



SULTANATE OF OMAN NATIONAL REPORT

TO 18th"NIOHC"

North Indian Ocean Hydrographic Commission meeting

(09th - 12 APRIL 2018, GOA, INDIA)

Oman National Report 2018

Executive summary

1. **Hydrographic Office/Services in Oman:** The Royal Navy of Oman is taking the responsibilities of providing hydrographic services in all sectors nationally and internationally through the following directorates:

a. **Directorate of Hydrography (DOH-RNOHQ).** It is basically responsible for giving consultancy and advice in hydrography and any other related subjects to all RNO branches. It is also the source for all plans/ policies and other matters concerning hydrographic affairs.

b. **Directorate of Oman National Hydrographic Office (DONHO).**

The main tasks and duties of this directorate remains the same, it provides safety of navigation to all Omani waters, which is achieved by producing and maintaining navigational charts covering Omani waters in different scale, assisting Omani maritime boundaries delimitation including continental shelf extension project, giving advice on all matters related to Maritime Safety Information, and maintaining the National Hydrographic Archive which includes copies of data from all surveys carried out in Sultanate of Oman.

c. **Hydrographic Unit (HU).** This unit is under the Directorate of Hydrography and it is responsible of various duties including but not limited to, carrying out all beach surveys, establishing tidal stations and analysing tidal data as well as, processing of MBES and SBES data and finally supporting other operational units and maintaining survey equipments.

d. **The National Hydrographic Archive (NHA).** it contains several types of Hydrographic surveys old and new some of which been collected/compiled by Royal Navy of Oman Hydro Units or by friendly countries through a bilateral arrangements or joint surveys, also includes surveys executed through specialized hydro-survey companies which are authorized to conduct survey on behalf of related/concerned ministries for their coastal projects. All of these data are systemically indexed and referenced to ease and facilitate the process of obtaining/provision of the data/information for all users at all time.

2. **Surveys:**

2.1. **Coverage of new surveys.** All hydrographic surveys are tasked to Royal Navy Of Oman Hydro ships RNOVs through Hydrographic Instructions (HIs) as schedule by the directorate of hydrography where a number of new Hydrographic surveys were carried out recently by Survey Vessels and Hydrographic Unit to date along the coast of the Sultanate of Oman to support the national interests as well as enhancing the safety of navigation, these surveys were delivered/received and indexed by the Oman National Hydrographic Archive. In addition to new surveys, a number of commercial surveys were received recently.

2.2. **New technologies and equipments.** The hydrographic unit and all of the

Survey Vessels are equipped and fitted with MBES systems and other sophisticated surveying equipments and software in order to perform hydrographic surveying to the IHO standards and specifications.

2.3. **Problems encountered.** (Survey capabilities; currently are limited to only 1 survey ship supported by shore Unit).

3. New charts & updates:

3.1. **ENCs.** The process of production Oman ENC's is an ongoing process; where the priority is to convert large scale existing navigational paper charts first to ENC's then the medium and small scales to follow. The details of converting, updating and quality control (Verification and Validation) are as follows:

- a. 12 cells passed the Q/C checks and they are ready to go.
- b. 4 other cells will be ready soon.

3.2. **RNCs.** ONHO is not producing any of these charts so far but checking the possibilities (the feasibility and methodology of producing such charts or equivalents as required in the future).

3.3. **INT. Charts.** The Omani INT. Charts scheme which cover both area "I" and "J" has been revised, according to national needs, coastal development, and other requirements, accordingly the list of Omani INT. charts in S11 are proposed for updating where most updates are in area "I" once this is done, changes will be reported to IHO when update received, noting that Since the last meeting held in Oman by ONHO of ROPME-SAHC International Charts Co-ordination Working group (RSAHC-IICWG) in (29-30) April 2015 where regional INT. Charts with other issues were discussed and accordingly a report on all changes and updates were forwarded to the regional coordinator (IR of IRAN) yet no update is observed in area "I" INT- Charts since then.

3.4. **National Paper charts.** Oman producing a number of national paper charts as planned and according to national requirements in different scales as schemed, these charts are continuously maintained. Recently ONHO published a new chart of Qurayyat to Jazirat AL-Fahal (OM 1213) and planning to publish a number of new charts during this year 2018 such as New charts OM 503 (Rass Hellat to Hummur An'nofor), OM 3504 (RA'S AL HADD TO MUSCAT), NC (AL HALLANIYYAH) and NC (PORT SULTAN QABOOS) both of these NCs are large scale charts.

3.5. **Problems encountered.** (the flow of new bathymetric data to ONHO to support the production/updating plans is achieved, due to the limitation in survey platforms, also the deep areas surveys are not achieved for the same reason.

4. New publications & updates:

4.1. Oman National Hydrographic Office (ONHO) published recently the annual Oman Maritime Handbook ONP (01) for 2018, this book provides valuable information to the mariners such as (Tide Tables, List of Radio Signals, List of Lights, and National List of Wrecks).

4.2. **Problems encountered.** (NIL)

5. **Maritime Safety Information:**

5.1. Oman National Hydrographic Office (ONHO) is responsible of all navigational warnings in the sea of Oman and Arabian Sea, this including drafting and broadcasting the Navigational warnings and MSI services as needed through Muscat Radio (not operational), Oman is operating with one NAVTEX station located at AL Amirat and ONHO is in a close cooperation with all concerned authorities/ parties including NAVAREA IX Coordinator (Pakistan) to facilitate the promulgating of all navigational warnings through safety net. Noting that MOTC is handling the issue of NAVTEX station and any update in this regard will be reported to NAVAREA IX Coordinator (Pakistan).

5.2. ONHO also issuing the monthly Oman Notice to Mariners to provide timely marine safety information for mariners and all other users of Omani navigational charts and publications from a wide variety of sources.

5.3. The Ministry of Transport and Communications is the authority for GMDSS in Oman. The Telecommunications Regulations Authority (TRA) is responsible to the Ministry of Communications for all radio and satellite communications aspects of GMDSS. The Royal Air Force of Oman operates the national rescue coordinate centre (RCC) which is responsible for coordinating search and rescue operations in Sultanate of Oman.

5.4. MOTC is undertaken serious step towards the installation of a new Navtex Station to cover all Oman EEZ Area.

5.5 **Problems encountered.** (Oman NAVTEX Station still unoperational)

6. **C-55:**

The latest updates on the status of hydrographic surveying in Omani water are shown below, where the survey coverage is in percentages as following:

Depth	A (adequately surveyed)	B (requires re-survey)	C (not systematically surveyed)
< 200 m	45 %	15 %	55 %
> 200m	60 %	10 %	40 %

Where:

A = Percentage which is adequately surveyed.

B = Percentage which requires re-survey at larger scale.

C = Percentage which has never been systematically surveyed.

7. **Capacity building:**

7.1 To maintain the required level of efficiency and effectiveness at all times for all employees, rehabilitation of the hydro-staff (officers and technician) to efficiently engage in their future work is considered to be a must. Qualification is a continuous operation regardless of the many hurdles in delivering proper training. At present it is

achieved by both In-house and overseas training, the recent capability building is observed in the following:

- a. Currently 3 groups of Hydro-technicians are taking in-house basic hydro-training (Diploma) at Sultan Qaboos Naval Academy, they will be attached to different sections for on job training on completion.
- b. 2 ONHO Officers completed a Master degree in Geographic Information Science in Dublin Institution of Technology, Ireland.
- c. 1 ONHO Officer following a MSc course in Geographic Information Science in Dublin Institution of Technology, Ireland from 5th September 2017 to 27th October 2018.
- d. 1 ONHO Officer following a MSc in Physical Oceanography in Bangor University, UK from 13th September 2017 to 30th October 2018.
- e. In coordination with CARIS, the directorate of Hydrography conducted a CARIS software training for ONHO and other Hydro unit staff in April 2017 covering the following (HIPS and SIPS, Bathy database, LOTS Article76, S-57 composer and PCC paper chart composer) training.
- f. 12 ONHO members attended Marine Data Management and Spatial Data Infrastructure from 10th to 14th of September 2017, Muscat, Oman, delivered by OceaWise.
- g. 1 ONHO Officer attended 9th ABLOS conference 10th – 11th Oct 2017, IHO, Monaco.
- h. 3 ONHO members attended Tide Analysis Training Course from 29th March to 01st April 2018, University Of Technology Malaysia.

8. Oceanographic activities:

8.1. **General.** Different sectors and organizations are dealing or responsible for most of oceanographic activities in Oman where the RNO (The Hydrographic Office/ Services) are not fully in charged in acquiring/collecting nor processing oceanographic data but only limited to archiving this kind of data.

8.2 **Tide Gauges Network.** Oman monitors Tides over the Omani coast through a number of permanent stations where the Tide Gauges in these stations are fully automated, highly precise and with satellite connectivity. The network then is connected by a number of Standards, Secondary and Minor Tidal stations. Seven new permanent tide gauges are now installed by DGCAM covering the coast of Sultanate as part of MSL observation.

9. Other Activities:

9.1. **Participation in IHO working Groups.** Oman National Hydrographic Office (ONHO) is an active member in ROPME Sea Area Hydrographic Commissions (RSAHC) and associate member in the North Indian Ocean Hydrographic Commission (NIOHC), and it is strongly participating in IHO-WG Such as S23 and WENDWG the ONHO participation is observed in the following:

- a. ONHO attended the Advisory Board on the Law of the Sea (ABLLOS) conference in Monaco during the period 20 - 22 October 2017.
- b. HONHO has been selected to join of S32 (Hydrographic Dictionary) working Group (HDWG) for and Arabic speakers.

9.2. According to disaster prevention, environmental protection, astronomical observation there are different organizations observing and monitoring and dealing with these issues and Oman Hydrographic Office/ Services is always cooperating and it is in close contact with these organizations especially in related field and common interest/areas.

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11. Conclusions:

11.1 Oman National Hydrographic Office (ONHO) recognizes the importance of Hydrography worldwide and works in cooperation with other national and international organization to provide hydrographic services and other relevant/vital information to all mariners/users for a safer navigation in Omani waters and in addition to that it contributes through Royal Navy of Oman and other concerned sectors to increase safety awareness in marine affairs and other related fields i.e. including and not limited to anti piracy operations, search and rescue, preventing marine disasters and protecting marine environment.

11.2 ONHO through the National Hydrographic Requirement Committee is making/revising the strategic plan of both hydrographic surveying and production of Nautical publications to fulfill the National requirements for better Hydrographic services in Omani waters and despite the problems/issues encountered the ONHO had another successful year and it will save no effort to continue developing and coping with the trends and the new technologies in all sectors in order to deliver better Hydrographic services to all sectors/users at all times.