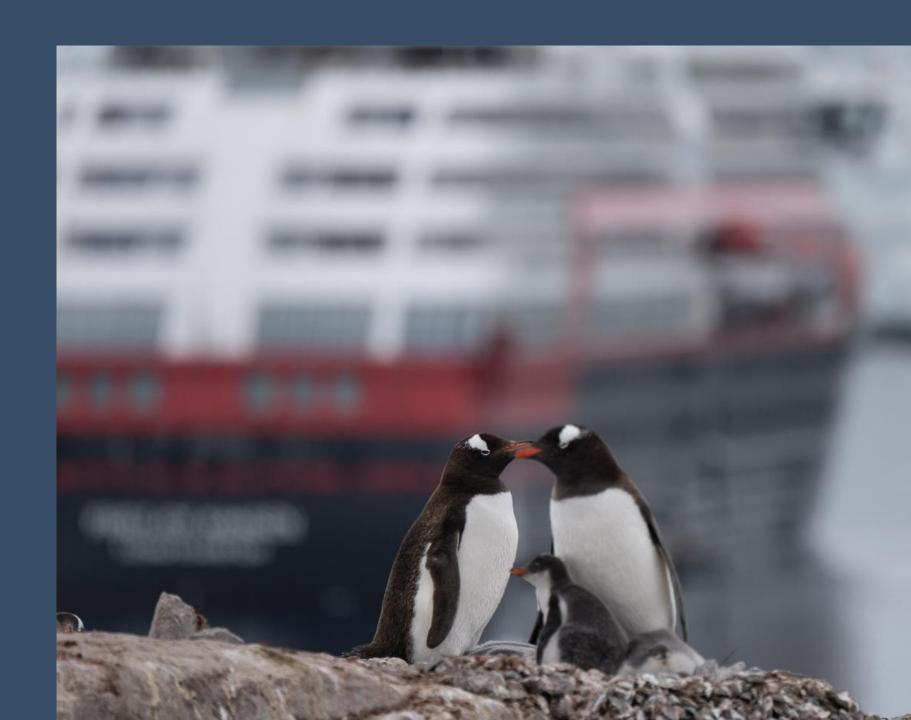
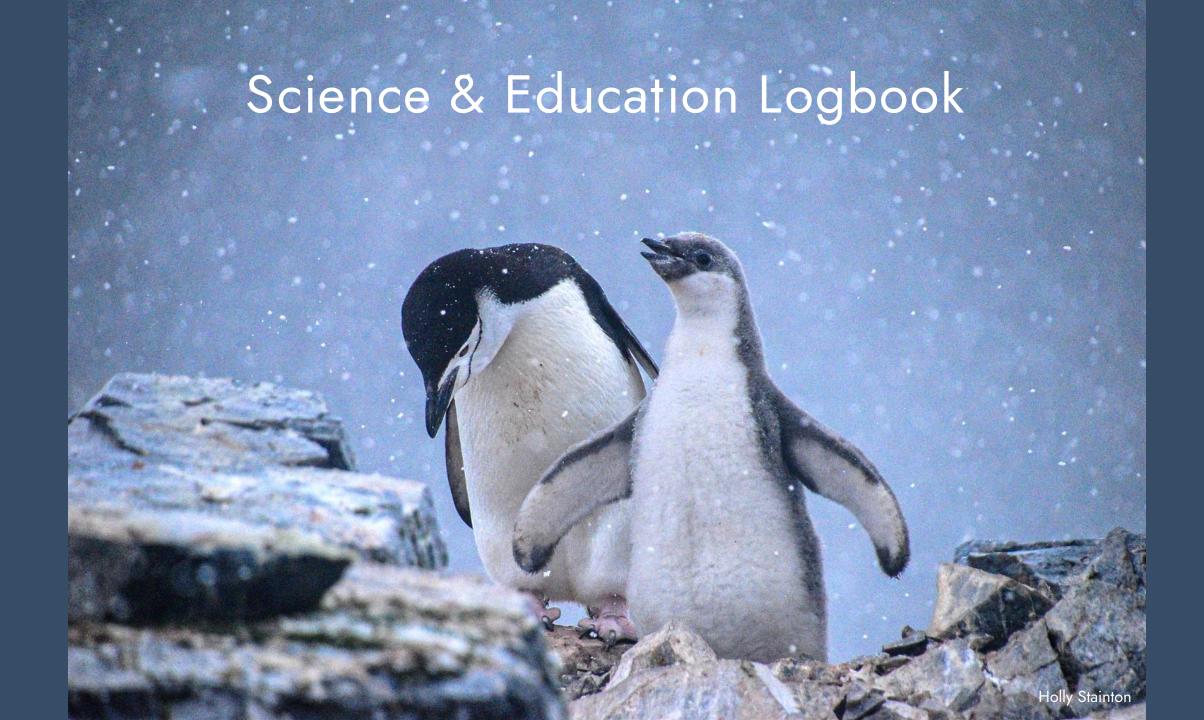


MS FRIDJOF NANSEN

Highlights of Antarctica 27th January — 6th Feb







HX's Science & education program

The science and education team onboard accompanied you on an expedition cruise through the highlights of Antarctica. Through lectures, discovery sessions and visits ashore we aimed to make every expedition day a memorable and unique learning experience.



History & Culture: exploitation and exploration

On Deception Island we have seen the remains of the old whaling station and we have discussed the impact the industry had on the Antarctic whale population. At Damoy Point we observed buildings from the British and Argentinian science program from and we have put this into context of the competing national claims to the Antarctic in the post war era. Onboard we have had lectures on the explorers of the Antarctic as well as many other activities and workshops. Some of us have even danced salsa on the ship!



Science Boat

During our voyage we studied the abundance and types of plankton present in our sampling locations. This included taking a plankton sample, recording water conditions using our 'CTD', and using a Secchi disk to record water clarity, indicating the amount of plankton present. The Secchi data can be found in the Table below.

Date	Location	Secchi Depth (m)	Sea Surface Temp (°C)
31.01.25	George's Point	12.3	1.6
01.02.25	Damoy	14.9	0.6
02.02.25	Orne Harbour	10.5	-0.2
03.02.25	Whalers Bay	2.5	3

25 45

CTD data

- •The image to the left shows an example of a CTD data profile, taken at George's Point on the 31st January 2025, where we took measurements down to 50m.
- •Temperature: The temperature decrease from 1.7°C at the surface to -0.3°C at 50m shows how deeper water is generally colder.
- •Salinity: The increase in salinity from 33.4 PSS at the surface to 34.2 PSS at 50m indicates that denser, saltier water sinks, while fresher, warmer water stays near the surface.
- •Chlorophyll a: This green pigment is essential for photosynthesis in phytoplankton. Since photosynthesis requires light, phytoplankton are mostly found in shallower depths where sunlight can penetrate.

Our findings at George's Point provide a clear snapshot of the water column's structure and the distribution of phytoplankton, driven by light availability for photosynthesis.

FjordPhyto

This project aims to monitor the changes in abundance and distribution of phytoplankton in Antarctic waters in relation with glaciar ice melting. We performed samples during this voyage at George's Point, Damoy Point, Orne Harbour, and Whaler's Bay. We towed a plankton net,; measured water temperature, salinity, and chlorophyl a; preserved melt water samples to measure dissolved oxygen, and collected a water sample to study environmental DNA. The whole mission was a success, thank you for participating with us! Use the QR code below to learn more about how this data has and will be used!





Plankton samples

Plankton are ocean drifters transported by currents and tides, and the lack of ability to navigate against these natural forces. Animals (zooplankton) and plant-like algae (phytoplankton), play a key role in supporting the marine food web and health of our oceans.

The image on the left shows a variety of phytoplankton, mainly *Odontella spp,* collected in Whaler's Bay, Deception Island on the 3rd February 2023.



Phytoplankton

Diatoms are a type of phytoplanktonic cells which external skeleton is made of silica. They underpin the bottom of the marine food web as they, like plants on land, convert sunlight into energy and oxygen and also sequester carbon dioxide. This function is provided by the green coloured pigment, chlorophyll, which you can observe in the picture on the left.

The left image shows some 'Corethron' diatoms found at Orne Harbour— their specialised silica spines are thought to be used for protection against predators and to help them stay afloat near the waters surface.



Zooplankton

Zooplankton are tiny marine animals that drift with the ocean currents. In Antarctica, they play a crucial role in the ecosystem and are a key component of the food chain, serving as food for larger animals like fish, penguins, seals, and whales. These creatures include tiny crustaceans like krill, amphipods, and copepods, as well as salps, and larval stages of larger animals, such as fish and sea stars, before they mature.

The picture on the left shows an amphipod found at Damoy Point on the 1st February 2025.



Snow Algae

During our voyage we took observations and photographs of 'snow algae'. These green or pink/red cells live on snow and ice, and their dark colour reduces the 'albedo effect', causing the suns raditation to be absorbed, resulting in a faster melting rate.

We collected observations of snow algae in the following locations, and sent this data to the 'Snow Algae Project'.

The Locations of snow Algae photos and data sent in were:

Damoy Point

George's Point/Orne Islands (pictured left)

Orne Harbour





NASA cloud observer

We conducted three observations in total during this voyage to the Peninsula. We had three satellite match, so we can compare our observations with those of the satellite. Our observation will complement the satellite data to improve the models, providing more information about how the atmosphere behaves from below up to the top. Thank you for your interest and help!

View our data on the global map

Observation	GLOBE	GOES-16 Satellite	NOAA-20 Satellite
Universal Date/Time	2025-01-28 19:24:00	2025-01-28 19:37	2025-01-28 19:25
Latitude	-58.61	-58.93 to -58.29	-58.98 to -58.18
Longitude	-65.81	-66.13 to -65.49	-66.23 to -65.43
Total Cloud Cover	Isolated (10-25%)	Broken 70.46%	Scattered 44.64%
High Clouds	Cirrus Cirrostratus Cover: Isolated (10-25%) Opacity: Transparent	No Clouds	Cover: Few (0.19%) Altitude: 7.44 (km) Phase: Ice 234.04 (K) Opacity: Transparent
Mid Clouds	Altostratus Cover: Isolated (10-25%) Opacity: Translucent	Cover: Isolated 13.64% Altitude: 2.93 (km) Phase: Water 259.98 (K) Opacity: Transparent	Cover: Isolated 14.78% Altitude: 2.1 (km) Phase: Water 265.68 (K) Opacity: Opaque
Low Clouds		Cover: Broken 56.82% Altitude: 1.39 (km) Phase: Water 268.58 (K) Opacity: Transparent	Cover: Scattered 29.67% Altitude: 1.3 (km) Phase: Ice/Water Mix 269.77 (K) Opacity: Translucent
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.	North East South West Up Down	Visible Infrared GEO Tutorial	Worldview Worldview Tutorial
Sky Conditions, Surface Conditions and Observer Comments	Sky Conditions Sky Visibility: Very Hazy Sky Color: Blue Surface Conditions Snow/Ice: No Standing Water: Yes Muddy: No Dry Ground: No Leaves on Trees: No Raining or Snowing: No	Are there any comments you would like to add? Be sure to add the name of the satellite for our record.	Comment



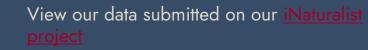
Geological Highlight

The geological highlight of the trip was Deception Island in the South Shetland Islands. This active volcano boasts a stunning landscape shaped by eruptions. The submerged caldera is surrounded by towering volcanic basalt cliffs. From the top of Ronald Hill (103m), we were able to observe Whaler's Bay and its black sand beaches, saw fumaroles, and observed seabirds thriving in the geothermal warmth. Deception Island is a living laboratory for volcanology and glaciology, offering geologists a unique and unforgettable experience.

iNaturalist

We submitted 190 observations identifying 42 species of marine mammals, birds and plants. We submitted species of penguin, seals, whales and albatross. The most observed species were the gentoo penguin and the humpback whale. Thank you all very much for your participation!



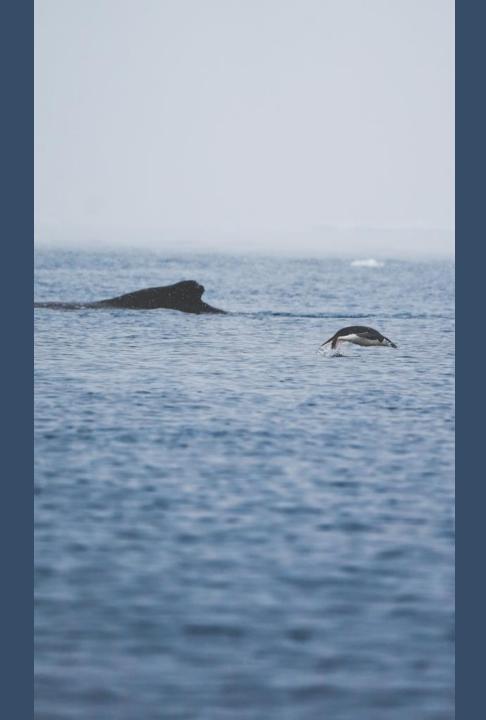




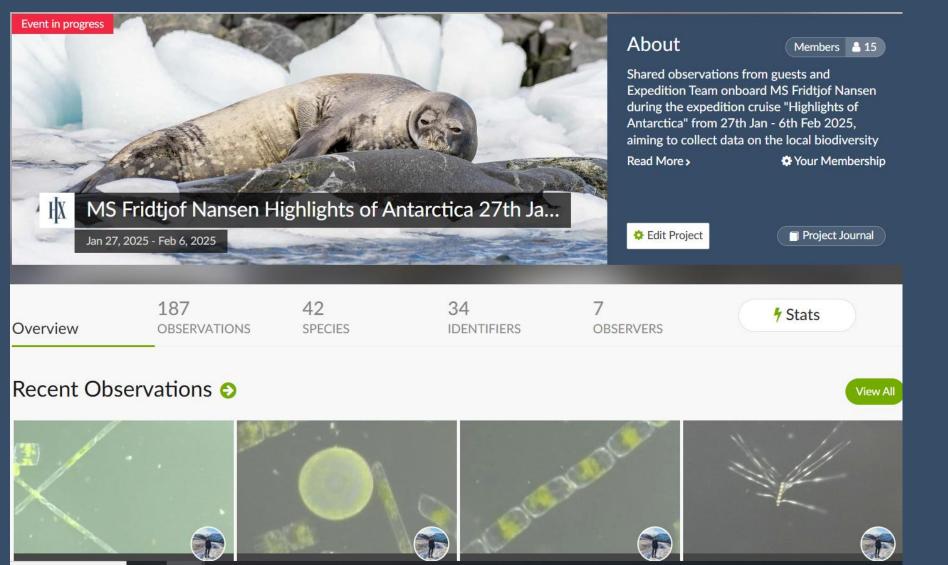
iNaturalist

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









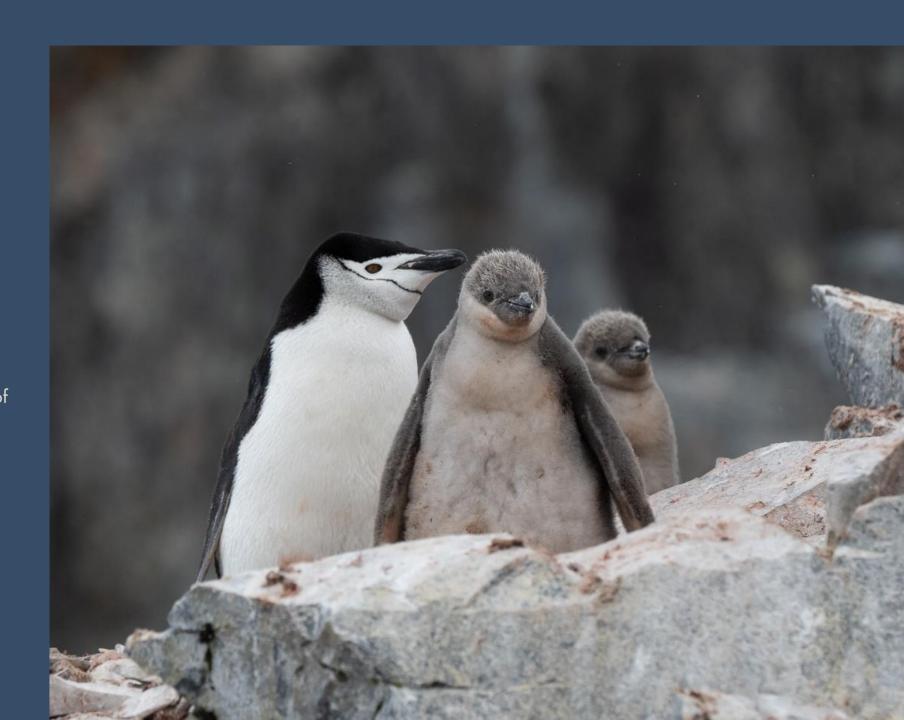




eBird

During this voyage, our ornithologists,
Marcus and Julia, did at least 54 surveys
between Ushuaia and the Western
Antarctic Peninsula with a total of 36
species. Some of the highlights were the
Snow Petrel, black-browed albatross and of
course the penguin species; Gentoo and
Chinstrap.

Find the trip report for the voyage and the checklists here.



Trip Report on eBird



FNANT2411H - MS
Fridtjof Nansen Highlights of
Antarctica - 27th of
January to 6th of
February 2025

27 Jan – 6 Feb 2025 (11 days)

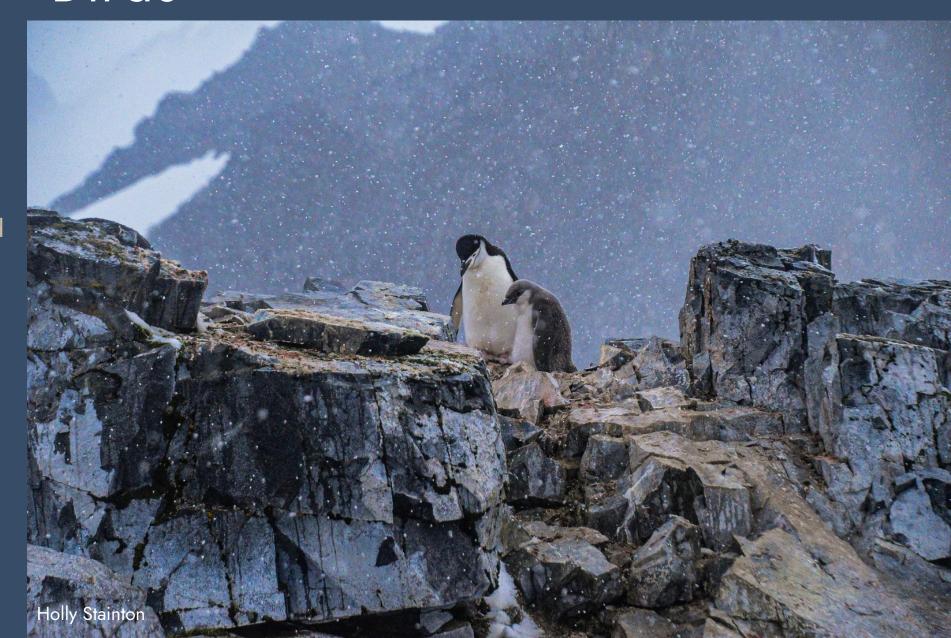
Public

Antarctica | Argentina | Chile | High Seas



Wildlife List - Birds

During this voyage, together with your help, we have observed at least 36 species of birds. Here is our full bird list.



Species				Janua	ary	Feb	ruar	у		
# 100 m 100	27	28	29	30	31	1	2	3	4	5
Pygoscelis papua										Г
EN: Gentoo Penguin										
FR: Manchot papou						_	_	_		
DE: Eselspinguin	/			•	•	•				
NO: Bøylepingvin										
CHI: 白眉企鹅										
Pygoscelis adeliae		1	38			22	ē.	§ 8		
EN: Adelie Penguin										
FR: Manchot d'Adélie				_						
DE: Adeliepinguin										
NO: Adeliepingvin										
CHI: 阿德利企鹅										
Pygoscelis antarcticus			34			9	. V			1
EN: Chinstrap Penguin										
FR: Manchot à jugulaire					_	_	_	_		
DE: Zügelpinguin			•	•	•	•	•	•	•	
NO: Ringpingvin										
CHI: 纹颊企鹅										
Spheniscus magellanicus			34			3		0. 3		
EN: Magellanic Penguin										
FR: Manchot de Magellan										
DE: Magellanpinguiin										
NO: Magellanpingvin										
CHI: 南美企鹅										

Bird species list Highlights of Antarctica – 27 ^m of Ja	nuary	/ 10	5	OT F	epi	ruai	ry 2	UZ	3	
Species				anua			oruar	у		
	27	28	29	30	31	1	2	3	4	5
Leucocarbo bransfildensis										
EN: Antarctic (Blue-eyed) Shag										
FR: Cormoran antarctique	8					•		•		
DE: Antarktisscharbe	8				•	•	•	•		
NO: Antarktisskarv										
CHI: 南极鸬鹚	6				ys .					ya .
Stercorarius chilensis										
EN: Chilean Skua										
FR: Labbe du Chili										
DE: Chileskua	•									
NO: Kanelio										
CHI: 智利贼鸥					ys .					ys.
Stercorarius antarcticus										
EN: Subantarctic Brown Skua										
FR: Labbe antarctique						_	_	_		
DE: Subantarktikskua						•	•	•		
NO: Sørhavsjo										
CHI: 大贼鸥										
Stercorarius maccormicki										
EN: South Polar Skua										
FR: Labbe de McCormick			•					_		
DE: Antarktikskua			•	•			•	•		
NO: Sørjo										
CHI: 麦氏贼鸥	27476									
Larus dominicanus										
EN: Kelp Gull										
FR: Goéland dominicain						•		_		
DE: Qominikanermöwe										
NO: <u>Taremåke</u>	3									
CHI: <mark>黑貨鸥</mark>										

Bird species list High	ilights of Antarctica – 2/" of Janu	ıary	10	5	OT P	ebi	ruai	ry 2	UZ	•	
Species					anua			orua	у		
<u> </u>		27	28	29	30	31	1	2	3	4	5
Sterna vittata EN: Antarctic Tern FR: Sterne couronnée DE: Antarktikseeschwalbe NO: Sørhavsterne CHI: 南极燕鸥				•	•	•	•	•	•		
Sterna hirundinacea EN: South American Tern FR: Sterne hirundinacée DE: Falklandseeschwalbe NO: Sxaleterne CHI: 南美燕鸥		•									
Chionis albus EN: Snowy Sheathbill FR: Chionis blanc DE: Weißgesicht-Scheidenschnabel NO: Antarktisslirenebb CHI: 白鞘嘴鸥						•					
Diomedea epomophora EN: Southern Royal Albatross FR: Albatros royal DE: Königsalbatros NO: Kongealbatross CHI: 南方皇信天翁			•						33		
Diomedea exulans EN: Wandering Albatross FR: Albatros hurleur DE: Wanderalbatros NO: Vandrealbatross CHI: 漂泊信天翁			•								

Second species his ringhinghis of Amarchea – 27 or Jana	_						ruar		_	
Species	27	28		anua 30	31		ruar 2	у 3	4	5
Thalassarche chrysostoma EN: Grey-headed Albatross FR: Albatros à tête grise DE: Graukopfalbatros NO: Gråhodealbatross CHI: 灰头信天翁			•						•	
Thalassarche melanophris EN: Black-browed Albatross FR: Albatros à sourcils noirs DE: Schwarzbrauenalbatros NO: Svartbrynalbatross CHI: 黑眉信天翁	•	•	•							
Phoebetria palpebrata EN: Light-mantled Albatross FR: Albatros fuligineux DE: Graumantelalbatros NO: Gråalbatross CHI: 灰背信天翁			•							
Macronectes giganteus EN: Southern Giant Petrel FR: Pétrel géant DE: Riesensturmyogel NO: Sørkjempepetrell CHI: 巨鹱	•	•	•	•	•	•	•	•	•	
Macronectes halli EN: Northern Giant Petrel FR: Pétrel de Hall DE: Hallsturmvogel NO: Nordkiempepetrell CHI: 霍氏巨鹱										

z a species har ringinit	jins of Amarchea – 27 of Janu	,		_	•	٠		, -			
Species					anua			ruar	_		
		27	28	29	30	31	1	2	3	4	5
Fulmarus glacialoides	A										
EN: Southern Fulmar											
FR: Fulmar argenté				•							
DE: Silbersturmvogel	W			•							
NO: Sørhavhest	Vi										
CHI: 银灰暴风鹱		(c) (c)								ve	
Daption capense	-	-									
EN: Cape Petrel	The state of the s										
FR: Damier du Cap				_							
DE: Kapsturmvogel				•							
NO: Flekkpetrell	(4)										
CHI: 花斑鹱											
Thalassoica antarctica	And the second second	00 00					-			× ×	
EN: Antarctic Petrel											
FR: Pétrel antarctique											
DE: Antarktissturmyogel											
NO: Antarktispetrell											
CHI: 南极鹱											
Procellaria aequinoctialis	A	3 - 6	- Vi						ev.	3	i
EN: White-chinned Petrel											
FR: Puffin à menton blanc			_	_							
DE: Weißkinn-Sturmvogel			•	•						•	
NO: Hvithakepetrell											
CHI: 白颏风鹱	The state of the s										
Pterodroma mollis											
EN: Soft-plumaged Petrel											
FR: Pétrel soyeux											
DE: Weichfeder-Sturmvogel	12										
NO: Silkepetrell											
CHI: 柔羽圆尾鹱		0 E							8	g _ g	

bird species list riigiliigili	is of Antarctica – 27 °C	i Januar y	10	_	01 F	CDI	uai	, -	<u></u>		
Species					anua			ruar			
<u> </u>		27	28	29	30	31	1	2	3	4	5
Ardenna grisea EN: Sooty Shearwater FR: Puffin fuligineux DE: Dunkelsturmtaucher NO: Grälire		•	•	•						•	
CHI: 灰鹱											
Halobaena caerulea EN: Blue Petrel FR: Prion bleu DE: Blausturmyogel NO: Blåpetrell CHI: 蓝鹱											
Pachyptila desolata	1-1-									20.	
EN: Antarctic Prion FR: Prion de la Désolation DE: Taubensturmyogel NO: Antarktishvalfugl CHI: 館锯鹱	7		•				0.			S	
Pachyptila belcheri EN: Slender-billed Prion FR: Prion de Belcher DE: Dünnschnabel-Sturmvogel NO: Smalnebbhvalfugl										•	
CHI: 细嘴锯鹱 Pagodroma nivea EN: Snow Petrel FR: Pétrel des neiges DE: Schneesturmyogel NO: Snøpetrell	*				•		•	. u		V6 - 255	
CHI: 雪鹱											

Bird species list Highlights of Antarctica – 2	27" of January to 5" of February 2025
Species	January February
'	27 28 29 30 31 1 2 3 4 5
Oceanites oceanicus EN: Wilson's Storm Petrel FR: Océanite de Wilson DE: Buntfuß-Sturmschwalbe NO: Wilsonstormsvale CHI: 黃蹼洋海燕	
Fregetta trapica EN: Black-bellied Storm Petrel FR: Qcéanite à ventre noir DE: Schwarzbauch-Sturmschwalbe NO: Svartbukstormsvale CHI: 黑腹舰海燕 Rock Shag	
Imperial Cormorant Leucocarbo atriceps	
Dolphin Gull Leucophaeus scoresbii	
Diving Petrel Pelecanoides sp.	







This voyage was a success in terms of whale sightings: 10 humpback flukes were submitted to the platform. 4 of these were matched to previous sightings on the peninsula. The other 6 were not in the HappyWhale database with many of them likely to be new to science.

This was a great joint effort by the guests and expedition with 9 individuals uploading photos to HappyWhale.

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

View our data on the global map



Newly named Humpback Whale!



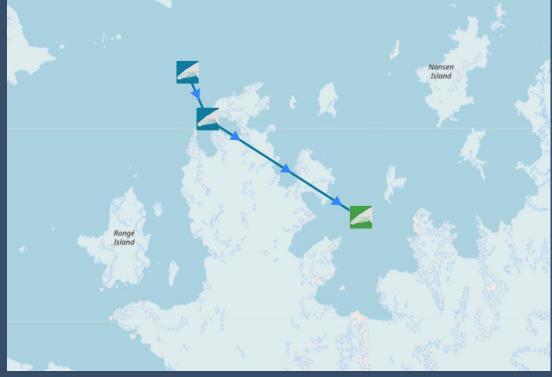
I	Species	Num	Individual	Date	Region	ID	ı
	Humpback Whale	1		2025-01-30 [13:25 - 13	Antarctica	527181	
	Humpback Whale	1	Peace Love & Joy 2025 (Anta	2025-01-30 [16:16] (A	Antarctica	527182	
	Humpback Whale	1		2025-02-02 [16:46] (A	Antarctica	527212	
>	Humpback Whale	1		2025-02-02 [19:57] (A	Antarctica	527265	
	Humpback Whale	1		2025-02-02 [14:45] (A	Antarctica	527267	
	Humpback Whale	1		2025-02-01 [22:40] (A	Antarctica	527268	
212	Humpback Whale	1		2025-02-01 [22:38 - 22	Antarctica	527269	
	Humpback Whale	1	HW-MN1304831	2025-01-30 [18:56] (A	Antarctica	527270	
NO CO	Humpback Whale	1	HW-MN1305381	2025-01-30 [12:14] (-0	Antarctica	527276	





Say hello to.....Felicia!

A huge thank you to our guest Felicia Wang for donating to HappyWhale and naming this beautiful humpback. The funds raised go directly to HappyWhale to help support the research they do to conserve these gentle giants!









Wildlife List — Marine Mammals

CETACEANS - WHALES & DOLPHINS

Species	
Balaenoptera physalus EN: Fin Whale FR: Rorqual commun DE: Finnwal NO: Finhval 中文: 長須鯨	Credit: Messimo Demma/Obsan Conservation Society
Megaptera novaeangliae EN: Humpback Whale FR: Baleine a bosse DE: Buckelwal NO: Knolhval 中文: 座头鲸	Credit: Massimo Demma/Oosan Conservation Society
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: 虎鯨	Credit: Massimo Demma/Obean Conservation Society
Hyperoodon planifrons EN: Southern Bottlenose Whale FR: Hyperoodon austral DE: Südlicher Entenwal 中文: 南瓶鼻鯨	Section (reasons permitty school Catalog return 300 kg/

Wildlife List – Marine Mammals

SEALS - TRUE AND EARED SEALS

Species						
Leptonychotes weddellij EN: Weddell Seal FR: Phoque de Weddell DE: Weddelrobbe NO: Weddellsel 中文: 韋德爾氏海豹	Credit: Kay Fachtmann/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	•	•			

Wildlife List — Marine Mammals

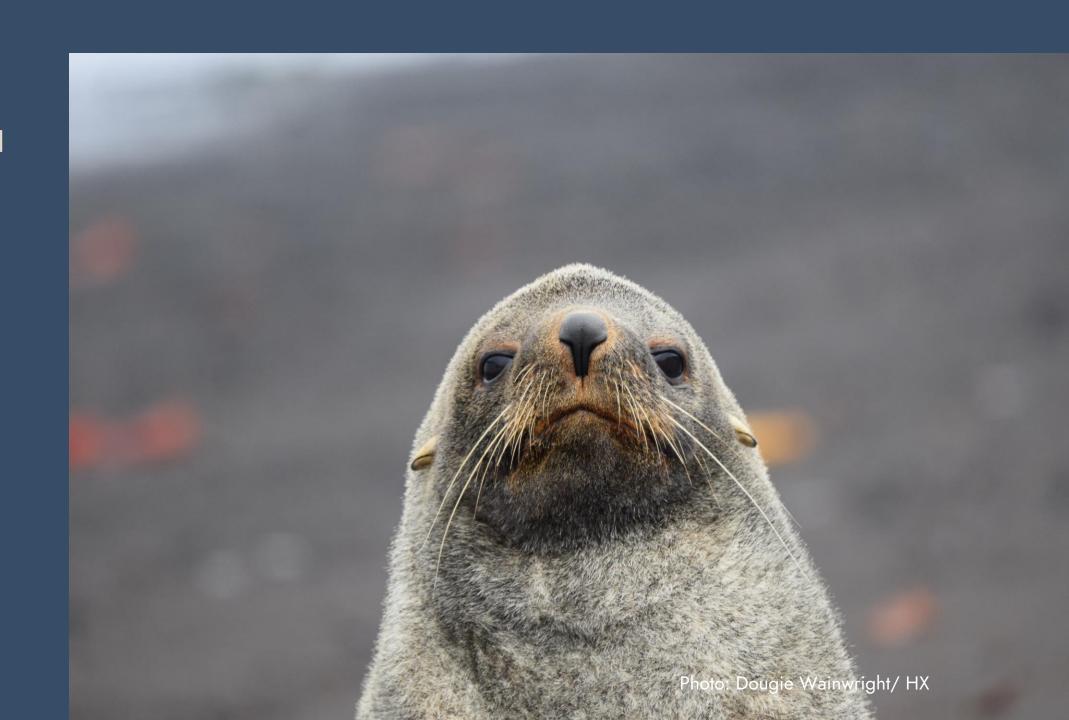
Arctocephalus gazella EN: Antarctic Fur Seal FR: Otarie à fourrure antarctique DE: Antarktischer Seebär NO: Antarktis pelssel 中文: 南极海狗/南极毛皮海狮	Credit: Kay Fochtmann/HX
Mirounga leoning EN: Southern Elephant Seal FR: Eléphant de mer austral DE: Südlicher See-Elefant NO: Sydlig sjøelefant 中文: 南象海豹	Crecit: Martin Hain/HX

Crabeater Seal, Wilhemina Bay



Photo: Dougie Wainwright/ HX

Fur Seal, Whaler's Bay Deception Island





84 Humpback Whales

Minke, Finn & killer whale sightings

Friedlaender Lab: Remote Biopsy

21 drone measurements and photo ID

14 skin + blubber samples

