jon Ola Sand



NASA Cloud Observer

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

- **May 12th** (Ísafjörður)
- **May 14th** (Húsavík)

By comparing your ground-based observations with satellite measurements, scientists can refine cloud classifications, enhance climate models, and improve weather predictions—advancing our understanding of Earth's atmosphere and climate.

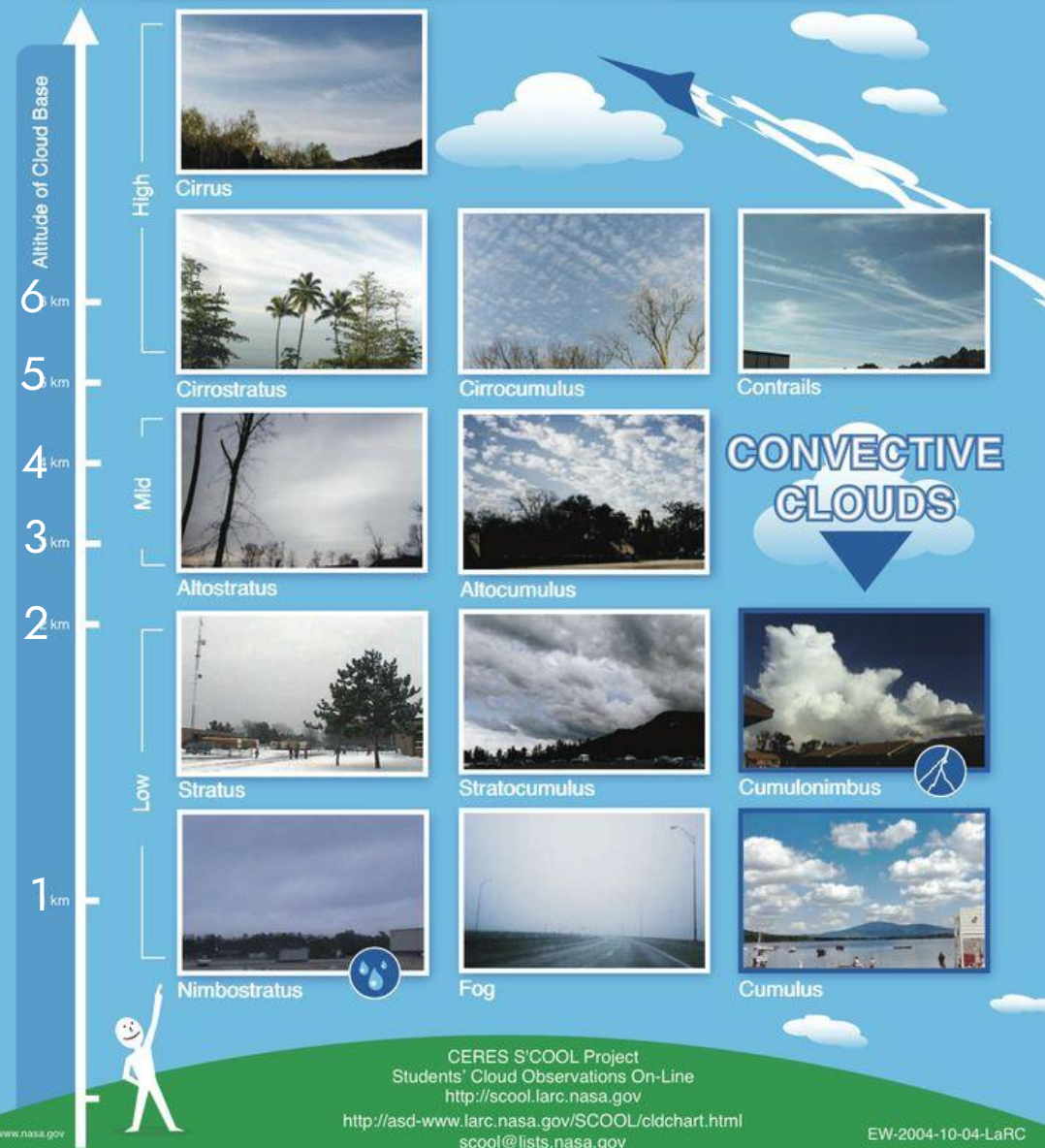
Curious to continue? You can keep observing and submitting data from home using the **GLOBE Observer** app, turning everyday cloud-watching into real scientific impact.

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





S'COOL Cloud Identification Chart



NASA Cloud Observer

High Clouds (Base above 6,000 meters):

Cirrus: Thin, wispy clouds composed of ice crystals. They often appear as delicate streaks or feathery wisps high in the sky.

Cirrostratus: Thin, sheet-like clouds that cover large portions of the sky. They can create a halo around the sun or moon.

Cirrocumulus: Small, fluffy clouds in a regular pattern, resembling fish scales or ripples.

Medium Clouds (Base between 2,000 and 6,000 meters):

Altostratus: Puffy, grayish-white clouds with rounded edges. They often form parallel rows or patches.

Altostratus: Thick, grayish clouds that partially obscure the sun or moon. They lack the distinct features of cirrostratus.

Low Clouds (Base below 2,000 meters):

Stratus: Uniform, grayish clouds that cover the sky like a blanket. They can bring drizzle or light rain.

Stratocumulus: Low, lumpy clouds with defined edges. They often appear in rows or patches.

Nimbostratus: Thick, dark gray clouds associated with steady rain or snow.

Remember that these cloud types can vary in appearance and behaviour, but this basic classification helps meteorologists understand weather patterns and atmospheric conditions. If you'd like to explore more examples, you can check out NASA's [On-Line Cloud Chart](#).

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

iNaturalist

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

By capturing and submitting images of wildlife and plant life, you contributed to a global effort to track species distribution and monitor ecosystems across some of Iceland's most remote and ecologically rich coastlines.

Together, we gathered:

197 Observations

83 Species Identified

10 Observers Participating

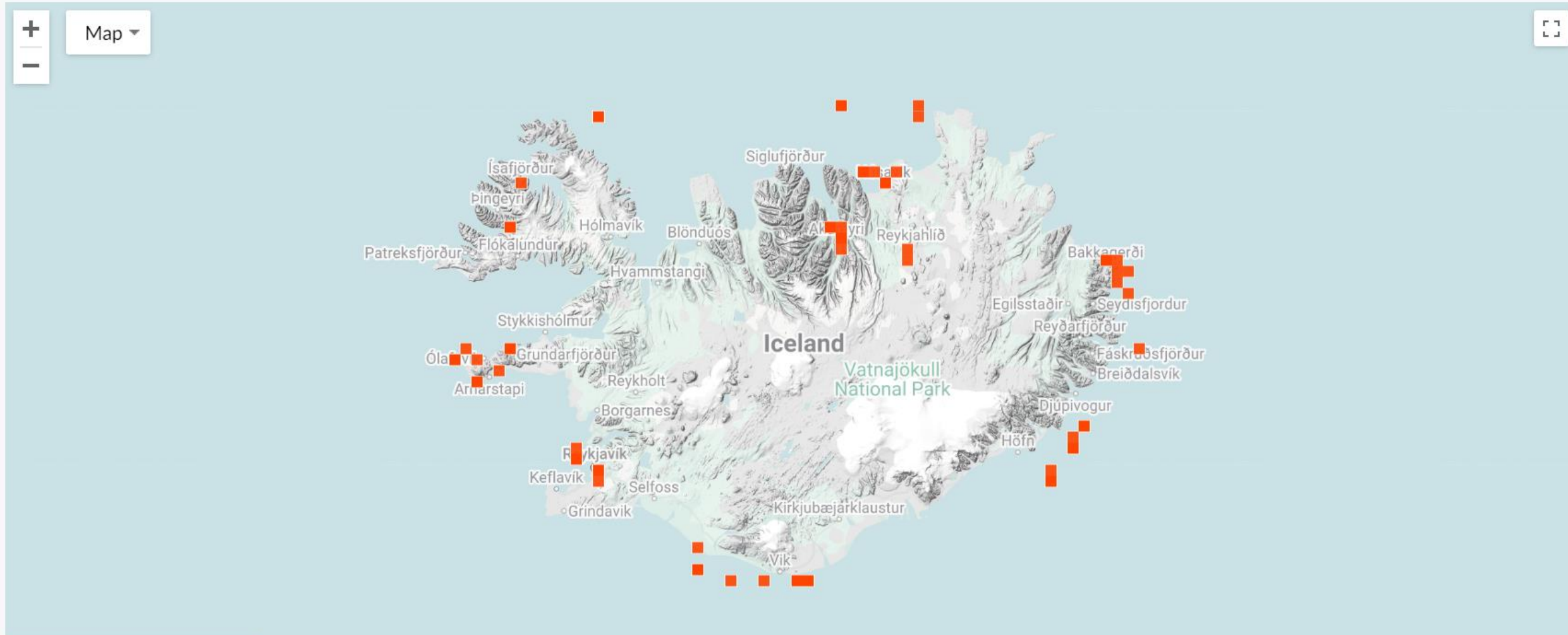
Click on the **link** to view our collective data and see the impact of your contributions:

View our [data](#) on the iNaturalist website



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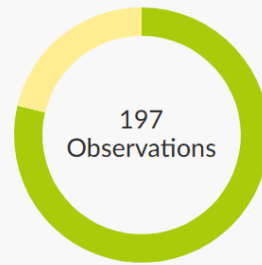
Map of Observations



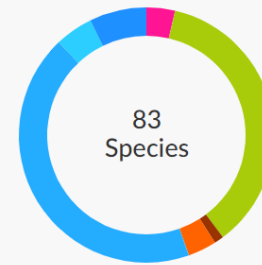
Recent Observations

FNICE2504 – MS Fridtjof Nansen 10-17.5.2025

Stats

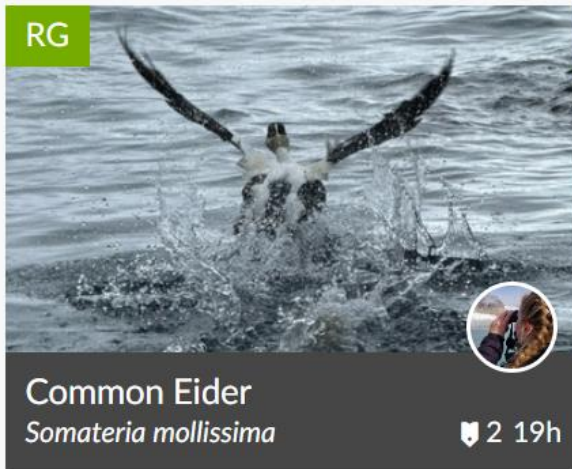


● Research Grade
● Needs ID
● Casual



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

Recent Observations →

[View All](#)



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 several wildlife watches, completed 49 checklists, and recorded 60 bird species.

Every entry adds to a growing database that helps scientists track migration patterns, monitor populations, and understand bird behaviour in remote regions like Iceland. Click the link below to explore our data and see how your observations contribute to a global effort in avian research:

View our [data](#) on the eBird website

eBird Trip Report

eBird

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FNICE2504 MS Nansen: Reykjavik to Reykjavik (10- 17 May 2025)

10 – 17 May 2025 (8 days)

Public

Iceland

[Austurland](#) | [Höfuðborgarsvæði](#) |

[Norðurland eystra](#) | [Suðurland](#) |

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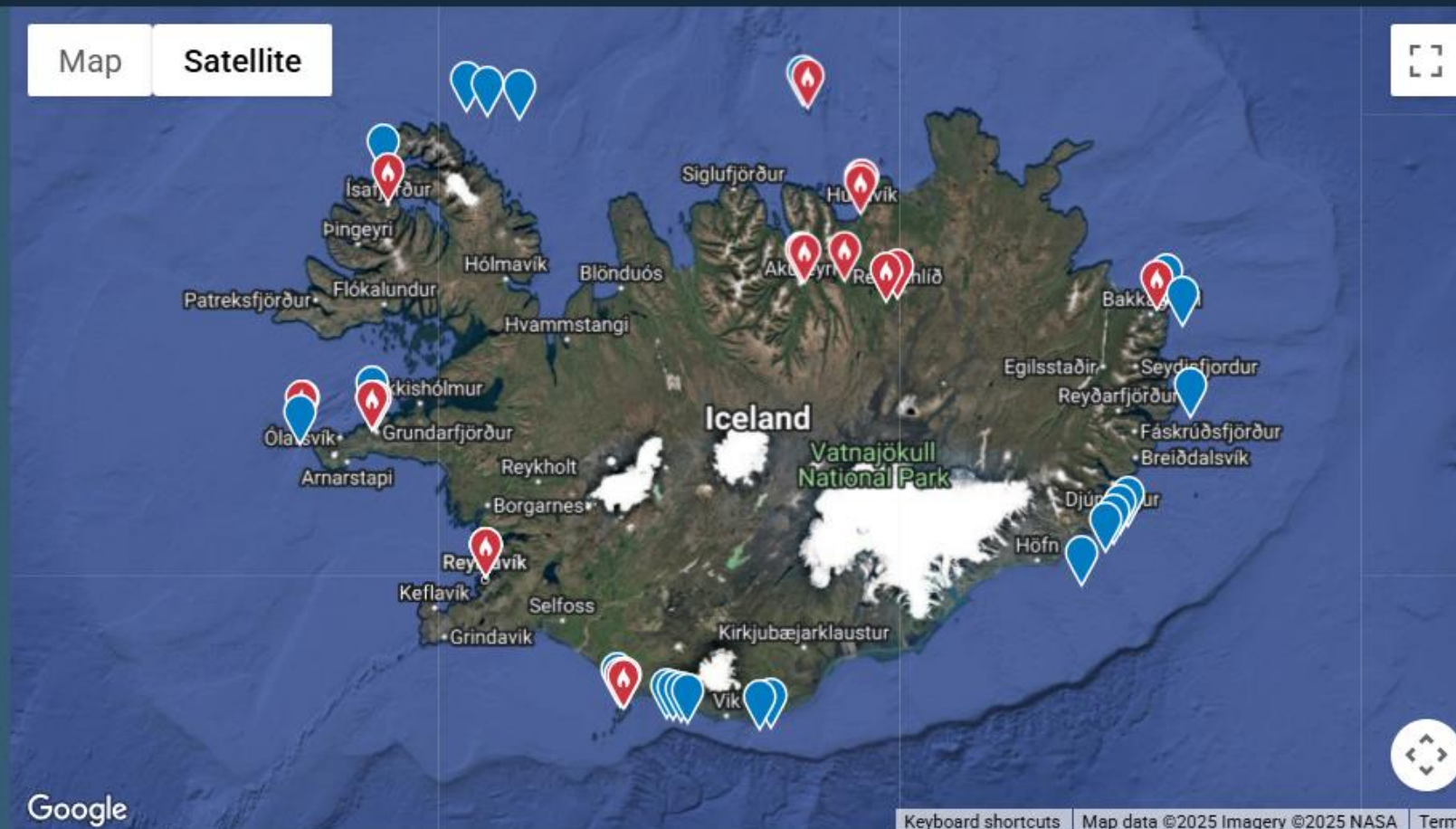
Simon Delany, Ingvild Riska,

Marcus Bergström,

Science Coordinator

Map

Satellite



Google

[Keyboard shortcuts](#) [Map data ©2025 Imagery ©2025 NASA](#) [Terms](#)



Wildlife List - Birds

Wildlife List — Seabirds

Scientific Name	English	Deutsch	Français
<i>Fulmarus glacialis</i>	Northern Fulmar	Eissturmvogel	Fulmar boréal
<i>Puffinus puffinus</i>	Manx Shearwater	Atlantiksturmtaucher	Puffin des Anglais
<i>Chroicocephalus ridibundus</i>	Black-headed Gull	Lachmöwe	Mouette rieuse
<i>Morus bassanus</i>	Northern Gannet	Basstölpel	Fou de Bassan
<i>Larus argentatus</i>	Herring Gull	Silbermöwe	Goéland argenté
<i>Larus fuscus</i>	Lesser Black-backed Gull	Heringsmöwe	Goéland brun
<i>Larus glaucoides</i>	Iceland Gull	Polarmöwe	Goéland arctique
<i>Larus hyperboreus</i>	Glaucous Gull	Eismöwe	Goéland bourgmestre
<i>Larus marinus</i>	Great Black-backed Gull	Mantelmöwe	Goéland marin
<i>Rissa tridactyla</i>	Black-legged Kittiwake	Dreizehenmöwe	Mouette tridactyle
<i>Sterna paradisaea</i>	Arctic Tern	Küstenseeschwalbe	Sterne arctique
<i>Phalacrocorax carbo</i>	Great Cormorant	Kormoran	Grand Cormoran
<i>Stercorarius parasiticus</i>	Arctic Skua/ Parasitic Jaeger	Schmarotzerraubmöwe	Labbe parasite
<i>Stercorarius skua</i>	Great Skua	Skua	Grand Labbe
<i>Alca torda</i>	Razorbill	Tordalk	Petit Pingouin
<i>Fratercula arctica</i>	Atlantic Puffin	Papageitaucher	Macareux moine
<i>Cephus grylle</i>	Black Guillemot	Gryllteiste	Guillemot à miroir
<i>Uria aalge</i>	Common Murre	Trottellumme	Guillemot marmette
<i>Uria lomvia</i>	Brünnich's Guillemot/ Thick-billed Murre	Dickschnabellumme	Guillemot de Brünnich

Wildlife List – Waterbirds

Scientific Name	English	Deutsch	Français
<i>Cygnus cygnus</i>	Whooper Swan	Singschwan	Cygne chanteur
<i>Anas crecca</i>	Eurasian Teal	Krickente	Sarcelle d'hiver
<i>Anas platyrhynchos</i>	Mallard	Stockente	Canard colvert
<i>Anser anser</i>	Greylag Goose	Graugans	Oie cendrée
<i>Clangula hyemalis</i>	Long-tailed Duck	Eisente	Harelde kakawi
<i>Histrionicus histrionicus</i>	Harlequin Duck	Kragenente	Arlequin plongeur
<i>Mareca penelope</i>	Eurasian Wigeon	Pfeifente	Canard siffleur
<i>Mergus serrator</i>	Red-breasted Merganser	Mittelsäger	Harle huppé
<i>Somateria mollissima</i>	Common Eider	Eiderente	Eider à duvet
<i>Charadrius hiaticula</i>	Common Ringed Plover	Sandregenpfeifer	Pluvier grand-gravelot
<i>Pluvialis apricaria</i>	European Golden Plover	Goldregenpfeifer	Pluvier doré
<i>Gavia immer</i>	Common Diver/Loon	Eistaucher	Plongeon huard
<i>Gavia stellata</i>	Red-throated Diver/Loon	Sterntaucher	Plongeon catmarin
<i>Haematopus ostralegus</i>	Eurasian Oystercatcher	Austernfischer	Huîtrier pie
<i>Podiceps auritus</i>	Slavonian/Horned Grebe	Ohrentaucher	Grèbe esclavon
<i>Arenaria interpres</i>	Ruddy Turnstone	Steinwälzer	Tournepierre à collier

Wildlife List – Waterbirds

Scientific Name	English	Deutsch	Français
<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>Phalaropus lobatus</i>	Red-necked Phalarope	Odinshühnchen	Phalarope à bec étroit
<i>Aythya fuligula</i>	Tufted Duck	Reiherente	Fuligule morillon
<i>Tringa totanum</i>	Common Redshank	Rotschenkel	Chevalier gambette

Wildlife List – Landbirds

Scientific Name	English	Deutsch	Français
<i>Plectrophenax nivalis</i>	Snow Bunting	Schneeammer	Plectrophane des neiges
<i>Columba livia</i>	Rock Dove	Felsentaube	Pigeon biset
<i>Corvus corax</i>	Northern Raven	Kolkrabe	Grand Corbeau
<i>Acanthis flammea</i>	Common Redpoll	Birkenzeisig	Sizerin flammé
<i>Anthus pratensis</i>	Meadow Pipit	Wiesenpieper	Pipit farlouse
<i>Motacilla alba</i>	White Wagtail	Bachstelze	Bergeronnette grise
<i>Oenanthe oenanthe</i>	Northern Wheatear	Steinschmätzer	Traquet motteux
<i>Passer domesticus</i>	House Sparrow	Haussperling	Moineau domestique
<i>Lagopus lagopus</i>	Willow Ptarmigan	Moorschneehuhn	Lagopède des saules
<i>Sturnus vulgaris</i>	European Starling	Star	Étourneau sansonnet
<i>Turdus iliacus</i>	Redwing	Rotdrossel	Grive mauvis
<i>Turdus merula</i>	Commin blackbird	Amsel	Merle noir

Northern Fulmar (*Fulmarus glacialis*)



Credit: Ingvild Riska/HX

Black-legged Kittiwake (*Rissa tridactyla*)



Credit: Ingvild Riska/HX



Atlantic Puffin (*Fratercula arctica*)

Wildlife

List - Marine Mammals



Wildlife List – Marine Mammals

Scientific Name	English	Deutsch	Français
<i>Halichoerus grypus</i>	Grey seal	Kegelrobbe	Phoque gris
<i>Phoca vitulina</i>	Harbour seal	Kegelrobbe	Phoque commun
<i>Megaptera novaeangliae</i>	Humpback whale	Buckelwal	Baleine à bosse
<i>Orcinus orca</i>	Killer whale	Schwertwal	Épaulard
<i>Physeter macrocephalus</i>	Sperm whale	Pottwal	Cachalot
<i>Balaenoptera musculus</i>	Blue whale	Blauwal	Rorqual bleu
<i>Balaenoptera acutorostrata</i>	Common minke whale	Zwergwa	Petit rorqual
<i>Vulpes lagopus</i>	Arctic fox	Polarfuchs	Renard arctique

The background of the image shows two whales swimming in a deep blue ocean. The whale in the foreground is larger and more prominent, while the second whale is slightly behind and to the left. A large, semi-transparent watermark consisting of the letters 'I' and 'X' is overlaid on the left side of the image. The text 'Connect With Your Inner Scientist' is centered in the middle of the image in a white, sans-serif font.

Connect With Your Inner Scientist