

5<sup>th</sup> IHO-HSSC Meeting

## Report and Recommendations of the Hydrographic Dictionary Working Group

<b>Submitted by:</b>	Chairman, HDWG
<b>Related Documents:</b>	N/A
<b>Related Projects:</b>	None

<b>Chair:</b>	Jean Laporte, France
<b>Vice-Chair:</b>	Vacant
<b>Secretary:</b>	David Wyatt, IHB
<b>Member States:</b>	Argentina, Australia, Brazil, France, Malaysia, Spain, Uruguay, USA.
<b>Expert Contributor:</b>	Alejandro Geronés (Caris)
	See <i>Annex A for full details on HDWG membership</i> <i>Annex B for workplan 2013 - 14</i> <i>Annex C for new definitions</i> <i>Annex D for a discussion on the tentative definition of Mean sea level</i>

**Meetings Held During Reporting Period**

None

**Next Meeting**

None planned

**Work Program**

The HDWG received proposals from CSPCWG (*task B6 – Aquaculture; task B7- Phase of a navigational light*), SNPWG (*task B9- Underkeel clearance/allowance*), TWLWG (*task B8- Mean sea level*) and one from the IHB (*task B10- SBES*) for definitions to be considered for S-32. The proposed new and revised definitions for consideration by HSSC are detailed in Annex C to this report.

However the very detailed definition of Mean sea level (Annex D) could not be accepted as such by the HDWG as deemed too long. It is suggested to separate plain definitions that must be expressed in few lines from important technical details that must be referred to in the C-13 Manual on Hydrography or technical definitions as appropriate.

Two new proposals from UKHO for revised definitions are included in the draft WP as tasks *B11- Seafloor* and *B12- Bathymetry*.

Another proposal from Greece (*task A1-3 new terms related to ICZM*) has also been examined and referred to another area of expertise. This, however, is still open to further advice from the HSSC as there is a need to draw the line between the words that unquestionably belong to Hydrography and those who belong to another area of expertise and amongst these, those who need to be retained in the HD for convenience.

Definitions endorsed by HSSC-3 were circulated to Member States via IHO CL 11/2012 and adopted as announced in IHO CL 76/2012. Unfortunately, the amendments generated by *task A3 - Altitude, Elevation and Height* gave rise to considerable discussion and a requirement for further consideration in spite of a comprehensive report presented by UK at the 4<sup>th</sup> HSSC Meeting. The HDWG has decided not to finalise the

terms until an alternative proposal agreed both by TSMAD and CSPCWG has been established, in time for consideration at HSSC6 and further member state approval.

The HDWG intends to commence Work task A2 to review all existing definitions in S-32 in order to identify those which HDWG considers do not fall within the guidance set out in Section 3 of the S-32 Business Rules.

**Progress on HSSC Action Items**

Nil

**Problems Encountered**

1. The retirement of the previous chair at the end of 2012 left a vacancy, which was filled by France at the end of January.
2. Response to the requests for greater Member State involvement elicited some new members of the WG and confirmation of some existing members as well as the selection of a trilingual expert-contributor able to provide further guidance on issues significant to Marine GIS Developers.
3. The HDWG appears to have a geographical spread reflecting at least the IHO three current languages, if not the world distribution of populations, GDP and most spoken languages; however active engagement of all members in the review of proposed definitions will be necessary to ensure that the dictionary best serves the interests of all.
4. It has been suggested recently that the HDWG should be reorganised as a sub-group operating under the aegis of another working group tasked with Chart Content and Cartography. In order for the work of the HDWG to cover adequately all disciplines related to hydrography, it is recommended that the group maintain its autonomy.
5. The previous consideration leads to the next issue: It is considered vital for the WG to meet face-to-face during 2014 to establish an identity, develop some momentum and progress the outstanding work items.

**Any Other Items of Note**

N/A

**Conclusions and Recommended Actions**

N/A

**Justification and Impacts**

None

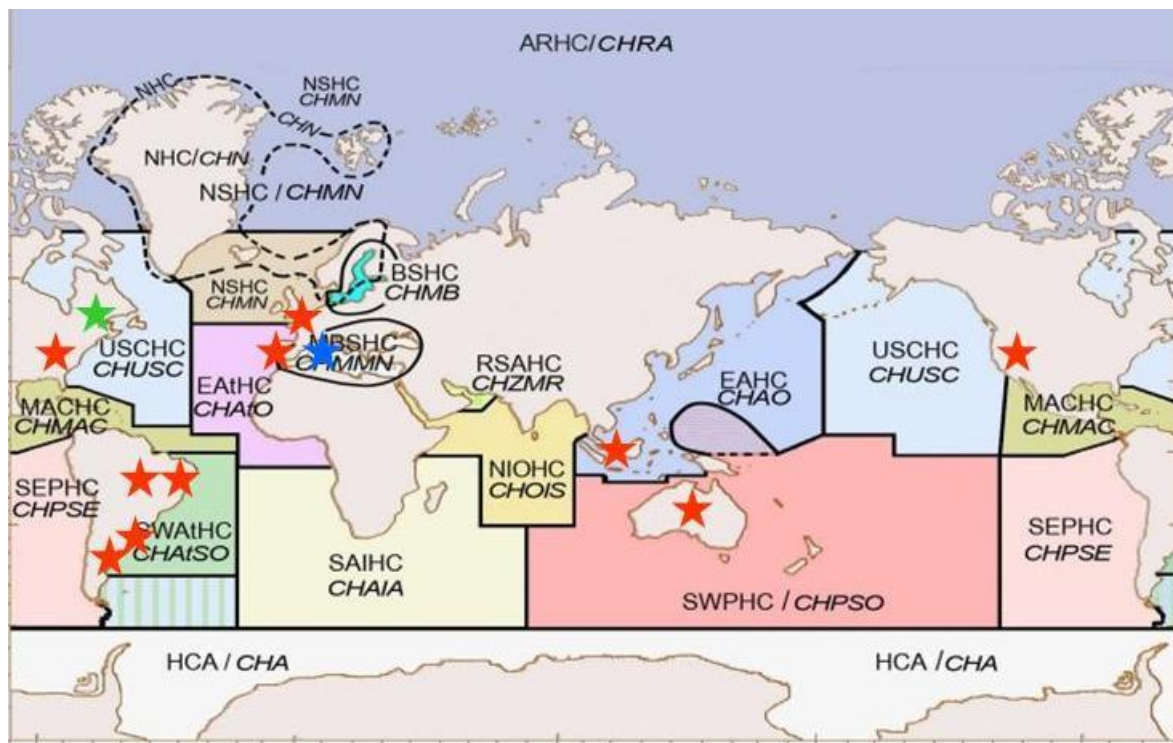
**Action Required of HSSC**

The HSSC is invited to:

- a. **note** this report
- b. **re-appoint** the HDWG to continue its work under its current Terms of Reference and Business Rules
- c. **approve** the work program at Annex B
- d. **approve** the proposed new and revised definitions at Annex C

HDWG Membership

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IHB	David Wyatt ( <i>Secretary</i> )	David.Wyatt@iho.int
Expert Contributor	Alejandro Gerones	alejandro.gerones@caris.com



- ★ HDWG Member
- ★ IHB Secretary
- ★ Expert Contributor (Spanish speaker, fluent in English & French)

## 11. HDWG WORK PLAN 2013-14

## 11.1 HDWG tasks

A	Maintain and extend the definitions in the IHO Dictionary in French, English and Spanish (IHO task 2.11.1 refers)
B	Liaise with other IHO bodies preparing publications containing glossaries (IHO task 2.11.1 refers)
C	Liaise with other organizations developing dictionaries and/or glossaries (IHO task 2.11.1 refers)
D	Develop the Spanish language Wiki version of S-32 with commercial contract support (IHO task 2.11.2 refers)

Task	Work item	Priority H-high M-medium L-low	Next milestone	Start Date	End Date	Status P-planned O-ongoing C-completed	Contact Person(s) * indicates leader	Related Pubs / Standard	Remarks
A1	Consider proposals from Greece for inclusion of 3 new terms related to the Coast.	H	a. Terms 1 – 3	2011	<del>2012</del> 2013	P	All	S-32	
A2	Review all terms currently included in S-32 for their relevance in accordance with the S-32 Business Rules and propose which definitions should be removed from S-32	M	a. Terms a – d b. Terms e – l c. Terms m – r d. Terms s – z	2012 2012 2013 2013	<del>2013</del> 2015 <del>2013</del> 2015 2014 2016 2014 2016	P P P P	All	S-32	
A3	Review the approved definitions of Altitude, Elevation and Height	H		2012	<del>2013</del> 2014			S-32	Alternative definitions to be submitted by HDWG to TSMAD27 (Dec 2013) and CSPCWG10 (Jan 2014) before endorsement
B6	Aquaculture – proposal from CSPCWG	H	a. Aquaculture	2011	<del>2012</del> 2013	P	All	S-32	
B7	CSPCWG	H	Phase of a navigational light	2011	<del>2012</del> 2013	P	All	S-32	

Task	Work item	Priority H-high M-medium L-low	Next milestone	Start Date	End Date	Status P-planned O-ongoing C-completed	Contact Person(s) * indicates leader	Related Pubs / Standard	Remarks
B8	TWLWG	H	Mean sea level	2011	<del>2012</del> 2013	P	All	S-32, IHO Resolution 3/1919	New definition considered too long. See Annex D
B9	SNPWG	H	Underkeel clearance/allowance	2011	<del>2012</del> 2013	P	All	S-32	
B10	IHB	H	Single Beam Echo Sounder	2011	<del>2012</del> 2013	P	All	S-32	
B11	UKHO	M	Seafloor	2012	<del>2013</del> 2014	P	All	S-32	
B12	UKHO	M	Bathymetry	2012	<del>2013</del> 2014	P	All	S-32	

### 11.2 HDWG Meetings (IHO WP task 3.1.8 refers)

No meetings have taken place. HDWG is invited to consider face-to-face meeting in 2014.

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### New Definitions<sup>1</sup>

(English – Times New Roman), (French – Arial), (Spanish – Arial Narrow)

**Aquaculture:** the cultivation of marine fauna and flora.

**Aquaculture:** élevage d'espèces animales et production de végétaux marins.

**Acuicultura:** Cultivo de especies acuáticas vegetales y animales.

### **Coastal Area, Coastal Water and Coastal Zone:**

Although very important to hydrographers and cartographers, the terms proposed by Greece ("Coastal Area", "Coastal Waters" and "Coastal Zone") are applicable to the ICZM area of expertise and can only be defined by the relevant bodies (ICZM Protocols, FAO, etc.).

This comment is further in agreement with the Business Rules for S-32, which insists on the fact that: *"possible duplication should be avoided and reference made to the relevant responsible organisation."*

HDWG decision:

It is proposed not to include the terms Coastal Area, Coastal Waters and Coastal Zone in the HD for the time being, but keep an eye to any standardised definition that might be issued by the relevant organisations.

**Phase of a navigational light (3768):** a visually discrete part of a light signal. It is bounded by changes between darkness and light (e.g. an occultation or flash), or between different colours, or between distinctly different luminous intensities, and it may be further discriminated by its duration.

**Phase d'un feu:** manifestation observable et discrète d'un feu, caractérisée par des alternances d'éclairement et d'obscurité (c.à.d. occultations ou éclats), ou de couleurs, ou d'intensité lumineuse, ainsi que par la durée de ces alternances.

**Fase de un balizamiento luminoso :** Parte de una señal luminosa discreta y visible, caracterizada por la alternancia de: oscuridad y luz, diferentes colores o distinta intensidad luminosa, pudiéndose distinguir, además, por su duración

**Single Beam Echo Sounder:** (SBES) an ECHO SOUNDER that transmits and receives a sound pulse providing a single spot depth, as opposed to a MULTI BEAM ECHO SOUNDER.

**SBES:** See SINGLE BEAM ECHO SOUNDER

**Sondeur monofaisceau:** SONDEUR ACOUSTIQUE dont la pulsation sonore ne produit qu'une seule PROFONDEUR, contrairement au SONDEUR MULTIFAISCEAUX. On dit encore sondeur vertical (acronyme anglais : SBES).

**SBES :** voir SONDEUR MONOFAISCEAU

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<sup>1</sup> Index numbers are mentioned when the terms are already in the S-32 outdated hard copy version.

**Sondador monohaz :** Ecosondador que transmite y recibe un pulso sonoro obteniendo la profundidad, en un solo punto, a diferencia del ecosondador multihaz.

**SBES :** ver SONDADOR MONOHAZ

**Underkeel clearance (5731):** the distance between the lowest point of the ship's hull, normally some point on the keel, and the SEA FLOOR.

**Underkeel allowance (5732):** The minimum UNDERKEEL CLEARANCE estimated, or specified by a relevant authority for a defined area or vessel type, to account for vessels' static and dynamic characteristics, SEA STATE, CHART reliability, and variance from predicted HEIGHT of TIDE.

**Profondeur d'eau sous quille (5731) :** distance entre le point le plus bas de la coque d'un NAVIRE, en général un des points de sa quille, et le FOND DE LA MER.

(No change required, the term "Fond de la mer" being an acceptable translation for « sea floor » at this stage).

**Pied de pilote (5732) :** Valeur minimale estimée, ou spécifiée par une autorité qualifiée, de la PROFONDEUR D'EAU SOUS QUILLE pour un type de navire et une zone donnée, définie en tenant compte des caractéristiques statiques et dynamiques du NAVIRE, de l'ÉTAT DE LA MER, de la fiabilité des cartes et des variations de la MARÉE PRÉDITE.

**Fondo bajo la quilla (5731):** Distancia entre el punto más bajo del casco de una embarcación (normalmente situado en su quilla), y el fondo del mar.

**Margen bajo la quilla (5732):** Mínimo FONDO BAJO LA QUILLA especificado por una autoridad competente, para un determinado lugar o tipo de buque, teniendo en cuenta sus características estáticas y dinámicas, estado de la mar, fiabilidad de las cartas y variaciones de las predicciones de marea

## Discussion on the tentative definition of Mean sea level

### 1. TWLWG latest definition

**Mean sea level (3156):** the average HEIGHT of the surface of the SEA observed at a TIDE STATION for all stages of the TIDE at least over a 19-year period, usually determined from hourly height readings measured from a fixed predetermined geospatial reference level.

It should be noted that:

1. According to GLOSS Program to define the mean sea level for one place in order to absorb all meteorological effect, it is needed at least 40 years of observations.

The measured value of mean sea level is tied to the location and the observation period. Therefore the tide gauge location, the location and ellipsoidal height (Datum and Epoch) of the reference bench mark and the observation period should always be quoted where the value of mean sea level is to be used as a precise reference level.

2. The measured mean sea level is only an apparent level, the relative mean sea level. Vertical movements of the earth's crust at the location of the tide gauge will affect the mean value measured.
3. Sea level also has long period variations (the global rise of the oceans). These also affect the mean value measured.

The absolute mean sea level is obtained from the corrections of tides series for the vertical movements of the earth's crust through the Continuous GPS control installed close to the tide gauge after at least 10 years of GPS measurements. Therefore the CGPS location should always be quoted where the value of absolute mean sea level is to be used as a precise reference level.

4. Where modelling is used to eliminate the movement of the earth's crust (post glacial rebound for example) and/or the effect of the global rise of the oceans, the resulting mean sea level is relevant to a specific epoch. This epoch (year) and the modelled annual change of mean sea level should always be quoted when mean sea level is used as a precise reference level.

**Niveau moyen de la mer (3156) :** moyenne des hauteurs de la surface de la mer observées à un MAREGRAPHE pendant une période de 19 ans au moins, les HAUTEURS DE MAREE étant prises habituellement toutes les heures et mesurées à partir d'un NIVEAU DE REFERENCE géospatial prédéterminé.

Il convient de noter que:

1. Selon le programme GLOSS, la détermination du niveau moyen en un lieu nécessite au moins 40 années d'observation afin d'éliminer les effets météorologiques.

Le niveau moyen de la mer mesuré est fonction du lieu et de la période d'observation, aussi la position, la hauteur ellipsoïdale et l'EPOQUE de détermination du REPERE DE REFERENCE, doivent-ils toujours être mentionnés quand le niveau de la mer est destiné à servir de niveau de référence précis.

2. Le niveau moyen de la mer n'est qu'un niveau apparent et relatif. Les mouvements verticaux de la croûte terrestre au marégraphe affectent la moyenne mesurée.
3. Le niveau de la mer est sujet à des variations à long terme (élévation du niveau des océans) qui affectent également la moyenne mesurée.

Le niveau moyen absolu provient des séries d'observation de marée corrigées des mouvements verticaux de la croûte terrestre enregistrés continûment pendant dix ans au moins au moyen d'un récepteur GPS situé à proximité du marégraphe, aussi la position de



ce GPS doit-elle être toujours mentionnée quand le niveau de la mer est destiné à servir de niveau de référence précis.

4. Quand l'élévation du niveau des océans et/ou les mouvements de la croûte terrestre sont filtrés par modélisation (par ex. rebond post-glaciaire), le niveau moyen de la mer résultant est spécifique d'une époque (année). Cette dernière et les variations modélisées doivent toujours être mentionnées quand le niveau de la mer est destiné à servir de niveau de référence précis.

**Nivel medio del mar (3156):** Media de alturas de la superficie del mar observadas en una estación de mareas en todas las fases de la marea, durante al menos un periodo de 19 años, determinado normalmente con lecturas horarias de alturas medidas con respecto a un nivel de referencia geoespacial predeterminado.

Es conveniente resaltar que:

1. De acuerdo con el programa del GLOSS para definir el nivel medio del mar en un lugar, para eliminar los efectos meteorológicos se necesitan al menos 40 años de observación.

El valor de nivel medio obtenido está enlazado con el lugar y el periodo de observación. Por lo tanto, la localización de la estación de marea, el datum y época de observación, así como la altura elipsoidal de la marca de referencia, deben ser mencionadas cuando el valor del nivel medio del mar sirve de nivel de referencia preciso.

2. El nivel medio del mar medido es un nivel aparente y relativo. Los movimientos verticales de la corteza terrestre en la localización del mareógrafo, afectan a estas medidas.

3. El nivel medio del mar tiene, también, variaciones de largo periodo (elevación del nivel de los océanos) que afectan al valor medio medido.

La medida absoluta del nivel medio del mar, se obtiene corrigiendo las series de nivel del mar por el movimiento de la corteza terrestre, que se monitoriza a través de medidas de GPS instalado en las inmediaciones de la estación mareográfica durante un periodo de al menos 10 años. La posición de este GPS, debe ser mencionada cuando el valor del nivel medio del mar sirva de nivel de referencia preciso.

4. Cuando se utiliza un modelo para eliminar el movimiento de la corteza terrestre (recuperación post glacial, por ejemplo) y/o el efecto de la elevación global de los océanos, se obtiene un nivel medio del mar para una época concreta. Esta época (año) y el cambio anual de modelo del nivel medio del mar, debe ser citado cuando se use como nivel de referencia preciso.




## 2. Reminder: the present on-line HD

**Mean sea level:** The average [height](#) of the surface of the [sea](#) at a [tide station](#) for all stages of the [tide](#) over a 19-year period, usually determined from hourly height readings measured from a fixed predetermined reference level ([chart datum](#)).

### 3. For information: the EU Inspire Registry

#### mean sea level

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ID:	<a href="http://inspire.ec.europa.eu/codelist/WaterLevelValue/meanSeaLevel">http://inspire.ec.europa.eu/codelist/WaterLevelValue/meanSeaLevel</a>
Item class:	<b>Code list value</b>
Language:	<b>en</b>
Label:	<b>mean sea level</b>
Definition:	The average height of the sea at a tide station measured from a fixed predetermined reference level.
Status:	Valid
Registry:	<a href="#">INSPIRE registry</a>
Register:	<a href="#">INSPIRE code list register</a>
Theme:	<a href="#">Hydrography</a>
Application schema:	<a href="#">Hydro - Physical Waters</a>
Code list:	<a href="#">Water Level</a>
Other formats:	 XML  JSON  Atom

### 4. HDWG Comments

The new TWLWG definition takes up about 300 words as opposed to 38 for the present HD (2009). This could be justified exceptionally by the sensitivity of the subject; however there is a concern that the tendency to provide better definitions should turn the HD, which has the merit of being concise, into another Manual on Hydrography.

As a comparison, the longest definition of the present on-line HD (the word "Transit") takes up 237 words, while average definitions seldom exceed 50 words.

The HDWG view is that the HD should contain only the definition of the term (i.e. "what it is" rather than "how it is determined") and exclude additional notes.

As a conclusion, it is suggested:

- to detail further what constitutes a definition in the HDWG ToRs or Business Rules
- to develop a mechanism to relocate important complements such as those added by TWLWG into the C-13 Manual on Hydrography or in some technical specifications.