



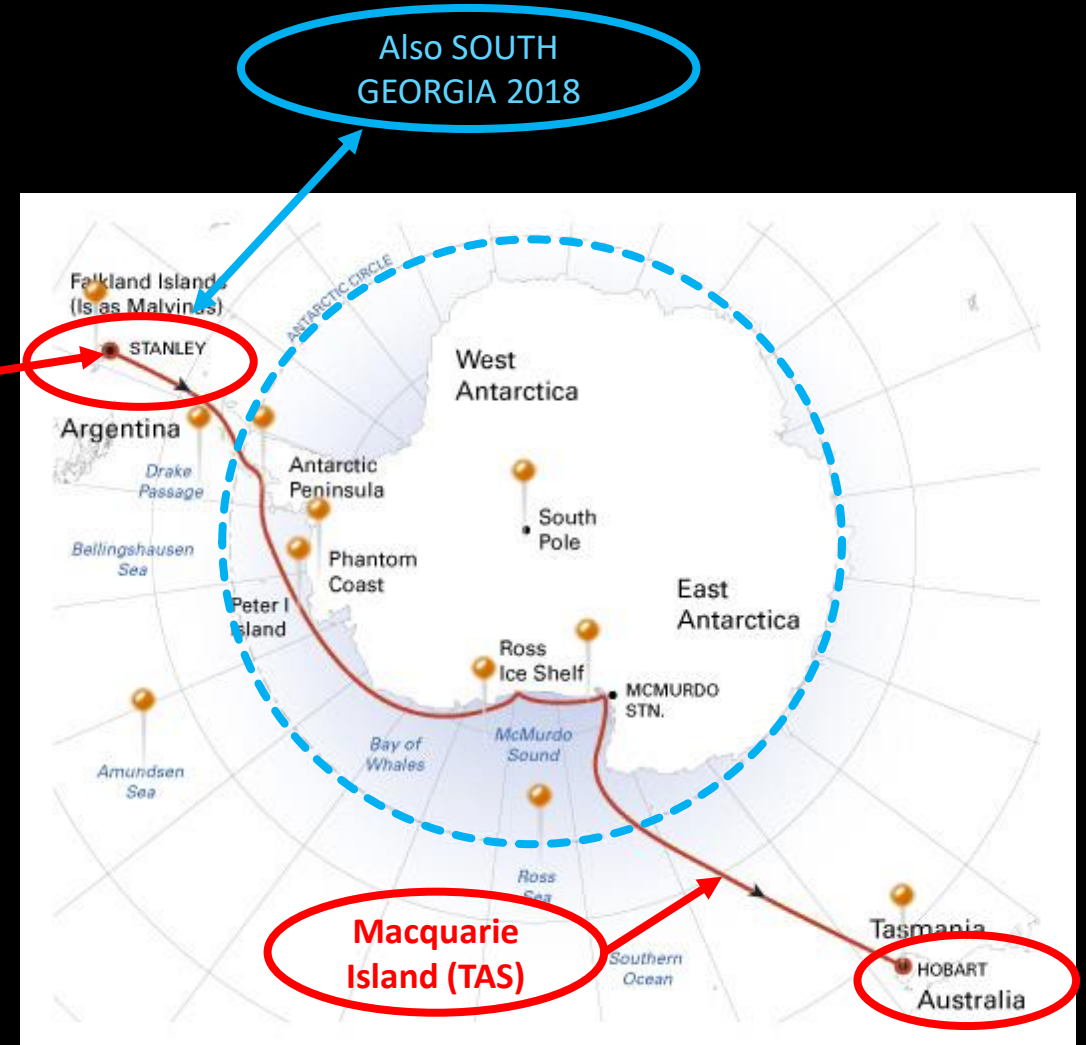
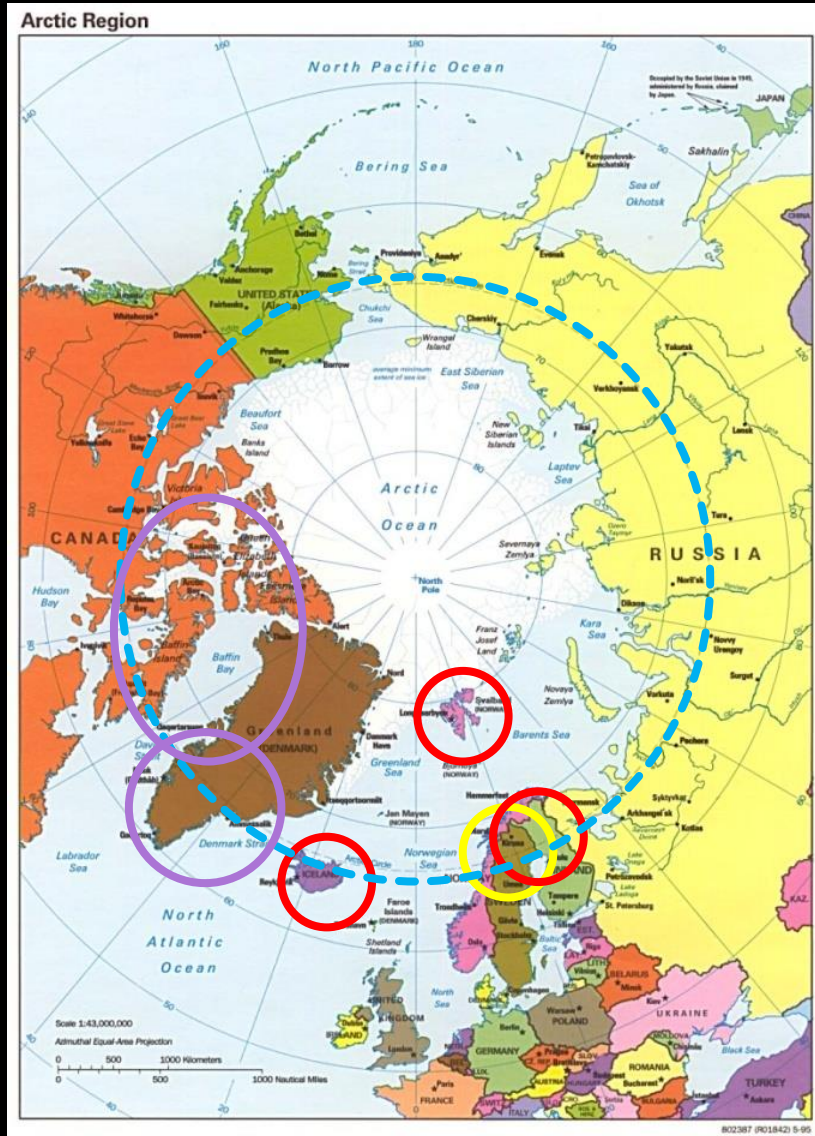
Antarctica

Steve Ransome and Diane Watling

221117



Our Arctic and Antarctic trips (so far)



From
Chile

Also SOUTH
GEORGIA 2018

Macquarie
Island (TAS)

HOBART
Australia

- NORTHERN CANADA, GREENLAND, ICELAND, NORTHERN SWEDEN (ICE HOTEL), NORWAY AND SVALBARD

Mount Pleasant Airport to Port Stanley, Falklands

1 flight a week from Santiago, Chile stop in Punta Arenas
and not over Argentinian air space

An unexpected overnight stop due to strong winds
“Slow minefield” sign from 1982 (not there in 2017),
Penguins aren’t heavy enough to explode mines, but sheep are ☹



Port Stanley, The Falkland Islands

Left – There were only 4 British looking brick houses

Right – in the pub watching South American football

Everyone knows everyone else!



Port Stanley, The Falkland Islands

Cathedral with whalebone arch
Bell ringing



Our room for the night. Hail and strong winds, midsummer
Port Stanley and a research vessel



Kapitan Khlebnikov

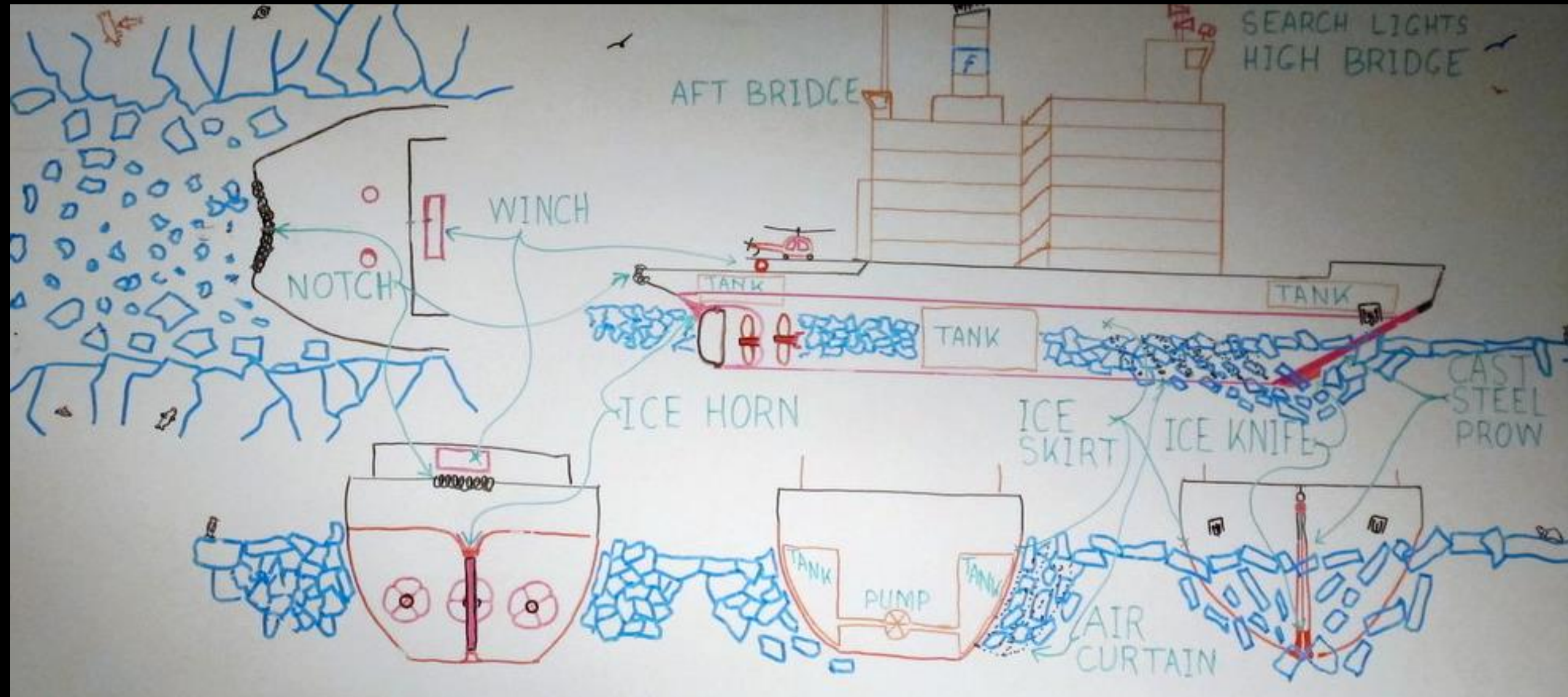
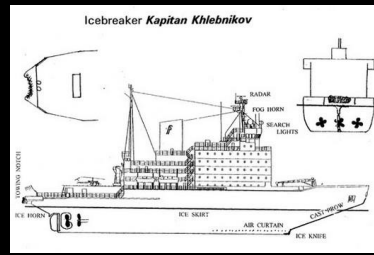
Our icebreaker with two helicopters

Heavy Diesel so quite polluting, since banned and no nukes allowed!



How icebreakers work

They need a smooth hull, no have a keel or stabilisers which would get ripped off
Many are Russian, Canadian, Finnish etc. Electric propellor drives

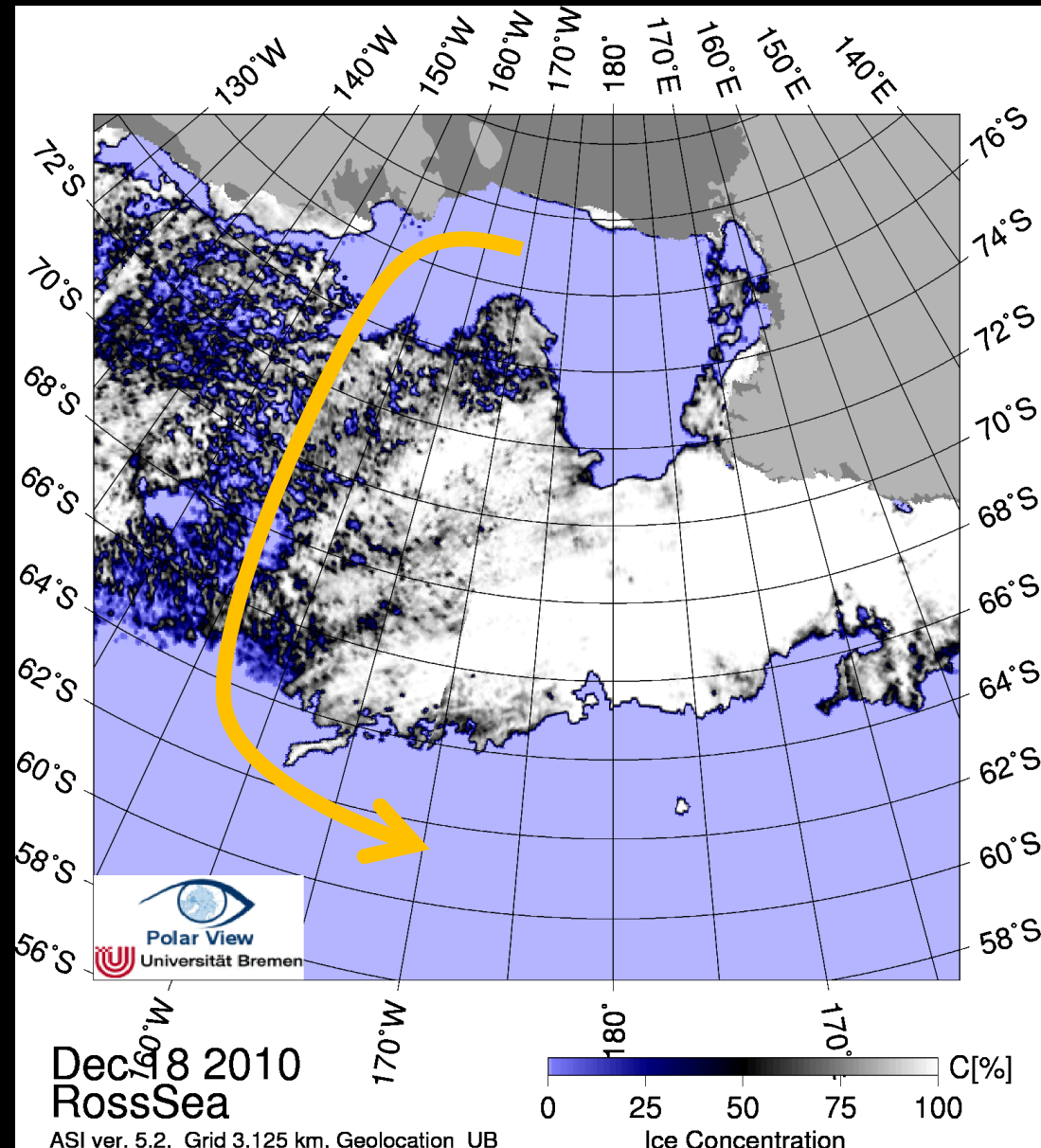


Sea Ice freezing at -2C



Navigating through the ice

“The quickest way through ice ... is to go around it”. Our helicopters sometimes flew forward to look for gaps



ICE CHART AND RADAR

Ice breaking

In thick ice, need to find a gap to the side to push the ice into



On the bridge

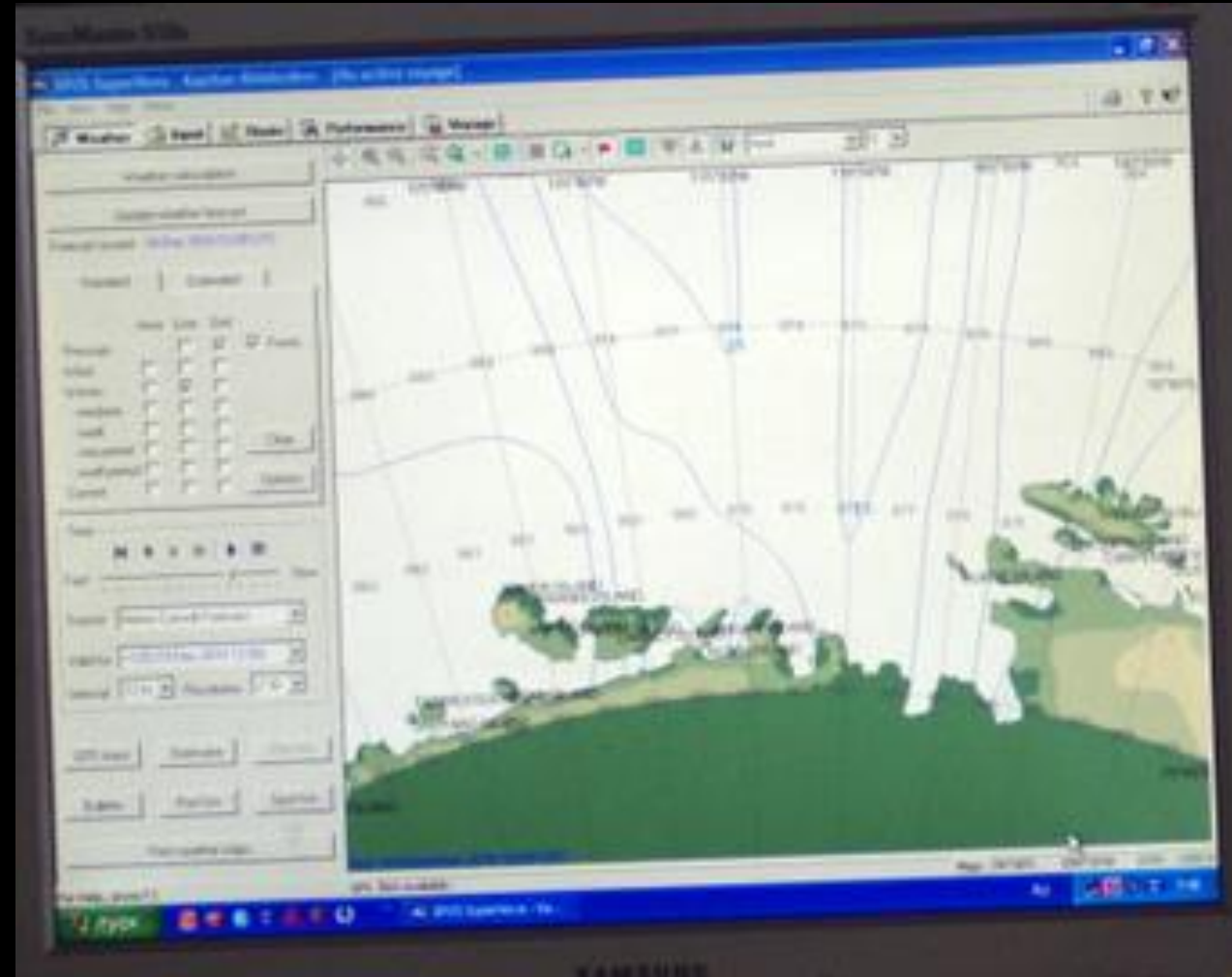
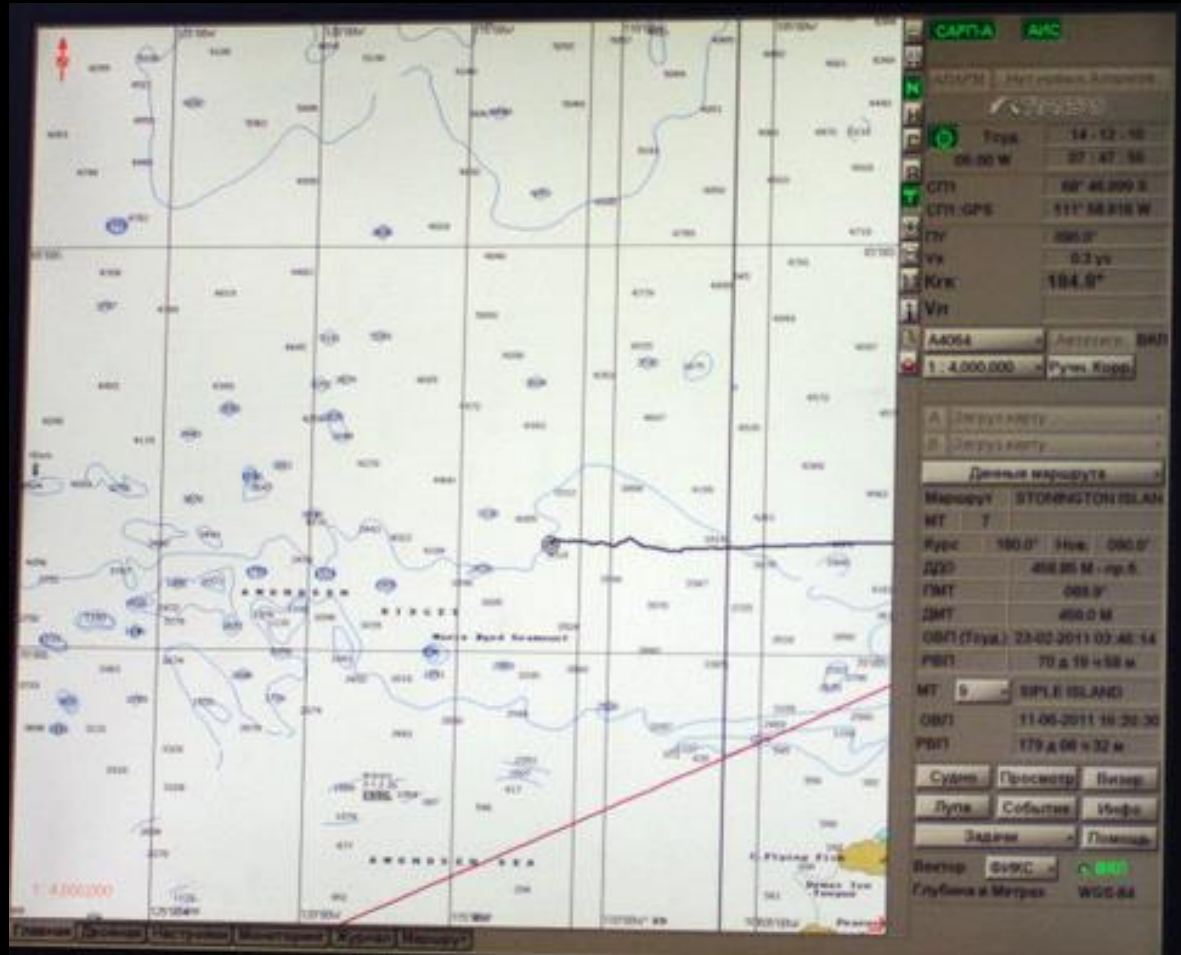
We were allowed up there nearly all the time except when they were docking. 6 engines but we'd only ever use 4

Autopilot→



Charts

Many places we'd go didn't seem to have many depth soundings ☹



GETTING ASHORE 1:

Walking onto the sea ice

Ram unbroken sea ice, park ship. let the gang plank down



GETTING ASHORE 2:

Helicopter if good weather, <20min flight, not near wild life



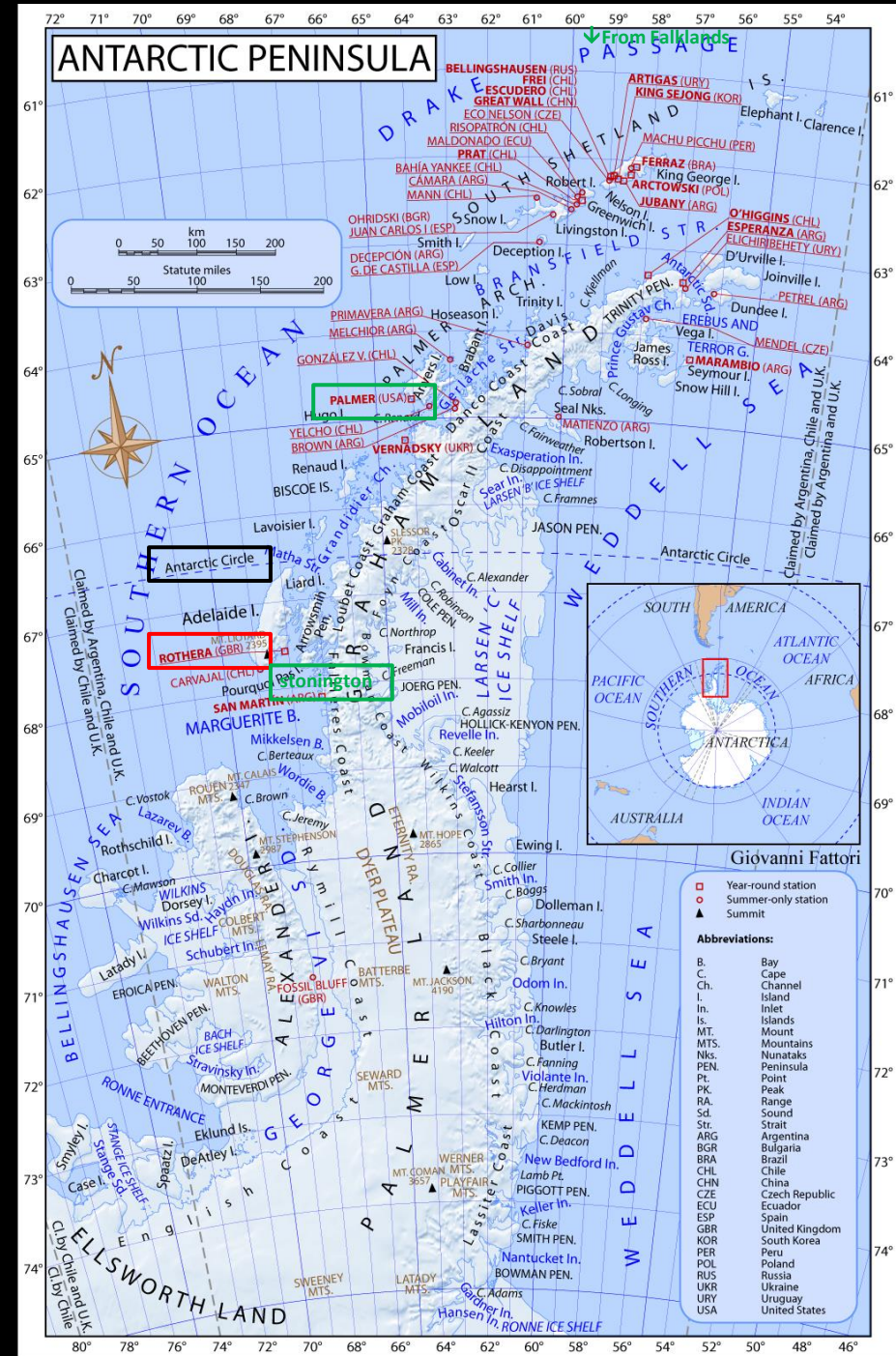
GETTING ASHORE 3:

Zodiac dinghies (8-10 people) for open water or broken ice, not too high a wind and swell, ~10 passengers and one crew. 7 inflatable compartments and a steel hull, Note long precarious steps!



The Peninsular – as far south as most tours go

https://en.wikipedia.org/wiki/Antarctic_Peninsula#/media/File:Antpen-en.png



Typical Peninsular Coastline

Jagged rocks, not all “ice wall”, difficult to land



Icebergs in a frozen sea

Some were taller than 10 decks above the sea. Multi year, would calve, (float away then refreeze and repeat)



Icebergs



Top :
Seals were living in an ice
cave on a grounded iceberg



Bottom :
Soil on top makes it look
like an island. Many have
penguins living on them

Icebergs

Many different shades of blue , sculpted by waves, some rock in the sea and have icicles



Changeable weather – usually $\sim 0^{\circ}\text{C}$ and dry

Midnight sun to “inside of a ping pong ball”. Antarctica is a “desert” with little precipitation.



Stonington Island LAT. 68° 11' S, LONG. 67° 00' W

Stonington Island : East Base USAS Expedition 1939–41

Station E : home to the BAS Station, surveying missions in the 1940s occupied until 1975 cleaned up and repaired in 1992.

Panorama showing the size of the landscape compared to the ship



Antarctic huts at Stonington

Bob the human encyclopaedia was always there telling us the history



Port Lockroy “Penguin Post office”

Lat. 67°34'8"S, Long. 68°7'29"W

– we couldn't visit as we were two days late, my photo below



Australian climbers' yacht



Penguin Colonies



Difficult landing conditions



Rarely seen Phantom Coast



Palmer Station US 64°46'27"S 64°03'10"W

~ 40 people,
marine biology, global seismic, atmospheric, and UV-monitoring
networks, heliophysics, radio receiver that studies lightning over the
Western Hemisphere.

Climate data for Palmer Station													[hide]
Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Year
Record high °F (°C)	58.6 (14.8)	54.8 (12.7)	51.0 (10.6)	46.7 (8.2)	45.3 (7.4)	42.1 (5.6)	38.5 (3.6)	37.9 (3.3)	39.9 (4.4)	43.7 (6.5)	49.8 (9.9)	52.3 (11.3)	58.6 (14.8)
Average high °F (°C)	40.4 (4.7)	39.2 (4.0)	37.6 (3.1)	33.4 (0.8)	32.1 (0.1)	28.0 (−2.2)	26.3 (−3.2)	24.8 (−4.0)	28.6 (−1.9)	33.1 (0.6)	36.4 (2.4)	38.3 (3.5)	33.2 (0.7)
Daily mean °F (°C)	36.9 (2.7)	35.4 (1.9)	33.8 (1.0)	30.4 (−0.9)	28.3 (−2.1)	24.1 (−4.4)	21.1 (−6.1)	19.6 (−6.9)	22.1 (−5.5)	27.5 (−2.5)	31.6 (−0.2)	34.3 (1.3)	28.8 (−1.8)
Average low °F (°C)	33.3 (0.7)	31.7 (−0.2)	30.0 (−1.1)	27.4 (−2.6)	24.5 (−4.2)	20.2 (−6.6)	15.8 (−9.0)	14.3 (−9.8)	15.6 (−9.1)	21.9 (−5.6)	26.7 (−2.9)	30.3 (−0.9)	24.3 (−4.3)
Record low °F (°C)	5.4 (−14.8)	4.2 (−15.4)	−3.5 (−19.7)	−11.0 (−23.9)	−23.2 (−30.7)	−31.8 (−35.4)	−41.5 (−40.8)	−33.5 (−36.4)	−28.9 (−33.8)	−10.1 (−23.4)	−6.9 (−21.6)	−1.1 (−18.4)	−41.5 (−40.8)
Average precipitation inches (mm)	2.16 (55)	2.26 (57)	2.76 (70)	2.84 (72)	2.47 (63)	1.83 (46)	1.65 (42)	1.82 (46)	2.09 (53)	2.58 (66)	1.89 (48)	1.55 (39)	25.90 (658)
Average relative humidity (%)	80.0	81.8	82.3	79.9	82.4	81.4	84.3	83.9	84.6	82.2	78.9	79.3	81.7

Source: ^[9]



Birds follow the ship for days

Southern Fulmar and Antarctic Cape Petrel (L)

Antarctic skua about to land on the head of someone not watching out ! (R)



Orca (killer) whales

Awaiting baby Emperor penguins' first swims (black dots)



Seals spend most of their time on the surface sleeping –

Often surrounded by penguins



A rare Ross seal

We stopped the engines and just drifted into the iceberg

Doug Allan (Frozen Planet ++) BBC Cameraman →

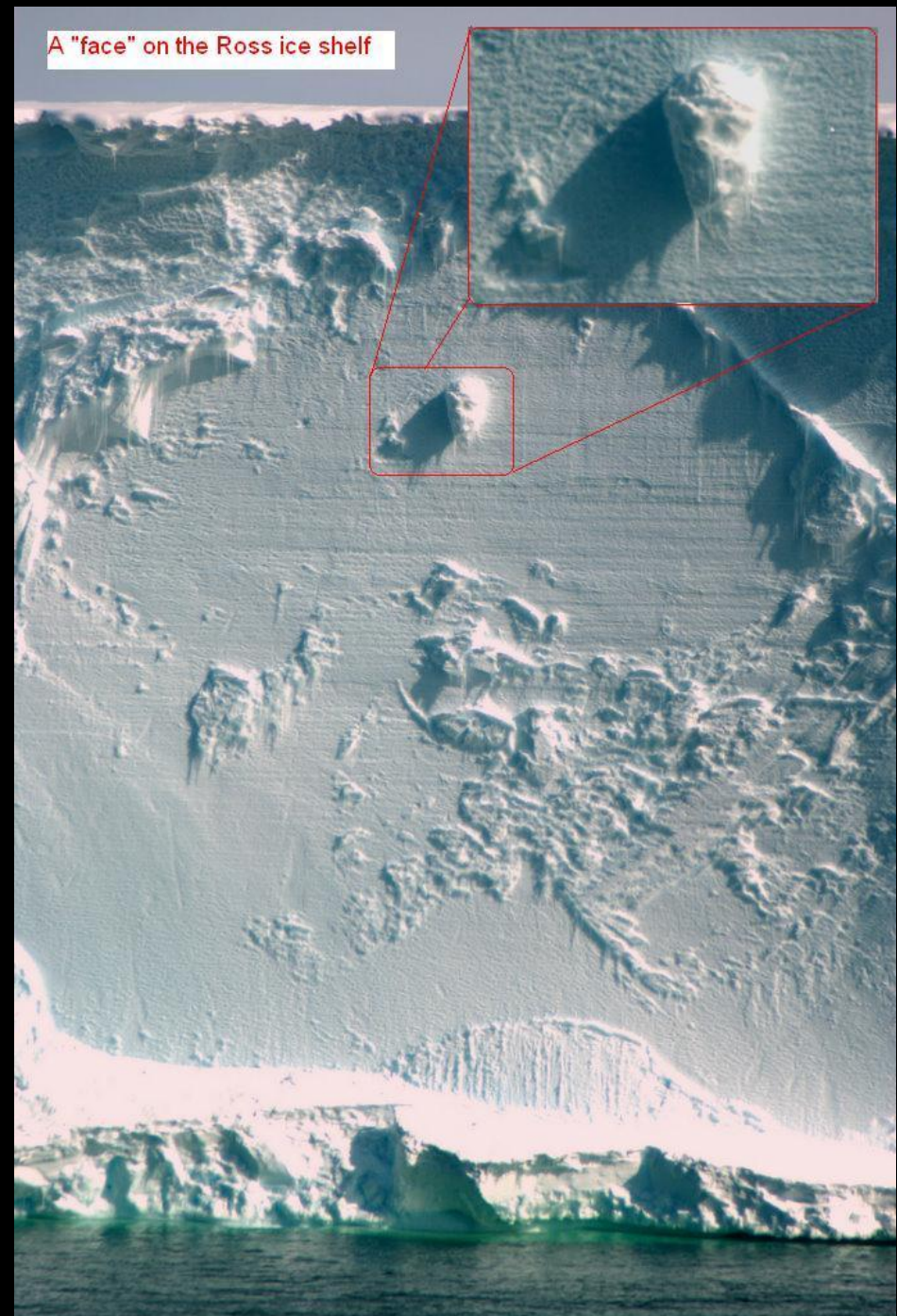


Ross Ice shelf

It's as big as France!

Ice cliffs ~100m

Note helicopter and people

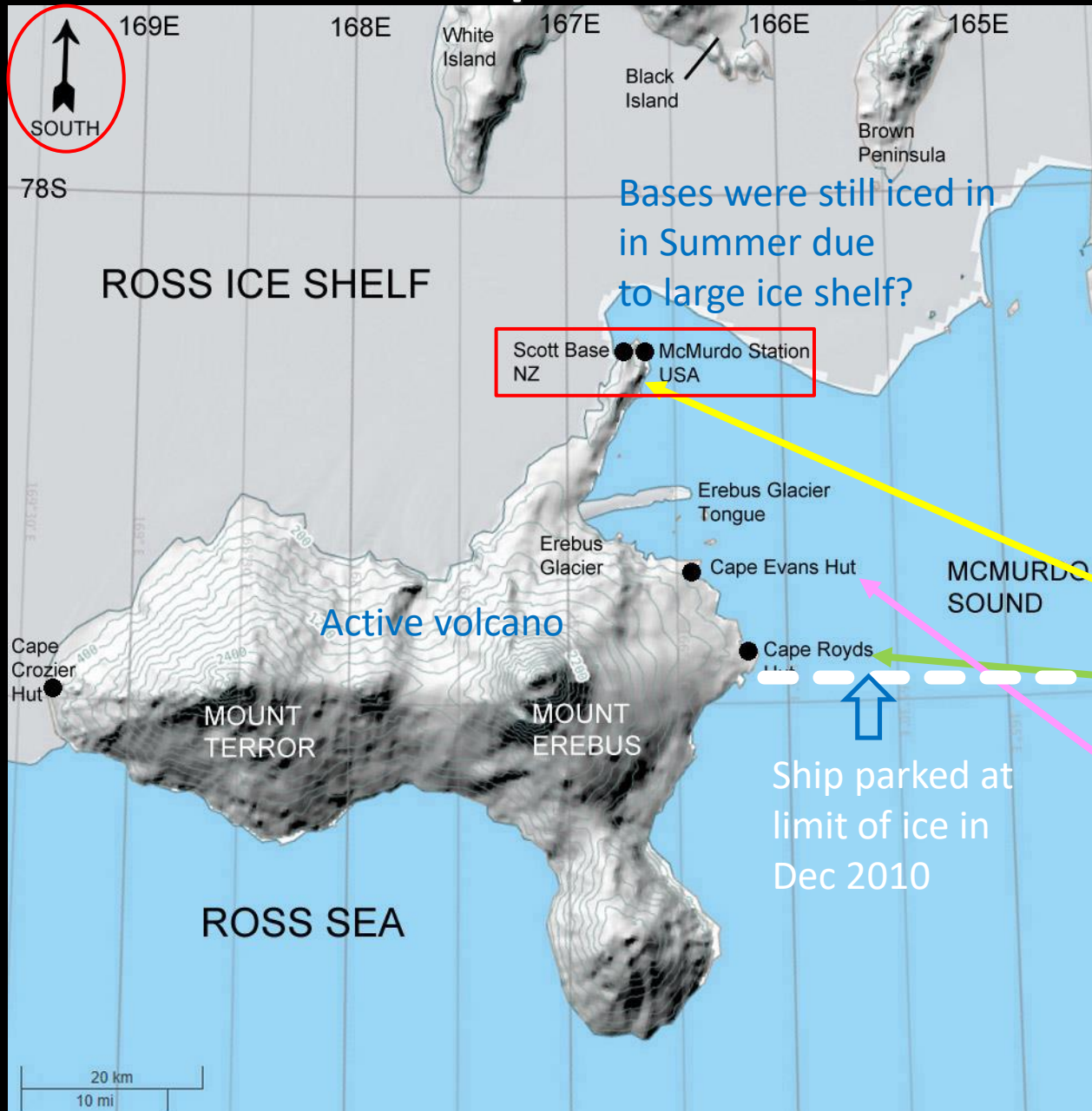


Above the Ross Ice shelf

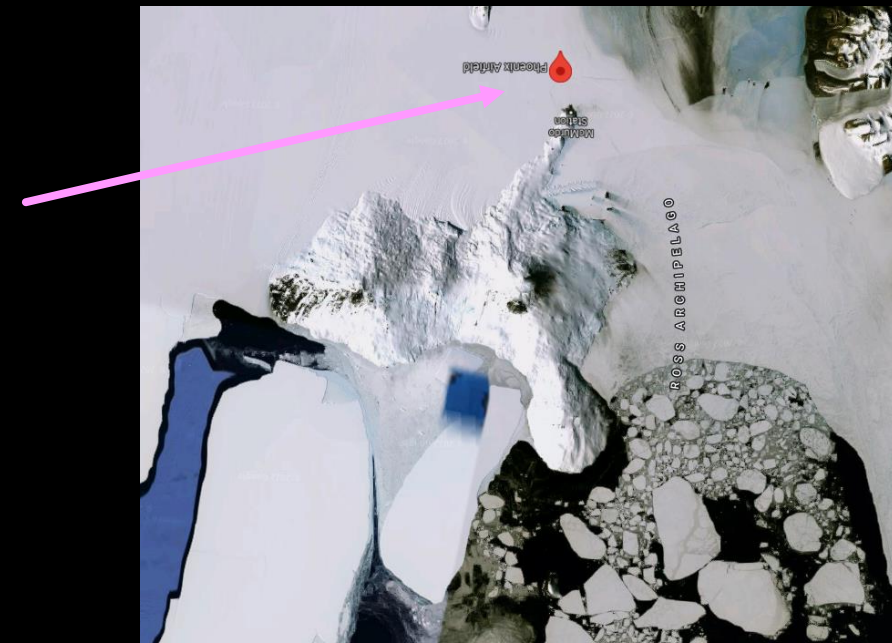
Ship stays away from the iceshelf (>10x height) in case of calving which would cause big waves



Bases and expeditions, Ross Island



Ice Runway,
Google Earth



Expedition	Years	Leader	Target and achievement	Huts used
Discovery	1901-1904	Scott	460nm from pole	Discovery at McMurdo
Nimrod	1907-1909	Shackleton	97nm from pole	Shackleton Cape Royds
Terra Nova	~1911	Scott	Amundsen (NOR) won race to pole, Scott and men perished on return	Cape Evans
Endurance	~1914	Shackleton	Transantarctic crossing	Couldn't land and ended up in S Georgia

Scott Base

1957 research station (NZ) [77°50'57"S 166°46'06"E](#)

new base being built→



Scott Base research station (NZ)

First base in the Antarctic built in the 1957 –
some original furniture (now a 'museum') and a frozen milk bottle

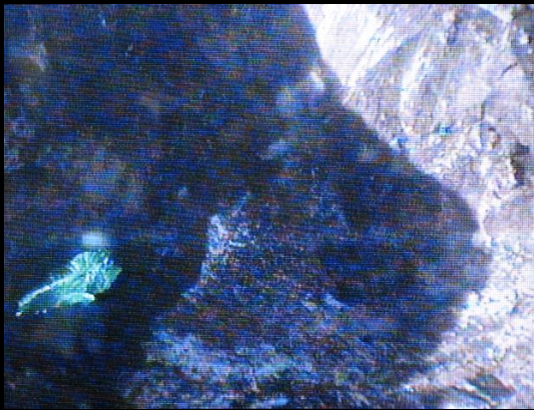
Sign says "No. 17A,
Antarctica
No Circulars Please"



McMurdo research station (US)

About 1500 people in the summer. Planes land on ice runway
They took out Nuclear reactor and put in a wind farm

Live stream of Mt Erebus
Active Volcano!



South Pole Weather

Today:22 Dec2010 Next Sunset:23Mar2011



McMurdo research station (US)

Some wildlife from the sea bottom



McMurdo research station (US)

Living quarters on skis,

the multi denominational church



Discovery Hut SCOTT 1901-04

Near Mc Murdo base



Discovery Hut SCOTT 1901-04

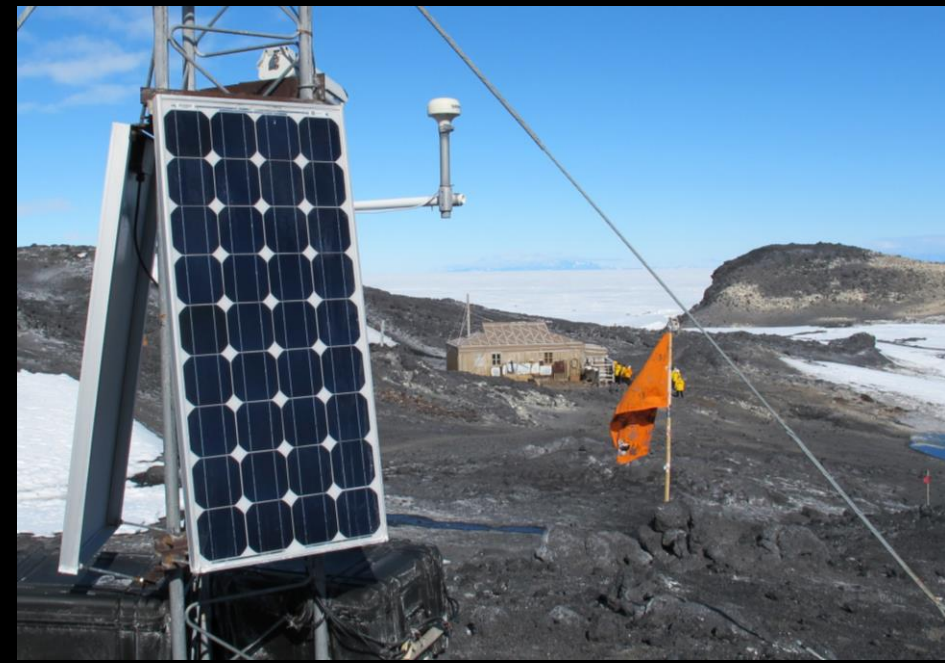
Mind the blubber !



Nimrod

SHACKLETON 1907-09

Cape Royds



Nimrod

SHACKLETON 1907-09

Cape Royds "the loo with a view"

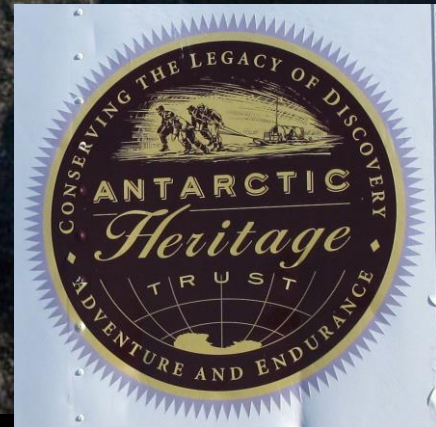
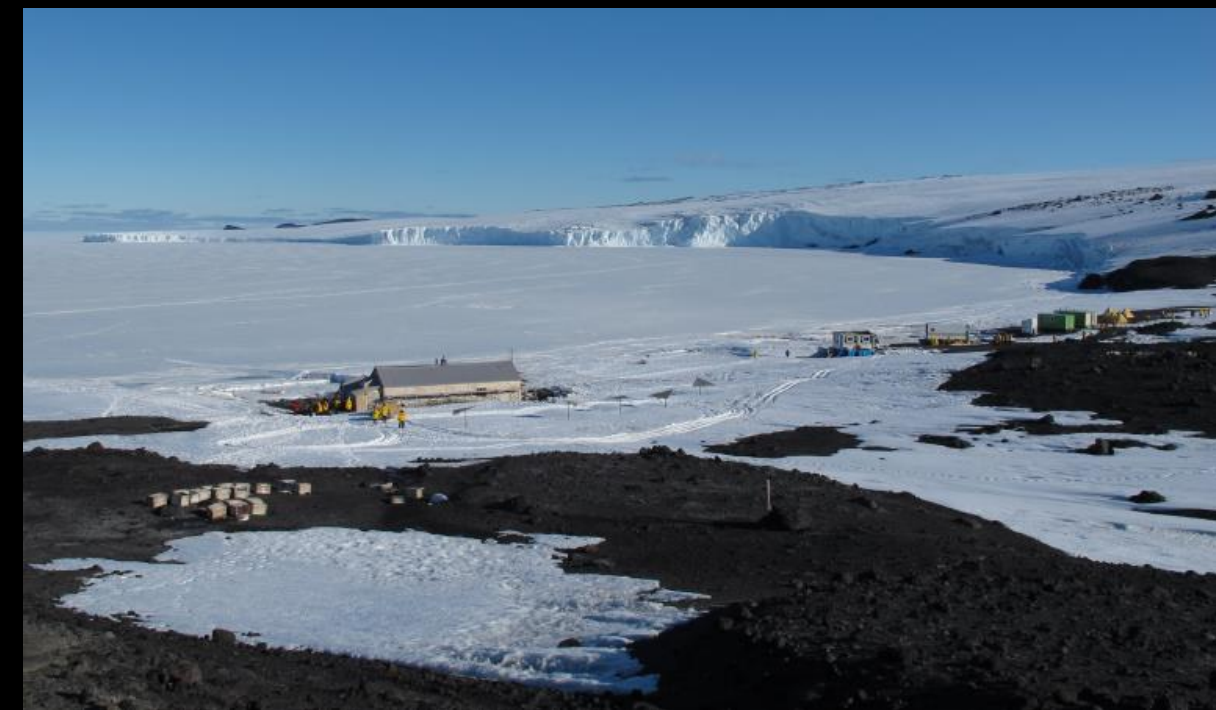


Terra Nova Scott 1910-13

Terra nova hut point,
abandoned 1917

excavated 2003 deflectors to keep snow away

Mt Erebus active volcano →



Terra Nova

SCOTT 1910-13

Smell of Darkroom



Terra Nova SCOTT 1910-13

Dissected penguin (L)



Terra Nova

SCOTT 1910-13



Penguin life cycle

- Penguins are flightless birds well adapted to living in the sea, some live in warm climates such as Australia and Ecuador
- Penguin pairs stay together for one season, 1-2 eggs incubated on stones or on Penguins' feet (must face up hill or else egg rolls off !)
- Penguins share incubation except the Emperor male only
- Older chicks form a creche huddle together for warmth
- Later parents stop feeding chicks who then migrate to the sea
- Numerous seals and whales may be waiting for them
- Mature penguins return to land to find mates and breed again



Adult penguins

Tallest are almost 4ft 1.2m

Dessert



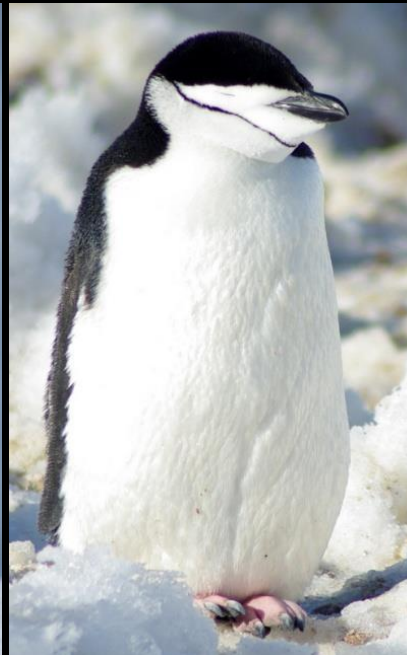
Emperors



Adelie



Gentoo



Chinstrap



Royal



King

Penguins

(Chicks)



Adelie (1-2 just hatched)



Royal (creche)



King awaiting food



Emperor ready to leave



Danger awaits !

Close encounters of the 3rd kind !

Penguins seem genuinely interested in humans – we stopped where there were just a few penguins and they all came out of the sea (right) to meet us.

It's rare to meet Emperors.

Note the sleeping seal to the right

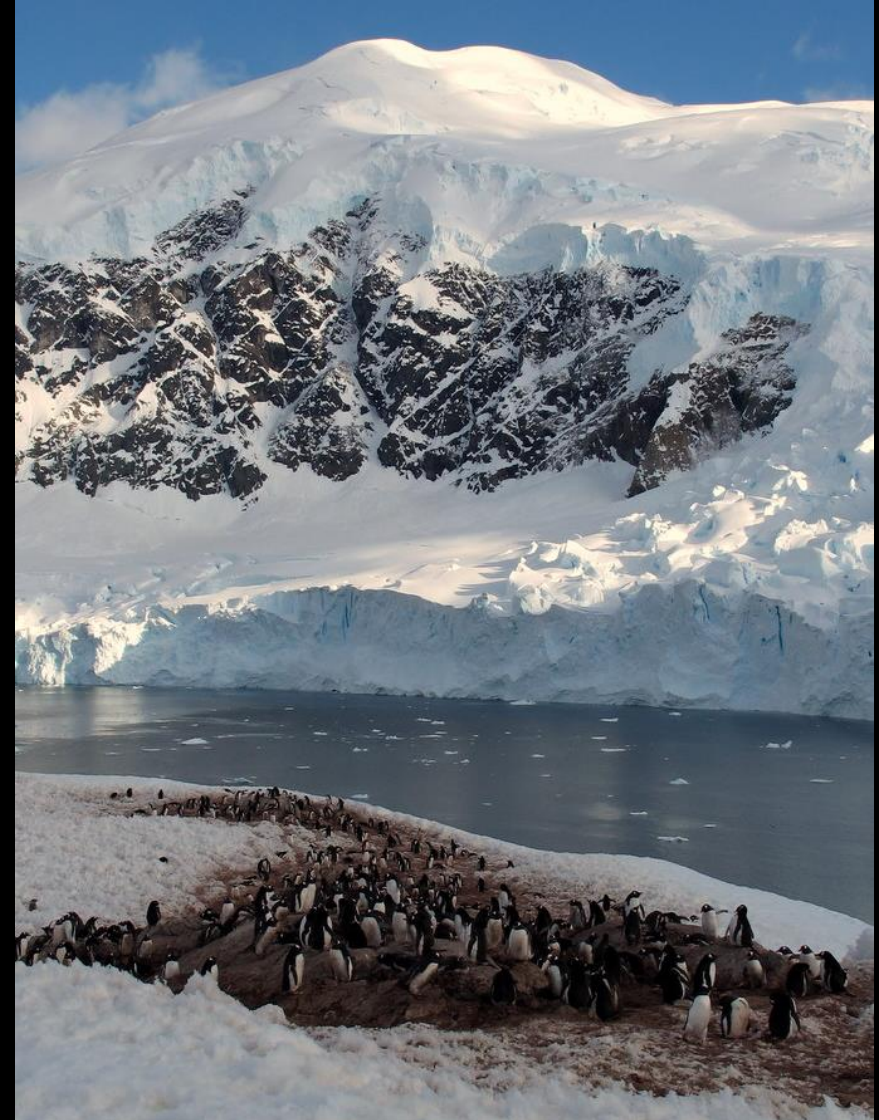


Gentoos before and after nesting



Gentoo climb to their rookeries through grooves in the snow

carrying pebbles for their nests



Penguin colonies can be tracked from satellites by the amount of brown snow

Gentoo seem to stop for a natter



Adelies nest on stones



This Adelie was hissing at the camera

Or maybe it was the photographer's hat ?



Close up Adelies



Adelies are very feisty

This one squawked at the ship for two days until we went away



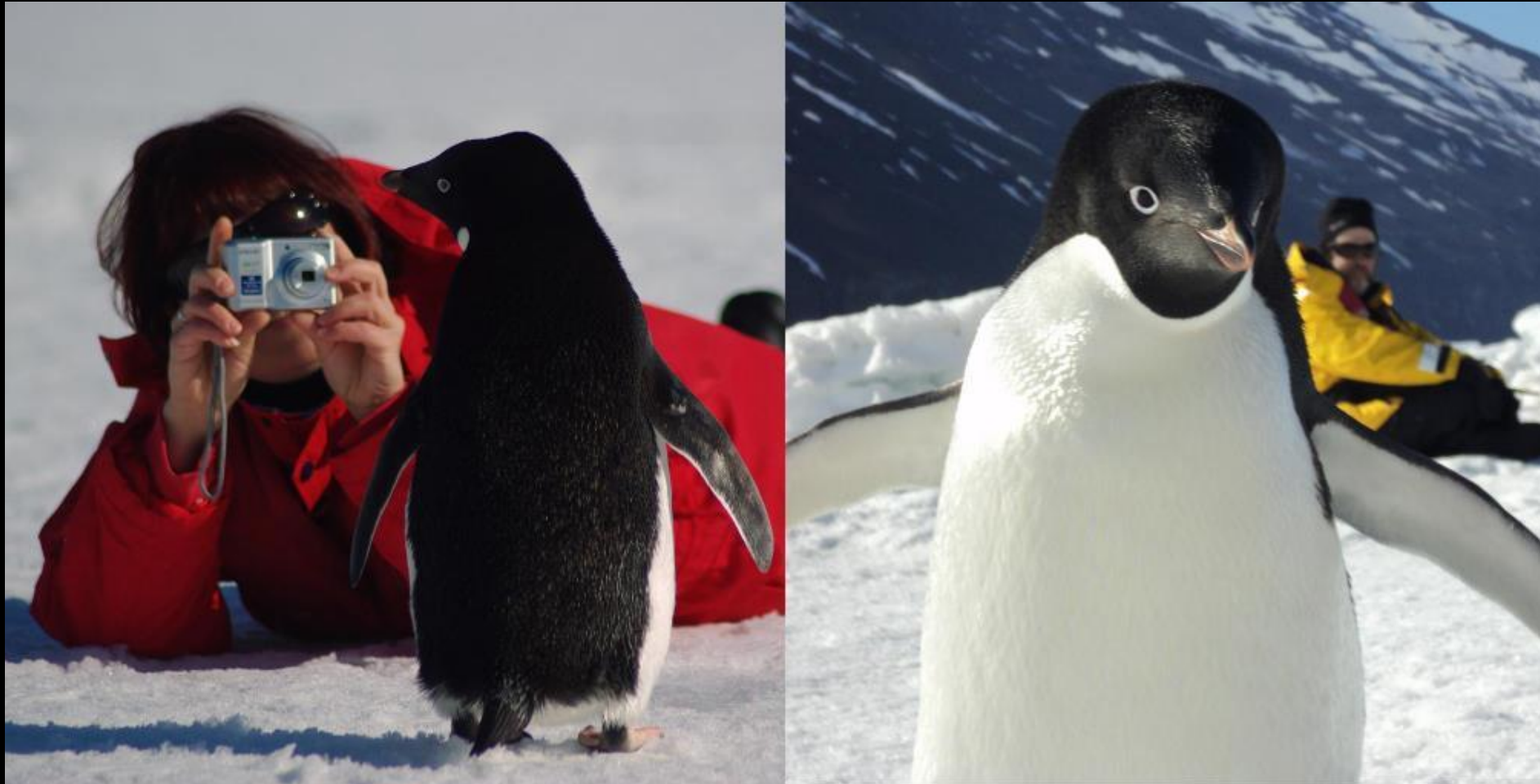
A Russian crew member

Taking a close up photo of a curious Adelie penguin just a foot or so away



A Russian crew member

Taking a close up photo of a curious Adelie penguin just a foot or so away making it look enormous compared to me in the background !



Adelies getting in and out of the water

They don't seem to like being first one in – but they love jumping out and land on their feet



Emperors getting in and out of the water

They don't seem to like being first one in – but they love jumping out and land on their bellies



Emperors and chicks (spot the adolie)



It was Christmas!

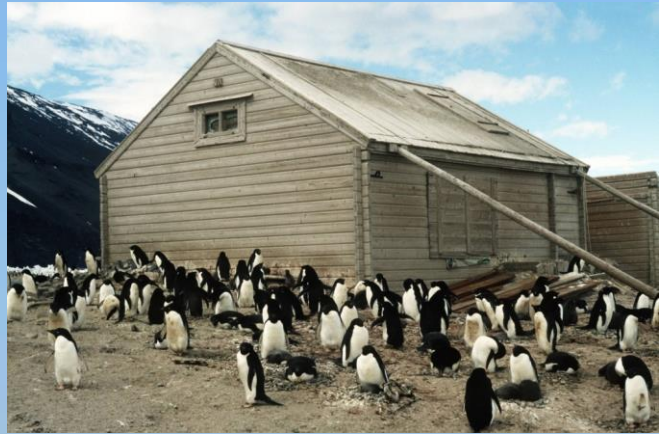


Christmas day penguin racing



Adelie rookeries

Cape Adare with 1899 hut



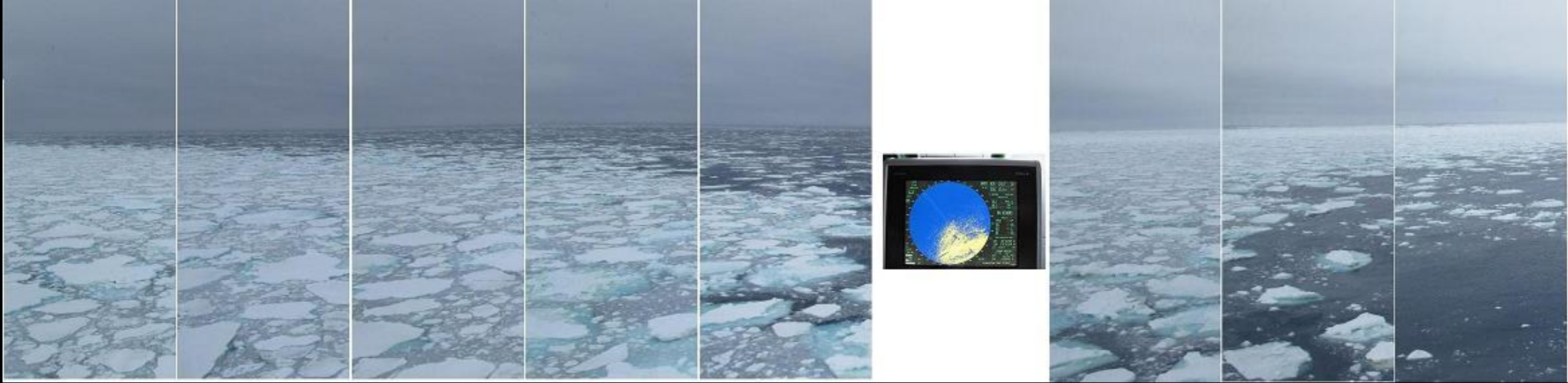
**Penguins live this far up !
Top is about 400m**



Borchgrevink's explorer hut for scale

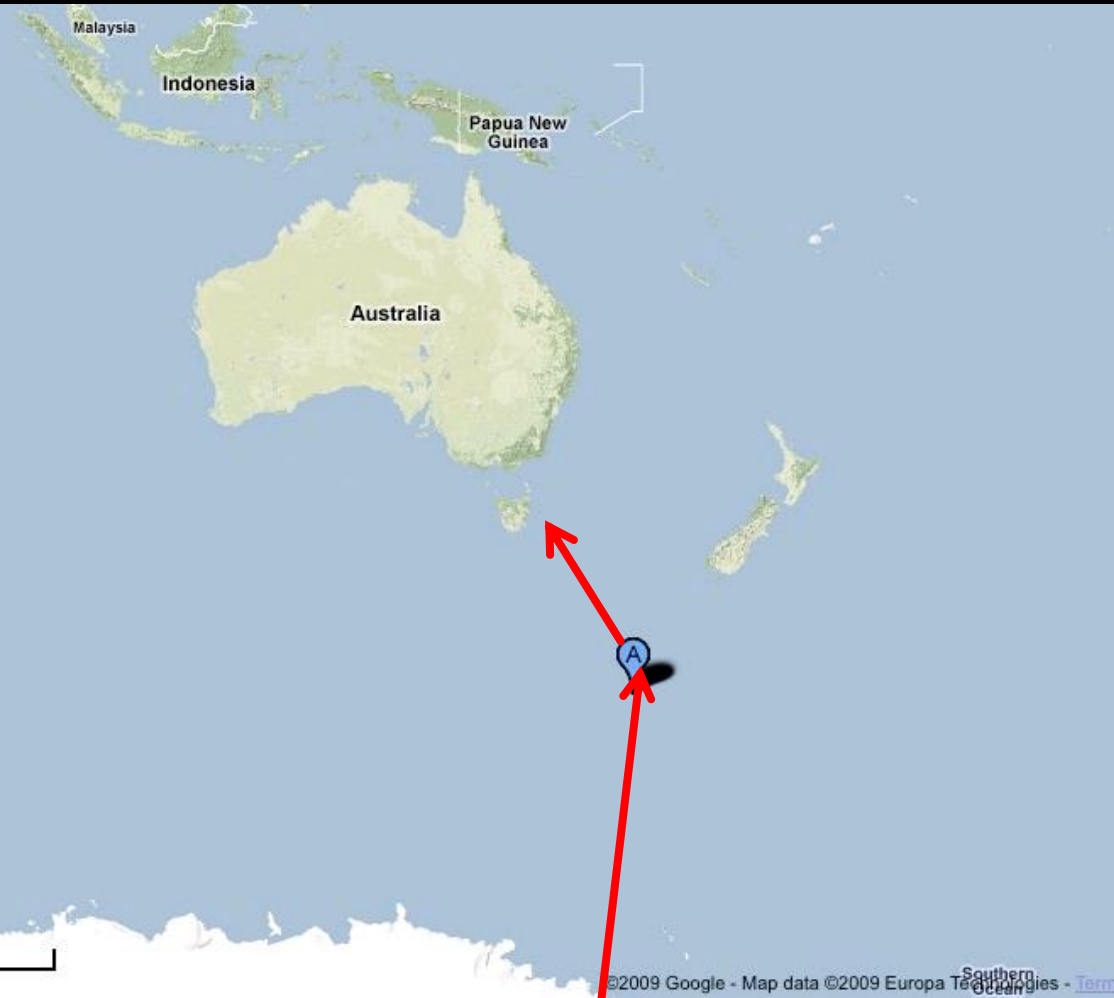


Coming out of the ice



Macquarie Island –

Half way from Antarctica to Tasmania



Macquarie Island

(PERI ANTARCTIC)

The welcoming committee on a very wet and windy place

Note seals look just like boulders



Macquarie Island

Seals aren't frightened of humans



Weaners huddling for warmth ...



... but not for long



Seal pups try to find anything to lie on
these are our lifejackets and we needed them to return to our ship



Juvenile elephant seals play fighting

Next year it will be for real



Royal penguins at Macquarie



Royal penguins at Macquarie



“Don’t get less than 5m from wildlife”

(But nobody tells the wildlife that !)



Macquarie Beach

2 person huts for scientists



Kings at Macquarie Beach



Team photo on ice with polar bear



In memory of my father



Thank you for your attention !



SPARE

MIDNIGHT SUN

In midsummer the sun never sets above 67°north or below 67°south!

Midnight sun Svalbard 18-19 Aug 2008



Antarctica at
midnight in
December

Travel : meeting exotic people from all over the world with strange, hard to understand accents and **UNUSUAL WAYS**



SOLAR PANELS !

I've worked in solar energy since 1988 and this is a "bus driver's holiday" – trying to find the furthest north and south



63°N in Iceland (since seen further north in Greenland and Norway)



75°S in Antarctica (the icebreaker is in the background)

What's unusual about these pictures ?



Passengers on the bow in the Arctic



Mountains in the Antarctic

They are both reflections

The water at the poles can be very clear and calm enabling sharp reflections (these are now the right way round)



They should have measured us for clothing after the trip

3 cooked meals a day – plus afternoon tea and cakes



Zodiacs

Are a great way to get around



Antarctic Skua trying to take off

