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SERVICE HYDROGRAPHIQUE ET  
Océanographique DE LA MARINE

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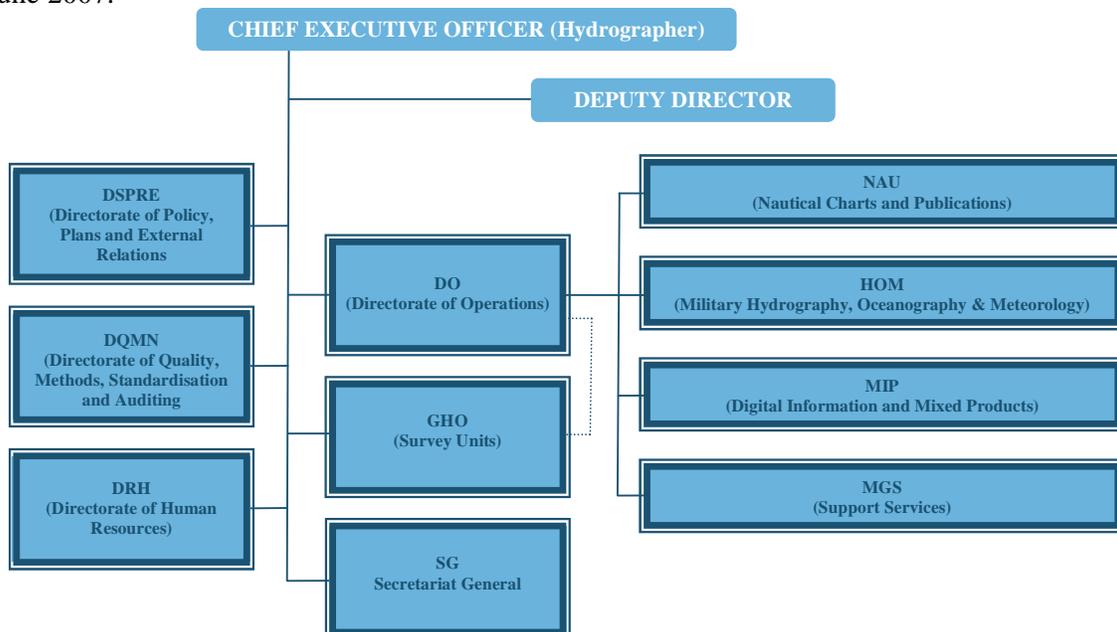
## National report from FRANCE to the 9<sup>th</sup> meeting

### of the North Indian Ocean Hydrographic Commission (NIOHC)

#### 1. Hydrographic Office: General

Since the 11<sup>th</sup> of May 2007 SHOM, whilst keeping its name, has become an *Établissement Public*, i.e. a national establishment endowed with a legal personality independent from the French Government. The new decree defines SHOM's missions and responsibilities which embrace all areas placed under French jurisdiction or where France has international commitments as the Western Africa area, Bab el Mandeb, Madagascar, acting as charting authority. The new decree is included in the new IHO M-16 publication.

With most SHOM staff now located in Brest, the new organisation shown below was set up in late June 2007.



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The change in status in 2007 finalises more than ten years of joint efforts undertaken by the Navy and the Service to ensure that SHOM continues to respond to new situations and meet the needs of the current context. The change was decided by the Defence Minister in 2006 and was made official by decree no. 2007-800 of 11 May 2007, which transformed SHOM, until then a service of the Navy, into an administrative public establishment under the tutelage of the Defence Minister. SHOM is managed by a Chief Executive Officer (Hydrographer) appointed by decree and supervised by a Board of Directors of 20 members representing a broad section of the French administration (Prime Minister, ministers of budget, defence, environment, industry, overseas and transport, several Government services and agencies). The new decree strengthens the traditional ties between SHOM and the Navy by having the Board of Directors chaired by the Chief of Naval Staff and the Navy providing the survey vessels onboard which SHOM's survey units operate.

SHOM's *raison d'être* is to make available qualified information depicting the physical maritime environment, coastal and offshore, to meet the requirements of civilian and military mariners as efficiently as possible. That objective is reached through three main missions stipulated by the new decree.

- First of all, SHOM is the **French national hydrographic** service appointed to collect and check all the information necessary or merely useful to ensure the safety of maritime navigation. SHOM either disseminates that information or controls its dissemination. SHOM is therefore responsible for carrying out or supervising the necessary surveys in the French EEZ (11 million of km<sup>2</sup>) in order to produce and update the official nautical charts and publications covering those areas. Additionally, SHOM is also the de facto charting authority in many other areas. That activity conducted for the benefit of other coastal States is progressively formalized through bilateral arrangements (Djibouti, Monaco, Morocco, Togo, Senegal, for instance) in accordance with SOLAS Chapter V.
- Then, SHOM is responsible for providing **hydrographic, oceanographic and meteorological (HOM) support** for military operations as well as for the development and use of weapon and commandant control systems. In particular SHOM provides tools and services for the measurement, the description and the forecast of HOM environment. Those tools and services are tailored to the various types of warfare (underwater, above water, mine and amphibious warfare) and adapted to the sensors in-use (active and passive, radars, sonars, and infrared sensors).
- Finally, techniques and skills developed for and involved in the first two missions are also made available to **support maritime and coastal public policies** and meet the various requirements of other ministries and public entities. For instance, SHOM provides expertise in maritime limits and boundaries to the Ministry of European and Foreign Affairs and to the General Secretariat of the Sea and is also tasked to develop a high resolution digital terrain elevation model in cooperation with the French National Geographic Institute (IGN) to support integrated coastal management (Litto3D®). SHOM is also officially designated to be part of the crisis response team in the event of a maritime pollution. Using its automated tide gauge network, SHOM contributes to natural disaster response programmes and, along with civilian partners, is heavily involved in operational oceanography including its extension to coastal areas.

Work is continuing on SHOM pluriannual contract of objectives and means under the aegis of the Prime Minister's Secretariat for the Sea, according to the guidelines set by the Board.

The French Parliament ratified the IHO new convention on the 26<sup>th</sup> of July 2007. The ratification was notified to the Government of Monaco on the 27<sup>th</sup> of August 2007<sup>1</sup>.

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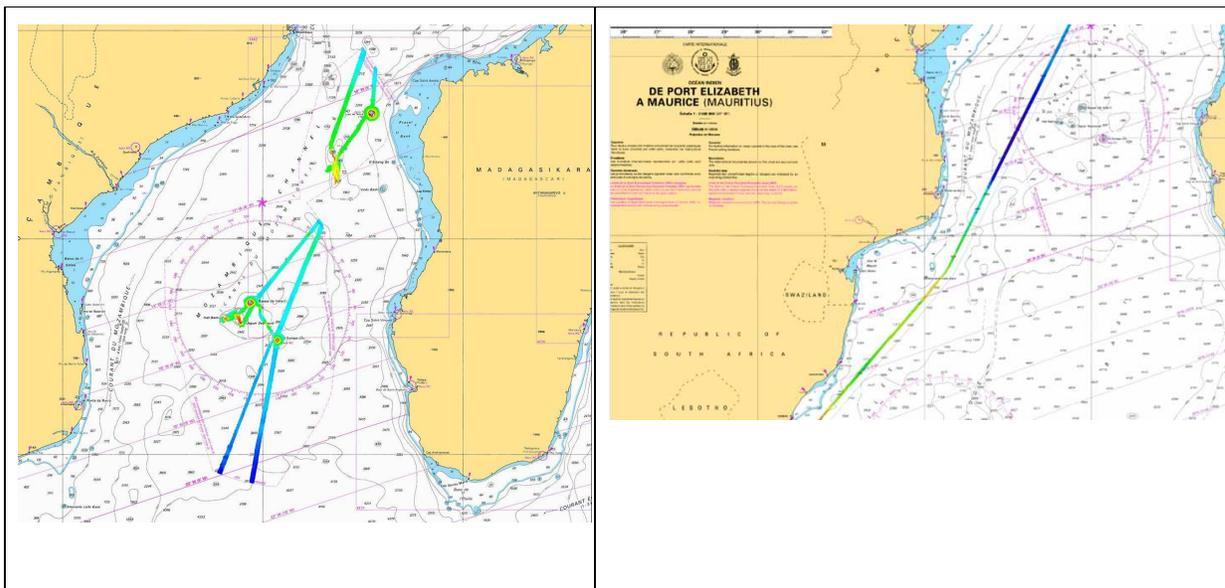
<sup>1</sup> Cf [http://www.iho.int/MEM\\_STATES/Convention3.pdf](http://www.iho.int/MEM_STATES/Convention3.pdf)

France signed in 2006 an international agreement with Djibouti in order to formalise the existing co-operation and sharing of hydrographic responsibilities in accordance with the SOLAS convention. France acts as charting authority for the IHO in the Bab el Mandeb area.

- 2. Surveys: Coverage of new surveys
  - New technologies and /or equipment
  - New ships
  - Problems encountered

### 2.1 Coverage of new surveys

Since the previous conference, no data have been collected in Region J. However, it is worth to note that France started the collection of data in the adjacent Region H, along the SW Indian Ocean Marine Highways in 2008, to make benefit of the survey ship *Beautemps-Beaupré* transits when she was deployed in Mayotte and Madagascar. Data were officially delivered to the World Bank representative and Marine Highway project co-ordinator, at a meeting in Paris in October 2008.

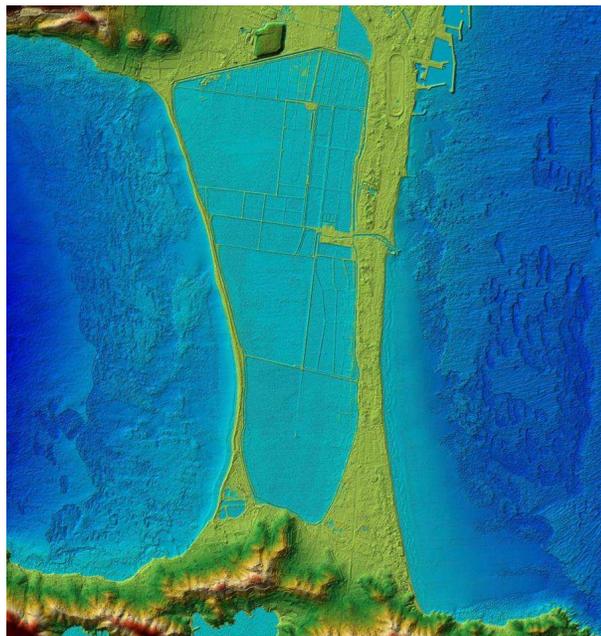


### 2.2 New technologies and /or equipment

As mentioned at § 2.1.ii above, SHOM is making extensive use of remote sensing, both satellite and airborne imagery, to improve its chart portfolio. One of its current projects that might be of interest in the NIOHC area is Litto3D ®. The main objective of Litto3D ® is to develop a high resolution DTM foundation, using a combination of MBES and lidar, for integrated coastal management applications. It is carried out by SHOM and the National Geographic Institute (IGN). The coasts of Mayotte and Eparses islands will be surveyed in the near future.

The most tangible progress has been the decision to give an open access to the historical seamless data Histolitt ® covering the entire coastal areas of France. The detailed coastline is already accessible to the public on the French national Geoportal.

The historical data will be gradually improved by new, more accurate surveys, as the project unfolds over the next 10 years.



*Lidar topographic and bathymetric survey on the South coast of France (around 37 m)*

### **2.3 New ships**

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### **2.4 Problems encountered**

As many other IHO Member States, France is tasked with collecting nautical information and surveying international waters that would otherwise remain uncharted.

Although SHOM is kept informed through diplomatic channels of Maritime Scientific Research clearance in the waters placed under France national jurisdiction, it is important to keep in mind that it is in the interest of the international maritime community, that survey relevant results are automatically communicated to the IHO recognised charting authority (ref. M-11).

In addition, provision should be made in all contracts awarded to private survey companies to the effect that hydrographic data pertinent to the safety of navigation be communicated to the IHO recognised charting authority.

### 3. Charts and Publications:

- a. Charts
  - a.1 New charts & updates
  - a.2 ENCs
  - a.3 RNCs
  - a.4 INT charts
  - a.5 National paper charts
  - a.6 Other charts e.g. for pleasure crafts
  - a.7 ENC Distribution method
  - a.8 Problems encountered

#### a.1 New charts & updates

##### Produced since the 8<sup>th</sup> meeting:

N° Nat.	N° INT	Scale 1:	Title
6878		175 000	<i>Golfe de Suez – De Râs Ghârib au port de Suez.</i>
7545		var	<i>Suez Canal (Fs GB 233).</i>

##### Planned in 2009:

N° Nat.	N° INT	Scale 1:	Title
6947		1 080 000	<i>Abords et partie Est du Golfe d'Aden (new surveys).</i>
7520	7115	50 000	<i>Abords de Djibouti (new surveys).</i>

##### Planned in 2010 – 2012:

N° Nat.	N° INT	Scale 1:	Title
7519	7114	200 000	<i>Bab el Mandeb et Golfe de Tadjoura (new surveys).</i>

#### a.2 ENCs

On the 1<sup>th</sup> of January 2009, SHOM had produced some 268 ENCs at an approximate rate of 40 per year. The full collection should eventually reach a figure of the order of 700 ENCs.

Europe approaches are well covered, taking into account commercial and passengers sailing requirements. Production in non European waters (areas of international responsibilities, overseas territories) is progressing.

In line with the WEND task group recommendation, France produces its small scale ENC cells as closely as possible to INT chart schemes, and now acts as ENC scheme co-ordinator where France is also acting as INT chart co-ordinator (EAthC, MBSHC).

Due to IMO regulations on ECDIS carriage requirements, France will ensure that all HSC lines in its areas of responsibilities are covered with ENC by 2009.

The SHOM ENC coverage of the NIOHC area is depicted in the chartlets below, where existing ENC are represented in dark pink and planned ENCs are in light pink (2009 – 2010):



**b. Publications****b.1 New publications****b.2 Updated publications - Editions****b.3 Means of delivery e.g. paper, digital****b.4 Problems encountered****b.1 New publications**

Type	Nr	Title
IN	L3	<i>Indian Ocean (North-Western part) – from Sri Lanka to Pakistan.</i>
IN	L7	<i>Red Sea – Aden Gulf</i>
IN	L8	<i>Africa (East coast) – from Cape Agulhas to Ras Hafûn.</i>
DIV	095A	<i>Annuaire des marées pour 2009, tome 2 – Ports d’outremer. Tide table 2009 – Vol 2 – Overseas ports.</i>
DIV	105A	<i>Annuaire des marées pour 2010, tome 2 – Ports d’outremer. Tide table 2010 – Vol 2 – Overseas ports.</i>
RSX	91	<i>Maritime radionavigation.</i>
RSX	922	<i>Maritime radiocommunications, volume 2 (Africa, Asia, Australasia).</i>

IN : Sailing directions

RSX : Radio stations

LL : List of Lights

DIV : Miscellaneous

**b.2 Updated publications – Editions**

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**b.3 Means of delivery e.g. paper, digital**

SHOM aims at generating by digital means its entire paper production. This should be achieved by using international standards such as XML and following closely the recommendations of experts such as the IHO Standardization of Nautical Publications Working Group (SNPWG) in which SHOM participates.

**b.4 Problems encountered**

An important regulation corpus has been developed for the establishment and use of ENCs while the equivalent standardisation for nautical books is still lagging. As a result, the rules of use of these documents are not clearly established.

**4. MSI****Existing infrastructure for transmission****New infrastructure in accordance with GMDSS Master Plan****Problems encountered**

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**5. Capacity Building                      Offer of and/or demand for Capacity Building -  
Training received, needed, offered  
Status of national, bilateral, multilateral or regional  
development projects with hydrographic component. (In  
progress, planned, under evaluation or study)**

**5.1 Offer of and/or demand for Capacity Building**

France participates in the IHO Capacity Building sub-committee and supports the IHO Regional Hydrographic Commissions of which SHOM is a member, especially the Southern Africa and Islands Hydrographic Commission (SAIHC), the Eastern Atlantic Hydrographic Commission (EAthC), the South-West Pacific Hydrographic Commission (SWPHC), the Meso American and Caribbean Sea Hydrographic Commission (MACHC) and the Mediterranean and Black Sea Hydrographic Commission (MBSHC).

Since December 2008, SHOM is the CBSC focal point for the EAthC. Technical visits on behalf IHO have also been carried out in the Mediterranean and Black Sea area (Romania, 2008 and Lebanon, 2009).

SHOM lead a technical visit in May 2006 in Seychelles on behalf IHO. It would be interesting to review the progress made by the coastal states in the region, since the provision of the different recommendations.

**5.2 Training received, needed, offered**

Initial training capabilities provided by SHOM are described in its yearly report available on [www.shom.fr](http://www.shom.fr).

France is aware of the language barrier that can create obstacle to technically capable, non-French speakers. Rather than proposing to attend the full French hydrographic course, which lasts about 18 month for FIG/IHO/ICA level B (incl. practical experience at sea) and a minimum of 2 years for category A, SHOM in liaison with NAVFCO (governmental company dedicated to transfer the French Navy know-how) is preparing short modules in English/French on narrow technical fields such as ENC, delineations, military oceanography, etc.

**5.3 Status of national, bilateral, multilateral or regional development projects with hydrographic component. (In progress, planned, under evaluation or study)**

After Monaco (2005) and Djibouti (2006), France signed in 2008 two international agreements with Morocco and Togo in order to formalise the existing co-operation and sharing of hydrographic responsibilities in accordance with the SOLAS convention. A new agreement was signed on 12<sup>th</sup> of February 2009 with Senegal. More agreements are expected to be signed shortly with countries from Western African countries.

As soon as these agreements are signed, systematic procedures are carried out for comprehensive revision of survey plans, training requirements, assessment of charting issues, S-55 entries (see § 6), on a yearly basis.

**6. S-55 Latest update**

The S-55 database for French areas of responsibilities is updated by SHOM on a yearly basis.

Separate entries are now available for France areas in each IHO region. A regular annual updating process has been put in place for periodic updates and for the coastal states either linked to France by agreement, or when France is the charting authority.

## 7. Oceanographic activities General

### GEBCO/IBC's activities

#### Tide gauge network

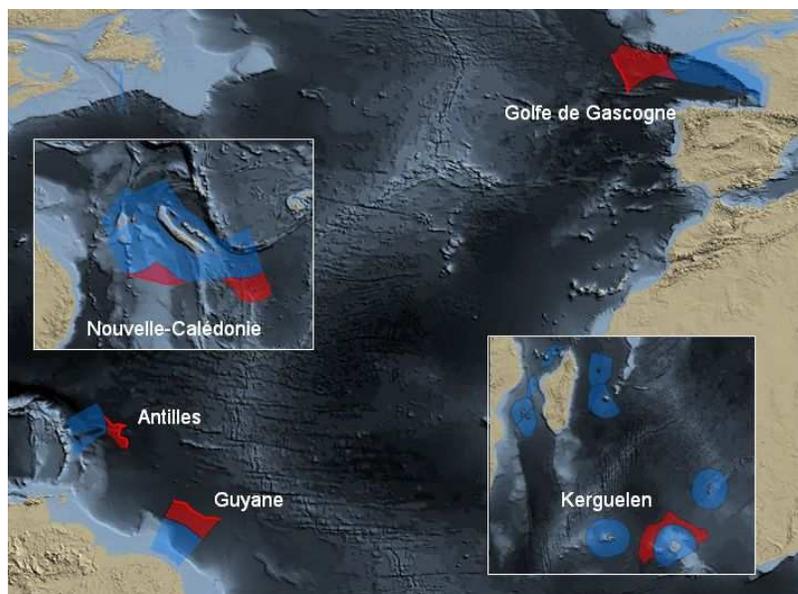
#### New equipment

#### Problems encountered

SHOM is member of the GEBCO Directing Committee.

It is worth noting that SHOM is responsible in France for tide predictions, and collect all sea level data available. In support of this activity, it maintains a digital tide gauge network as part of the French contribution to the IOC Tsunami Alert System scheduled in a first phase for the Indian Ocean, and meant to be further extended to the rest of the world. After the equipment of La Réunion in 2007, a tide gauge has been installed in November 2008 in Mayotte (Indian Ocean). This new equipment transmits in real time its data to the regional alert center.

SHOM is tasked by the Ministry of Foreign and European Affairs to provide expertise in maritime delimitations. For this reason, SHOM is deeply involved in the tasks relating to the potential extension of the limits of its continental shelf. Applications were made in 2008 to the UN Commission on the Limits of the Continental Shelf (CLCS) for different areas as depicted below.



## 8. Conclusions

The NIOHC 9<sup>th</sup> conference is considered as an excellent opportunity to review the hydrographic specific requirements, the international anti-piracy naval forces may have to plan and conduct the operations. A working paper is submitted for the consideration of NIOHC members. In 2005, NIOHC established a set of recommendations gathered into the IHO response plan to disasters (CL59/2005 dated 31 May 2005). Likewise, it is suggested to examine whether it is required to identify any actions and/or recommendations to co-ordinate hydrographic support of anti-piracy naval forces operations in accordance with UN S/Res. 1851.