



Open Geospatial Consortium activities in the Maritime domain

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General Maritime efforts

OGC participants



- Alliance partners
 - IHO
 - ISO / TC 211
- Members
 - Danish Geodata Agency
 - NOAA
 - U.S. National Geospatial Intelligence Agency
 - CARIS
 - IIC Technologies
 - Esri
 - Envitia

Activities



- Marine Domain Working Group (DWG) – *more in a minute*
- Point Cloud DWG – *more in a couple of minutes*
- Safety of Navigation experts participating in several OGC standards and Interoperability Program activities
- OGC Testbed projects with coastal considerations
 - Port security
 - Sea inundation
- Arctic Spatial Data Pilot
 - Sponsored by Natural Resources Canada and the U.S. Geological Survey
 - Project to pilot sharing, use, and integration of Arctic region geospatial data

Other OGC Working Groups of interest



- **Meteorology and Oceanography (MetOcean) DWG**
 - Focus on the atmospheric and oceanic systems driving weather and climate
 - Includes ocean science
- **Earth Systems Science (ESS) DWG**
 - Works with the Natural Resources and Environmental communities
 - Also includes geosciences
- **Defense and Intelligence DWG**
 - Work area for national defense organizations, including typical entry point for safety of navigation issues
- ... and lots more:
 - <http://www.opengeospatial.org/projects/groups>



Marine Domain Working Group

Just starting



- Held ad hoc sessions in Washington, DC in March 2016 and on this Monday here in Dublin
- Will be voted for approval tomorrow at the OGC Technical Committee Meeting Closing Plenary

Mission and role



- The **mission** of the Marine DWG is to broaden the use of marine data through the understanding of the interoperability-related requirements for relevant use cases.
- The **role** of the Marine DWG is to serve as a forum within OGC for marine data issues; to present, refine and focus interoperability-related issues to the Technical Committee; and to serve where appropriate as a liaison to other industry, government, independent, research, and standards organizations active within the marine domain.

Key activities



- Discuss the content of a conceptual model for a Marine Spatial Data Infrastructure (MSDI).
- Discuss the types of OGC services that might be useful in providing hydrographic and seafloor survey data e.g. chart features, high resolution bathymetric coverages through standardized interfaces.
- Define any areas for standardization and create necessary Standards Working Groups to address the gaps in the OGC, IHO and IOGP standards baseline.
- Explore the potential for an interoperability pilots and testbeds that help define the workflows for ensuring that marine geospatial data can be used for purposes other than navigation. This will include identifying potential sponsors.
- Determine the Big Data potential for marine data and identify relevant standardized interfaces and experiment with testbeds.



Point Cloud Domain Working Group

Point Cloud DWG: expressed member interests



- Dominant theme of pulling together disparate data in multiple encoding formats
- Interest in point cloud web services
 - New standard?
 - Use Web Feature Service (WFS)?
 - Use Web Coverage Service (WCS)?
- Continuing interest in photogrammetric points (Thales, Ordnance Survey), bathymetry, meteorology
- Diversity in interest makes for flexible standards, but have to be careful not to be all things to all users

Recognition of reality



- There are many sources of point cloud data... not just LiDAR
- There are many "standards" for point cloud data storage, some *de jure*, some *de facto*, some just out there
- OGC focuses on standards to improve interoperability of and access to data – another storage format is not going to help
- But OGC can:
 - Develop Best Practices around current standards and use cases
 - Endorse specific standards
 - Build “metastandards” that facilitate interoperability
 - Develop standards to get content to the end user

Industry interaction



- OGC has established formal relationship with two organizations developing point cloud standards
 - ASPRS (LAS format)
 - ASTM (E-57* format) *not to be confused with S-57!
- OGC member NGA is developing a HDF5-based point cloud standard
- OGC membership has more significant interest in bathymetric point clouds than survey would suggest

Questions?



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