

REPUBLIC OF MOZAMBIQUE

INSTITUTO NACIONAL DE HIDROGRAFIA E NAVEGAÇÃO



NATIONAL REPORT TO

THE 15th SOUTHERN AFRICA AND ISLANDS HYDROGRAPHIC COMMISSION CONFERENCE

Eden Island – Seychelles
28th – 30th August 2018

1. Introductory note

This report is intended to give a general summary of the main activities that have been carried out by the Mozambique Hydrographic Office (MHO) within the last twelve months since SAIHC14 Meeting.

2. The Hydrographic office

Instituto Nacional de Hidrografia e Navegação – INAHINA is the Mozambique Hydrographic Office (MHO). It is a public institution under the direct supervision of the Ministry of Transport and Communications, whose main function is to ensuring safety of navigation through provision of the hydrographic surveys, nautical charts and tide table, among other nautical documents aimed at ensuring safety of navigation in the main ports. There are three main ports, namely Maputo, Beira and Nacala that are currently the main focus of the MHO, as well as secondary ports such as the Quelimane and Pemba.

3. Surveys

Hydrographic surveys are mainly conducted with the purpose of producing new charts or to update them. From 2017 onward surveys can be done using both single beam and multibeam echosounder systems (there is only one unit of the last one).

3.1. New surveys

The MHO has conducted a survey at the Bilene beach, in Gaza Province, which has resulted in the production of the first pleasure chart. This was done using a single beam system.

Two other hydrographic surveys are presently in progress, one at the access channel to the Port of Beira, including adjacent areas, and another one at the access channel to the Port of Maputo. The survey in Maputo is being done using multibeam echosounder system and is scheduled to be completed between September and October 2018. Moreover, this survey is part of the Project of Modernization of Marine Aids to Navigation in the Maputo Port access channel. Its purpose is to verify new depths

resulting from the Capital dredging that was conducted in the channel by the Maputo Port Development Company – MPDC. More than 40 buoys are being prepared to be placed in the channel once the survey has been completed.

3.2. Planned surveys

The MHO is also planning to conduct a survey in the Limpopo River with the proposal to producing the first Limpopo River nautical chart.

4. Cartography

MHO has consolidated the production of nautical paper charts, both national paper charts and INT charts. Production of new charts and charts updates have been done with less constraints.

Mozambique nautical charts consist of coastal charts – in scale 1:300.000; approximation charts – in scale 1:30.000 and port charts – in scale 1: 15.000 - 1:20.000.

4.1. National charts

In relation to the national paper charts the MHO has produced the approximation chart to Quelimane Port, National Chart Nr 16 402.

4.2. INT Charts

- **INT Chart Nr. 7581** – Maputo Bay, to be updated still this year. The topographic survey of the area is now complete, but update is pending on the hydrographic survey that is currently being conducted, whose completion is scheduled to occur between September and October 2018. It should be noted that this chart is currently in use and the fact that it will be the first chart to be completely updated using a multibeam echo sounder data.
- **INT Chart Nr. 7583** – Approximation to the Maputo Port, to be updated still this year. Updating of this chart is also pending on the hydrographic survey referred in the previous paragraph. The topographic data for this chart is already available too.

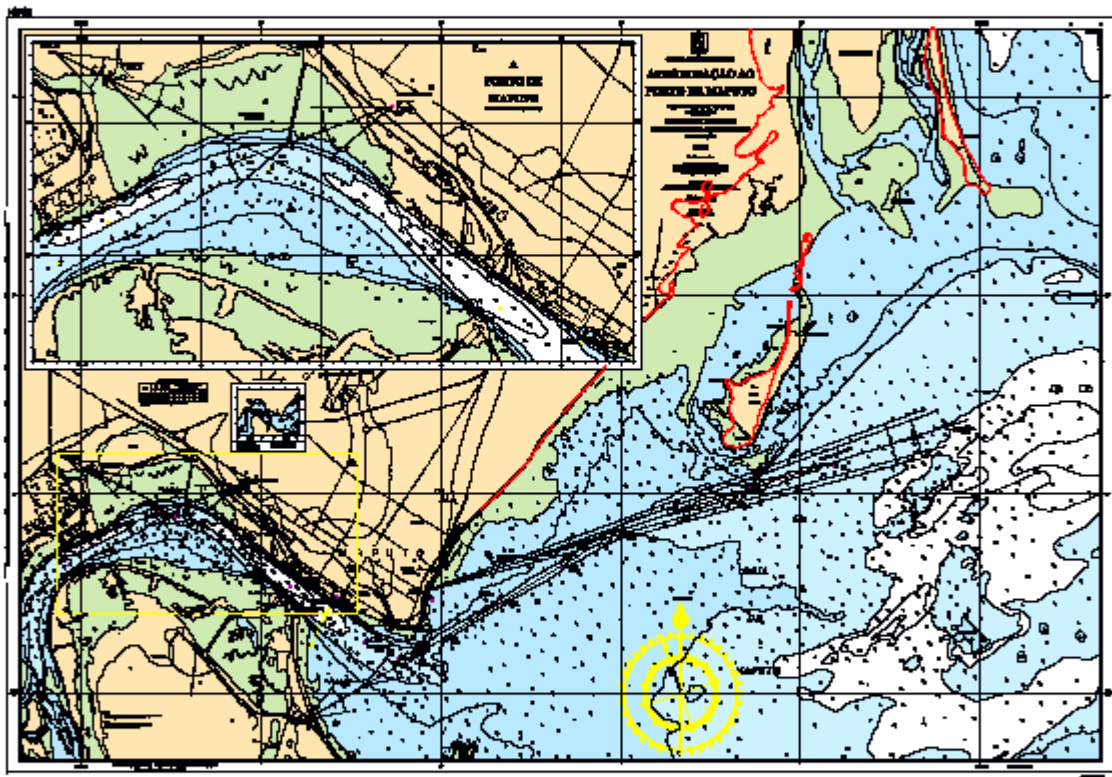
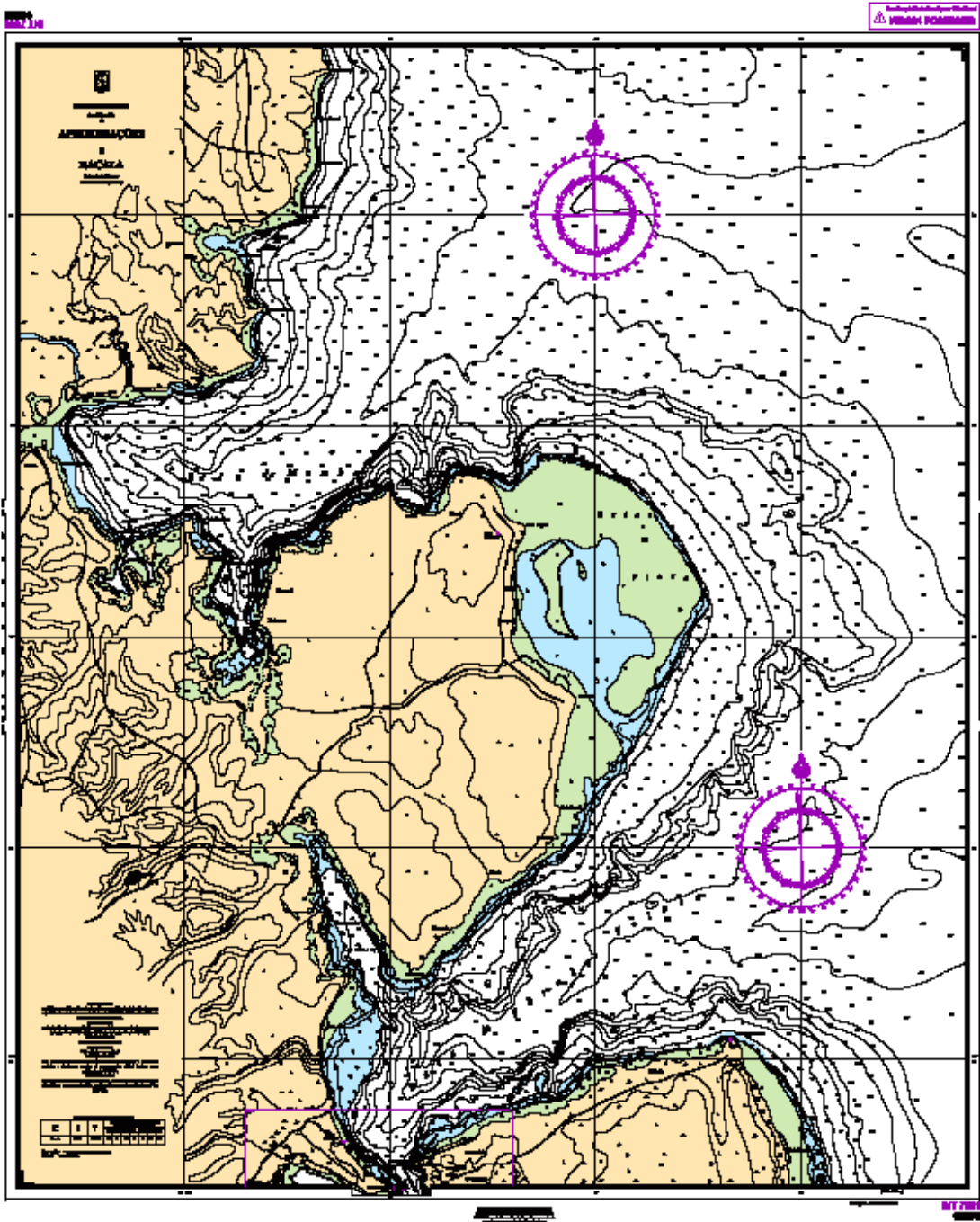


Figure 1 (above): Approximation chart to Maputo Port.

- **INT Chart Nr. 7631** – Approximation to the Beira Port, to be updated still this year. A single beam hydrographic survey is currently being conducted in the Beira Channel, also covering the port area. Information resulting from this survey will also be used to update INT chart of Beira Port - INT Chart Nr. 7632, below.
- **INT Nr. 7632** – Beira Port. To be jointly updated with the INT chart Nr. 7631, above.
- **INT Nr. 7661** – Approximation to the Nacala Port, to be updated still this year. Both topographic and hydrographic surveys intended to produce this chart have already been done and data processing completed. Updating of this chart should be preceded by coordination between the MHO and IHPT. The MHO expects to send to the Portuguese counterpart – IHPT, the necessary data.

Figure 2: Approximation chart to Nacala Port (below).



INT Chart Nr.	INT Chart Name	Status	Year
Chart Nr. 7581	Maputo Bay	Update in progress	2018
Chart Nr. 7583	Approximation to the Port of Maputo	Update in progress	2018
Chart Nr. 7631	Approximation to the Beira Port	Update in progress	2018
Chart Nr. 7632	Beira Port	Update in progress	2018
Chart Nr. 7661	Approximation to the Port of Nacala	Update in progress	2018

Table 1. Summary of INT Charts being updated.

Yet in relation to the INT Charts, MHO is conducting a project aimed at producing new INT chart to Topuito Port. Topography survey have already been done and area delimitation completed. It is expected that hydrographic survey can start at any time.

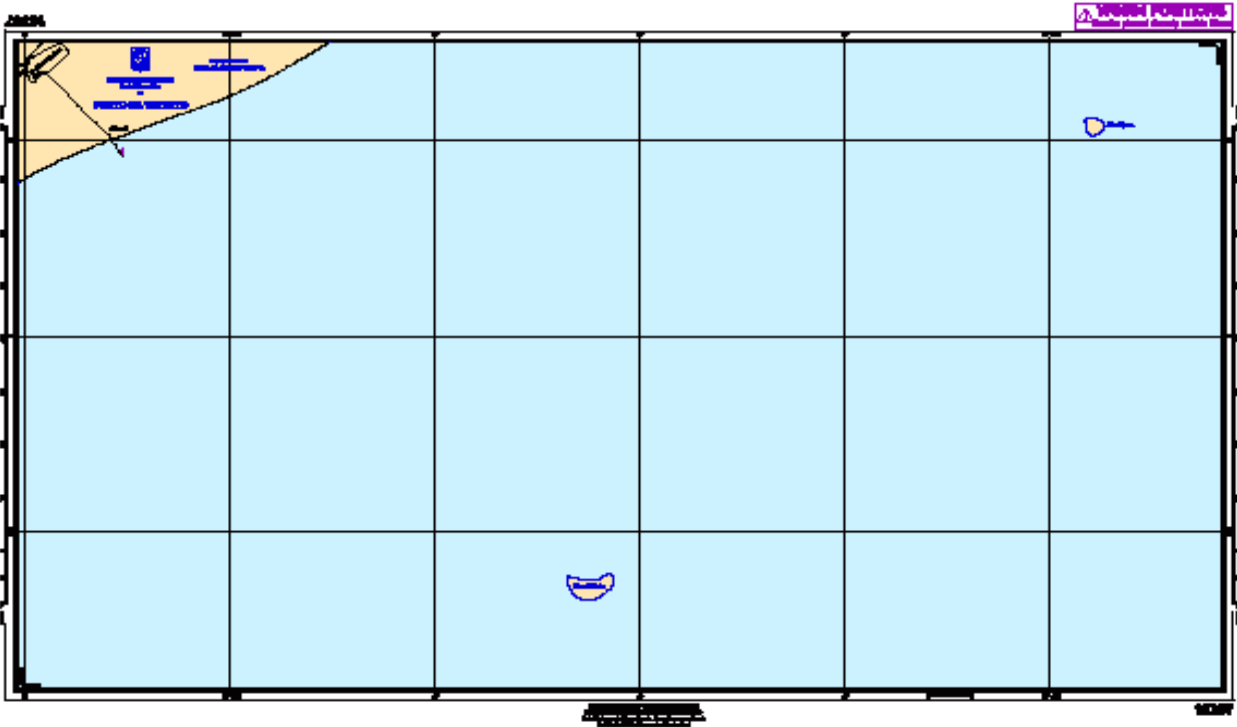


Figure 3: Topographic area of the Topuito Port (above).

4.3. ENC's

As it was referred in 5. charting at the MHO consists mainly in the production of paper charts. Some cartographers have participated in some ENC's data assessment and data processing workshops and training courses provided by the IHO/CBSC, but MHO do not yet produce ENC's. Alternatively, the UKHO has assured edition of the MHO charts to ENC's as well as its distribution.

4.4. Charts for pleasure Craft

The MHO charting remains focused on ports and approximation channels to ports. Production of pleasure charts is a new experience and it is being slowly integrated. The Uembje beach pleasure chart, in Bilene, Gaza, is still the first and the only pleasure chart produced by the MHO. Yet this year, some deep water warning buoys will be placed, finishing the marine signalization of this busy beach.

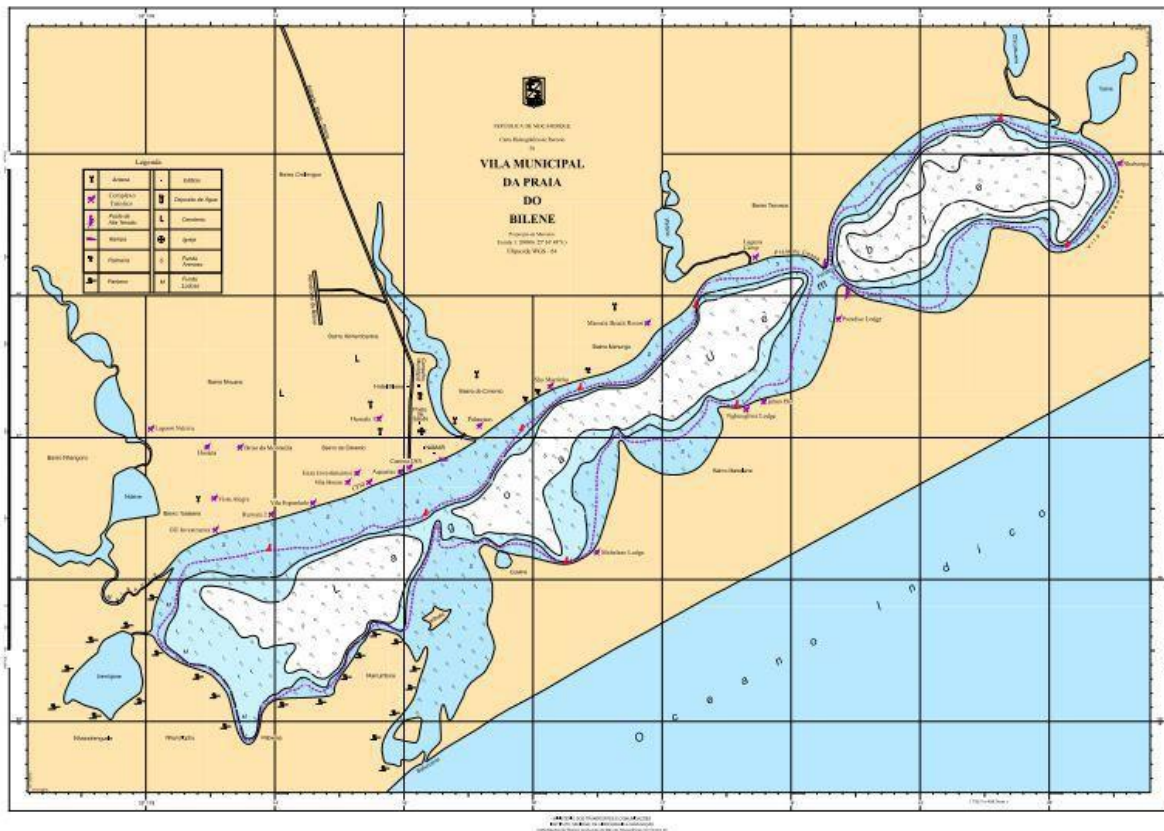


Figure 4: Pleasure chart of the Uembje beach in Bilene, Gaza Province.

5. New publications

Publications issued by the MHO are currently being made in hard copies format. Charts and tide table as well as work plans and several kind of reports constitute the main publication.

5.1. New Master Plan

In 2017, the MHO approved the new MHO 2018-2022 Master Plan.

6. MSI

In Mozambique the MSI is under the responsibility of the Instituto Nacional da Marinha (INAMAR, *Marine National Institute*). However, the MHO has had an active engagement for its promulgation.

7. MSDI & GMDSS

Marine Spatial Data Infrastructure – MSDI and the Global Maritime Distress Safety Information – GMDSS remain under direct supervision of INAMAR. The MHO has participated in search and rescue (SAR) operations in close coordination with INAMAR and has had an active engagement in these projects in collaboration with other national institutions. Below is the personal information of the national coordinator of SAR:

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8. Capacity Building

The MHO has taken part at the IHO Capacity Building Sub-Committee meetings.

In terms of capacity building needs, the following has been identified as the MHO short terms capacity building needs:

- Hydrographic on job training in multi beam echo sounder system;
- Hydrographic on job training in Side Scan Sonar system;
- ENC on job training course;

- Paper chart refreshment training;
- Hydrography Cat B and Cat A training courses;
- Cartography Cat B and Cat A Training course;
- On job training in aids to navigation maintenance.

Mozambique thanks the kind offer from the Brazilian Hydrographic Office – the Directorate of Hydrography and Navigation of Brazil – DHN, for having received, accommodated and trained two hydrographers from the MHO, both in IHO Cat B, without any associated expenses. It should also be noted that DHN has once again opened its doors to receive four more candidates in 2019 courses, two in IHO Cat B and another two in IHO Cat A hydrography training courses.

8.1. Cartographic training

Since the last report there was not any development in the field of cartographic training. However, it should be mentioned that cartographers from the MHO have benefited of some training opportunities offered by the IHO/SAIHC Capacity Building initiatives. MHO has identified introducing ENC as one of the main targets in near future, but lack of technical capacity in this field is the big challenge that will probably need to be overcome through bilateral partnerships.

9. Marine Aids to Navigation

The MHO is also the marine aids to navigation body in Mozambique. In general, marine signalization in Mozambique is made of a net of buoys and lighthouses, whose operability is esteemed about 96%. The projects of Modernization of Aids to navigation in Maputo and Beira have great potential to boost up this operability percentage upon its completion. The new buoys to be placed in both channels will be equipped, among others, with automatic information systems – AIS, Recons and remote monitorization system, which will allow the timely maintenance of aids to navigation.

In June, Mozambique received a one week IALA advisory visit by a Senior IALA/WWA expert in the field of marine aids to navigation – Mr Jacques Manchard.

10. Equipment

In general the status of the equipment remain the same as provided in the report for the SAIHC14 (2017). The highlight in terms of equipment is by far the new buoys, automatic information system (AIS) and marine aids to navigation monitorization system to be installed in the ports of Beira and Maputo, as part of the Projects of Modernization of Marine Aids to Navigation which are taking place in those access channels.

Implementation of these projects has been started. In Beira, the first buoys have already been placed.

10.1 New ships

It was referred in our last report that hydrographic surveys are expected to boost out after the deliverance of the survey boat “**MAFAMEDI**” as well as a multibeam echosounder system unit. This survey boat was inaugurated by His Excellency Ministry of Transport and Communications as part of the 2017 World Hydrography Day celebrations, three months before the SAIHC14 Meeting, in La Réunion.

11. Constraints

- Weak technical capacity in the area of hydrographic surveying;
- Lack of training in multibeam echo sounder system;
- Lack of training in Side Scan Sonar system;
- Lack of ships/work boats for hydrographic surveying and aids to navigation maintenance.

12. Participation in international fora

Representatives from the Mozambique Hydrographic Office have taken part in several international organizations fora. This include participation in the 1st IHO Assembly; CBSC meetings and in almost all SAIHC meetings.

MHO also participated at the International Association of Marine Aids to Navigation and Lighthouse Authorities (IALA) Preparatory Diplomatic Conferences, held in Paris (2017) and Maraquexe (2018).

13. Bilateral partnerships

The IHO Strategic Plan describes bilateral partnerships as one of IHO framework to meet the objective of ensuring global surveying coverage. Following this principle, the Mozambique Hydrographic Office has signed some bilateral protocols with the Instituto Hidrográfico de Portugal (IHPT) and with United Kingdom Hydrographic Service (UKHO, in revision), both covering fields of hydrography, cartography and related areas, and capacity building (IHPT).

MHO and DHN are finalising negotiation of their future Cooperation Protocol (see 8).

Having completed the revision of the document and the terms for the new MoU, Mozambique and UK have agreed that the signing could be done during the 15th SAIHC Meeting, to take place in Seychelles, in August 2018.

There are also other partnerships agreements signed with some national and foreign public and private companies.

14. Remarks

Mozambique Hydrographic Office continues committed at improving hydrographic and cartographic services, as well as aids to navigation as part of its contribution to the safety of navigation worldwide. As above mentioned, two projects in the field of aids to navigation are taking place in the approximation channels of Beira and Maputo ports. Once both projects have been completed, it is expected that the quality and performance of marine aids to navigation in these channels and ports is significantly incremented.

Although ports and approximation channels remain the main focus, hydrographic surveys are gradually being extended to another areas, such as rivers and beaches. The result of this new hydrographic approach is the first pleasure chart, completely produced by the MHO.