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MINISTÈRE DE LA DÉFENSE

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SERVICE HYDROGRAPHIQUE ET OCEANOGRAPHIQUE DE LA MARINE

Directorate of Policy, Plans & External Relations

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National report from FRANCE to the 8th meeting

of the South-West Pacific Hydrographic Commission (SWPHC)

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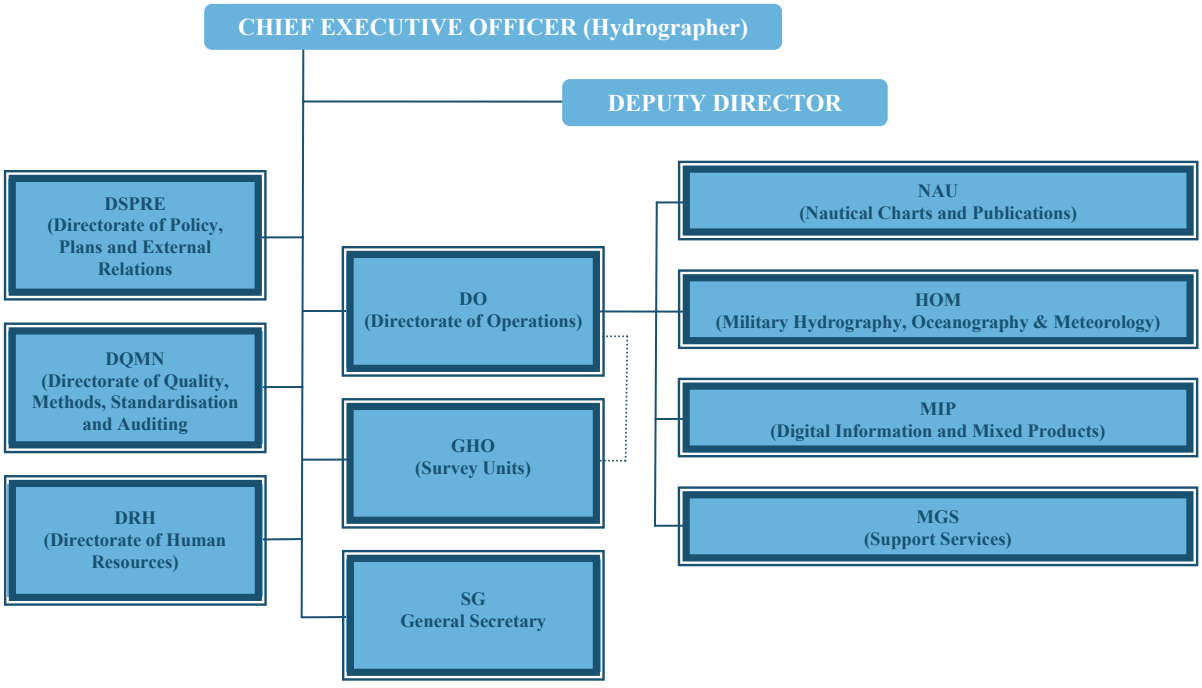
1. Hydrographic Office: General

Since the 11th 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, and states explicitly that it is applicable to French Polynesia, Wallis and Futuna, and New Caledonia.

SHOM's new organisational chart is as follows:



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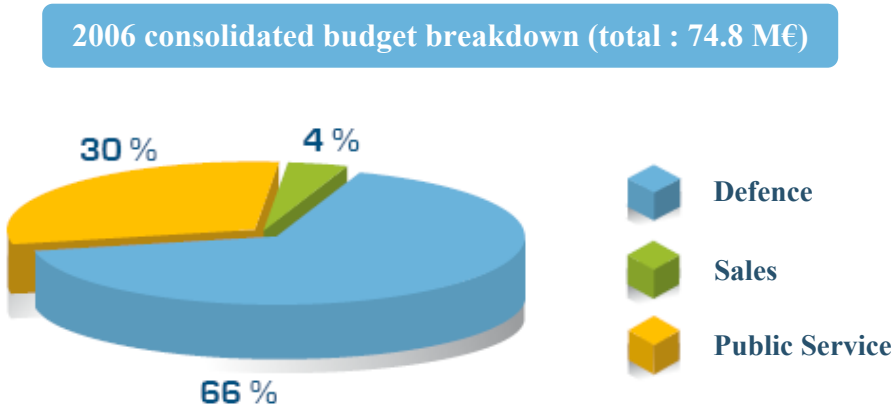
SHOM BP 8 29240 BREST ARMEES
Direction du SHOM CS 52817 – 29228 BREST CEDEX2

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 Navy retains its prominent role by having the Board of Directors chaired by the Chief-of-Staff and providing the survey vessels onboard which SHOM's Survey Units operate.

It should be stressed that SHOM's change of statute will have little or no incidence on the service's inconsiderable commercial ambitions, which will remain irrelevant against its two primary missions, i.e. Defence support and Public Service, in charge of safety of navigation (SOLAS) and support of French national and international maritime policies.

This is reflected by the following figures:



Although SHOM's head office has been moved from Paris to Brest in November 2005, the division in charge of external relations has remained in Paris. It is located presently within the premises of the French National Geographic Institute (IGN) in Saint-Mandé, a few hundred metres away from Paris' "*Porte de Vincennes*".

In June 2004, SHOM was awarded the ISO 9001:2000 certificate for its activities performed for the safety of navigation, including surveys and nautical information. This certification was further extended in the summer 2006 to all SHOM's remaining activities, including defence, training and - it is worth insisting - R&D.

To finish on a diplomatic note, it should be reported that the IHO new convention has been ratified by the French Parliament on the 28th of July 2007.

2. Surveys:

Coverage of new surveys
New technologies and /or equipment
New ships
Problems encountered

2.1 Coverage of new surveys

SHOM conducts, or participates to, two types of surveys in the SWPHC area:

i. The first type aims at collecting geophysical information pertinent to defining the extent of the French continental shelves in the Pacific Ocean, in accordance with Art 76 of the UN Convention of the Law of the Sea (UNCLOS).

ii. The second type of surveys is related to SHOM's long term commitment in those areas where France has overseas territories and/or traditional links. It is aimed at collecting nautical information with a view to improve SHOM's chart portfolio along the following lines:

- Cataloguing of all existing information.
- Oceanographic modeling (tides, currents, swell, etc.), eventually in liaison with IOC initiatives if any.

- Use of remote sensing (SPOT, ERS, airborne surveys, etc.) to improve the coastal cartography.
- Hydrographic surveys (bathymetry, geophysics, sediments, etc.) and production of charts and nautical documents.

2.1.1 Surveys aimed at collecting geophysical information (UNCLOS)

Along with other French Public Agencies (IFREMER, IPG, IPEV, etc.), SHOM participates to the EXTRAPLAC campaign started in 2004 with the view to collect geophysical information pertinent to defining the outer limit of French overseas territories' continental shelves.

No further survey has been performed since the NOUCAPLAC campaign reported to the 7th conference. As a result of this campaign, the New Caledonia file prepared subsequently should be submitted to the Commission on the Limits of the Continental Shelf in the near future.

2.1.2 Surveys aimed at collecting nautical information (Improvement of the chart portfolio)

Since the previous conference (November 2005), the *Groupe Océanographique du Pacifique* (GOP) has conducted the following surveys in support of the local authorities, pilots, tour operators, fisheries & mining customers:

In New-Caledonia and vicinity: Several surveys of bays, natural harbours, recommended routes and passages in and outside the lagoon, including the satellite imagery restitution of the Fairway and Nereus reefs near the Chesterfield plateau.

In the Loyauté islands: The new multipurpose buoy tender Louis Henin operating with a SHOM launch has been deployed in Ouvéa (Baie de Mouly, for a lagoon fishery project) and in the Pleiades du Nord.

In Wallis & Futuna: A SHOM launch operating from a landing ship tank has surveyed a recommended route in the Wallis lagoon and completed a satellite imagery restitution in Futuna.

In French Polynesia : Port of Papeete (Tahiti), satellite imagery restitution in Hereheretue (Tuamotu – Gloucester Group) and Bora-Bora (Society).

In accordance with a convention signed in 2006 between the French Government represented by SHOM and the authorities of French Polynesia, SHOM's Polynesia Survey Unit has joined the directorate of Equipment and operates a local survey launch.

The Toa Nui launch placed at the GOP's disposal

In the Clipperton atoll[1]

In view of further surveys, a tide gauge has been set up in Clipperton to collect data for one year.

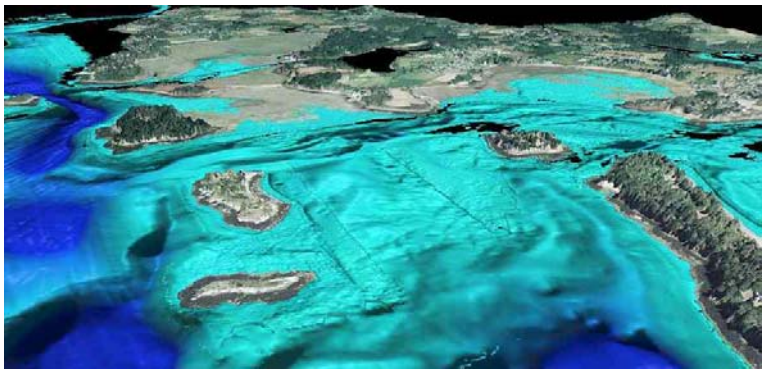
[1] Clipperton is located in the USCHC area.

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, to improve its chart portfolio. One of its current projects that might be of interest in the SWPHC area is Litto3D ® commented hereafter. The main objective of Litto3D ® is to develop a high resolution DTM foundation for integrated coastal management applications. It is carried out by SHOM and the National Geographic Institute (IGN).

The Litto3D project

Although using a combination of MBES and lidar does not make breaking news in the South Pacific, a memo on the IGN/SHOM Litto3D project was posted in the French national report to the 7th SWPHC.



Orthoimage draping on the *Morbihan* DTM

Since then, the most tangible progress has been the decision to release to the French public of the historical seamless DTM covering the entire coastal areas of France. The detailed coastline is already accessible to the public on the national Geoportal while the "*Histolitt*" database should be made available through the same portal, before the end of 2007.

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

2.3 New ships

To complete the French previous national report, a photograph of the new ocean research vessel ***Pourquoi-pas?*** has been posted below.

The ***Pourquoi-pas?*** was admitted to active service in September 2005. She is a 6 500T multi-purpose ship funded jointly by the Ministry of Defence (45%) and the Ministry of Research (55%) and shared almost equally between SHOM and Ifremer (the French institute for the exploitation of the Ocean). SHOM is entitled to 150 days per year, which started in the 2nd semester 2006 by a maiden cruise in the Caribbean.

The Ocean Survey ship ***Pourquoi pas ?***

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 juridiction, it is important to keep in mind that it is in the interest of the international maritime community, that survey 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 (planned from 2007 to 2010)

Produced since the last conference

N° National	N° INT	New chart (NC) or new edition	Scale 1:	Date	Title

		(NE)			
6280		NE	12 500	2005	*Partie Nord de Raiatea - Port d'Uturoa*
6281		NE	12 000	2005	*Partie Sud de Tahaa*
6282		NE	30 000	2005	*Passes entre les îles Raiatea et Tahaa*
6283		NE	30 000	2005	*Ile Tahaa*
6284		NE	30 000	2005	*Partie Sud de Raiatea*
6434		NE	30 000	2005	*Huahine*
6657		NE	12 500	2006	*Baies de Cook et d'Opunohu*
6658		NE	50 000	2007	*Ile de Mooréa - Côte Nord-Ouest de Tahiti*
6687	6883	NE	60 000	2006	*Abords de Nouméa- Passe de Boulari* (new surveys) and INT number.
6957		NE	25 000	2006	*De la Baie de Taravao à la Passe d'Aiurua*
7260		NC	175 00	2005	*De Apataki à Fakarava*
7262		NC	175 000	2006	*De Makemo à Marutea Nord*
7293		NE	50 000	2007	*Manihi*
7346		NE	60 000	2006	*Iles du Roi Georges. Takaroa et Takapoto*

Planned in 2007:

6554		NE	20 000	*Baie Chasseloup, anse Vouavouto* (new surveys)
6876		NE	20 000	*Iles Wallis - Accès à Mata Utu et Halalo* (new surveys)
6955		NE	173 000	*Approches des îles de Tahiti et de Mooréa - Iles de Maiao et de Tétiaroa*
7318		NE	60 000	*De Poum à l'île Pam* (new surveys)
7319		NC	60 000	*Nouvelle Calédonie* (new surveys). Should replace Nat 1536, 2744, 3646, 3785 & 3888.
7321	636	NE	1 500 000	*Des récifs Bampton à l'île Hunter – Nouvelle-Calédonie – Vanuatu* (new surveys)

Planned in 2008 – 2010 :

N° National	N° INT	New chart (NC) or new edition (NE)	Scale 1:	Title
6827		NE	60 000	*Du Mont Dore à Port-Boisé* (new surveys). Will be produced with INT number 6882.
6933		NE	60 000	*De l'île Ouen à l'ïle des Pins* (new surveys). Will be produced with INT number 6881.
6986		NE	60 000	*De Port Ounia au Cap Ndoua* (new surveys). Will be produced with INT number 6880.
7259		NE	75 000	*Maré* (SHOM & Ifremer new surveys).
7268		NC	850 000	Nouvelle-Calédonie – Iles Loyauté (with baselines)
7308		NC	Var.	*Wallis* (new surveys of recommended routes).
7309		NC	Var.	*Wallis et Futuna* (new surveys of recommended

				routes).
7313		NC	60 000	*Nouvelle-Calédonie* (replaces Fr 2759)
7321	636	NE	1 500 000	*Des récifs Bampton à l'île Hunter – Nouvelle-Calédonie – Vanuatu.* *(*new zépolif survey)
6002		NE	20 000	*Bora-Bora*. Will be produced with INT number 6955.
6434		NE	30 000	*Huahine*
6461		NE	60 000	*Iles Gambier* (new surveys with recommended routes)
6462		NE	30 000	*Iles Gambier* (new surveys with recommended routes)
6598		NE	25 000	*De Taapuna à la pointe de Vénus* (new surveys with recommended routes). Will be produced with INT number 6941.
7459		NC	Var.	*Tikehau* (new survey; "space chart")
7460	6940	NE	10 000	*De la passe de Taapuna à la passe d'Arue* (new survey)
7347	656	NE	1 500 000	*De l'archipel des Tuamotu aux îles Australes (*new zépolif survey)
7369	657	NE	1 500 000	*Des Southern Cook Islands aux îles de la Société et Australes (*new zépolif survey)
		NC	Var.	*Raiatea et Tahaa* (new surveys)
		NC		*Raraka* (« space chart »)
		NC		*Tahanea* (« space chart »)
		NC		*Katiu* (« space chart »)
		NC	Var.	*Rurutu* (new surveys ; « space chart »). Replaces Fr 6165
		NC		*Motu Tunga* (« space chart »).

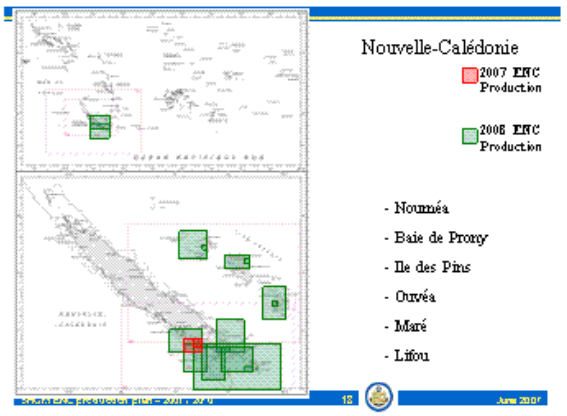
a.2 ENCs

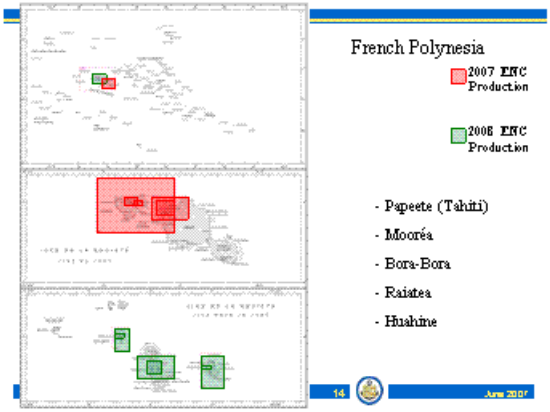
On the 15th of July 2007, SHOM had produced some 227 ENCs at an approximate rate of 40 to 50 per year. The full collection should eventually reach a figure of the order of 700 ENCs.

Europe approaches are well covered, on account of 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.

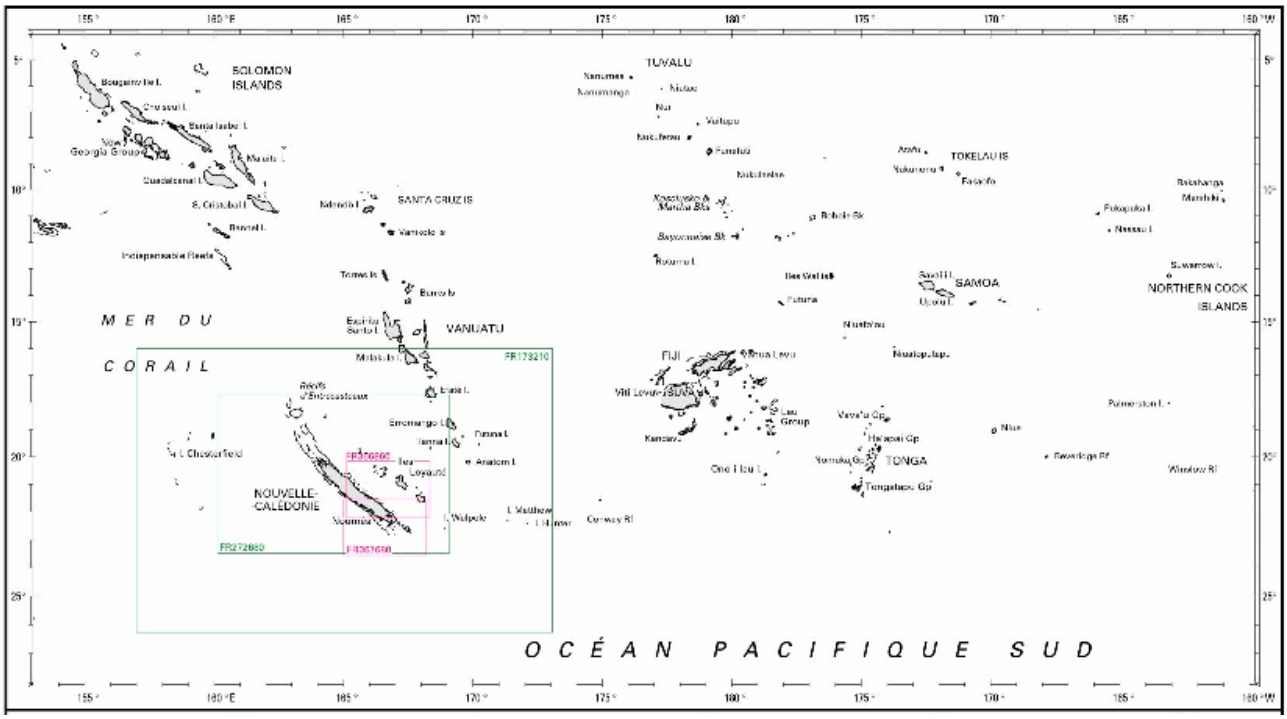
Due to IMO regulations on ECDIS carriage requirements, France will ensure that all HSC lines in French Polynesia and New Caledonia are covered with ENC by 2008.

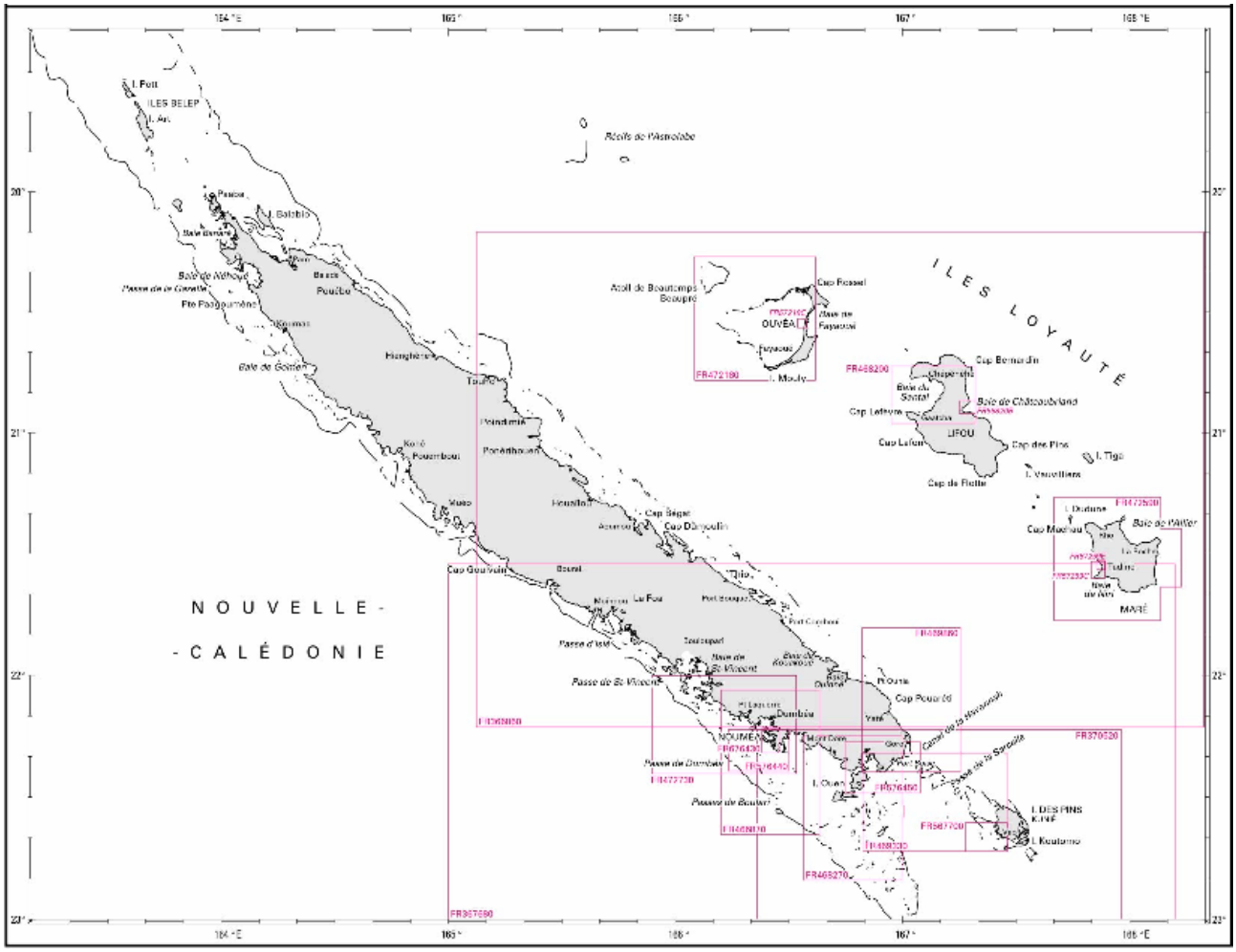


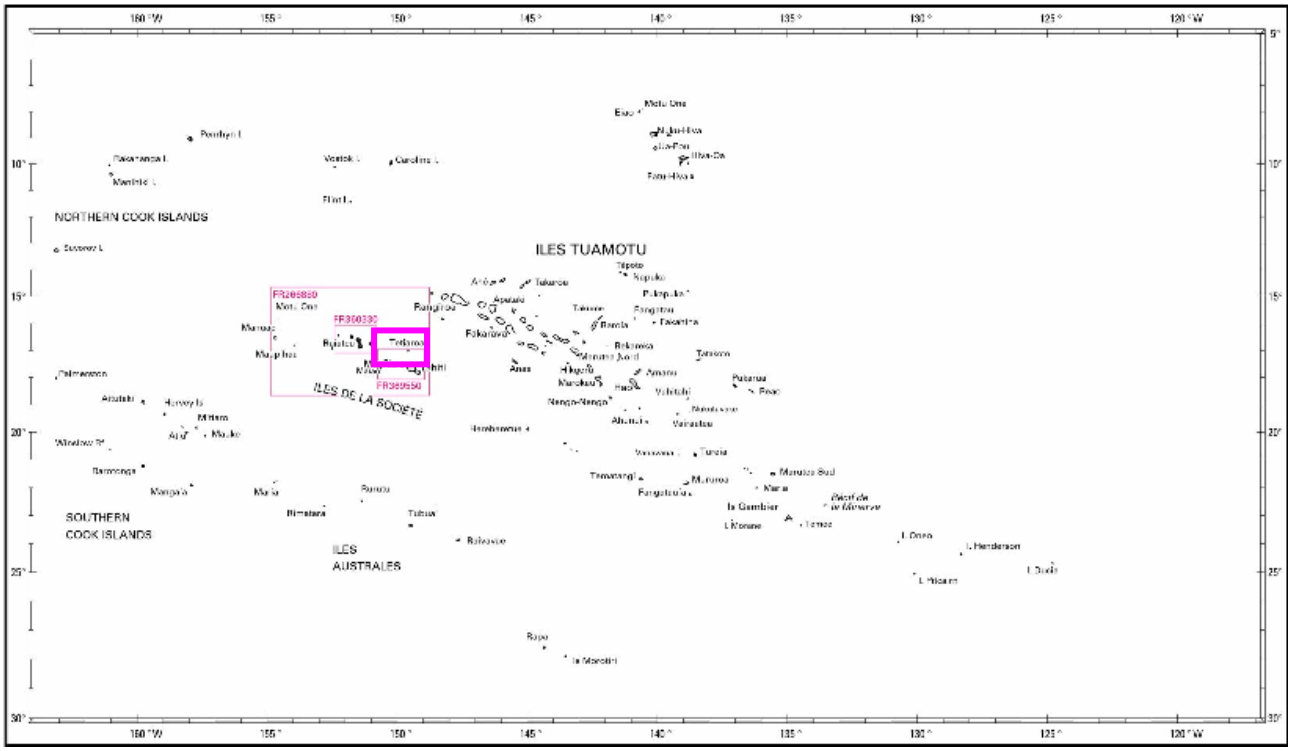


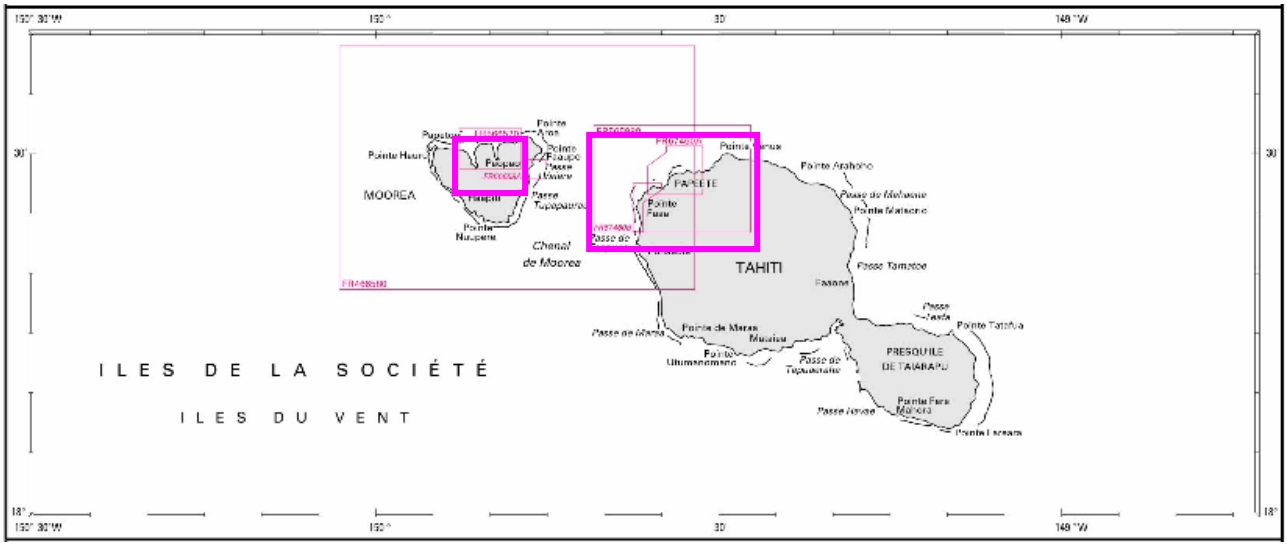
South West Pacific area

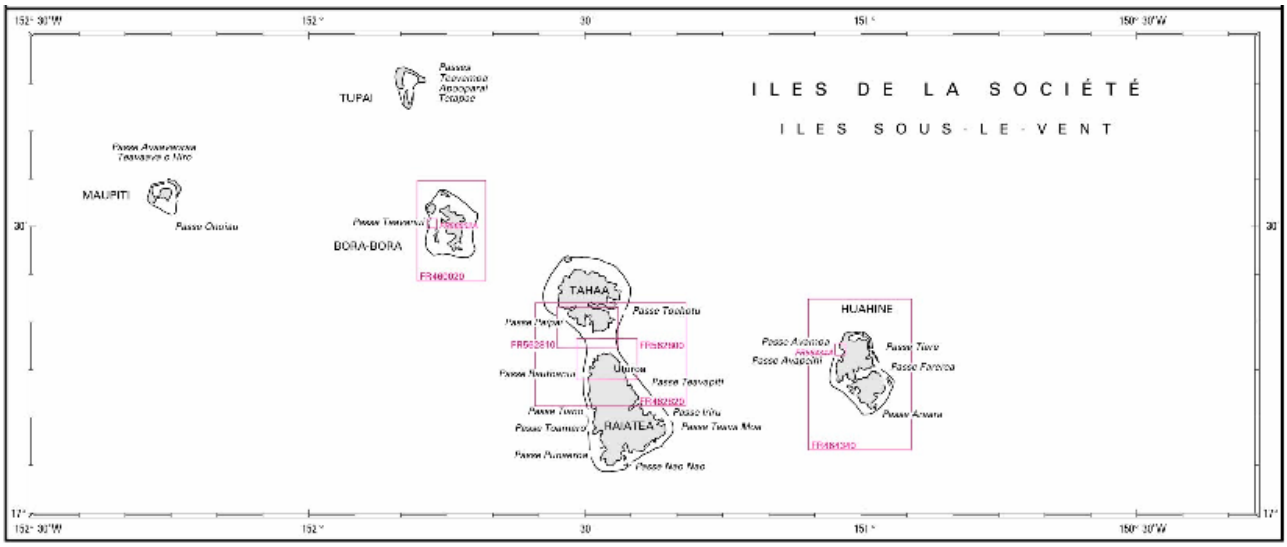
The SHOM ENC coverage of the SWPHC area is depicted in the 5 chartlets below, where existing ENC are represented in dark pink and planned ENCs are in light pink (2007 – 2008) and greyish/green (2009 – 2010):




NOUVELLE-
-CALÉDONIE
ILES LOYAUTE
OUVEA
LIFOU
MARÉ
ILES DES PINS
KUNIE
NOUMEA
Récifs de l'Astrolabe


NORTHERN COOK ISLANDS
ILES TUAMOTU
ILES DE LA SOCIETE
SOUTHERN
COOK ISLANDS
ILES
AUSTRALES





The production of the following cells has been planned in 2007 :

Area	Usage Band	Fr paper chart Nr	Observations
Papeete/Moorea	3	6955	Fast ships
Papeete/Moorea	4	6657 & 6658	Fast ships
Papeete/Moorea	5	6598, 7460 & 6658 (insert A)	Fast ships (Papeete – Vaiare)
Nouméa	5	7644	Fast ships
Nouméa	6	7643	Fast ships

…. in 2008 :

Area	Usage Band	Fr paper chart Nr	Observations
Polynésie – Iles sous le vent	3	6033	Fast ships
Bora Bora	4 & 5	6022 and insert	Fast ships
Huahine (Fare)	4 & 5	6434 and insert A	Fast ships – “Space chart”
Raiatea (Uturoa)	4 & 5	6280 & 6282	Fast ships – “Space chart”
Nouméa	3	6768, 7052 &	Fast ships

		6686	
Nouméa	4	7273 & 6687	Fast ships
Nouméa (Goro)	4	6827, 6933 & 6986	Fast ships
Mare	4	7259	Fast ships
Mare	5 & 6	7259 (insert C & E)	Fast ships
Lifou	4	6820	Fast ships
Lifou	5	6820 (insert)	Fast ships – Insert: *Baie de Chateaubriand*
Ouvéa	4	7218	Fast ships – "Space chart"
Ouvéa	5	7218 (insert C)	Fast ships
Goro	5	7645	Fast ships
Ile des Pins	5	6770	Fast ships

In 2009:

Area	Usage Band	Fr paper chart Nr	Observations
Polynésie	2	7371 (INT)	Usage band to be checked – Not in the ENC scheme
Polynésie	1	6607 (INT)	
Polynésie	2	7347, 7368, 7369 & 7370	
Nlle Calédonie	1	7321 (INT)	Usage band to be checked

a.3 RNCs

NTR

a.4 INT Charts

NTR

a.4 National paper charts

NTR

a.6 Other charts e.g. for pleasure crafts

NTR

a.7 ENC Distribution method

All French ENCs are distributed by Primar Stavanger RENC.

a.8 Problems encountered

NTR

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
LL	L	*Océan Indien – Australie (2005)*
RSX	922	*Radiocommunications maritimes – Volume 2 : Afrique – Asie – Australasie (2005)*
RSX	933	*Radiocommunications pour la surveillance du trafic et du pilotage – Volume 3 : Afrique – Asie - Australasie (2005)*
RSX	961	*Stations radiométéorologiques – Volume 1 : Europe, Afrique et Asie (2005)*
DIV	075	*Annuaire des marées pour 2007, tome 2 – Ports d'outremer*
DIV	085	*Annuaire des marées pour 2008, tome 2 – Ports d'outremer*

IN : Sailing directions

RSX : Radio stations

LL : List of Lights

DIV : Miscelleanous

b.2 Updated publications – Editions

NTR

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 NSHC's WG on standardisation of digital exchange of NtMs.

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

NTR

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 to the IHO Capacity Building committee and supports the IHO Regional Hydrographic Commissions of which SHOM is a member, especially the SAIHC and the Eastern Atlantic Hydrographic Commission (EAtHC), and to a lesser extent the South-West Pacific Hydrographic Commission (SWPHC), the MESO American and Caribbean Sea Hydrographic Commission (MACHC) & the Mediterranean and Black Sea Hydrographic Commission (MBSHC).

5.2 Training received, needed, offered

Initial training capabilities provided by SHOM are described in its yearly report available on 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 level A, SHOM in liaison with NAVFCO (governmental company dedicated to transfer the French Navy know-how) is preparing short modules in English on narrow technical fields such as ENC, delineations, military oceanography, etc.

With NAVFCO, it is also developing a short course for assistant surveyors that could be taught in the countries interested, to reduce costs and the inconvenience of having to spend years in France. The first course could take place in 2008 in the EAtHC area, and be attended by port operators from West African countries.

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

As a result of the latest 2006 and 2007 CBC initiatives and subject to its Board of Directors' approval, SHOM intends to increase its support to Madagascar, possibly in liaison with other IHO Members.

SHOM follows with great interest the development of the Malacca Straits and SW Indian Ocean Marine highways projects. A similar project, the CHARMER Marine Highway is underway in West Africa, in spite of great difficulties to identify local representatives capable of preparing requirements acceptable to international donors.

France has signed two international agreements with Monaco (2005) and Djibouti (2006) in order to formalise the existing co-operation and sharing of hydrographic responsibilities within the SOLAS convention. Two more agreements are expected to be signed shortly with Morocco and Algeria, then Senegal ; other are contemplated wherever it appears that France still provides hydrographic services to foreign countries, or complements those already in place, or might even help improving friendly countries' existing hydrographic capacities. The idea is to promote further co-operation within the IHO/CBC and facilitate technology transfer to those countries that have kept historical links with France or with whom new links have been established.

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 whichever the IHO region. A regular annual updating process has been put in place for future updates.

7. Oceanographic activities **General**

GEBCO/IBC's activities

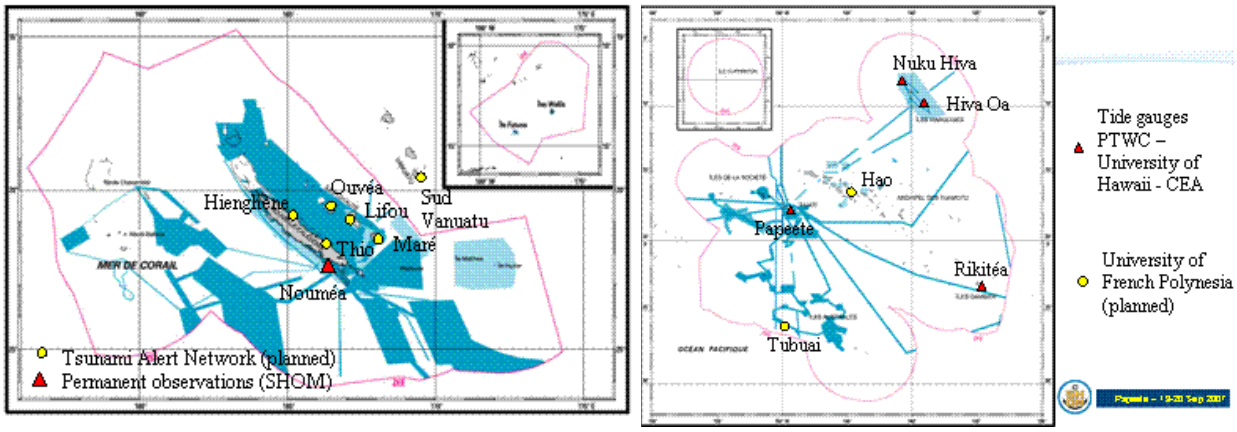
Tide gauge network

New equipment

Problems encountered

SHOM is member of the GEBCO Directing Committee and is an active partner of two International Bathymetric Charting projects (Eastern Atlantic Ocean, Indian Ocean).

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. Following up Solomon's recent tsunami, work is in progress in New Caledonia to enhance the permanent SHOM's tide gauge performances (real-time data transmission) and to increase the network coverage in more appropriate locations such as Loyauté islands. In French Polynesia, SHOM is involved in the development of the tsunami alert system, under the leadership the CEA and University of French Polynesia, and the participation of other partners (CNES, Météo-France, BRGM …).



8. Conclusions

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Ingénieur en chef Yves Guillam
Head of Policy, Plans and External Relations