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SERVICE HYDROGRAPHIQUE ET
Océanographique DE LA MARINE

Directorate of Policy, Plans &
External Relations

Dossier suivi par Gwladys Theuillon
☎ : 33 1 53 66 97 81
Fax : 33 1 41 74 94 25
E-mail : gwladys.theuillon@shom.fr

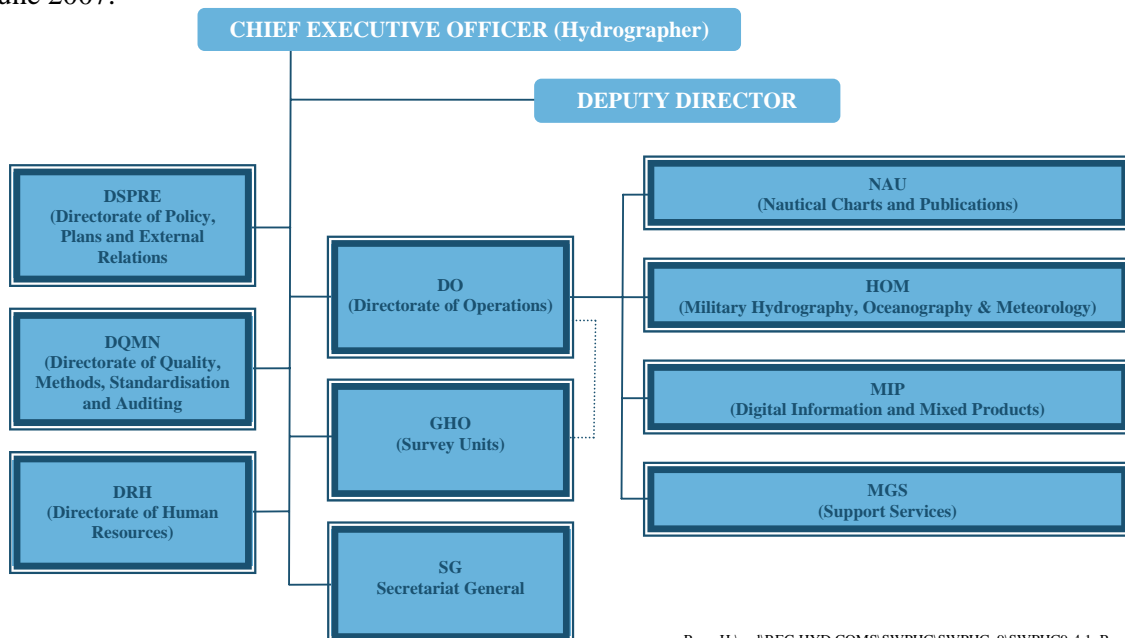
National report from FRANCE to the 9th meeting

of the South-West Pacific Hydrographic Commission (SWPHC)

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 which embrace all areas placed under French jurisdiction or where France has international commitments such as the Western Africa area, and states explicitly that it is applicable to French Polynesia, Wallis and Futuna, and New Caledonia. The new decree is included in the 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 km²) 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 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 26th of July 2007. The ratification was notified to the Government of Monaco on the 27th of August 2007¹.

The head of SHOM's survey units in the Pacific (the *Groupe Océanographique du Pacifique*, GOP) is tasked to represent SHOM's Chief Executive Officer in that area.

¹ Cf http://www.iho.int/MEM_STATES/Convention3.pdf

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)

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 has been submitted to the UN Commission on the Limits of the Continental Shelf and will be analyzed by the Commission in 2009.

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

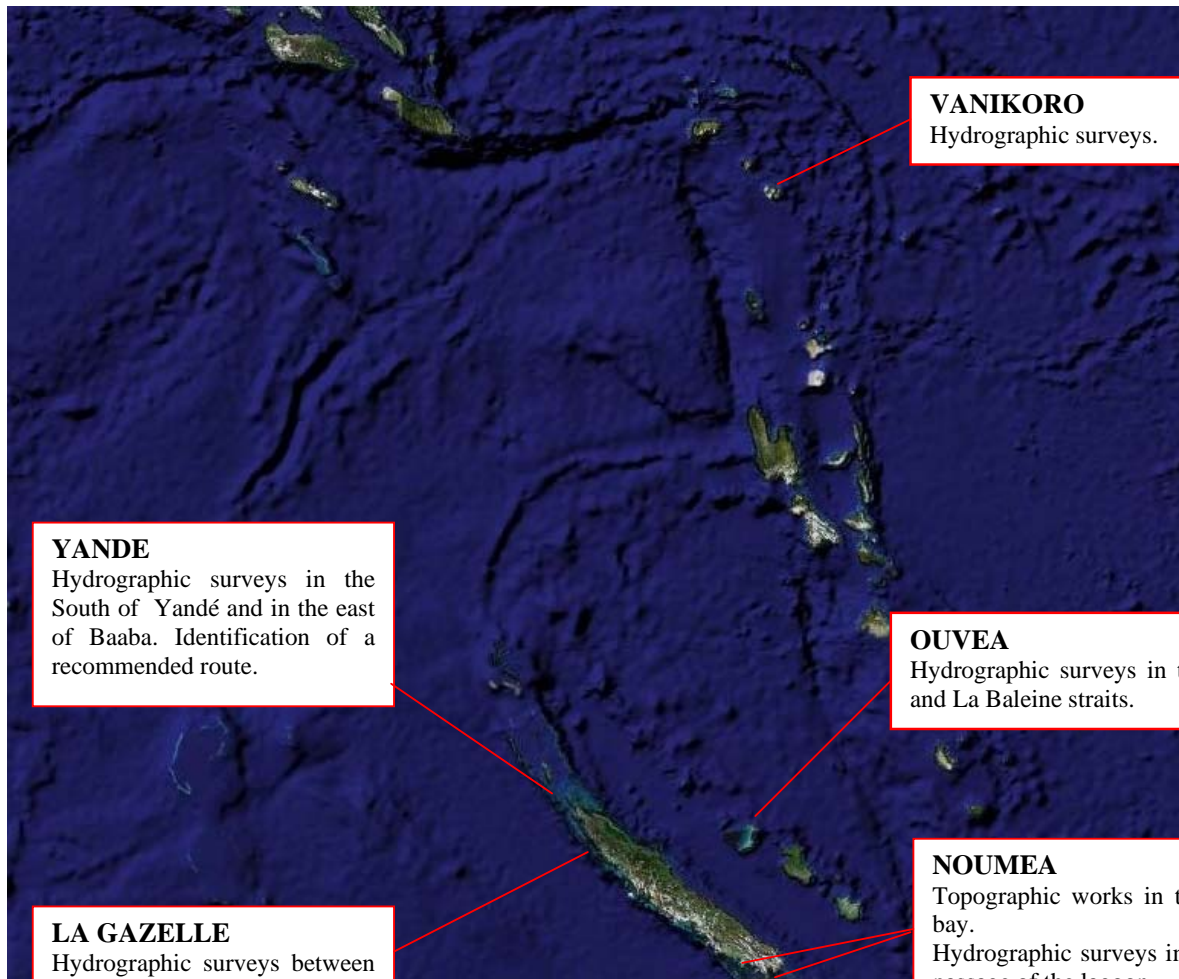
Since the previous conference (September 2007), the *Groupe Océanographique du Pacifique* (GOP), located in New Caledonia and French Polynesia, has conducted the following surveys in support of the local authorities, pilots, tour operators, fishermen & mining operators:

In New Caledonia and vicinity: several surveys of bays, natural harbours, recommended routes and passages have been performed in and outside the lagoon and also in the Loyauté islands.

In Wallis & Futuna: satellite imagery restitution has been done in Futuna.

In French Polynesia: several surveys have been conducted in the Port of Papeete (Tahiti), Hao atoll and Moorea island. A new tide gauge has been installed in Tubuai for the extension of the tsunami tide gauge warning system. Seamark revision has been performed.

In Vanikoro (Solomon Islands): several surveys have been performed on the occasion of archeologic researches conducted in Bruat passage and Poyou anchoring to investigate the traces of Lapérouse expeditions in the XVIIIth century.



VANIKORO
Hydrographic surveys.

YANDE
Hydrographic surveys in the South of Yandé and in the east of Baaba. Identification of a recommended route.

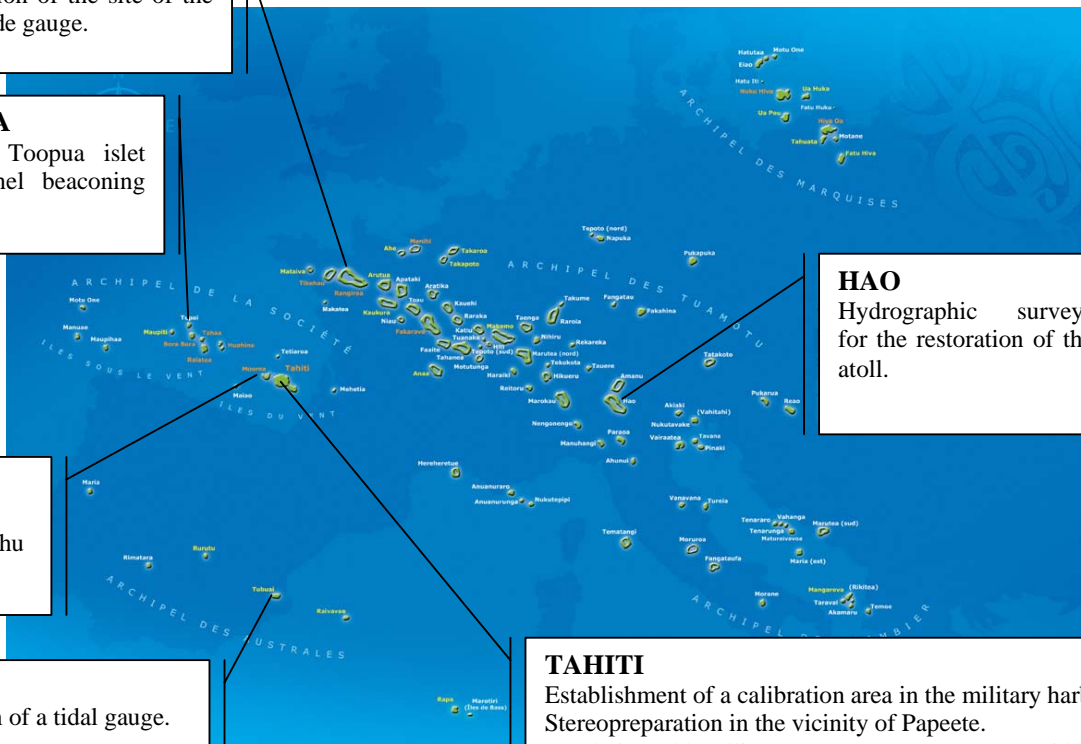
OUVEA
Hydrographic surveys in the Taureau and La Baleine straits.

LA GAZELLE
Hydrographic surveys between La Gazelle and Paagoumène sites.

NOUMEA
Topographic works in the Orphelinat bay.
Hydrographic surveys in the Southern passage of the lagoon.
Maintenance of tidal gauges.
Hydrographic surveys in Prony bay.

RANGIROA
Preparation of the site of the future tide gauge.

BORA BORA
Inspecting of Toopua islet
Western channel beaconing
and seamarks.



HAO
Hydrographic surveys for the restoration of the atoll.

MOOREA
Hydrographic surveys in Opunohu bay.

TUBUAI
Installation of a tidal gauge.

TAHITI
Establishment of a calibration area in the military harbour.
Stereopreparation in the vicinity of Papeete.
Geodetic and levelling measurements at Fate Ute tide gauge.

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 SWPHC 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.

2.3 New ships

NTR

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 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 ENC's

a.3 RNC's

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 8th meeting:**

N° Nat.	N° INT	New chart (NC) or new edition (NE)	Scale 1:	French Polynesia (FP) New Caledonia (NC) Wallis & Futuna (WF)	Title
6554		NE	20 000	NC	<i>Baie Chasseloup, anse Vavouto (new surveys).</i>
6876		NE	20 000	WF	<i>Iles Wallis - Accès à Mata Utu et Halalo (new surveys).</i>
6955		NE	173 000	FP	<i>Approches des îles de Tahiti et de Mooréa - Iles de Maiao et de Tétiaroa.</i>
7314		NE	10 000	FP	<i>Ahé (new surveys).</i>
7318		NE	60 000	NC	<i>De Poum à l'île Pam (new surveys).</i>
7319		NC	60 000	NC	<i>Nouvelle Calédonie (new surveys). Replace Nat 1536, 2744, 3646, 3785 & 3888.</i>
7321	636	NE	1 500 000	NC	<i>Des récifs Bampton à l'île Hunter – Nouvelle-Calédonie – Vanuatu (new surveys).</i>
7460	6940	NE	10 000	FP	<i>De la passe de Taapuna à la passe d'Arue (new survey).</i>

Planned in 2009:

N° Nat.	N° INT	New chart (NC) or new edition (NE)	Scale 1:	Location (FP) (NC) (WF)	Title
7313		NC	60 000	NC	<i>Nouvelle-Calédonie (replaces Nat 2759).</i>
7461	6941	NC	25 000	FP	<i>De Taapuna à la pointe Vénus (new surveys). Replaces Nat 6598.</i>
7643	6900	NE	10 000	NC	<i>Port de Nouméa (new surveys).</i>

Planned in 2010 – 2012:

N° Nat.	N° INT	New chart (NC) or new edition (NE)	Scale 1:	Location (FP) (NC) (WF)	Title
4002		NE	40 000	NC	<i>Iles Pott et Art (new surveys).</i>
6820		NE	35 000	NC	<i>Mouillages de l'île Lifou (Iles Loyauté) – Baie du Santal (new surveys). Will be produce with a large scale representation of the port of Wé.</i>
6827	6882	NE	60 000	NC	<i>Du Mont Dore à Port-Boisé (new surveys). Will be produced with INT number 6882.</i>

6933	6881	NE	60 000	NC	<i>De l'île Ouen à l'île des Pins</i> (new surveys). Will be produced with INT number 6881.
6986	6880	NE	60 000	NC	<i>De Port Ounia au Cap Ndoua</i> (new surveys). Will be produced with INT number 6880.
7259		NE	75 000	NC	<i>Maré</i> (SHOM & Ifremer new surveys).
7268		NC	850 000	NC	<i>Nouvelle-Calédonie – Iles Loyauté</i> (with baselines).
7308		NC	Var.	WF	<i>Wallis</i> (new surveys of recommended routes).
7309		NC	Var.	WF	<i>Wallis et Futuna</i> (new surveys of recommended routes).
7321	636	NE	1 500 000	NC	<i>Des récifs Bampton à l'île Hunter – Nouvelle-Calédonie – Vanuatu</i> (new survey).
4232		NE	30 000	FP	<i>Ile de Rapa – Ile de Motitiri</i> (new surveys).
6207		NE	30 000	FP	<i>Ile Raivavae</i> (new surveys).
6002	6955	NE	20 000	FP	<i>Bora-Bora</i> . Will be produced with INT number 6955.
6434		NE	30 000	FP	<i>Huahine</i> .
6461		NE	60 000	FP	<i>Iles Gambier</i> (new surveys with recommended routes).
6462		NE	30 000	FP	<i>Iles Gambier</i> (new surveys with recommended routes).
7459		NC	Var.	FP	<i>Tikehau</i> (includes remote sensing data).
7607		NC	Var.	FP	<i>Amanu</i> (includes remote sensing data).
7347	656	NE	1 500 000	FP	<i>De l'archipel des Tuamotu aux îles Australes</i> (new survey).
7369	657	NE	1 500 000	FP	<i>Des Southern Cook Islands aux îles de la Société et Australes</i> (new ZEPOLYF survey).
		NC	Var.	FP	<i>Raiatea et Tahaa</i> (new surveys).
		NC		FP	<i>Raraka</i> (includes remote sensing data).
		NC		FP	<i>Tahanea</i> (includes remote sensing data).
		NC		FP	<i>Katiu</i> (includes remote sensing data).
		NC	Var.	FP	<i>Rurutu</i> (new surveys). Replaces Nat 6165.
		NC		FP	<i>Motu Tunga</i> (includes remote sensing data).

a.2 ENC

On the 1st 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.

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 2009.

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 (2009 – 2010):

Cells produced since the 8th meeting:

ENC	Location	Area
FR166070	French Polynesia	Polynésie
FR360330	French Polynesia	Iles sous le vent
FR466580	French Polynesia	Papeete/Moorea
FR460020	French Polynesia	Bora-Bora
FR56658A	French Polynesia	Papeete/Moorea
FR56002A	French Polynesia	Bora-Bora
FR367680	New Caledonia	Nouméa
FR366860	New Caledonia	Nouméa
FR370520	New Caledonia	Nouméa
FR472730	New Caledonia	Nouméa
FR466870	New Caledonia	Nouméa
FR576440	New Caledonia	Nouméa
FR676430	New Caledonia	Nouméa
FR472590	New Caledonia	Maré
FR57259C	New Caledonia	Maré
FR67259E	New Caledonia	Maré
FR56820B	New Caledonia	Lifou

The production of the following cells has been planned in 2009:

Area	Location	Usage Band	Fr paper chart Nr	Observations
French Polynesia	FP	2	6688	
Papeete/Moorea	FP	5	7460	Fast ships (Papeete – Vaiare)
Huahine (Fare)	FP	4 & 5	6434 and insert A	Fast ships (includes remote sensing data)
Raiatea (Uturoa)	FP	4 & 5	6280 & 6282	Fast ships (includes remote sensing data)
New Caledonia	NC	2	7321 (INT)	
Nouméa (Goro)	NC	4	6827, 6933 & 6986	Fast ships
Lifou	NC	4	6820	Fast ships
Ouvéa	NC	4	7218	Fast ships (includes remote sensing data)
Ouvéa	NC	5	7218 (insert C)	Fast ships
Goro	NC	5	7645	Fast ships
Ile des Pins	NC	5	6770	Fast ships

a.3 RNCs

NTR

a.4 INT Charts

See item a.1.

a.5 National paper charts

See item a.1.

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

The charts in the list below are available in a specific format for pleasure crafts.

N° Nat.	N° INT	Publication or edition date	Scale 1:	Location (FP) (NC) (WF)	Title
7052L		2008	150000	NC	<i>De Nouméa à l'île des Pins – Le grand lagon Sud.</i>
6687L	6883	2008	59600	NC	<i>Abords de Nouméa – Passes de Boulari et de Dumbéa.</i>
6827L		2008	59500	NC	<i>Du Mont Dore à Port-Boisé – Passes de Mato et de Uatio.</i>
6933L		2008	60000	NC	<i>De l'île Ouen à l'île des Pins – Passe de la Sarcelle.</i>
7167L		2008	60000	NC	<i>De la Baie de Saint-Vincent à la Coupée Mara.</i>
7273L		2008	60000	NC	<i>De Nouméa à la Baie de Saint-Vincent.</i>
6033L		2008	174000	FP	<i>Archipel de la Société – Iles sous-le-vent.</i>
6607L	607	2006	3500000	FP	<i>Polynésie Sud-Est.</i>
6688L		2008	592000	FP	<i>Iles de la Société, de Manuae à Tahiti.</i>
6955L		2008	173000	FP	<i>Approches des îles de Tahiti et de Mooréa – Iles de de Maiao et de Tétiaora.</i>
6598L		2007	25000	FP	<i>De Taapuna à la Pointe Vénus.</i>

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
IN	K10	NtM 08/24 <i>Pacific Ocean Islands: New Caledonia, Vanuatu, Santa Cruz Islands.</i>
IN	K11	NtM 08/43 <i>Pacific Ocean Islands (central part) – Clipperton Island.</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>

IN : Sailing directions

RSX : Radio stations

LL : List of Lights

DIV : Miscellaneous

Planned in 2009:

New edition of List of Lights L (Indian Ocean – Australia).

New edition of List of Lights KB (China – South-East Asia – Pacific Islands).

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 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 ENC's while the equivalent standardisation for nautical books is still lagging. As a result, the rules of use of these documents are not clearly established.

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|---------------|--|
| 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 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 (EAHC), 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 EAHC. Technical visits have also been carried out in the Mediterranean and Black Sea area.

Moreover, the head of SHOM's survey units in the Pacific participated in October 2008, together with the IHB, in the seminar sponsored by the IMO Technical Committee in Fiji.

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 category 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.

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. More agreements are expected to be signed shortly with countries from Western African countries.

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.

7. Oceanographic activities General

GEBCO/IBC's activities

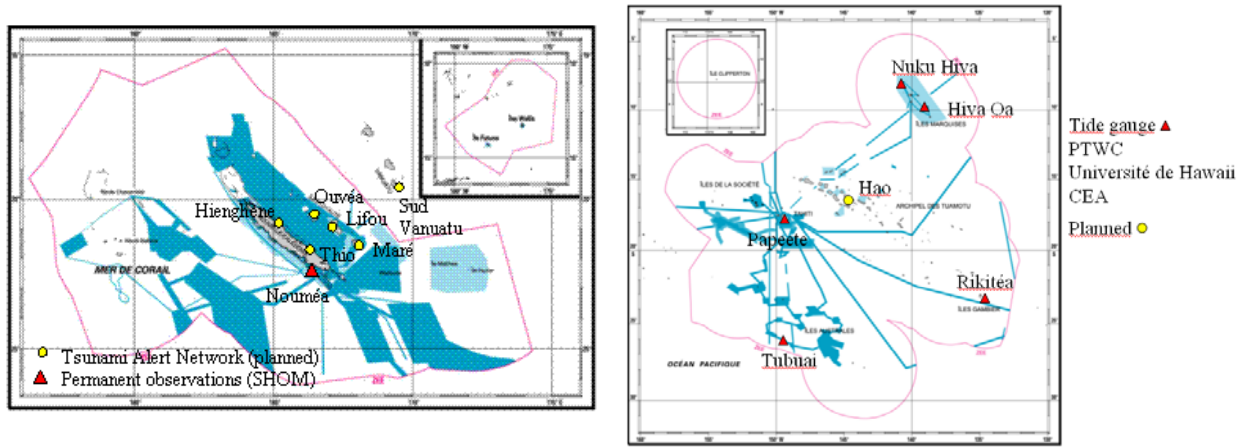
Tide gauge network

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. Following up recent tsunami in the Region, 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 of the CEA and University of French Polynesia, and with the participation of other partners (CNES, Météo-France, BRGM ...); a tide gauge has been installed in Tubuai island in 2008.



8. Conclusions

Acting as Chair of the SWPHC, France strived in 2008 to get in contact with Pacific Island States, especially those who are pretty active during IMO NAV meetings. France also sent the circular letters to SOPAC and PacMa organizations. The lack of responses is a matter of question for this commission as the costs are heavy for SWPHC Members to get involved in IHO activities when meetings are planned in the Northern hemisphere. These subjects have to be considered.