



# 16<sup>th</sup> Meeting of the Hydrographic Services and Standards Committee

## Report of the Data Quality Working Group

### Agenda Item 05.5A

HSSC-16, Tokyo, Japan, 27 – 31 May 2024



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# PRINCIPAL ACTIVITIES AND ACHIEVEMENTS

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Chair (Lingzhi WU, CN) and Secretary (SCOTT YOUNGBLUT ,CA).

DQWG Chair Mr. Lingzhi WU had been re-elected and acclaimed as Chair.

DQWG Secretary Scott Youngblut will continue as Secretary through DQWG20.

DQWG has met once since HSSC 15

19<sup>th</sup> DQWG meeting –25-26 March 2024

- VTC Event
- 35 delegates
- 17 member states
- 1 representative from the RENCs
- 8 Expert contributors





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# PRINCIPAL ACTIVITIES AND ACHIEVEMENTS

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## Amendment to DQWG ToRs

- DQWG endorse the amendment to DQWG ToRs. Based on the principle of gender equality, “Chairman” has been replaced by “Chair”.



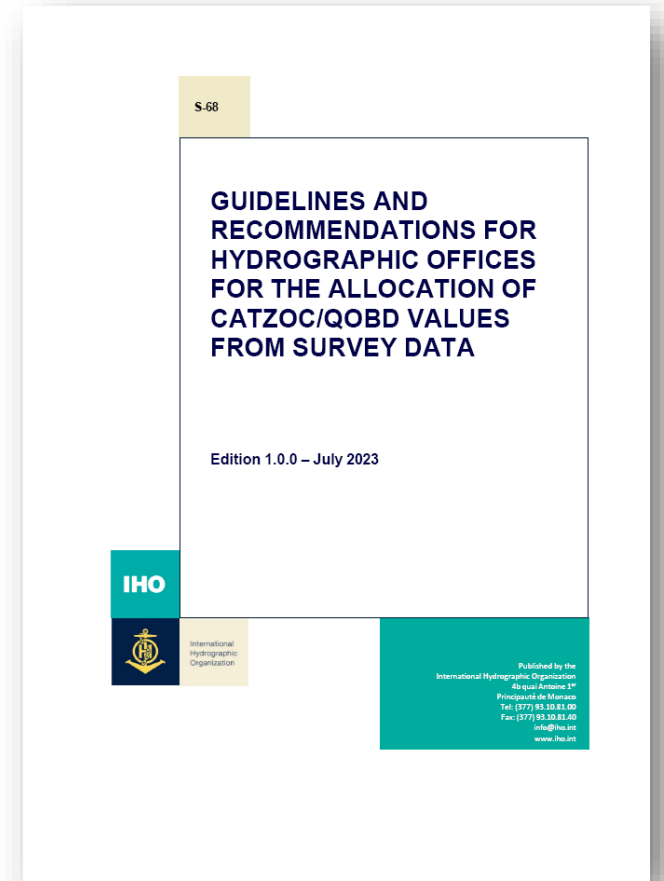
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# PRINCIPAL ACTIVITIES AND ACHIEVEMENTS

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## Guidelines from Survey to CATZOC

- IHO publication S-68 “Guidelines and recommendations for Hydrographic Offices for the allocation of CATZOC” Ed 1.0.0 has been approved by Member States and released on the IHO Website. Member States are invited to test S-68 Ed 1.0.0 and feedback to the working group. **(Action HSSC15/57 )**
- DQWG19 has agreed to establish a **new SubWG** to continue the development of S-68 Ed 1.1.0 with a possible eventual S-68 Ed 2.0.0.
- A 3-years implementation plan of S-68 Ed 1.0.0 has been discussed in DQWG19.
- DQWG19 has discussed CATZOC allocation of CSB Data with the support of CSBWG, and has agreed to establish a new SubWG to develop a CATZOC allocation scheme for CSB Data. **(Action HSSC15/58)**





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# PRINCIPAL ACTIVITIES AND ACHIEVEMENTS

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## Cross Check of Data Quality Chapters of S-1xx Product Specifications

- The Cross Check of S-124 Ed 1.0.0, S-130 Ed 1.0.0, S-131 Ed 1.0.0, S-201 Ed 1.1.0, S-240 Ed 1.0.0, S-401 Ed 1.0.0 and S-421 Ed 1.0.0 has been implemented. Developer of S-100 based product specifications are invited to note the results of Cross-check and submit the new edition of their product specifications to DQWG for Cross check.
- The recommended template of data quality chapter of S-1xx data product specifications has been improved and will be submitted as revision proposal for Appendix D of S-100 Part 11, to the S-100WG for consideration and possible inclusion in Ed. 6.0.0 of S-100.
- DQWG noted the feedback from **TWCWG** and **NIPWG** related to the cross-check results of S-104, S-111, S-122, S-123, S-127 and S-128. The data quality chapter of each of these PSs will be updated after inclusion of the recommended template of data quality chapter of S-1xx data product specifications in Ed. 6.0.0 of S-100.



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# PRINCIPAL ACTIVITIES AND ACHIEVEMENTS

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## Cross check of S-1xx Feature Catalogues

- DQWG has implemented the Cross check of feature catalogues of **S-101 Ed 1.2.0, S-121 Ed 1.0.0, S-122 Ed 1.0.0, S-123 Ed 1.0.0, S-124 Ed 1.0.0, S-127 Ed 1.0.0, S-128 Ed 1.0.0, S-130 Ed 1.0.0 and S-131 1.0.0**. The aims of the Cross check of S-1xx Feature Catalogues are to:
  - ✓ Confirm that the Feature Catalogue contents are consistent with the corresponding DCEG document.
  - ✓ Identify any areas where the S-101 Feature Catalogue is not consistent with other S-1xx product specifications
  - ✓ Confirm that the items present in the feature catalogue are consistent with the GI registry contents.
  - ✓ Confirm that the Feature Catalogue structure and content conforms to the S-100 standard.



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## Cross check of S-1xx Feature Catalogues

- The review **results and recommendations** will be submitted to S-1xx developers respectively. Developer of S-100 based product specifications are invited to note the results of Cross-check and submit the new edition of their product specifications to DQWG for Cross check.
- **An automated ‘cross-check’ script** has been developed by **SHOM**, and will be shared with the broader IHO GitHub for further development and broader application in the development community.
- DQWG noted the feedback from **TWCWG** related to the Cross-check Results of feature catalogues in S-104 and S-111.



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# PRINCIPAL ACTIVITIES AND ACHIEVEMENTS

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## Review the draft S-66 new edition (Action HSSC15/34 )

- DQWG has endorsed the S-66 Ed. 2.0.0 developed by ENCWG & DQWG joint subWG.
- ENCWG & DQWG joint subWG will continue the development of new edition of S-66.
- Member States are invited to translate S-66 Ed. 2.0.0.





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## Revision of S-100 Part 4C and S-97 Part C

- DQWG has endorsed the amendment to S-100 Part 4C “Metadata - Data Quality” and the amendment to S-97 Part C “Data Quality”.
- These amendments will be submitted to S-100WG for inclusion in Ed. 6.0.0.



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## Action HSSC15/55

HSSC encouraged Member States to start populating appropriate POSACC / SOUACC values in existing S-57 ENC's for relevant spatial objects in preparation of conversion to S-101 . RENCs are invited to provide status report on the progress of the encoding.

- Mr. Svein Skjaeveland (PRIMAR) presented a report “Progress POSACC/SOUACC encoding” in DQWG19. One explanation for increase in M\_QUAL could be re-scheming resulting in more ENC's. Increase in OBSTRN, SOUNDG, UWTRC, WRECKS can potentially be explained as HOs follow up on HSSC14/59 action. However, the increase is very low (<0.7%) for all objects encoded with POSACC/SOUACC in PRIMAR Database. it is important to take into consideration that HOs may consider the POSACC/SOUACC encoding on those objects to be limited to areas of navigational significance, like shallow, narrow areas for example.



## Action HSSC15/55

Analysis – Increased number of encodings



% increase over 1 year period – increased number of encodings

- One explanation for increase in M\_QUAL could be re-scheming resulting in more ENC's.
- Increase in OBSTRN, SOUNDG, UWTROC, WRECKS can potentially be explained as HOs follow up on HSSC14/59 action.

Totality				%
	2023/03	2023/09	2024/03	
POSACC	7616	7996	8413	10.5
SOUACC	16062	25496	34676	115.9
POSACC				%
M_ACCY	2287	2287	2287	0
M_QUAL	5329	5709	6126	15
SOUACC				%
M_QUAL	4546	4840	5011	10.2
OBSTRN	374	547	657	75.7
SOUNDG	9163	17197	23902	160.9
UWTROC	1111	1693	3717	234.6
WRECKS	868	1219	1389	60



## Action HSSC15/55

Analysis – Increased encoding totality based



% increase over 1 year period – total number of instances in db.

- Very low increase (%) when taking total number of instances in db into account.
- May not be deemed important to encode POSACC/SOUACC on all instances (?).
  - (E.g., POSACC/SOUACC encoding on objects < 30-meter depth may not be of interest).

Total % all objects full db				
	Nr in db	23/03 %	24/03 %	% incr.
M_ACCY	9210	24.83	24.83	0.00
M_QUAL	378907	1.41	1.62	0.21
Total % all objects full db				
	Nr in db	23/03 %	24/03 %	% incr.
M_QUAL	378907	1.20	1.32	0.12
OBSTRN	455168	0.08	0.14	0.06
SOUNDG	2157959	0.42	1.11	0.68
UWTROC	1619622	0.07	0.23	0.16
WRECKS	105099	0.83	1.32	0.50



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## S-100 Validation and DQ

- DQWG noted and approved the Report “Data quality evaluation of S-100 products”. A draft guidelines on the data quality evaluation of S-100 products has been presented in DQWG19.
- There is a link between S-158 and the Data quality evaluation of S-100 products. Therefore, the report will be shared with S-100WG and then a way forward for drafting recommendations on the data quality evaluation of S-100 products will be determined.



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# PRINCIPAL ACTIVITIES AND ACHIEVEMENTS

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## MASS and DQ

- DQWG discussed data quality issues related to MASS, and suggested to establish a DQ evaluation procedure of S-100 products from a MASS user's perspective by Collaborating with MASSPT.

## Review of S-100 Part4a

- DQWG noted the invitation from S-100WG and agreed to review of S-100 Part4a metadata according to the new ISO standard and submit results to S-100WG.



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# PROBLEMS OR OUTSTANDING ISSUES

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- Although VTC meetings are beneficial to increase the number of participating members, they limit the depth and breadth of communication. It is necessary to hold an in-person or hybrid DQWG meeting.
- DQWG Vice Chair has been vacant for many years.
- The active participation of members is crucial for the working group. Hope more and more members are able to join subWGs and submit proposals to DQWG meeting.



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# RECOMMENDATIONS

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## It is recommended to:

- a) Approve the new ToRs of DQWG in Annex B.
- b) Approve S-66 Ed. 2.0.0.
- c) Recommend a reminder to Member States to provide feedback to DQWG on the test of S-68 Ed. 1.0.0.
- d) Liaison with IRCC to invite RENCs to include a relevant work item in their agendas as well as analyse and report the status of CATZOC allocation within their region.
- e) Task DQWG to continue the development of S-68 Ed 1.1.0 with a possible eventual S-68 Ed 2.0.0.
- f) Task DQWG to develop a CATZOC allocation scheme for CSB Data by collaborating with CSBWG and HSWG.
- g) Encourage developers of S-100 based PSs to note the cross-check results of DQ chapter, and update DQ chapter when releasing a new edition of the product specification or at the latest after the recommended template is included in S-100 6.0.0.





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# RECOMMENDATIONS

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## It is recommended to:

- h) Encourage developers of S-100 based PSs to note the cross-check results of feature catalogue and take appropriate actions in order to reduce the complexity of interoperability.
- i) Task DQWG to continue the cross-check results of feature catalogues of other S-100 based PSs and encourage developers of S-100 based PSs to test the automated 'cross-check' script.
- j) Encourage developers of S-100 based PSs to invite DQWG to review their validation check items.
- k) Task DQWG and S-100WG to discuss the establishment of a guidance on data quality evaluation of S-100 products.
- l) Approve the revised Work Plan submitted as Annex C.
- m) Encourage other working groups to submit data quality issues to DQWG for discussion .



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# **ACTION REQUIRED OF HSSC**

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The HSSC is invited to:

- a. note** this report.
- b. approve** the above recommendations .