

18th Conference of the IHO Hydrographic Commission on Antarctica



National Report by ECUADOR

Agenda item 07.2A



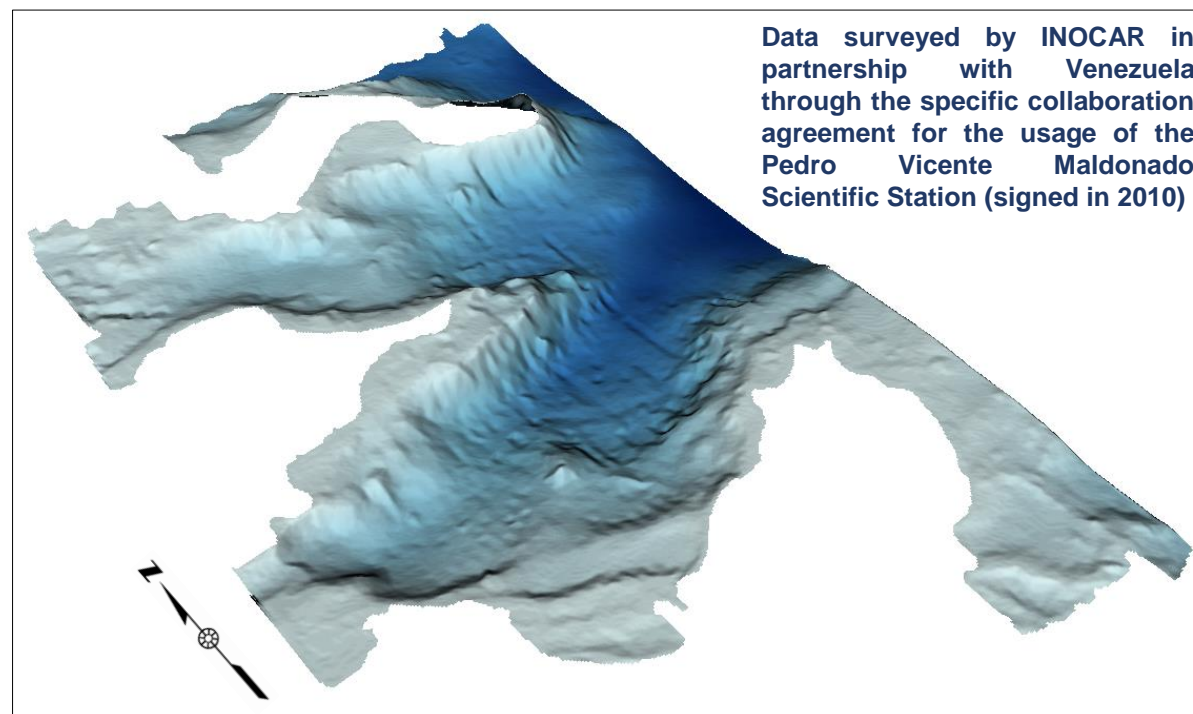
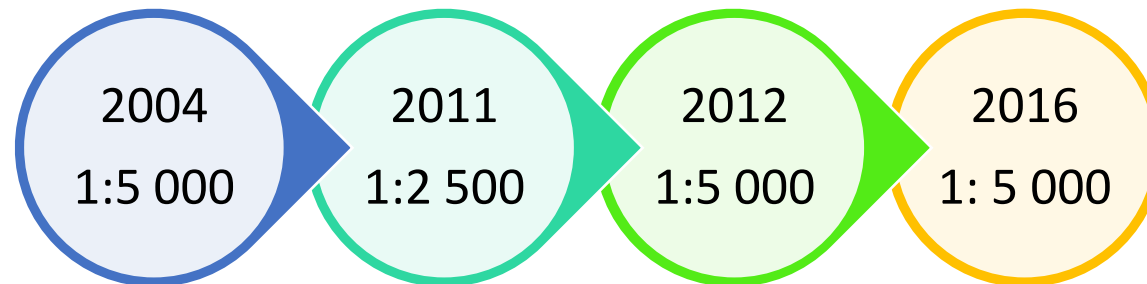
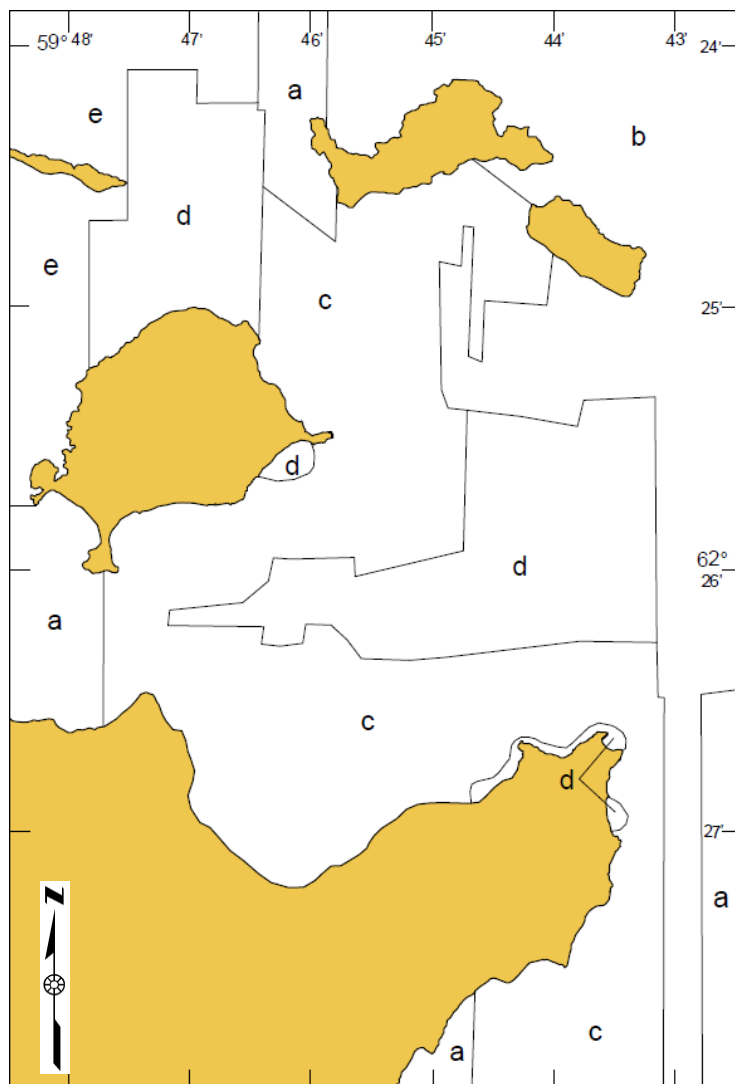


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Surveys and charting progress in Antarctica

Areas surveyed

Multibeam Bathymetry Data



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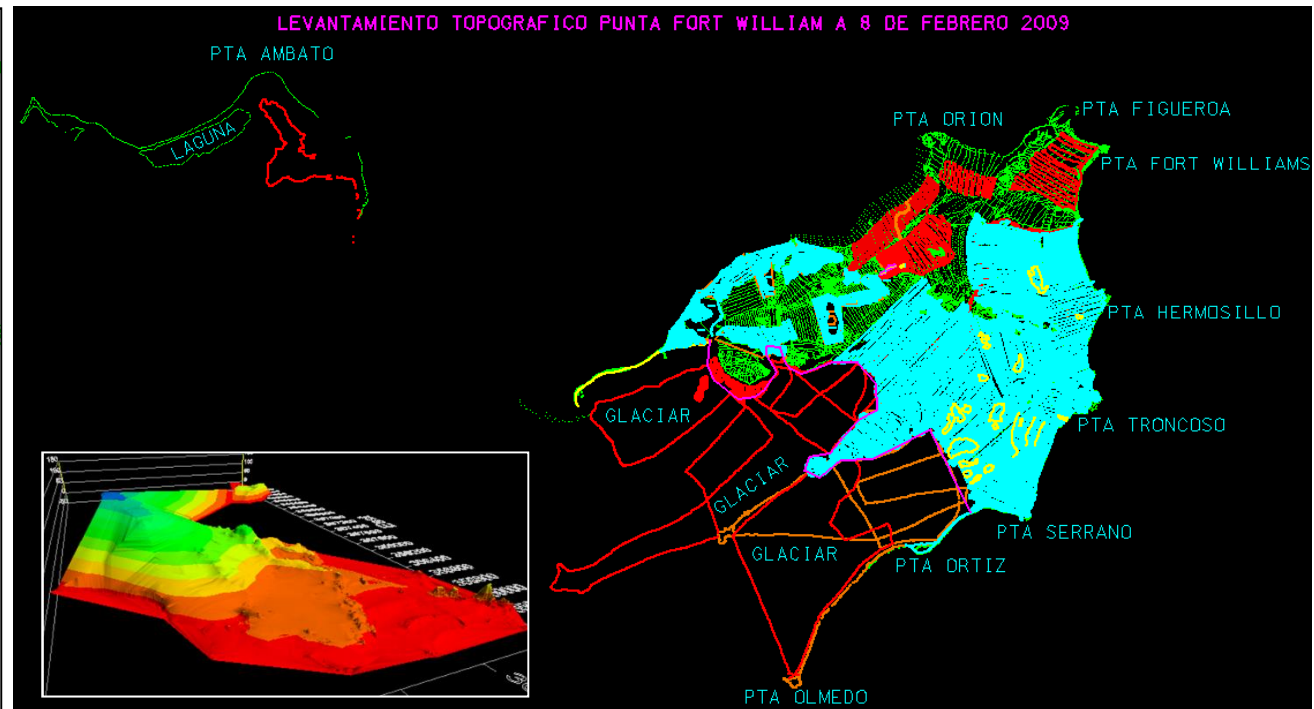
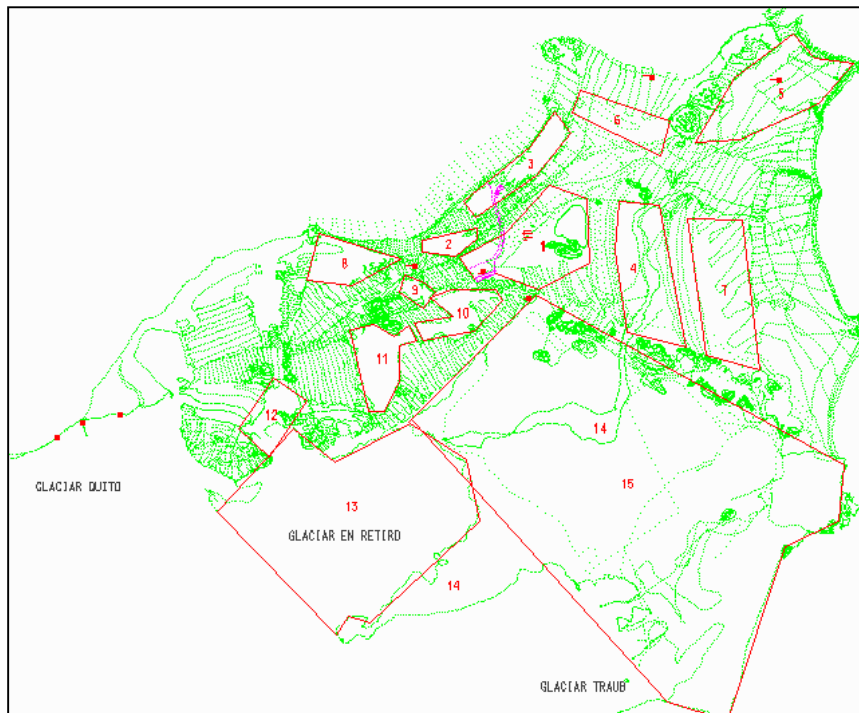
New charts produced

First I.O.A. 70001 (INT 9129) chart published in 2012, updated version in 2017 and published in 2018. Scale 1:15 000.

Coastline

Generated by the Oceanographic Institute of the Navy (INOCAR) in 2017, based on a geodetic survey in 2009, complemented by digitalization of orthophotos

- GEODETIC SURVEY (2009)



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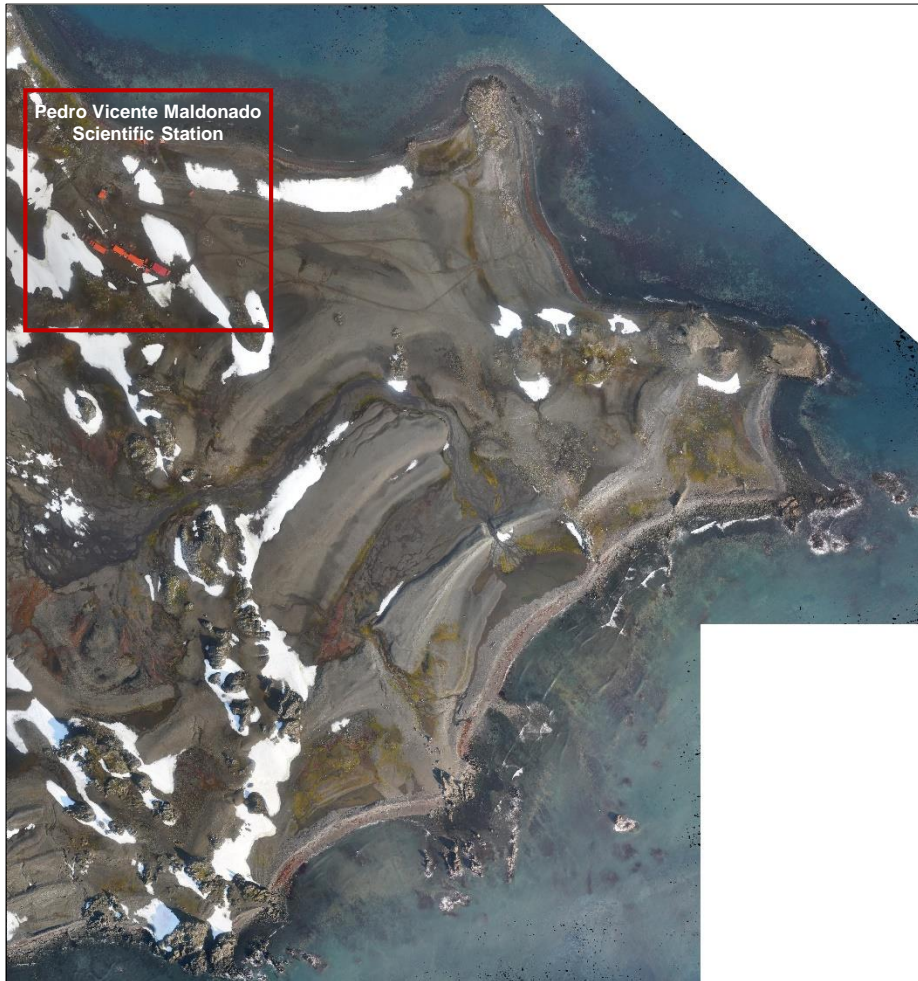
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New charts produced

Coastline

- ORTHOPHOTO (2014)



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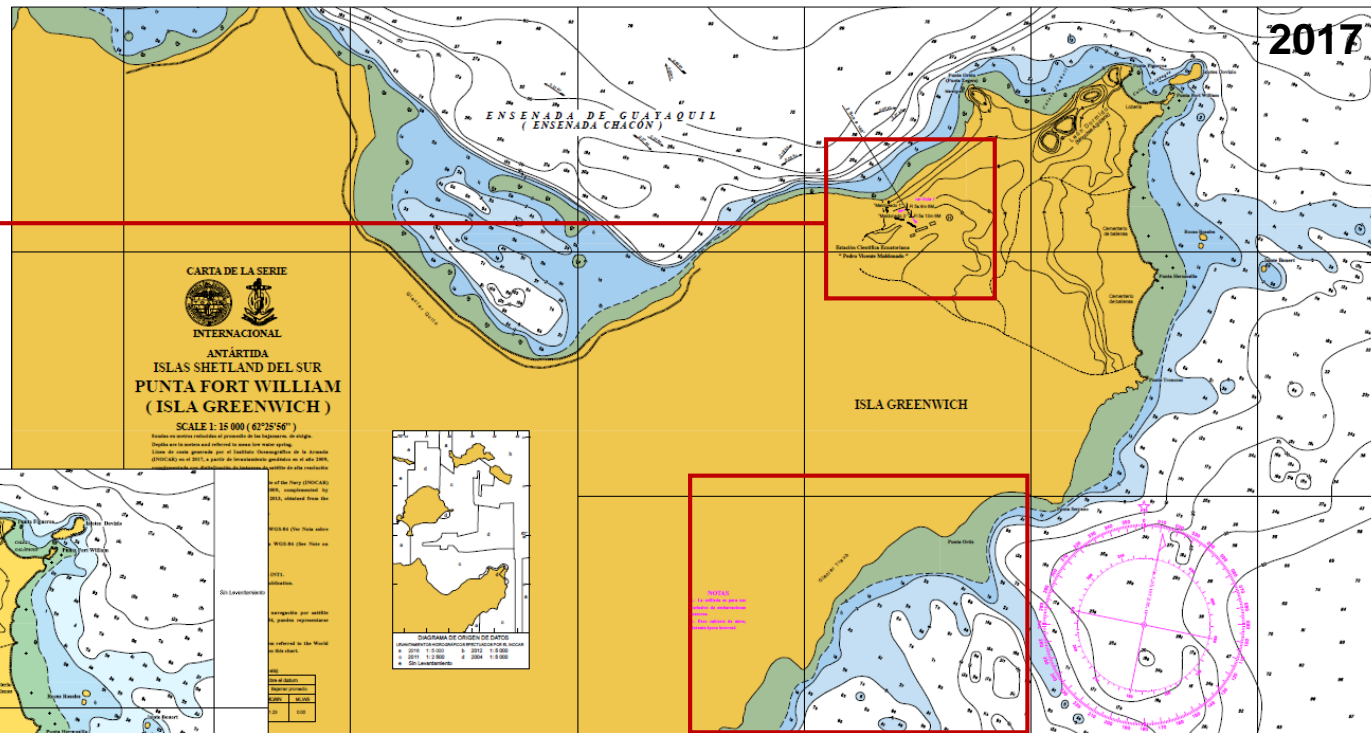
New charts produced

Updated chart

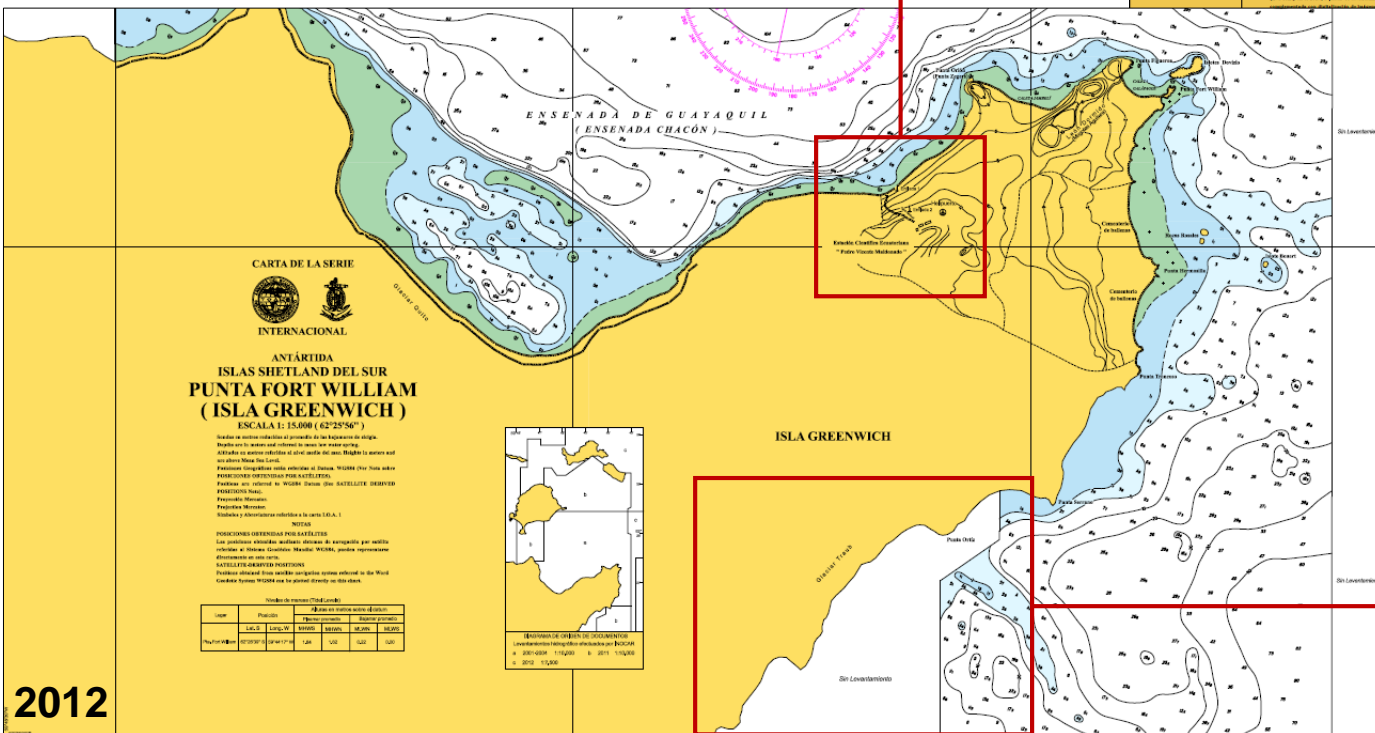
- I.O.A. 70001 (INT 9129)

Orthophoto

2017



New bathymetric data



2012

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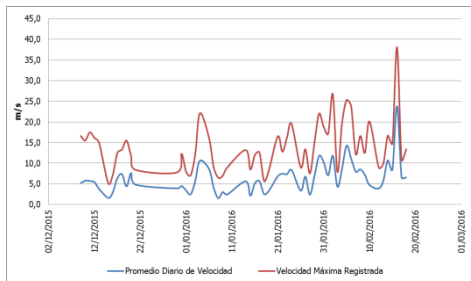
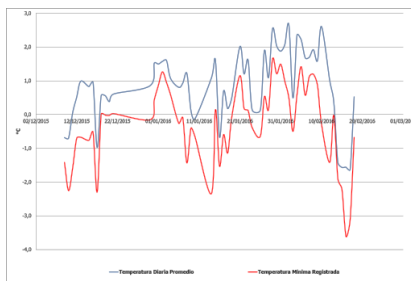
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Surveys and charting progress in Antarctica

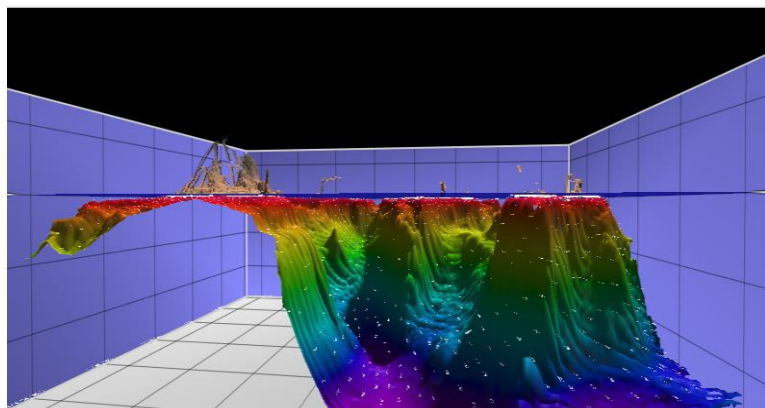
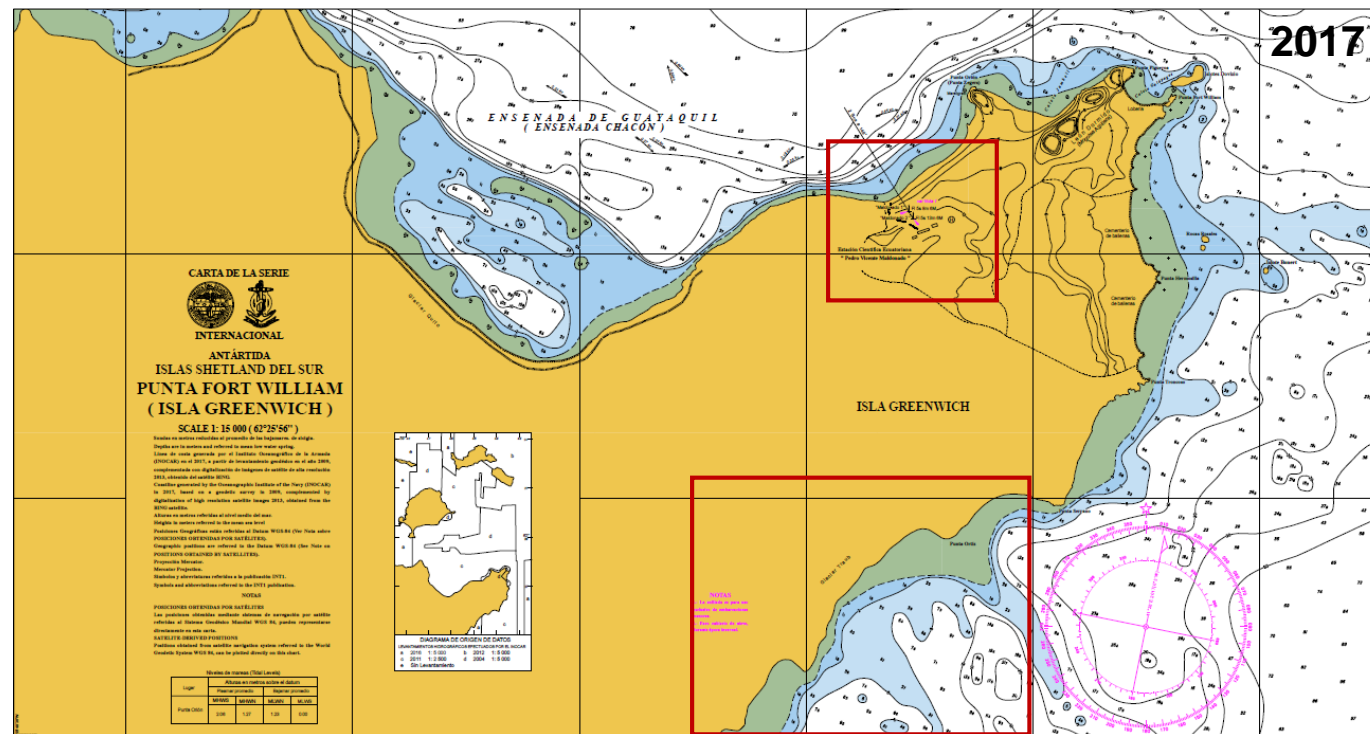
New charts produced

Updated chart

- I.O.A. 70001 (INT 9129)



In general, the average temperature within this period was 0.8°C and the average maximum daily wind speed reached 23.8 m/s. Hydrographic surveys were carried out with windspeeds below 5m/s.



Digital model of the terrain prepared with the hydrographic information collected information in 2001, 2004, 2011, 2012 and 2016



Rubber boat adapted to perform hydrographic surveys.

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Relations with Other Organizations

- **Scientific and Polar Institutes:** The Oceanographic and Antarctic Institute of the Ecuadorian Navy, entity formed by the amalgamation of The Ecuadorian Antarctic Institute (INAE) and the Oceanographic Institute of the Ecuadorian Navy.



- **Cruise Vessels:** No polar vessels.
- **Hydrographic data received from other organizations:** NONE
- **Hydrographic data provided to other primary charting authorities and/or GEBCO :** NONE
- **Seabed 2030 :** NONE

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Planned Activities

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Ecuadorian Scientific Subprograms

- Assessment of the effectiveness of visiting guidelines for monitoring penguins through experimental and non-experimental exercises in Barrientos Island, South Shetland.
- Calibration and validation of the coastal circulation model applied in the Guayaquil Cove, Greenwich Island.
- Climate variability of the Southeast Pacific surge and its liaison with the interannual and interdecadal variability of the Pacific.
- Mass balance estimation in a region of the Quito glacier.
- Geological evidences for climate changes and anthropization in Greenwich Island.
- 1:10.000 cartography in Point Fort William - Quito Glacier - Point Ambato, and the Islands in front of Maldonado Station. Greenwich Island.
- Ecuadorian Antarctic Shelter (RAE). Development and application of eco-materials in the project and construction of an emergency habitable prototype.
- Sewage-sludge treatment of the Pedro Vicente Maldonado Research Station waste water treatment, South Shetland Islands, Antarctica.



Instituto
Geográfico
Militar



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Planned Activities

INTERNATIONAL SCIENTIFIC SUBPROGRAMS

■ FOREIGN PROJECTS CARRIED OUT AT THE ECUADORIAN STATION

- Mechanical characterization of prefabricated pieces made of compound material, reinforced with vegetable organic waste, and manufactured outside the hand lay-up method with the aim to build the first temporary Antarctic station of the National Navy (*Colombia*).
- Strengthening the safety of navigation in adjacent waters to the Ecuadorian station “Pedro Vicente Maldonado” ; Installation of a lighthouse and an approach light cannon for navigation safety (*MSM-Spain*).
- Implementation of AIS systems for maritime command and control (*MSM-Spain*).



■ ECUADORIAN PROJECTS CARRIED OUT AT FOREIGN ANTARCTIC RESEARCH STATIONS

- Toxicological studies of heavy metals, microplastics, and microbial ecology with biotechnological potential in the Antarctic Peninsula (*ESPOL*).
- Antarctic microorganisms: Isolation, identification, preservation and evaluation of their biotechnological potential - PHASE II (*ESPOL*).



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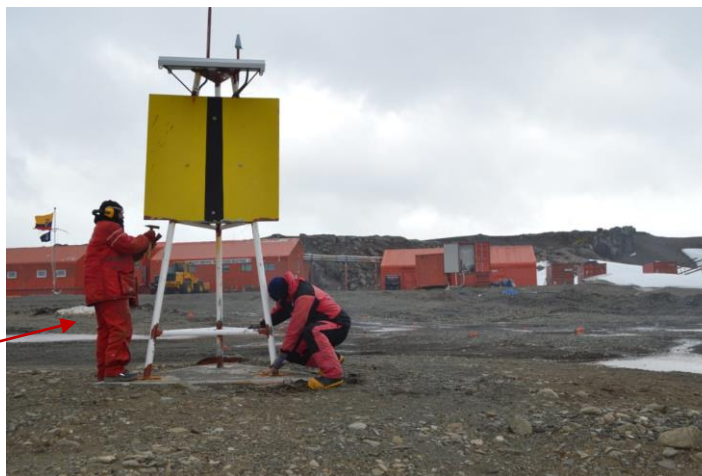
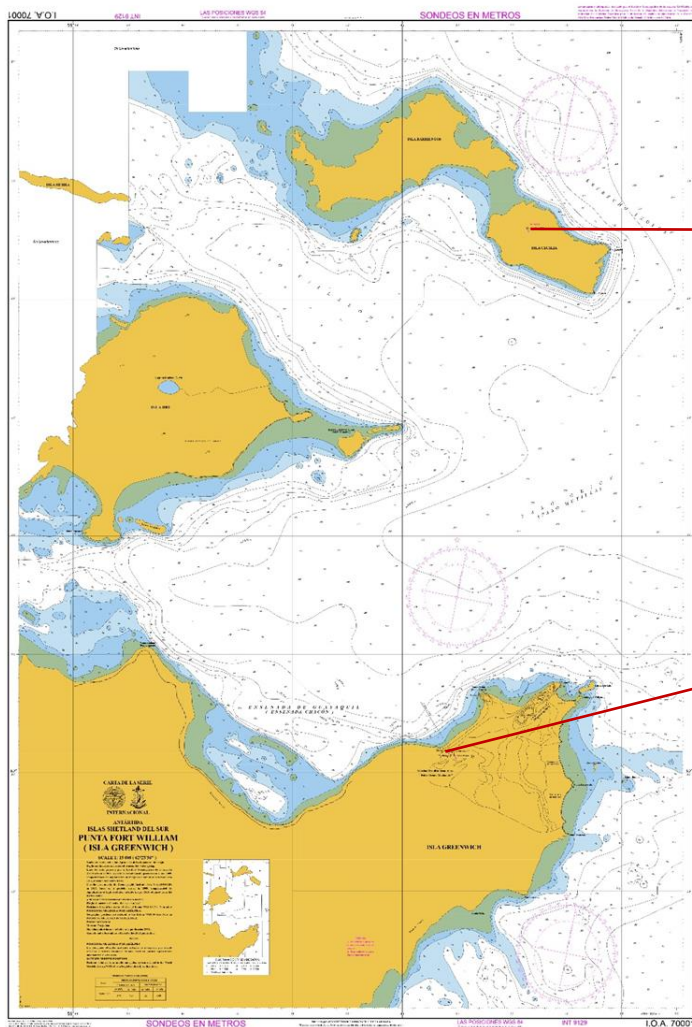


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Planned Activities

INTERNATIONAL SCIENTIFIC SUBPROGRAMS

International



Approach light cannon in station "Pedro Vicente Maldonado"
(Isla Greenwich)



Isla Torre Lighthouse
62°24,70'S y 059°43,86'W
12 nautical miles of 5 second flash range

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