Data Quality Domain Working Group (DQDWG) at Open Geospatial Consortium (OGC)

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23 April 2019

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Making location count.

Open Geospatial Consortium

- The Open Geospatial Consortium (OGC) is an international industry consortium of over **528** companies, government agencies and universities participating in a consensus process to develop publicly available interface standards.

- de-facto standardization:
  - “the standards empower technology developers to make complex spatial information and services accessible and useful with all kinds of applications.”
  - OGC standards support interoperable solutions that "geo-enable" the Web

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Data Quality Domain Working Group – mission

- WG charter approved in December 2006
- WG's first step should be to ascertain what DQ means to the various stakeholders in a geospatial supply chain.
- OWS4 Topology Quality Assessment Interoperability Report approved as OGC Discussion paper (https://portal.opengeospatial.org/files/?artifact_id=21821)

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DQ Survey Oct 2007 – March 2008

- Driven by 1Spatial and Blue Marble – companies of then DQ DWG co-chairs

- 728 respondents – majority from:
  - EU and North America
  - Governmental and military organizations, professional, scientific and technology industry with around 250 employees
  - Only around 17% were OGC members at the time
  - Most were both, suppliers and consumers of spatial data

- Results:
  - Almost all respondents stated that **data quality is important**, but more than 60% had no clear approach for managing it (just some reasons: unaware of standards, missing metadata…).

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DQ Survey – impact on the work of DQ DWG in 2008

- Definition of quality measures in a manner that allows communication of them through a spec or other vehicle

- Develop course of action – resulting in redefining DQ DWG's mission:
  - "… a forum for describing an interoperable framework or model for OGC Quality Assurance measures and Web Services to enable access and sharing of high quality geospatial information…"

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DQ DWG @ OGC

- DQ aspects:
  - Accuracy (spatial, thematic and temporal),
  - Consistency and Integrity,
  - Completeness,
  - Semantic Interoperability (definitions, languages),
  - Scale, Spatial Reference Systems and Projection.

- Reference to the standards defined in ISO 19157 and ISO 19115 metadata standards and other relevant standards for quality measures and descriptors.

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- Currently 41 members from academia, governmental agencies, mapping agencies and private companies

- Co-chairs (as of December 2017):
  - Matt Beare (Beare Essentials)
  - Sam Meek (Helyx secure information systems ltd)
  - Ivana Ivánová (Curtin University)

- Closely related OGC groups:
  - Quality of Service and Experience DWG
  - Citizen Science DWG

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DQ DWG program of work

- DQ DWG is present on around half of OGC's technical meetings – when there is interest from the members to present something related

- Reviews:
  - On standards – e.g. ISO 19157 in 2010
  - OGC ER – e.g. within Testbed 13 in 2017-2018 on reports which implemented 19157 DQ model:
    - FA001: (Aviation) Abstract Quality Model ER
    - FA002: (Aviation) Data Quality Specification ER
    - FA003: (Aviation) Quality Assessment Service ER

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DQ DWG @ OGC – interests to date

- What is the understanding of quality within producers and consumers of spatial data?

- What are the limitations in use of data quality information?
  - UncertML (OGC discussion paper)
  - Geospatial User Feedback (OGC standard: http://docs.opengeospatial.org/is/15-097r1/15-097r1.html)

- How to manage the quality of ‘non-authoritative spatial data’?

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DQ DWG – current course of actions

- In December 2017 DQ DWG initiated a revision of the DQ Mission to encapsulate our focus areas going forward and place greater emphasis on **user-centric requirements**

- (inter-DWG) collaboration on Spatial Data Quality needs
  - The Data Quality DWG believes that many other DWGs have DQ as a topic influencing their current discussions and activities.
  - We'd like to know how the DQ DWG can best support these groups in collaborative exercise for the provision of practical advice on requirements, model definition and best practice implementation – and from this how we can influence the related standards to better facilitate these needs.

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NAD ad-hoc – a result of new course of action

- Joint venture of Citizen Science DWG and Data Quality DWG initiated in December 2017
- Has met 3 times since
- Currently working on best practice document for handling crowdsourcing and volunteered geographic information – this will include:
  - advice on metadata that needs to be collected to support the use of crowdsourcing and volunteered geographic information for decision making;
  - advice on how to combine the data and its metadata to facilitate delivery;
  - advice on, or possibly definitions of, RESTful APIs used for receiving crowdsourcing and volunteered geographic information.

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DQ DWG & ESIP IQC

- Overlapping interests – complementary actions?
- How the DQ DWG can best support ESIP IQC?

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THANK YOU!

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