

The background of the slide features a photograph of two humpback whales swimming in a deep blue ocean. The whales are positioned diagonally, with one slightly above and to the left of the other. A large, semi-transparent watermark with the letters 'HIX' in a bold, serif font is overlaid on the left side of the image. The text 'Science & Education Report' is centered horizontally across the middle of the image, overlaid on the whales and the watermark.

Science & Education Report

MS Fridtjof Nansen

18 – 28 Dec 2024

Highlights of Antarctica





Science & education program

During this voyage, we ran **6 citizen** science projects in total: eBird, HappyWhale, Inaturalist, Nasa Cloud observer, SecchiDisk project & Fjord Phyto project. You were able to enrich your mind with **26 lectures** on different topics from birds to rocks. You also took part in the **15 discovery sessions** we put on.

We had guest scientist on from two different projects that were collecting data whilst you were onboard. The Freidlander lab was collecting biopsies and drone footage. Where the Ocean watchers were collecting data on sightings made during the voyage.

A lot of you were very interested in the scientific aspect of our voyage and we thank you all for your enthusiasm. Here we provide a resume of our science activities.



Lectures & Discovery sessions

26 Lectures

15 Discovery sessions

6 Citizence science projects

6 Double science boats

2 Guest Scientist projects



Wildlife Watch

54 Species:

10 Mammals

28 Birds

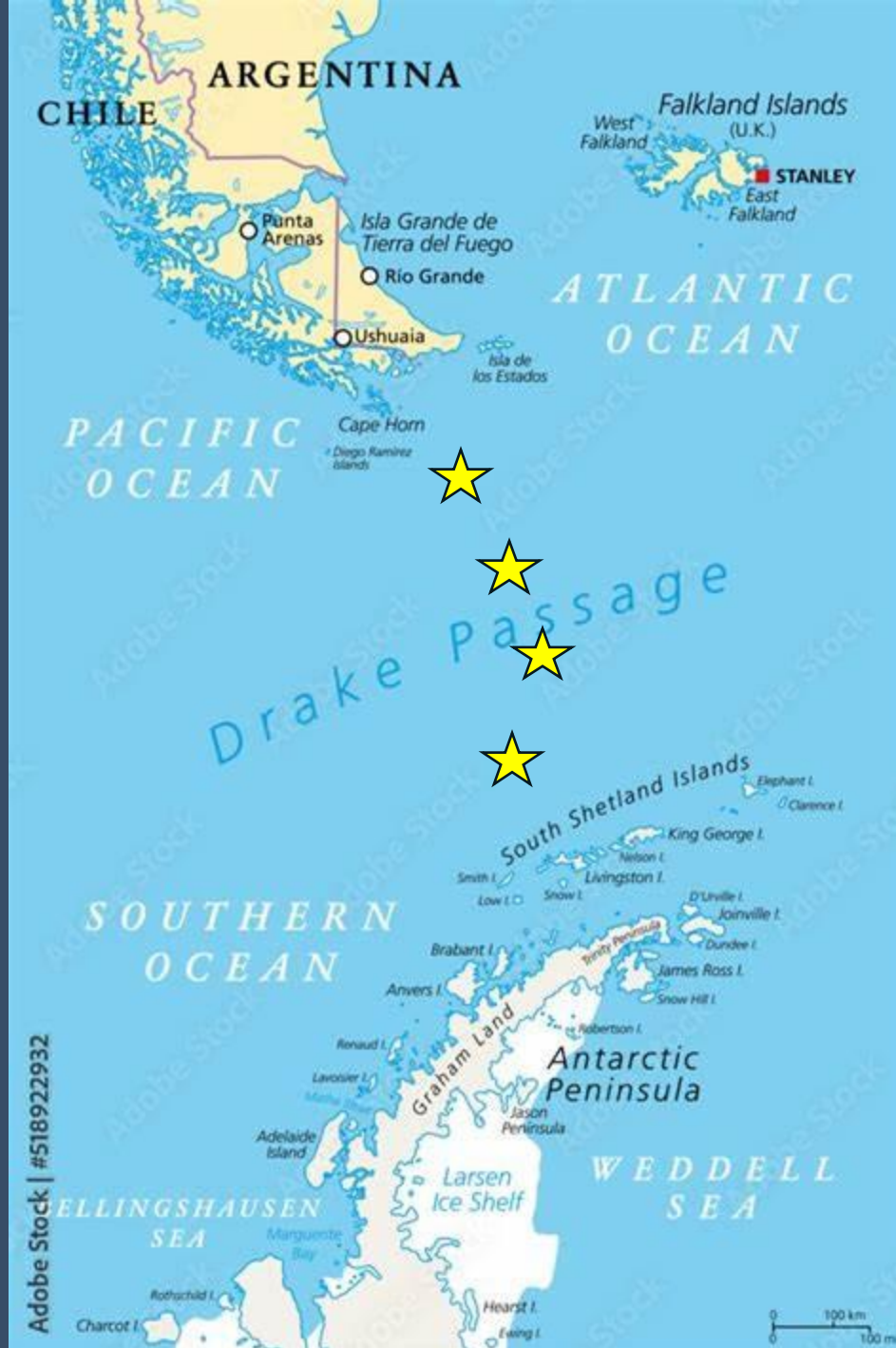


NASA cloud observer

On this expedition for the Highlights of Antarctica, we were able to conduct four cloud observation as we headed South and North on the infamous Drake Passage.

Thank you to the 38 Cloud Observers who participated in the program, and remember you can continue to do this at home!

We have received three matching reports to satellite flyovers. Do not forget to register your email with the program to receive the reports for your observations post voyage.

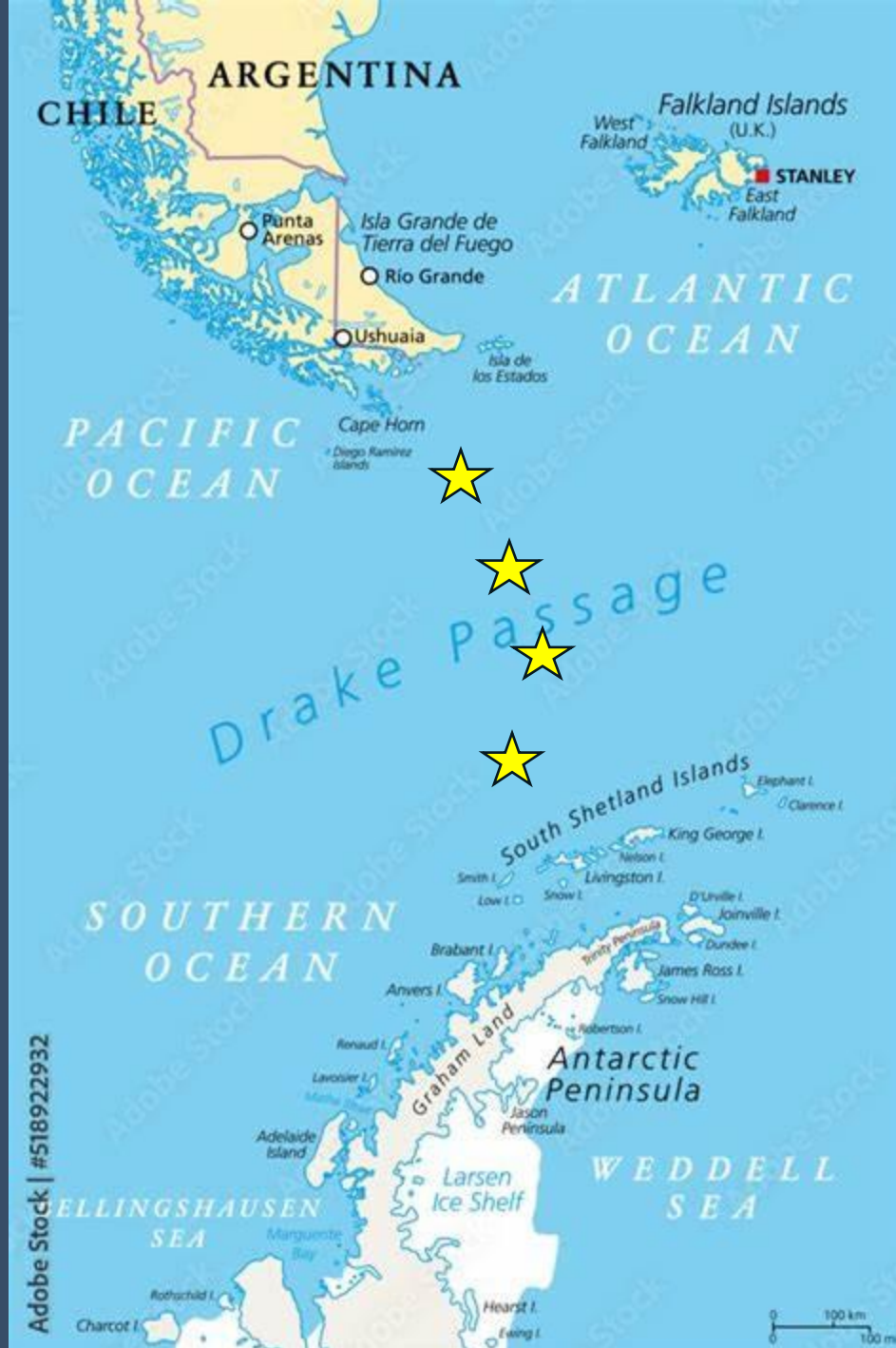


NASA cloud observer

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

4 Observation Locations recorded.
Total Sessions: 4
Total Submissions: 8
Total Observers: 38



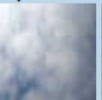
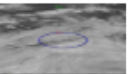
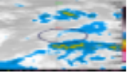


NASA cloud observer

On this voyage we were able to conduct four GLOBE Observer observations. We conducted these on the Drake Passage, providing important data from the ocean atmosphere interface and how it impacts the southern hemisphere weather patterns.

38 people were involved in this citizen science project and should feel confident to continue contributing when they go home. We would like to encourage you to continue supporting this project.



Observation	GLOBE	GOES-16 Satellite
Universal Date/Time	2024-12-19 18:18:00	2024-12-19 18:07
Latitude	-58.35	-58.67 to -58.03
Longitude	-65.84	-66.16 to -65.52
Total Cloud Cover	Overcast (>90%) 	Overcast 100.00% 
High Clouds	 Cirrus Cover: Few (<10%)  Opacity: Translucent	
Mid Clouds	 Altostratus Cover: Scattered (25-50%)  Opacity: Translucent	Cover: Isolated 17.02%  Altitude: 3.27 (km) Phase: Water 255.36 (K) Opacity: Translucent
Low Clouds	 Cumulus  Stratocumulus Cover: Broken (50-90%)  Opacity: Opaque	Cover: Broken 82.98%  Altitude: 1.24 (km) Phase: Water 268.91 (K) Opacity: Translucent
GLOBE Cloud Photos and Corresponding NASA Satellite Images. Click image to view ---> <i>Note: Photos submitted though GLOBE need approval before being displayed, this may take a few days</i>	GLOBE Photos North East South    West Up Down   	GOES-16 Visible  Infrared  GEO Tutorial

NASA cloud observer

We received three matching reports were our observations were timed to match a satellite flyover.

We have matched observations with the GOES16 and Terra 4 Satellites. We are still waiting on matching reports for the observations taken on our North bound drake passge transit.

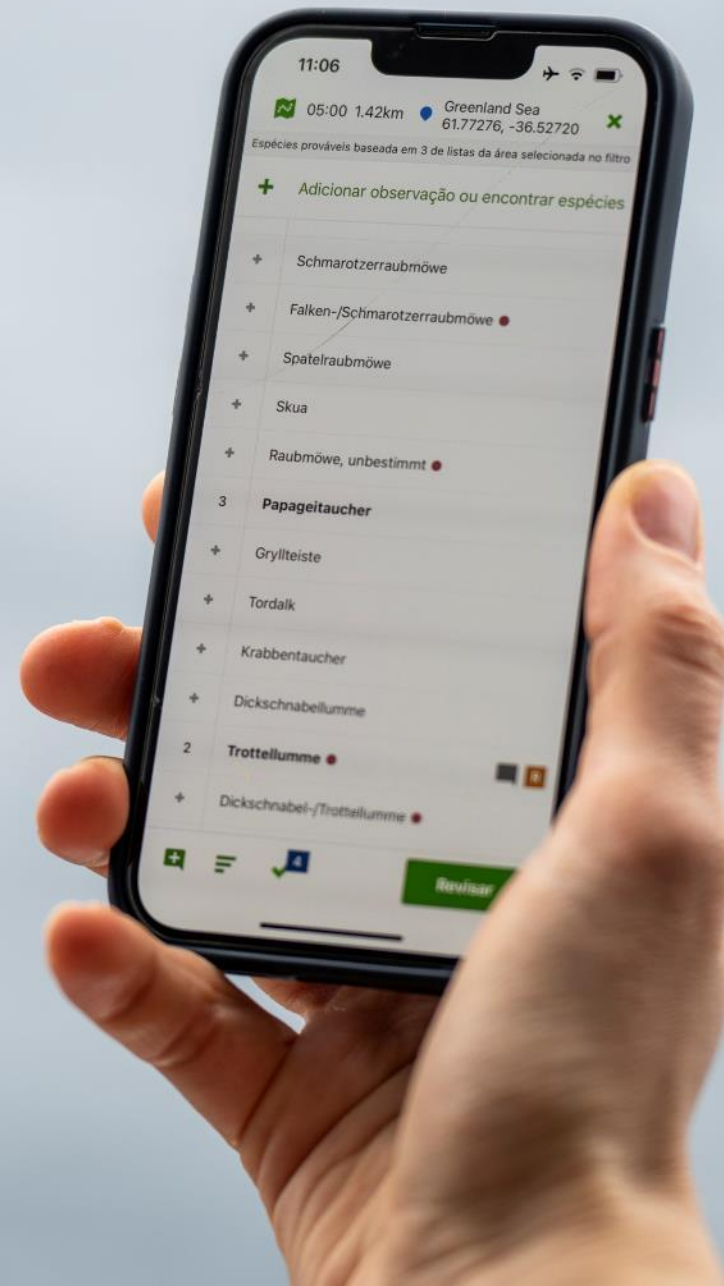


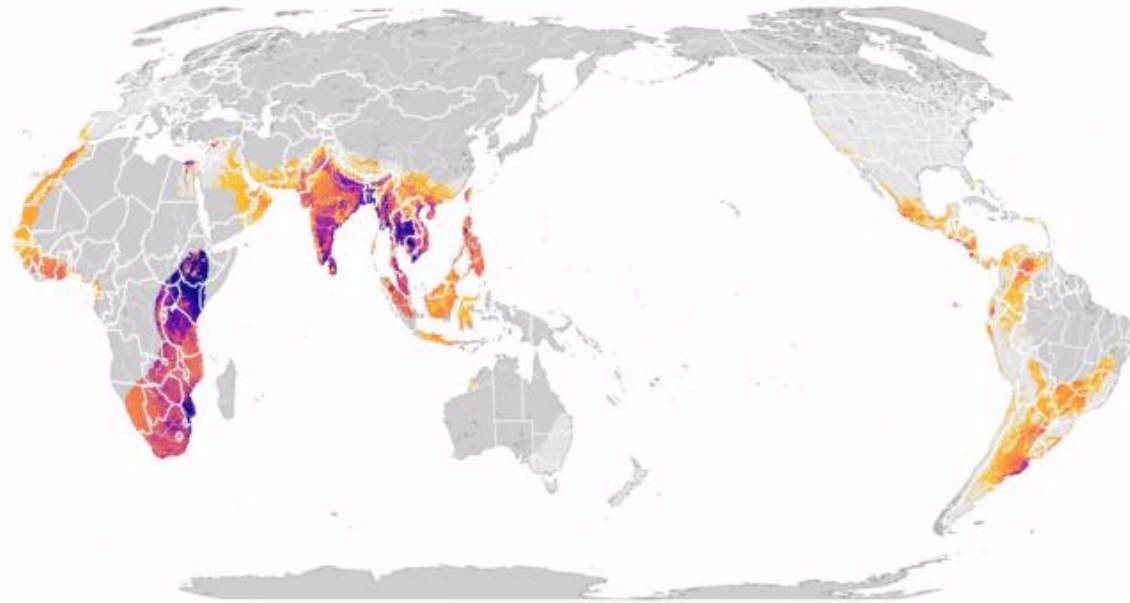


The eBird project

During this voyage, our ornithologists, did **67 surveys**. At least **45 species** were observed. The most frequently observed species were the Black-legged Kittiwake, Northern Fulmar, Glaucous Gull and Snow Goose. Find the trip report for the voyage and the checklists here:

<https://ebird.org/tripreport/265530>



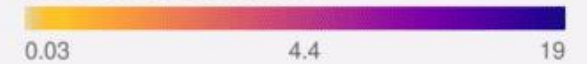


Barn Swallow *Hirundo rustica*

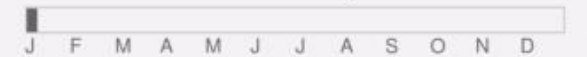
Abundance

Estimates of relative abundance for every week of the year animated to show movement patterns. Relative abundance is the estimated average count of individuals detected by an eBirder during a 1 hour, 1 kilometer traveling checklist at the optimal time of day for each species.

RELATIVE ABUNDANCE



WEEK OF THE YEAR January 4



Modeled area (0 abundance)
No prediction

eBird data from 2006-2020. Estimated for 2020.
Fink, D., T. Auer, A. Johnston, M. Strimas-Mackey, O. Robinson, S. Ligocki, W. Hochachka, L. Jaromczyk, C. Wood, I. Davies, M. Iliff, L. Seitz. 2021. eBird Status and Trends, Data Version: 2020; Released: 2021. Cornell Lab of Ornithology, Ithaca, New York. <https://doi.org/10.2173/ebirdst.2020>

Trip Report on eBird

FNANT2411D - MS Fridtjof Nansen - Highlights of Antarctica - 18th to 28th of December 2024

18 – 28 Dec 2024 (11 days) Public

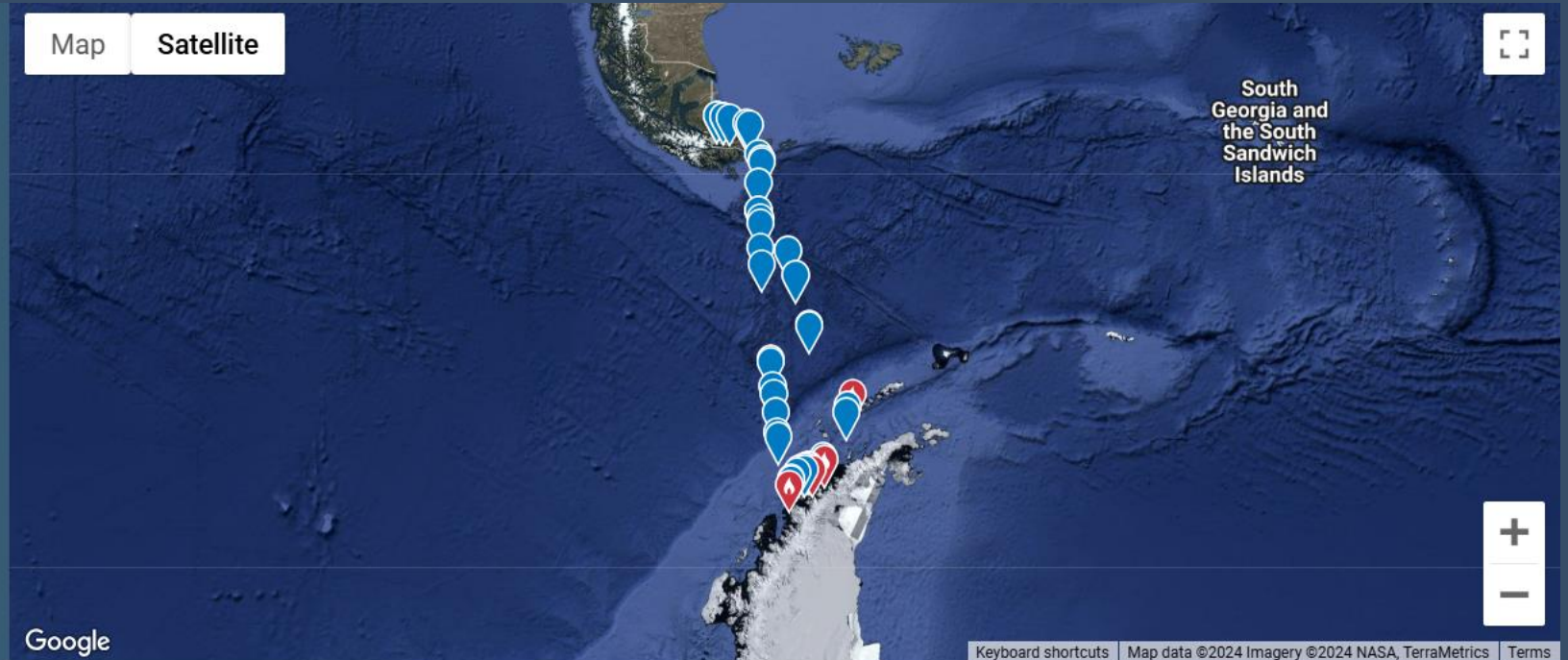
[Antarctica](#) | [Argentina](#) | [Chile](#) | [High Seas](#)

[Subregions](#)

[Ingvild Riska](#), [Liam Northfield](#)

[Share](#)

[Edit](#) ▾



A HX - Hurtigruten Expeditions voyage to the
Antarctic Peninsula on board MS Fridtjof
Nansen.

[Edit narrative](#)

DATA FOR: [Group \(all people\)](#) ▾

 **36**

Species Observed
+7 other taxa

 **45**

Checklists

Species Observed

[Show all details](#)

3	Upland Goose <i>Chloephaga picta</i>	1
1	Flying Steamer-Duck <i>Tachyeres patachonicus</i>	1
3	Rock Pigeon <i>Columba livia</i> *	1
5	Snowy Sheathbill <i>Chionis albus</i>	3
18	Chilean Skua <i>Stercorarius chilensis</i>	4
6	Brown Skua <i>Stercorarius antarcticus</i>	2
9	South Polar Skua <i>Stercorarius maccormicki</i>	7
27	Dolphin Gull <i>Leucophaeus scoresbii</i>	3
337	Kelp Gull <i>Larus dominicanus</i>	11
31	South American Tern <i>Sterna hirundinacea</i>	5
8	Antarctic Tern <i>Sterna vittata</i>	5
6	Adelie Penguin <i>Pygoscelis adeliae</i>	4
90	Gentoo Penguin <i>Pygoscelis papua</i>	12
16	Chinstrap Penguin <i>Pygoscelis antarcticus</i>	4
9	Magellanic Penguin <i>Spheniscus magellanicus</i>	3
1	Southern Royal Albatross <i>Diomedea epomophora</i>	1
2	Snowy Albatross <i>Diomedea exulans</i>	2
1	Light-mantled Albatross <i>Phoebastria palpebrata</i>	1

116	Black-browed Albatross <i>Thalassarche melanophris</i>	14
40	Wilson's Storm-Petrel <i>Oceanites oceanicus</i>	19
8	Black-bellied Storm-Petrel <i>Fregetta tropica</i>	5
67	Southern Giant-Petrel <i>Macronectes giganteus</i>	17
1	Northern Giant-Petrel <i>Macronectes halli</i>	1
69	Southern Fulmar <i>Fulmarus glacialis</i>	13
4	Antarctic Petrel <i>Thalassoica antarctica</i>	3
198	Pintado Petrel <i>Daption capense</i>	20
2	Soft-plumaged Petrel <i>Pterodroma mollis</i>	2
156	Blue Petrel <i>Halobaena caerulea</i>	11
2	Slender-billed Prion <i>Pachyptila belcheri</i>	1
5	White-chinned Petrel <i>Procellaria aequinoctialis</i>	4
6	Sooty Shearwater <i>Ardenna grisea</i>	3
3	Magellanic Cormorant <i>Leucocarbo magellanicus</i>	2
283	Imperial Cormorant <i>Leucocarbo atriceps</i>	7
6	Antarctic Shag <i>Leucocarbo bransfieldensis</i>	5
2	Black-crowned Night Heron <i>Nycticorax nycticorax</i>	1
2	House Sparrow <i>Passer domesticus</i> *	1

EVENT IN PROGRESS



MS Fridtjof Nansen Highlights of Antarc...

DEC 18, 2024 - DEC 28, 2024

About

Members  24

Shared observations from guests and Expedition Team onboard MS Fridtjof Nansen during the expedition cruise "Highlights of Antarctica" from 18th - 28th December 2024, aiming to collect data on the local biodiversity

[Read More >](#)

PROJECT
MEMBERS ONLY

 [Project Journal](#)



iNaturalist

We submitted more than 250 observations identifying 47 species of everything living and wild we encountered.

The most frequently observed species were Humpback Whales followed by Gentoo Penguins and Pintado Petrels.

It is still time to join our project once you are back home and contribute your photos. Helping us document the local biodiversity will help the scientists worldwide to monitor the changes of distribution and abundance of the most iconic Antarctic species.

View our data submitted on our [iNaturalist project](#)

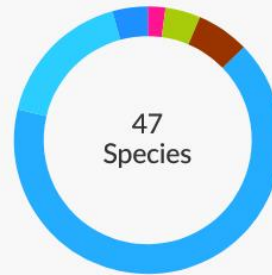


Feeding Humpback whales in Wilhelmina Bay, © Charlotte Kirchner / HX

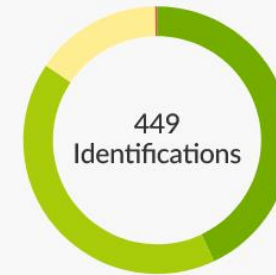
Stats



- Research Grade
- Needs ID
- Casual

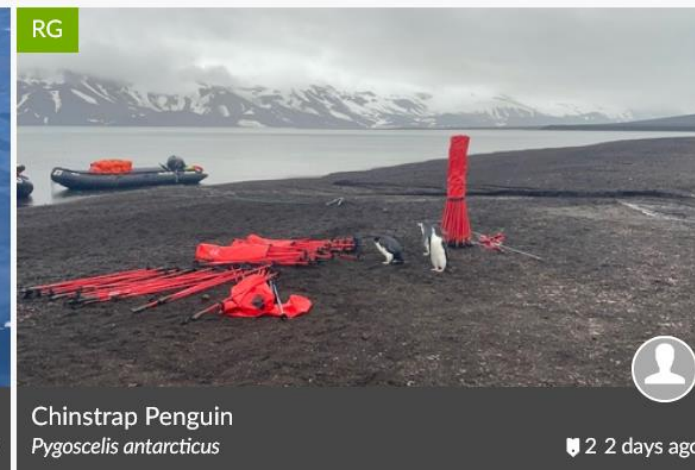
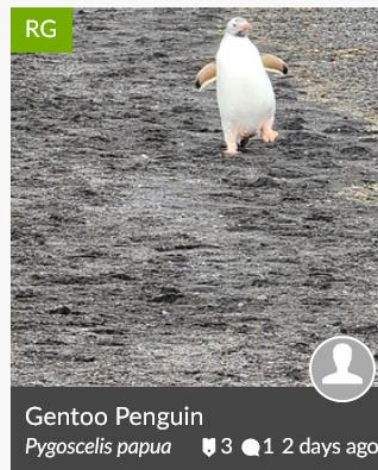


- Unknown
- Protozoans
- Fungi
- Plants
- Chromista
- Mollusks
- Insects
- Arachnids
- Ray-Finned F...
- Amphibians
- Reptiles
- Birds
- Mammals
- Other Animals



- Improving
- Supporting
- Leading
- Maverick

Most Comments and Faves





24 observations

Humpback Whale
Megaptera novaeangliae



20 observations

Gentoo Penguin
Pygoscelis papua



13 observations

Pintado Petrel
Daption capense



13 observations

Kelp Gull
Larus dominicanus



13 observations

Antarctic Shag
Leucocarbo bransfieldensis



11 observations

Adelie Penguin
Pygoscelis adeliae



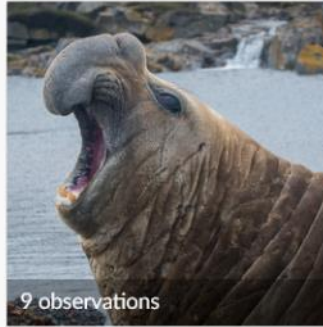
10 observations

Fin Whale
Balaenoptera physalus



10 observations

Chinstrap Penguin
Pygoscelis antarcticus



9 observations

Southern Elephant Seal
Mirounga leonina



8 observations

Crabeater Seal
Lobodon carcinophaga



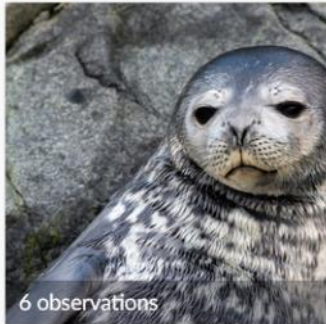
8 observations

Snowy Sheathbill
Chionis albus



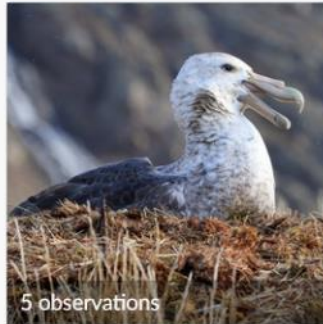
7 observations

Orca
Orcinus orca



6 observations

Weddell Seal
Leptonychotes weddellii



5 observations

Southern Giant Petrel
Macronectes giganteus



5 observations

Antarctic Tern
Sterna vittata



HappyWhale

This voyage was a success in terms of marine mammals sightings. We submitted a total of 3 Humpback flukes for identification in addition of dorsal fin and saddle patch photos of some of the orcas. We also submitted photos to report sightings of Sei and Fin whales; also Weddell seals.

If you find you have any fluke photo's when you go over your photo's, do not hesitate to upload them your self to Happywhale.

Thank you so much for helping us gathering amazing pictures and moments!

© Timo Heinz / HX





Humpback flukes submmited

Photos: Lilia Gonzalez



Sei whales



Fin whales



Photos: Lilia Gonzalez



Orca



Weddell seal

Photos: Lilia Gonzalez

This trip sightings!



Organizations

 HX (Hurtigruten Expeditions)

Q

Map Info

Total

Visible

9

Encounters

9

1

Individuals

1

3

Species

3

—

Show User Photographed Only

—

Show Individual Connections

Highlighted Photos

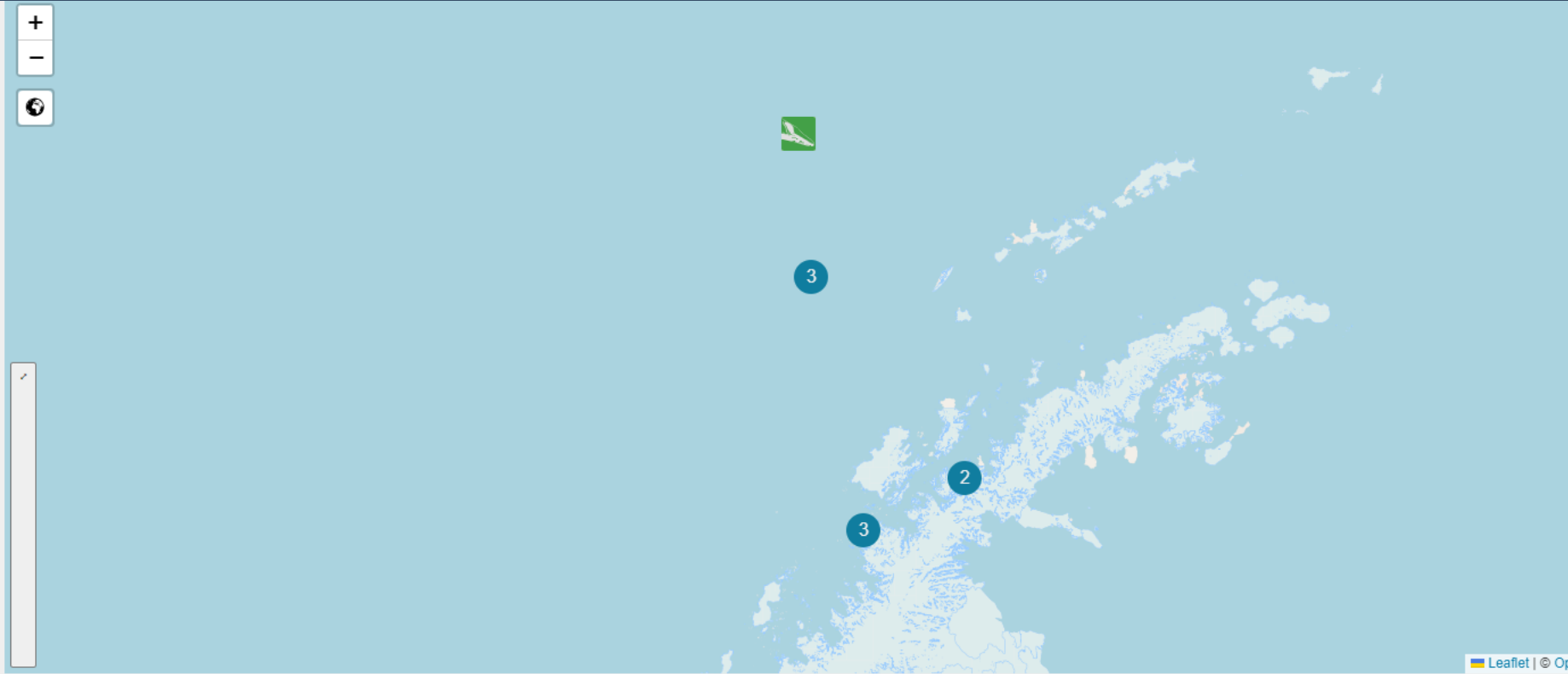




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Leaflet | © OpenStreetMap contributors

Use shift key to zoom by rect

✓

 HX (Hurtigruten Expeditions)

2024-12-18 - 2024-12-28

Boat: MS Fridtjof Nansen

Trip

Encounters





FRIEDLAENDER LAB

Bio-telemetry and Behavioral Ecology



20 killer whales: Type B(2)

12 Humpback whales

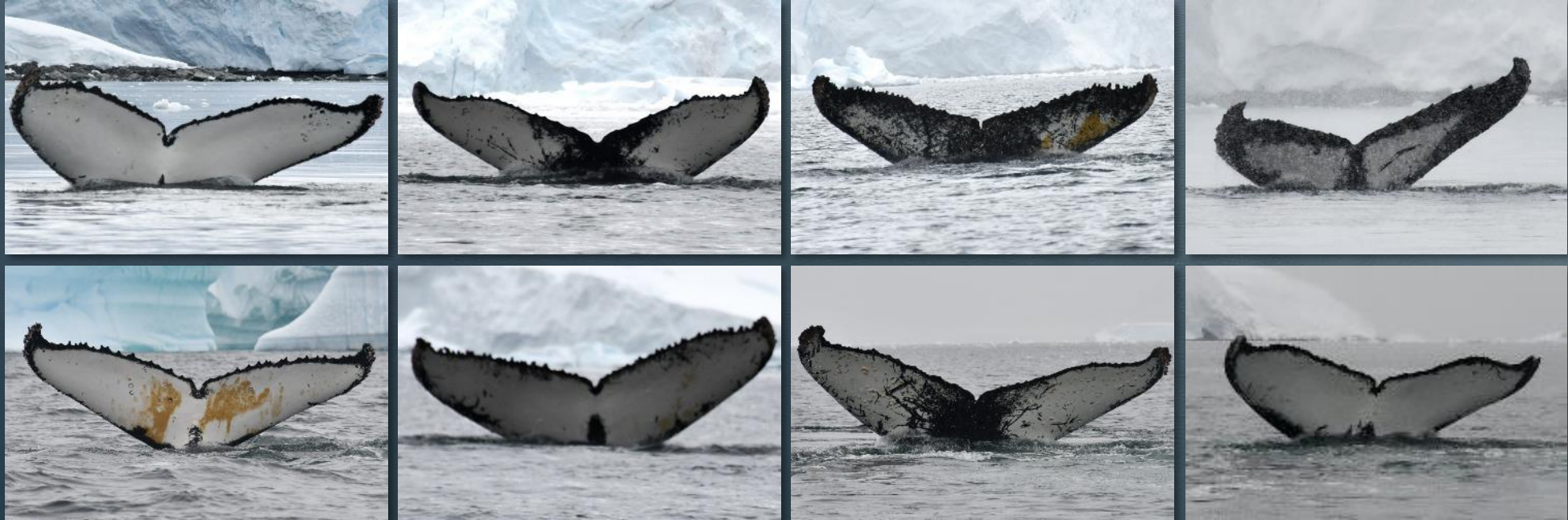
1 Minke whale



8

fluke photographs

Permit ACA 2025-020



Surveys



and Photo-ID

Remote Biopsy

5 skin + blubber samples



UAS Operations

photogrammetry samples

12.7 m

6

5.7 m

Permit ACA 2025-020

14.8 m

4.7 m

5 Humpbacks
1 Minke

FRIEDLAENDER LAB

Bio-telemetry and Behavioral Ecology



**HURTIGRUTEN
EXPEDITIONS**

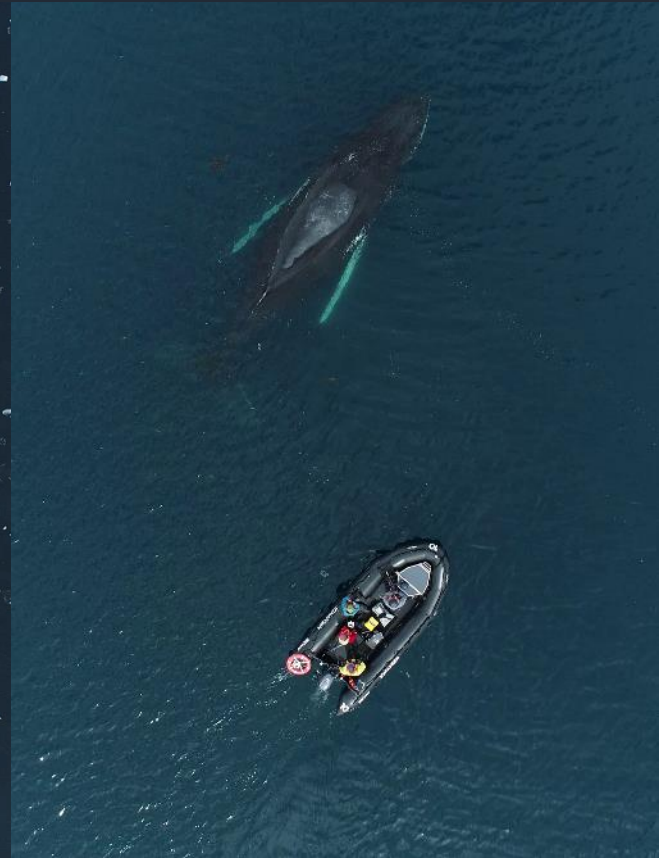
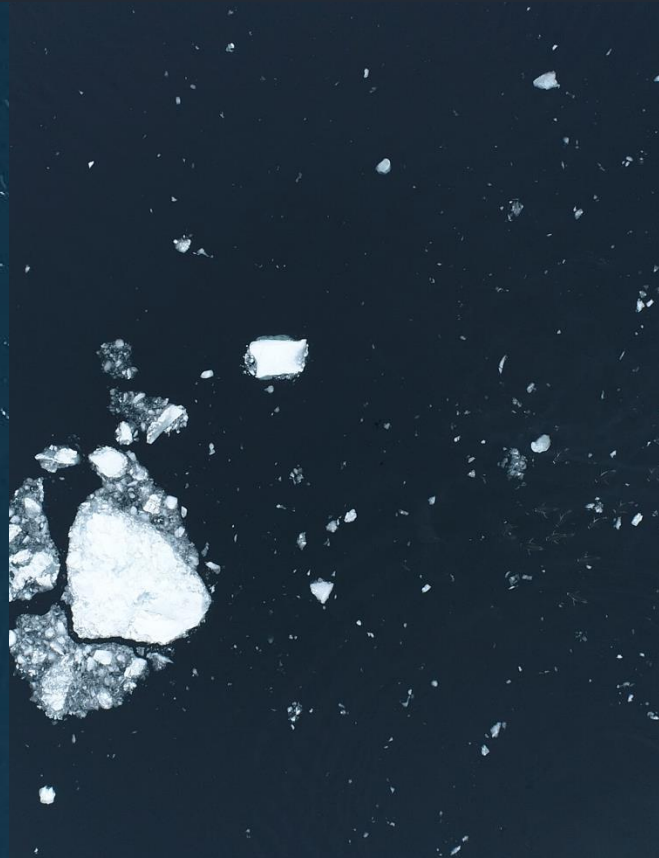
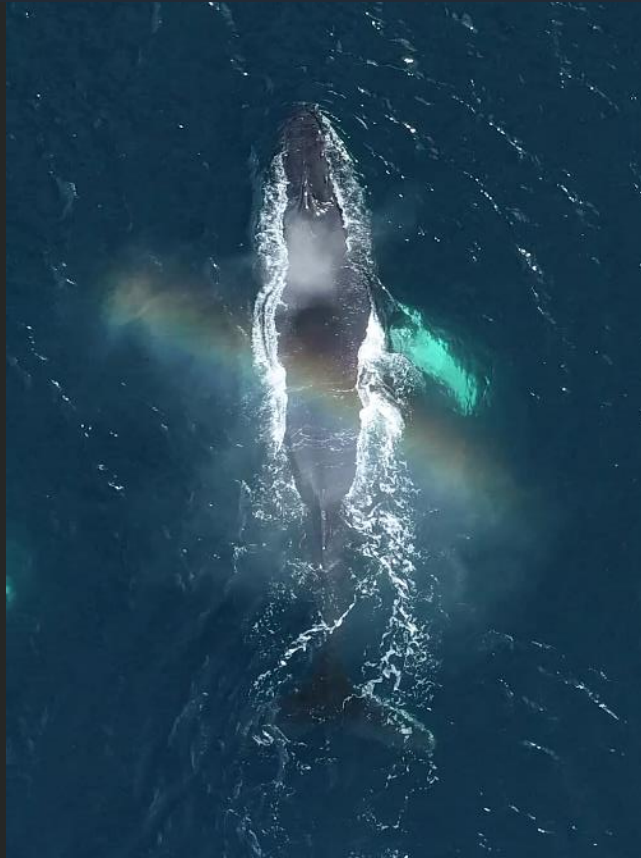
FRIEDLAENDER LAB

Bio-telemetry and Behavioral Ecology

Follow along with our operations...



@FRIEDLAENDER_LAB

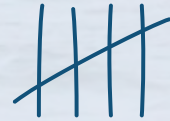




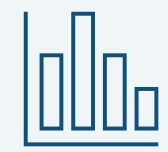
POLAR WHALE WATCH



Trip summary

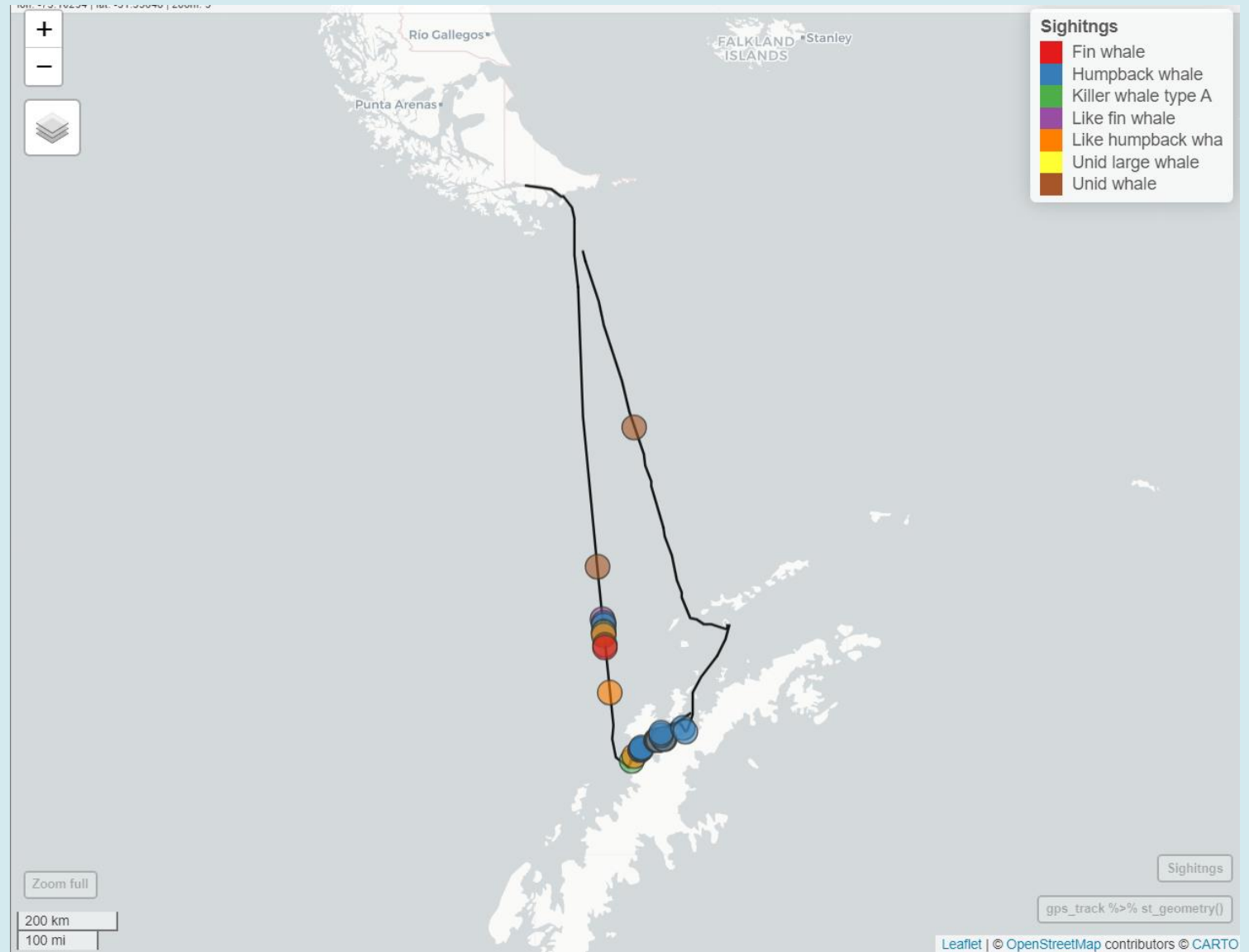


Observations



Species Name	Number of Sightings	Number of Individuals
Fin Whale	1	2
Like Fin Whale	1	5
Humpback Whale	17	33
Like Humpback Whale	5	6
Killer Whale Type B	1	12
Unidentified Large Whale	1	1
Unidentified Whale	3	4
TOTAL	29	63

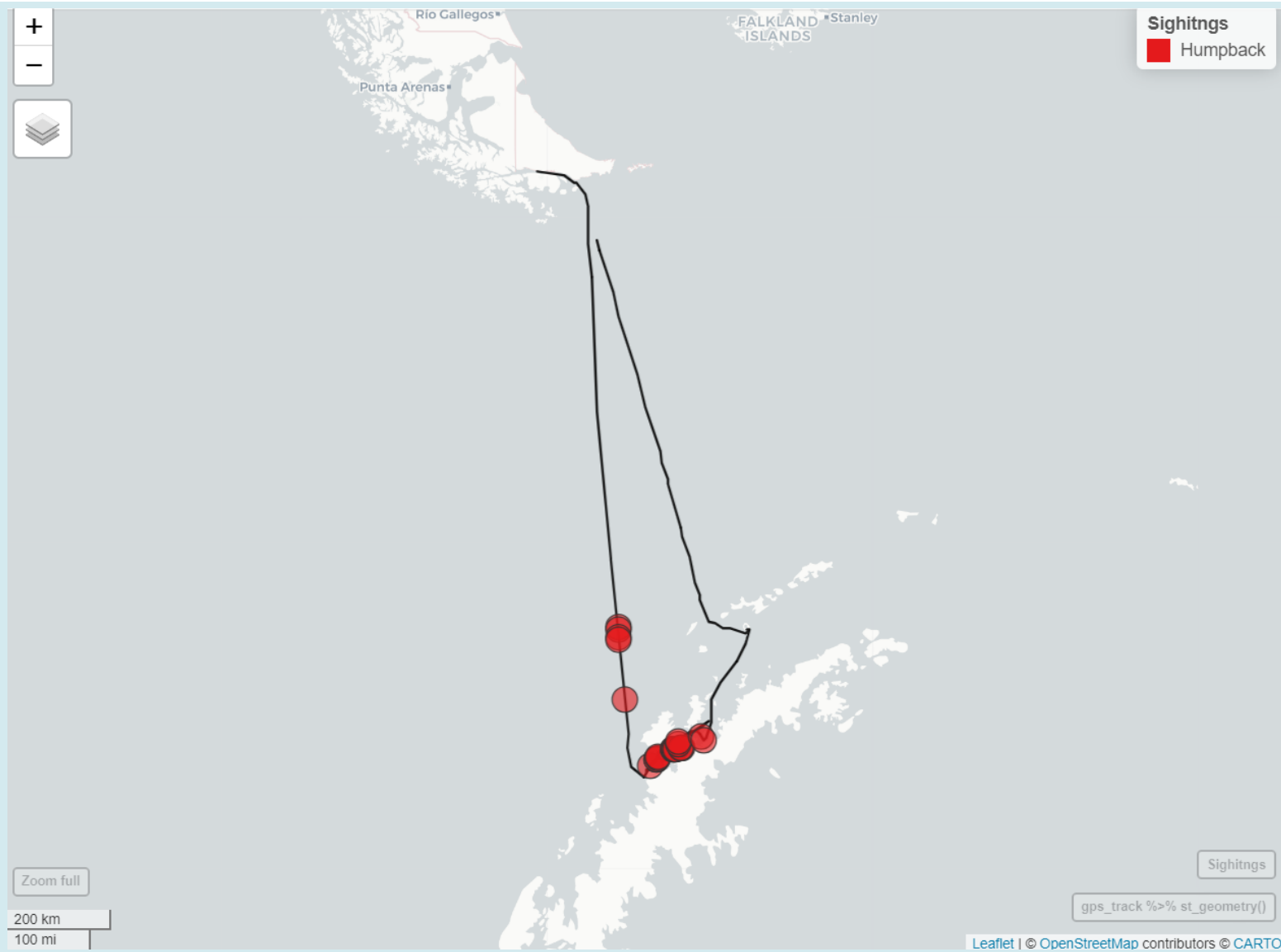
Observations



Observations



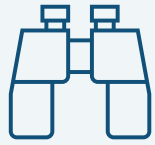
62% Humpback or
like humpback



Photos



Photos





Science Boat

We had 6 science boat sessions during this trip in: Planeau Islands, Brown Station & Whalers Bay. We sampled for different projects. With the secchi disk measurements to document the turbidity/clarity of the water and assess the abundance of phytoplankton. And for the fjord phyto project. This project aims to monitor the changes in abundance and distribution of phytoplankton in Antarctic & Arctic waters in relation with glacial ice melting. We towed a plankton net of 20 um mesh size to gather water samples, deployed our CTD sensor to understand the oceanographical parameters of the water (temperature, salinity, chlorophyll a) and preserved meltwater samples to measure later on dissolved oxygen. The whole mission was a success, thank you for participating with us!



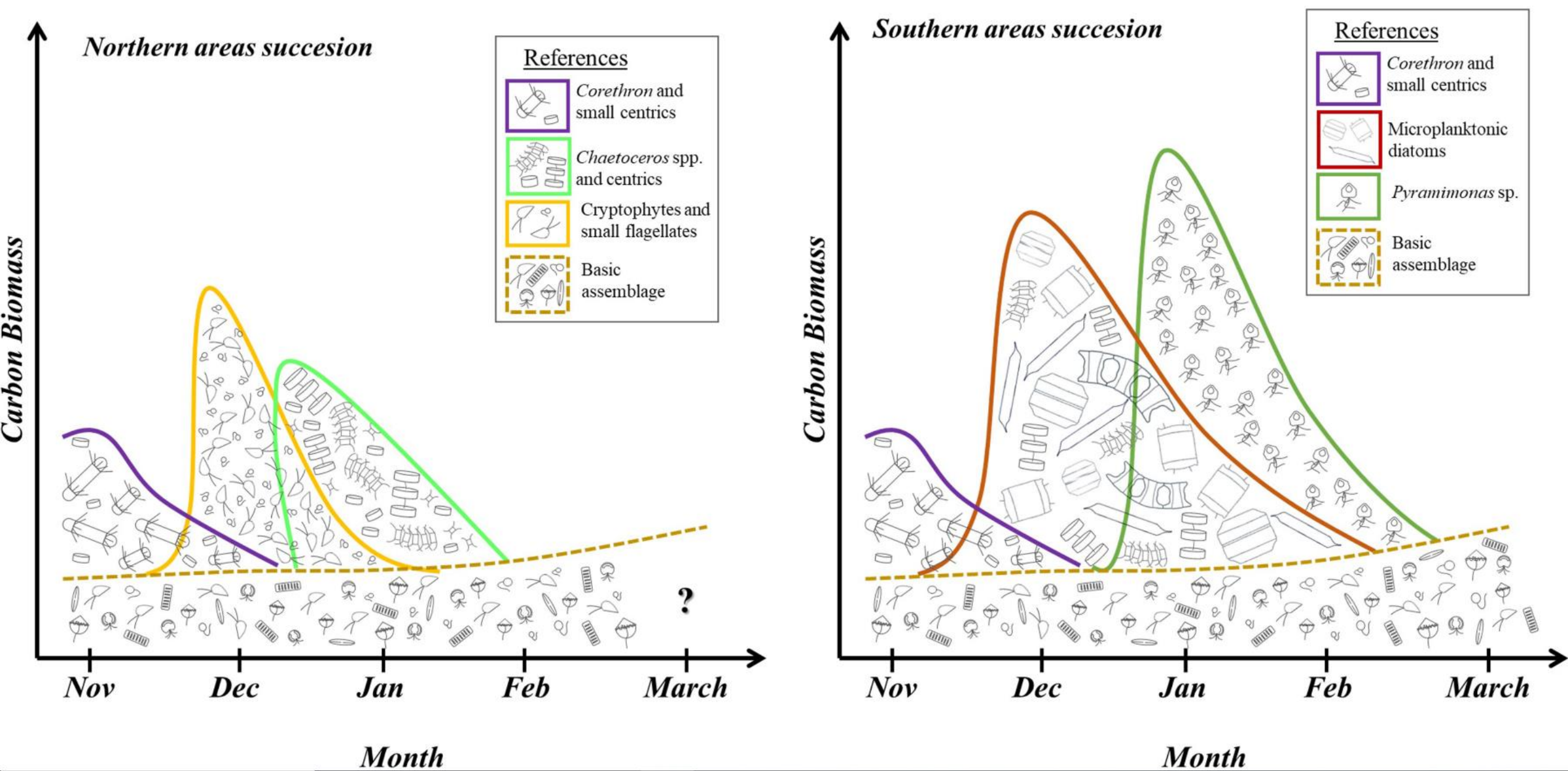
If you like to help us make the project a success



Follow us on social media @fjordphyto



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



Here is a diagram that explains the temporal succession of phytoplankton communities. Our voyage allowed us to visit both the Northern and Southern areas of the Gerlache Strait. We observed big differences in the abundance and diversity of species between the north (Lemaire) and the south (Marguerite Bay), with higher and richer waters towards the south, matching those results. Data obtained thanks to the FjordPhyto project participants. Marscioni et al 2023.

Wildlife List - Birds





Leucocarbo bransfieldensis
EN: Antarctic (Blue-eyed) Shag
FR: Cormoran antarctique
DE: Antarktisscharbe
NO: Antarktisskarv
中文: 南极鸬鹚



Credit: Martin Hain/ HX



Leucocarbo atriceps
EN: Imperial Shag
FR: Cormoran impérial
DE: Kaiserscharbe
NO: Knoppskarv
中文: 蓝眼鸬鹚



Credit: Caliponte/ Wikipedia



Stercorarius antarcticus
EN: Subantarctic Brown Skua
FR: Labbe antarctique
DE: Subantarktikskua
NO: Sørhavsjo
中文: 棕贼鸥



Credit: Ted Gattlin/ HX



Stercorarius maccormicki
EN: South Polar Skua
FR: Labbe de McCormick
DE: Antarktiskua
NO: Sørjo
中文: 南极贼鸥/ 麦氏贼鸥



Credit: Kay Fochtmann/ HX



Stercorarius chilensis
EN: Chilean Skua
FR: Labbe du Chili
DE: Chileskua
NO: Kaneljo
中文: 智利贼鸥



Credit: Arthur Chapman/ Wikipedia



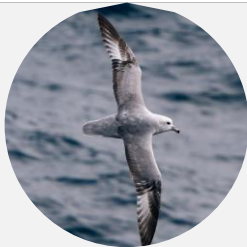
Macronectes giganteus
EN: Southern Giant Petrel
FR: Pétrel géant
DE: Riesensturmvogel
NO: Sørkjempetrell
中文: 南方巨鹱



Credit: Kay Fochtmann & Ted Gatlin/ HX

■	■	■		■	■	■		■	■
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Fulmarus glacialisoides
EN: Southern Fulmar
FR: Fulmar argenté
DE: Silbersturmvogel
NO: Sørhavhest
中文: 银灰暴风鹱



Credit: Kay Fochtmann/ HX

		■		■	■	■			
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Daption capense
EN: Pintado Petrel
FR: Damier du Cap
DE: Kapsturmvogel
NO: Flekkpetrell
中文: 花斑鹱



Credit: Jilia Finger/ HX

	■	■		■	■		■	■	
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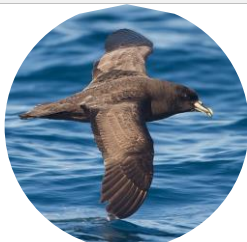
Thalassoica antarctica
EN: Antarctic Petrel
FR: Pétrel antarctique
DE: Antarktissturmvogel
NO: Antarktispetrell
中文: 南极鹱



Credit: Jilia Finger/ HX

		■							
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Procellaria aequinoctialis
EN: White-chinned Petrel
FR: Puffin à menton blanc
DE: Weißkinn-Sturmvogel
NO: Hvithakepetrell
中文: 白颈风鹱



Credit: JHarrison/ Wikipedia

	■								■
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[illegible]

Wildlife List - Marine Mammals



CETACEANS - WHALES & DOLPHINS

[illegible]

CETACEANS - WHALES & DOLPHINS

[illegible]

CETACEANS - WHALES & DOLPHINS

Species	December									
	18	19	20	21	22	23	24	25	26	27
<i>Cephalorhynchus eutropia</i> EN: Chilean dolphin FR: Céphalorhynque noir DE: Weißbauchdelfin NO: Chiledelfin 中文: 智利矮海豚										
<i>Cephalorhynchus commersonii</i> EN: Commerson's dolphin FR: Céphalorhynque de Commerson DE: Commerson-Delfin NO: Commersondelfin 中文: 花斑喙头海豚/康氏矮海豚										
<i>Lagenorhynchus obscurus</i> EN: Dusky dolphin FR: Lagenorhynque obscur DE: Schwarzdelfin NO: Morkdelfin 中文: 暗色斑纹海豚										
<i>Lagenorhynchus cruciger</i> EN: Hourglass dolphin FR: Lagénorhynque sablier DE: Stundenglasdelfin NO: Timeglassdelfin 中文: 间纹斑纹海豚/沙漏斑纹海豚										
<i>Globicephala melas</i> EN: Long-finned pilot whale FR: Globicéphale noir DE: Grindwal NO: Grindhval 中文: 长肢领航鲸										

CETACEANS - WHALES & DOLPHINS

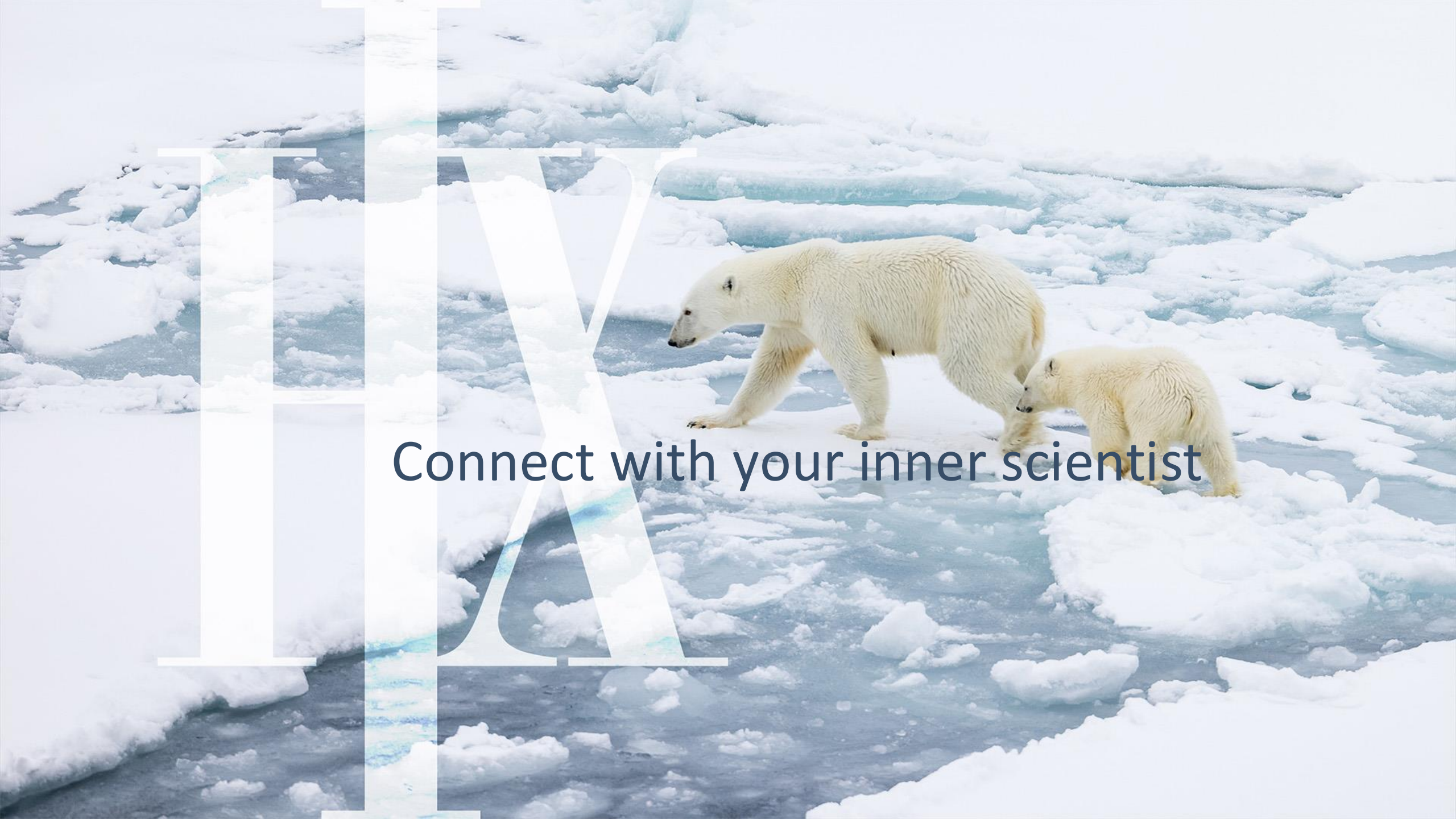
Species		December									
		18	19	20	21	22	23	24	25	26	27
<u><i>Lissodelphis peronii</i></u> EN: Southern Right Whale Dolphin FR: Dauphin de Peron DE: Südlicher Glattwaldelfin 中文: 南露脊海豚											
<u><i>Lagenorhynchus australis</i></u> EN: Peale's dolphin FR: Lagénorhynque de Peale DE: Peale-Delfin NO: Peales delfin 中文: 皮氏斑纹海豚											

SEALS – TRUE AND EARED SEALS

Species		December									
		18	19	20	21	22	23	24	25	26	27
<u><i>Leptonychotes weddellii</i></u> EN: Weddell Seal FR: Phoque de Weddell DE: Weddelrobbe NO: Weddellsel 中文: 韋德爾氏海豹	 Credit: Kay Fochtmann/1-X				●	●	●		●		
<u><i>Lobodon carcinophaga</i></u> EN: Crabeater Seal FR: Phoque crabier DE: Krabbenfresser NO: Krabbeetersel 中文: 食蟹海豹/锯齿海豹	 Credit: Martin Johansen				●	●	●				

SEALS – TRUE AND EARED SEALS

[illegible]

A photograph of a polar bear and its cub walking across a vast expanse of broken ice floes in a blue sea. The scene is bright and cold, with the white of the bears' fur contrasting against the blue of the water and the white of the ice. A large, semi-transparent white letter 'X' is overlaid on the left side of the image, serving as a background for the text.

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