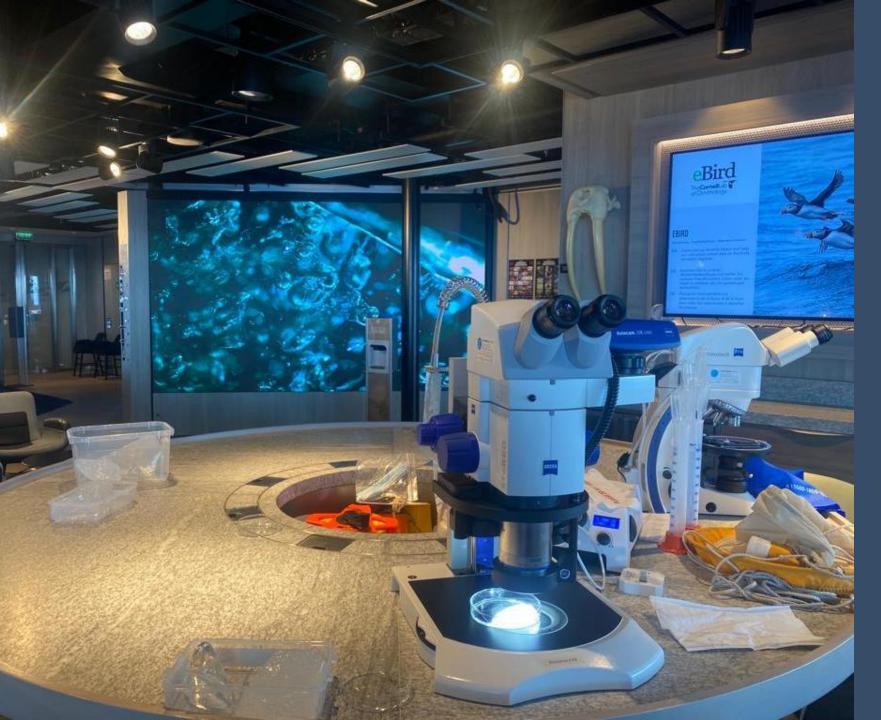


Highlights of Antarctica





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 **19 lectures** on different topics from birds to rocks. You also took part in the **14 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 biopties 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.

©Martin Hain



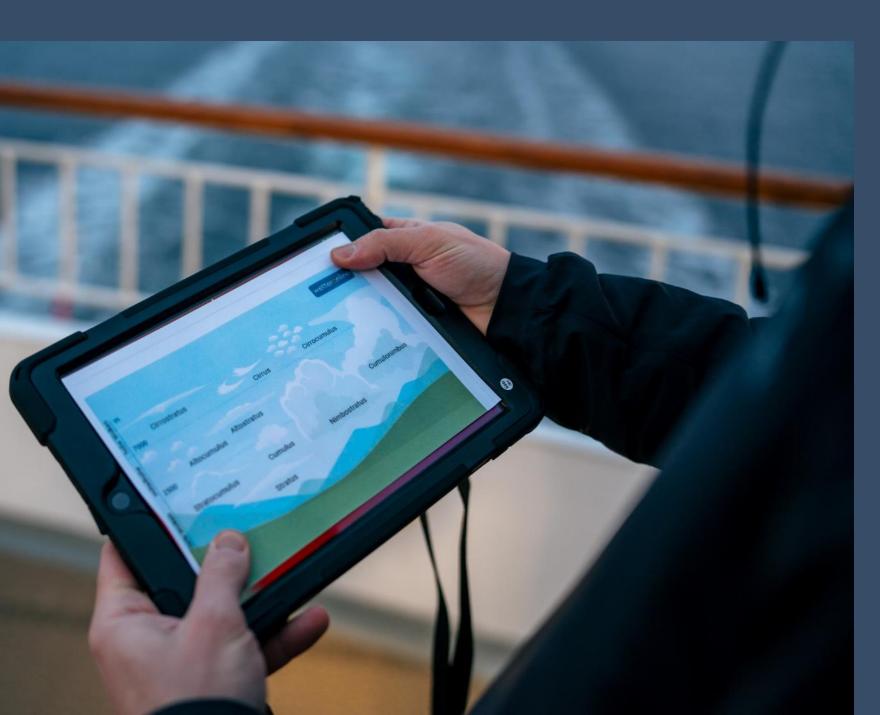
Lectures & Discovery sessions

19 Lectures
14 Discovery sessions
6 Citizence science projects
12 Science boats
2 Guest Scienti projects



Wildlife Watch

56 Species:10 Mammals46 Birds





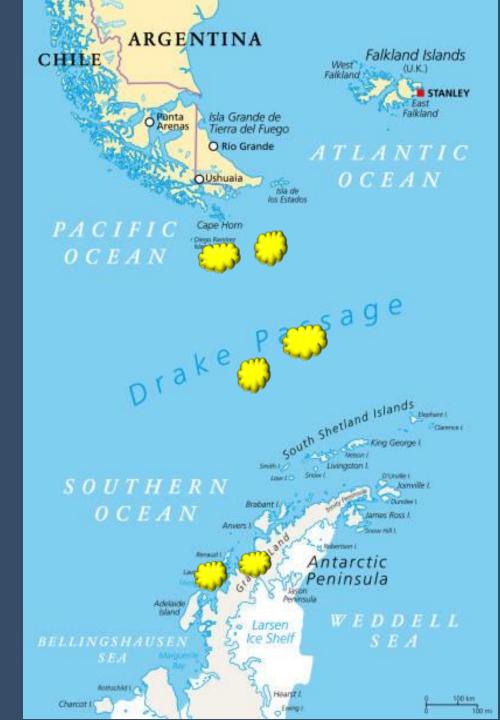
NASA cloud observer

On this Highlights of Antarctica Expedition we conducted 6 Cloud Observation sessions matched to satellite flyovers, submitting 24+ observations. We have received 18 Satelitte Matching reports

Thank you to the 55 Cloud Observers who participated in the program, and remember you can continue to do this at home!

<u>View our data on the global map</u>

6 Observation Locations recorded. Total Sessions: 6 Total Submissions: 24 Matches Received: 18





1/5/25, 5:21 PM



Satellite Matchine Reports



GLOBE Cloud Observations Paired with NASA Satellite D

Total Satellite Comparisons: 98

Useful Resources: How to Read My NASA GLOBE Clouds Satellite Comparison Table, How to Compare My Cloud (Satellite Data, Cloud Cover, Cloud Type, Cloud Opacity, Satellites

Observation	GLOBE	GOES-16 Satellite	Terra S
Universal Date/Time	2024-12-27 13:52:00	2024-12-27 13:37	2024-12-27 14:03
Latitude	-55.99	-56.31 to -55.67	-56.34 to -55.54
Longitude	-65.93	-66.25 to -65.61	-66.41 to -65.61
Total Cloud Cover	Broken (50-90%)	Overcast 98.11%	Broken 72.47%
High Clouds	Cirrus Cover: Broken (50-90%) Opacity: Translucent	No Clouds	No Clouds 🔵
Mid Clouds	Altocumulus Cover: Scattered (25-50%) Opacity: Translucent	No Clouds	Cover: Isolated 1 Altitude: 2.86 (km) Phase: Ice/Water Opacity: Transluce
Low Clouds		Cover: Overcast 98.11% Altitude: 1.08 (km) Phase: Water 272.31 (K) Opacity: Transparent	Cover: Broken 6 Altitude: 1.5 (km) Phase: Ice/Water Opacity: Transluce
GLOBE Cloud Photos and Corresponding NASA Satellite Images. Click image to view> Note: Photos submitted though GLOBE need approval before being displayed, this may take a few	West Up Down	GOES-16 Visible Infrared GEO Tutorial	MODIS Terra Worldview

GLOBE Cloud Observations Paired with NASA Satellite D

Total Satellite Comparisons: 98

Useful Resources: How to Read My NASA GLOBE Clouds Satellite Comparison Table, How to Compare My Cloud (Satellite Data, Cloud Cover, Cloud Type, Cloud Opacity, Satellites

Observation	GLOBE	GOES-16 Satellite	NOAA-20			
Universal Date/Time	2024-12-29 18:40:00	2024-12-29 18:37	2024-12-29 18:47			
Latitude	-58.58	-58.9 to -58.26	-59.01 to -58.21			
Longitude	-65.82	-66.14 to -65.5	-66.2 to -65.4			
Total Cloud Cover	Broken (50-90%)	Broken 86.05% 🔍	Broken 83.25%			
High Clouds	Iouds Cirrocumulus Cover: Broken 62.79% Cirrocumulus Opacity: Translucent Altitude: 6.4 (km) Phase: Ice/Water Mix 247.53 (K) Opacity: Transparent					
Mid Clouds	d Clouds Opacity: Translucent Cover: Isolated 20.93% Altitude: 5.49 (km) Phase: Water 253.28 (K) Opacity: Transparent					
Low Clouds	Cover: Broken (50-90%) Opacity: Translucent	Cover: Few (2.33%) Altitude: 1.11 (km) Phase: Water 271.14 (K) Opacity: Transparent				
GLOBE Cloud Photos and Corresponding NASA Satellite Images. Click image to view> Note: Photos submitted though GLOBE need approval before being displayed, this may take a few days.	GLOBE Photos North East South West Up Down	GOES-16 Visible Infrared GEO Tutorial	VIIRS NOAA-20 Worldview Worldview Tutorial			

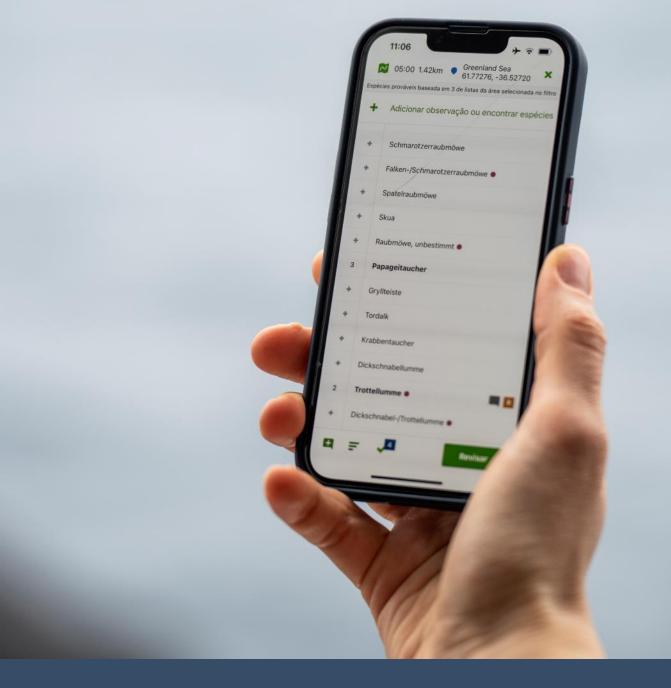


This will ensure you receive satellite matching reports.

eBird

The eBird project

During this voyage, our ornithologist, did **52** surveys. At least **49** species were observed. The most frequently observed species were the Blue petrel, Antarctic tern, Black-browed albatross and Gentoo penguin. Find the trip report for the voyage and the checklists here: https://ebird.org/tripreport/309519



Trip Report on eBird

eBird

FNANT2411E - MS Fridtjof Nansen - Highlights of Antarctica - 28th of December 2024 to 7th of January 2025

28 Dec 2024 – 7 Jan 2025 (11 days) Link-only

S Antarctica | Argentina | Chile | High Seas

🚢 Ingvild Riska

< Share 🛛 🗹 Edit 👻



A HX - Hurtigruten Expeditions voyage to the Antactic Penninsula on board MS Fridtjof Nansen.

Edit narrative

Species Observed +6 other taxa



łX

Species Observed

Spe	ecies Observed	Show all details
2	Upland Goose Chloephaga picta	÷∎1
1	Flying Steamer-Duck Tachyeres patachonicus) ∭ 1
150	Crested Duck Lophonetta specularioides	→ ∭ 1
5	Red Shoveler Spatula platalea 🧇	÷∎1
1	Yellow-billed Pintail Anas georgica	×∎1
1	Yellow-billed Teal Anas flavirostris 🔗	→ m 1
6	Snowy Sheathbill Chionis albus	→ ∭ 1
2	Blackish Oystercatcher Haematopus ater	÷∭1
2	Southern Lapwing Vanellus chilensis	>∎1
1	Chilean Skua Stercorarius chilensis	→ m 1
2	Brown Skua Stercorarius antarcticus) ∎ 2
22	South Polar Skua Stercorarius maccormicki	► 🖪 6
3	Brown-hooded Gull Chroicocephalus maculipennis	÷∭1
25	Dolphin Gull Leucophaeus scoresbii	→ ∭ 1
72	Kelp Gull Larus dominicanus	→ 👖 12
14	South American Tern Sterna hirundinacea	▶ 1 2
37	Antarctic Tern Sterna vittata	► 🖬 12
1	Adelie Penguin Pygoscelis adeliae	× 🖬 1
165	Gentoo Penguin Pygoscelis papua	≻ ∎ 9
40	Chinstrap Penguin Pygoscelis antarcticus	▶ ₪ 4
1	Magellanic Penguin Spheniscus magellanicus	÷∎1
6	Macaroni Penguin Eudyptes chrysolophus	→ @ 1
1	Snowy Albatross Diomedea exulans	÷∎1

8	Light-mantled Albatross Phoebetria palpebrata	→ 🖬 4
1	Gray-headed Albatross Thalassarche chrysostoma) ∎1
19	Black-browed Albatross Thalassarche melanophris	» 🖪 8
49	Wilson's Storm-Petrel Oceanites oceanicus	» 👖 13
4	Black-bellied Storm-Petrel Fregetta tropica	» 🖪 3
116	Southern Giant-Petrel Macronectes giganteus	» 🖪 9
48	Southern Fulmar Fulmarus glacialoides	› 👖 9
48	Pintado Petrel Daption capense	▶ ¶ 6
1	Snow Petrel Pagodroma nivea) ∭ 1
1	Soft-plumaged Petrel Pterodroma mollis	÷∎1
405	Blue Petrel Halobaena caerulea	› 🖪 16
5	Antarctic Prion Pachyptila desolata) ∥ 3
7	White-chinned Petrel Procellaria aequinoctialis	» 🖬 4
1	Magellanic Diving-Petrel Pelecanoides magellani) •∎1
1	Neotropic Cormorant Nannopterum brasilianum	› 💼 1
25	Imperial Cormorant Leucocarbo atriceps) ∥ 5
5	Antarctic Shag Leucocarbo bransfieldensis	× ∎ 4
1	Black-crowned Night Heron Nycticorax nycticorax	× 🖬 1
1	Turkey Vulture Cathartes aura	• 💼 1
3	Chimango Caracara Daptrius chimango) ∭ 1
2	Dark-bellied Cinclodes Cinclodes patagonicus) 1∎ (
3	Chilean Swallow Tachycineta leucopyga	• 💼 1
1	Rufous-collared Sparrow Zonotrichia capensis) ∭]

Biro

HX





MS Fridtjof Nansen Highlights of Antarctica 28th D...

-

Dec 28, 2024 - Jan 7, 2025

and designed

About

Members 🔒 16

Shared observations from guests and Expedition Team onboard MS Fridtjof Nansen during the expedition cruise "Highlights of Antarctica" from 28th December 2024 - 07 Jan 2025, aiming to collect data on the local biodiversity

Read More >

Project Members Only

Project Journal

HX



iNaturalist

We submitted around 140 observations identifying 50 species of plankton to marine mammals and birds. The most observed species were the Humpback whale followed by the Gentoo Penguin.

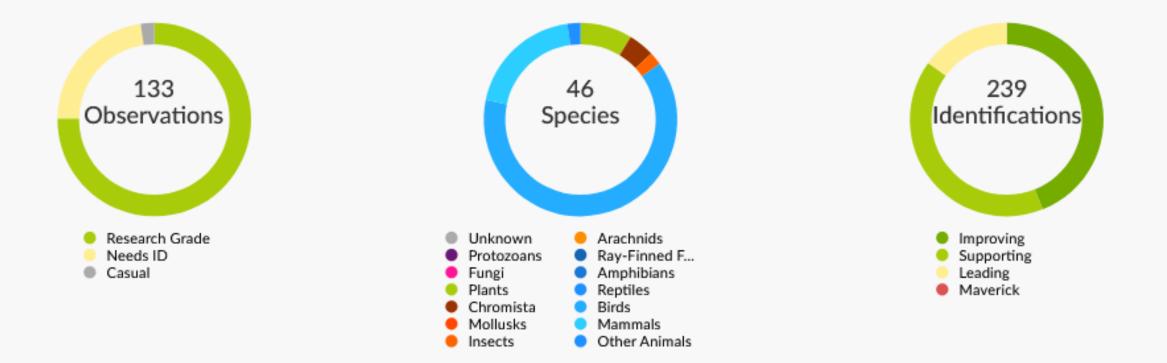
You can still contribute to this project once you are back home and have time to go through your photos of this voyage. Helping us document the local biodiversity will help the scientists worldwide to monitor the changes of distribution and abundance of the most iconic Antarctic species.

View our data submitted on our <u>iNaturalist</u> project





Stats





Humpback Whale Megaptera novaeangliae



Gentoo Penguin Pygoscelis papua



7 observations

Chinstrap Penguin Pygoscelis antarcticus



Light-mantled Albatross Phoebetria palpebrata



Weddell Seal Leptonychotes weddellii





Antarctic Shag Leucocarbo bransfieldensis



Southern Royal Albatross Diomedea epomophora



Pintado Petrel Daption capense



Southern Giant Petrel Macronectes giganteus



Kelp Gull Larus dominicanus



South Polar Skua Stercorarius maccormicki



Adelie Penguin Pygoscelis adeliae



3 observations

Southern Fulmar Fulmarus glacialoides



3 observations

Blue Petrel Halobaena caerulea



3 observations

Antarctic Tern Sterna vittata







HX



HappyWhale

This voyage was a success in terms of whale sightings, from humpbacks to killer whales. We submitted 2 photos with humpback whale flukes for identification. You can follow any updates of the trip by clicking this link <u>Happywhale</u>

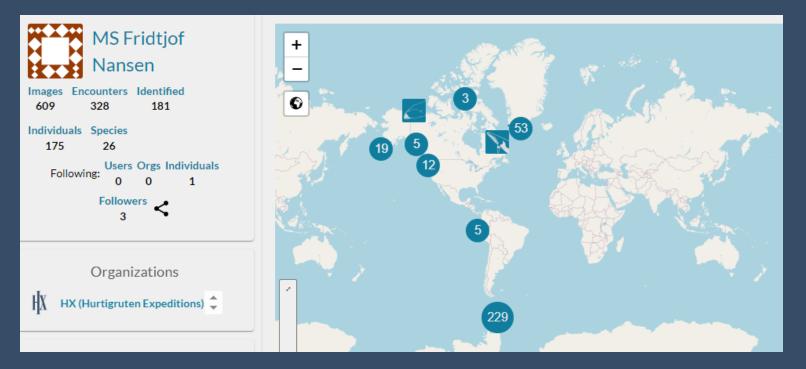
If you find you have any fluke photo's when you go over your photo's, do not hesitate to upload them your self to Happywhale.

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





Photos: Lilia Gonzalez / HX



You can take a closer look into the MS Fridtjof Nansen encounters in the different destinations we sail through.





Join the trip to get all the updates on the whales we submitted.

FRIEDLAENDER LAB Bio-telemetry and Behavioral Ecology



15

Humpback whales

Minke whale

fluke photographs

Permit ACA 2025-020



Surveys

7



and Photo-ID

Remote Biopsy

skin + blubber samples

•

skin sample

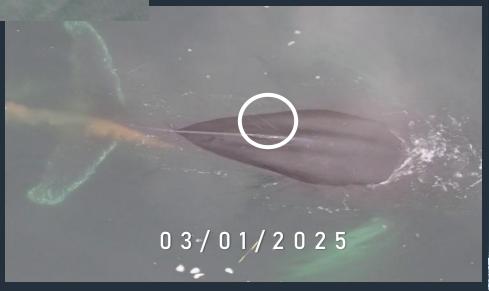


UAS Operations photogrammetry samples (Humpbacks)



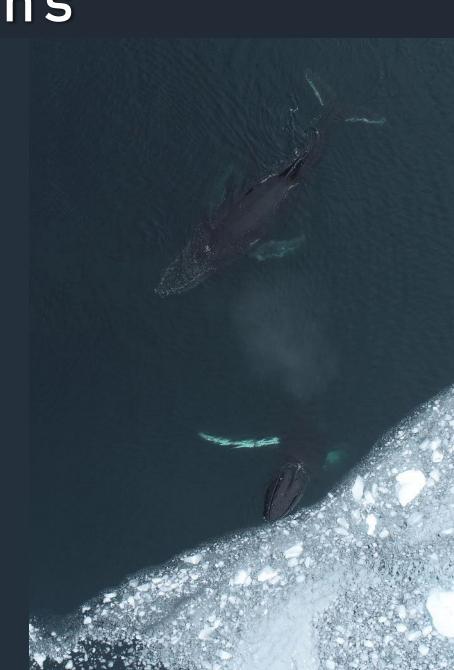
6

Permit ACA 2025-020

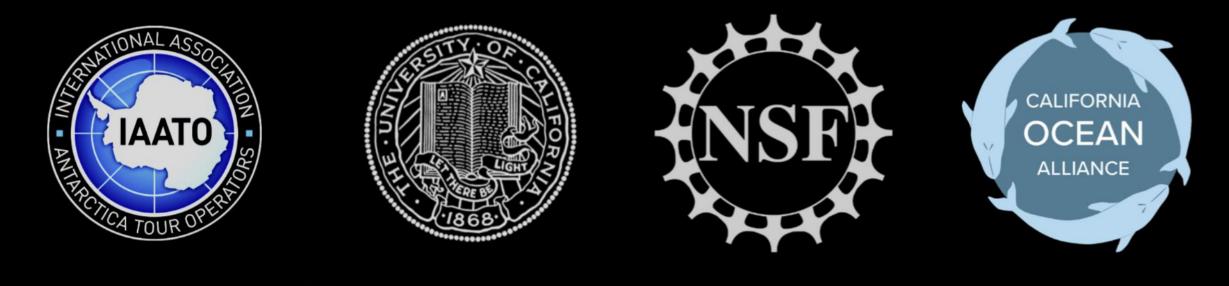


UAS Operations





FRIEDLAENDER LAB Bio-telemetry and Behavioral Ecology

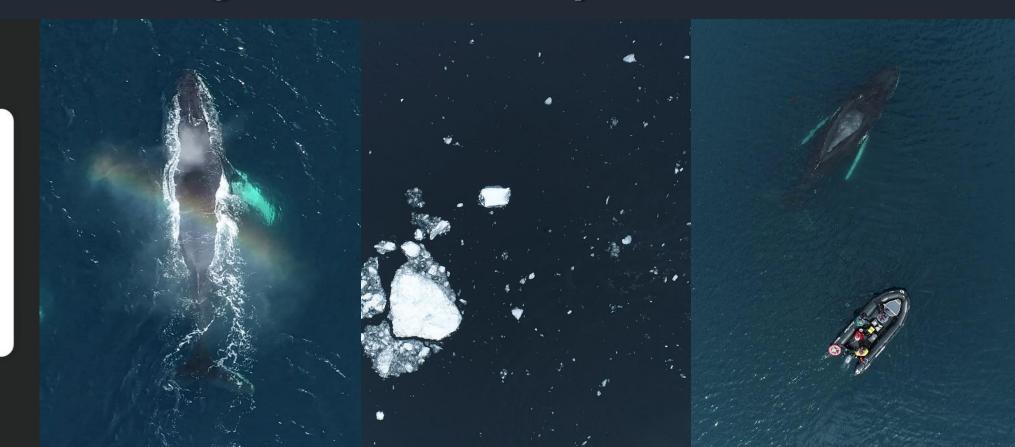




FRIEDLAENDER LAB Bio-telemetry and Behavioral Ecology

Follow along with our operations...





POLAR WHALE WATCH

Trip summary



SpeciesName	Number_of_sightings	Number_of_animals
Fin whale	1	2
Humpback whale	13	16
Killer whale	1	3
Killer whale type B	1	8
Like cruciger dolphin	1	1
Unid whale	2	2

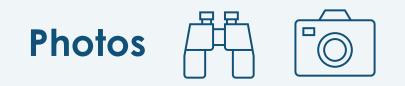
1932SightingsIndividuals















Science Boat

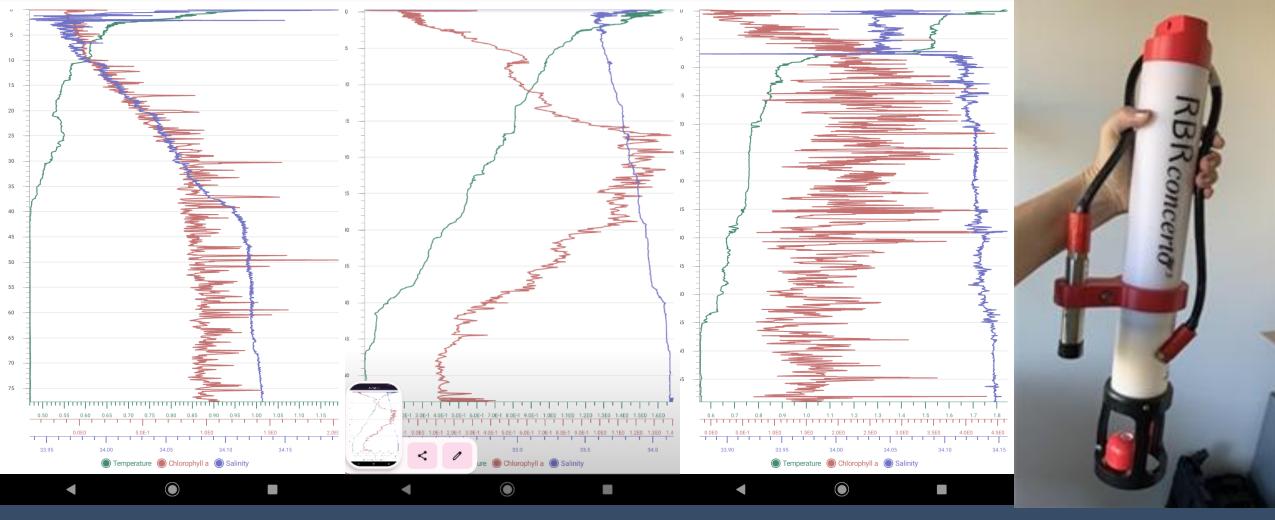
We had 12 science boat sessions during this trip in: Damoy Point, Peterman Island, Dallman Bay & Whalers Bay. We sampled for different projects. With the secchi disk measurements to document the turbidity/clarity of the water and assess the abundance of phytoplankton. And for the fjord phyto project. This project aims to monitor the changes in abundance and distribution of phytoplankton in Antarctic & Arctic waters in relation with glaciar 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!







View our data submitted to the Secchi Disk Project

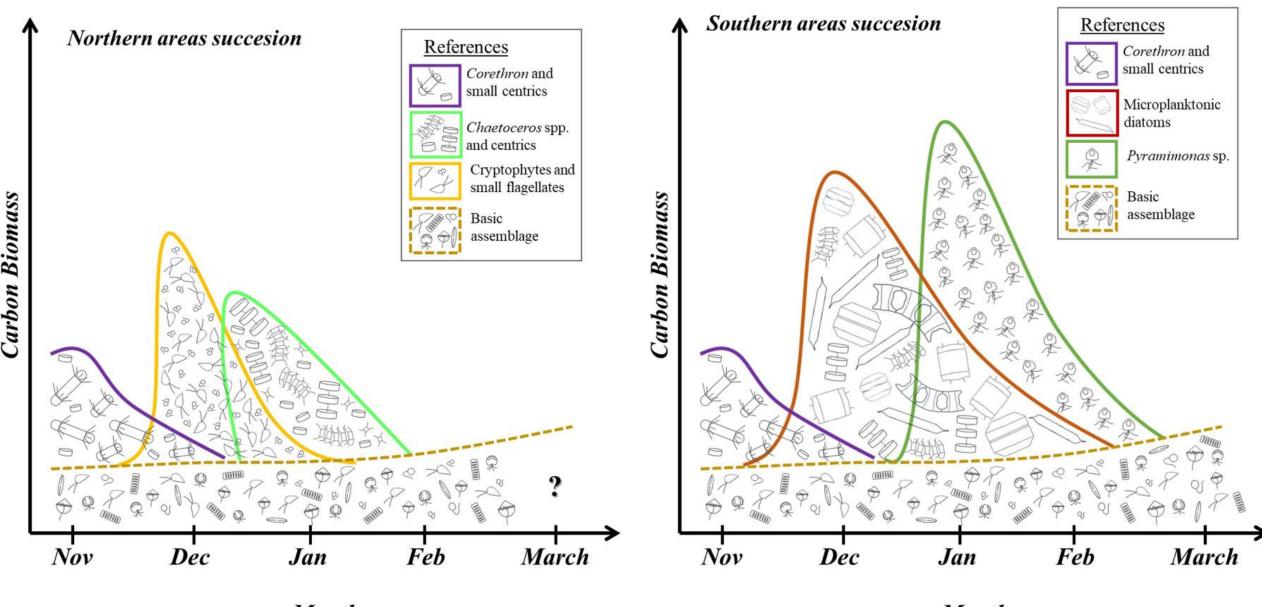


Damoy Point

Melchior Island

Whalers bay

CTD Profiles



Month

Month

HX

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

MS Fridtjof Nansen - V BIRDS	Vildlife List Ush	uaia to Antai	rctica		ł	(Indener
Species		28 29 30	Decembe	r - Janua	ry I o d I	05 0
Pygoscalis popua EN: Gentoo Penguin RR: Manchot papou DE: Eselspinguin NO: Boylepingvin 中文: 巴布亚企程/白眉企鹅		28 29 30	• •	•	•	05 00
Pygoscelis odeliae EN: Adelia Penguin FR: Manchot d'Adélie DE: Adeliepinguin NO: Adeliepingvin 中文: 阿德利企鹅			•			
Pygoscelis antarcticus EN: Chinatrap Penguin FR: Manchot à jugulaire DE: Zugalgienguin NO: Ringpingvin 中父: 當帶企鹅/纹统企鹅	T		•	••	•	
Spheniscus mogeilanicus EN: Mageilanic Penguin FR: Manchot de Mageilan DE: Mageilanpinguin NO: Mageilanpingvin 中文: 南美企鹅/发育伦企鹅		•				
Leucocarbo bransfildensis EN: Antarctic (Blue-eyed) Shag FR: Comeron antarcfique DE: Antarlitischarbe NO: Antarlitischarb 中文: 南板路路			• •	• •	•	
Leucocarbo atriceps EN: Imperial Shag FR: Cormoran Impérial DE: Kaiserscharbe NO: Knoppskarv 中文: 盂服約能		•				
Stercoverius antarcticus EN: Subantarctic Brown Skua FR: Labbe antarctique DE: Subantarctifskua NO: Serharsijo 中文: 招NUS	Della Tel Dela M				•	
Stercovarius maccormicki EN: South Polar Skua FR: Labio da McCormick DE: Antarthickua NO: Serjo 中文: 南极館四/金氏館路			•	••		
Stercovarius chilensis EN: Chilean Skua FR: Labioe du Chili DE: Chileskua DE: Chileskua NO: Kaneljo 中文: 智利說經	Gref Ere hold many hit	•				

Species			28	29	30	31	01	02	03	04	05	06
Diomedea exulons EN: Snowy Albatross FR: Albatros hurleur DE: Wanderalbatros NO: Vandrailbatross 中文. 法合任天务		wit The Halfhampfit								•		•
Thalassanche chrysostomo EN: Grey-headed Albatross FR: Albatros à tête grise DE: Graukopfalbatros NO: Grâhodealbatross 中文: 灰头信天翁		at: Exy Factorson (1-2			•							•
Tholossarche melonophris EN: Blackbrowed Albahross FR: Albatros à sourcils noirs DE: Schwarzbrauenalbatros NO: Svarbrynalbatross 中文: 黑眉信天翁		T	•	•	•							•
Phosebetria palpebrata EN: Light-mantled Albatrass FR: Albatras fuligineux DE: Graumantelabatros NO: Gråelbatross 中文: 灰路信天渝		ź		•	•					•		
Macronectes halli EN: Noothern Giant Petrel FR: Pétrel de Hall DE: Hallsturmvogel NO: Nordkjempepetrell 中文: 祖氏巨螺		NI Ta fulfuaçis										
Larus dominicanus EN: Kelp Gull FR: Goéland dominicain DE: Dominikanermöwe NO: Taremäke 中文: 黑背陌		A	•			•	•	•	•	•		
Sterna viltata EN: Antarctic Tern FR: Sterne couronnée DE: Antarthicesechwalbe NO: Sorhavsterne 中文: 南极距距	4					•	•	•	•	•		
Sterna hirundinacea EN: South American Tern FR: Sterne hirundinacée DE: Falklandesschwalbe NO: Svaleterne 中文: 南美高跷			•									
Chionis albus EN: Snowy Sheathbill FR: Chionis blane DE: Weißgesicht Scheidenschnabel NO: Antarktisslirenebb 中义: 白鸫胸師		A DE JAK WE SERVER				•	•	•	•	•		
Diamedea epomophora EN: Southern Royal Albatross FR: Albatros royal De: Känigaslbatros NO: Kongealbatross 中文: 南方量家信天鴉		Har Kay Tochenony Fix										

Species		28	29	30	31	01	02	03	04	05	06
Macronectes giganteus EN: Southern Giant Petrel FR: Pétrel géant DE: Riesensturnvogel NO: Sorkjempepetrell 中文: 南方巨鹱	Ciril: Eg Factman & Tel Dára/X	•	•	•	•	•		•	•		•
Fulmorus glacialoides EN: Southern Fulmar FR: Fulmar argenté DE: Silbersturnvogel NO: Sorhavhest 中文: 很灰暴风暖	Cutric to Picture 7 Ha Latin (PA			•		•		•	•		
Daption capense EN: Pintado Petrel FR: Damier du Cap DE: Kapsturmvogel NO: Flekkpetrell 中文: 花研蝶	Ever jäh frem/fit			•				•	•		
Thalassoica antarctica EN: Antarctic Petrel FR: Pétrel antarctique DE: Antarktissturmvogel NO: Antarktispetrell 中文: 南板縣											
Procellaria aequinoctialis EN: White-chinned Petrel FR: Puffin à menton blanc DE: Weißkinn-Sturmvogel NO: Hvithakepetrell 中文: 白颜风姗				•					•	•	
Oceanites oceanicus EN: Wilson's Storm Petrel FR: Océanite de Wilson DE: Bunfluß-Sturmschwalbe NO: Wilsonstormsvale 中文: 黃蹼洋海燕				•		•	•	•	•		
Fregetta tropica EN: Black-bellied Storm Petrel FR: Océanite à ventre noir DE: Schwarzbauch-Sturmschwalbe NO: Svartbukstormsvale 中文: 黑腹舰海燕	Cret Sch Telenau AR			•					•		

Species		28	29	30	31	01	02	03	04	05	06
Ardenna grised EN: Sooty Shearwater FR: Puffin fuligineux DE: Dunkelsturmtaucher NO: Grälire 中文: 灰暖	Greft Harss Breakhar/tk										
Halobaena caerulea EN: Blue Petrel FR: Prion bleu DE: Blausturmvogel NO: Bläpetrell 中文: 證鏡	Citik to Europhia		•	•						•	•
Pachyptila desolata EN: Antarctic Prion FR: Prion de la Désolation DE: Taubensturnwogel NO: Antarktishvalfugl 中文: 約經驗				•							
Pachyptila belcheri EN: Slender-billed Prion FR: Prion de Belcher DE: Dünnschnabel-Sturmvogel NO: Smalnebbhvalfugl 中文: 頒嘴诓獵	Greek Hazara Bergariany/K										
Pagadroma nivea EN: Snow Petrel FR: Pétrel des neiges DE: Schneesturmvogel NO: Snøpetrell 中文: 雪號	Ced: Hansa Bergetingets						•				

Wildlife List - Marine Mammals

CETACEANS - WHALES & DOLPHINS

Species		December - January									
		28	29	30	31	01		03		05	06
Balaenoptera physalus EN: Fin Whale FR: Rorqual commun DE: Finnwal NO: Finhval 中文: 長須鯨	Credit: Massimo Demma/Ocean Conservation Society			•							
<i>Megaptera novaeangliae</i> EN: Humpback Whale FR: Baleine a bosse DE: Buckelwal NO: Knolhval 中文: 座头鲸	Credit: Massimo Demma/Ocean Conservation Society			•	•	•	•	•	•		
Balaenoptera borealis EN: Sei Whale FR: Rorqual de Rudolphi DE: Seiwal NO: Seihval 中文: 塞鲸	Credit: NOAA Fisheries	•									
Balaenoptera bonaerensis EN: Antarctic Minke Whale FR: Petit rorqual de l'Antarctique DE: Antarktischer Zwergwal NO: Antarktisk vågehval 中文: 南极小须鲸	Credit: SEAMMO (Sea Mammal Monitoring Organisation)						•				
Orcinus orca EN: Killer Whale FR: Orque DE: Orca o Schwertwal NO: Spekkhogger 中文: 虎鲸	Credit: Massimo Demma/Ocean Conservation Society							•			
Hyperoodon planifrons EN: Southern Bottlenose Whale FR: Hyperoodon austral DE: Südlicher Entenwal 中文: 南瓶鼻鲸			•								

• •		December - January												
Species		28	29	30	31	01	02	03	04	05	06			
Leptonychotes weddellii EN: Weddell Seal FR: Phoque de Weddell DE: Weddelrobbe NO: Weddellsel 中文: 韋德爾氏海豹	Credit: Kay Fochtmann/HX				•	•	•	•	•					
Lobodon carcinophaga EN: Crabeater Seal FR: Phoque crabier DE: Krabbenfresser NO: Krabbeetersel 中文: 食蟹海豹/锯齿海豹	Credit; Martin Johansen							•	•					
Hydrurga leptonyx EN: Leopard Seal FR: Léopard de mer DE: Seeleopard NO: Leopardsel 中文: 豹海豹	Credit: Kay Fochtmann/HX						•		•					
Mirounga leonina EN: Southern Elephant Seal FR: Eléphant de mer austral DE: Südlicher See-Elefant NO: Sydlig sjøelefant 中文: 南象海豹	Credit: Martin Hain/HX					•	•		•					



Linktree*

Citizen Science Program

Find all information about the projects, downloads and our digital wildlife list here:

linktr.ee/msfridtjofnansen

Linktree



Vancouver to Seward (AMAL ASS

Connect with your inner scientist

1