

The image features two whales swimming in deep blue water. A large, semi-transparent 'IHW' logo is overlaid on the left side of the image. The text 'Science & Education Report' is centered in white. The whale in the foreground is larger and more detailed, showing its skin texture and fins. The second whale is smaller and positioned behind it, partially obscured by the 'IHW' text.

# Science & Education Report

# MS Fridtjof Nansen

2<sup>nd</sup> to 12<sup>th</sup> January 2024

## Highlights of Antarctica

FNANT2401





# Science & Education Program

During this voyage, we run 6 citizen projects in total: Nasa Cloud Globe Observer, eBird, iNaturalist, HappyWhale, FjordPhyto and SecchiDisk.

We also helped our guest scientists from COA (California Ocean Alliance) to gather data to assess the healthy state of the humpback whales population in Antarctica.

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.



# NASA Cloud Observer

A lot of you assisted Owen and Nadja during our daily observations. We did 5 observations in total during this voyage, from the Drake passage to the Peninsula. So far, we obtained only one match, on 6<sup>th</sup> January for Danco Island. Our observation of overcast sky matched quite well with the satellite overview, bringing more information of how the atmosphere behaves from below up to the top. Thank you very much for your interest and help, even during our snowy/stormy weather!

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

# Our observations this trip



Date	Location	Match
04.01.24	Drake Passage	-
05.1.24	Hovgaard Island	-
06.1.24	Damoy	Yes
09.1.24	Danco	-
10.1.24	Drake Passage	-

Total observations: 5

**NASA Cloud Observation and Satellite Match**

<b>Satellite</b> <small>(Understanding the Satellite Match)</small>	<b>Terra</b>	<b>Your Observation</b>
Universal Date/Time 2024-01-06	12:31	12:37
Latitude Range	-65.27 to -64.47	Latitude -64.827900
Longitude Range	-63.91 to -63.11	Longitude -63.516700
Total Cloud Cover	Overcast 100.00%	Overcast (>80%)
<b>H I G H</b>	Cloud Cover Cloud Altitude Cloud Phase Cloud Opacity	
<b>M I D</b>	Cloud Cover Cloud Altitude Cloud Phase Cloud Opacity	Altostratus Overcast (>80%) Translucent
<b>L O W</b>	Cloud Cover Cloud Altitude Cloud Phase Cloud Opacity	Nimbostratus Stratus Isolated (10-25%) Translucent
Corresponding NASA Satellite Images. <a href="#">Click to view image ----&gt;</a>		Sky Visibility : no report Sky Color : no report <div style="display: flex; justify-content: space-around; font-size: small;"> <span>North</span> <span>East</span> <span>South</span> </div> <div style="display: flex; justify-content: space-around; font-size: small;"> <span>West</span> <span>Up</span> <span>Down</span> </div>
Are there any comments you would like to add? Be sure to add the name of the satellite for our record. <input style="width: 100%; height: 40px;" type="text"/> <div style="text-align: right;"><a href="#">Submit Comment</a></div>		<b>Surface Conditions</b> Snow/Ice Yes Standing Water Yes Muddy No Dry Ground No Leaves on Trees No Raining or Snowing Yes

Page Curator: Tina Rogerson  
 NASA Official: Jessica Taylor  
 Page Last Modified: 01/11/2024 14:57:13

+ No Fear Act  
 + FOIA  
 + Privacy  
 + Office of Inspector General  
 + Agency Financial Reports  
 + Comments or Questions?

# iNaturalist

We submitted 94 observations identifying 35 species from planktonic creatures to marine mammals and birds. The most observed species were the Gentoo & Chinstraps penguins followed by the Humpback Whales. Thank you all very much for your participation!

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





# MS Fridtjof Nansen FNANT2401 02-12th of January 2...

JAN 2, 2024 - JAN 12, 2024

## About

Members 9

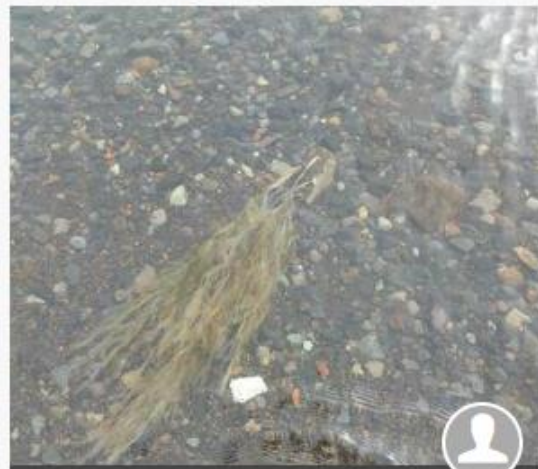
This is the iNaturalist project for Hurtigruten MS Fridtjof Nansen Highlights of Antarctica expedition. Join the project and document the biodiversity of any animals and plants that you see along our cruise. Add your submissions at any moment during or after the voyage. Your observations will contribute to the

[Read More >](#) [Your Membership](#)

[Edit Project](#) [Project Journal](#)

Overview **94** OBSERVATIONS **35** SPECIES **27** IDENTIFIERS **4** OBSERVERS [Stats](#)

[Map](#) [Grid](#) [List](#) [Identify](#) [Search](#) [Export Observations](#)



Genus *Desmarestia* 1 2d



Chinstrap Penguin *Pygoscelis antarcticus* 1 2d



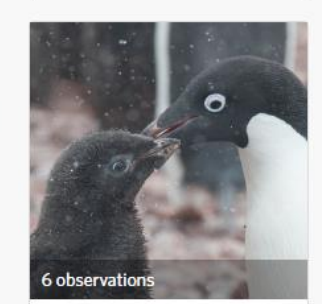
Cnidarians Phylum Cnidaria 1 2d



Gentoo Penguin



Humpback Whale *Megaptera novaeangliae* 8 observations



Adelle Penguin *Pygoscelis adeliae* 6 observations

# eBird

During this voyage, our ornithologist, Julia, did 5 surveys between the Drake Passage and the Western Antarctic Peninsula. A total of 12 species were observed and 439 individuals counted. The top observed species were Gentoo Penguin, the Kelp Gull, the Southern Fulmar and the Cape Petrel. Find the trip report for the voyage and the checklists [here](#).



eBird



# Most abundant species

**Gentoo  
Penguin**



**Kelp Gull**



**Southern Fulmar**



**Cape Petrel**





# Science Boat

We had 6 science boat sessions during this trip: Damoy Point, Paradise Bay, Danco Island and Deception Island. On each of them we did perform a secchi disk measurement to document the clarity of the water and assess the abundance of phytoplankton.

Date	Location	Depth (m)
06.01.24	Damoy Point	4.5
07.01.24	Paradise Bay	6.5
08.01.24	Danco Island	6.4
09.01.24	Deception Island	1.36

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



# Plankton Samples

Our samples allowed us to describe the plankton community from the south of the Peninsula up to the far north, noticing an increase in the species richness and abundance. Here are a couple of photos to illustrate diatoms, small flagellates, crustaceans larvae and microplastics.



# Diatoms

Diatoms are phytoplanktonic cells which external skeleton is made of silica. They look like tiny jewels floating in the water. Size around 100  $\mu\text{m}$  for the biggest to 10  $\mu\text{m}$  for the smallest. They are the major component of the phytoplankton community in Antarctic waters.

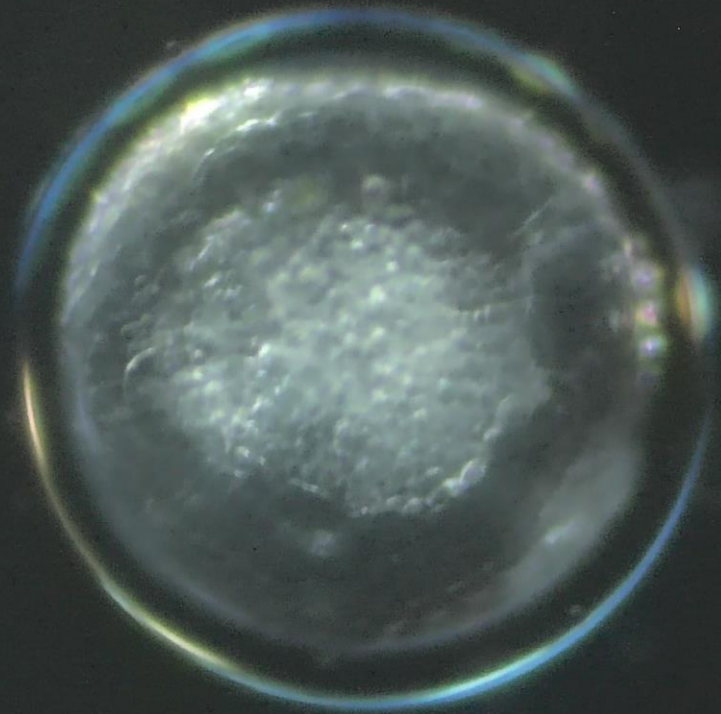


# Crustacean Nauplius Larvae & Microplastics

Crustacean larvae are one of the major component of the Antarctic zooplankton. They feed mainly on big diatoms. This exemplar is the youngest stage of a likely future krill individual.

We also see a microplastic nylon fibre out of focus on the photo, giving you an idea of the size of microplastic and how easily they can enter in the food chain.

This photo is from Deception Island sampling.



# Unidentified Egg

Several eggs were found in our sample of Deception Island, showing that a recent event of reproduction occurred in the water before we arrived. Summer season is at its maximum!



# FjordPhyto

This project aims to monitor the changes in abundance and distribution of phytoplankton in Antarctic waters in relation with glacier ice melting. We performed 3 samples during this voyage, at Damoy, Danco Island and Paradise Bay. We towed a plankton net of 100 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 melt water samples to measure later on dissolved oxygen. The whole mission was a success, thank you for participating with us!

[Visit FjordPhyto website to find out more](#)





# Happywhale

This voyage was a total success in terms of whale sightings: 20 flukes were submitted to the platform, 14 of them returning a match. 3 individual were identified as female after being seen with their calves. Additionally, 3 weddell seal photos were submitted.

In parallel, we submitted our data to the VCAPS- IAATO program, with more than 100 humpback whale sightings for the whole voyage! Thank you so much for helping us gathering amazing pictures and moments!

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



# Guest scientists: Liah, Arianna & Blake from COA

Our whale scientists had the best voyage of their season so far: 32 individuals biopsy in 5 days trip, 38 photogrammetry images after flying their drone, and 30 flukes submitted to Happywhale with at least, 3 individuals re-sighted from the past seasons. This means that they would be able to assess the healthy state of those individuals in between years. They were super mega happy, and so we were. Thank you for your interest and help to gather these essential data about those wonderful animals.

Friedlander Lab – COA  
(Californian Ocean Alliance)



# Guest scientists: Hélène, from Centro IDEAL

Our Science & Education Coordinator is also a PhD student at centro IDEAL, searching for the presence of potential invasive green seaweed in Antarctic waters. She collected one water sample during our Deception Island stop, that she will analyse in the lab in the following months, through environmental DNA technics.

Centro IDEAL, Universidad Austral de Chile








# Wildlife List - Birds









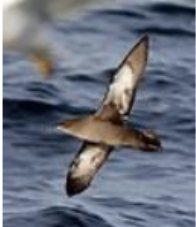
# Wildlife List – Seabirds

<p><i>Leucocarbo bransfieldensis</i>            EN: Antarctic Shag            FR: Cormoran antarctique            DE: Antarktisscharbe            NO: Antarktisskarv  <b>南极鸬鹚</b></p>		<p>x</p>					x	x	x	x	x			
<p><i>Stercorarius chilensis</i>            EN: Chilean Skua            FR: Labbe du Chili            DE: Chileskua            NO: Kaneljo  <b>智利贼鸥</b></p>		<p>x</p>												
<p><i>Stercorarius antarcticus</i>            EN: Subantarctic Brown Skua            FR: Labbe antarctique            DE: Subantarktiskua            NO: Sørhavsjo  <b>大贼鸥</b></p>		<p>x</p>										x		
<p><i>Stercorarius maccormicki</i>            EN: South Polar Skua            FR: Labbe de McCormick            DE: Antarktiskua            NO: Sørjo  <b>麦氏贼鸥</b></p>								x	x	x	x	x		
<p><i>Larus dominicanus</i>            EN: Kelp Gull            FR: Goéland dominicain            DE: Dominikanermöwe            NO: Taremåke  <b>黑背鸥</b></p>		<p>x</p>						x	x	x	x	x		






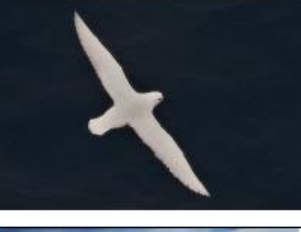



# Wildlife List – Seabirds

<p><i>Fulmarus glacialis</i>            EN: Southern Fulmar            FR: Fulmar argenté            DE: Silbersturmvogel            NO: Sørhavhest  <b>银灰风暴鹱</b></p>						x	x			x	x	x			
<p><i>Daption capense</i>            EN: Cape Petrel            FR: Damier du Cap            DE: Kapsturmvogel            NO: Flekkpetrell  <b>花斑鹱</b></p>							x						x	x	x
<p><i>Thalassoica antarctica</i>            EN: Antarctic Petrel            FR: Pétrel antarctique            DE: Antarktissturmvogel            NO: Antarktispetrell  <b>南极鹱</b></p>															
<p><i>Procellaria aequinoctialis</i>            EN: White-chinned Petrel            FR: Puffin à menton blanc            DE: Weißkinn-Sturmvogel            NO: Hvithakepetrell  <b>白颈风鹱</b></p>							x							x	
<p><i>Ardenna grisea</i>            EN: Sooty Shearwater            FR: Puffin fuligineux            DE: Dunkelsturmtaucher            NO: Grålire  <b>灰鹱</b></p>							x	x							



# Wildlife List – Seabirds

<p><i>Halobalaena caerulea</i>            EN: Blue Petrel            FR: Prion bleu            DE: Blausturmvogel            NO: Blåpetrell  <b>蓝鹱</b></p>				x								
<p><i>Pachyptila desolata</i>            EN: Antarctic Prion            FR: Prion de la Désolation            DE: Taubensturmvogel            NO: Antarktishvalfugl  <b>鸽锯鹱</b></p>					x							
<p><i>Pachyptila belcheri</i>            EN: Slender-billed Prion            FR: Prion de Belcher            DE: Dünnschnabel-Sturmvogel            NO: Smalnebbhvalfugl  <b>细嘴锯鹱</b></p>												
<p><i>Pagodroma nivea</i>            EN: Snow Petrel            FR: Pétrel des neiges            DE: Schneesturmvogel            NO: Snøpetrell  <b>雪鹱</b></p>									x			
<p><i>Oceanites oceanicus</i>            EN: Wilson's Storm Petrel            FR: Océanite de Wilson            DE: Buntfuß-Sturmschwalbe            NO: Wilsonstormsvale  <b>黄蹼洋海燕</b></p>				x	x	x	x	x		x	x	

# Wildlife List – Seabirds

*Fregetta tropica*  
EN: Black-bellied Storm Petrel  
FR: Océanite à ventre noir  
DE: Schwarzbauch-  
Sturmschwalbe  
NO: Svartbukstormsvale  
黑腹舰海燕



x

x






A photograph of a whale breaching the water in a cold, icy environment. The whale's dark, curved back and tail are visible above the surface, with water splashing around the tail. The background features a large, white, snow-covered mountain range under a pale sky. The water is dark and calm, with some small ice floes scattered throughout. The overall scene is serene and captures a moment of wildlife in a remote, high-latitude location.

**Wildlife**

**List - Marine Mammals**

# Wildlife List – marine mammals





Whale species list, Drake Passage and Antarctic Peninsula, 2<sup>nd</sup> January – 12th January 2024

Species	January										
	02	03	04	05	06	07	08	09	10	11	
<i>Balaenoptera musculus</i> EN: Blue Whale FR: Baleine bleue DE: Blauwal NO: Blahval CH: 藍鯨											
<i>Balaenoptera physalus</i> EN: Fin Whale FR: Rorqual commun DE: Finnwal NO: Finhval CH: 長須鯨											
<i>Megaptera novaeangliae</i> EN: Humpback Whale FR: Baleine a bosse DE: Buckelwal NO: Knolhval CH: 座头鲸											
<i>Balaenoptera borealis</i> EN: Sei Whale FR: Rorqual de Rudolphi DE: Seiwal NO: Seihval CH: 塞鲸											
<i>Balaenoptera bonaerensis</i> EN: Antarctic Minke Whale FR: Petit rorqual de l'Antarctique DE: Antarktischer Zwergwal NO: Antarktisk vågehval CH: 南極小鬚鯨											






# Wildlife List – marine mammals

## Seal species list, Drake Passage and Antarctic Peninsula, 2<sup>nd</sup> January – 12<sup>th</sup> January 2024

Species	January										
	02	03	04	05	06	07	08	09	10	11	
<p><i>Arctocephalus australis</i>            EN: South American Fur Seal            FR: Otarie à fourrure australe            DE: Südamerikanischer Seebär            NO: Søramerikansk pelsse            CH: 南美毛皮海獅</p> 											
<p><i>Otaria flavescens</i>            EN: South American Sea Lion            FR: Lion de mer d'Amérique du Sud            DE: Mähnenrobbe            NO: Søramerikansk sjøløve            CH: 南海獅</p> 											
<p><i>Lobodon carcinophaga</i>            EN: Crabeater Seal            FR: Phoque crabier            DE: Krabbenfresser            NO: Krabbeetersel            CH: 食蟹海豹</p> 					x						
<p><i>Hydrurga leptonyx</i>            EN: Leopard Seal            FR: Léopard de mer            DE: Seeleopard            NO: Leopardsel            CH: 豹海豹</p> 					x	x					

# Wildlife List – marine mammals



<p><i>Mirounga leonina</i>            EN: Southern Elephant Seal            FR: Eléphant de mer austral            DE: Südlicher See-Elefant            NO: Sydlig sjøelefant            CH:南象海豹</p>				x					x		
<p><i>Leptonychotes weddellii</i>            EN: Weddell Seal            FR: Phoque de Weddell            DE: Weddelrobbe            NO: Weddellsel            CH:韋德爾氏海豹</p>			x	x	x	x	x	x			
<p><i>Arctocephalus gazella</i>            EN: Antarctic Fur Seal            FR: Otarie à fourrure antarctique            DE: Antarktischer Seebär            NO: Antarktis pelssel            CH:南极毛皮海狮</p>											



IX

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