Report of the

Data Quality Working Group

IHO Data Quality Working Group [1]

You are here: Home ▸ HSSC ▸ DQWG

English	Français
DATA QUALITY WORKING GROUP (DQWG)	***GROUPE DE TRAVAIL SUR LA QUALITE DES DONNEES (DQWG)***
Chair: Mr. Rogier BROEKMAN (Netherlands) **Vice-Chair:** Mr. Sean LEGEER (USA) **Secretary:** Vacant	***Président :*** *M. Rogier BROEKMAN (Pays-Bas)* ***Vice-président :*** *M. Sean LEGEER (Etats-Unis d'Amérique)* ***Secrétaire :*** *Vacant*
Objectives: The primary objective of the DQWG is to develop appropriate methods of classifying and depicting the quality of digital hydrographic information. See **Terms of Reference**, for further details.	***Objectifs :*** *Développer des méthodes appropriées de classement et de description de la qualité des informations hydrographiques numériques.* Voir le **mandat** pour plus de détails.
Meetings: The WG works primarily by correspondence and aims to meet at least once every two years, normally in connection with another convenient IHO forum. See DQWG Work Plan as part of the HSSC Work Plan.	***Réunions:*** *Le GT travaille essentiellement par correspondance et a pour objectif de se réunir au moins une fois tous les deux ans, normalement en liaison avec d'autres réunions appropriées de l'OHI. Voir le programme de travail du DQWG au sein du programme de travail du HSSC.*
Members: The WG comprises representatives of IHO Member States, Expert Contributors and Observers from International Organizations. Expert Contributors principally from industry participate in the WG at the invitation of the Chair. See the list of WG Members.	***Membres:*** *Le GT est composé de représentants des Etats membres de l'OHI, d´intervenants à titre d'experts et d´observateurs d´organisations internationales. La participation des intervenants à titre d'experts, représentant principalement l'industrie, est soumise à l'approbation du président. Voir la liste des membres du GT.*

List of WG Members:

- *Australia*
- Brazil
- Canada
- Denmark
- Finland
- France
- *India*
- Italy
- *Indonesia*
- Japan
- *Mexico*
- Netherlands
- Norway
- *South Africa*
- *Sweden*
- UK
- USA

Expert Contributors:

- *TELEDYNE*
- *IC-ENC*
- INTERTANKO
- PRIMAR
- IHO TSSO
- IHO Secr.

italic = correspondence member

IHO Data Quality Working Group [2]

Next Meeting / *Prochaine réunion*	
15th meeting, Monaco (4-7 February 2020)	Documents

Past Meetings / *Réunions passées*	
14th meeting, Monaco (5-8 February 2019)	Documents
13th meeting (incl. workshop), Monaco (15-19 January 2018)	Documents
12th meeting, The Hague, Netherlands (13-15 June 2017)	Documents
11th meeting, Arlington, Virginia, USA (10-12 May 2016)	Documents
10th meeting, Brest, France (7-9 July 2015)	Documents
9th meeting, Poole, UK (3-7 November 2014)	Documents
8th meeting, Wollongong, Australia (25-27 March 2014)	Documents
7th meeting, Fredericton, New Brunswick, Canada (16-18 July 2013)	Documents
6th meeting, Silver Spring, Maryland, USA (24-26 July 2012)	Documents
5th meeting, Monaco (15-18 November 2011)	Documents
4th meeting, Helsinki, Finland (14-17 June 2011)	Documents
3rd meeting, Rostock, Germany (5 November 2010)	Documents
2nd meeting, Norfolk, Virginia, USA (10 May 2009)	Minutes
1st meeting, Bath, United Kingdom (23 September 2008)	Minutes

DQWG Reference Documents / *Documents de référence du DQWG*	
National Methodologies: from survey data to CATZOC values	Australia , **France** (eng ; fra), Netherlands, Norway, United Kingdom, USA
	Link

ENC WG members are invited to share their national methodologies with DQWG

DQWG Main Objective (ref ToR)

- To ensure that the data quality aspects are addressed in an appropriate and harmonized way for all S-100 based Product Specifications

DQWG should:

- ❑Develop and maintain a Data Quality checklist
- ❑Periodically review S-100 based PS to ensure DQ aspects are harmonized
- ❑Monitor ISO and other international standards on DQ aspects
- ❑Provide guidance to Hydrographic Offices on DQ aspects, ensure harmonized implementation
- ❑Provide DQ educational material for the use of Mariners
- ❑Review appropriate methodology for the display of quality information to Product Specification developers

Develop and maintain a Data Quality Checklist

Miscellaneous / *Divers*	
Data Quality Checklist for Product Specifications (draft version 0.3, May 2018)	Document
Data Quality Model (version July 2015, working document)	Document
Data Quality and ISO TC 211 Standards	Document

Home > HSSC > DQWG

Miscellaneous / *Divers*	
Geospatial Maritime Working Group (GMWG) AML Portrayal Specification (Download Resource Files .zip) (Feedback/enquiries should be addressed to GMWGSecretariat@ukho.gov.uk)	Guidance Document
S-100 Change Proposal Form (.doc)	Document
S-97 Guidance for PS Developers (.zip)	Document
S-100WG Work Plan updated to Jan 2018	Document
S-121 Draft Product Specification documents (March - 2019)	Documents
IHO GI Registry FCD Register Content Review (.xlsx) (May 2019)	Document

Home > HSSC > S-100WG

- Data Quality Checklist has been developed (May 2018)
- Based on ISO 19157 and S-100 Edition 4.0.0
- Result is delivered to S-100WG and incorporated into S-97 Guidance for PS Developers (part C – Data Quality), draft version 0.3
- S-97 to be maintained by S-100WG/DQWG

Review S-100 based Product Specifications

- At HSSC-11 it was decided that DQWG aspects should be reviewed when Edition 1.0.0 is released of a Product Specification (HSSC11/26 refers)
- DQWG reviewed S-127 and S-102. S-127 has good validation measures
- Publication of Edition 1.0.0 is found on various places on www.iho.int
- S-101 PS is the flagship of S-100 and the harmonization process of DQ aspects will have to converge to this PS.
- Other PS may adapt their DQ aspects under the condition that it will not create interoperability issues (HSSC10/37 refers)

Monitor ISO and other international standards

- ISO 19157 is the parent reference for all S-1xx based DQ elements
- OGC is another international standard, harmonization to be investigated once S-1xx PS have all been harmonized on DQ aspects
- INSPIRE and EMODNET are European initiatives. INSPIRE Technical Specifications on Elevation are already monitored by DQWG due to its relevance of bathymetry and S-102
- Harmonization of DQ aspects is a fundamental condition for sharing geo-information for the widest possible use

Provide guidance to HO on DQ aspects [1]

- Six Member States so far have shared their national policies how the quality of a single survey is translated into the appropriate M_QUAL/CATZOC value.
- CSB is typically assigned CATZOC = D (sometimes C).
- SDB is typically assigned CATZOC = C.
- LIDAR survey is typically assigned CATZOC = B (sometimes A2).
- Port authority surveys are typically assigned CATZOC = B, on port-by-port basis a higher value.
- DQWG will develop a Guidance document Edition 1.0.0 at HSSC-12
- DQWG will present DQ aspects from ping to autonomous shipping (HSSC-12)
- How to assign Quality of Bathymetric Data will be presented by DQWG Chair at S-101PT4

Provide guidance to HO on DQ aspects [2]

Different depth ranges are used in various IHO standards.

- S-44: 40m and 100m boundary.
- S-52: default safety depth and safety contour = 30m.
- C-55: 200m boundary.
- S-4: 0, 2, 5, 10, 20, 30, 50, 100, 200, 300, 400, 500, 1000, 2000m etc.
- High density ENCs: 3, 8, 15, 25, 40 and 75m and multiples of 10 or 100m may be shown. (S-4 recommendation).
- S-101 Oceanic: 200m boundary
- Note: High Density ENCs means more contour lines as decision aid for safe navigation. It is advised not to create High Density ENCs based on low accurate (CSB/SDB/SBE) data.

Provide DQ educational material for Mariners

- S-67: Mariners Guide to the Accuracy of Depth Information in Electronic Navigational Charts (HSSC10/45 refers)
- Edition 0.8 – review done
- First complete Guidance to HO, then explain the CATZOC symbol and isolated features hazardous to navigation in S-67
- Remove present guidance on UKC calculations in S-67
- Verify S-67 against S-4
- Important end user (INTERTANKO) has joined DQWG
- S-67 Edition 1.0.0 to be delivered at HSSC-12

Review appropriate methodology to depict quality in ENC

- Issue first raised by UK with the grounding of the jack-up barge Octopus towed by the tug Harald, Stronsay Firth, Orkney Islands, 8 September 2006
- Specifically, to investigate ways of ensuring that ECDIS displays provide a clear warning or indication to the mariner whenever the survey data used to produce the electronic chart in use is of poor quality.
- Many options were investigated by DQWG between 2007-2018
- Based on the new Quality of Bathymetric Data model, Germany proposed a new method (NCWG3-08.4A refers). Proposal was not accepted (screen clutter)
- DQWG meeting 14 finally delivered a new methodology. Proposed at HSSC-11
- HSSC-11 agreed to this new methodology, to be tested by S-100WG (HSSC11/50 refers)
- New method will be presented by DQWG Chair at S-101PT4

Action requested of ENCWG

- Note this report
- Provide their national methodologies from Survey to CATZOC (@DQWG Chair)
- Note the Validation Checks developed by NIPWG for S-127
- Be aware that High Density ENC's require high accurate surveys
- Provide Test Data (standard ENC files) for testing the new methodology (s100testbed@korea.kr), deadline 15 July 2019