

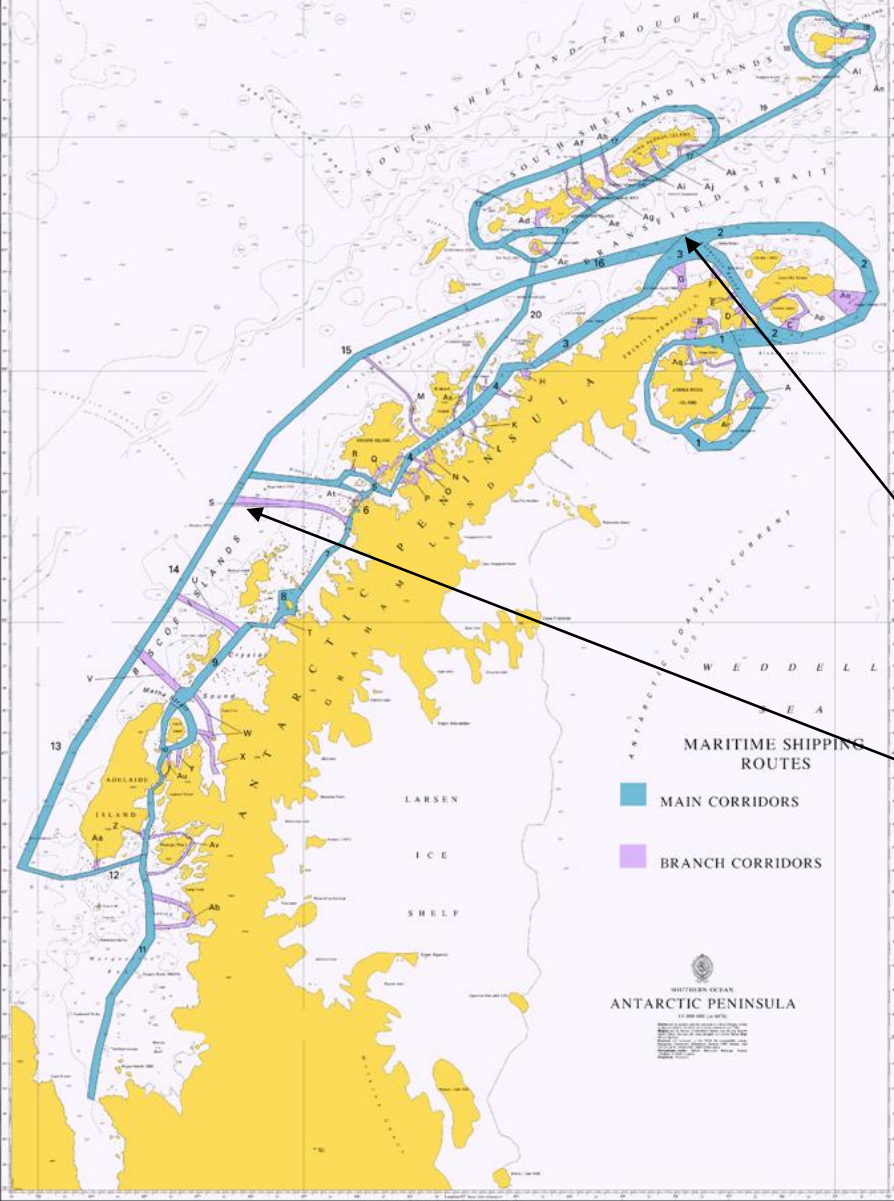
ATCM KIEV - JUNE 2008

**HYDROGRAPHY IN
ANTARCTICA**



Rear Admiral Ian Moncrieff – The UK National Hydrographer

PROPOSED MARITIME SHIPPING ROUTES (MSR)
 THE ANTARCTIC PENINSULA AND THE SOUTH SHETLAND ISLANDS
 DRAFT EDITION No 2



ANTARCTIC PENINSULA

- 15% surveyed
- <10% to modern standards

| MULTIBEAM COVERAGE (ENDURANCE DATA ONLY) | NORTH PENINSULA | SOUTH PENINSULA |
|--|-----------------|-----------------|
| MAIN CORRIDORS | 45% | 10% |
| BRANCH CORRIDORS (Discounting Rothera with 85%) | 40% | 5% |

Main Shipping Routes:

-  Main Corridors
-  Branch Corridors

CRUISE SHIPS OPERATING IN ANTARCTICA



NEW BREED OF CRUISE SHIP *Golden Princess - Star Princess*

- 109 000 tonnes
- 3 000 passengers
- 10 metre draft
- zero ice capability
- 65 degrees south!

MV EXPLORER

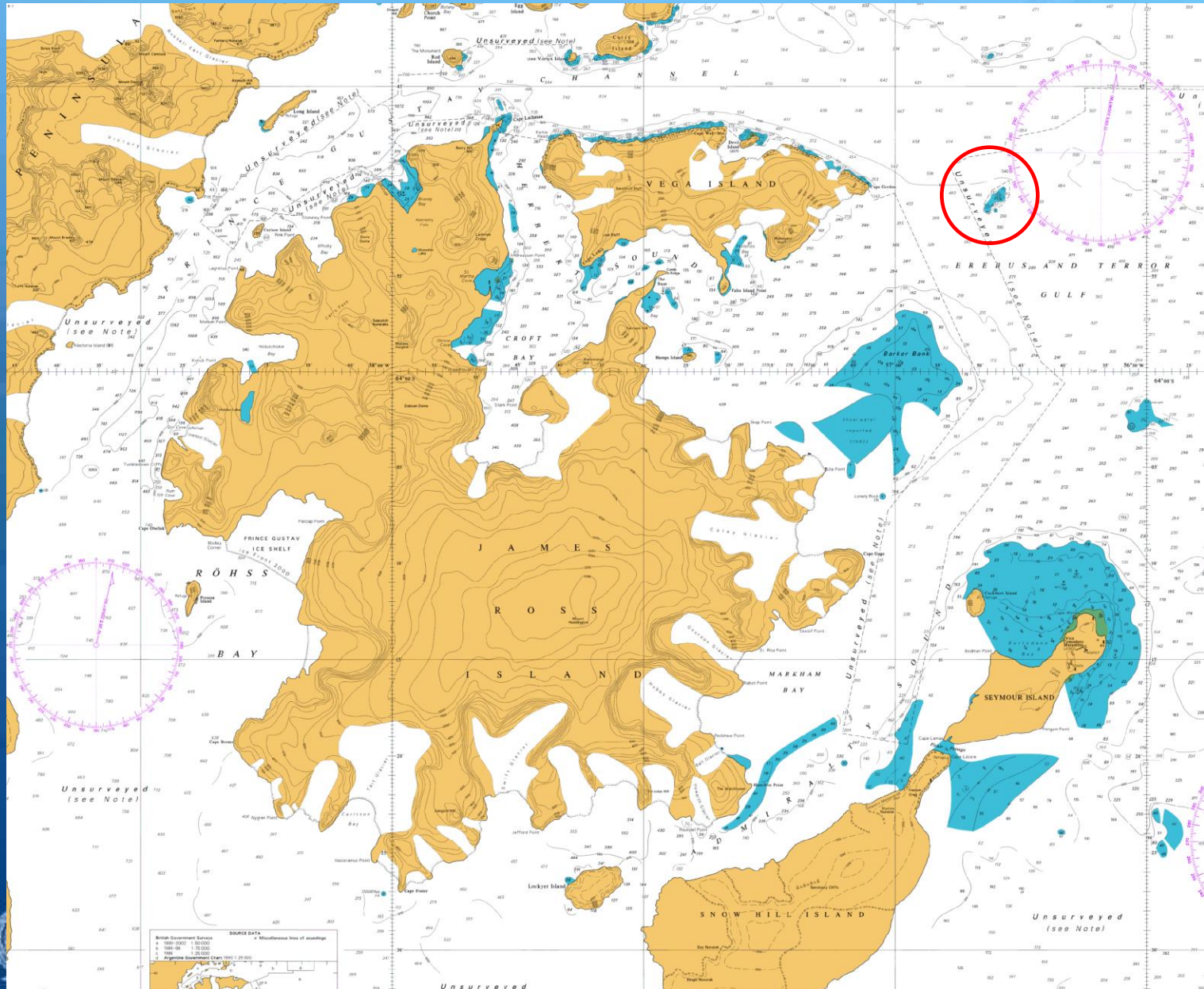


NORDNORGE

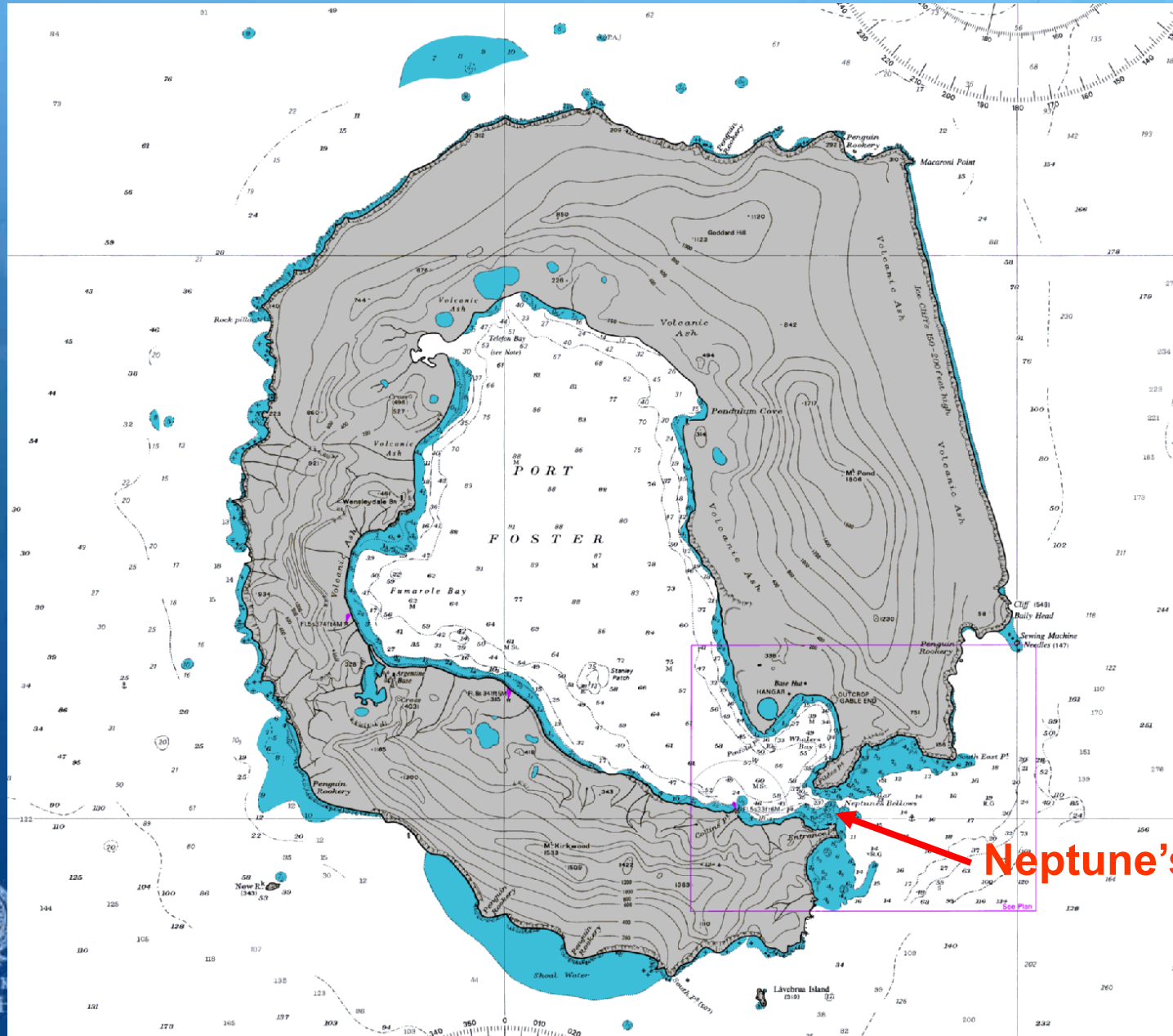
BAHIA PARASIO



JAMES ROSS ISLAND

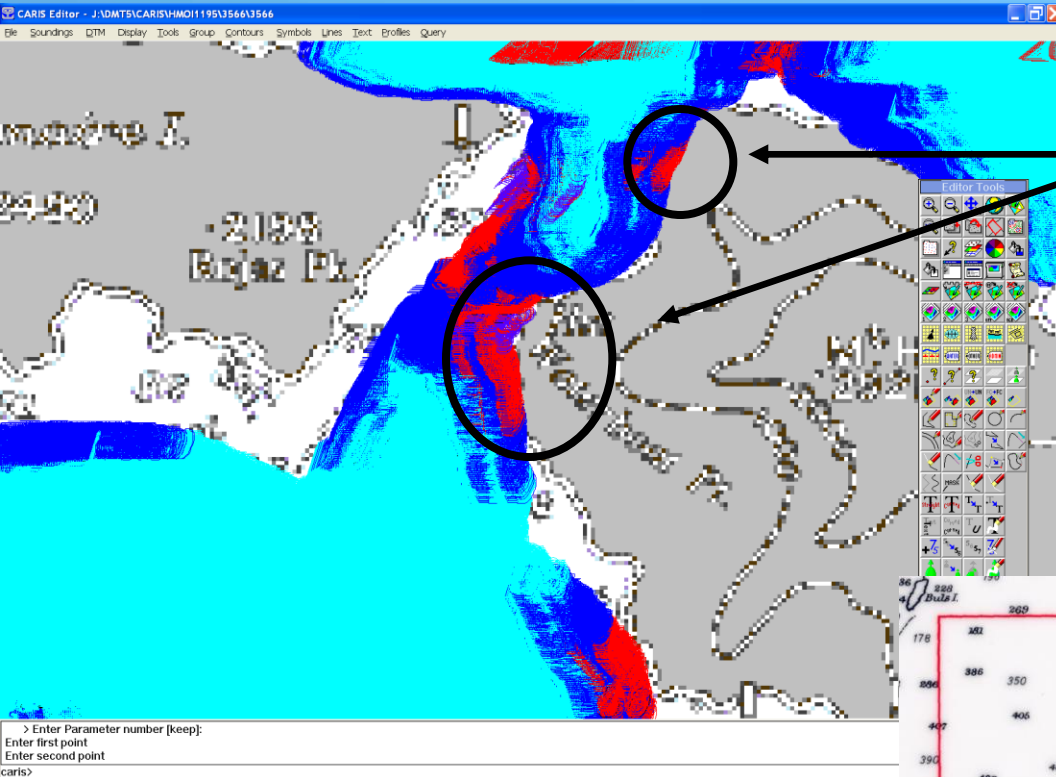


DECEPTION ISLAND



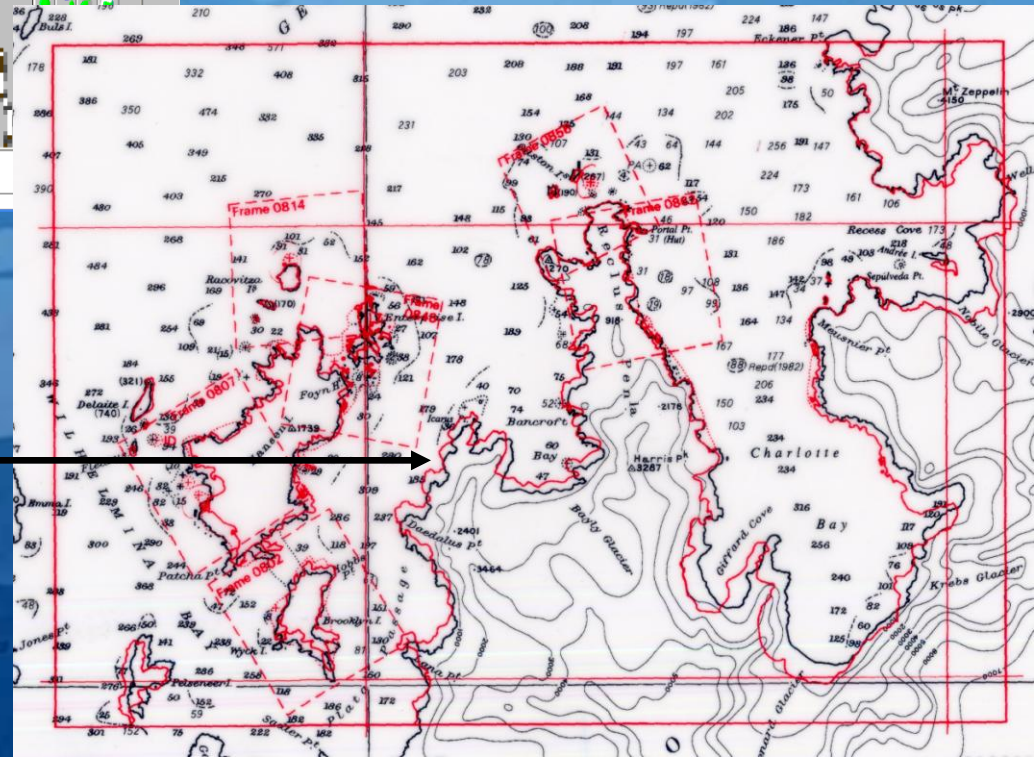
Neptune's Bellows

UNDETERMINED DATUM



WGS multi-beam data fitted to undetermined chart – highlights coastline & associated fitting problems in the Gerlache Strait

Satellite derived coastline photo plot (in red) fitted to undetermined chart shows significant errors in coastline and associated fitting problems

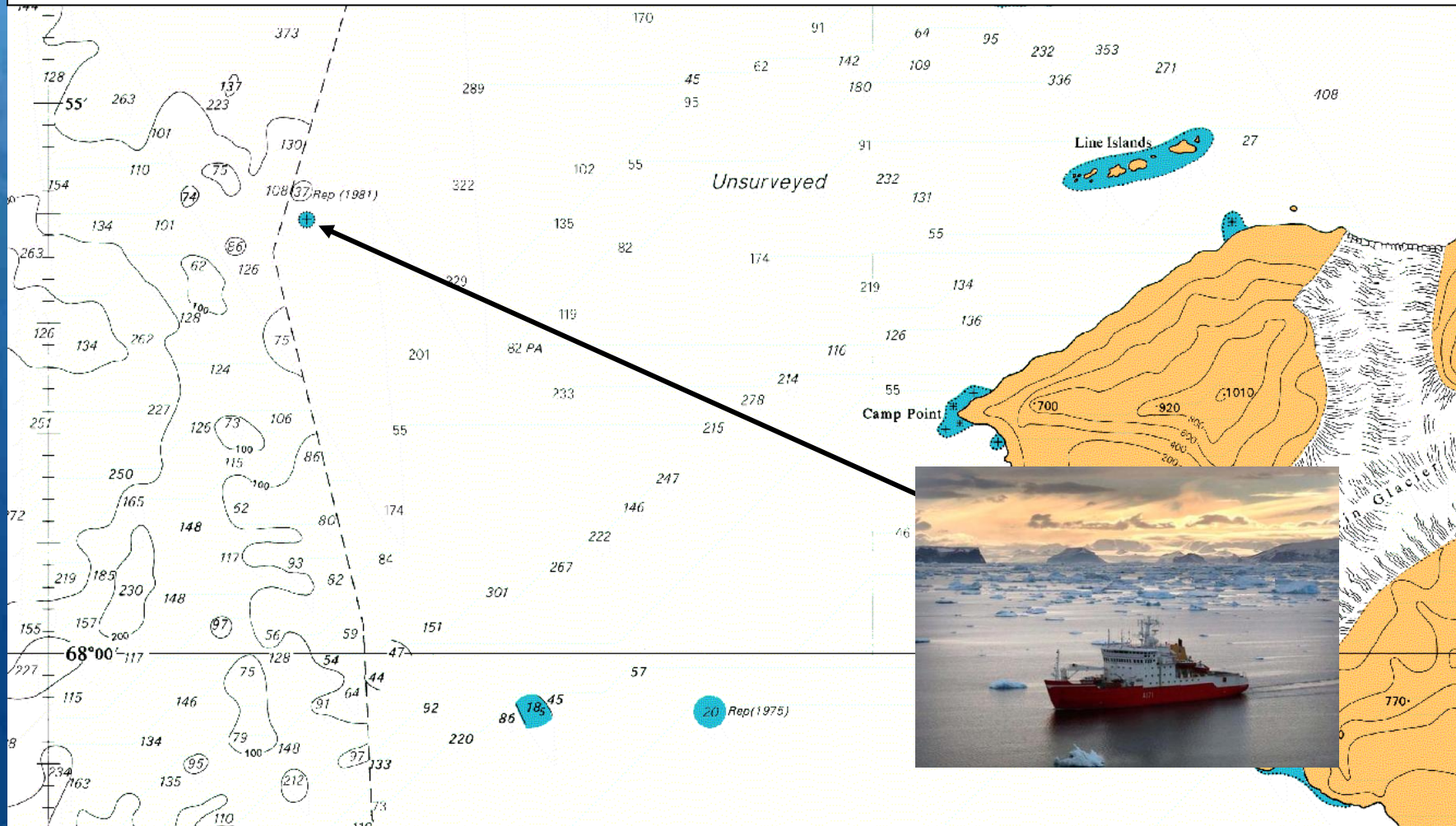


827* ANTARCTICA — Graham Land — Marguerite Bay — Pourquoi Pas Island Southwards — Rock; Depth

Insert \oplus (charts 4024 and 4063, +)
 Delete depth 20fm enclosed by 20fm contour, Repd
 depth 37m enclosed by \odot

(a) 67° 56'·03S., 67° 33'·71W.
 (b) close NW. of (a) above
 (c) close W. of (a) above

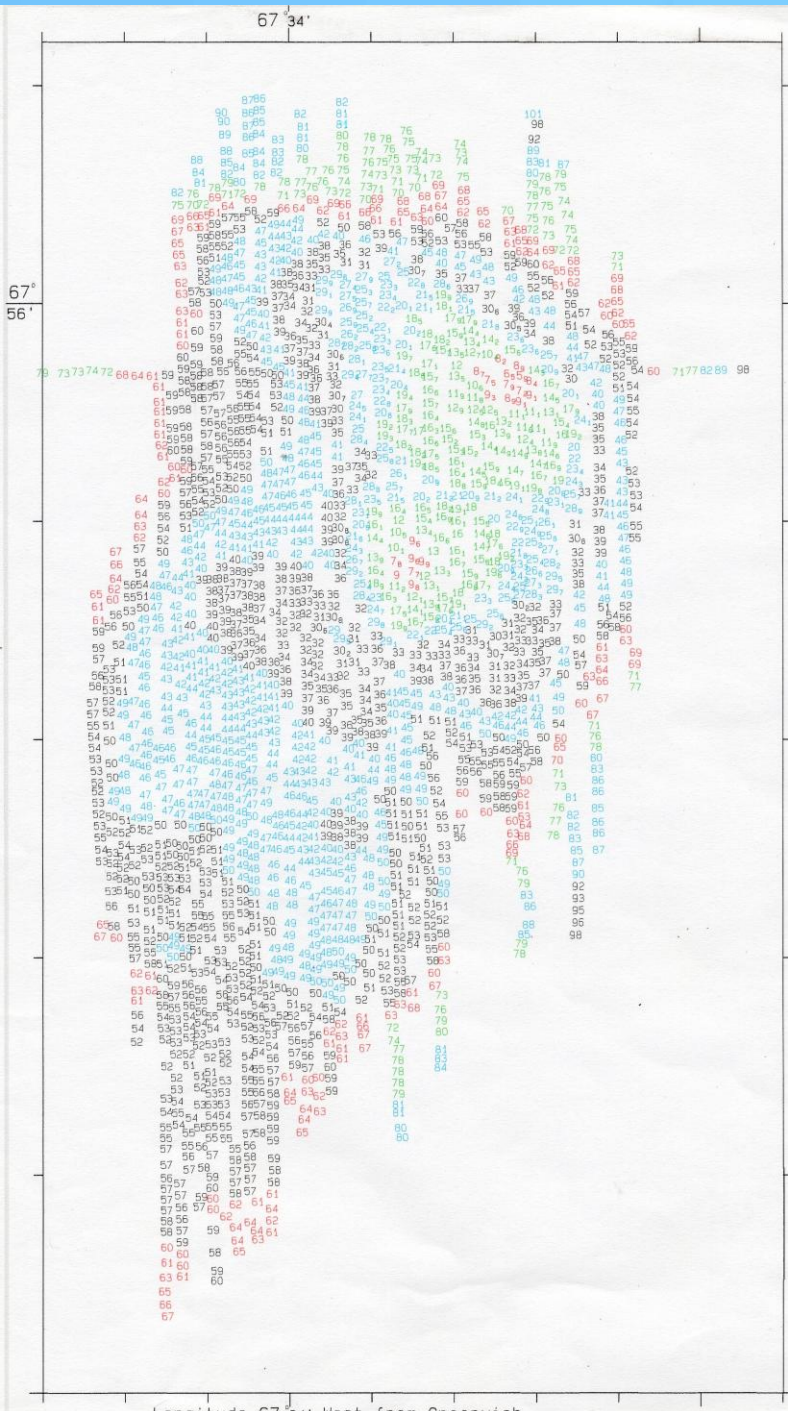
Chart [Last correction].— **3580** (a) [2317/00] — **3570** (a,b) [2571/02] — **3571** (a,b) [2317/00] — **4907** (INT 907) (a,c) [New Chart 21/12/00] — **4024** (INT 24) (a) [3196/99] — **4063** (a) [2612/00]
HMS Endurance (HH.697/440/02).

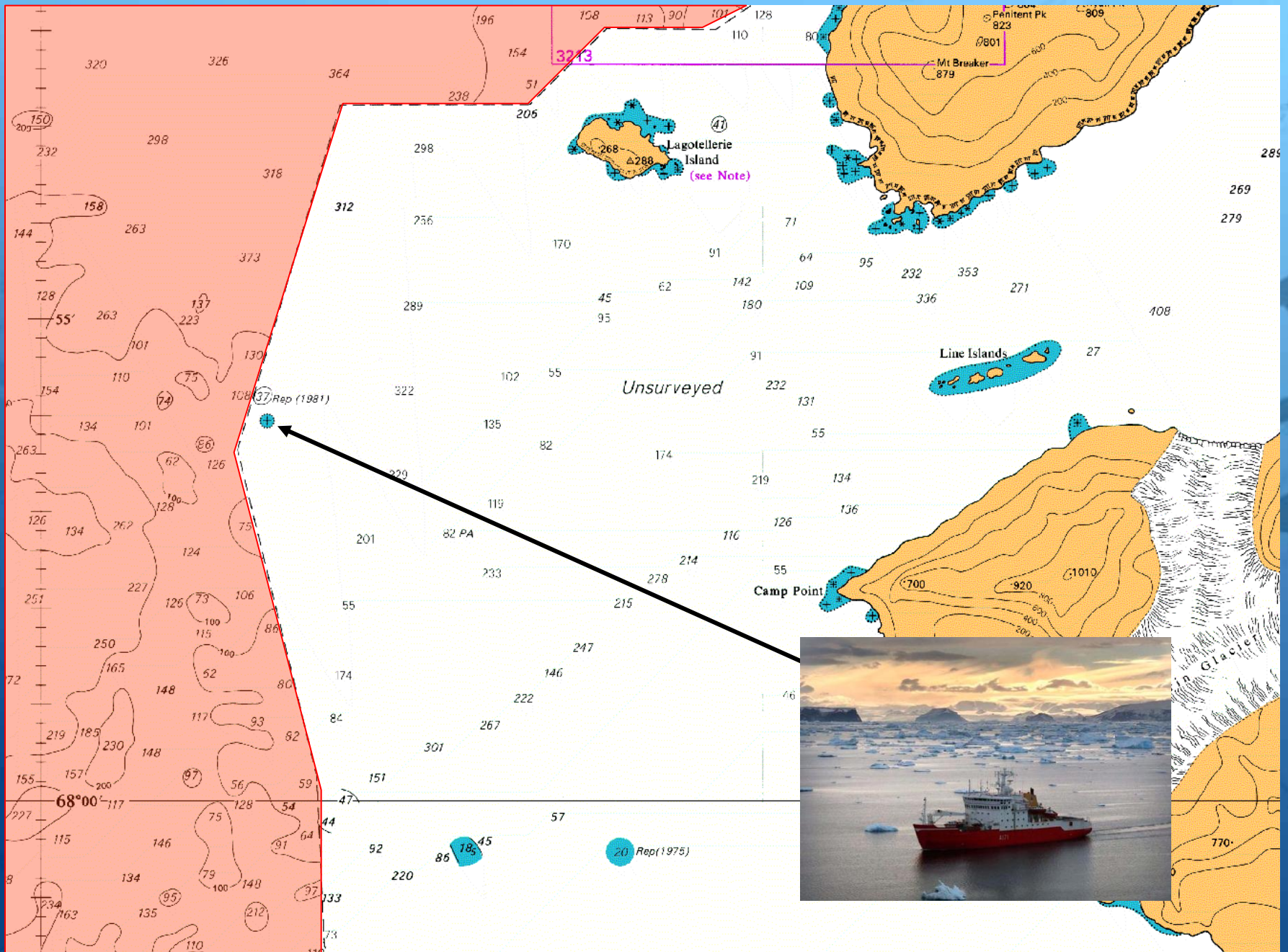


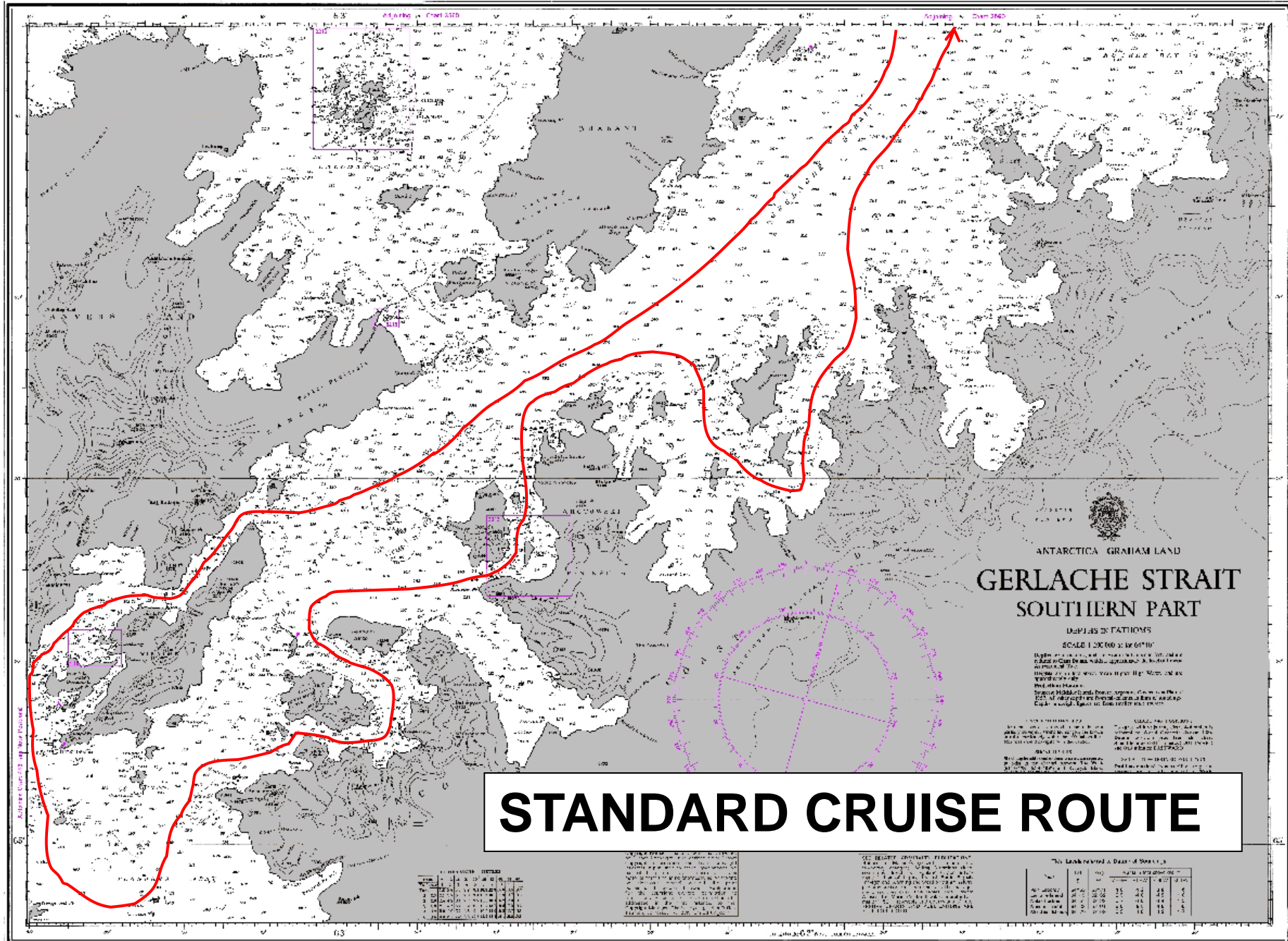
BATHYMETRIC SHEET - PINNACLES



THE UNITED KINGDOM
HYDROGRAPHIC OFFICE







ANTARCTICA GRAHAM LAND
GERLACHE STRAIT
 SOUTHERN PART

SCALE 1:20000 = 1" = 65' M
 SHEET NO. 11000

Published in accordance with the Hydrographic Act of 1913 and the Hydrographic Act of 1929. The Hydrographic Office is not responsible for the accuracy of the information contained in this chart.

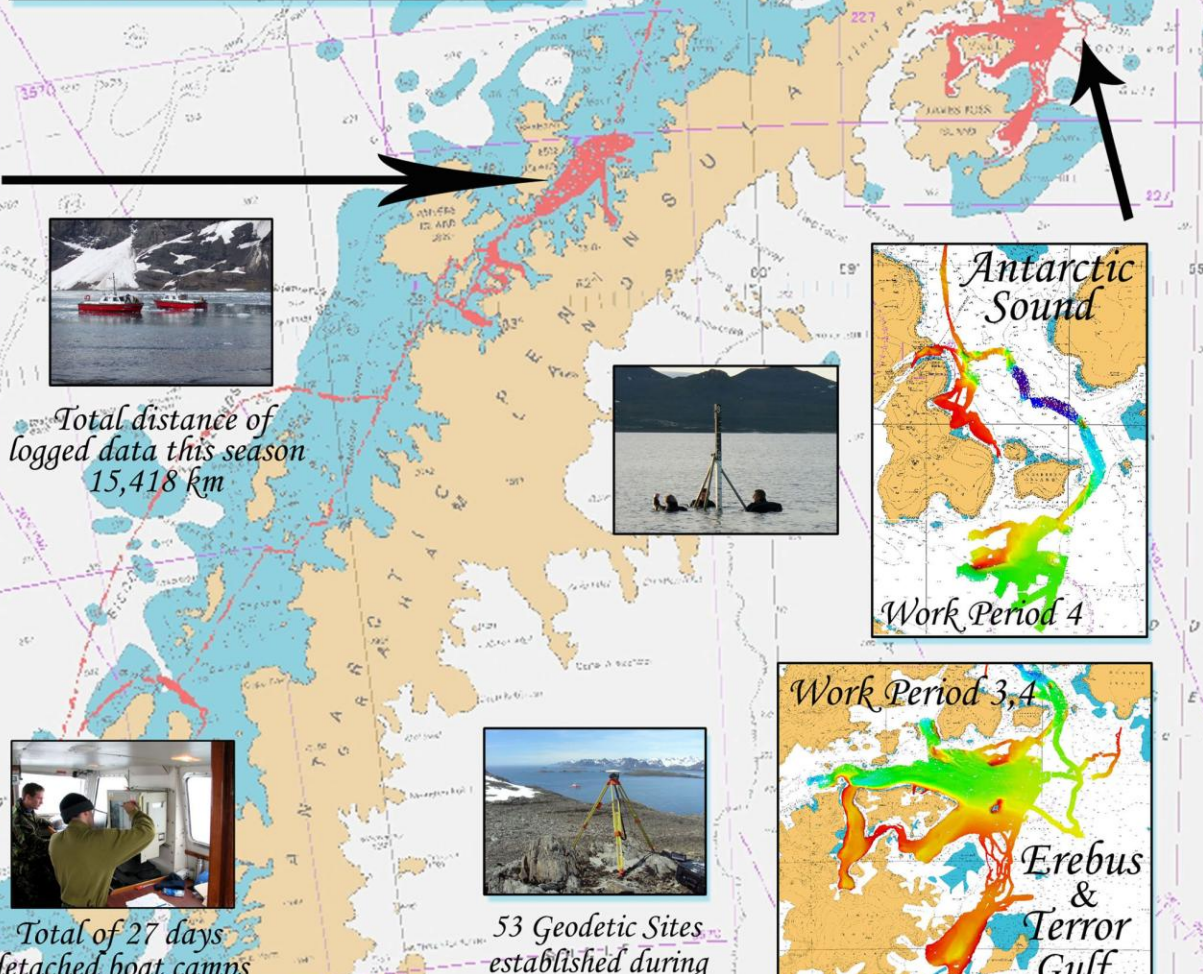
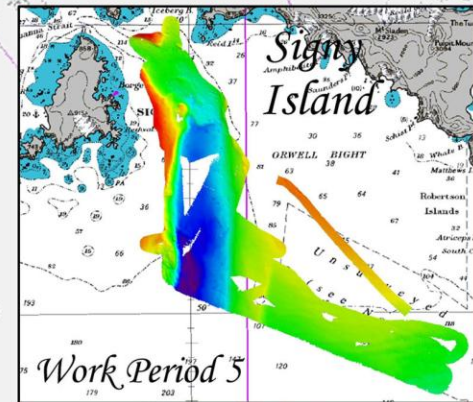
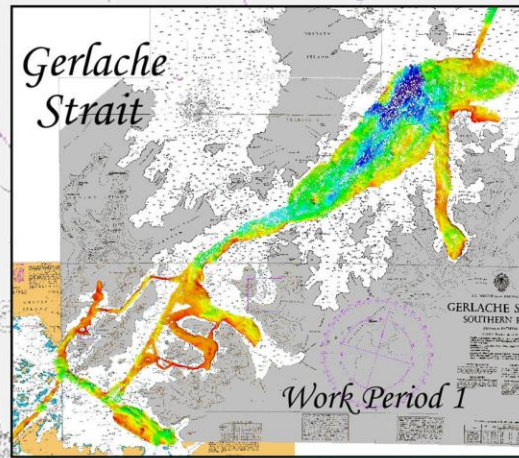
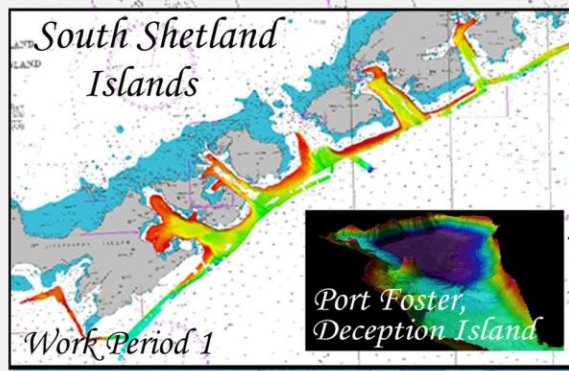
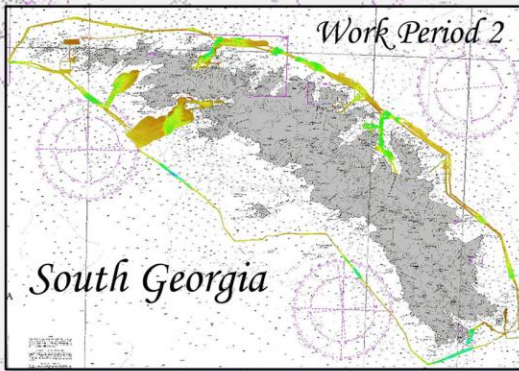
STANDARD CRUISE ROUTE

| Lat | Long | Depth | Soundings |
|-----------|-----------|-------|-----------|
| 65° 00' S | 63° 00' W | 100 | 100 |
| 65° 00' S | 63° 30' W | 100 | 100 |
| 65° 00' S | 64° 00' W | 100 | 100 |
| 65° 00' S | 64° 30' W | 100 | 100 |
| 65° 00' S | 65° 00' W | 100 | 100 |

NOTE: The depth soundings in this chart are in fathoms. The soundings in the adjacent charts are in meters.

THE HYDROGRAPHIC OFFICE, WASHINGTON, D.C. 20540
 THE HYDROGRAPHIC OFFICE, LONDON, ENGLAND

| Lat | Long | Depth | Soundings |
|-----------|-----------|-------|-----------|
| 65° 00' S | 65° 00' W | 100 | 100 |
| 65° 00' S | 65° 30' W | 100 | 100 |
| 65° 00' S | 66° 00' W | 100 | 100 |
| 65° 00' S | 66° 30' W | 100 | 100 |
| 65° 00' S | 67° 00' W | 100 | 100 |



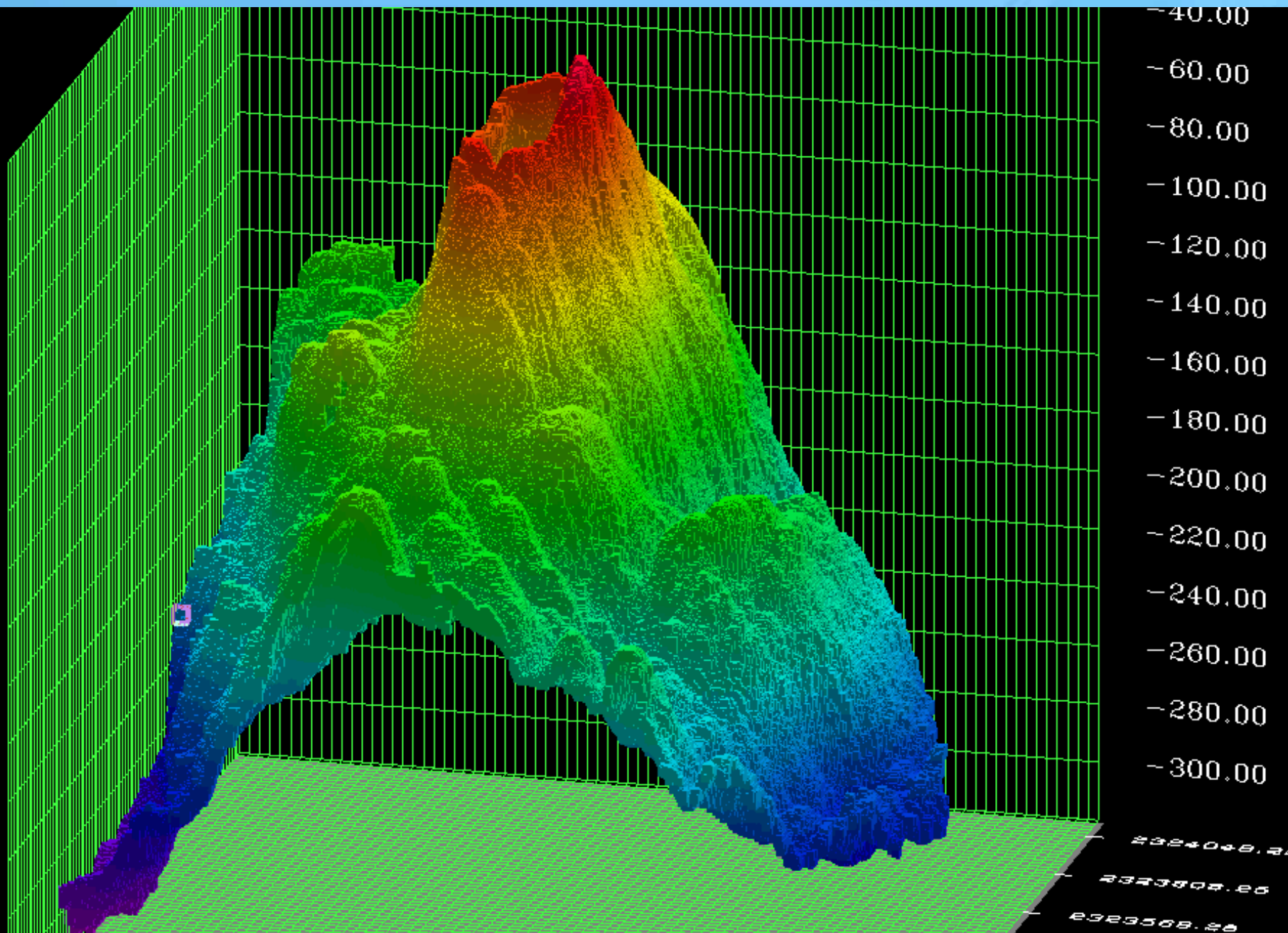
Total distance of logged data this season 15,418 km

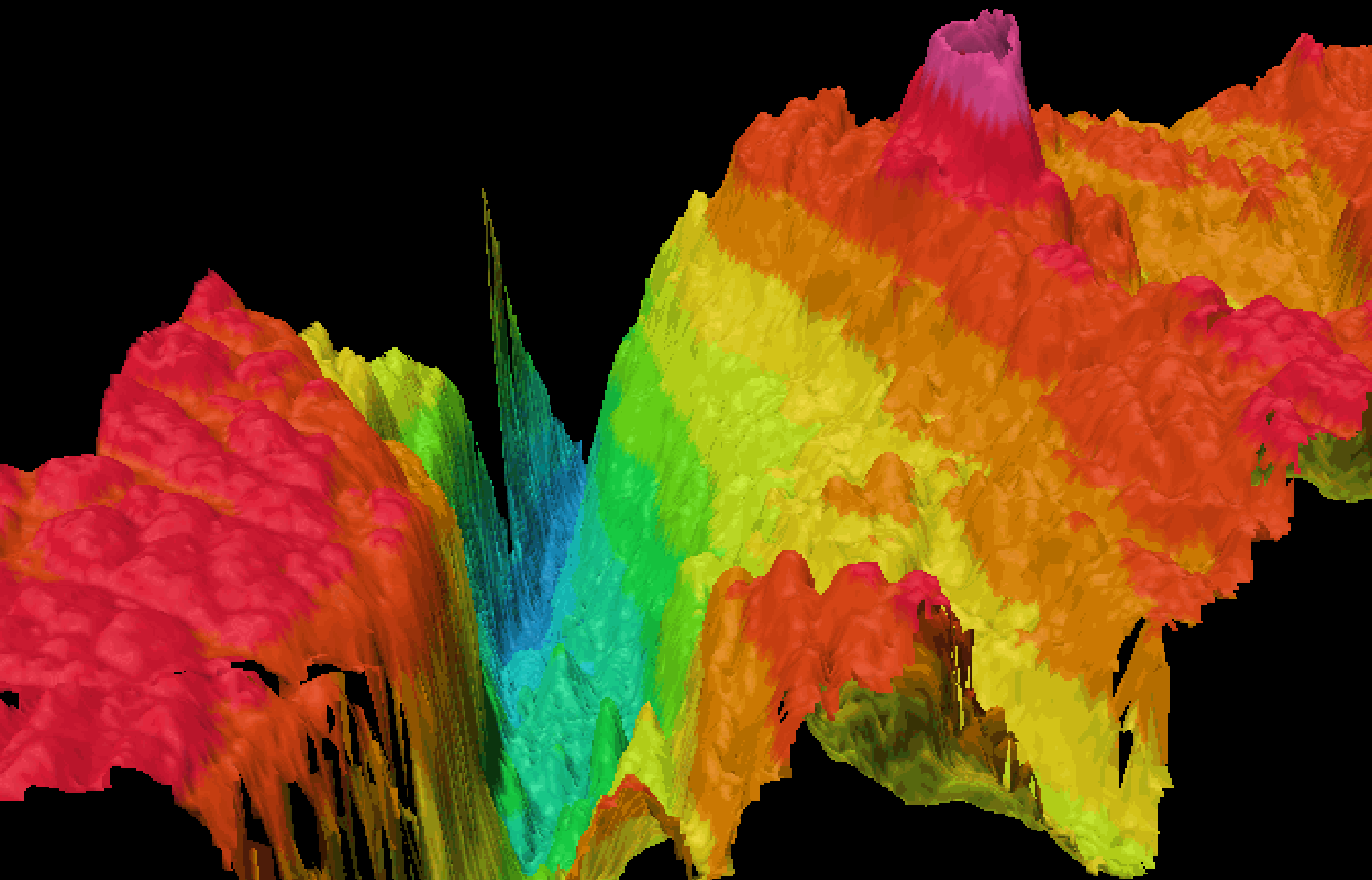


Total of 27 days detached boat camps



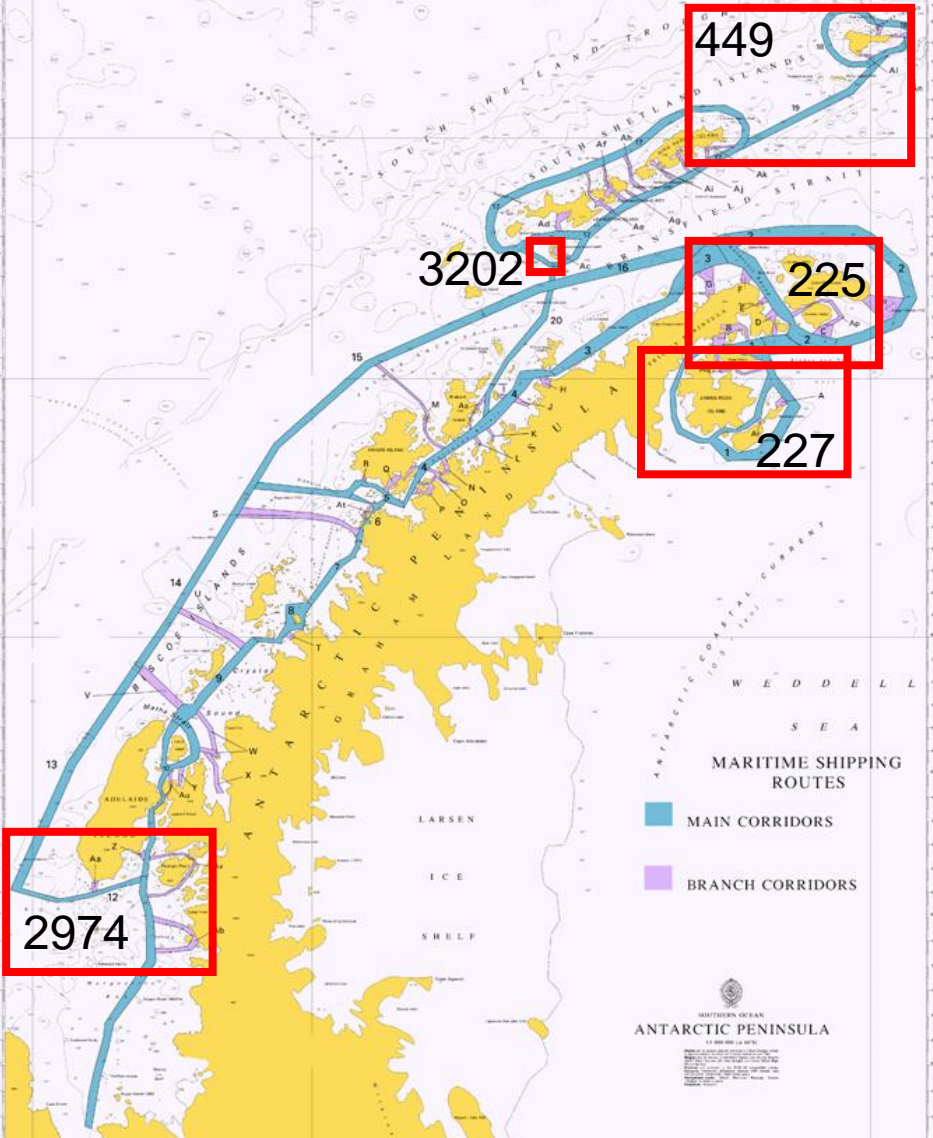
53 Geodetic Sites established during 06/07 Campaign



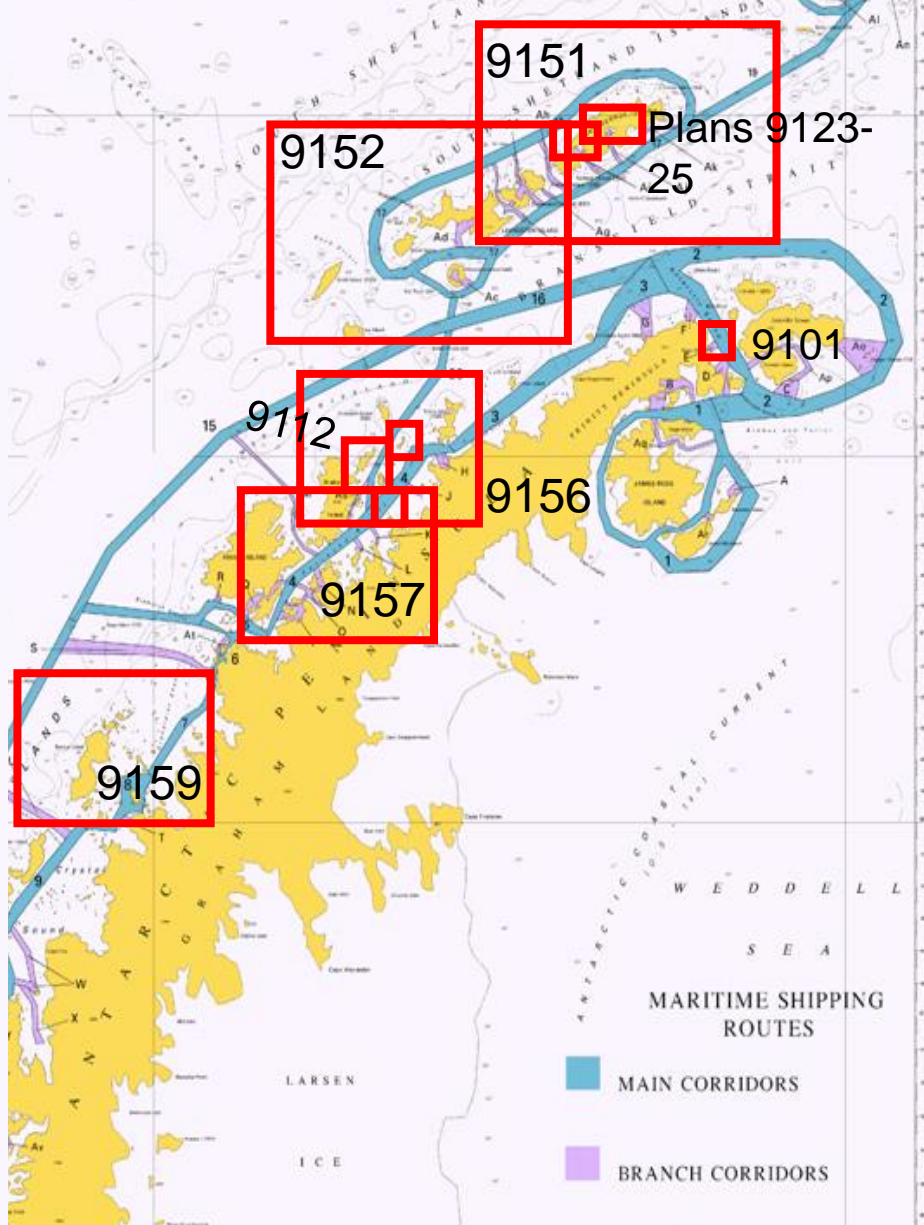


UKHO 5 YEAR CHART PRODUCTION SCHEDULE

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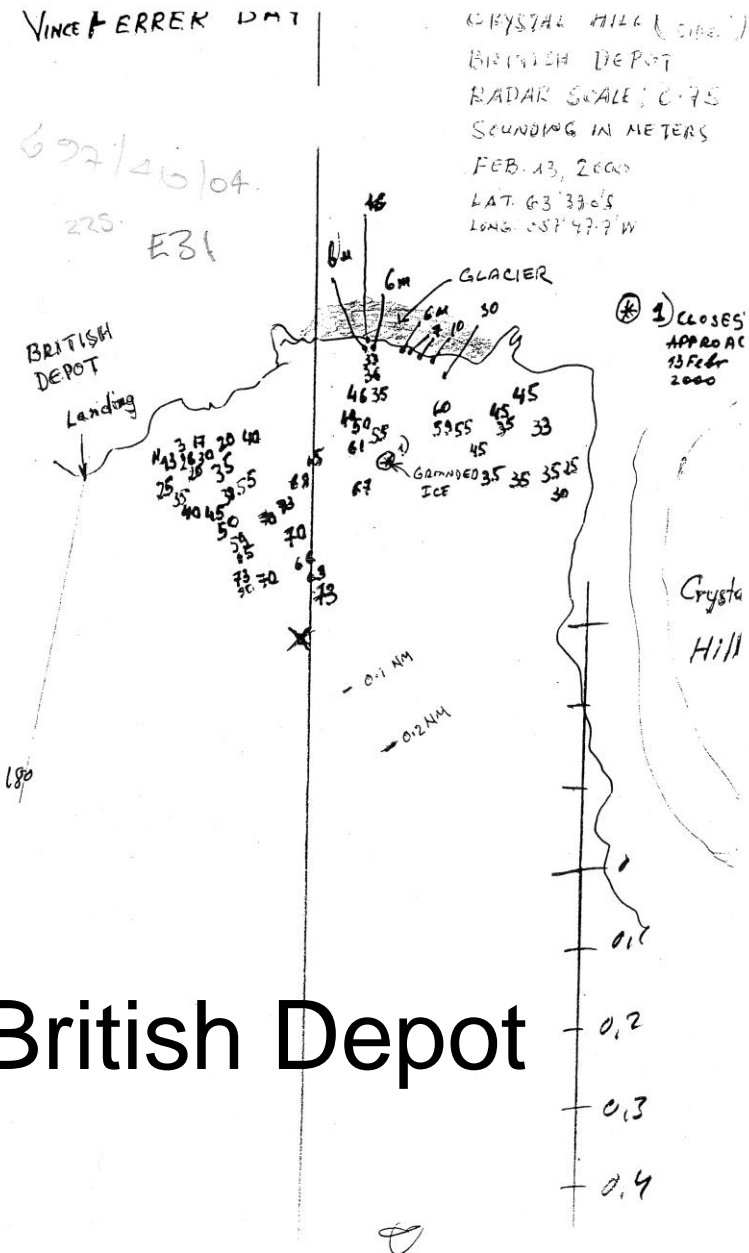
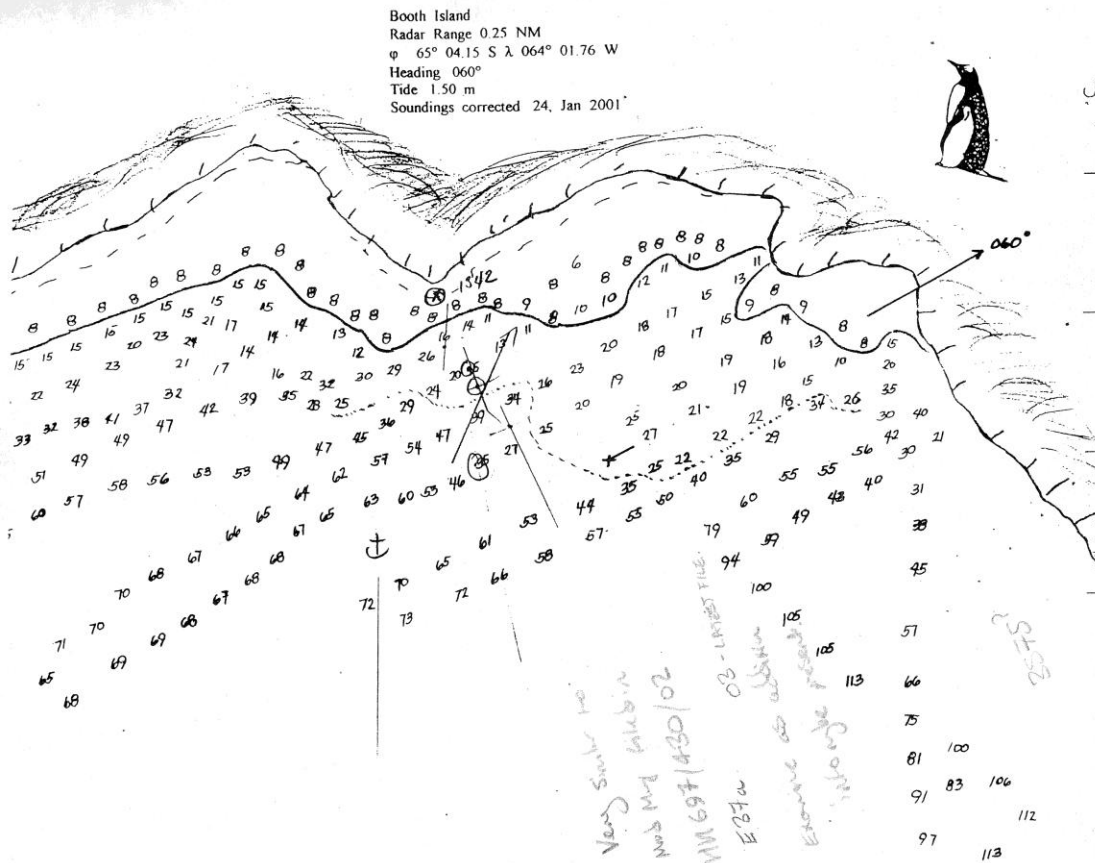
DUE FOR PUBLICATION 08/09



DUE FOR PUBLICATION 10-13

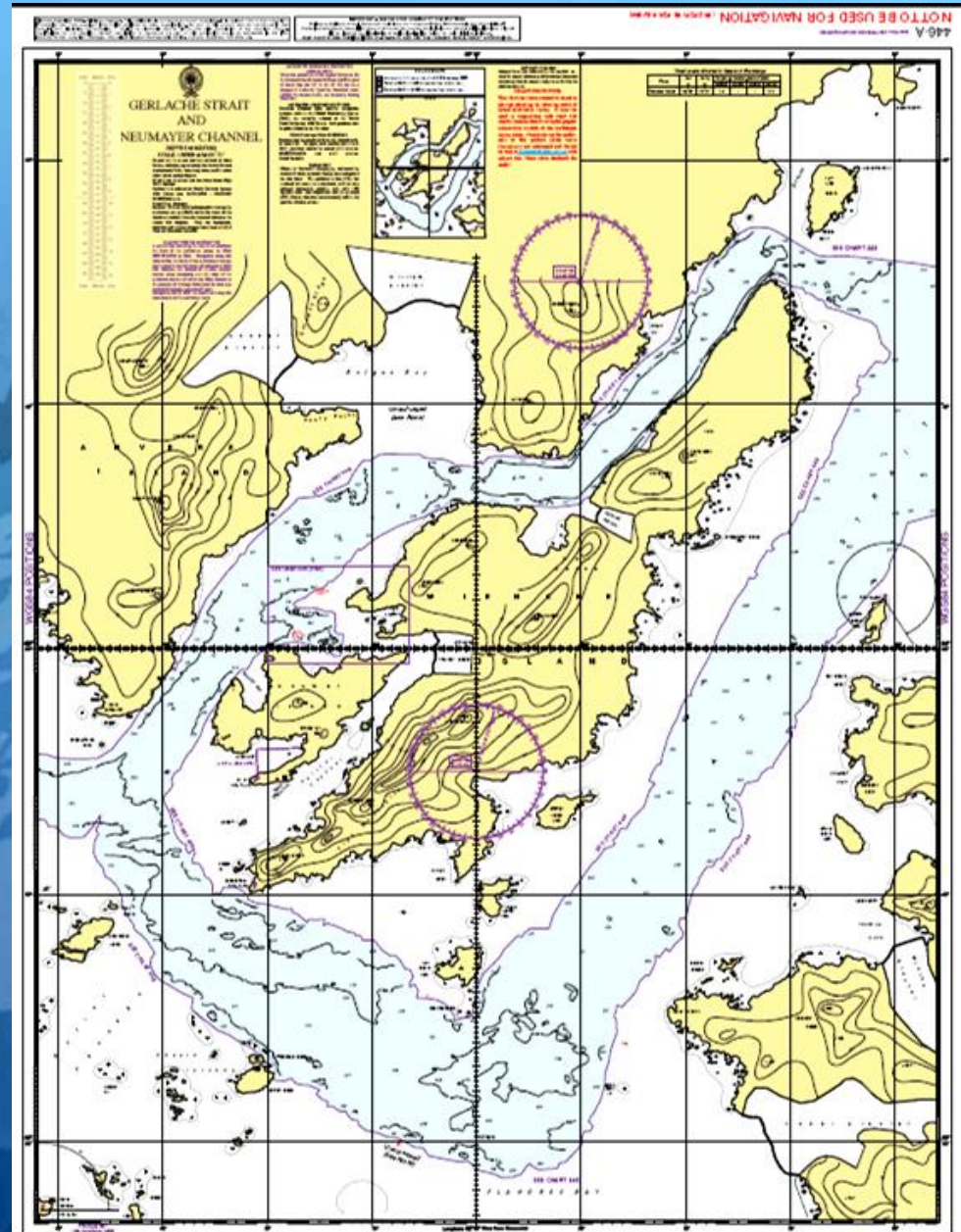
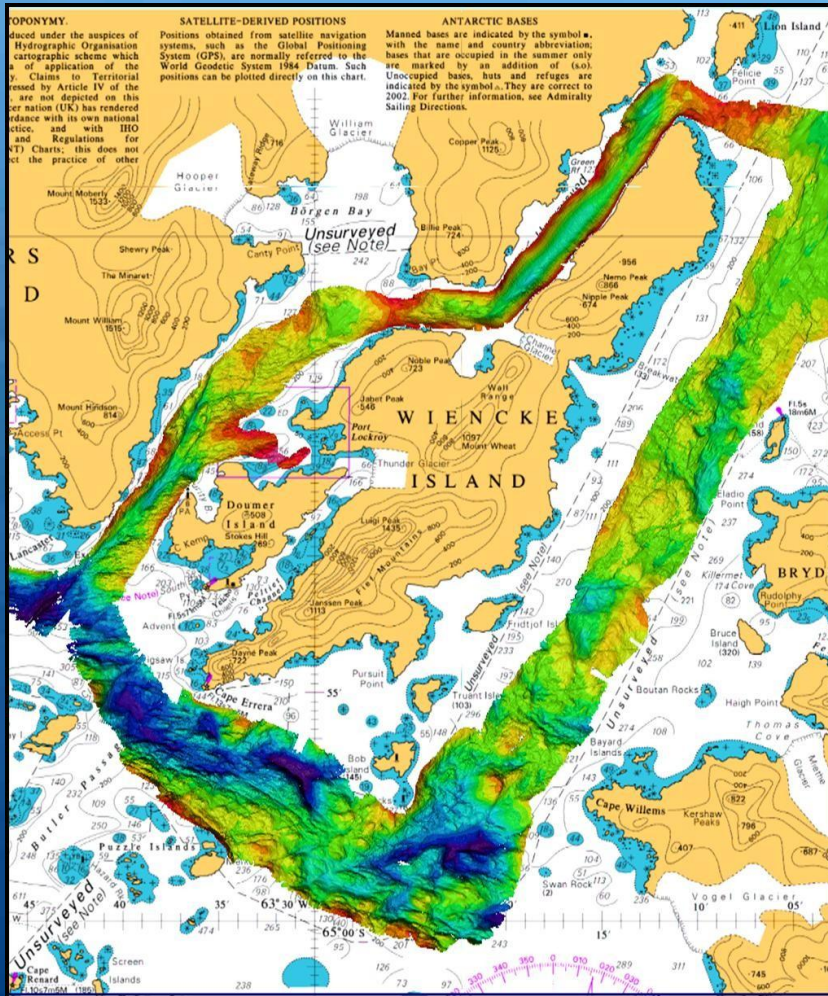
MUD MAPS

Booth Island



British Depot

SWATH CHART



446 A NOT TO BE USED FOR NAVIGATION

ISSUES FOR ATCM TO CONSIDER

Firstly – Persuade authorities of need for improved surveying

Secondly – Improved ATCM/HCA coordination

Thirdly – Data / Embarking team



SUMMARY

- Unique weather conditions

- Risk reduction

- Distance from SAR

- Multibeam data

- Pollution

- Official charts

- Increase in tourism

- Swath charts

- Nature of seabed

- Joined up approach

- Surveying – amount and standard

