



Hydrographic Commission on Antarctica

National Report by

ESPAÑA

SPAIN

Survey and charting progress in Antarctica since last meeting (December 2013)

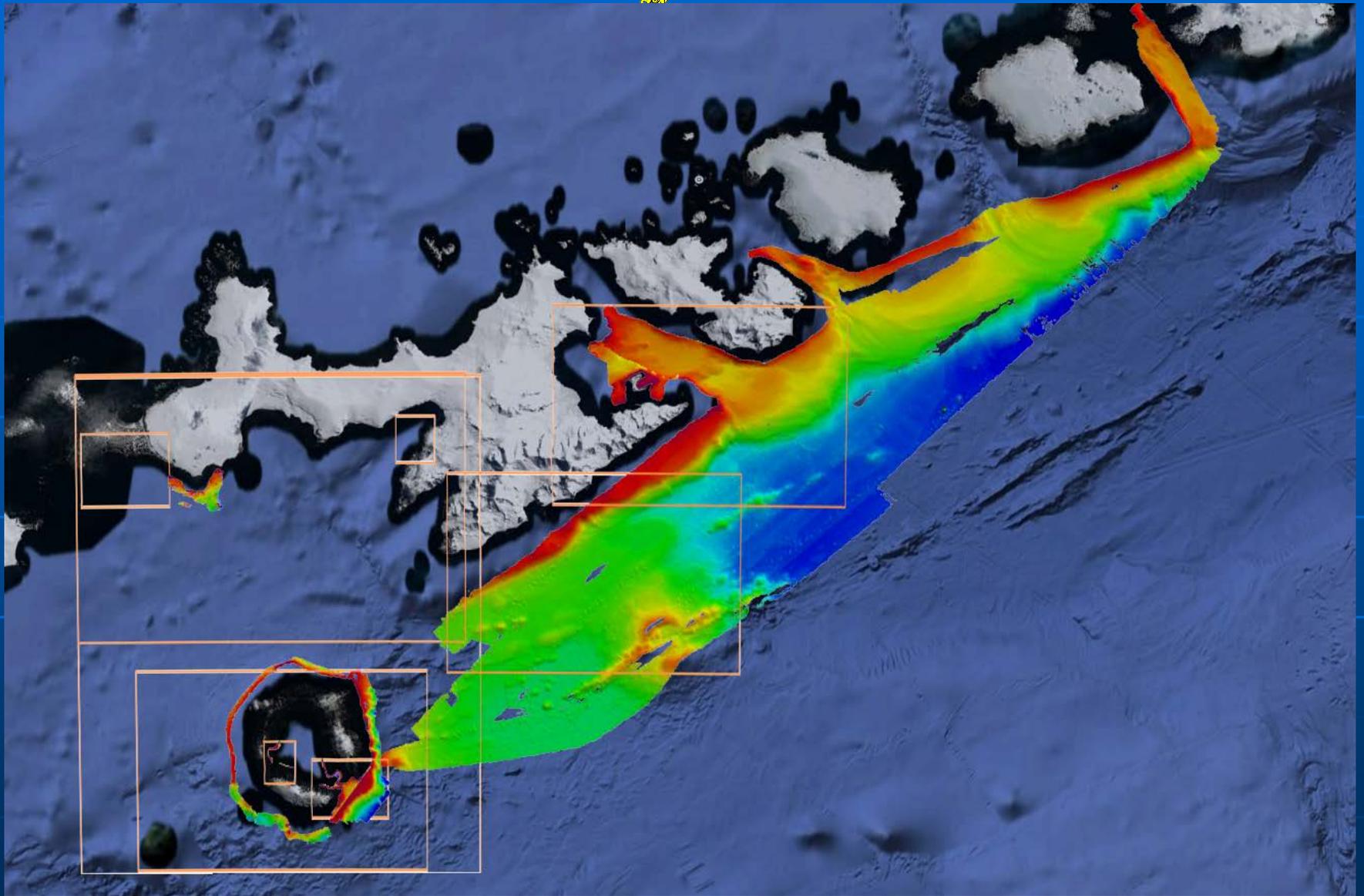
- ✦ Since last meeting: A partial systematic hydrographic survey has been conducted in January 2016 by Spain.
- ✦ This survey covered some remaining areas with no multibeam data corresponding to Spanish Chart 700 (Costa Sur de la isla de Livingston e Isla Decepción. Islas Shetland del Sur, Estrecho de Bransfield 1:60,000)



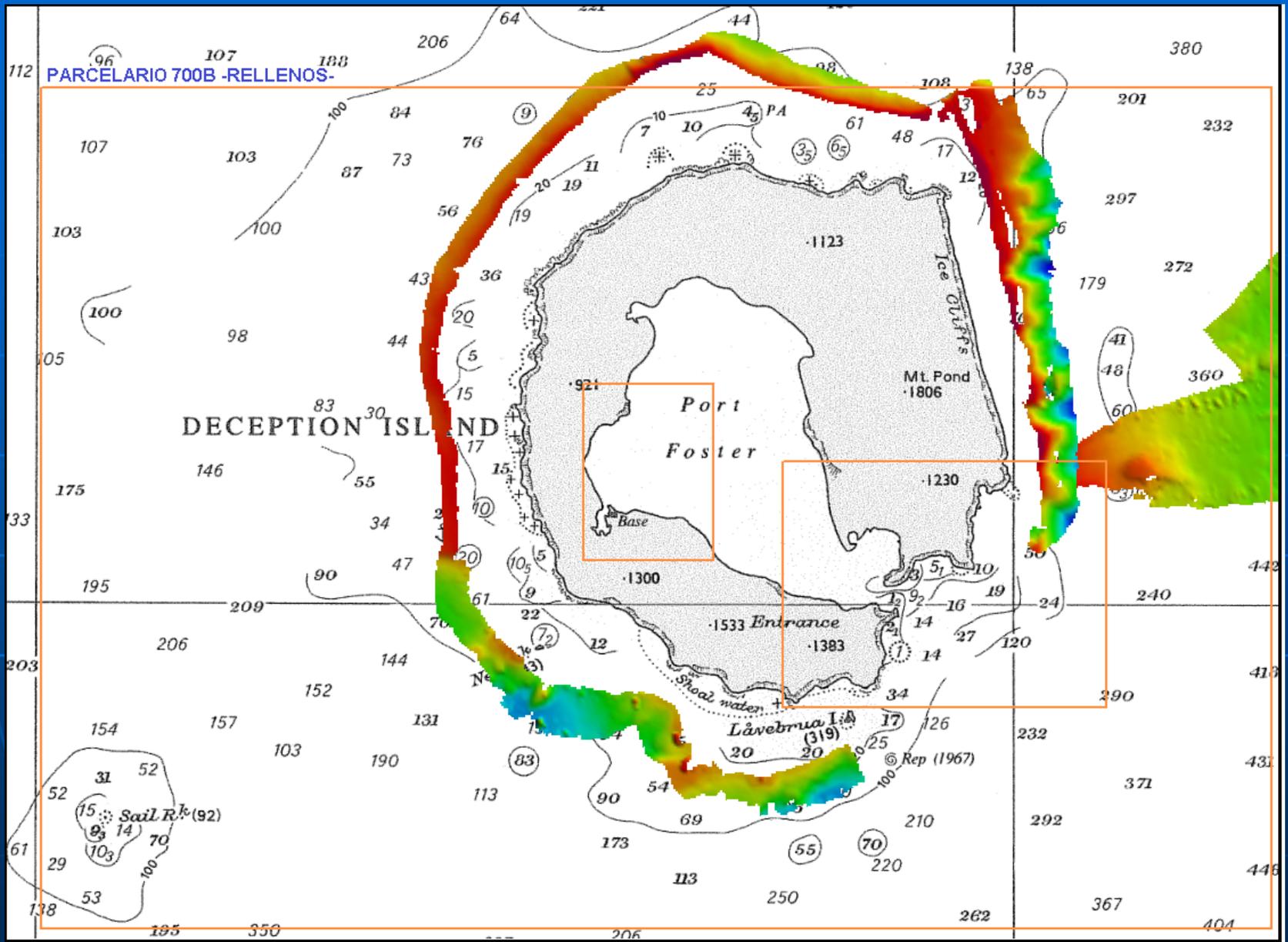
Survey and charting progress in Antarctica since last meeting (December 2013)

- ✦ This survey was performed by an Spanish Hydrographic Office Team embarked onboard Spanish Oceanographic Research Vessel "Hespérides". A RHIB fitted with Geoswath 250+ interferometric echosounder was employed in shallow water areas.
- ✦ Other opportunistic bathymetric surveys were also performed in the area during the same cruise, mostly in Bransfield Strait and Moon Bay.
- ✦ An opportunistic in-transit survey (for Maritime Shipping Routes) was performed when proceeding from Deception Island to Chilean Yelcho Antarctic Base throughout Gerlache Strait.

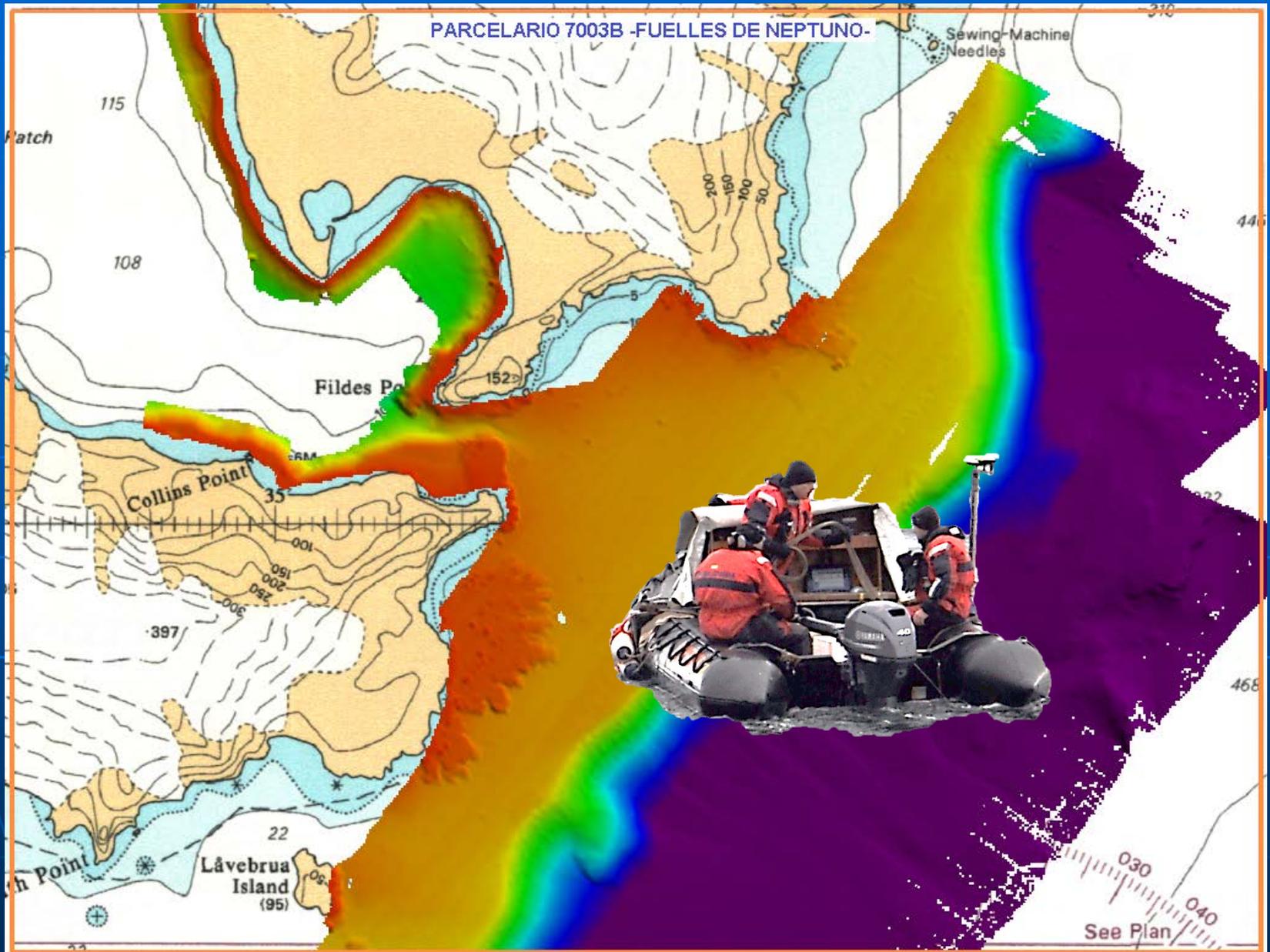




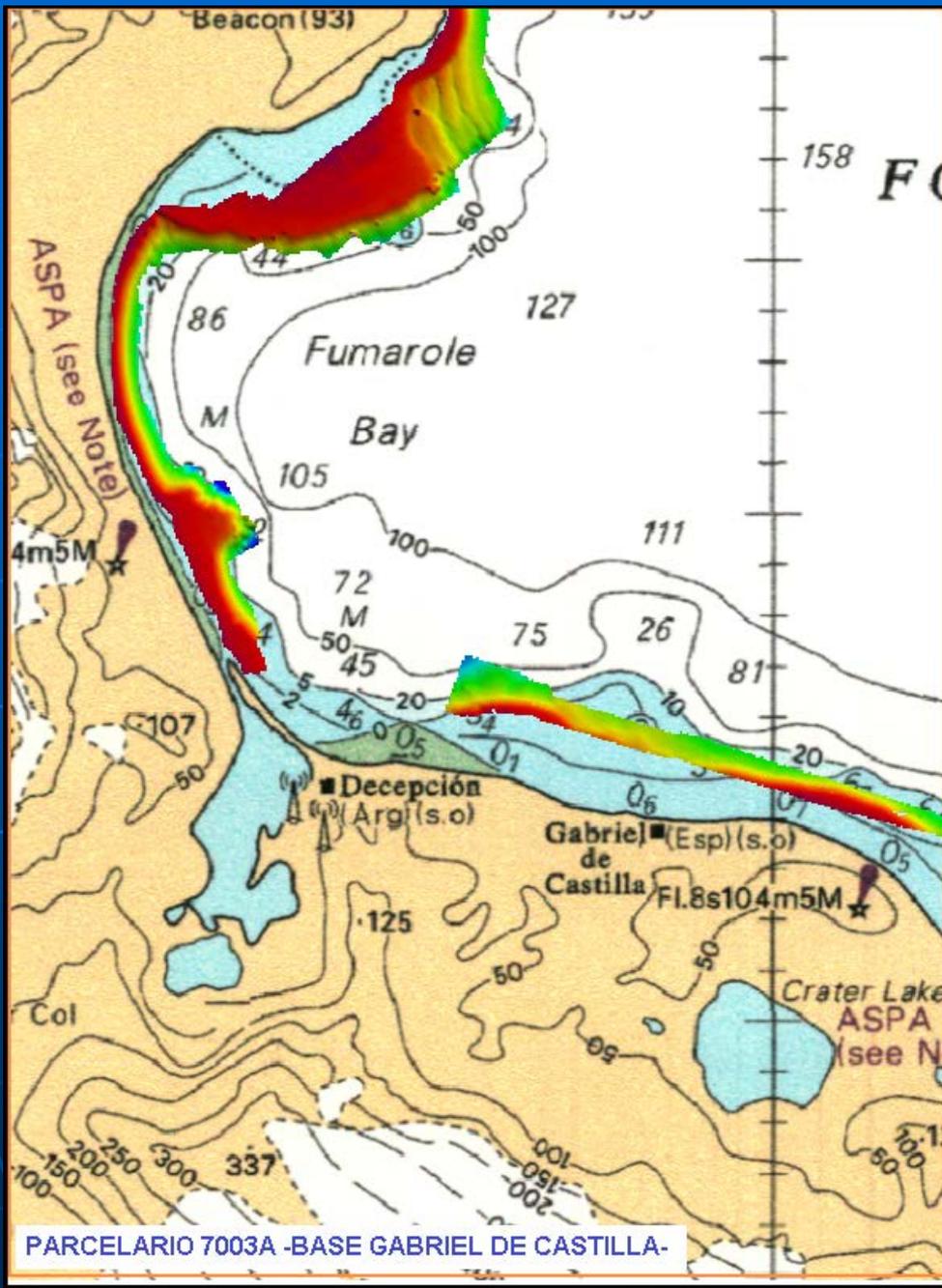
General view of January's 2016 Survey



Detail of Bathymetric Survey Around Deception Island



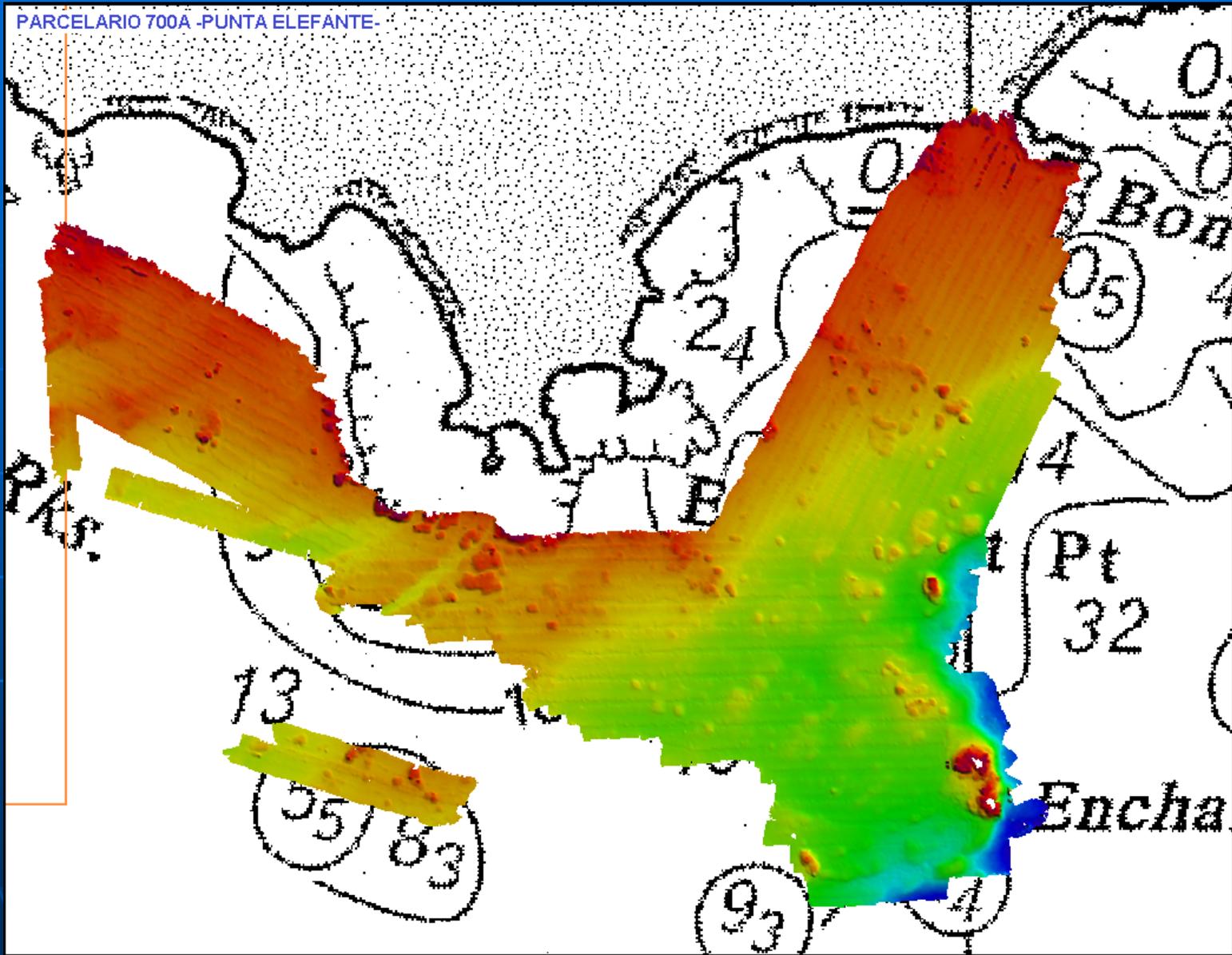
Survey of the entrance to Deception Island through Fuelles de Neptuno



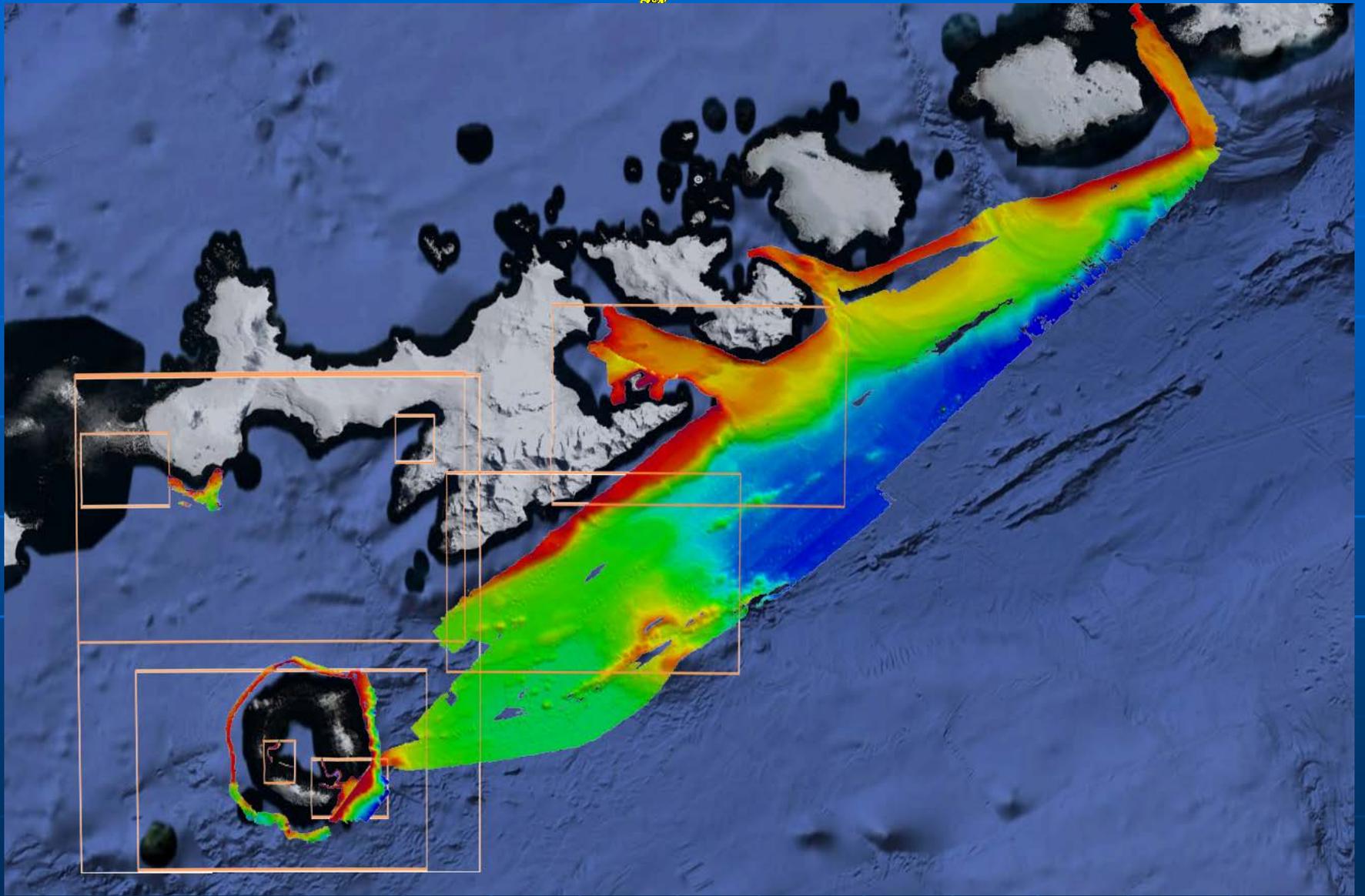
Soundings inside
Deception Island
close to Spanish
Antarctic Base
"Gabriel de Castilla"

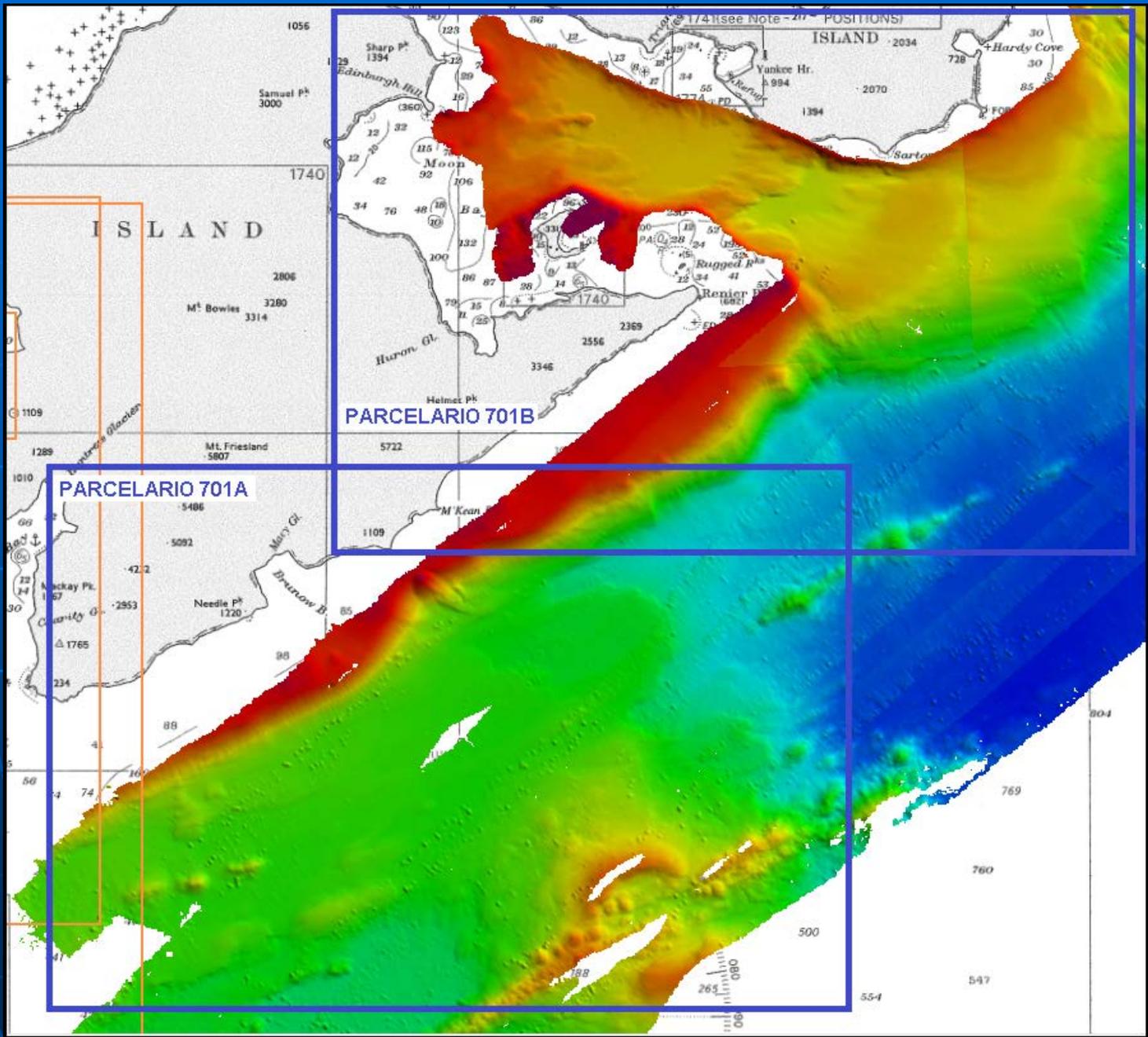
PARCELARIO 7003A -BASE GABRIEL DE CASTILLA-

PARCELARIO 700A -PUNTA ELEFANTE-

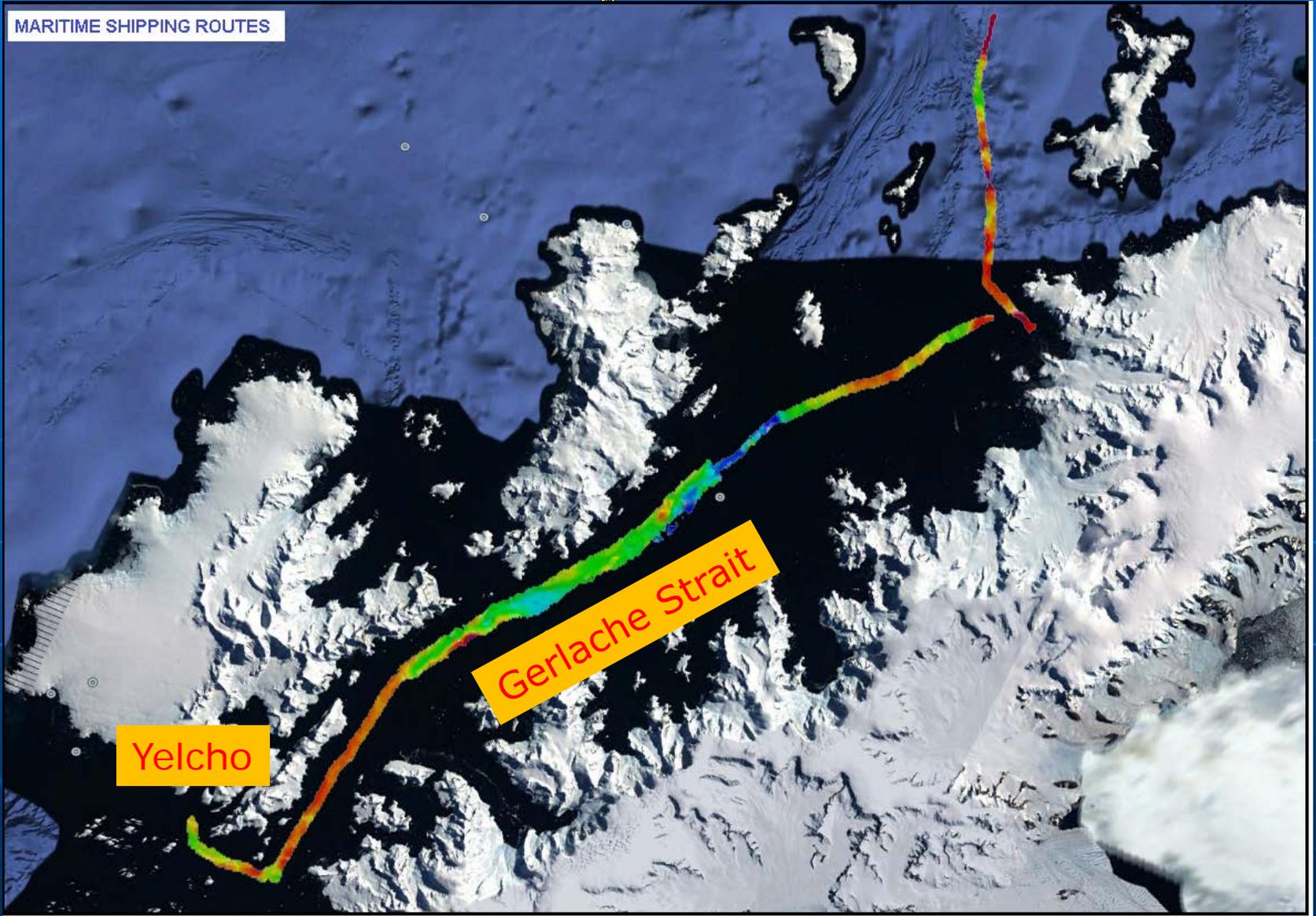


Detail of the survey close to Punta Elefante





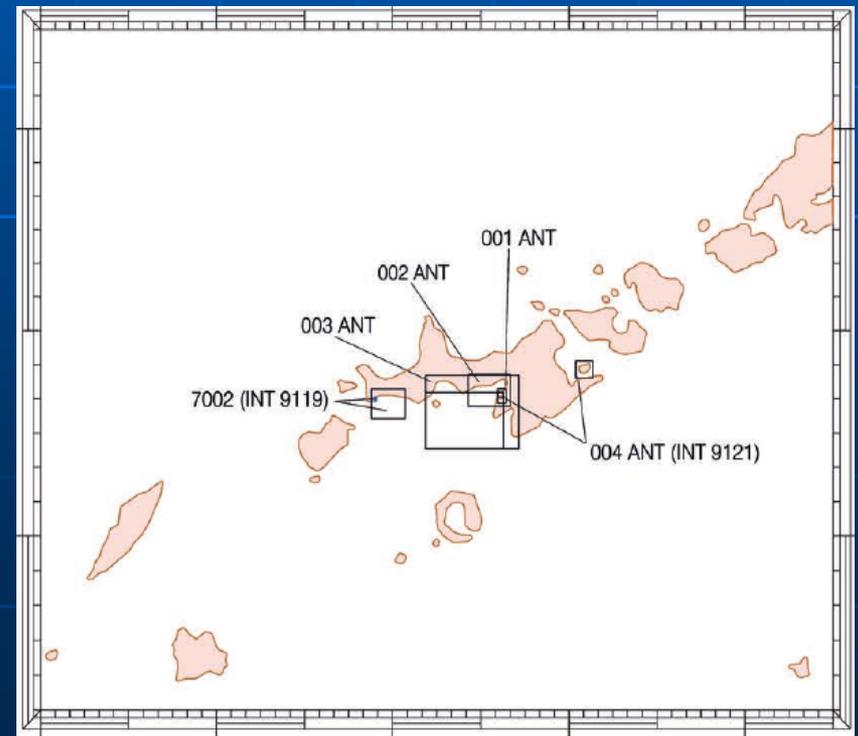
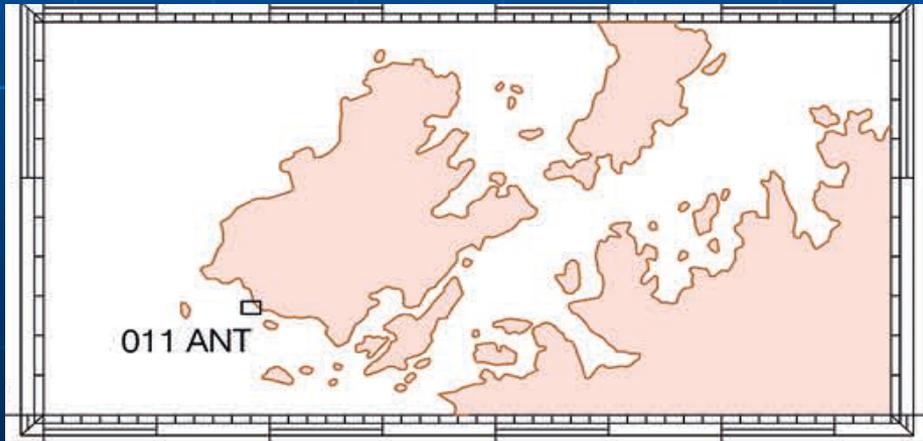
MARITIME SHIPPING ROUTES



Surveying the Maritime Shipping routes

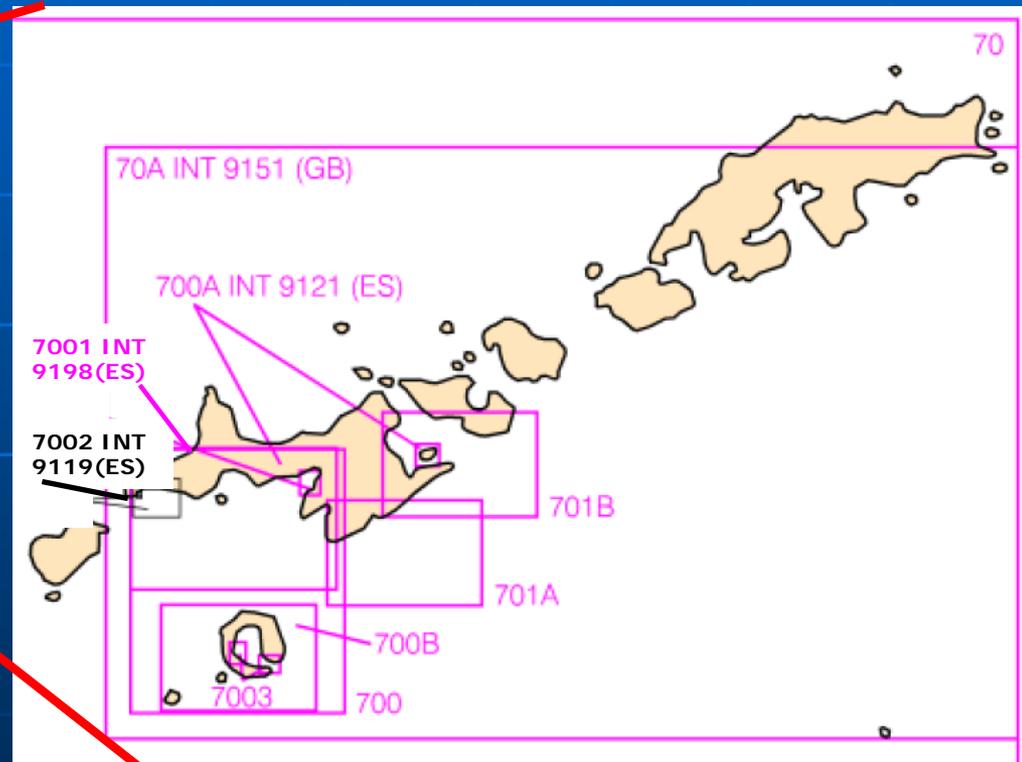
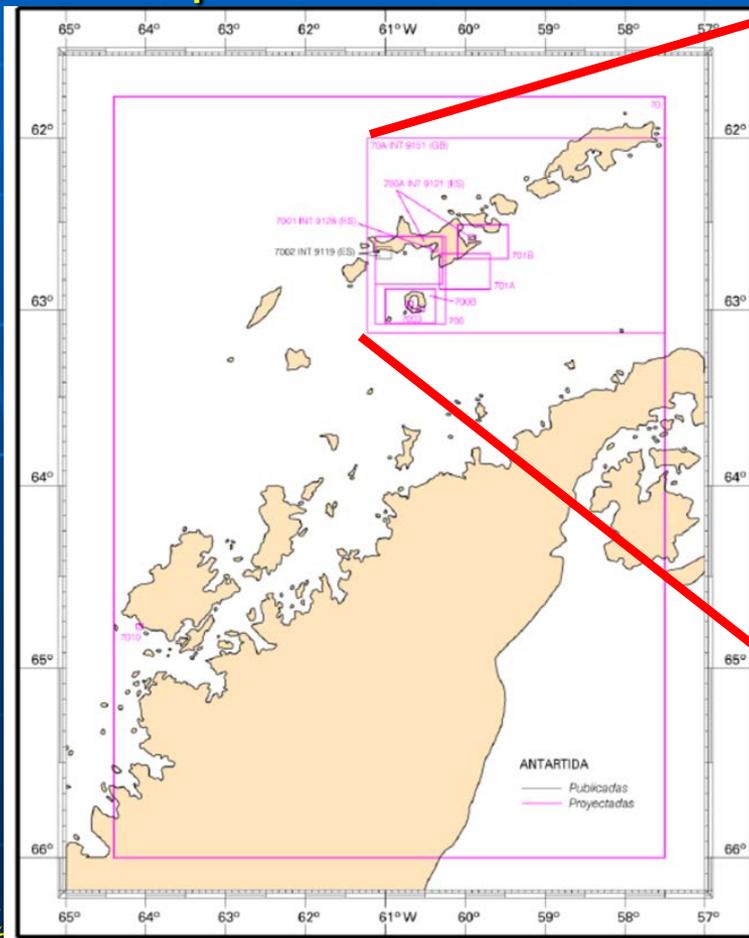
Charting progress in Antarctica

- ✦ Six Charts have already been published, two of which are International Charts.
- ✦ The Spanish Paper Chart Scheme contains other seven additional charts, one of which is an International Chart.



Charting progress in Antarctica since last meeting (December 2013)

- ✦ Spanish Paper Chart Scheme for Antarctica has been updated.



Charting progress in Antarctica since last meeting (December 2013)

★ There are plans to replace five of them with two new ones.

General
order
intentions
publication

5th

4th

3th

1st

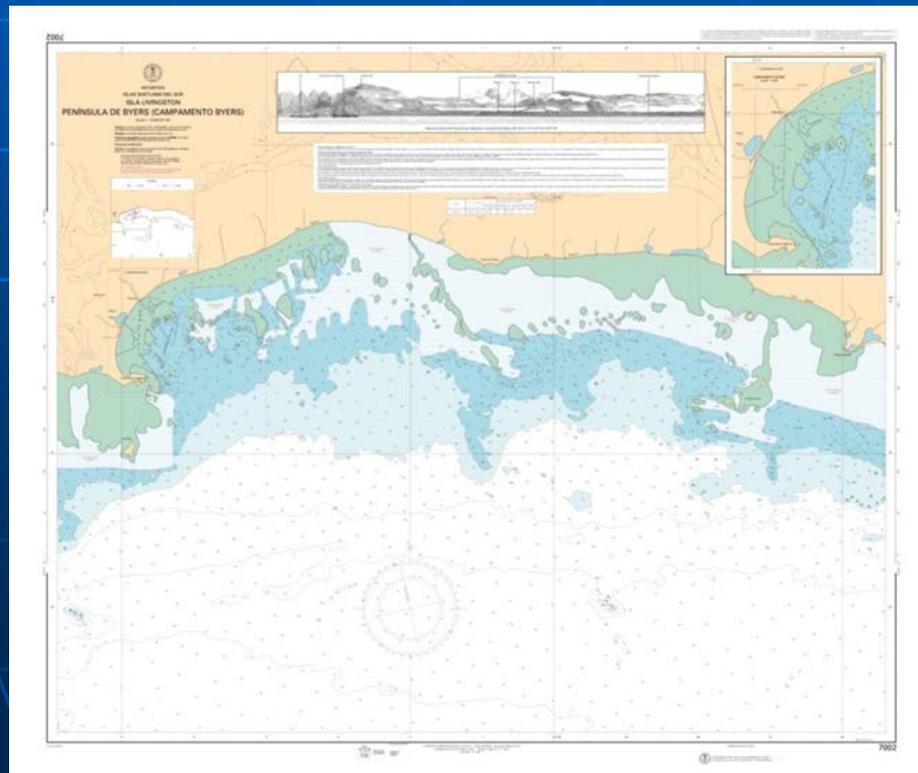
2nd

| NÚM. | TÍTULO | ESCALA 1: (φr) | MARCOS | | | | DIMENSIONES (mm) | CARTAS A CADUCAR |
|-----------------------|---|--|------------------------------|------------------------------|------------------------------|------------------------------|-------------------------|---------------------|
| | | | NORTE | SUR | ESTE | OESTE | | |
| 70 | Isla Rey Jorge y costa norte de la península Antártica a isla Anvers y estrecho Bransfield. | 450 000 (63°30' S) | 61° 45,00' S | 66° 00,00' S | 57° 30,00' W | 64° 24,00' W | 750 x 1051 | |
| 70A INT 9151 (GB) | Isla Livingston, a isla Rey Jorge. | 200 000 (62°20' S) | 62° 00,00' S | 63° 07,90' S | 57° 30,00' W | 61° 13,50' W | 964 x 634 | |
| 700 | Costa Sur de la isla de Livingston a isla Decepción. Islas Shetland del Sur, estrecho Bransfield. | 60 000 (62°50' S) | 62° 35,00' S | 63° 05,00' S | 60° 15,00' W | 61° 07,50' W | 743 x 929 | |
| 700A INT 9121 (ES) | De punta Barnard a Campamento Byers. Isla Livingston, costa Sur. Plano adjunto: Isla Media Luna | 40 000 (62°42,50' S) 25 000 (62°35,50' S) | 62° 34,85' S 62° 34,40' S | 62° 51,00' S 62° 36,95' S | 60° 17,00' W 59° 51,80' W | 61° 07,50' W 59° 57,60' W | 1077 x 750 199 x 190 | 004ANT 003ANT |
| 700B | Isla Decepción. Islas Shetland del Sur, estrecho Bransfield. | 30 000 (62°59' S) | 62° 52,75' S | 63° 04,75' S | 60°22,00' W | 61° 00,00' W | 1071 x 743 | |
| 701A | De punta Botev a punta MKean | 30 000 (62°47' S) | 62° 40,85' S | 62° 52,85' S | 59° 41,35' W | 60° 19,35' W | 1078 x 743 | |
| 701B | Estrecho de McFarlane | 30 000 (62°36,75' S) | 62° 30,75' S | 62° 42,75' S | 59° 27,90' W | 60° 05,70' W | 1078 x 743 | |
| 7001 INT 9128 (ES) | Base Juan Carlos I. | 5 000 (62°39' S) | 62° 37,46' S | 62° 40,26' S | 60° 20,98' W | 60° 26,00' W | 858 x 1040 | 001-002- 004ANT |
| 7002 INT 9119 (ES) | Campamento Byers. Isla Livingston, península Byers. Plano inserto: Zona de Desembarco. | 10 000 6 000 (62°40' S) | 62° 38,40' S 62° 39,80' S | 62° 42,80' S 62° 40,60' S | 60° 55,40' W 61° 04,80' W | 61° 06,90' W 61° 06,00' W | 982 x 818 171 x 248 | P |
| 7003 | Bahía Fumarolas y Fuelles de Neptuno. Isla Decepción, islas Shetland del Sur. A. Base Gabriel de Castilla. B. Fuelles de Neptuno. | 10 000 (62°58,75' S) 12 500 (63°00' S) | 62° 57,00' S 62° 58,10' S | 62° 59,50' S 63° 01,60' S | 60° 39,25' W 60° 27,10' W | 60° 43,25' W 60° 37,10' W | 338 x 464 676 x 520 | |
| 7010 | Arthur Harbor. Archipiélago Palmer, isla Anvers. | 5 000 (64°46,50' S) | 64° 45,70' S | 64° 47,30' S | 64° 02,40' W | 64° 07,35' W | 785 x 595 | 011ANT |



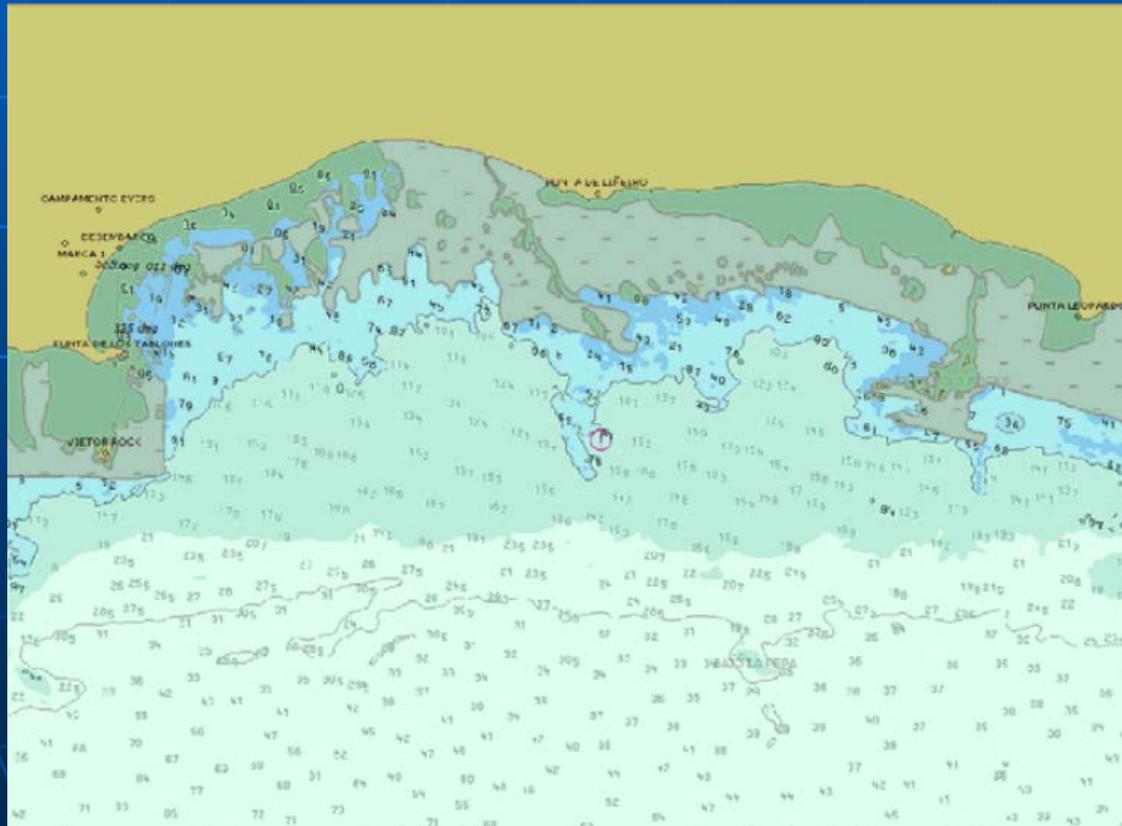
Charting progress in Antarctica since last meeting (December 2013)

- ✦ A 2nd Edition of Chart 7002 (Campamento de Byers, Isla Livingston, Península Byers) at 1:10,000 scale has been published in 2016.



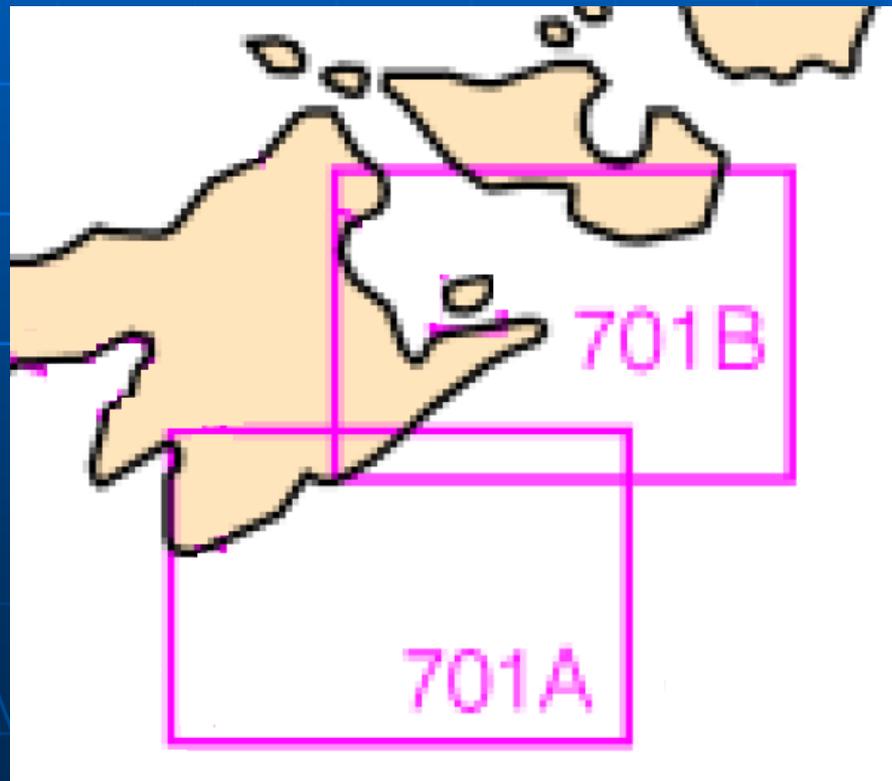
Charting progress in Antarctica since last meeting (December 2013)

- ✦ A new edition of ES507002 (Byers Peninsula) as INT 9119 was published early 2016.



Charting progress in Antarctica since last meeting (December 2013)

- ✦ A proposal for publishing 701A and 701B as INT has been forwarded to BHI.

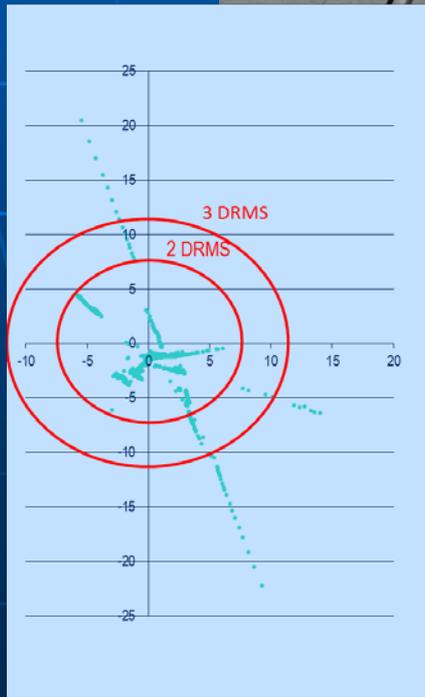


Status of Relations with Other Organizations

- ✦ Scientific and polar institutes: IHM keeps a close relationship with Spanish Polar Committee.
- ✦ Cruise vessels. N/R
- ✦ Hydrographic data received from other organizations:
Tidal data received from University of Cadiz.
- ✦ Hydrographic data provided to other primary charting authorities and/or GEBCO: N/R



GALILEO GNSS Polar Campaign



- ✦ During 2015-2016 Spanish Polar Campaign, an IHM Team of hydrographers started a Pilot Project to study European Galileo GNSS positioning in Antarctica.
- ✦ A first Galileo-only position fix was obtained with just 5 operational in-orbit satellites. An initial Galileo Open Service accuracy study has been performed.



Tide Gauge Network

- ✦ During the last three polar scientific campaigns, University of Cádiz (UCA) has been monitoring tides both in coastal places south of Livingston Island and inside Deception Island.
- ✦ For each place, bottom pressure sensor based tide recorders were deployed and left throughout winter.



Tide Gauge Network

- ✦ By the end of each Spanish Polar Campaign these sensors were recovered. Recorded data was retrieved, and the equipment re-deployed again.
- ✦ A year-long tidal Time Series has already been obtained for each site. This can be considered a nice technical success of the University of Cadiz.



Tide Gauge Network



Planned Activities for 2016-17

- ✦ A new Antarctic Campaign Project has been requested as a continuation of GALILEO GNSS trials.
- ✦ There are plans for testing GALILEO positioning at higher latitudes (on board R/V Hespérides).



Particular Issues that may require HCA
Consideration : N/R



Thank you

