



**SPAIN**

**NATIONAL REPORT**

**TO THE 13th HYDROGRAPHIC COMMISSION  
ON ANTARCTICA  
MEETING**

**CÁDIZ, SPAIN  
03 - 05 DECEMBER 2013**

## 1. Hydrographic Service

Instituto Hidrográfico de la Marina (IHM), Spain.

## 2. Surveys

Since the date of the last meeting, no systematic hydrographic surveys have been conducted by Spain in the Antarctic waters.

A survey team embarked on the Spanish Oceanographic Research Vessel “Hespérides” during the last Antarctic Campaign (October 2012 – March 2013), in order to carry out opportunity bathymetric surveys when possible while the ship was engaged in scientific research projects as well as during transits.



*Figure 1. Spanish Navy Oceanographic Research Vessel “Hespérides”*

### 2.1. Coverage of new surveys

The results of several opportunity surveys carried out in the last campaign are shown in the following figures.

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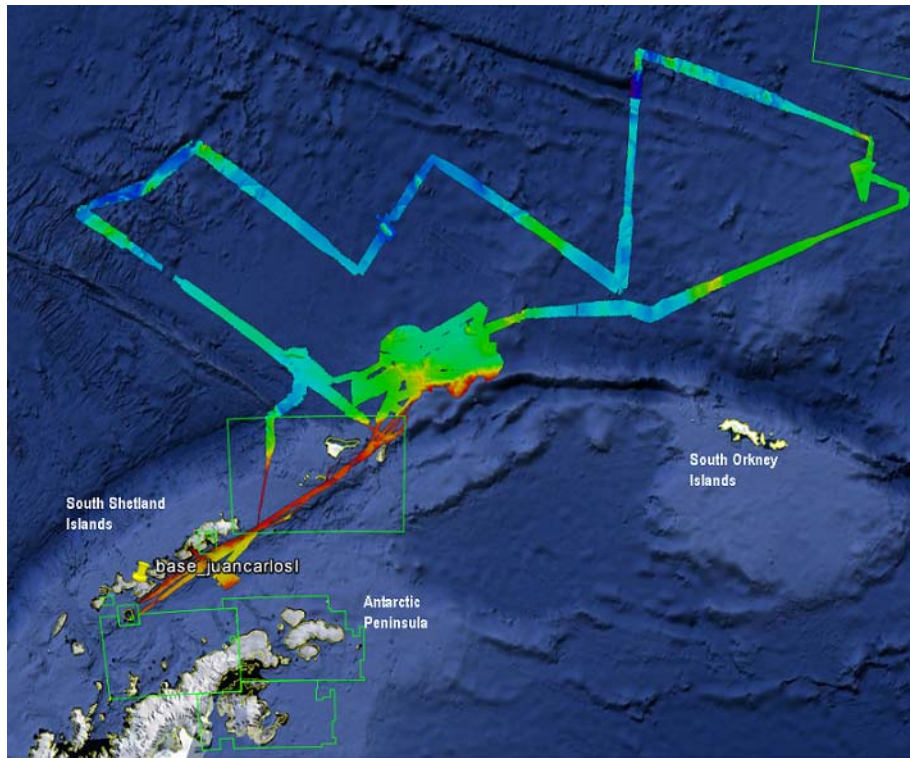


Figure 2. Opportunity surveys in the area NE of the South Shetlands Islands

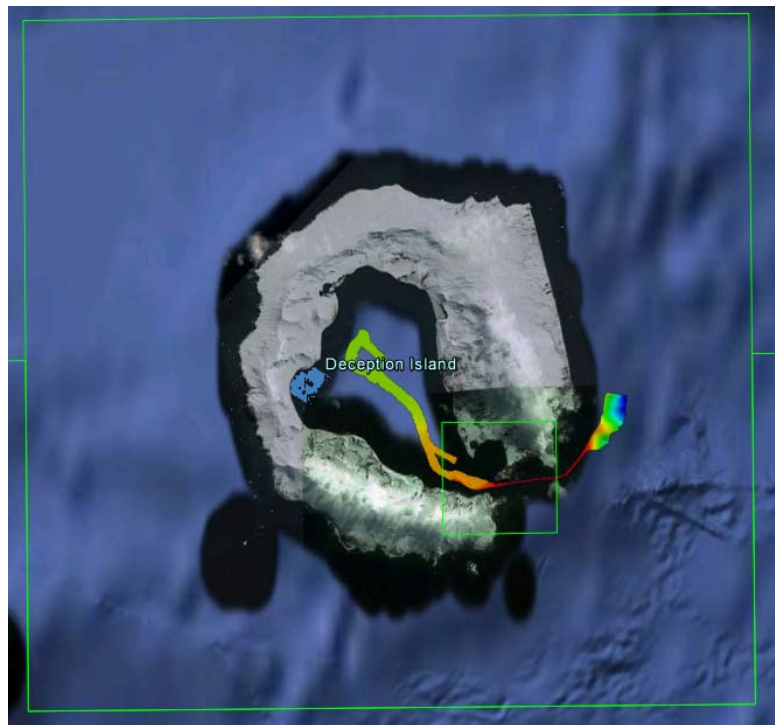


Figure 3. Opportunity surveys in Decepción Island

## 2.2. New technologies and / or equipment

NTR.

## 3. New Charts and updates

Spain updated its paper chart scheme in Antarctica. It comprises nine charts, seven of which are national and two INTernational. Figure 4 shows the scheme, and detailed information is attached as Annex I.

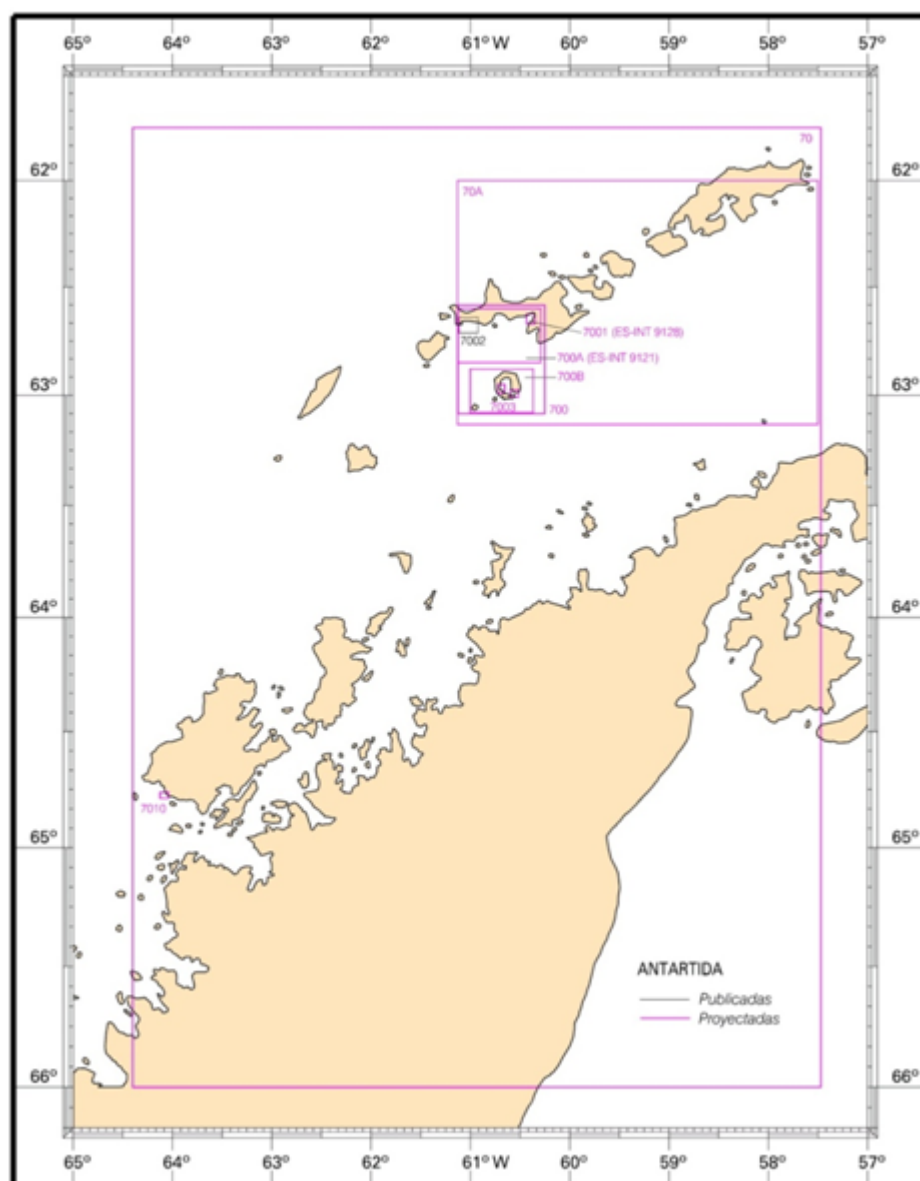


Figure 4. Spanish paper chart scheme in Antarctica

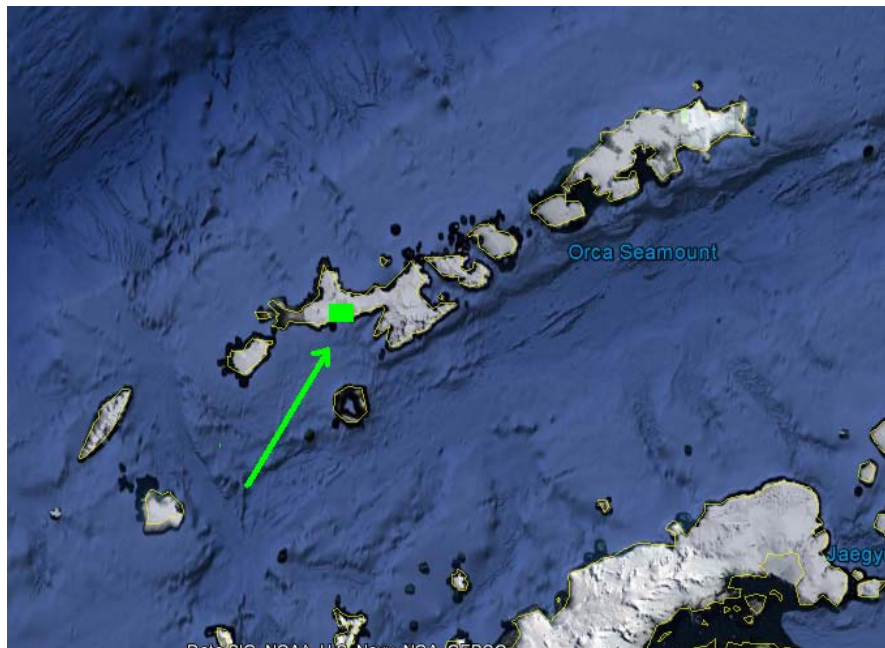
## INT Charts

INT 9121 and INT 9128 are Spain's responsibility.

Once the new data from the last year's HIDROSHETLAND 2012 campaign have been processed, these two INT charts will be updated. The estimated publication dates are 2014/2015.

## ENC

In August 2013, the first Spanish ENC in the area was published: ES507002 (Península de Byers – Byers Peninsula), covering an area in the Livingston Island (Figures 5, 6).



*Figure 5. Byers Peninsula - Livingston Island*

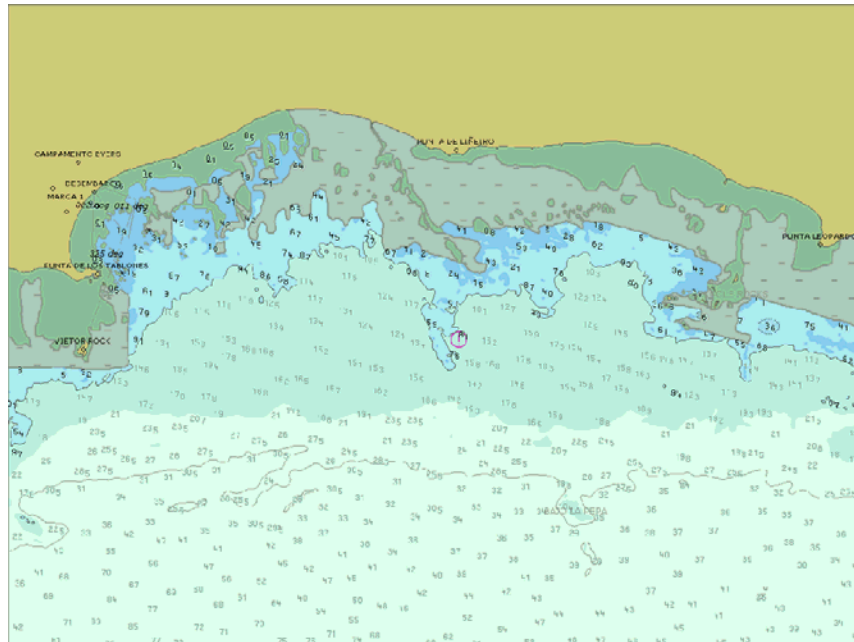


Figure 6. Spanish ENC ES507002 (Península de Byers – Byers Peninsula)

As the new editions of INT 9121 and 9128 are produced, the corresponding ENC will follow. These new ENCs will be distributed via the IC-ENC RENC.

### National paper charts

The 1<sup>st</sup> Edition of Chart 7002 (Campamento de Byers. Isla Livingston, Península Byers) at scale 1:10:000 has been published in 2013 (Figure 7).

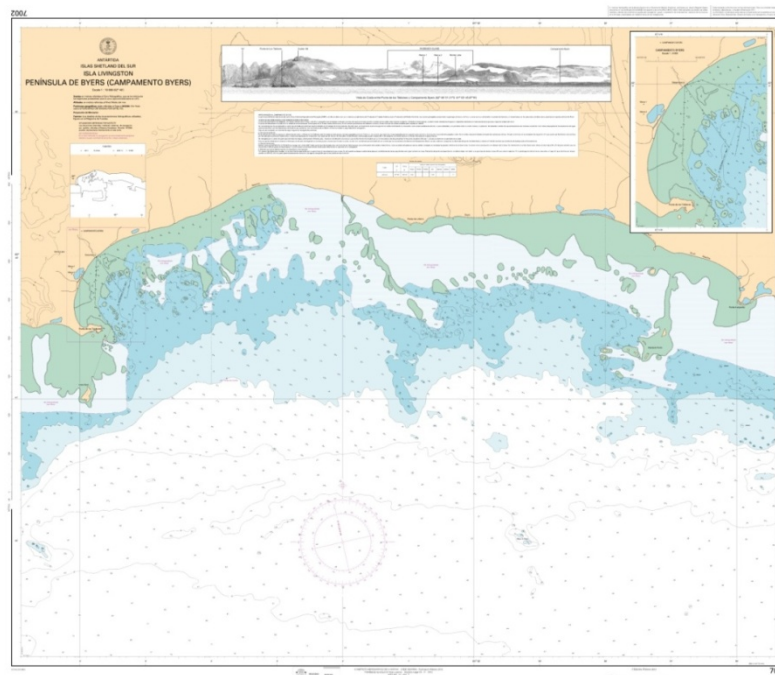


Figure 7. 1st edition of Spanish National Chart 7002- Campamento de Byers – Livingston Island

#### **4. New publications and updates**

New editions:

The 2013 edition of “Catalogue of Nautical Charts and other Publications”, which includes the Spanish chart scheme in Antarctica, was published in the beginning of this year.

#### **5. S-55**

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#### **6. Capacity Building**

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#### **7. Oceanographic Activities**

Tide Gauge Network:

The University of Cádiz (UCA) has been monitoring tides both in Livingston Island and in Decepción Island for the last three years by leaving one bottom pressure sensor in each island for the winter. At the end of the summer campaign these sensors are recovered for their recorded data to be retrieved, and then deployed again. Currently there are two sensors recording tides in the two islands

#### **8. Other activities**

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#### **9. Other matters**

The Geographical Information System (GIS) tool for Antarctica, developed by IHB, was used for survey planning purposes.

**ANNEX I – SPANISH PAPER CHART SCHEME IN ANTARCTICA**

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 1776 (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.	40 000 (62°42,50' S)	62° 34,85' S	62° 51,00' S	60° 17,00' W	61° 07,50' W	1077 x 750	004ANT
	Plano adjunto: Isla Media Luna	25 000 (62°35,50' S)	62° 34,40' S	62° 36,95' S	59° 51,80' W	59° 57,60' W	199 x 190	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	
7001 INT 9128 (ES)	Base Juan Carlos I.	5 000 (62°41' S)	62° 39,00' S	62° 39,90' S	60° 22,20' W	60° 24,00' W	307 x 334	001-002- 004ANT
7002	Campamento Byers. Isla Livingston, península Byers.	10 000	62° 38,40' S	62° 42,80' S	60° 55,40' W	61° 06,90' W	982 x 818	
	Plano inserto: Zona de Desembarco.	6 000 (62°40' S)	62° 39,80' S	62° 40,60' S	61° 04,80' W	61° 06,00' W	171 x 248	
7003	Bahía Fumarolas y Fuelles de Neptuno. Isla Decepción, islas Shetland del Sur.							
	A. Base Gabriel de Castilla.	10 000 (62°58,75' S)	62° 57,00' S	62° 59,50' S	60° 39,25' W	60° 43,25' W	338 x 464	
	B. Fuelles de Neptuno.	12 500 (63°00' S)	62° 58,10' S	63° 01,60' S	60° 27,10' W	60° 37,10' W	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