

Hydrographic Services and Standards Committee

Report of the / Proposal by the
Data Quality Working Group

Mr. Rogier Broekman, Chair



Principal activities and achievements

- DQWG meeting 12, The Hague – Netherlands, 13-15 June 2017
- Total group members = 19
- Active members = 8
- Correspondence members = 11



Principal activities and achievements

- Product deliverables under current Terms of Reference (ref HSSC1)
- Working by correspondence via www.iho.int -> DQWG Letters 2017/xx
- Strategic planning of DQWG meetings to enable other WG's to use the delivered products in time for their meetings / ask for input from DQWG
- Draft new Terms of Reference to ensure that data quality aspects are addressed in an appropriate and harmonized way for all S-100 based product specifications.



Principal activities and achievements

- **Product deliverables under current Terms of Reference (ref HSSC1):**
- Investigate ways of ensuring that ECDIS displays provide a clear warning or indication to the mariner on the quality of the underlying survey data, through appropriate use of the attribute CATZOC and/or improvement of the existing display capabilities -> paper HSSC9-05.C
- Proposal for a New Publication: Mariner's Guide to Accuracy and Reliability of ENC -> paper HSSC9-05.5D/HSSC9-05.5F
- Review S-100 section 4C and ISO and INSPIRE standards -> to S100WG
- Changes to the DCEG concerning Data Quality Encoding -> to S100WG



Principal activities and achievements

- **Product deliverables under current Terms of Reference (ref HSSC1):**
- Changes to the use of Depth Range Minimum and Maximum values for certain objects -> S-100WG
- Example of vertically overlapping Quality of Bathymetric Data objects
- Going from 2D quality to 3D quality to 4D quality (time element)



Principal activities and achievements

- **Working by correspondence via www.iho.int -> DQWG Letters:**
- 2017/01: Data quality indicators for bathymetric data on ECDIS chart display
- 2017/02: Update of roadmap of DQWG (calendar + interaction to other WGs)
- 2017/03: S-67 Mariners guide to accuracy of ENC
- 2017/04: Review S-100 section 4C
- 2017/05: Changes to the DCEG concerning data quality encoding
- 2017/06: Changes to the use of Depth Range max/min value for certain objects



Principal activities and achievements

- **Strategic planning of DQWG meetings:**

| WG | Month (2017) | | | | | | | | | | | | Month (2018) | | | | | | | | | | | |
|--------|--------------|---|---|---|---|---|---|---|---|----|----|----|--------------|---|---|---|---|---|---|---|---|----|----|----|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| S-100 | | | | | | | | | X | | | | | | | | X | | | | | | | |
| ENC | | | | | | | | | | | | | | | | | X | | | | | | | |
| NC | | | | | | | | | | | | | | | | | | | | | | | X | |
| NIP | | | | | | | | | | | | | | X | | | | | | | | | | |
| DQ | | | | | | | | | | | | | X | | | | | | | | | | | |
| TWC | | | | | | | | | | | | | | | | | X | | | | | | | |
| HD | | | | | | | | | | | | | | | | | | | | | | | | |
| ABLOS | | | | | | | | | | X | | | | | | | | | | | | | | |
| HSSC | | | | | | | | | | | X | | | | | | | X | | | | | | |
| S101PT | | | | | | | | | | | | | | | | | X | | | | | | | |
| S121PT | | | | | | | | | | | X | | | | | | | | | | | | | |
| S129PT | | | | | | | | | | | | | | | | | | | X | | | | | |



Principal activities and achievements

- **Paper HSSC9-05.5B: Proposal for new DQWG TORs**
- Present TOR objective: To develop appropriate methods of classifying and depicting the quality of digital hydrographic data.
- Proposed TOR objective: To ensure that the data quality aspects are addressed in an appropriate and harmonized way for all S-100 based product specifications
- Balance arguments of paper HSSC9-05.5B, HSSC9-05.5E and HSSC9-05.5G_INF2



Principal activities and achievements

- **Paper HSSC9-05.5C: Proposal for Portrayal of Bathymetry Quality in S-101**
- Since 2009 we have tried to visualize data quality
- Current symbology in S-57 is hardly used and understood by the mariner
- In S-100 Oceanic is added as attribute of data quality
- Temporal variation is added as attribute of data quality (2D+time)
- The challenge with data quality is to make its information useful and visible as a decision tool for the user of the chart



Principal activities and achievements

- **Paper HSSC9-05.5C: Proposal for Portrayal of Bathymetry Quality in S-101**
- Proposal to use the same methodology as in safe contours (conditional formatting)
- User can activate data quality element for decision making
- Primary use in planning a voyage, secondary use in executing a voyage
- Feedback from other WG's requested



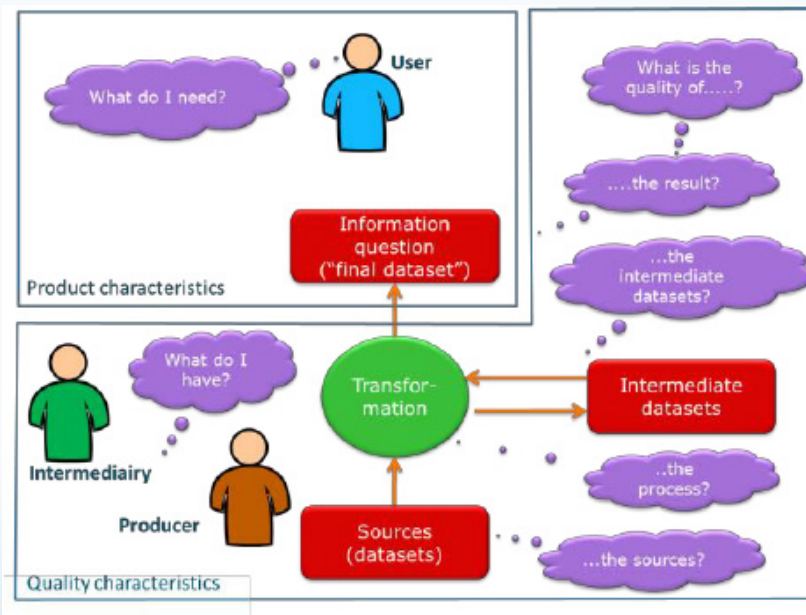
Principal activities and achievements

- **Paper HSSC9-05.5D: Proposal for a New Publication – Mariner's Guide to Accuracy and Reliability of ENC**
- Document drafted by Australia
- Describes current quality systems in S-57
- Review by other WG's required before endorsement by HSSC

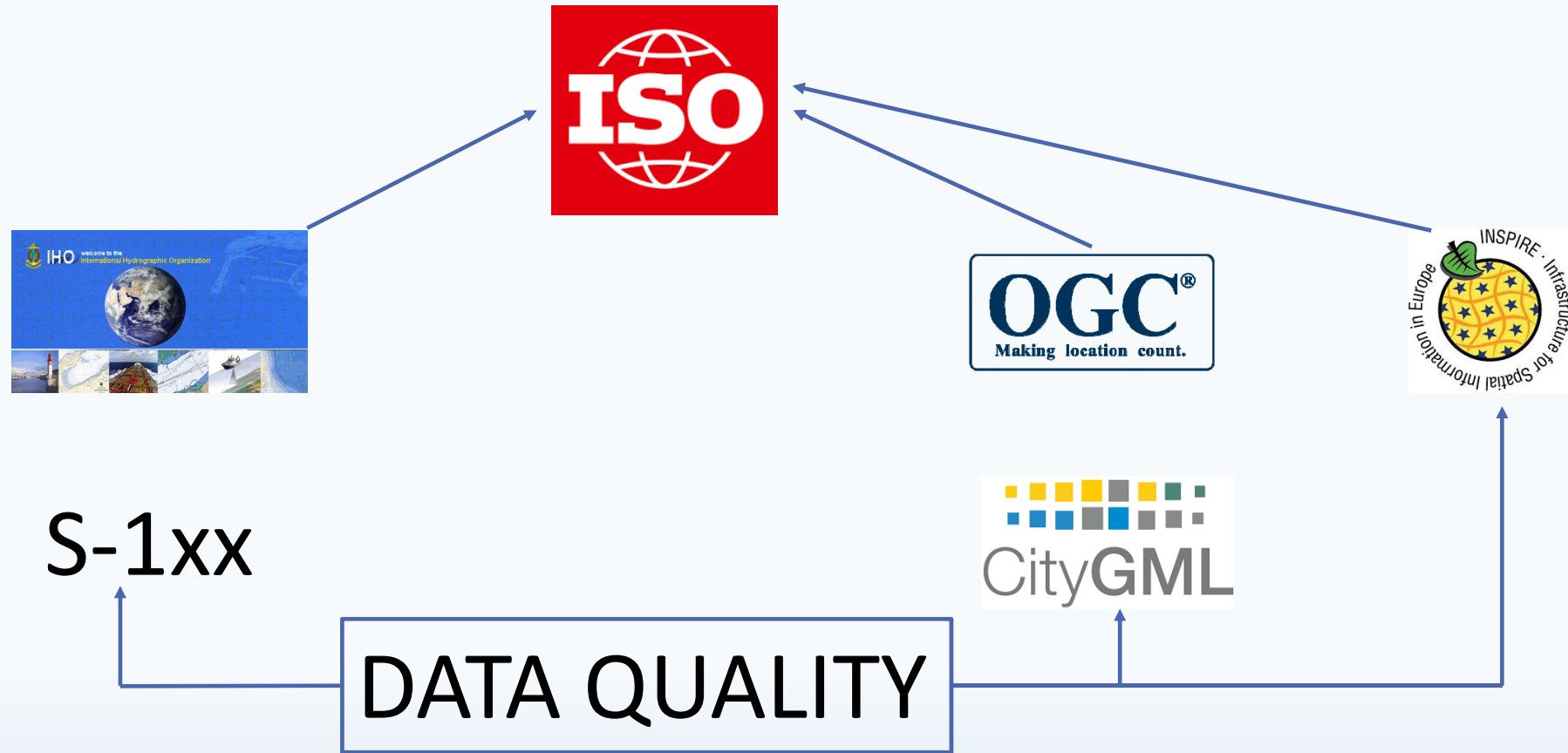


Principal activities and achievements

- Concept of Data Quality (S-100 section 4C)
- Completeness, Logical Consistency, Positional Accuracy, Temporal Quality, Thematic Accuracy, Aggregation Measures

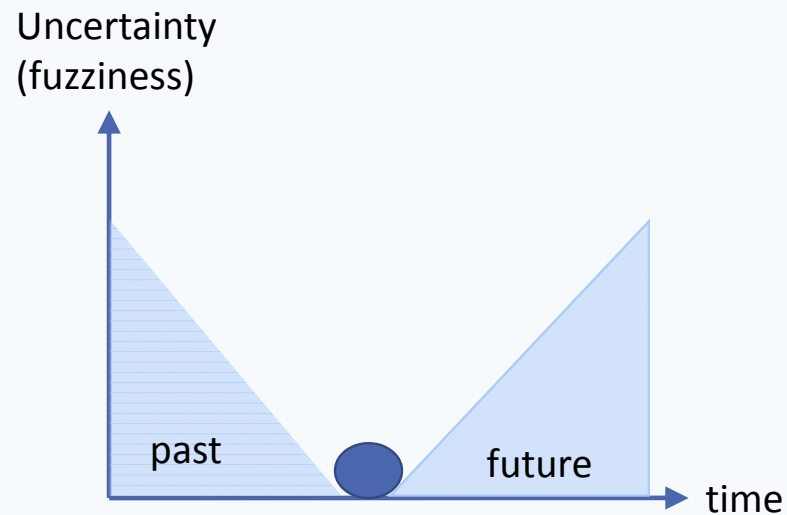


Principal activities and achievements



Principal activities and achievements

• Data Quality and time



1. Extreme event
2. Likely to change
3. Likely to change but significant shoaling unlikely
4. Unlikely to change
5. Unassessed



Problems or outstanding issues

- Slow progress inbetween meetings -> now working by correspondence
- Data quality is a conceptual issue, not easy to understand and explain
- Group has regained momentum, more active participants are needed
- Interaction with other WG's is low, other WG's are invited to read the DQWG Letters on the web and provide feedback or ask questions



Future work programme

- Workshop on Data Quality at DQWG13 (January 2018, Monaco)
- Identify Quality items in S-101 DCEG and harmonize
- Identify Quality items of other WG's as requested and harmonize
- Provide guidance documentation on: 1) how to populate CATZOC
- 2) transition from S-57 to S-101 -> CATZOC to Quality of Bathymetric Data
- Continue development of modelling and portrayal of data quality working with all stakeholders



Action requested of HSSC

- Note this report
- Agree on the recommendations
- Approve the new Terms of Reference
- Approve the working method of DQWG
- Approve the workplan for 2018

