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**INTERNATIONAL HYDROGRAPHIC ORGANIZATION  
HYDROGRAPHIC COMMISSION ON ANTARCTICA  
9<sup>TH</sup> MEETING – SIMON'S TOWN, CAPE TOWN, SOUTH AFRICA  
OCTOBER 12 - 14, 2009.**

**REPORT PREPARED BY THE CHILEAN NAVY HYDROGRAPHIC AND  
OCEANOGRAPHIC SERVICE**



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**NATIONAL REPORT TO THE  
HYDROGRAPHIC COMMITTEE ON ANTARCTICA (HCA)  
PREPARED BY THE CHILEAN NAVY HYDROGRAPHIC  
AND OCEANOGRAPHIC SERVICE**

**Executive Summary**

**1. - Hydrographic Office / General:** Servicio Hidrográfico y Oceanográfico de la Armada de Chile (SHOA). Chilean Navy Hydrographic and Oceanographic Service.

SHOA is responsible for the hydro-cartographic, meteorological and navigational aids broadcasting activities for the Chilean Antarctic waters.

Every year Antarctic vessels of the Chilean Navy accomplished hydrographic surveys programmed by the National Committee for Nautical Charts. Usually, three campaigns are developed in order to acquire the data used to produce one Antarctic nautical chart.

The Maritime Directorate carry out broadcasting tasks related to the assigned area of responsibility IMO NAVAREA XV, where the Antarctic sector of the Chilean responsibility is included. Additionally, the “Servicio Meteorológico de la Armada” (Meteorological Service of the Navy) broadcasts through the Safety Net INMARSAT the navigational warnings about ice edges and plotting of drifting icebergs.

**2. - Surveys**

**2a) Hydrographic Activities 2009**

During the summer 2009 SHOA accomplished a hydrographic survey on “Nelson Straight” (Estrecho Nelson) area. This activity was the last campaign of four stages planned to complete the data acquisition for publishing SHOA Chart No. 14220 “Estrecho Nelson”. (See Figure No. 1).



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The first two phases were accomplished by the Chilean Ice breaker “Oscar Viel”. Phases three and four were carried out by the Chilean Auxiliary Fleet Tug (AFT) “Lautaro”. All of the areas were surveyed using single beam technology (Knudsen 320 MP and Elac 4300 echo sounder).

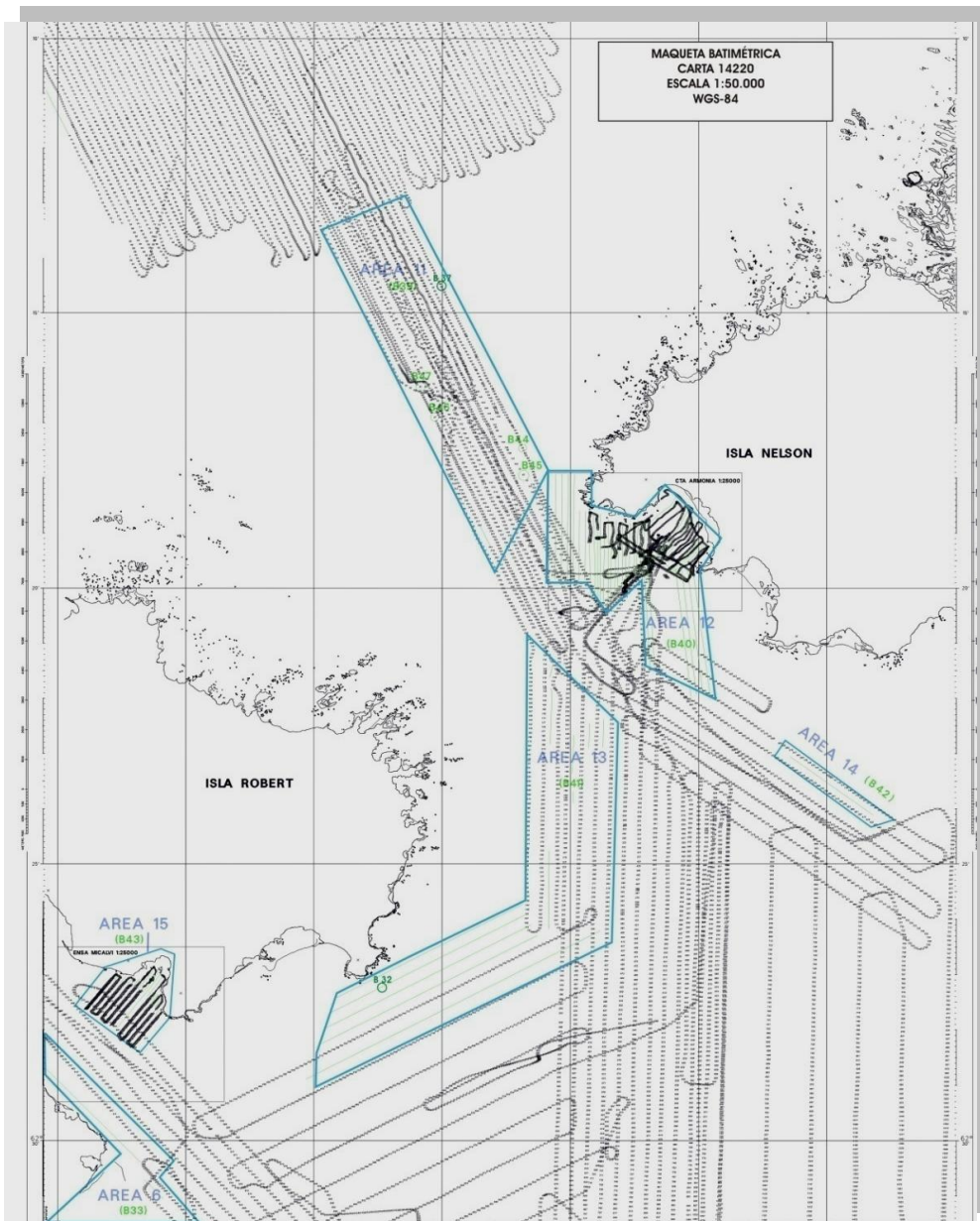


Fig.1 : Field Sheet. SHOA Chart No. 14220 “Estrecho Nelson”.



## **2b) Hydrographic Activities 2010**

According to the HCA tasks described in Action 8/16 during the last meeting in Brazil, in August 2009 SHOA presented to the Chief of the Navy Staff the new Hydro-Cartographic Activity Program for Antarctica for 2010 - 2019.

INT Chart No.	Scale	Years of the Suveys
9104	1:50.000	2010 -2011 - 2012
9103	1:50.000	2013 - 2014
9151	1:200.000	2015 - 2016
9157	1:150.000	2017 - 2018 - 2019

**Table No. 1 Hydro-Cartographic Activity Program for Antarctica for 2010 - 2019.**

This Program must be approved during the next meeting of The National Committee for Nautical Charts, in November 2009.

Consequently, the next summer 2010, the program considers the first stage to survey areas of the “Gerlache Strait” (Estrecho Gerlache). This hydrographic survey will be accomplished for acquiring the bathymetric data necessary to produce the SHOA INT Chart No. 9104 “Gerlache Strait. Usefull to Wednesday”. (See Figure No. 2).



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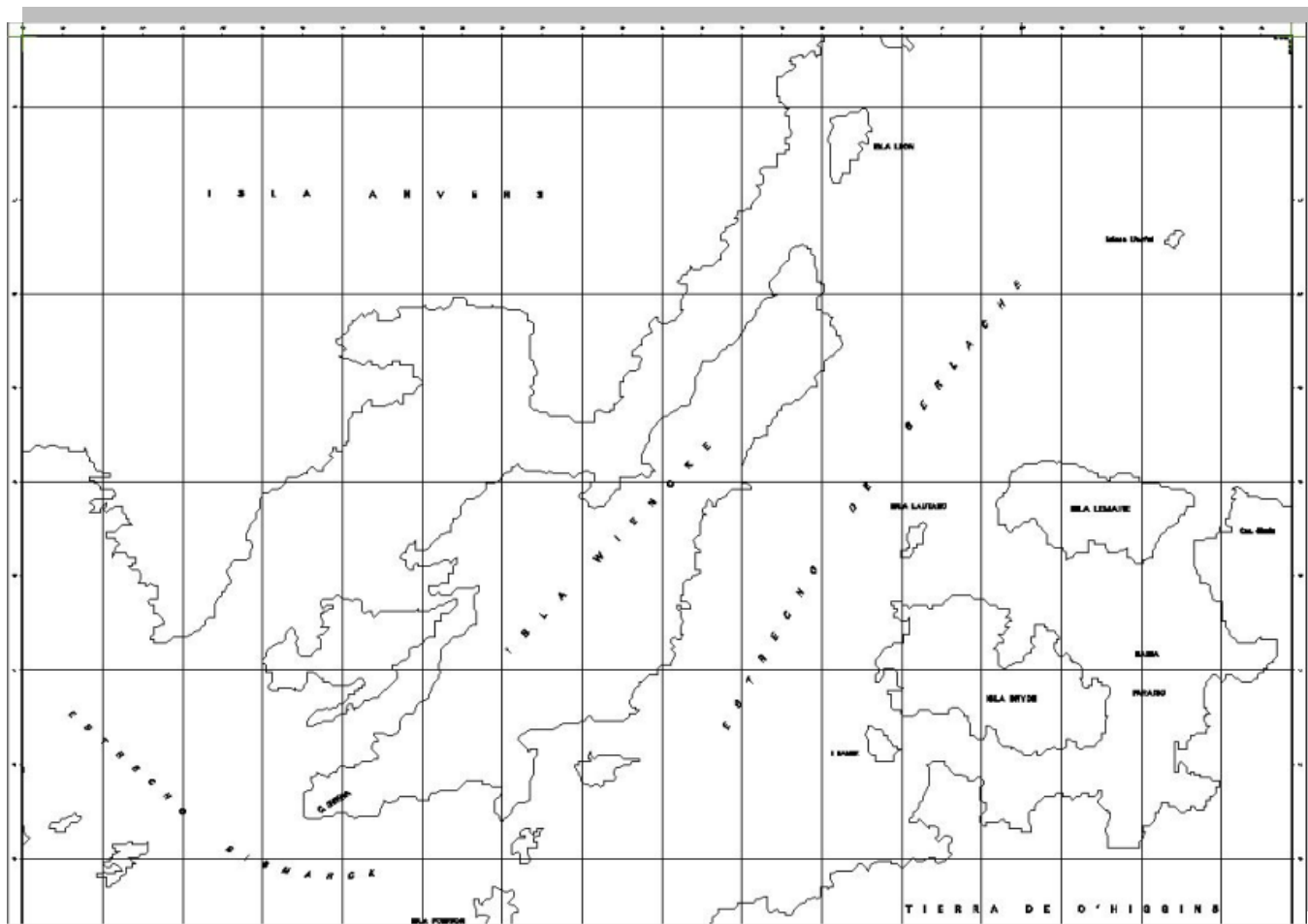


Fig.2: Prototype Sheet. SHOA Chart INT 9104 "Gerlache Strait. Usefull to Wednesday"





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### **3. - New charts & updates**

- 3a) In December 2009 SHOA will release the National Nautical Chart No.14220 “Estrecho Nelson”. (See Figure No.3)
- 3b) During 2009 the following Electronic Cells related Antarctic INT Charts were updated:
- CL3MA 850 “Isla Decepción”. Second Edition.
  - CL5MA 870 “Caleta Balleneros y Accesos”. Second Edition.

### **4. - New publications & updates**

- 4a) SHOA sent to the BHI the Publication No. 3035 “General Instructions for Pilotage in the Water Ways of the Chilean Antarctic Territory”. This publication can be read in both languages (English and Spanish).
- 4b) SHOA currently is updating Sailing Directions for the Antarctic Territory. “Derrotero Antártico”, Vol. VI.

### **5. - MSI**

Chile has an infrastructure in accordance with the assigned area of responsibility IMO NAVAREA XV. This area considers the Antarctic sector of the Chilean responsibility. Transmissions are made through Safety NET INMARSAT – “C”, according a pre-established schedule. Additionally, the “Servicio Meteorológico de la Armada” (Meteorological Service of the Navy) broadcasts through Safety Net INMARSAT the navigational warnings about ice edges and plotting of drifting icebergs.



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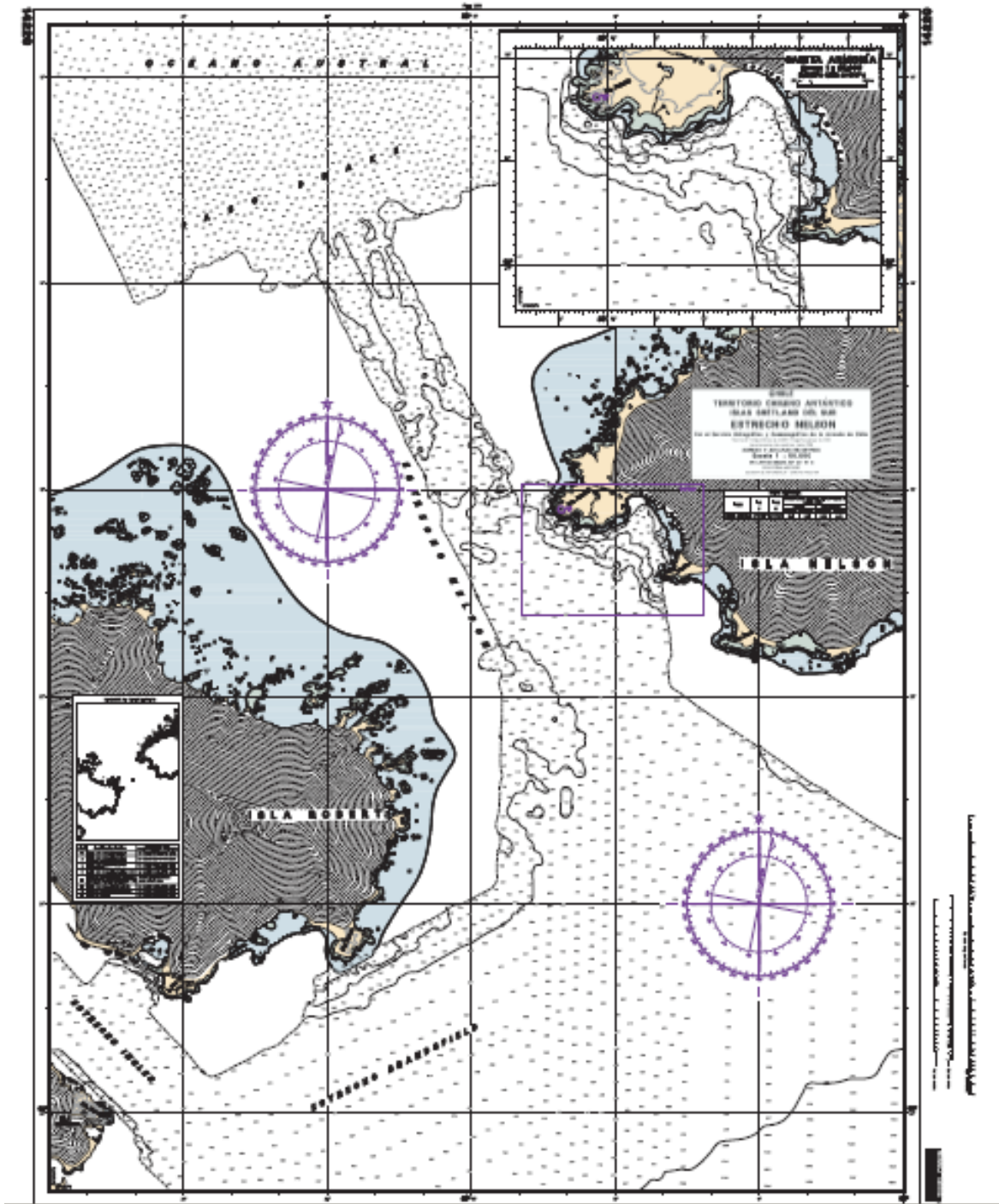


Fig.3: Prototype SHOA National Chart 14220 "Nelson Strait".





## **6. - S-55**

No new S-55 information has been informed.

## **7. - Capacity Building**

### **7a) Antarctic Training for Graduated Students of the Hydrographic Course Cat. "A".**

During the summer 2009 the Graduated Students of the Hydrographic Course Category "A" offered by the Instruction Training Center of SHOA, participated in an instruction trip onboard of the Chilean Navy Vessel "Aguiles". This training considered the development of several tasks related to Antarctic Hydro-cartographic and Oceanographic operations and other topics involved to the activities in this kind of waters.



**Fig. 4: Graduate Students form the International Hydrography Course Cat "A": Lt Bencomo (Venezuela); Lt Sheets (USA) and Lt Rojas (Guatemala)**



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## 7b) Course for Antarctic Waters Operation (AWO)

Additionally as usual, this year the Maritime Instruction Center belongs to the Maritime Directorate of the Navy will offer the Course for Antarctic Waters Operation (AWO). The purposes and the objectives of this course are the following:

### Purposes:

- According to Chilean legislation this course is mandatory for deck officers performing their duties on board of vessels under Chilean Flag operating in the Antarctic.
- The aim is to strengthen and update the knowledge of the Officers who navigate in ice covered waters, regarding the navigation topics and safe operation of vessels, emphasizing on the limitations imposed by the climate and taking into account the international legislation and the prevention of the environment pollution. .

### Objectives:

Those trainees successfully completing this course will be able to:

- Plan a voyage to the Antarctic using all data available
- Identify the potential risks and limitations imposed by the climate and oceanographic conditions in the area.
- Apply the international legislation related to the Antarctic, the safety of human life at sea and the prevention of pollution on the aquatic environment.
- Demonstrate familiarity with ice navigation scenarios.

This course is free (except flight tickets and accomodations) and it is limited for 21 students.

Last year we had two participants from South Africa: Captain Dave Hall and Officer Shelton Samuels, both part of the crew of the “Agulhas” ship.



## **8. - Oceanographic activities**

### **8a) Activities in 2009**

- Tide gauge maintenance in the Chilean Antarctic Base “O’Higgins”.
- Tide gauge installation in the Chilean Antarctic Base “Prat”.
- Tide measurement in “Caleta Armonía”, Nelson Straight.

### **8b) Activities in 2010**

- Tide gauge maintenance in the Chilean Antarctic Base “O’Higgins”.
- Tide gauge installation in the Chilean Antarctic Base “Prat”.
- Tide measurement in Gerlache Straight area for INT Chart No.9104.

## **9. - Other activities**

### **9a) The National Committee of Antarctic Geographic Names**

This year SHOA has directed the working plan of The National Committee of Antarctic Geographic Names. This organization is responsible for the study and collection of the historical background of any geographic name graphically represented in the Chilean Antarctic Cartography.

This Committee gathers several governmental institutions and is directed according the law by the Hydrographic Service.

During 2009 the Committee has been focused on the analysis of the historical information required to assign names for five Chilean land charts produced by the Geographic Institute of the Army IGM. These 1:10.000 Scale Charts cover the Bayers Peninsula and Rugged Island.

Additionally, the Committee analyzed the geographic names for the National Nautical Chart No. 14220 Nelson Straight.



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Fig. 5: Representatives of The National Committee of Antarctic Geographic Names

### 9b) New Antarctic Multibeam Echo sounder

In August 2009 the Chilean Navy finished the installation of a new Antarctic Multibeam depth water echo sounder system onboard of the Ice breaker “Oscar Viel”.

The ice breaker “Viel” will begin the Antarctic operations in October 2009, starting with the first hydrographic campaign to be accomplished at the Bellingshausen Sea. This first hydrographic survey is part of four phases determined by the National Committee for the Continental Shelf in order to acquire bathymetric data necessary by the official presentation of Chilean Government to the United Nations Organization. (See Figure No. 6).

The acquired data also will be used to produce nautical cartography of Antarctica in areas belong to the Chilean responsibility.



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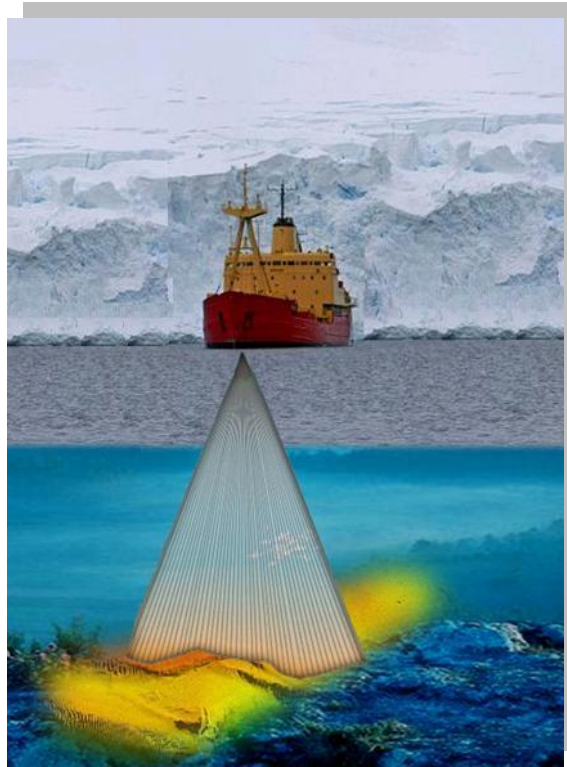


Fig. 6: Chilean Navy Icebreaker “Oscar Viel”

**9c) COMNAP XXI. Annual General Meeting. Punta Arenas, August 03/09.**

Regarding the task defined in the action list No. 8/17, during the last HCA meeting, IHB, UKHO and SHOA participated in the last COMNAP Annual General Meeting carried out in Punta Arenas City, during August 03 - 07.

In this opportunity the representative of SHOA presented the topic “Practical Initiatives to Improve Hydrographic and Nautical Cartography in Antarctica”.

