

COMNAP XXI - PUNTA ARENAS

RISKS IN ANTARCTIC OPERATIONS: HYDROGRAPHIC & CARTOGRAPHIC CONSIDERATIONS

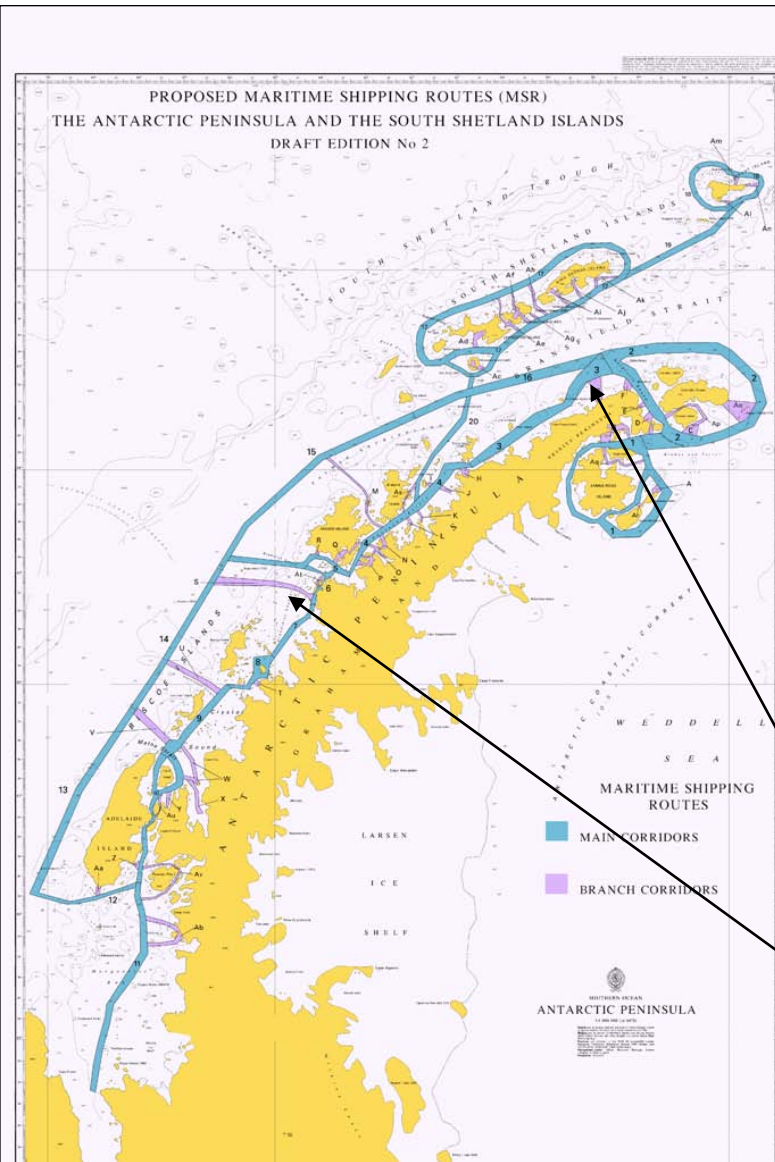


Rear Admiral Ian Moncrieff – The UK National Hydrographer

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
- 2600 passengers
- 10 metre draft
- zero ice capability
- 65 degrees south!



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MV EXPLORER



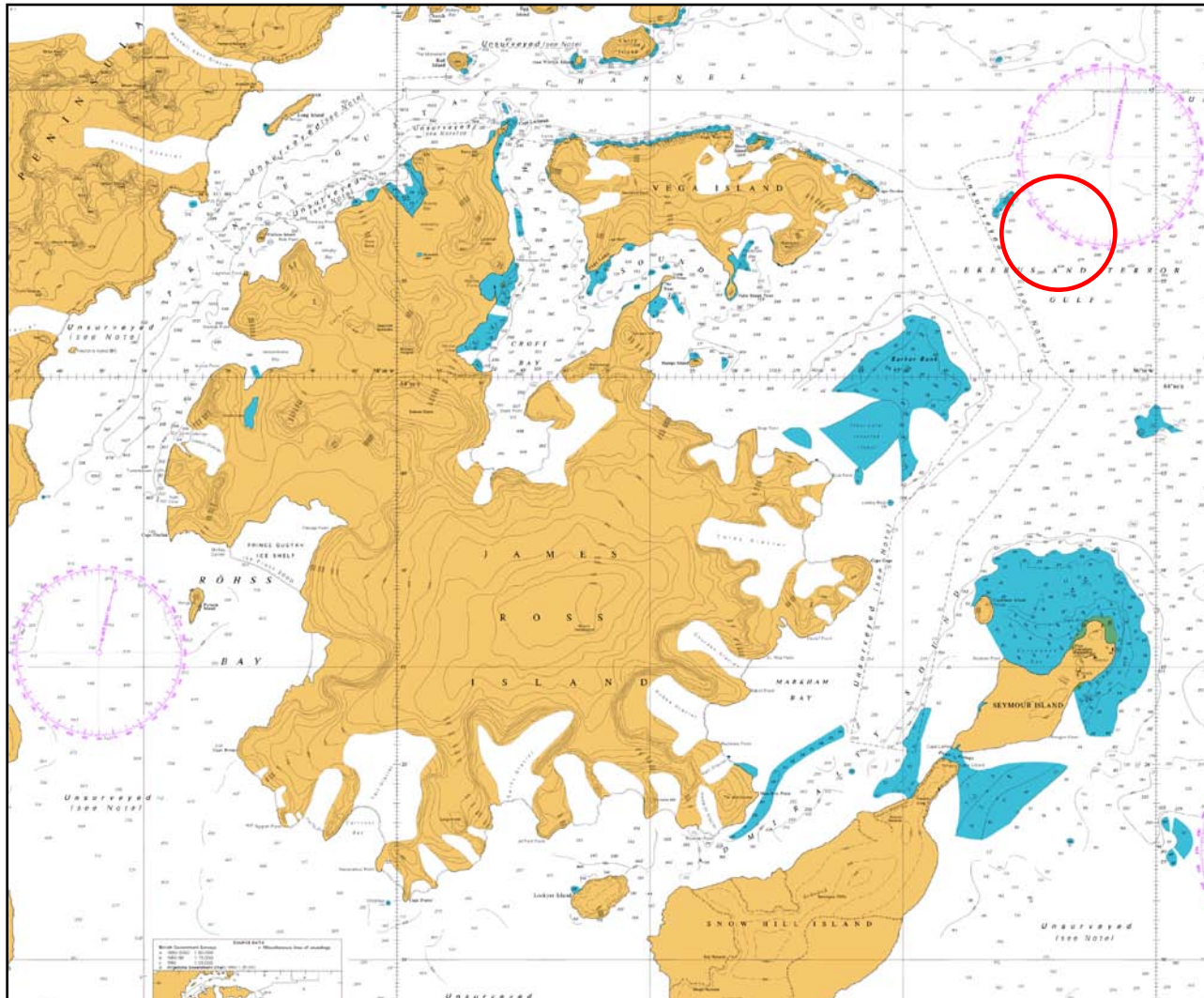
NORDNORGE



USHUAIA

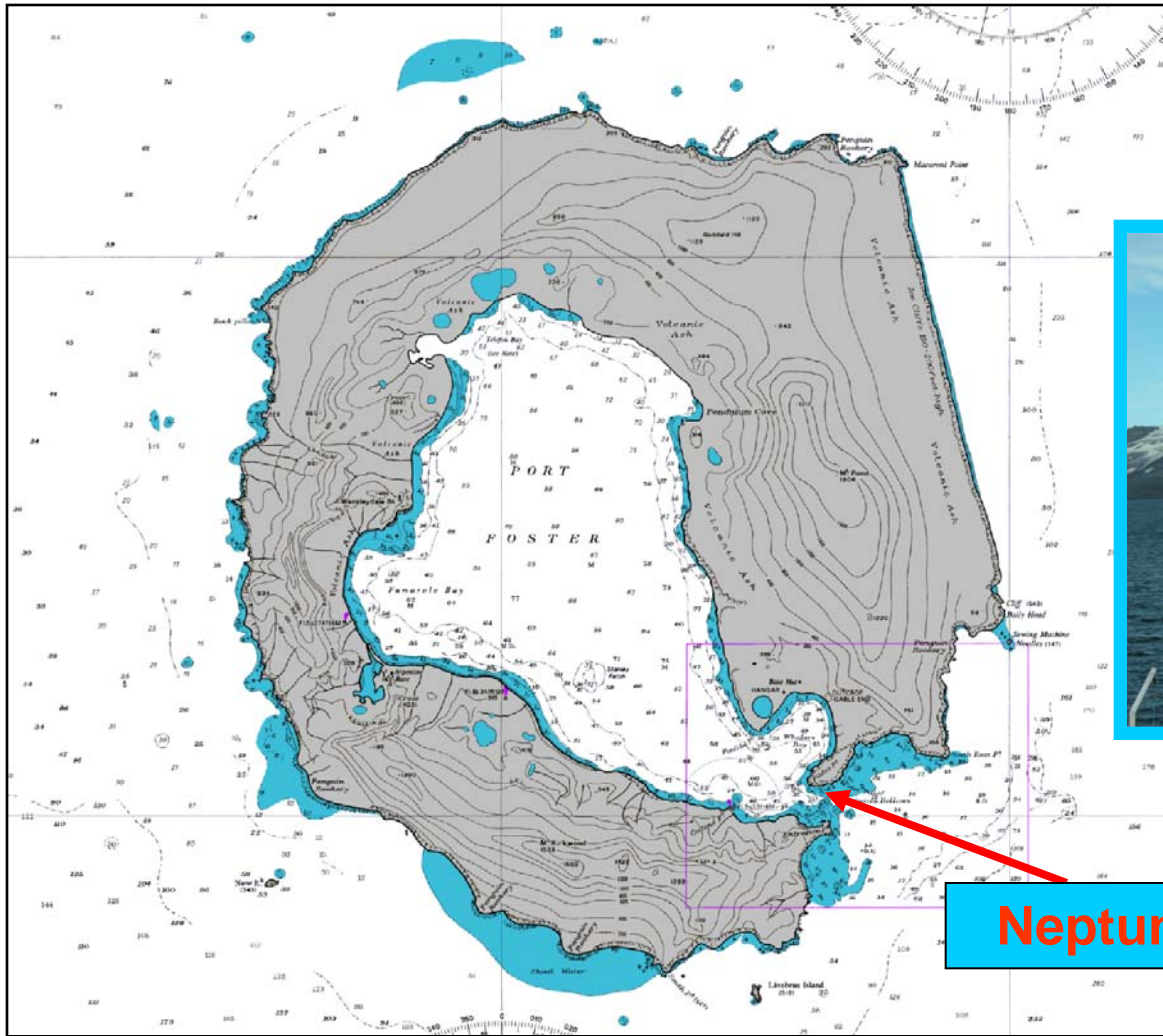


JAMES ROSS ISLAND



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DECEPTION ISLAND

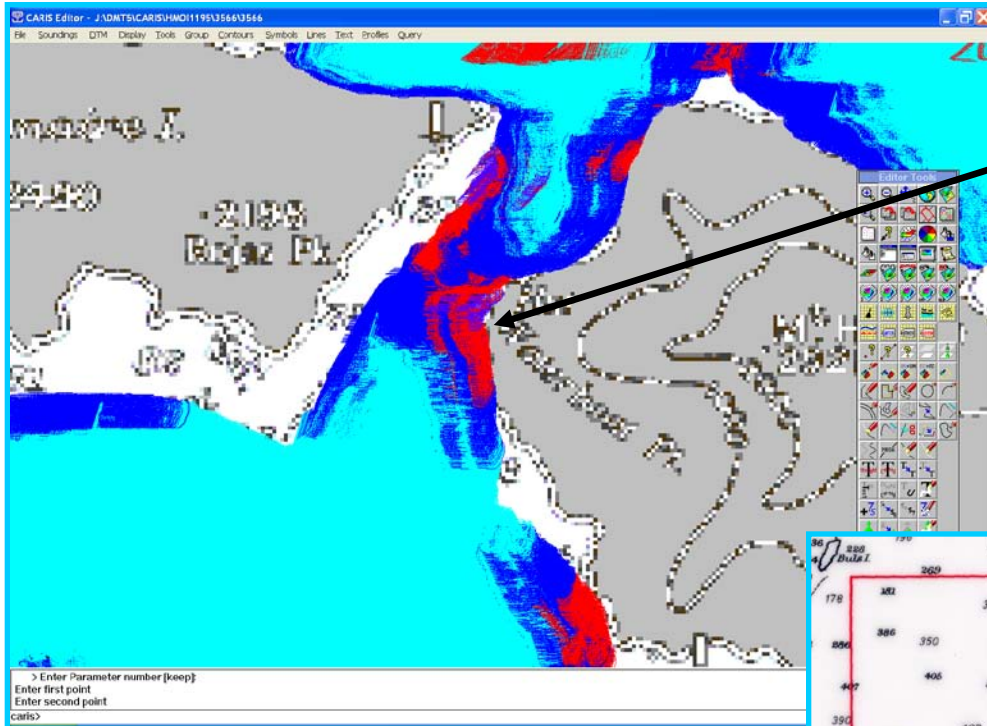


Neptune's Bellows



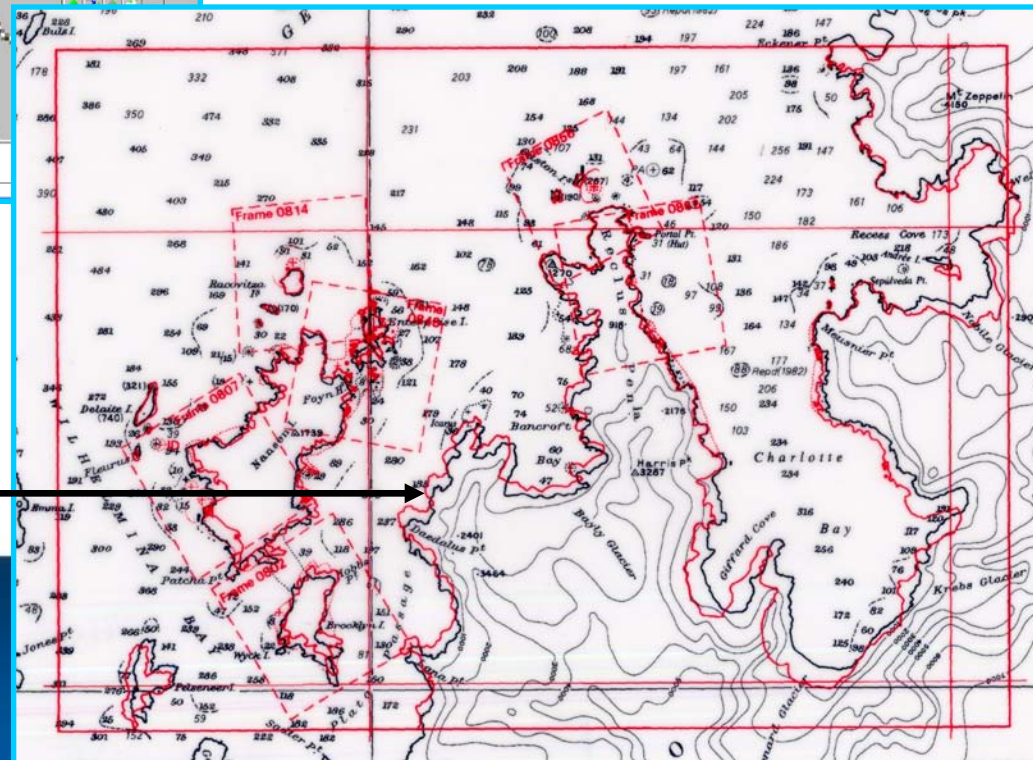
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UNDETERMINED DATUM



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

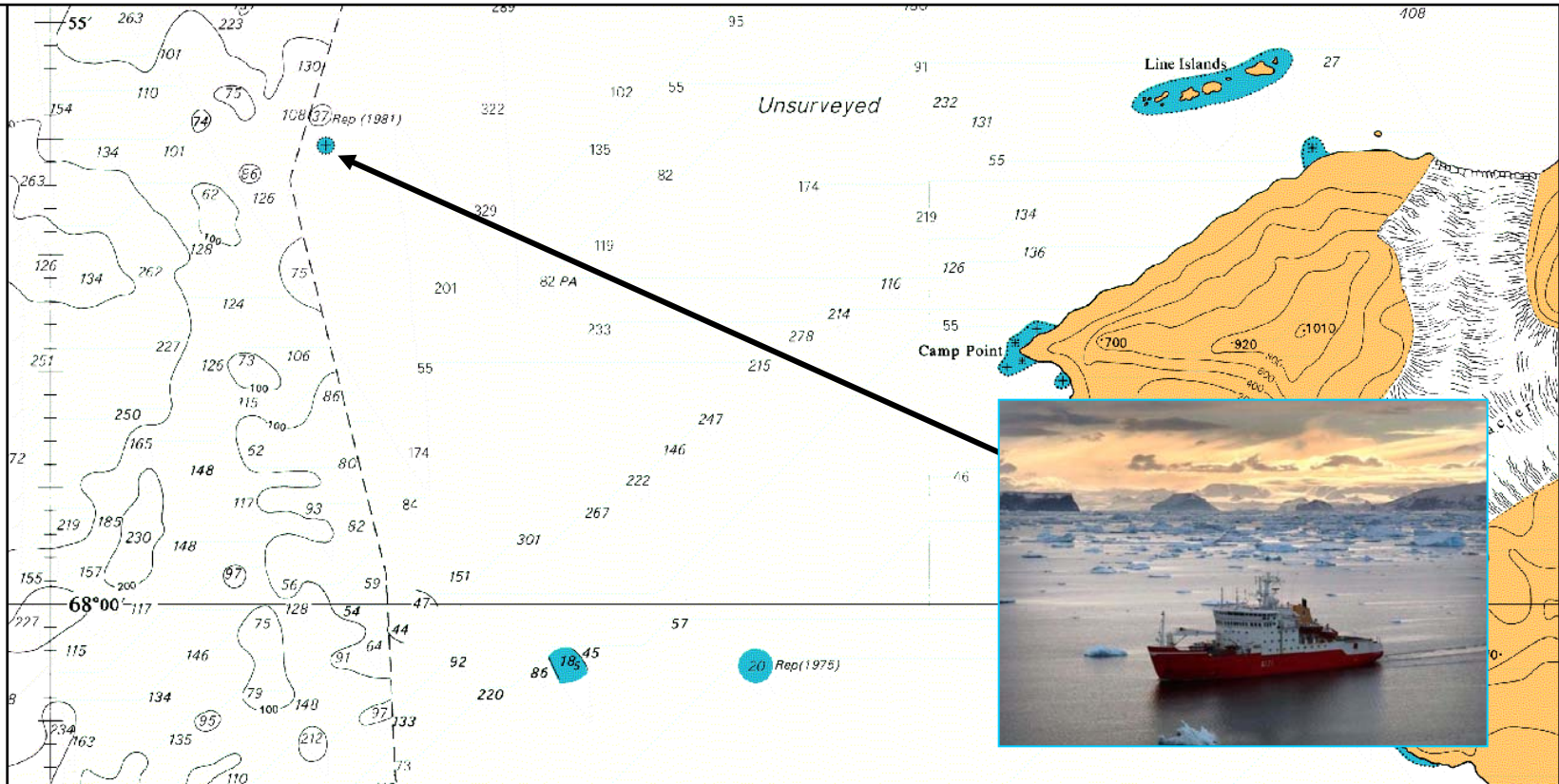


827* ANTARCTICA — Graham Land — Marguerite Bay — Pourquoi Pas Island Southwards — Rock; Depth

Insert ⊕ (charts 4024 and 4063, +)
Delete depth 20fm enclosed by 20fm contour, Repd
depth 37m enclosed by ○

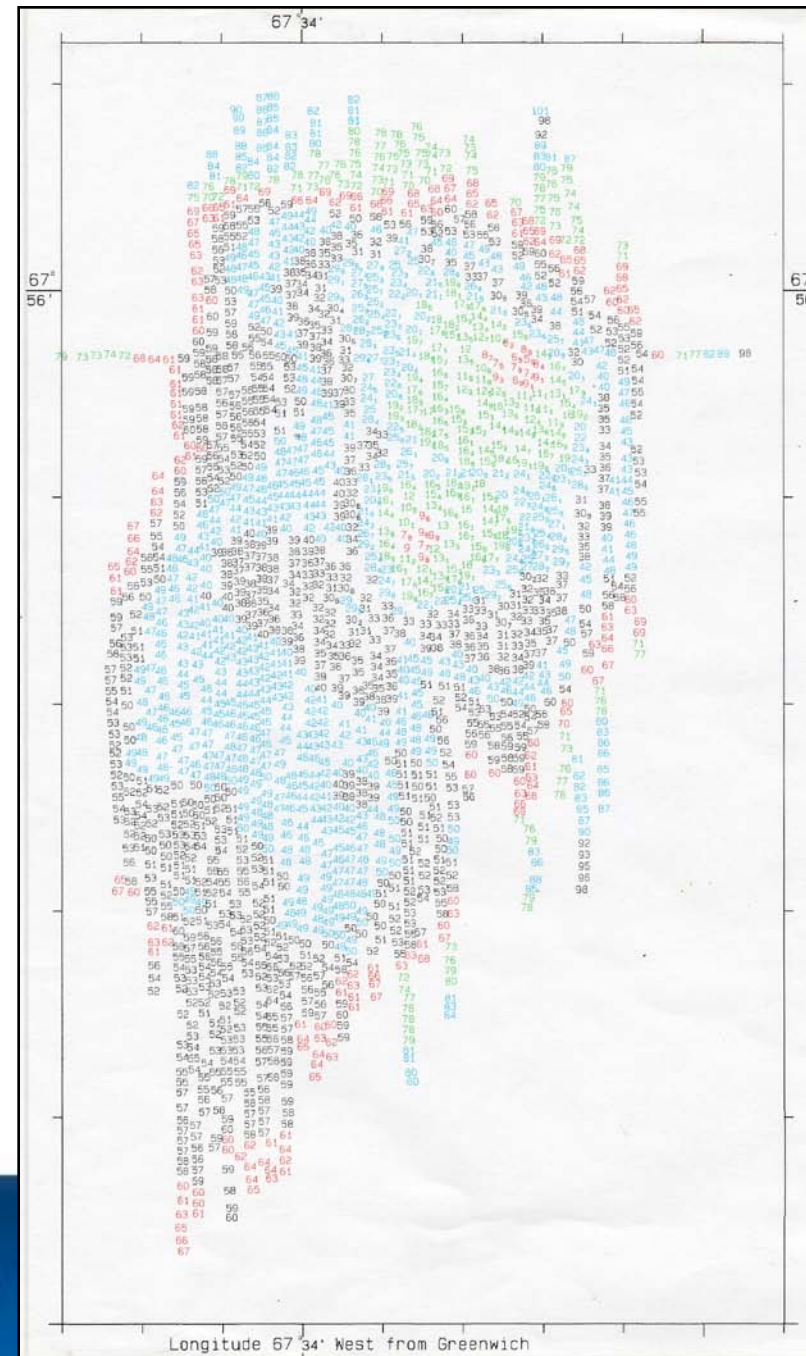
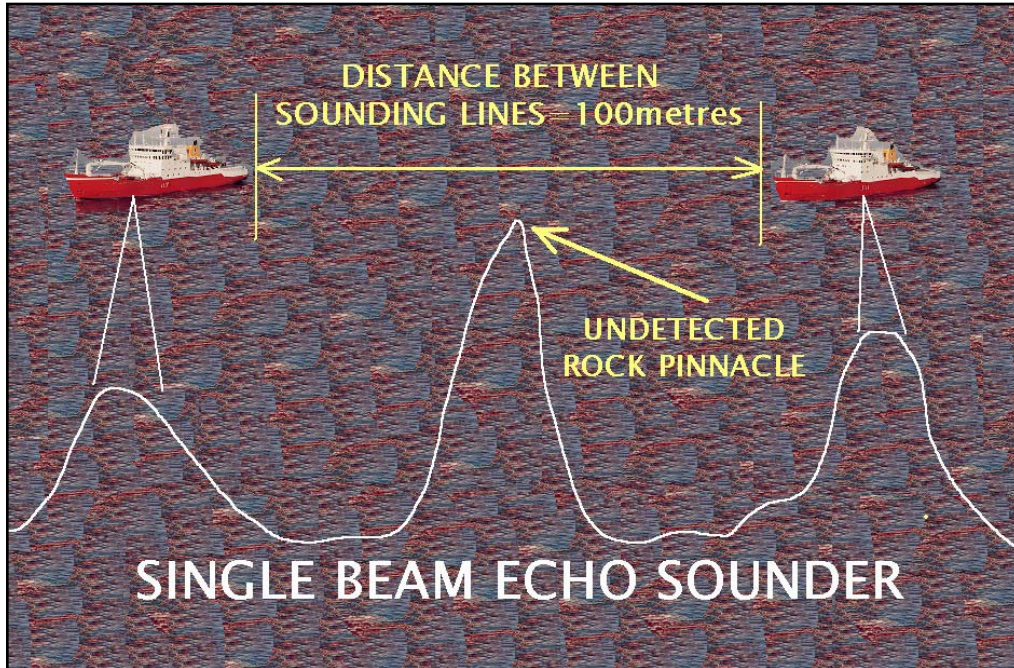
(a) 67° 56'·03S., 67° 33'·71W.
(b) close NW. of (a) above
(c) close W. of (a) above

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).

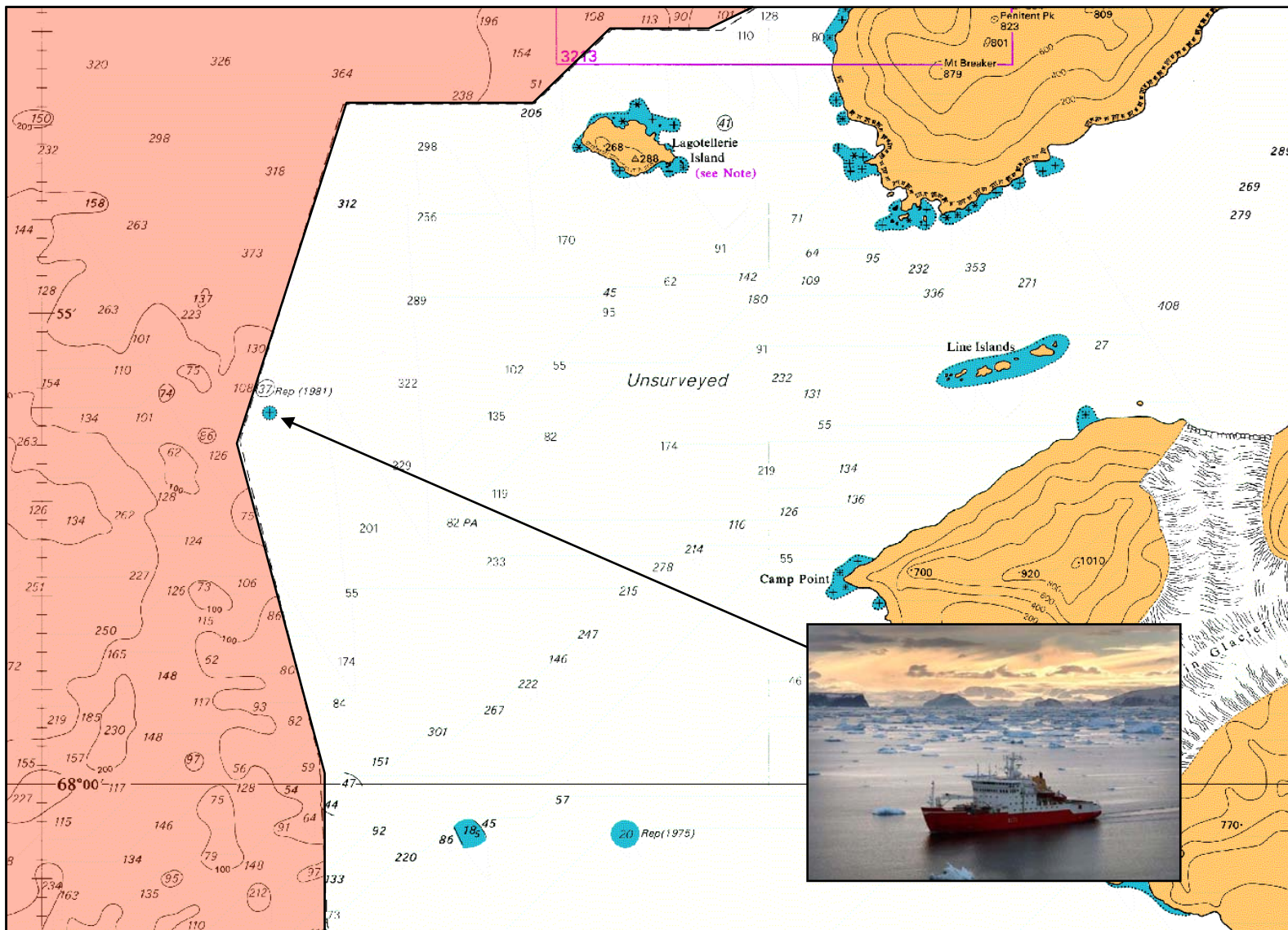


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BATHYMETRIC SHEET - PINNACLES

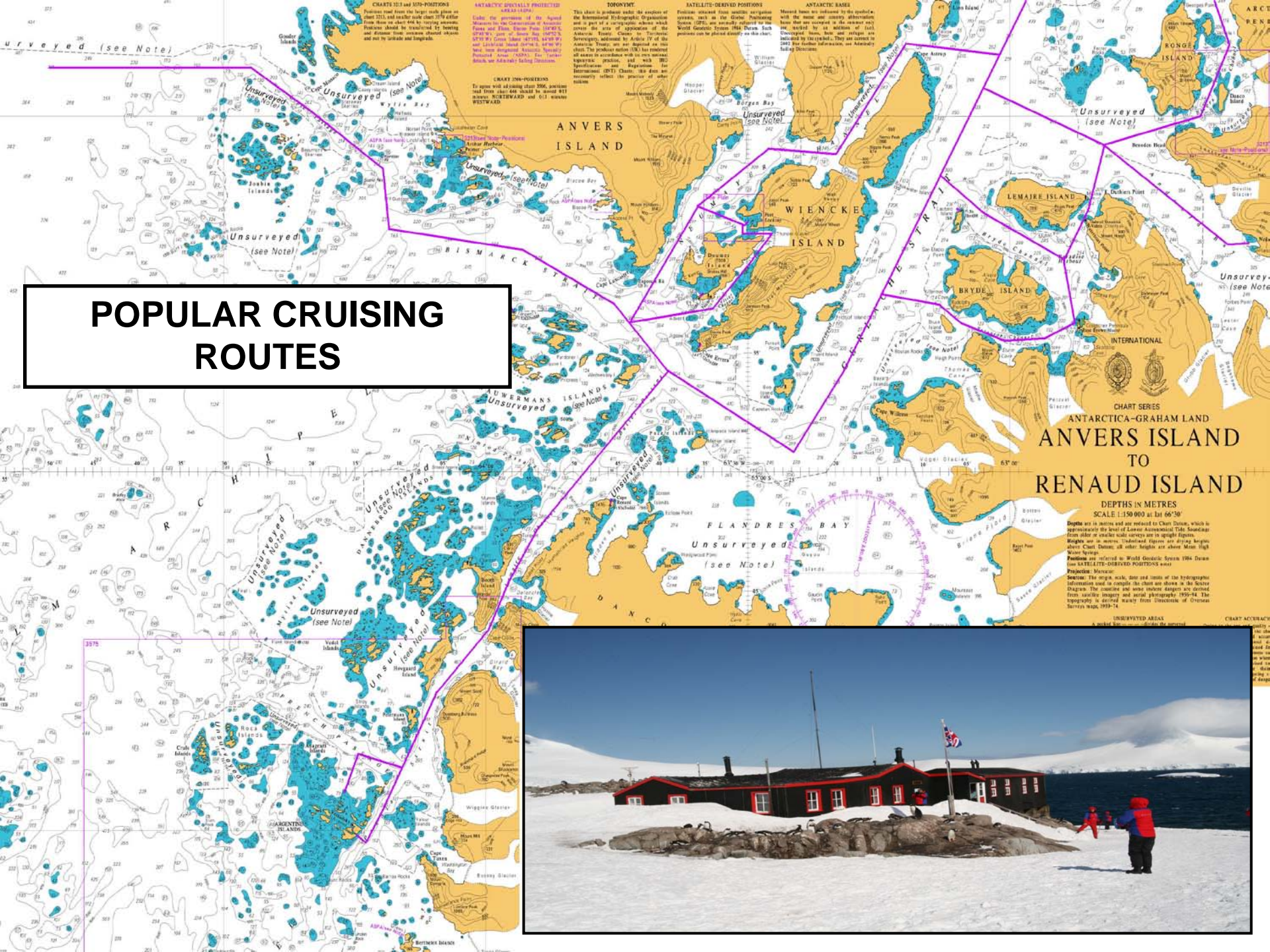


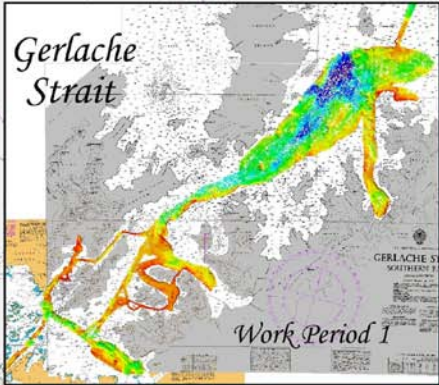
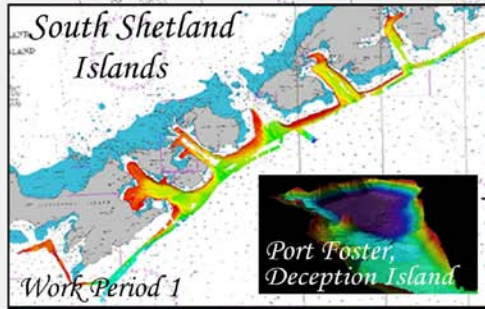
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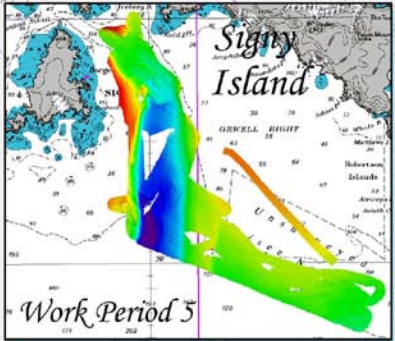
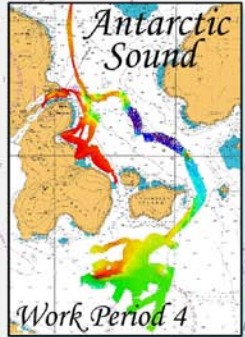
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POPULAR CRUISING ROUTES

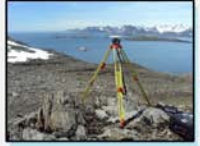




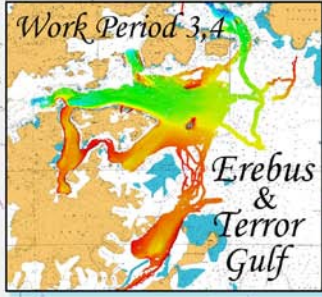
Total distance of logged data this season 15,418 km



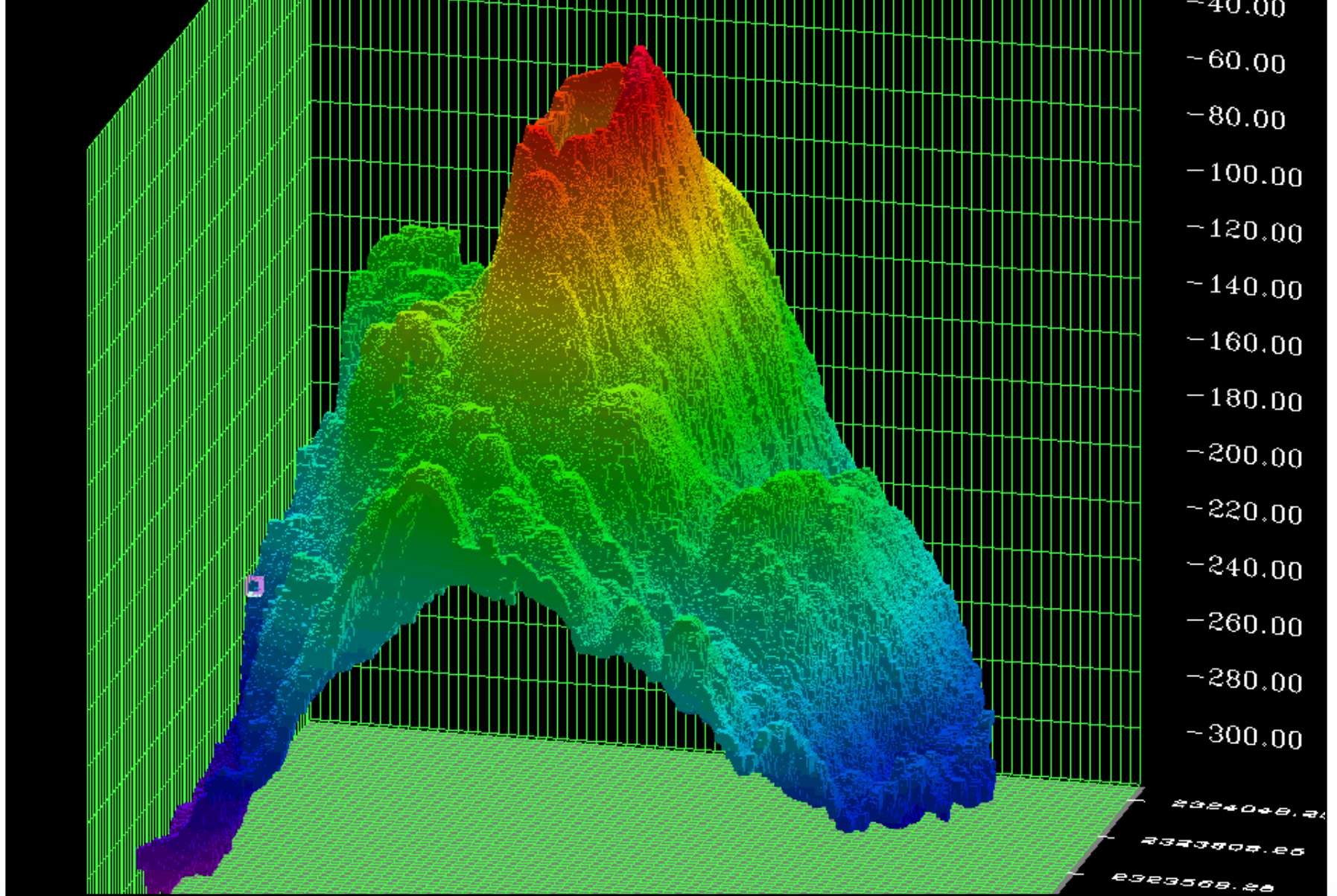
Total of 27 days detached boat camps



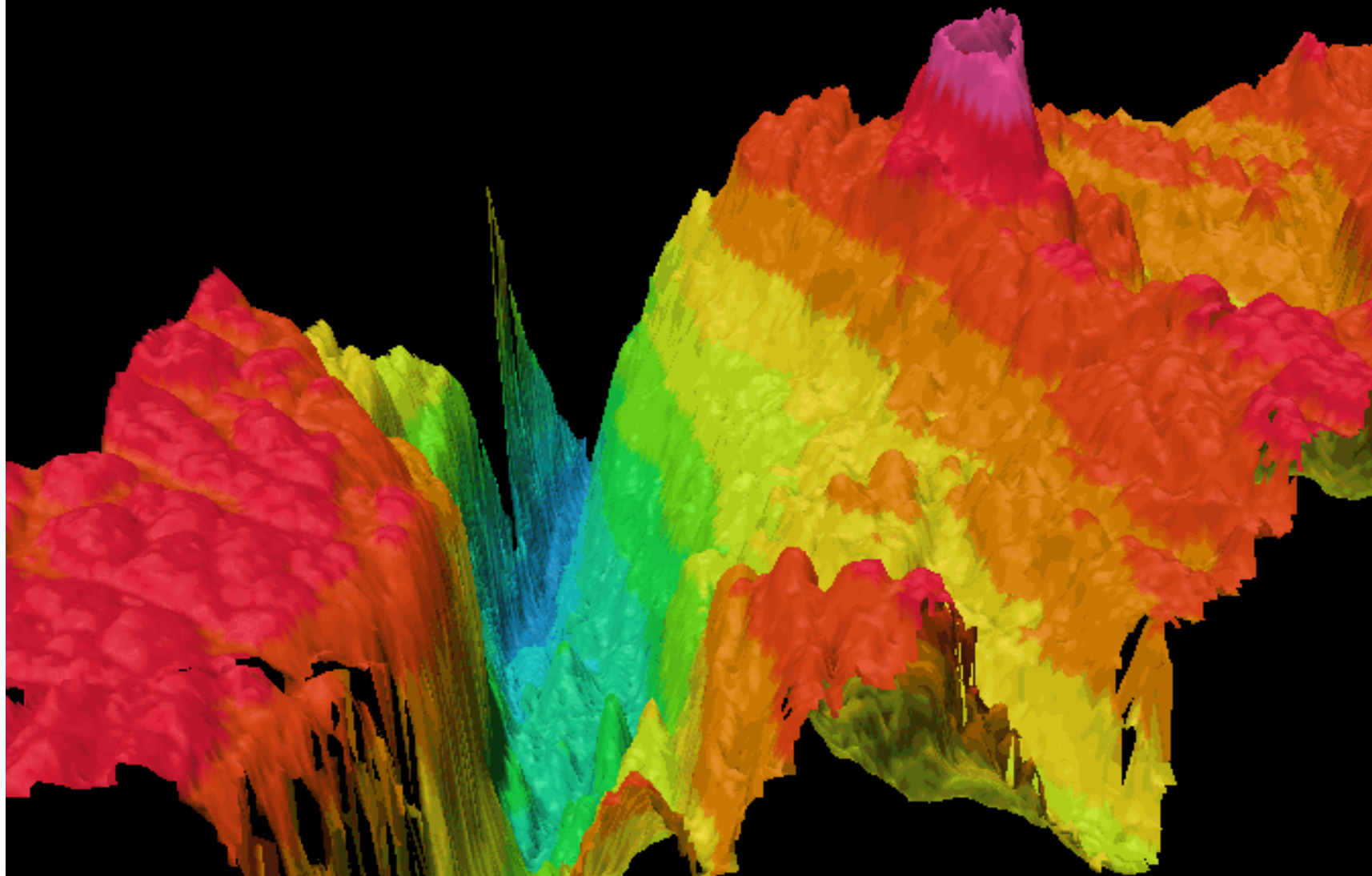
53 Geodetic Sites established during 06/07 Campaign



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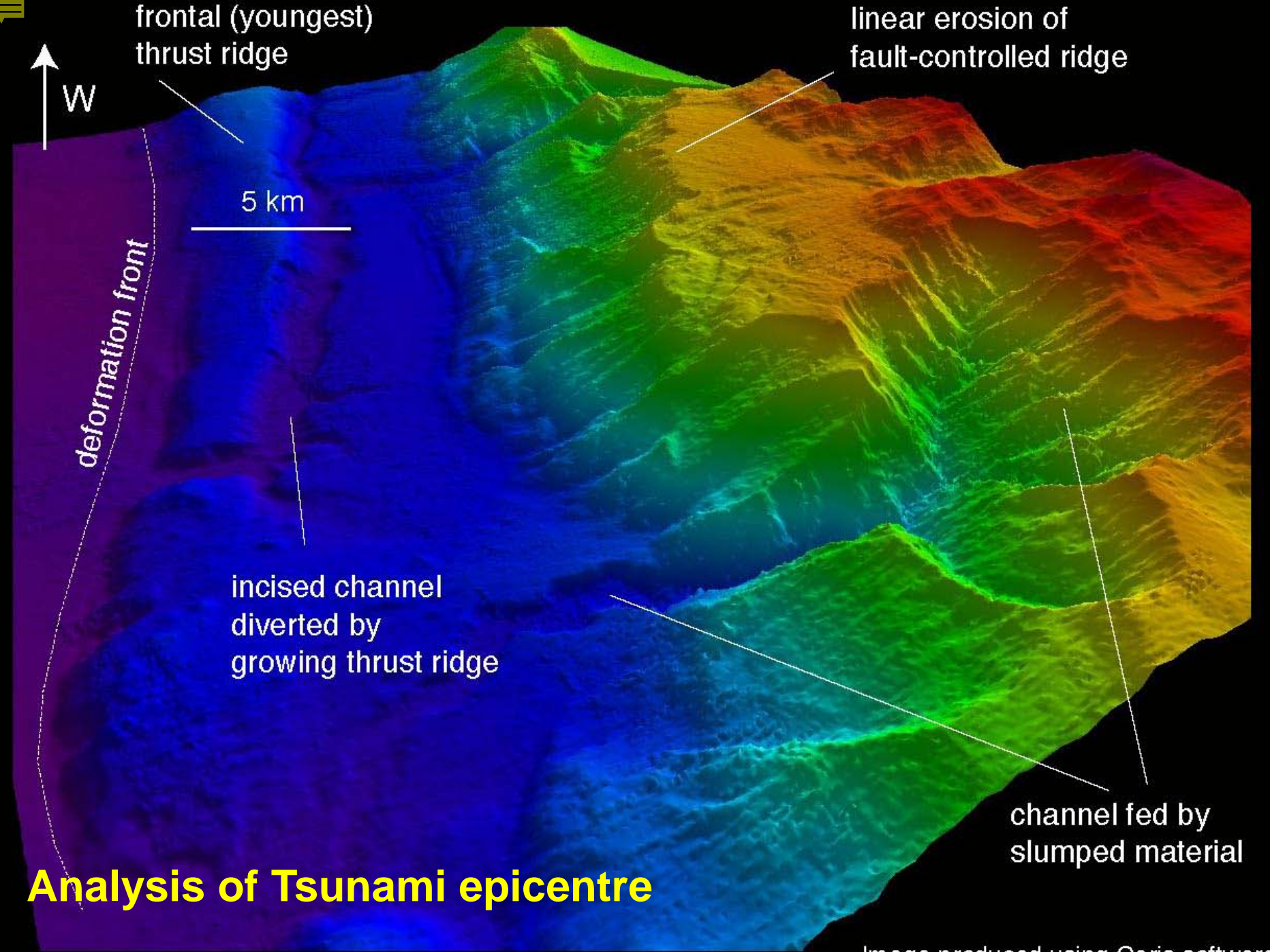


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Source: SeaZone Solutions: 2006

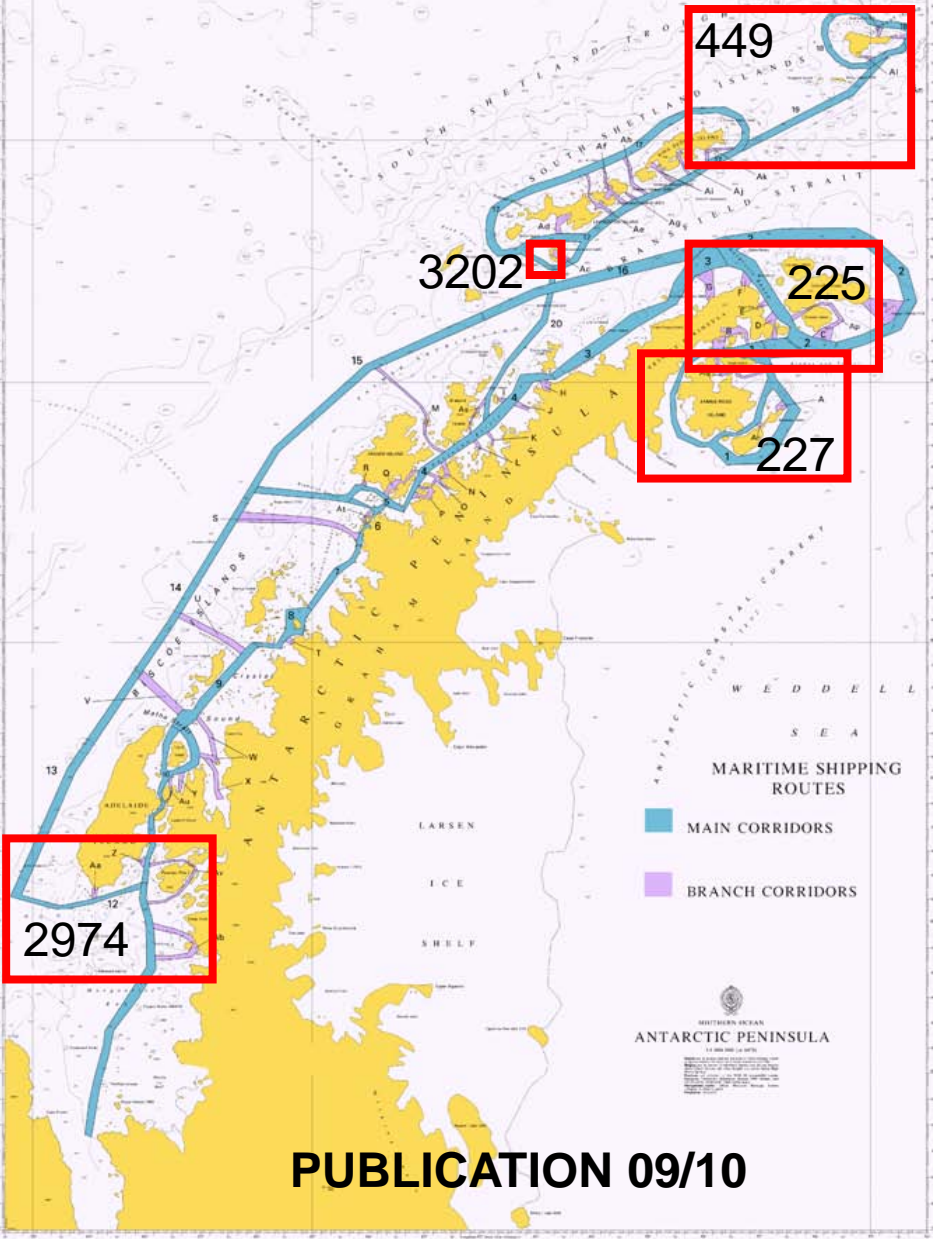
Surface Model of Eastern Solent based on Digital Survey Bathymetry



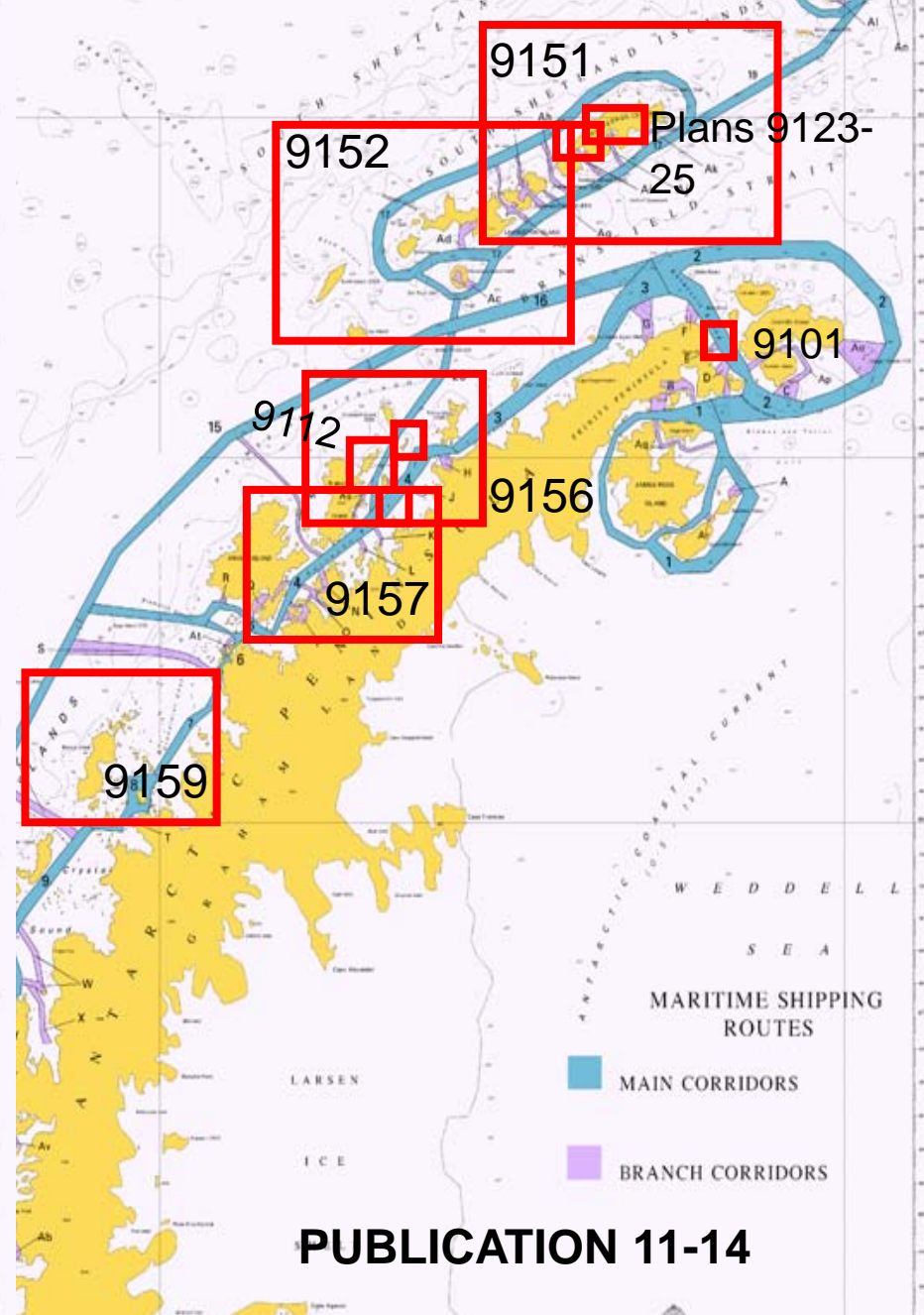
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UKHO 5 YEAR CHART PRODUCTION SCHEDULE

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



PUBLICATION 09/10



PUBLICATION 11-14

ISSUES FOR COMNAP TO CONSIDER

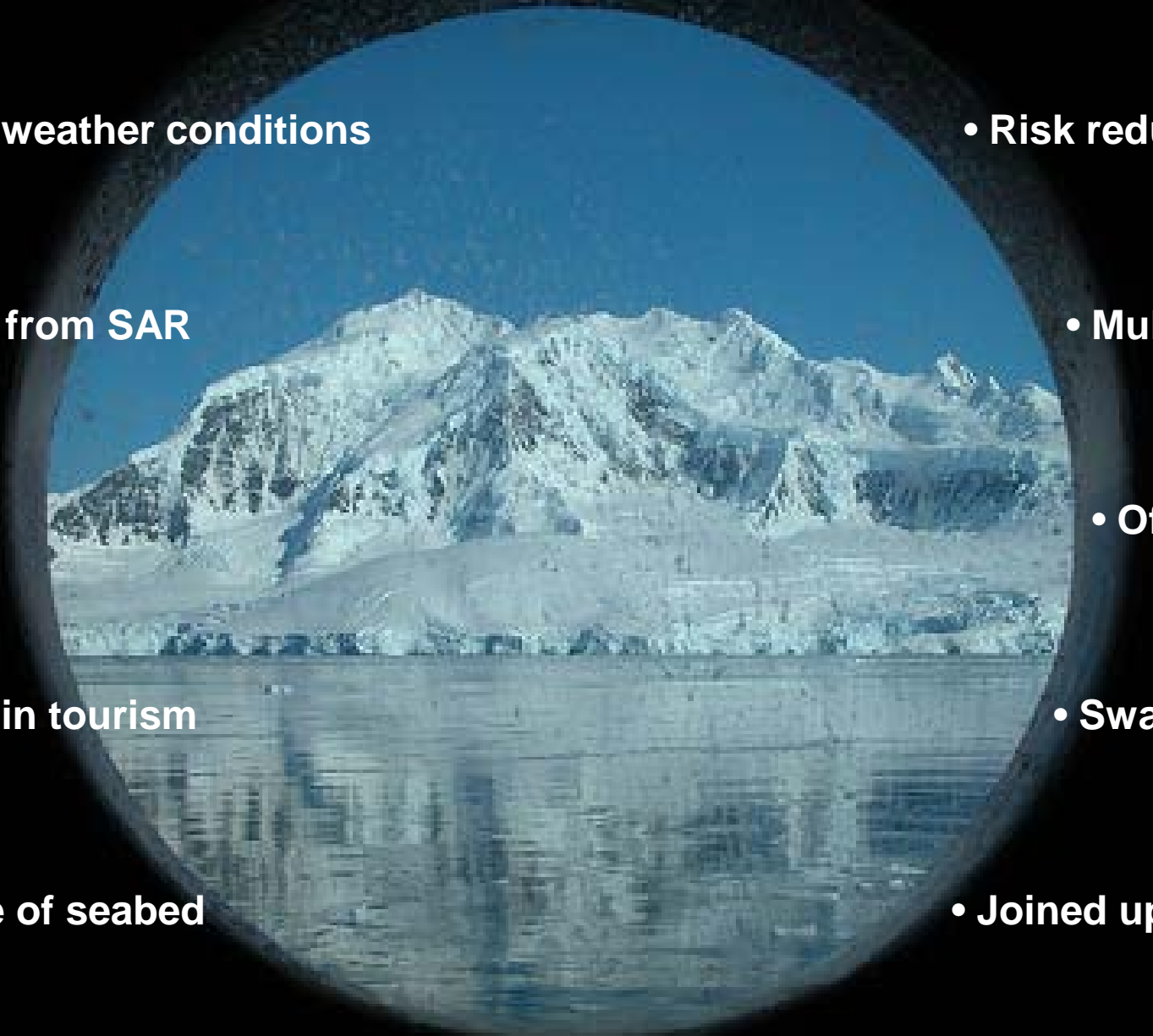
FIRSTLY – Persuade authorities of need for improved surveying

SECONDLY – Improved COMNAP/HCA coordination

THIRDLY – Data / Embarking team / Rendering data from ships or standard proforma to IHB



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