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SERVICE HYDROGRAPHIQUE ET OCEANOGRAPHIQUE DE LA MARINE

Directorate of Policy, Plans & External Relations

Dossier suivi par Gwladys Theuillon 2 : 33 2 98 22 04 94 Fax : 33 2 98 22 08 72 Mèl : gwladys.theuillon@shom.fr

French national report to the 10th meeting

of the South West Pacific Hydrographic Commission (SWPHC)

1. Hydrographic Office: General

In 2009, a favourable maritime wind blew across France, with the "Grenelle of the Sea" Forum launched in February, the speech of the President of the French Republic in Le Havre in July introducing the foundations of the new French maritime policy and the decisions of the Interministerial Committee of the Sea in December approving the French Blue Book on the national maritime integrated policy.

SHOM contributed actively to this momentum without neglecting its three core missions, i.e. national hydrographic service, environmental support to defence and support to maritime and coastal public policies, and focused on meeting the objectives set out for surveys, research, development and production. SHOM remains devoted to seafarers, civilian and military, and to all categories of sea users, far beyond our national boundaries, with the shared objective to contribute at its level and in its domains of excellence to the sustainable development and the protection of Planet Ocean.

The course bearing for SHOM's new status, *Établissement Public* since May 2007, was set up in 2008 with the approval by the SHOM's Board of the strategic vision and the related strategic objectives which were endorsed by its two advisory committees (the users advisory committee of SHOM's products, surveys and services, and the steering committee on military oceanography). The speed has now been determined through the approbation of the "objectives and performance" contract approved by SHOM's Board in April 2010 and signed by the Ministry of Defence on 21 July 2010. No efforts will be spared to meet the many and various requirements developed in this contract, to improve the visibility of SHOM's capabilities and activities as well as to strengthen our partnerships.

The head of SHOM's survey units in the Pacific (the *Groupe Océanographique du Pacifique*, GOP¹) is tasked to represent SHOM's Chief Executive Officer in that area.

¹ Point of contact: Ronan PRONOST, <u>ronan.pronost@shom.fr</u>, +687 23 21 09

For information, a list of France's involvement in IHO activities is provided in the Annex.

2. Surveys

2.1 Coverage of new surveys

SHOM conducts or participates in different 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 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 historical 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;
 - hydrographic surveys (bathymetry, geophysics, sediments, etc.) and production of charts and nautical documents;
 - use of remote sensing (SPOT, ERS, airborne surveys, etc.) to improve the coastal cartography;
 - oceanographic modelling (tides, currents, swell, etc.), eventually in liaison with IOC initiatives if any.

A prioritized survey plan is going to be prepared in liaison with local governmental authorities in New Caledonia and French Polynesia.

2.1.1 Surveys aimed at collecting geophysical information (UNCLOS)

There is nothing to report in the SWPHC area since the last conference.

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

Since the previous conference (March 2009), 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, fishermen, mining operators and defence:

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

In French Polynesia: several surveys have been conducted in the Port of Papeete (Tahiti), Moorea, and Bora Bora islands. A new tide gauge has been installed in Huahine and Nuku Hiva for the extension of the tsunami tide gauge warning system. Seamark revision has been performed.

In Wallis & Futuna: hydrographic works (survey, geodesy, tide measurements...) have been done in Wallis.





2.2 New technologies and / or equipment

i Lidar survey

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).

Many applications based on Litto3D® foundation are expected: impact of mean sea level raise, storm surges and tsunami warnings, integrated coastal zone management...

The historical data will be gradually improved by new, more accurate surveys, as the project unfolds over the next years. Discussions are under progress in French Polynesia.

ii MSDI: the INFRAGEOS-H project

To meet the recommendations of the EU Blue Book on maritime spatial planning, SHOM is implementing a cross-cutting GIS Navaid, to handle tidal and bathymetric databases in compliance with international standards (INSPIRE, IHO...) and dissemination policies.

The INFRAGEOS-H functionalities comprise:

a core of interoperable databases (GIS);



CARIS Bathy DataBASE ®

- > a control and transfer system of hydrographic information;
- ➤ a workflow control system;
- a set of management and processing solutions (multilayer display, vector, raster data...);
- ➤ some tools to support web publication.

The provisional schedule of implementation is as follows: It is expected that the use of INFRAGEOS-H will boost data management 60 times faster.



INFRAGEOS-H will provide SHOM with a next-generation set of tools for tackling ever-changing information and products requirements. It is the first step in a broader process consisting of grouping together within a coherent Geospatial Infrastructure all SHOM databases.

2.3 New ships

NTR.

2.4 Problems encountered

As many other IHO member states, France is tasked with collecting nautical information and surveying areas that would otherwise remain uncharted. It happens from time to time that SHOM only learns by accident of surveys performed by private companies, or even other hydrographic offices, in its areas of charting responsibility, and has to insist to obtain communication of IHO-compliant data relevant to INT charts and nautical information.

In the interest of the international maritime community, it is reminded that survey results should be automatically communicated to the IHO recognised charting authority (in compliance with M-3 Resolution 1/1937 - A1.15 § 2 as amended²).

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

Charts produced since the 9th conference (updated in July 2010):

N° Nat.	N° INT	New chart (NC) or new edition (NE)	Scale 1:	French Polynesia (FP) New Caledoni a (NC) Wallis & Futuna (WF)	Title
6033	/	NE	174 000	FP	Archipel de la Société – Iles sous-le-vent (Conversion into WGS84)
6165	/	NE	30 000	FP	Rurutu (Conversion into WGS84)
6279	/	NE	80 000	FP	Iles Rimatara et Maria (Conversion into WGS84)
6420	/	NE	175 000	FP	Archipel des Tuamotu
6525	/	NE	25 000	FP	<i>Abords de Port Phaeton</i> (Conversion into WGS84)
6529	/	NE	60 000	NC	<i>Du Cap Bocage au Cap Dumoulin</i> (Conversion into WGS84)
6553	/	NE	20 000	NC	<i>Baie de Kouaoua</i> (Conversion into WGS84)
6589	/	NE	20 000	NC	Baie de Canala (Conversion into WGS84)
6604	/	NE	150 000	FP	<i>De Mururoaa à Fangataufa</i> (Conversion into WGS84)
6605	/	NE	25 000	FP	De la Pointe Vénus à Mahaena (Conversion into WGS84)
6740	/	NE	25 000	FP	De Maraa à Faaa (Conversion into

					WGS84)	
6770	/	NE	25 000	NC	Abords Sud-Ouest de l'île des Pins – Baies de Kuto et de Kanuméra (Conversion into WGS84)	
6827	/	NE	59 500	NC	Du Mont Dore à Port boisé – Passes de Mato et de Uatio (Conversion into WGS84)	
6828	/	NE	25 000	FP	<i>Côte Sud-Ouest de Tahiti – De Atehiti à Maraa</i> (Conversion into WGS84)	
6852	/	NE	60 000	NC	<i>Abords de Touho et du Cap Bayes</i> (Conversion into WGS84)	
6933	/	NE	60 000	NC	De l'île Ouen à l'île des Pins – Passe de la Sarcelle (Conversion into WGS84)	
6986	/	NE	60 000	NC	<i>De Port-Ounia au Cap Ndoua</i> (Conversion into WGS84)	
7049	/	NE	500 000	NC	Des îles Loyauté à l'île Hunter	
7051	/	NE	60 000	NC	Du Cap Colnett à Touho – Abords de Hienghène (Conversion into WGS84)	
7052	/	NE	150 000	NC	De Nouméa à l'île des Pins – Le grand lagon Sud (Conversion into WGS84)	
7097	/	NE	20 000	NC	Baie de Bourail – Coupée Mara et Baie de Moindou (Conversion into WGS84)	
7167	/	NE	60 000	NC	De la Baie de Saint-Vincent à la Coupée Mara (Conversion into WGS84)	
7168	/	NE	60 000	NC	De la Baie de Bourail à la Passe de Poya (Conversion into WGS84)	
7213	/	NE	25 000	FP	Maupiti (Conversion into WGS84)	
7218	/	NE	75 000	NC	<i>Atolls d'Ouvéa et de Beautemps-Beaupré</i> (Conversion into WGS84)	
7248	/	NE	80 000	FP	Apataki (Conversion into WGS84)	
7273	/	NE	60 000	NC	<i>De Nouméa à la Baie de Saint-Vincent</i> (Conversion into WGS84)	
7305	/	NE	25 000	FP	<i>De la Passe d'Aiurua à la Passe Havae</i> (Conversion into WGS84)	
7313	/	NC	60 200	NC	<i>De la passe de Koné à Ouaco</i> . Replaces Nat 2759.	
7351	/	NE	25 000	NC	De la passe de Goyeta à la Passe de Koné – Abords de Koné (Conversion into WGS84)	
7461	6941	NC	25 000	FP	<i>De Taapuna à la pointe Vénus</i> (New surveys). Replaces Nat 6598.	
7643	6900	NE	10 000	FP	Port de Noumea (New surveys)	

Planned in 2010 (second semester):

N° Nat.	N° INT	(NC) or (NE)	Scale 1:	Location (FP) (NC) (WF)	Title
4002	/	NE	39 900	NC	<i>Nouvelle-Calédonie – Iles Pott et Art</i> (New surveys)
6207	/	NE	30 000	FP	Ile Raivavae (Vavitu) (Conversion into

					WGS84)	
6320	/	NE	30 000	FP	Makatea (Conversion into WGS84)	
6418	/	NE	5 000	FP	<i>Ile Mangareva – Rade de Rikitea</i> (New surveys)	
6462	/	NE	30 000	FP	Iles Gambier, partie Sud (New surveys)	
6463	/	NE	15 000	FP	<i>Ile Mangareva – Passe de l'Ouest</i> (New surveys)	
6464	/	NE	15 000	FP	<i>Iles Mangareva, Rikitea, Totegegie</i> (New surveys)	
6528	/	NE	20 000	NC	<i>De Houailou au Cap Koua</i> (Conversion into WGS84)	
6717	/	NE	10 000	FP	<i>Port Phaeton (Teauaa)</i> (Conversion into WGS84)	
6949	/	NE	60 000	NC	Abords de Thio – Du Cap Bégat à l'Ile Toupéti (Conversion into WGS84)	
6985	/	NE	60 300	NC	NC <i>De Paagoumène à Ouaco</i> (new surveys)	
7011	/	NE	60 000	NC	<i>De la presqu'île Neuméni à Port-Ounia</i> (Conversion into WGS84)	
7073	/	NE	25 000	NC	Ports et mouillages de la côte Sud-Est de la Nouvelle-Calédonie (Conversion into WGS84)	
7234	/	NE	60 000	WF	<i>Iles Futuna et Alofi</i> (Conversion into WGS84)	
7320	/	NE	60 400	NC	De Koumac à Poum (new surveys)	
7644	6899	NE	25 000	NC	Accès au Port de Nouméa (new surveys)	
7645	6898	NE	31 000	NC	<i>Canal de la Havannah et Canal Woodin</i> (new surveys)	

Because of a redefinition of production priorities, the planification for next years is not specified in this report.

a.2 ENCs

On the 1th of July 2010, SHOM had produced some 297 ENCs at an approximate rate of 40 per year. The full collection should eventually reach a figure of the order of 850 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.

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 (2010):

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P70ENC









French ENC coverage in the SWPHC area Cells produced since the 9th conference (updated in July 2010):

ENC	Location	Area
FR464340	French Polynesia	Huahine (Fare)
FR56434A	French Polynesia	Huahine (Fare)
FR574600	French Polynesia	Papeete
FR462820	French Polynesia	Passes entre les îles de Raiatea et Tahaa
FR562800	French Polynesia	Raiatea (Uturoa)
FR273210	New Caledonia	New Caledonia
FR468270	New Caledonia	Du Mont-Dore à Port-Boisé
FR469330	New Caledonia	De l'île Ouen à l'île des Pins
FR469860	New Caledonia	De Port-Ounia au Cap Ndoua
FR468200	New Caledonia	Lifou
FR472180	New Caledonia	Ouvéa
FR57218C	New Caledonia	Ouvéa (Hwaadrila)
FR576450	New Caledonia	Canal de la Havannah et Canal Woodin

The production of the following cells has been planned in 2010 (second semester):

Area	Location	Usage Band	Fr paper chart Nr
Iles de la Société	FP	2	6688
Iles Tuamotu	FP	2	6689

In compliance with IMO regulations on ECDIS carriage requirements, all HSC lines in French Polynesia and New Caledonia are covered with ENC.

According to action SWPHC 9.14, the French ENC scheme was sent to Australia. The status of production in comparison with this scheme is:

Usage Band	Produced Cells	Planned Cells	%
1	1	1	100%
2	1	12	8%
3	5	23	22%
4	12	68	18%
5	12	150	11%
6	4		
Total	35	254	14%

a.3 RNCs

NTR.

a.4 INT Charts

See item a.1.

In agreement with the IHO S-11 publication, the status of INT charts production in the area is:

Scale	Produced INT	Planned INT charts	%
	charts		
Small (<1/1 000 000)	7	7	100%
Medium	0	0	N/A
Large	10	10	100%
(>1/100 000)			
Total	17	17	100%

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	New chart (NC) or new edition (NE)	Scale 1:	French Polynesia (FP) New Caledonia (NC) Wallis & Futuna (WF)	Title
6033L	/	NE	174 000	FP	Archipel de la Société – Iles sous-le- vent (Conversion into WGS84)
6827L	/	NE	59 500	NC	Du Mont Dore à Port boisé – Passes de Mato et de Uatio (Conversion into WGS84)
6933L	/	NE	60 000	NC	De l'île Ouen à l'île des Pins – Passe de la Sarcelle (Conversion into WGS84)
7052L	/	NE	150 000	NC	De Nouméa à l'île des Pins – Le grand lagon sud (Conversion into WGS84)
7167L	/	NE	60 000	NC	<i>De la Baie de Saint-Vincent à la Coupée Mara</i> (Conversion into WGS84)
7273L	/	NE	60 000	NC	<i>De Nouméa à la Baie de Saint-Vincent</i> (Conversion into WGS84)
7461L	6941	NC	25 000	FP	<i>De Taapuna à la pointe Vénus</i> (New surveys). Replaces Nat 6598.

a.7 ENC Distribution method

All French ENCs are distributed by PRIMAR RENC.

a.8 Problems encountered

NTR.

b. Publications

Туре	Title					
DIV	Tide table 2010 – Vol 2 – Overseas ports					
DIV	Tide table 2011 – Vol 2 – Overseas ports					
RSX	92.2 Maritime radiocommunications: Africa, Asia and Australasia (2009)					
RSX	96.2 Marine weather broadcast stations: Southwest Pacific, America and Antarctica (2009)					
LL	List of Lights: Vol L, Indian Ocean and Australia (2009)					

IN: Sailing directions

RSX: Radio stations (The CD-ROM with the digital version

of RSX signals is now available for the French Navy only).

LL: List of Lights

DIV: Miscellaneous



RSX CD-ROM

4. MSI

In SWPHC area, SHOM has delegated his national coordinator functions to two maritime authorities, the first in New-Caledonia (Comar Nouméa, operational organism : MRCC NOUMEA for regions in NAVAREA X and XIV areas), and the secund in French Polynesia (Comar Papeete, operational organism : MRCC Papeete, for region in NAVAREA XIV area). One delegate from New Caledonia and one from French Polynesia attended the MSI course organized by Australia in August 2010.

5. Capacity Building

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).

5.2 Training received, needed, offered

Initial training capabilities provided by SHOM are described in its annual report available on <u>www.shom.fr</u>.

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

After Monaco (2005), Djibouti (2006), Morocco and Togo (2008), France signed two international agreements with Senegal (2009) and Benin (2010) 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 Western Africa 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, C-55 entries (see § 6), on a yearly basis.

6. C-55 Latest update

The C-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 (last update made by France on 21 May 2010 for Region L).



Status of Hydrographic Surveying and Nautical Charting in New Caledonia

7. Oceanographic activities

As it can be seen at the Annex, SHOM is member of the GEBCO Directing Committee.

Acting actually as the national coordinator of sea level measurements, SHOM is responsible in France for tide predictions, and collects 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 area, work is in progress in New Caledonia, Wallis and Futuna and French Polynesia to enhance the permanent SHOM's tide gauge performances (real-time data transmission) and to increase the network coverage in more appropriate locations. 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 ...); two tide gauges have been installed in Rangiroa (2009) and Huahine (2010) since the last conference.



Tsunami Alert System: tide gauge network

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, as well as the heavy costs for SWPHC Members to get involved in IHO activities when meetings are planned in the Northern hemisphere, are subjects that have to be considered by this commission.

France's participation to IHO Regional Hydrographic Commissions, Committees, Sub-Committees & Working Groups

Name	Chair	Member	Observations
	Vice chair		
S-23 WG		✓	Revision of S-23 Working Group
FC	~	\checkmark	Vice-chairman of Finance Committee
HSSC		✓	Hydrographic Services and Standards Committee
TSMAD	~	~	Vice-chairman of Transfer Standard Maintenance and Application Development
DPSWG		\checkmark	Data Protection Scheme Working Group
DIPWG		\checkmark	Digital Information Portrayal Working Group
SNPWG		\checkmark	Standardisation of Nautical Publications Working Group
CSPCWG		~	Chart Standardisation and Paper Chart Working Group
DQWG		\checkmark	Data Quality Working Group
MSDIWG		\checkmark	Marine Spatial Data Infrastructure Working Group
TWLWG	~	✓	Vice-chairman of Tidal and Water Level Working Group
HDWG		\checkmark	Hydrographic Dictionary Working Group
EUWG	~	\checkmark	Chairman of ENC Updating Working Group
IRCC	~	~	Ingénieur général Gilles Bessero has been elected first chairman of the Inter Regional Coordination Committee at the 4 th Extraordinary IH Conference
NSHC	~	✓	Vice-chairman of North Sea Hydrographic Commission
MBSHC		~	Mediterranean and Black Seas Hydrographic Commission
EAtHC		\checkmark	Eastern Atlantic Hydrographic Commission

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SWPHC	~	\checkmark	Chairman of South-West Pacific Hydrographic
			Commission
MACHC		~	MESO American & Caribbean Sea Hydrographic Commission
SAIHC		~	Southern Africa and Islands Hydrographic Commission
NIOHC		\checkmark	North Indian Ocean Hydrographic Commission
НСА		\checkmark	Hydrographic Commission on Antarctica
WWNWS	✓	~	Vice-chairman of World-wide Navigational Warning Service Sub-Committee
WENDWG		\checkmark	World-wide ENC Database Working Group
CBSC		✓	Capacity Building Sub-Committee
GEBCO		~	Joint IOC-IHO Guiding Committee for the General Bathymetric Chart of Oceans (GEBCO)