

# SGSSI MPA Review Science Symposium

13-14 June 2023  
Aurora Conference Centre  
Cambridge, UK



Hosted by the Government of South  
Georgia & the South Sandwich Islands



# Human Impacts



- **An Update on Marine Debris in South Georgia: emerging awareness of microplastic pollution.** *Jack Buckingham (University of Hull / BAS)*
- **Identifying risks and management priorities through marine invasion pathway analysis in the sub-Antarctic.** *Dan Bayley (Flora & Fauna International / SAERI)*
- **Ship strike risk to whales in South Georgia waters.** *Russell Leaper (IFAW)*
- **What goes thump at night: managing bird-strike in South Georgia.** *Megan Tierney (JNCC)*

# Jack Buckingham

University of Hull / British Antarctic  
Survey



ESA



Sue G



Rod Strachan

# An Update on Marine Debris in South Georgia: an Emerging Awareness of Microplastic Pollution

## Jack Buckingham



UNIVERSITY  
OF HULL

ENERGY AND  
ENVIRONMENT INSTITUTE



**British  
Antarctic Survey**

NATURAL ENVIRONMENT RESEARCH COUNCIL



**Plastic**  
in Polar Environments

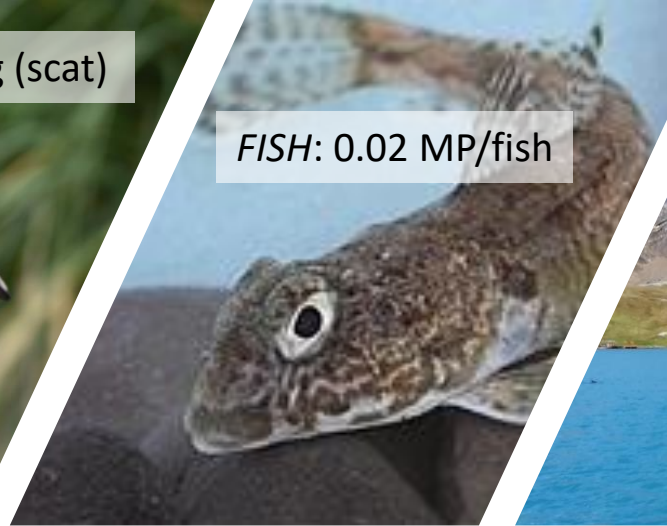




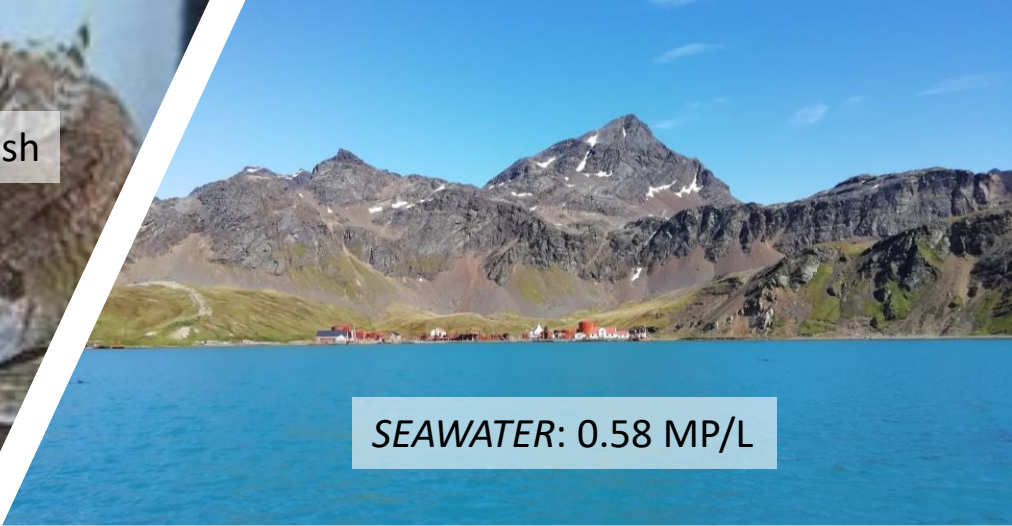
PENGUINS: 0.08 MP/g (scat)



SEALS: 0.04 MP/g (scat)



FISH: 0.02 MP/fish



SEAWATER: 0.58 MP/L



ZOOPLANKTON: 0.36 MP/g

“The ecological fate of microplastic in the nearshore environment of South Georgia, a sub-Antarctic island”

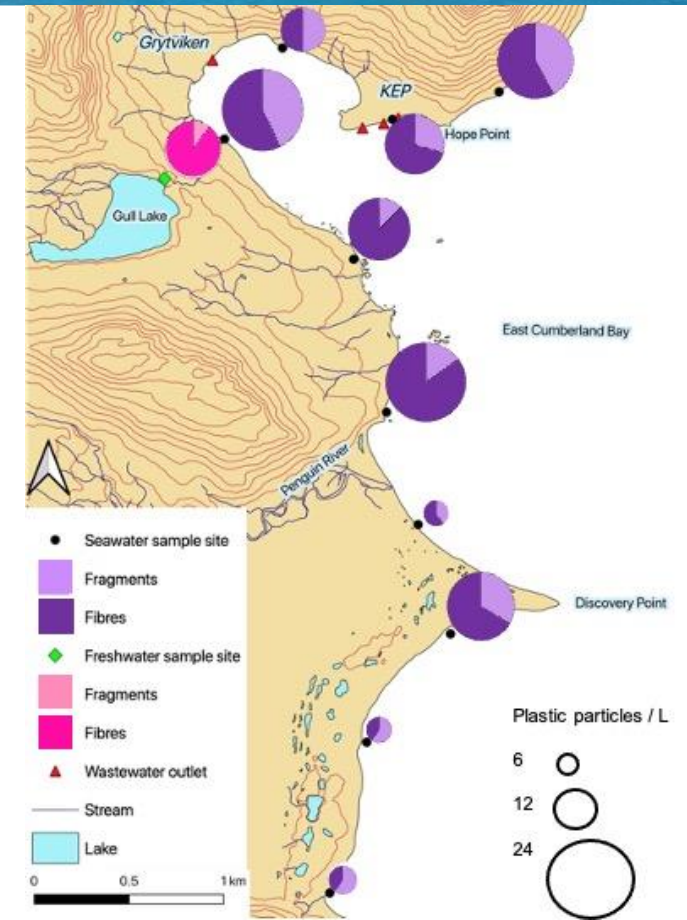
# MP in seawater

- Seawater sampled from accessible coast from KEP Research Station + Cumberland Bay (local) and Rosita Harbour (>70 km away)
- Total mean: **0.58 microplastic particles per litre** (range 0 – 4)
- Offshore mean concentrations higher:
  - **2.00 mp/L** Cumberland Bay (range 0 – 4)
  - **1.33 mp/L** Rosita Harbour (range 0.66 – 1.66)

*Highest known record of microplastic concentration in surface seawater in the Southern Ocean and sub-Antarctic to date.*

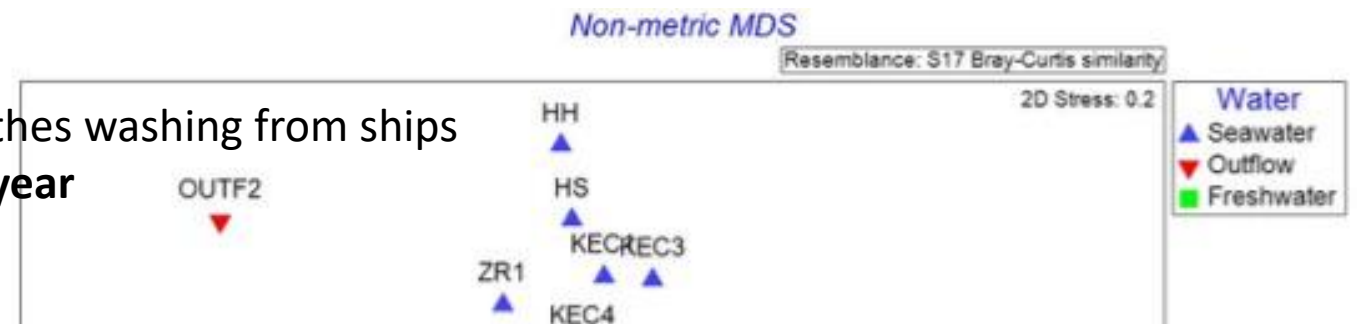
Hamble estuary, UK: **43 ± 36 microfibrils/L** (Nel et al., 2020)

East Greenland Current: **1.19 ± 0.28 particles/L** (Jiang et al., 2020)



# MP in seawater

- Wastewater mean microplastic concentration: **0.55 microplastics/L** (range 0 – 2.33 MP/L)
- Snow microplastic concentration: **1.55 microplastics/L** (n = 1 but range across replicates 0.33 – 2.33)
- Estimation of microfibrils emissions from clothes washing from ships and shore:  **$1.8 \times 10^{11}$  to  $1.5 \times 10^{13}$  fibres per year**
  - *GSGSSI Annual Report 2019, 2020*
  - *Napper & Thompson, 2016*



# MP in zooplankton

- Examined a range of taxa sampled by BAS during annual monitoring at KEP (Cumberland Bay and Rosita Harbour)
- Concentration of microplastic in zooplankton: **0.36 particles/g** (wet weight)
- Microplastic particles present in the zooplankton record as far back as 2009 and in samples examined from every year since

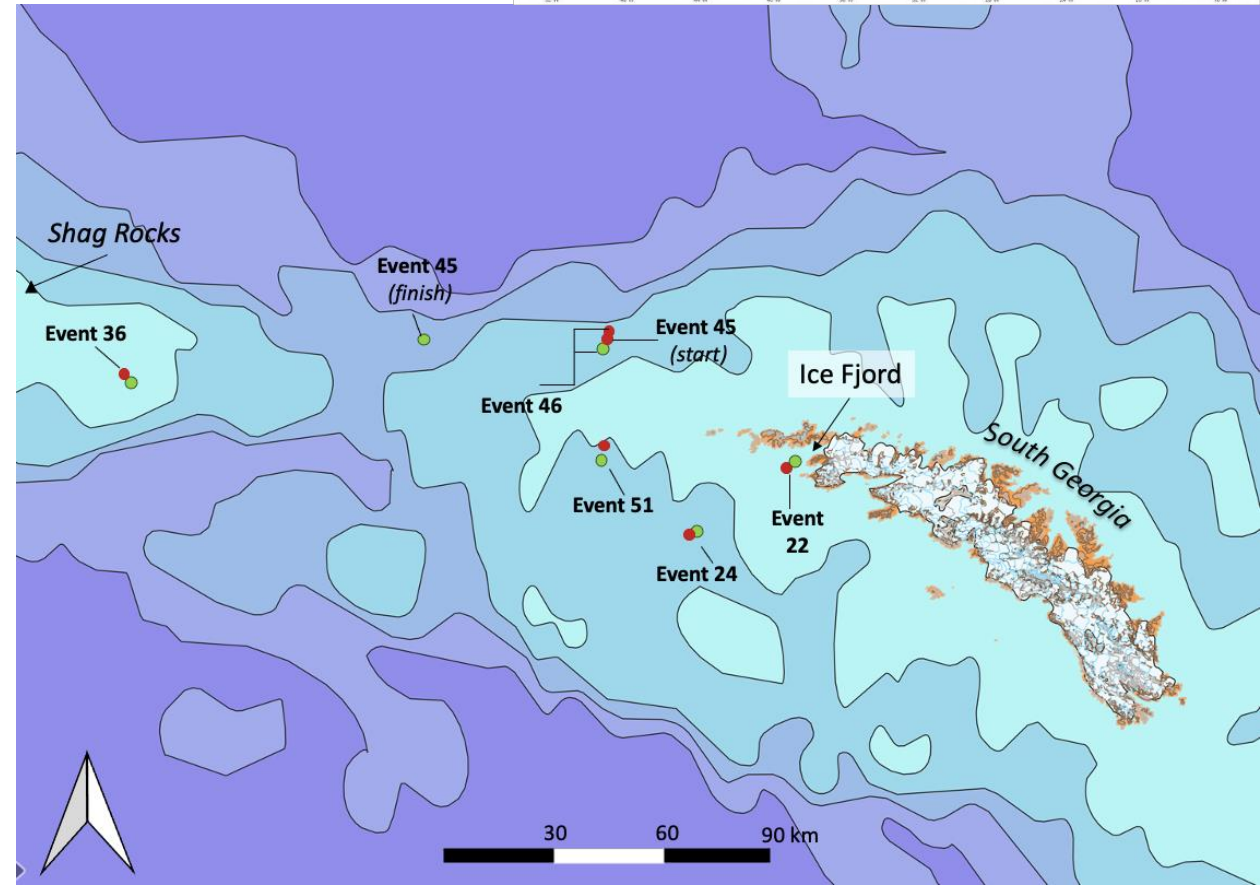
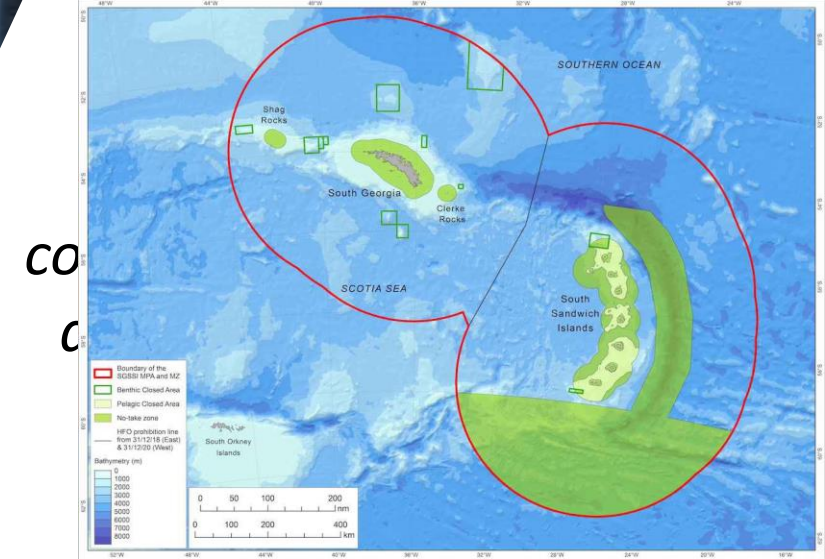


***28 billion MP particles per total CCAMLR krill quota for Subarea 48.3 (South Georgia).***



# MP in fish

- 3 species of Nototheniid (*Gobionotothen gibberifrons*, *Lepidonotothen larseni*, *Patagonotothen guntheri*)
- 1 species of Myctophid (*Gymnoscopelus bolini*)
- Fish caught as bycatch during BAS biennial groundfish survey
- Microplastic concentration in fish: **two MP particles** across 68 individual fish belonging to four species (0.02 MP/individual)





# MP in higher predators

- Antarctic fur seal (*Arctocephalus gazella*) and gentoo penguins (*Pygoscelis papua*) examined:
  - Fur seals: mean average **0.04 MP/gram of scat**  
(range 0 – 5 particles per scat)
  - Gentoo penguins: **0.08 MP/gram of scat**  
(range 0 – 2 particles per scat)
- Lower than previous records in South Georgia (Bessa et al., 2019; Le Guen et al., 2020) but these result represent minimum values

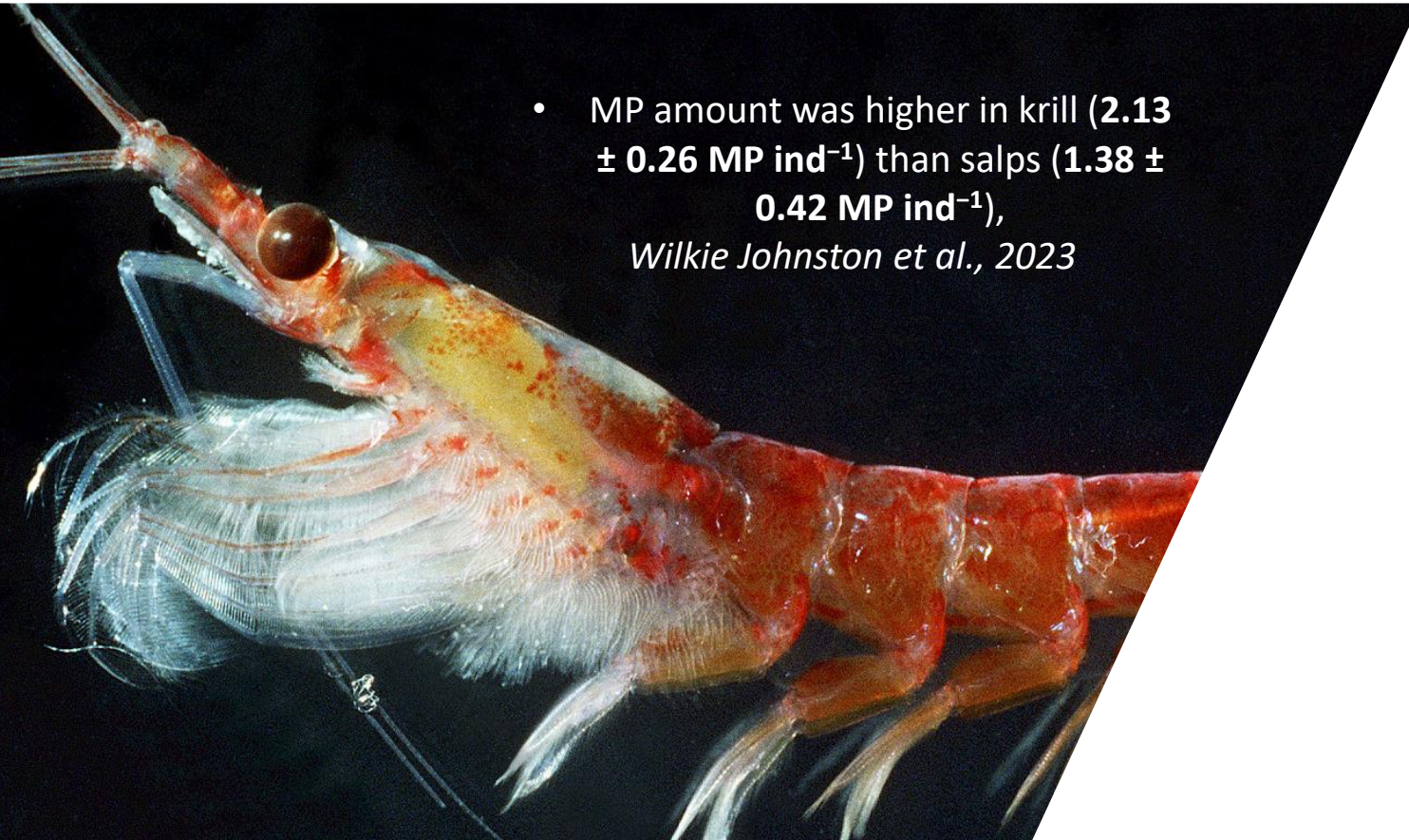
*Only represent microplastics which are egested. The amount retained is as yet unknown...*

# Additional MP research in South Georgia waters

- Gentoo penguins, **0.23 ± 0.53 items individual<sup>-1</sup> scat**, *Bessa et al., 2019*
- King penguins, **21.9 ± 5.8 microfibrres g<sup>-1</sup> of faeces**, *Le Guen et al., 2020*

- MP amount was higher in krill (**2.13 ± 0.26 MP ind<sup>-1</sup>**) than salps (**1.38 ± 0.42 MP ind<sup>-1</sup>**), *Wilkie Johnston et al., 2023*

- Vertical flux of microplastic, a case study in the Southern Ocean, South Georgia  
*Rowlands et al., 2023*
- The Effects of Combined Ocean Acidification and Nanoplastic Exposures on the Embryonic Development of Antarctic Krill  
*Rowlands et al., 2021*
- Nanoplastics affect moulting and faecal pellet sinking in Antarctic krill (*Euphausia superba*) juveniles.  
*Bergami et al., 2020*
- Microplastic availability to pelagic amphipods in sub-Antarctic and Antarctic surface waters  
*Jones-Williams et al., 2020*



# Knowledge gained

- Microplastic present in every trophic level in South Georgia marine foodwebs.
- South Georgia is potentially a hotspot for microplastic pollution in the environment.
- Present in surface seawater but also permeates benthic environments.

# Knowledge gaps (specific to SG waters)



## SEAWATER

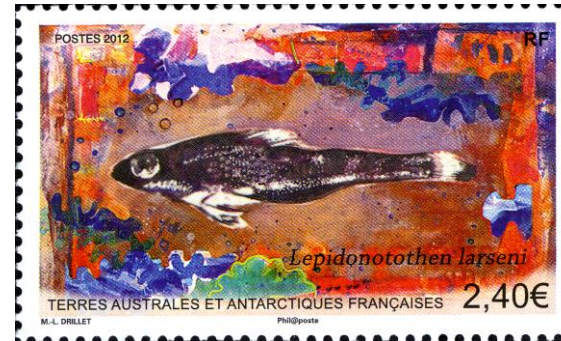
- How much is released *in situ* and how much is transported to SG from afar?
- What are the actual contributions of various point sources (precipitation, shipping *etc.*) to local pollution?



## ZOOPLANKTON

- Is MP impacting zooplankton survivability in the region? \*
- Does ingestion vary between species/location/age? \*

\* Research has already begun but can still be expanded



## FISH

- How much MP is ingested by commercial species?
- How much MP is in the benthic seawater environment?
- What are the impacts of MP ingestion (toxicity from leachates *etc.*,?)



## HIGHER PREDATORS

- What are the MP loads in other higher predator species?
- Are there and differences with location/diet/foraging range/demographics/age
- How much MP is retained and what is the impact of this?

# Recommendations

**1.** Further study of MP in point sources (wastewater from ships and shore, precipitation, output from ships/people, and beached macroplastic debris).

**2.** Establishing a monitoring programme of MP in seawater and precipitation.

**3.** Targeted analysis of MP in commercial species (Antarctic krill, toothfish, and icefish).

**4.** Research into the movement and *in situ* creation/weathering of MP in the South Georgia marine system. \*

**5.** Research into the impacts of MP on higher predators (including toxicological impacts, and the bioaccumulation/biomagnification/transfer of MP-associated leachates,

**6.** Assess MP pollution as one of many multi-stressors on the region

\* The Ocean Plastic Incubator Chamber (OPIC) will produce results on this in 2025



2021  
2030 United Nations Decade  
of Ocean Science  
for Sustainable Development



Thank you



# Dan Bayley

Flora & Fauna International / South Atlantic Environmental Research Institute



ESA



Sue G



Sue G



# Identifying risks and management priorities for SGSSI through marine invasive pathway analysis

Dan Bayley, Paul Brewin, Ross James, Arlie McCarthy, Paul Brickle

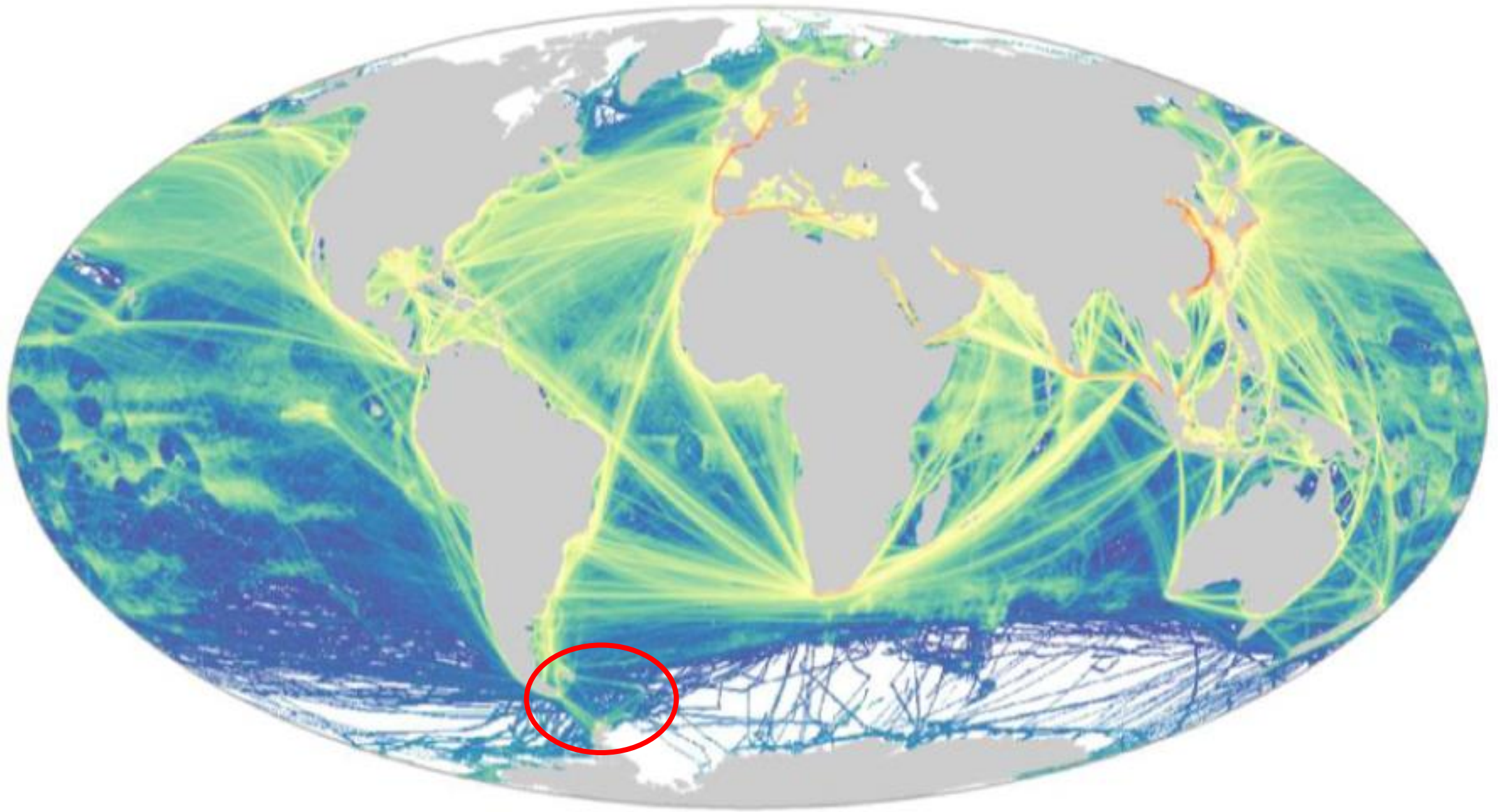


HIFMB

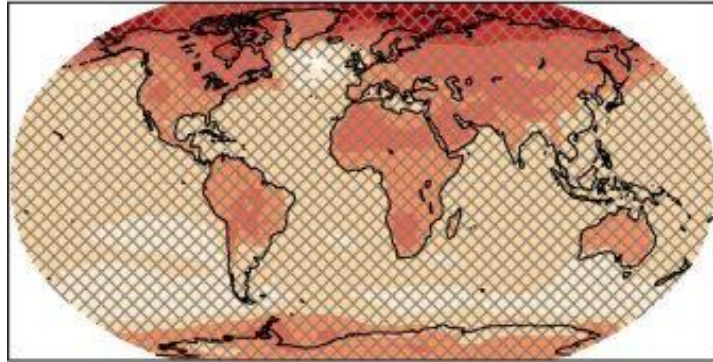




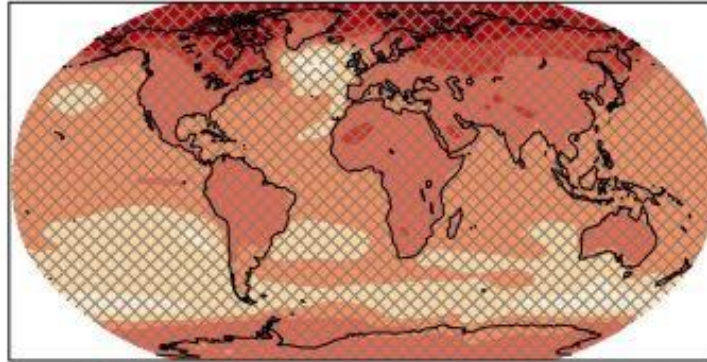
Image: Anime (2020)



Mean temperature change  
at 1.5°C GMST warming



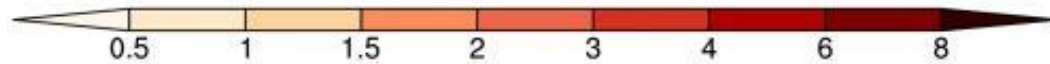
Mean temperature change  
at 2.0°C GMST warming



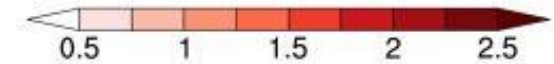
Difference in mean temperature  
change (2.0°C - 1.5°C)



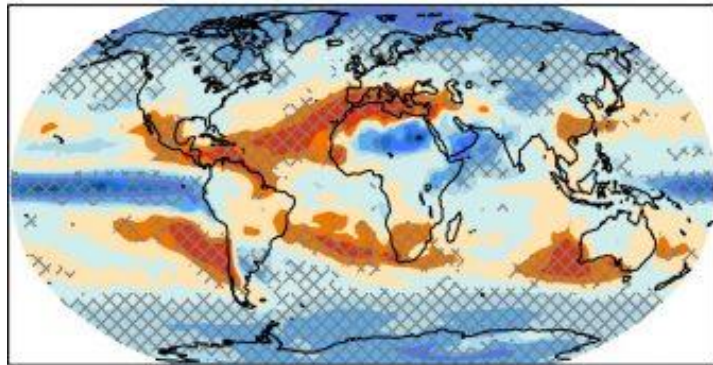
Temperature (°C)



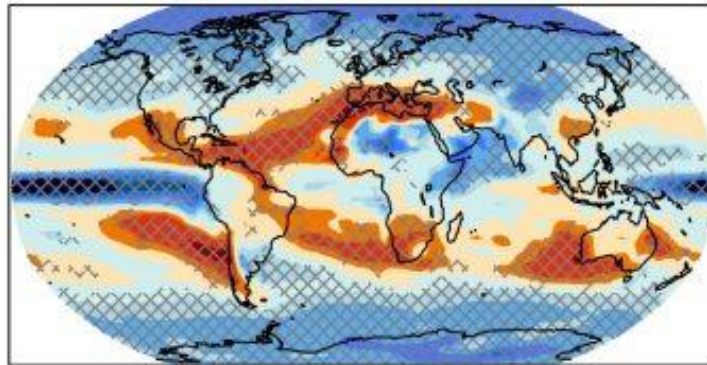
Temperature (°C)



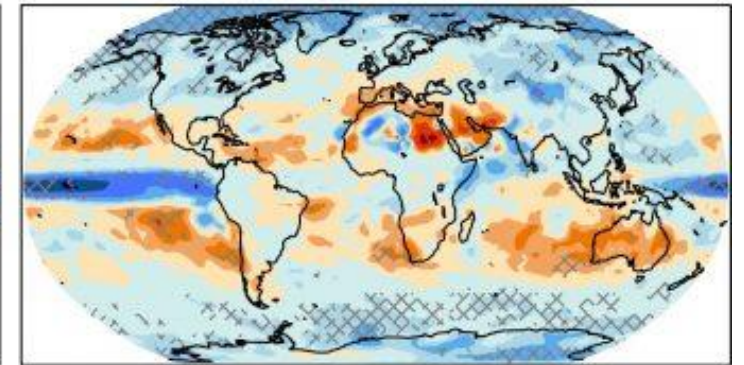
Mean precipitation change  
at 1.5°C GMST warming



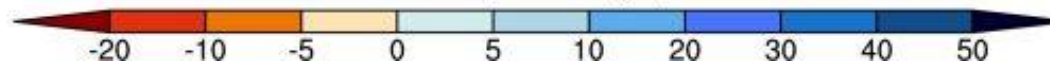
Mean precipitation change  
at 2.0°C GMST warming



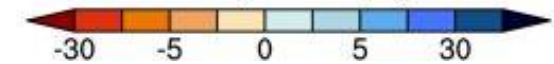
Difference in mean precipitation  
change (2.0°C - 1.5°C)



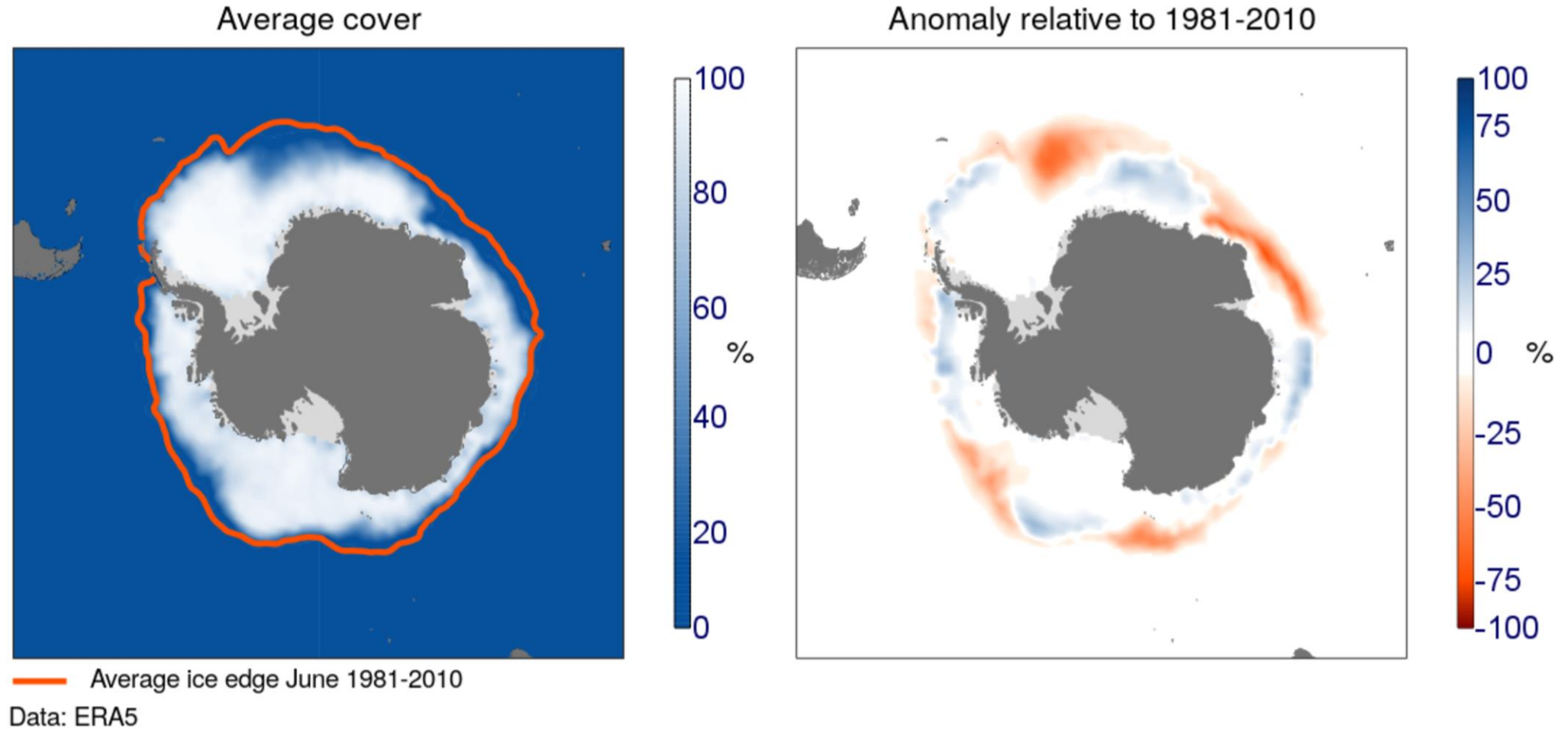
Precipitation (%)



Precipitation (%)



# Sea-ice cover for June 2019

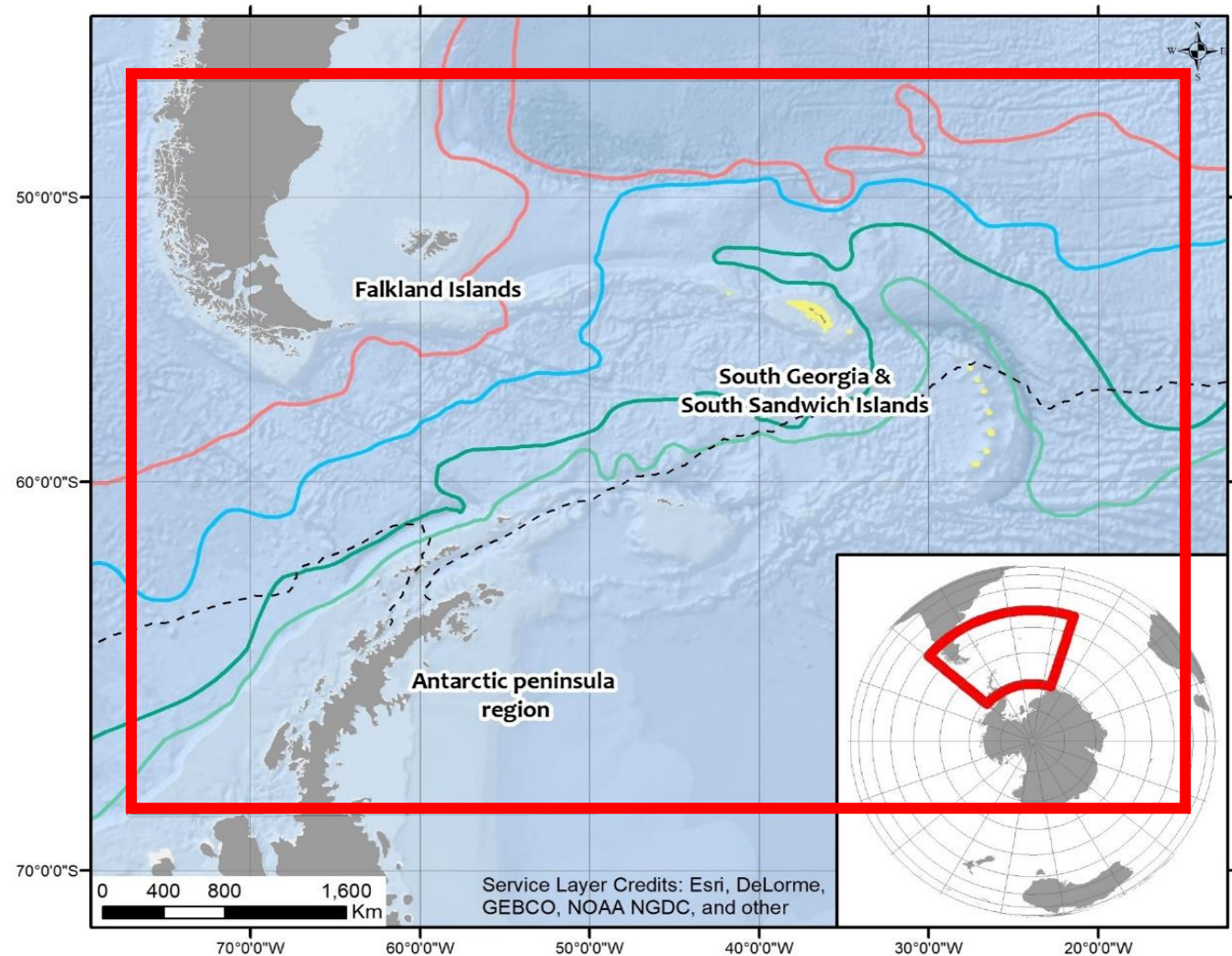


# Analysis

- Identify the risks from invasive and non-native species (INNS) entering SGSSI
- Review the mechanisms and pathways of marine invasions
- Analyse vessel movement across the region and assess threats via likely entry routes and areas of activity
- Use the data to inform future management & research

# Study extent

- All ships with AIS (Automatic Identification System) fitted and operational
- Ecoregions covered:
  - '*Magellanic*'
  - '*Scotia Sea*'
  - '*Continental High Antarctic*'
- Traffic *July 2017 - 2019*



## Features

Study focal area of interest

SGSSI (12 nm)

## Median sea ice extent

2020

## Natural barriers

## Oceanographic fronts

Polar Front

Antarctic Circumpolar Current Front (ACCF)

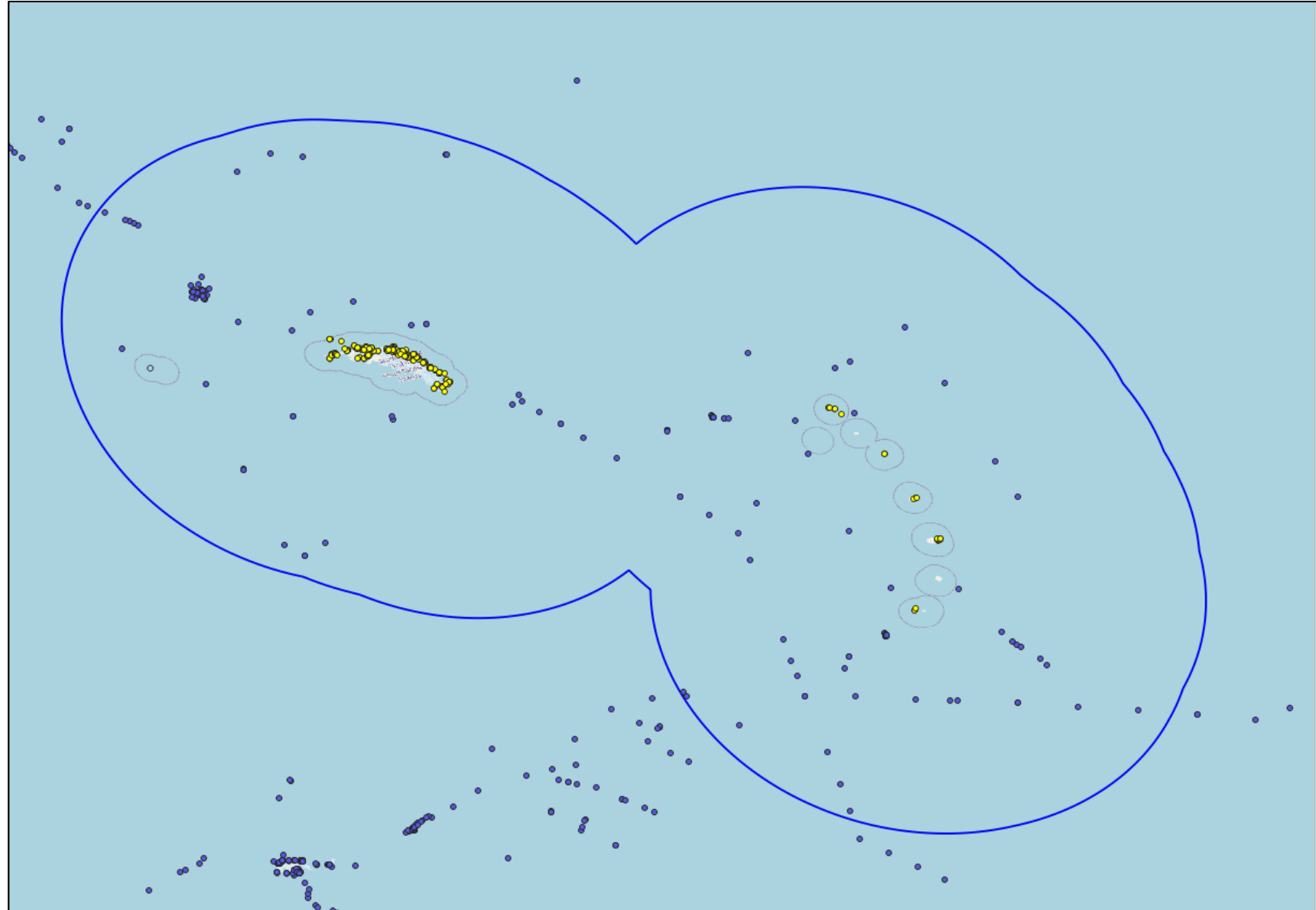
Southern boundary of the ACCF

Subantarctic Front

# AIS data filtering

## Criteria

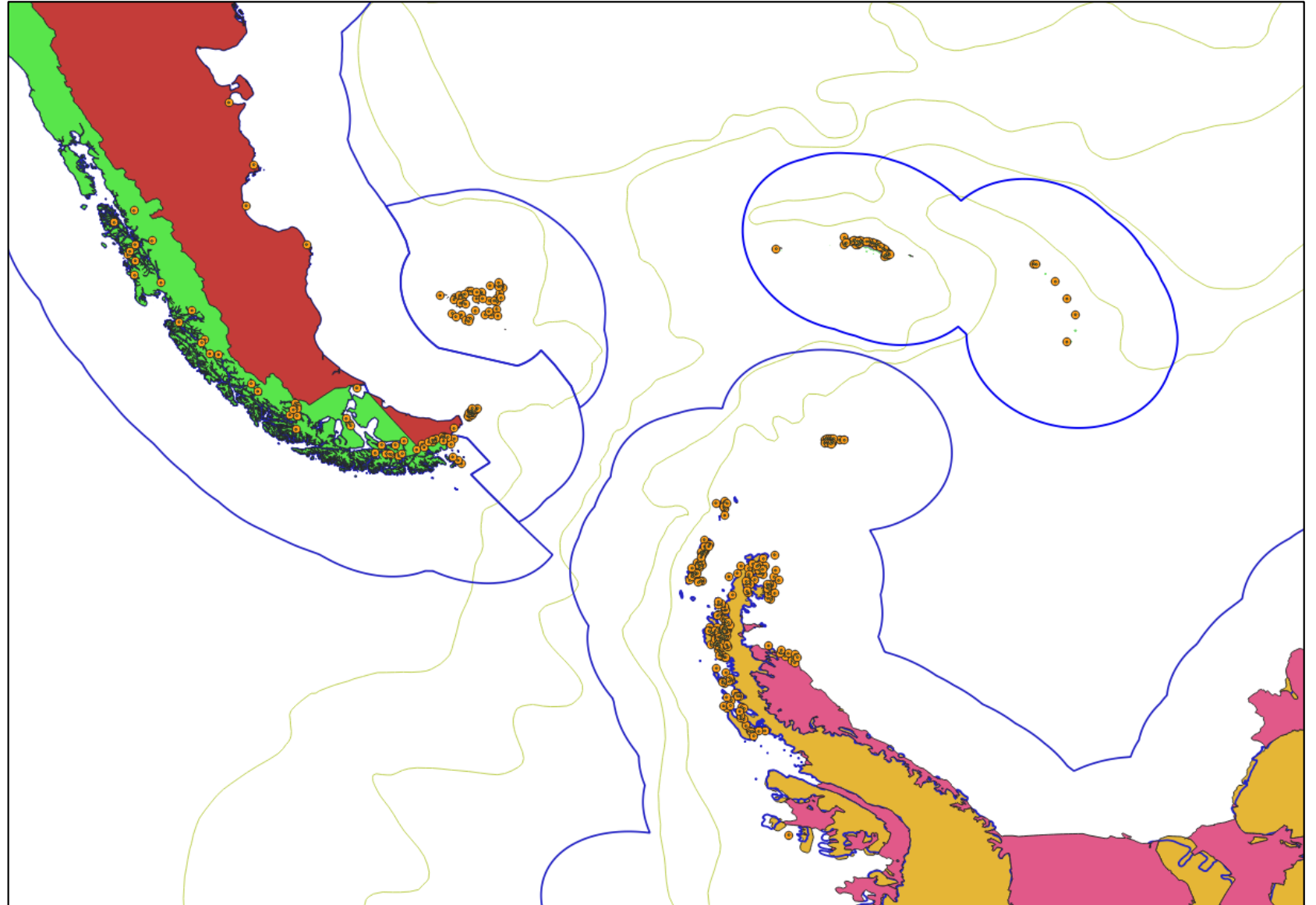
- All data (July 2017-2019)
- Entering SGSSI EEZ
- Stopping:
  - > 1 hr
  - <200 m
- Within 12 nm (yellow points)



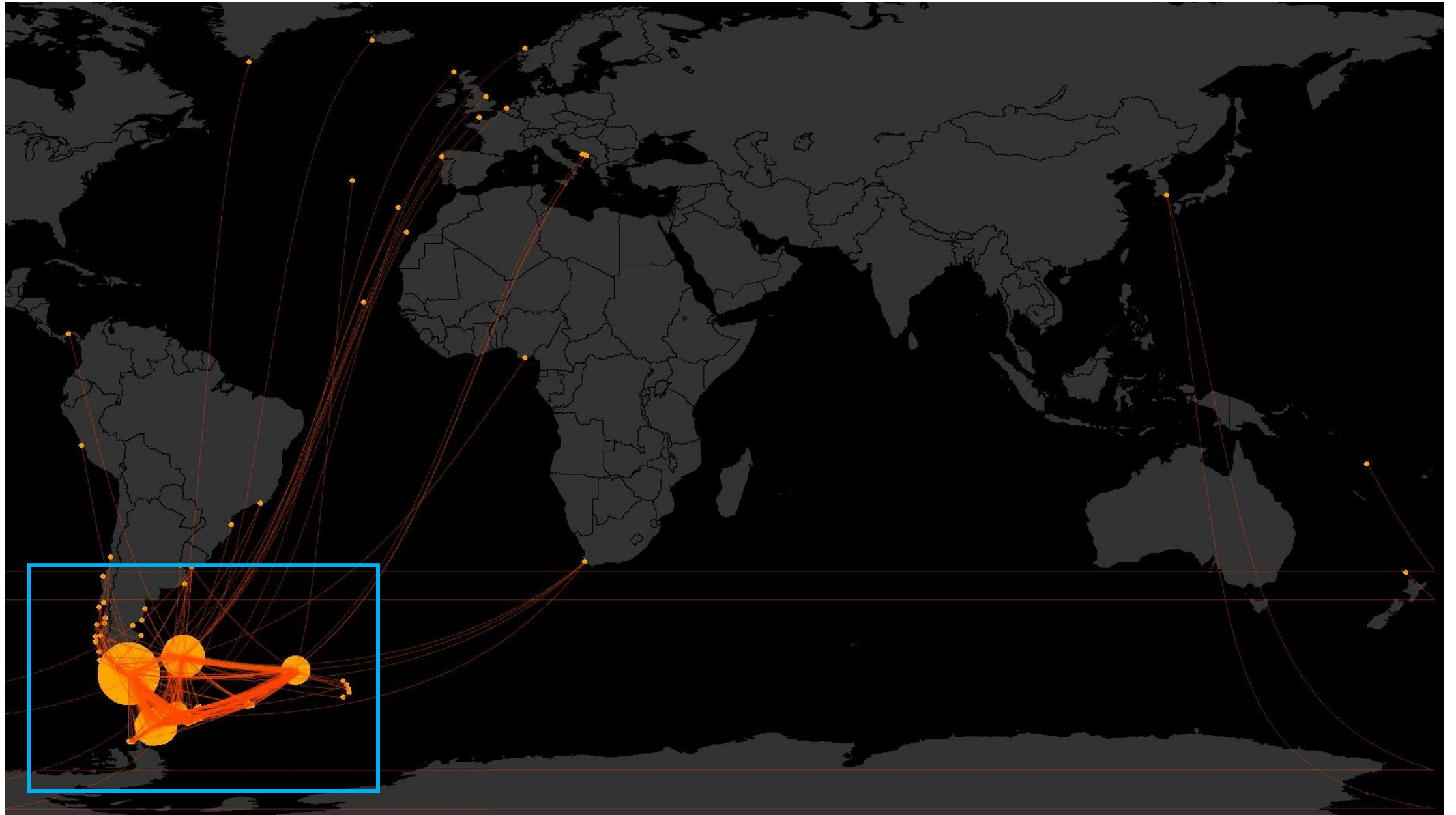


# Node (ports / anchorages) creation

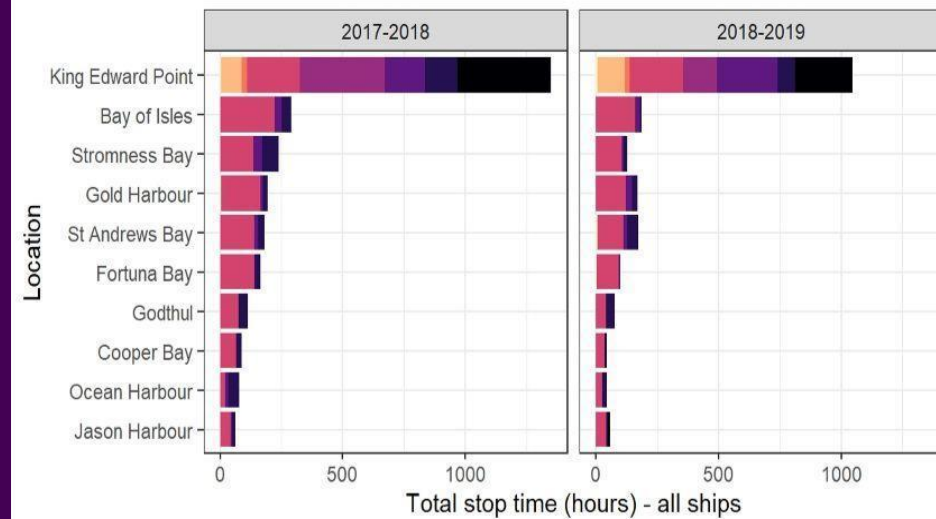
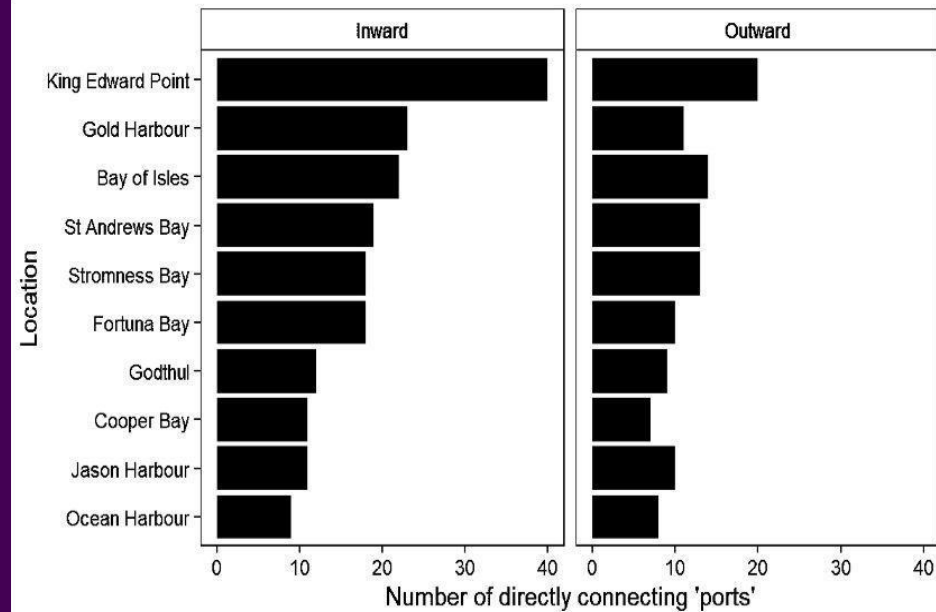
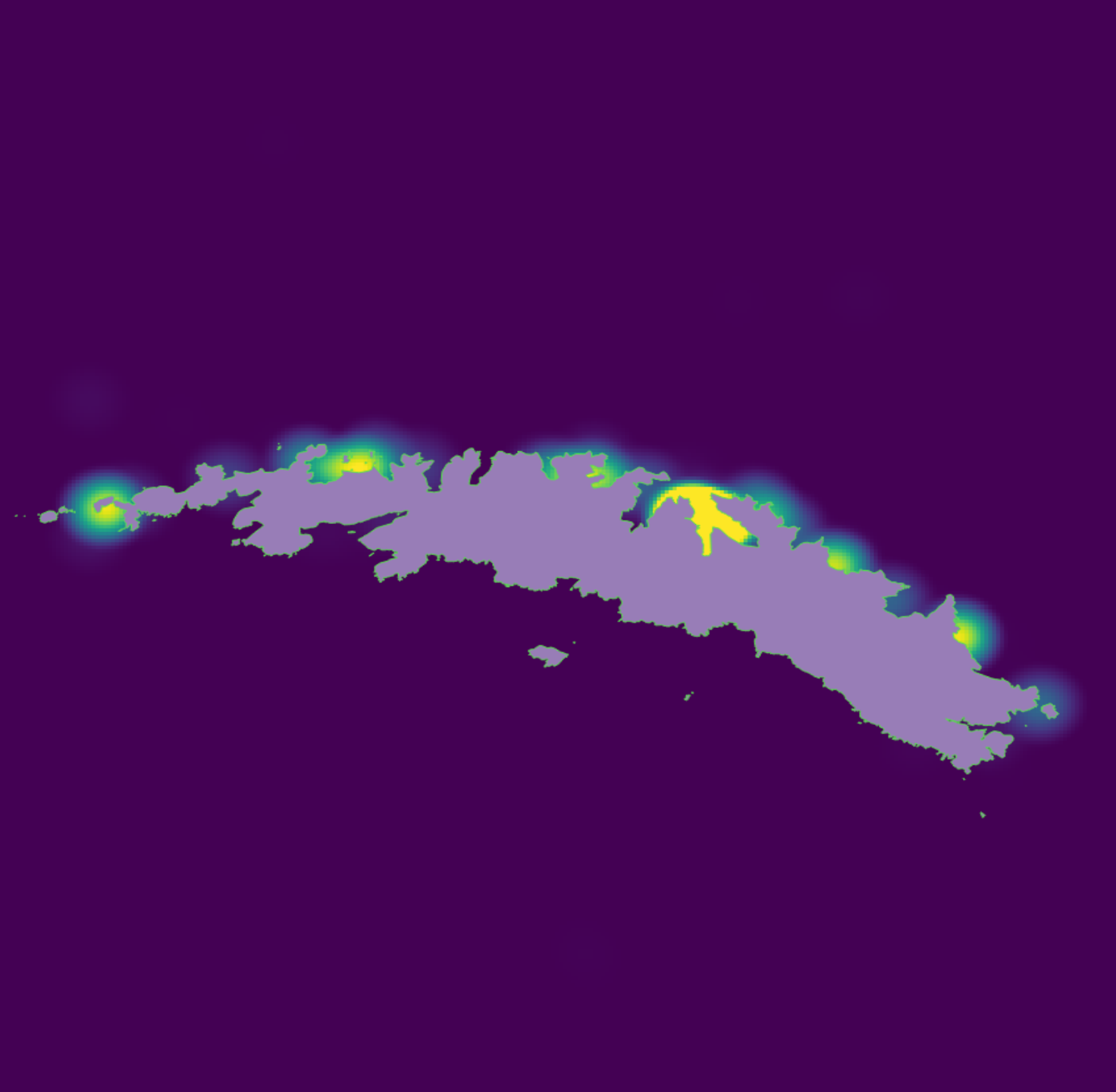
- Nodes use 5 km buffer
- At all locations of stationary traffic

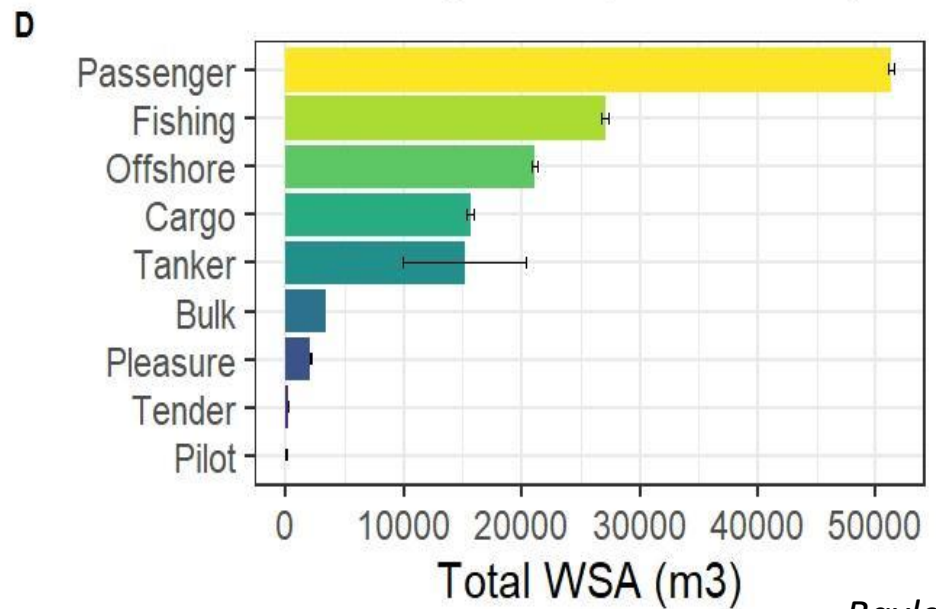
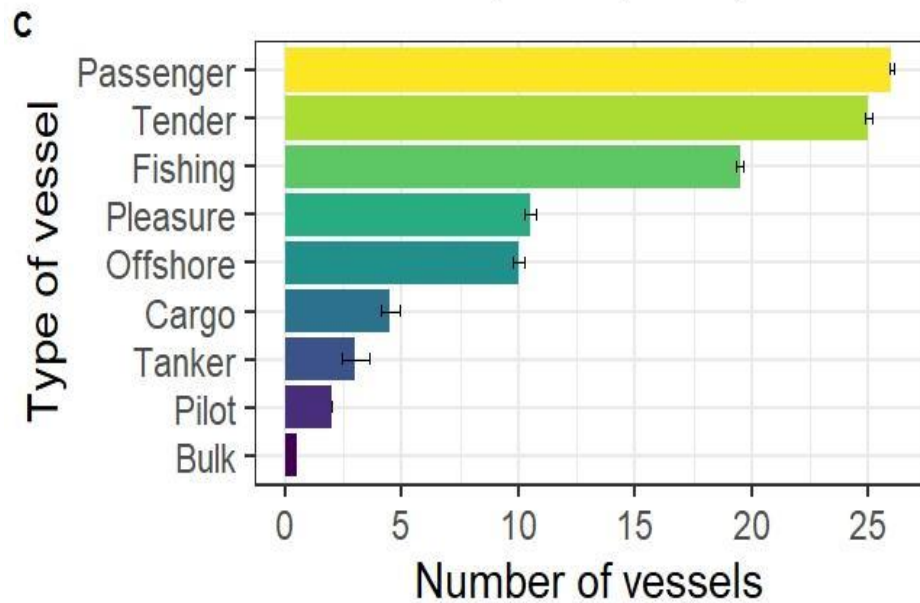
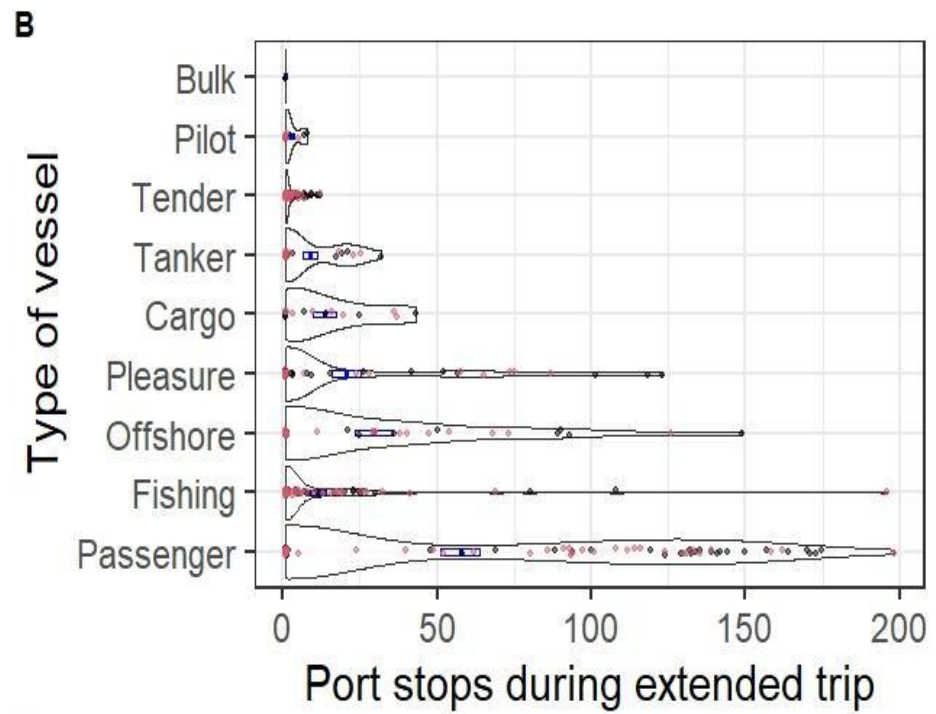
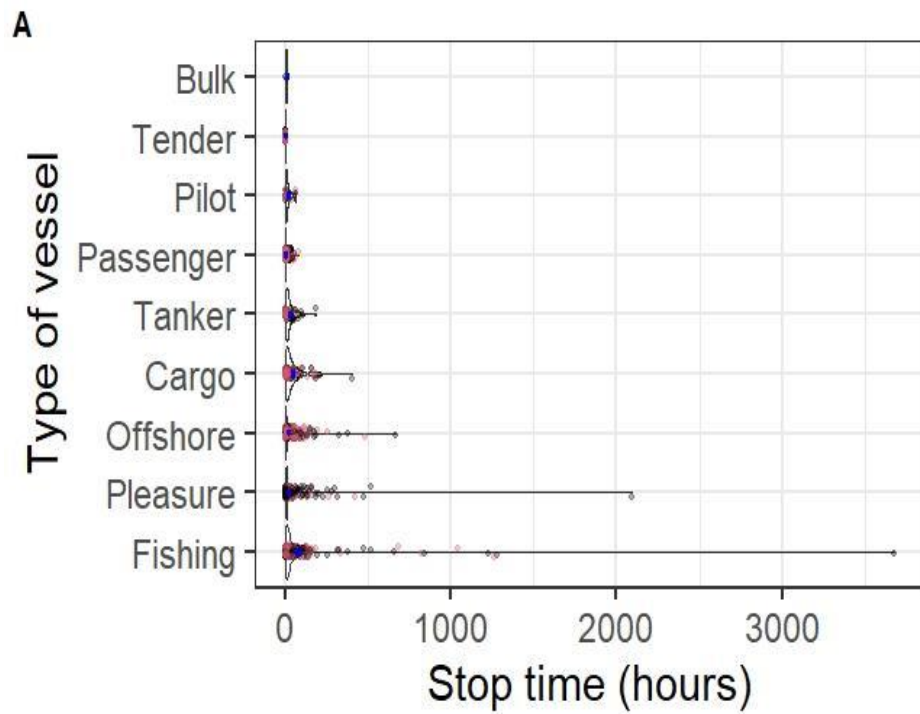


# Network Analysis









# Management recommendations

1. Benthic and hull monitoring at the identified activity/dispersion hubs
2. Regional collaboration and coordination at linked international ports
3. Increased pre- and post-arrival biosecurity assessment following set protocols, new standards, and including niche areas.
4. Priority on pre-emptive identification and mitigation of threats
5. Focus on passenger, offshore survey, fishing, and pleasure vessels.



# Thank you for listening!



CruiseDlg (2023)



HIFMB



# Russell Leaper

International Fund for Animal Welfare







**British  
Antarctic Survey**

NATURAL ENVIRONMENT RESEARCH COUNCIL



# Ship strike risks to whales in South Georgia waters





Anywhere where ships and whales coincide, there is a risk of collision

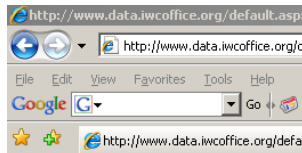




# International Whaling Commission global database of ship strike incidents.

## Objectives

- Identify high risk areas
- Identify factors related to risk such as ship type and speed
- Provide information on which to base effective mitigation measures



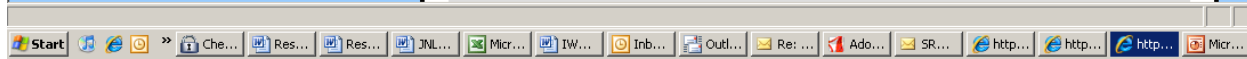
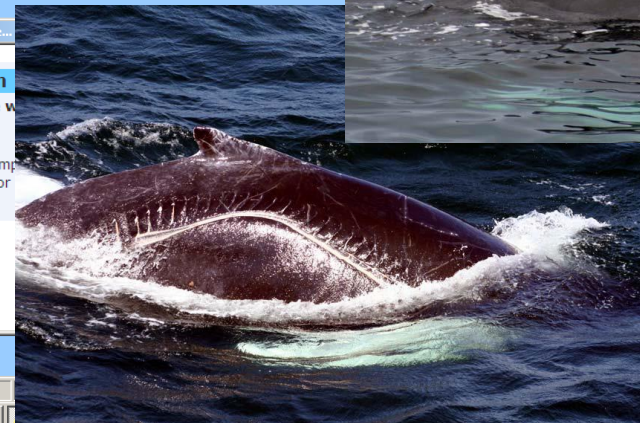
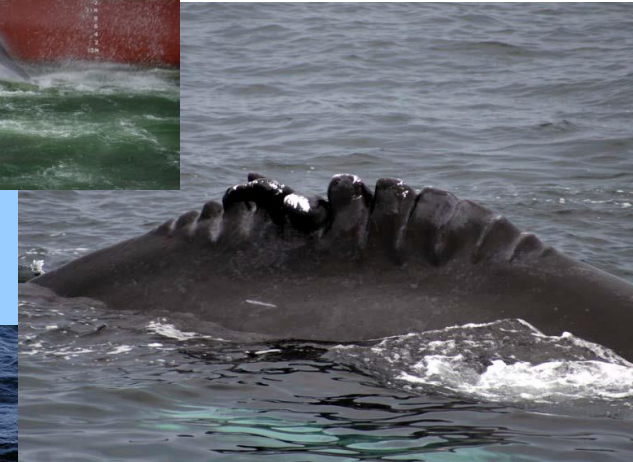
**WHALE STRIKE DATABASE**

### When and Where

These questions are designed to establish when the incident happened and where. If you know the date and position then this is all that is required, although it is helpful for extracting data to also select a large area. If you do not have precise information on date or location then use the descriptive categories to narrow this down as much as possible.

This whale was **struck by a vessel**

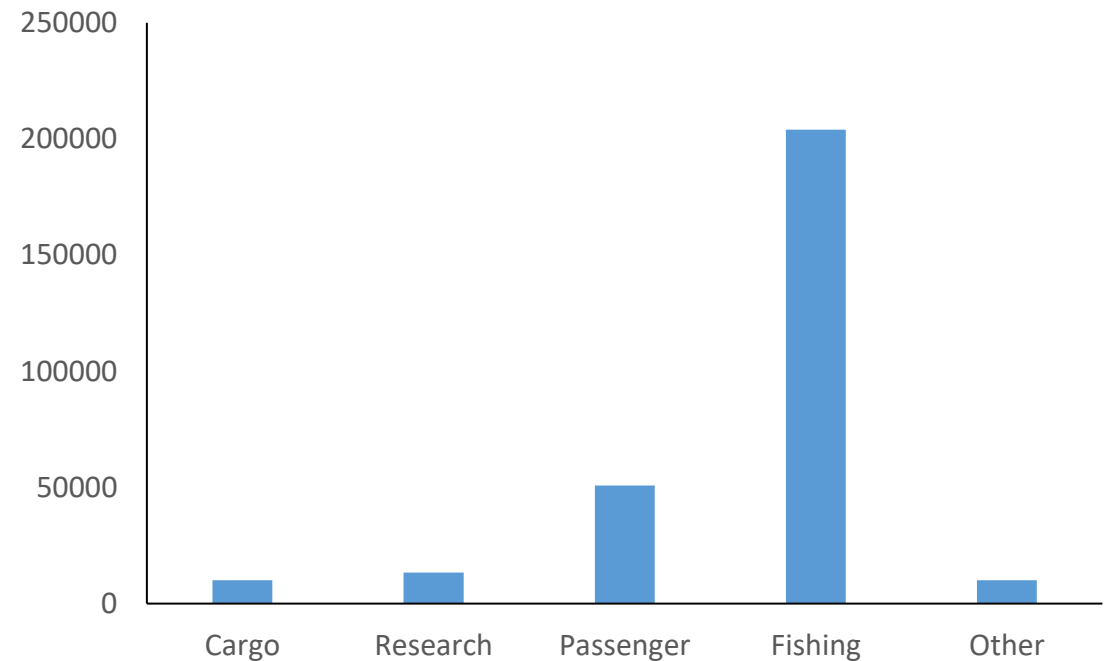
- 1 Date of incident/discovery**
- 2 Description of date if not accurately known**  
For carcasses found on shore, please give the date when the animal was believed to have come ashore.  
  
[Further Help](#)
- 3 Large Area**  
Please select from this list of sea areas  
  
[Further Help](#)
- 4 Detailed description of location**  
Please give as much detail as possible especially if the incident occurred in a specific area.  
  
[Further Help](#)



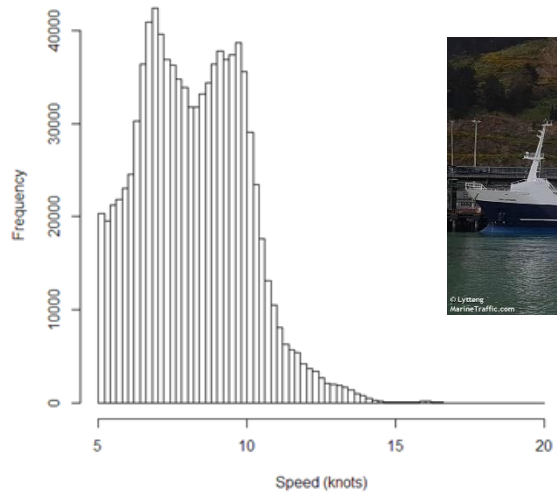
# Characterising shipping around South Georgia

- Data from Automatic Identification Systems (AIS) received by satellites
- Density measure most relevant to collision risk is km travelled per km<sup>2</sup>
- Speed is an important factor for risk of collision and severity of injury if a collision occurs

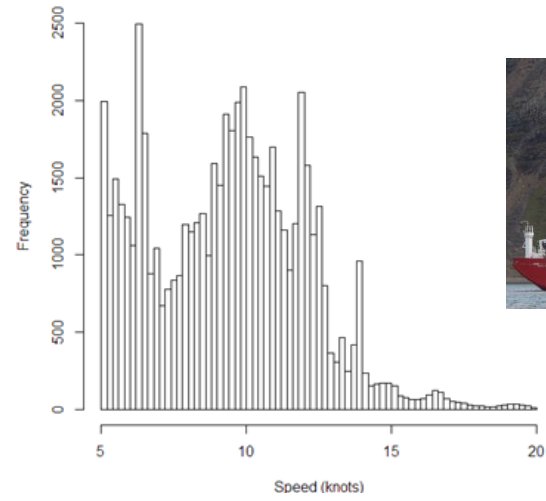
Annual (2019) distance travelled (km) around South Georgia by different shipping sectors



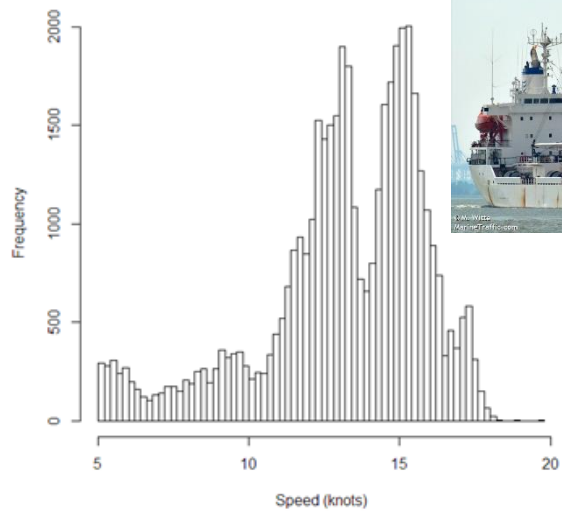
**Fishing vessels**



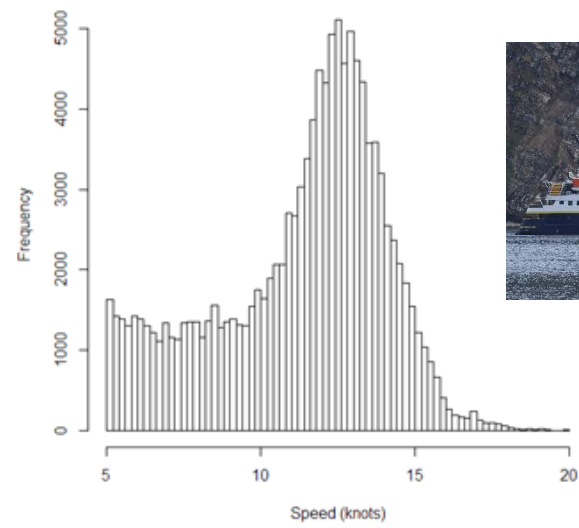
**Research vessels**

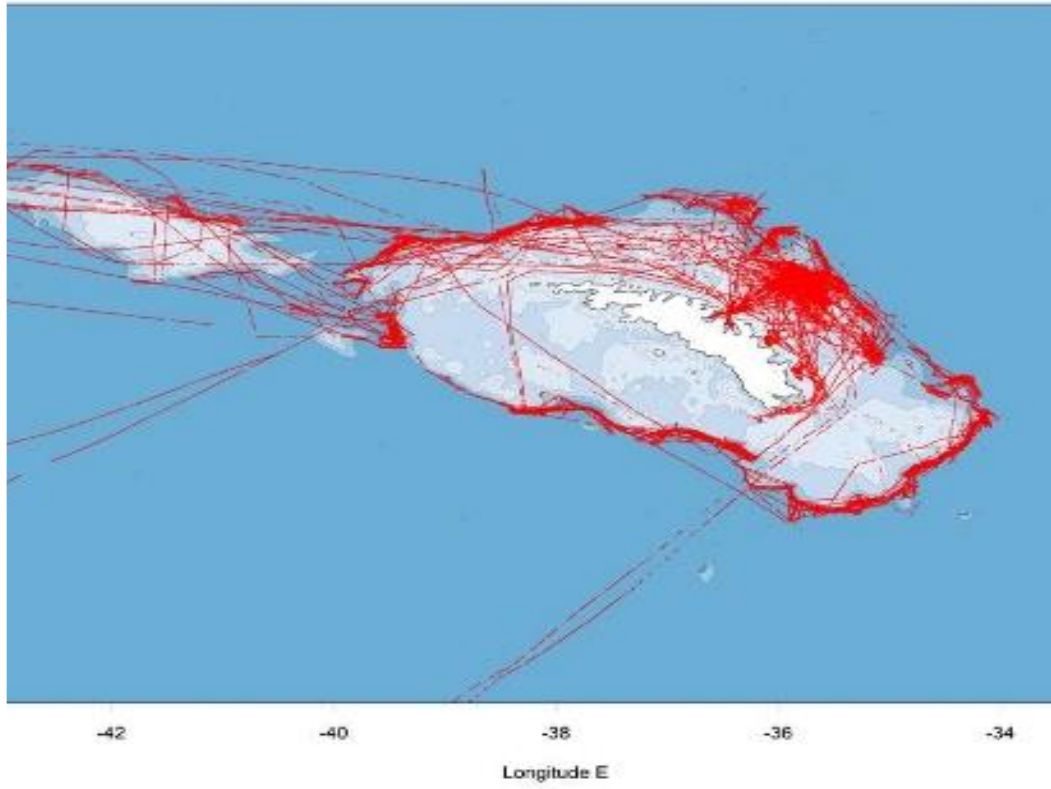


**Cargo vessels**

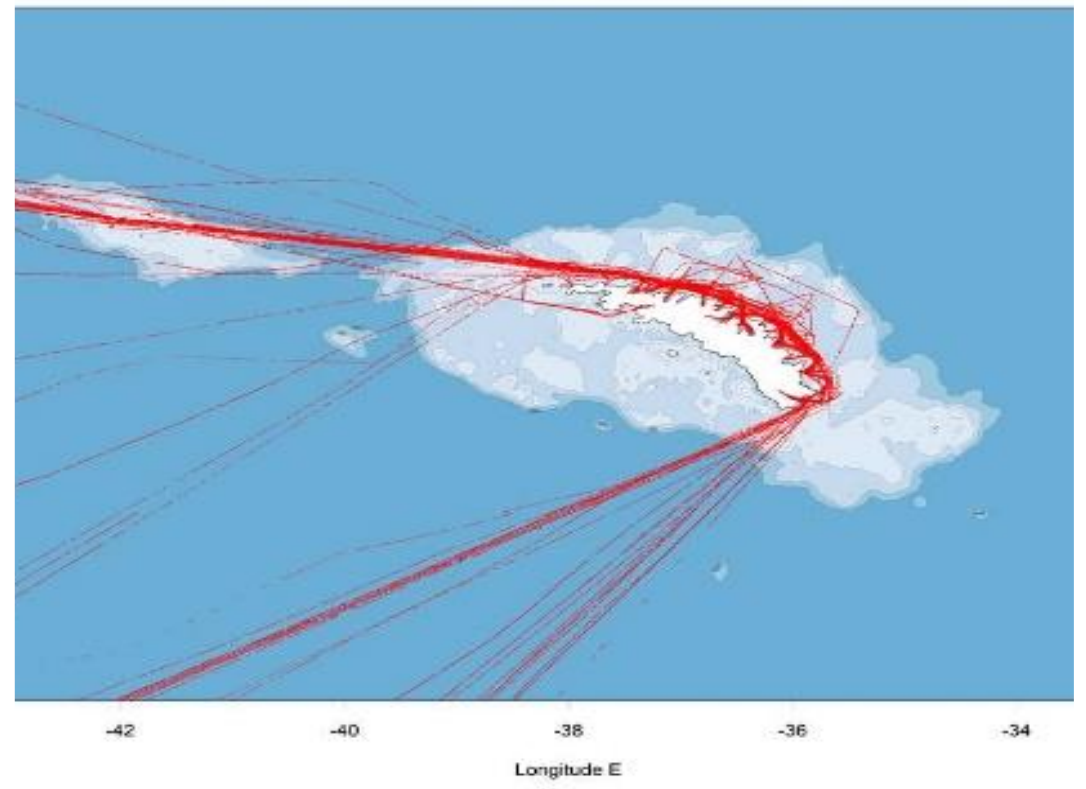


**Passenger ships**



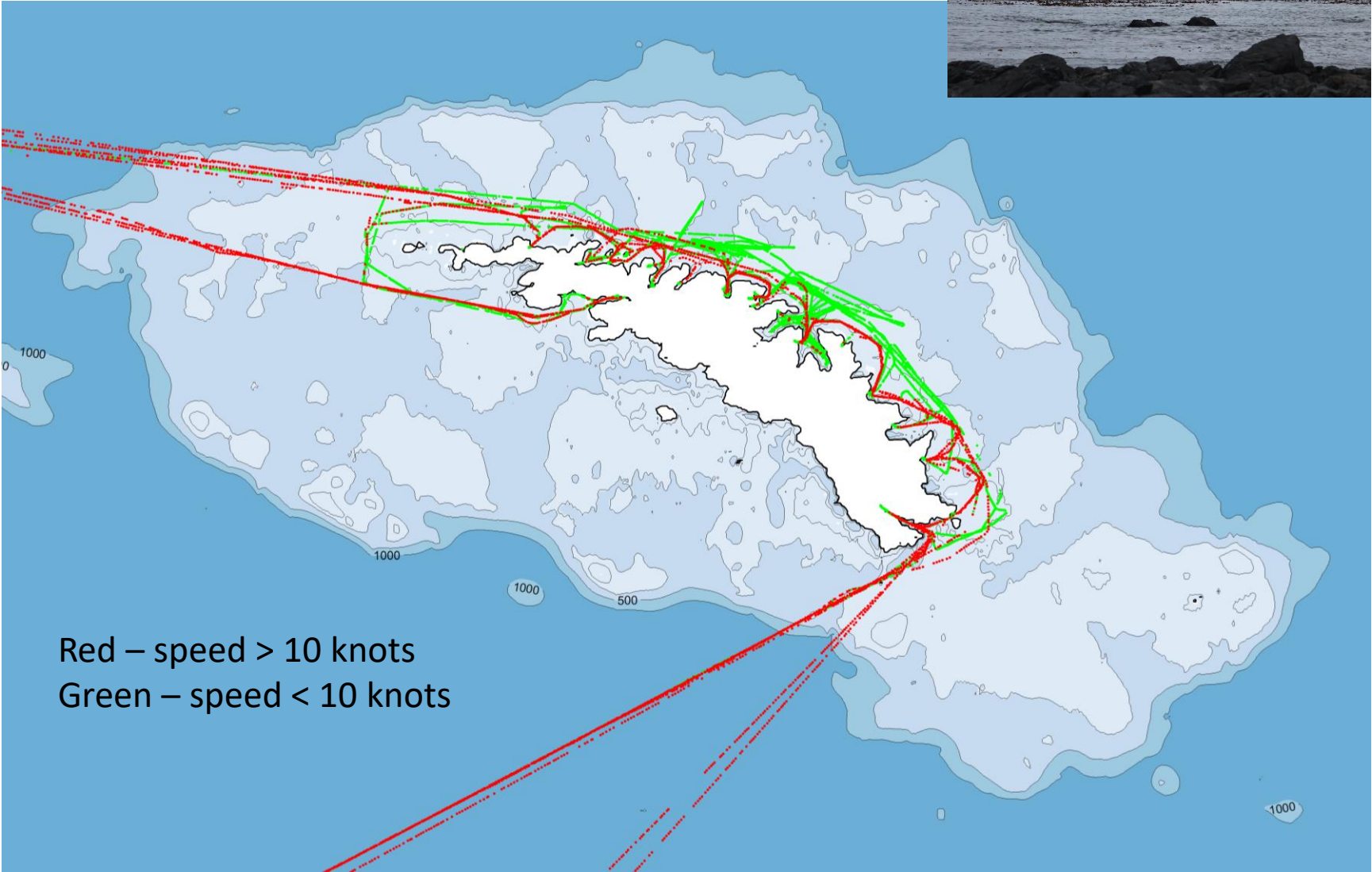


Fishing vessel activity - July



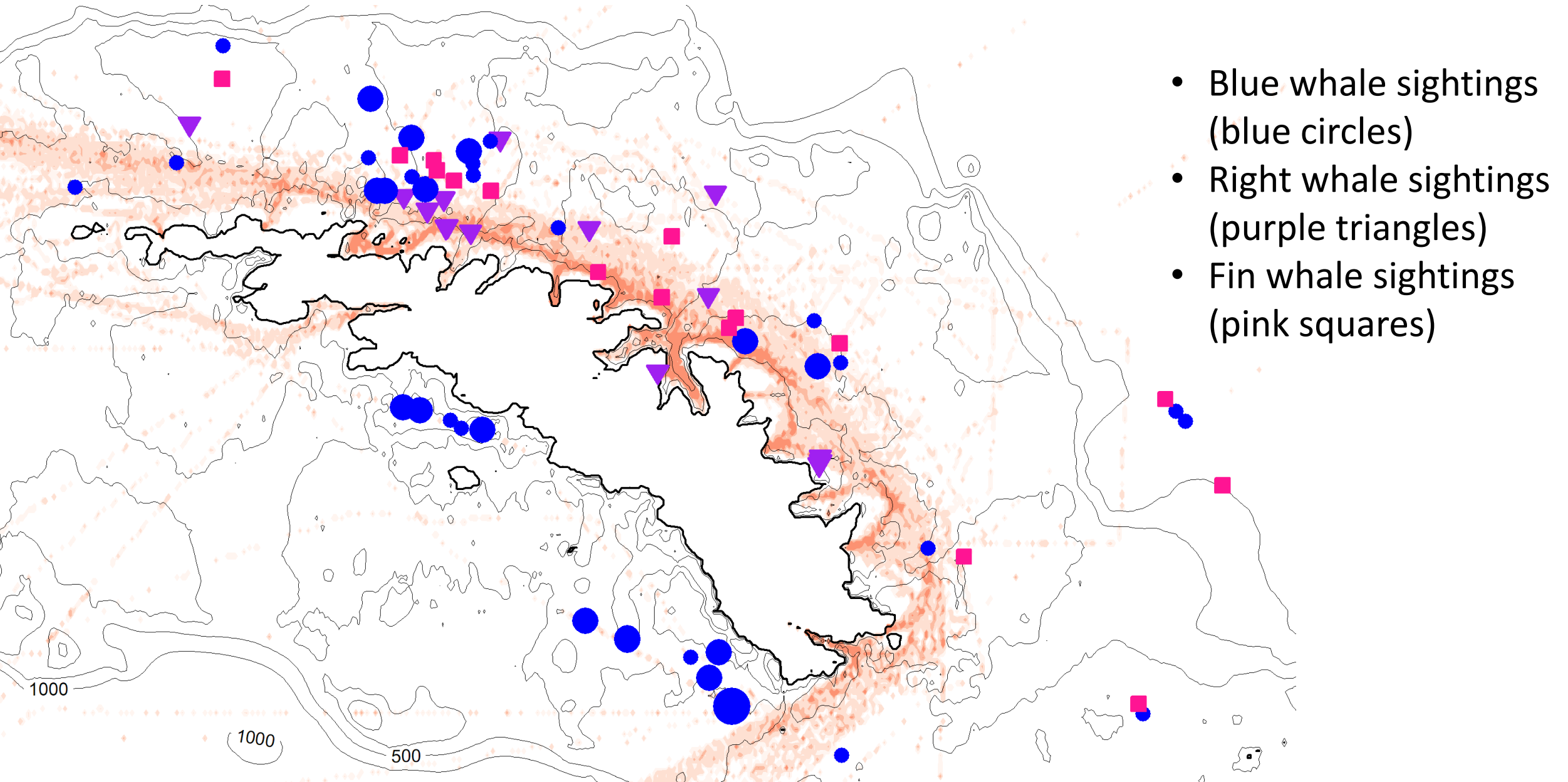
Passenger vessel activity - January

# Tracks from a single cruise ship



Red – speed > 10 knots  
Green – speed < 10 knots

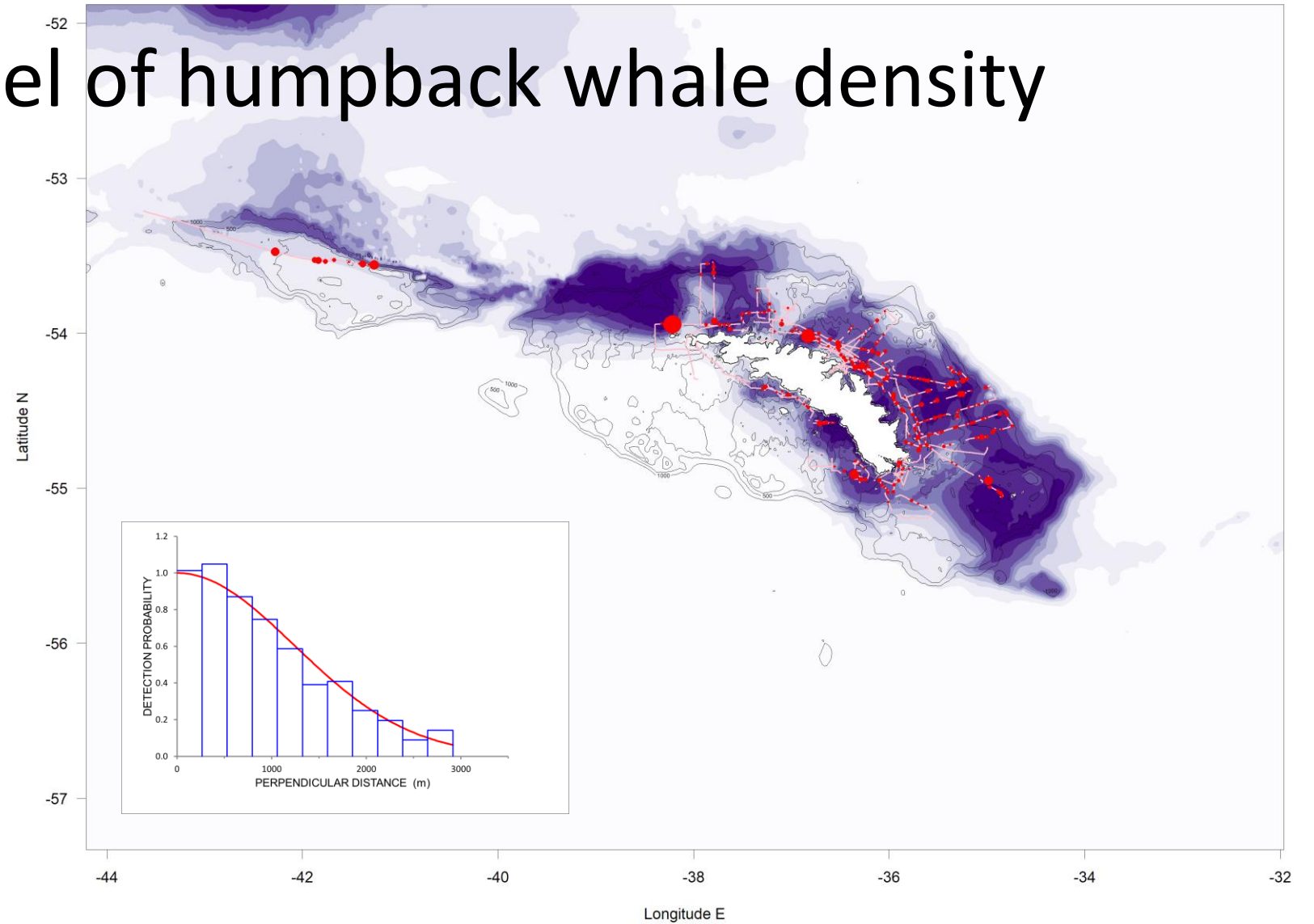
# Average passenger ship density. Intensity of red shading (km travelled per km<sup>2</sup>)





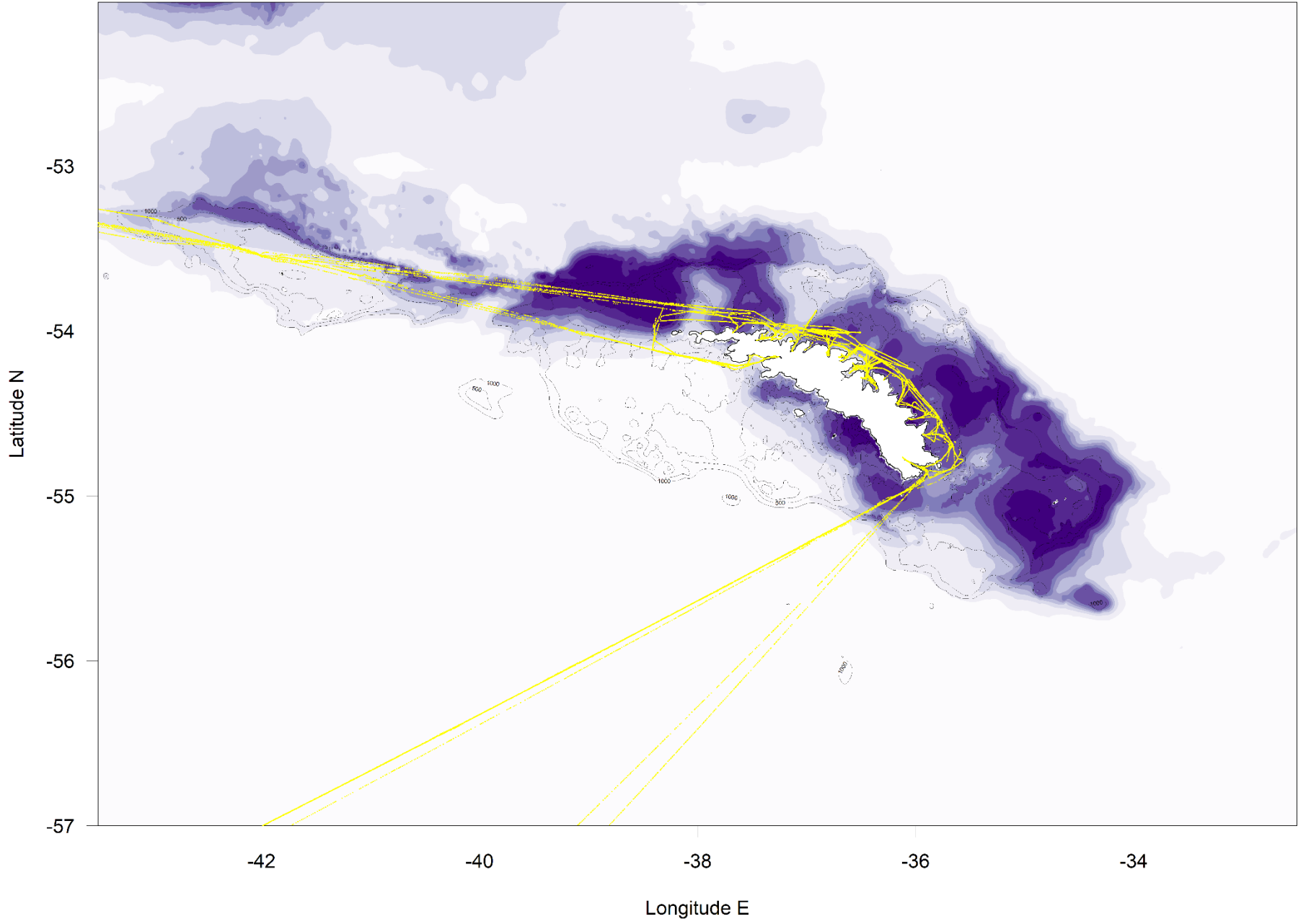
# Spatial model of humpback whale density

- Surveys conducted between 09/01/2020 and 03/02/2020
- 2430km of visual transects
- 337 sightings of humpback whale groups totalling 661 individuals
- Average density of 0.09 individuals.km<sup>-2</sup>
- Purple shading indicates predicted density from Generalized Additive Model with Latitude, Longitude, sea state and depth as covariates



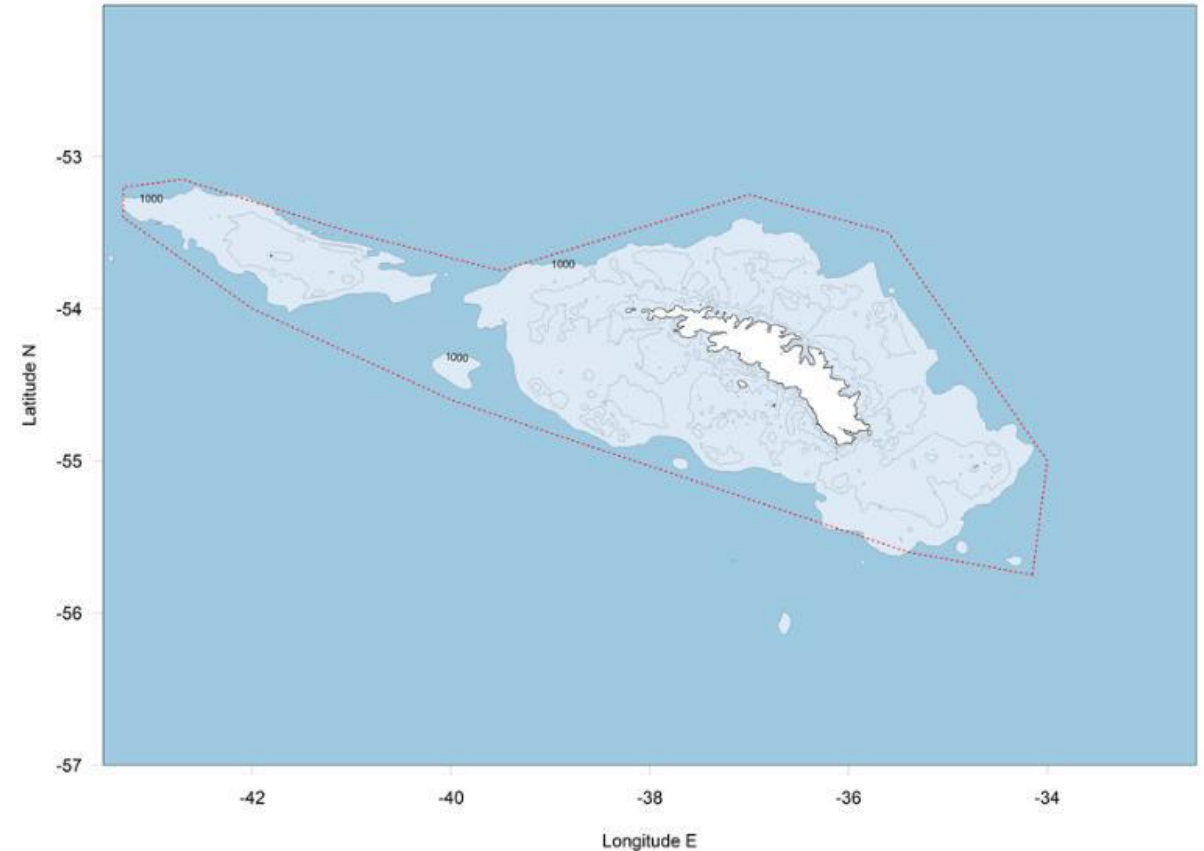
Densities of humpback whales at South Georgia in 2019 and 2020 were similar to other high density areas such as the Gerlache and Bransfield Straits where IAATO have implemented 10 knots speed restrictions to reduce ship strike risk

Simple encounter rate model (e.g. Priyadarshana et al. 2016, Rockwood et al., 2017) suggests around 30 incidents a year when a collision with a humpback whale would occur if neither the whale or the vessel took avoiding action



# Reducing the risks of ship strikes

- For the 22/23 Season, GSGSSI implemented a **voluntary speed limit of 10 knots to reduce the risk of whale strikes.**
- Slowing to 10 knots from a normal cruising speed of 13 knots from the 1000m depth contour to the west of Shag Rocks to Cape North would add around 4.5 hours to the passage time.
- or a small routeing alteration to the north of Shag Rocks would avoid the shelf area and only add around 6nm to the total transit from Stanley to Cape North (1.2 hours extra time).
- For vessels calling at Drygalski Fjord, maintaining 10 knots until in water depths of over 1000m when heading to or from the Peninsula adds less than forty minutes to the passage time



# Megan Tierney

Joint Nature Conservation Committee



ESA



Sue G



Judith Brown



# What goes thump at night: managing bird-strike in South Georgia

MPA 5-Year Review Science Symposium  
13-14 June 2023

Dr Megan Tierney – JNCC

- **DPLUS143 is funded by the Darwin Plus Initiative with significant in-kind support from project partners.**
- **It is a collaborative project between:**

**JNCC**



Public body that advises UK and UKOT Government bodies on biodiversity and nature conservation objectives

*Project Role:* Project management, lead on technical aspects of project, link to international fora (e.g. ACAP, CBD, CMS)

**GSGSSI**



Government of the UK Overseas Territory of South Georgia and the South Sandwich Islands. Responsible for stewardship, including sustainable management, of the Territory's biodiversity, environment and resources

*Project Role:* Alignment with GSGSSI strategic direction, data access, stakeholder connection, supporting field trials, implementation of reporting systems

**IAATO**



Advocates and promotes the practice of safe and environmentally responsible private-sector travel to the Antarctic and Sub-Antarctic

*Project Role:* Represents tour industry, stakeholder connection, design and review of products, supporting field trials, share best-practice

**AFL**



Argos Froyanes

British-Norwegian Antarctic and Patagonian toothfish company, committed to developing, raising and implementing sustainable fishing practices

*Project Role:* Represents fishing industry, stakeholder connection, design and review of products, supporting field trials, share best-practice

 **Bird-strike** – *the collision of birds in flight with vessels resulting in physical injury or death*

 Bird-strike  $\neq$  interactions with fishing gear



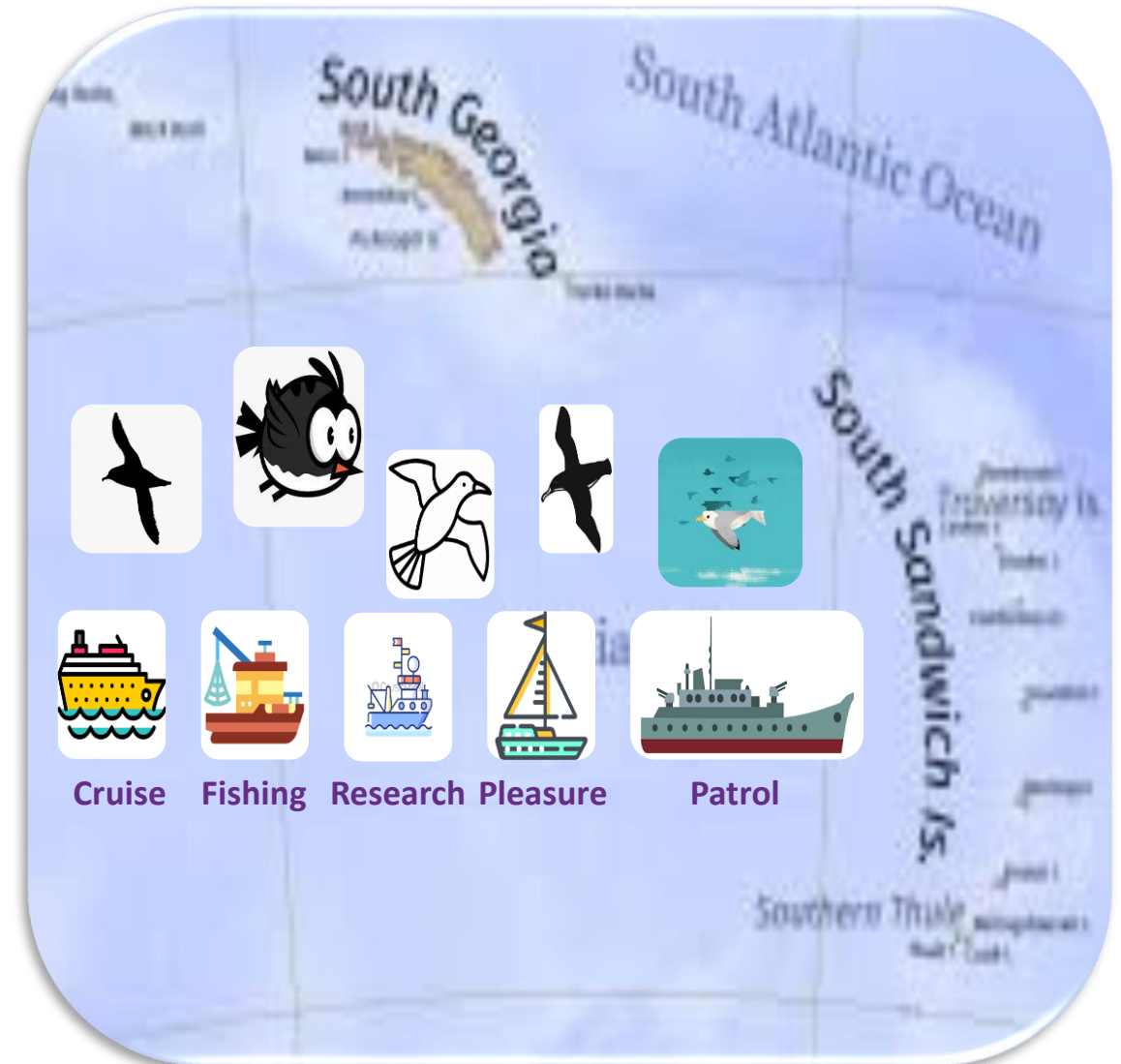
 Bird-strike  $\neq$  birds voluntarily landing on vessels






Bird-strike has been reported by vessels in South Georgia & South Sandwich Island waters, ranging from single to 100's of birds in a single incident.

Over 25 different species have been recorded as striking vessels, including petrels (large and small), prions, shearwaters and albatross.

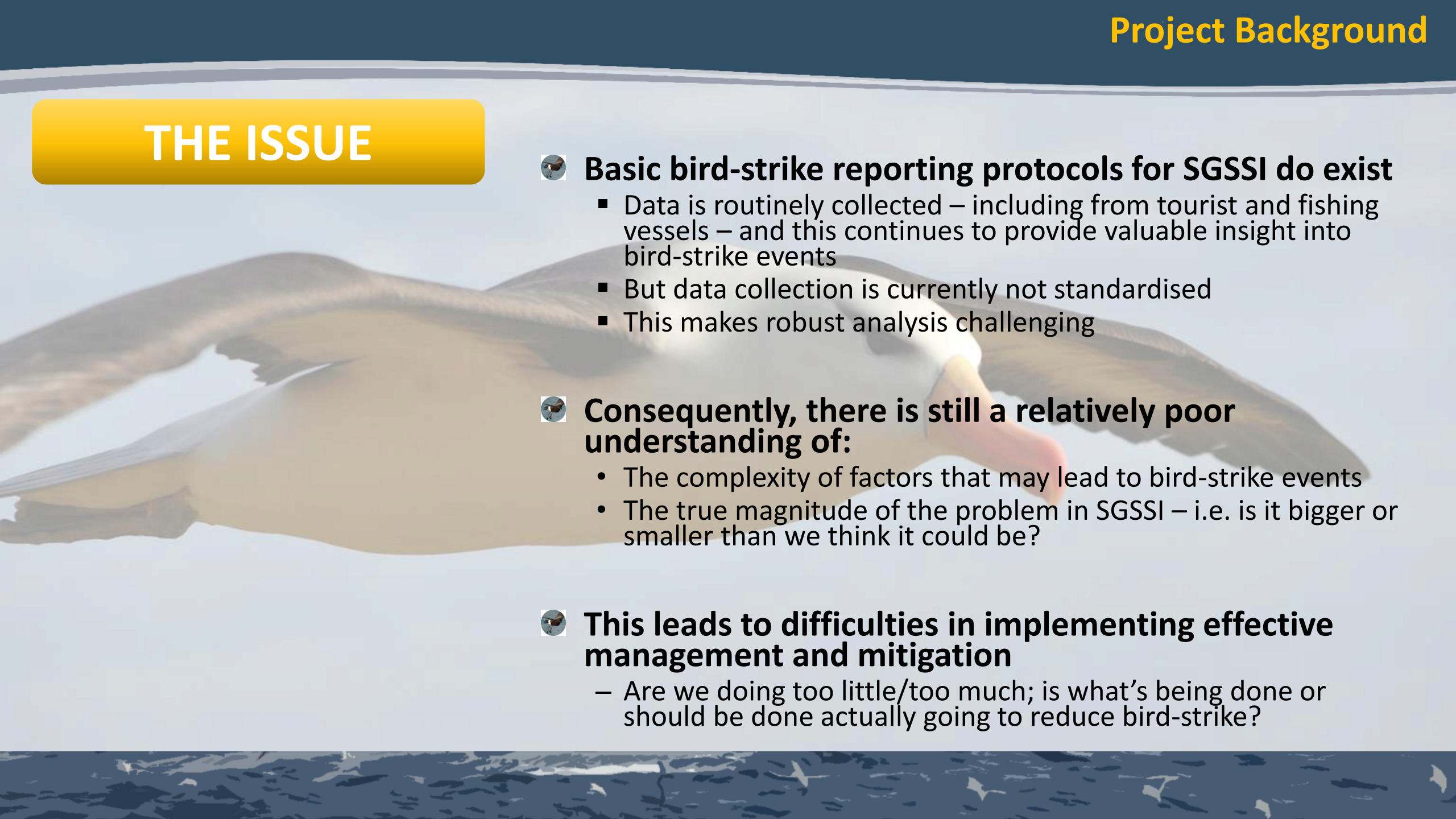
Vessel traffic within SGSSI MZ is relatively substantial, and of a wide variety – **therefore bird-strike could act as an additional pressure on already vulnerable populations.**





-  **First 5-year review of the SGSSI MPA review identified bird-strike as 1 of the 10 ‘key potential changes and threats to the SGSSI ecosystem’**
-  **And led to bird-strike being included as a monitoring need in the SGSSI MPA Research & Monitoring Plan under:**
  - Theme 8: Impact of Fisheries – interaction with higher predators
  - Theme 10: Other human impacts
-  **Bird-strike also identified as priority action in SGSSI ACAP implementation plans**
  - Review of information on incidence of bird-strike
  - Improve and standardise information collection
  - Oblige all vessels to complete reports

## THE ISSUE

- 
- **Basic bird-strike reporting protocols for SGSSI do exist**
    - Data is routinely collected – including from tourist and fishing vessels – and this continues to provide valuable insight into bird-strike events
    - But data collection is currently not standardised
    - This makes robust analysis challenging
  - **Consequently, there is still a relatively poor understanding of:**
    - The complexity of factors that may lead to bird-strike events
    - The true magnitude of the problem in SGSSI – i.e. is it bigger or smaller than we think it could be?
  - **This leads to difficulties in implementing effective management and mitigation**
    - Are we doing too little/too much; is what's being done or should be done actually going to reduce bird-strike?

## THE APPROACH

- 🐦 **Develop a bird-strike reporting system that:**
  - Can be used across all vessels operating in the SGSSI MZ
  - Are practical and fit-for-purpose
  - Ensure standardised data collection
  - And result in robust analysis to inform management practices
- 🐦 **Revise handling and care guidelines to:**
  - Improve identification and survival of landed birds
- 🐦 **Review factors leading to bird-strike and existing mitigation measures which will:**
  - Provide foundation for future research & allow GSGSSI and partners to implement best-practise and share techniques across UKOTs and/or international regulators

# Project Timeline, Progress, Outcomes

Oct 2021

- Project Start
- Literature review of incidence of bird-strike and mitigation measures



May-Jun 2022

- Stakeholder Workshop – input into design & content of form, guidelines
- Design 'beta' reporting forms



Jul 2022 – Mar 2023

- Field-trials of 'beta' reporting forms on all vessel types



Oct - Dec 2022

- Design 'beta' bird-handling guidelines



Jan – Jul 2023

- Field-trials of 'beta' bird-handling guidelines

In progress

Oct 2023

- New reporting forms and handling guidelines finalised
- Ready for roll-out by GSGSSI

Still to come

Nov 2023 - Feb 2024

- Programme of future work to help mitigate bird-strike formulated (with input from stakeholders)

Still to come

Mar 2024

- Project Completed

Still to come

# The 'beta' Reporting Form

SGSSI-BirdstrikeReporting\_BetaVersionTrial-20220812\_Form\_ForPresentation.xlsx - Excel

File Home Insert Page Layout Formulas Data Review View Help

abc Spelling Thesaurus Workbook Statistics Check Accessibility Smart Lookup Translate New Comment Delete Previous Comment Next Show Comments Notes Protect Sheet Protect Workbook Allow Edit Ranges Unshare Workbook Hide Ink

Proofing Accessibility Insights Language Comments Notes Protect

C52

Section 2: About the vessel			
Vessel name*	Boaty-McBoatFace	Enter the name of the vessel	
Vessel call sign*	BMBF123	Enter the call sign of the vessel	
Vessel activity*	Steaming (in transit)	Select the relevant option in relation to the activity of the vessel when the strike occurred (or is thought to have occurred) (DROPDOWN)	
What external lights were switched on when	Deck lights*	Yes	(DROPDOWN)
	Ice lights*	No	(DROPDOWN)
Section 3: Date, time and location of strike			
Date of strike detection*	15/11/2022	Enter the date that the strike was detected (dd/mm/yyyy)	
Part of day or night strike occurred (if known)	Dawn	Select the time of day or night that the strike occurred using one of the options provided (DROPDOWN)	
Time strike began (if known)	05:45	The time the strike event began, if known, using 24h clock format (e.g. 23:45 or 04:54).	
Section 3: Conditions when the strike occurred			
Moon phase*	New Moon	Select the phase of the moon (DROPDOWN)	
Cloud cover	Waning Crescent	Select the amount of cloud cover or whether there was fog	
Weather (precipitation)	First Quarter	Select the type of precipitation, or 'Dry' if none (DROPDOWN)	
Wind direction	Waning Gibbous	Select the relevant wind direction (DROPDOWN)	
Wind strength/Sea	Full Moon	Select the relevant value on the Beaufort scale (DROPDOWN)	
Comments on conditions	Waning Gibbous	Any further comments on the conditions when the strike occurred	

[CLICK HERE TO MOVE ON TO PART B - BIRD DETAILS](#)

Part A - Strike details Part B - Bird details Drop-down list values

SGSSI-BirdstrikeReporting\_BetaVersionTrial-20220812\_Form\_ForPresentation.xlsx - Excel

File Home Insert Page Layout Formulas Data Review View Help

Wilson's storm-petrel

Part B: Details of birds involved in the strike				Vessel call sign	BMBF123	Date of strike	15/11/2022	
Please use this sheet to record details of the birds affected in the strike event. Use one row per species.								
Species*	Total number of individuals*	Number of juveniles	Where on the vessel were they found?*	Number released*	Number dead/unlikely to survive*	Does any bird carry a tracking device or ring?*	Were any photos taken?*	Any further comments
Select the name of the species (DROPDOWN)	Enter the total number of birds that landed on or collided with the vessel	Enter the number of those birds that were juveniles (if possible to identify)	Describe where on the vessel the birds were found.	Enter the number of birds that were released after they landed on the vessel	Enter the number of birds that died or are expected to die	Please note if a bird carried a tracking device (e.g. satellite/GPS device) or leg ring. If possible, PLEASE RETAIN THE RING/DEVICE from any dead birds and hand to GSGSSI. Please enter details in comments column. (DROPDOWN)	Please indicate whether any photos were taken of this species, e.g. to confirm identification or to record the condition of a bird, or any ring or tracking device. If so, and if possible, please attach the photo(s) when you email this report. (DROPDOWN)	e.g. injuries, oiled birds, condition of birds. If a bird had a tracking device or ring, please provide details here - e.g. device type (if known) or ring number. If applicable, please also give details of any care provided to the bird prior to release (or death) - e.g. placed in ventilated box stored in protected area on deck until bird was dry; released from back deck at dawn.
EXAMPLE: Common diving-petrel	17	8	On the foredeck	14	3	No	No	One juvenile with broken wing.
1 Wilson's storm-petrel	2		Aft deck	2	0	No	Yes	Good condition
2 Wilson's storm-petrel								
3 Storm-petrel species								
4 Antarctic petrel								
5 Black-petrel								
6 Blue-petrel								
7 Cape-petrel								
8 Great-winged-petrel								
9 Grey-petrel								
10								
11								
12								
13								
14								
15								
16								

Part A - Strike details Part B - Bird details Drop-down list values

- Tried on toothfish long-liners and krill trawlers Aug-Sep 2022
- Tried on tourist vessels Oct – Mar 2023
- Tried on GSGSSI fisheries patrol vessels Jan – Mar 2023
- Trials on BAS Research and Royal Navy patrol vessels – still to come.

# The 'beta' Reporting Form Feedback Questionnaire

Feedback on new South Georgia & the South Sandwich Islands bird-strike reporting form

[Sign in to Google](#) to save your progress. [Learn more](#)

\* Required

5. How would you rate the ease of completing the new bird-strike reporting form? \*

1 2 3 4 5

Very hard      Very easy

[Back](#) [Next](#) Page 4 of 18 [Clear form](#)

Never submit passwords through Google Forms.

This content is neither created nor endorsed by Google. [Report Abuse](#) - [Terms of Service](#) - [Privacy Policy](#)

Google Forms

SGSSI-BirdstrikeReporting\_BetaVersionTrial-20220812\_Questionnaire.xlsx - Excel

A	B	C	D	E
1	<b>Feedback on new South Georgia &amp; the South Sandwich Islands bird-strike reporting form</b>			
2	Thank you for trialling the beta version of the new bird-strike reporting form. If you are unable to use our online feedback questionnaire, please use this questionnaire to give feedback on the new bird-strike reporting form.			
3	Please send your completed feedback questionnaire to: <a href="mailto:go@gov.gs">go@gov.gs</a> and copy in <a href="mailto:admin@gov.gs">admin@gov.gs</a>			
4	<a href="#">(CLICK HERE TO GO TO ONLINE VERSION INSTEAD)</a>			
5	1 OPTIONAL: Your name			
6	2 OPTIONAL: Your email address (by providing your email address, you consent to us contacting you by email about your feedback)			
7	3 Which category best describes your vessel? (DROPDOWN) If you selected 'Other', please specify the vessel category			
8	4 Your job title/duties (DROPDOWN) If you selected 'Other', please specify your job title/duties			
9	5 How would you rate the ease of completing the new bird-strike reporting form? (1 = very hard and 5 = very easy) (DROPDOWN)			
10	6 What do you like about the new bird-strike reporting form?			
11	7 What do you not like about the new bird-strike reporting form?			
12	8 Are any questions in the new form unclear or difficult to understand? (DROPDOWN) If 'Yes', which questions, and how can we improve them?			
13	9 Is it difficult to answer any of the questions in the form due to			



Feedback provided via an online form or by completing a excel version.

# The 'beta' Bird-handling Guidelines

## Bird-strike Handling Guidelines

WHAT TO DO IN THE EVENT OF A BIRD-STRIKE:



### KIT LIST

Please refer to the box size guide in step 2.

Before handling a bird, ensure you have:

- Gloves
- Goggles/Glasses
- Ventilated Box

### WHO?

If possible, choose a designated crew member

who is familiar with these guidelines to handle and release birds. Birds need to be handled safely (for the crew and the birds), and for as short a time as possible.



Large birds can also be held under your arm.

### HOW?

**BEWARE:** Don't hold birds close to your face/eyes – always try to wear eye protection. Some birds may regurgitate food when handled. This will not harm them or you, but don't try to put this back into its mouth or give them other food.



**Small birds:** 14-23 cm 33-39 cm  
e.g. storm petrels, diving petrels, prions.



**Medium birds:** 30-38 cm 76-82 cm  
e.g. white-chinned petrel, shearwaters, skuas.



**Large birds:** 107-135 cm 254-351 cm  
e.g. albatross, giant petrels.

### ADDITIONAL INFORMATION

**How to approach birds** - To both minimise stress to the birds and to ensure welfare/safety of the bird/handler, try to keep the following in mind. Keep movements slow, speak quietly, don't have too many people around, don't shine a torch right at their face, try not to use flash on cameras, handle as little and quickly as possible whilst staying safe. Do not make an announcement, draw attention to the event, or take time to show birds to guests.

**Health & safety** - The welfare of the handler is as much a priority as the welfare of any stranded birds. Please ensure gloves (thinner gloves are recommended for better dexterity) and eye protection are used when handling any bird - or if eye protection isn't available, keep the bird well away from your face - they can reach further than you might realise!

**Enhanced monitoring during a bird-strike event** - During the event of a bird-strike on your vessel, frequent checks of the deck for more birds can reduce the amount of time they spend on deck and increase their chances of survival.

**Optional response to reduce the possibility of a bird-strike in poor weather conditions** - Birds are more likely to land on deck in poor weather conditions – especially when it is foggy or snowy. If birds start to land on deck then, if safe to do so,

consider reducing ice lights and vessel speed to a minimum until conditions improve.

**Oiled birds** - Cleaning an oiled bird is a specialist process and attempting to wash oil from a bird can cause more harm than good, so we don't recommend this. Instead, handle the bird as little as possible, retain it in a box (ideally on its own so it doesn't contaminate others) and release when the bird is dry.

**Recording forms** - To help us understand how many birds are landing on deck, what species are found most often, and under what conditions bird-strike most commonly occurs, please ensure that you record any instances of bird-strike on the recording forms (to species level if possible). Taking a picture of a specimen if circumstances allow can be useful for identification if you are unsure! A mobile phone camera is perfect – take lots of pictures, including upperparts, underparts and head/bill.

If the bird has a metal ring on its leg please read and record the numbers/letters very carefully (check twice!). Other forms of tag might also be present. Please make a note or photograph these if you can, but do not attempt to remove any.

**Bird flu** - This guidance is intended for use outside of outbreaks of Highly Pathogenic Avian Influenza (HPAI), or bird flu. Where there is an identified risk or outbreak of HPAI, please refer to specific guidance from the Government of South Georgia and the South Sandwich Islands (GSGSSI).

- Being trialled on toothfish long-liners and krill trawlers Apr – Jun 2023
- Trialled on tourist vessels Feb – Mar 2023
- Trials on GSGSSI Patrol, BAS Research and Royal Navy patrol vessels – still to come.

# The 'beta' Reporting Form Feedback Questionnaire

File Home Insert Page Layout Formulas Data Review View Help

C31

**Feedback on new South Georgia & the South Sandwich Islands bird-handling guidelines**

Thank you for trialling the beta version of the new bird-handling guidelines.

Please send your completed feedback questionnaire to: [go@gov.gs](mailto:go@gov.gs) and copy in [admin@gov.gs](mailto:admin@gov.gs)

1 OPTIONAL: Your name

2 OPTIONAL: Your email address (by providing your email address, you consent to us contacting you by email about your feedback)

3 Which category best describes your vessel? (DROPDOWN)  
If you selected 'Other', please specify the vessel category

4 Your job title/duties (DROPDOWN)  
If you selected 'Other', please specify your job title/duties

5 How would you rate the ease of following the new bird-handling guidelines? (1 = very hard and 5 = very easy) (DROPDOWN)

6 What do you like about the new bird-handling guidelines?

7 What do you not like about the new bird-handling guidelines?

8 Are any steps in the new guidelines unclear or difficult to follow? (DROPDOWN)  
If 'Yes', which steps, and how can we improve them?

9 Is there any information in the guidelines that you consider to be




BirdstrikeReport\_Questionnaire dropdown lists




Feedback provided via an online form or by completing a excel version.



## DESIRED OUTCOMES

-  **Practical tools and guidelines for long-term monitoring and understanding of bird-strike in SGSSI**
-  **Enhanced survival of landed birds**
-  **Foundation of strategic research programme to manage and reduce bird-strike**

## DESIRED IMPACT

-  **Enable standardised data on bird-strike to be collected which can be:**
  - Fed into wider studies on population changes
  - Assess effectiveness of mitigation measures
  - Enhance conservation management decisions



# Thank you

[Megan.Tierney@jncc.gov.uk](mailto:Megan.Tierney@jncc.gov.uk)

<https://jncc.gov.uk/>

# Government of South Georgia & the South Sandwich Islands



[www.gov.gs](http://www.gov.gs)



ESA



Sue G



Ian Parker, Unsplash