



Open Geospatial Consortium Meteorology & Oceanography Domain Working Group Update

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ECWMF, Reading UK
2015-09-28/29

0. Introduction



1. What is OGC?
2. Origins of Met Ocean DWG
3. WMO / Met Ocean DWG Interests & Progress
4. Future works & Possibilities
5. Questions & (maybe) Answers

1. What is OGC?



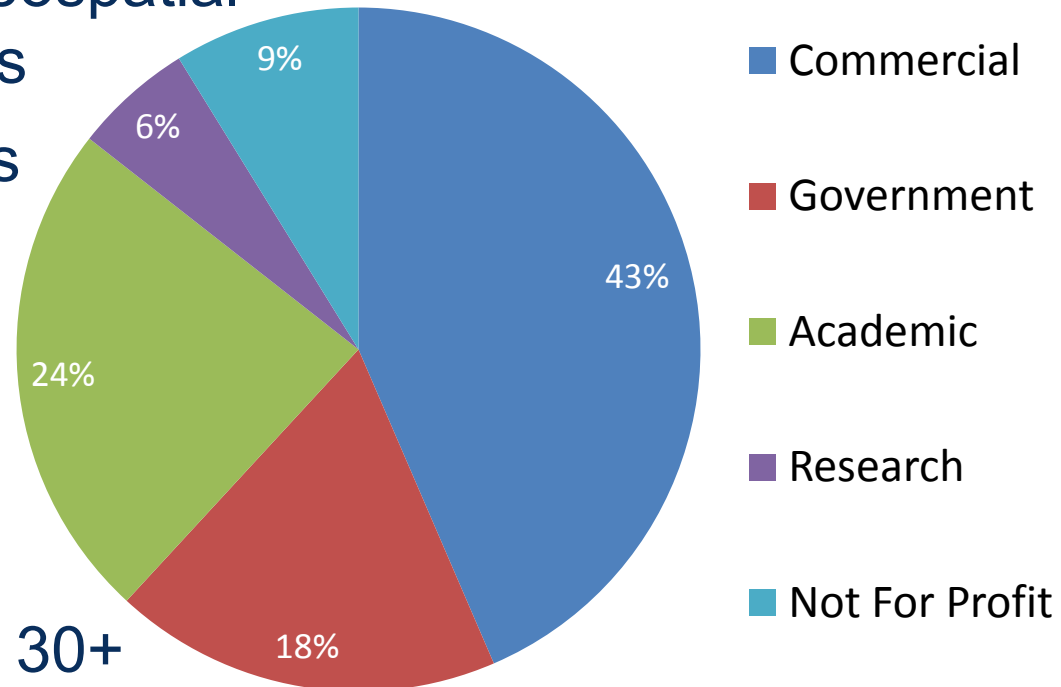
- See also <http://www.opengeospatial.org>

What is OGC?



- International, non-profit, consortium
- Develops standards for geospatial data & services, >25 years
- Funded by ~500 members
- 38 adopted standards
- Consensus process
- Freely available
- 100s of implementations
- Alliance partnerships with 30+ standards & professional organizations
- Broad user community worldwide
- Several standards fast tracked in ISO (and WMO!)

OGC Membership Distribution



What is OGC's Vision?



Vision:

A world in which everyone benefits from the use of geospatial information and supporting technologies.

Mission:

Global forum for collaboration of developers and users of spatial data products and services and to advance the development of international standards for geospatial interoperability

Strategic Goals:

Goal 1 - Provide free and openly available standards to the market that are of tangible value to Members and have measurable benefits for users.

Goal 2 - Lead worldwide in the creation and establishment of standards that enable global infrastructures for delivery and integration of geospatial content and services into business and civic processes.

Goal 3 - Facilitate the adoption of open, spatially enabled reference architectures in enterprise environments worldwide.

Goal 4 - Advance standards to support formation of new and innovative markets and applications for geospatial technologies.

Goal 5 - Accelerate market assimilation of interoperability research through collaborative consortium processes.

OGC: Membership Distribution

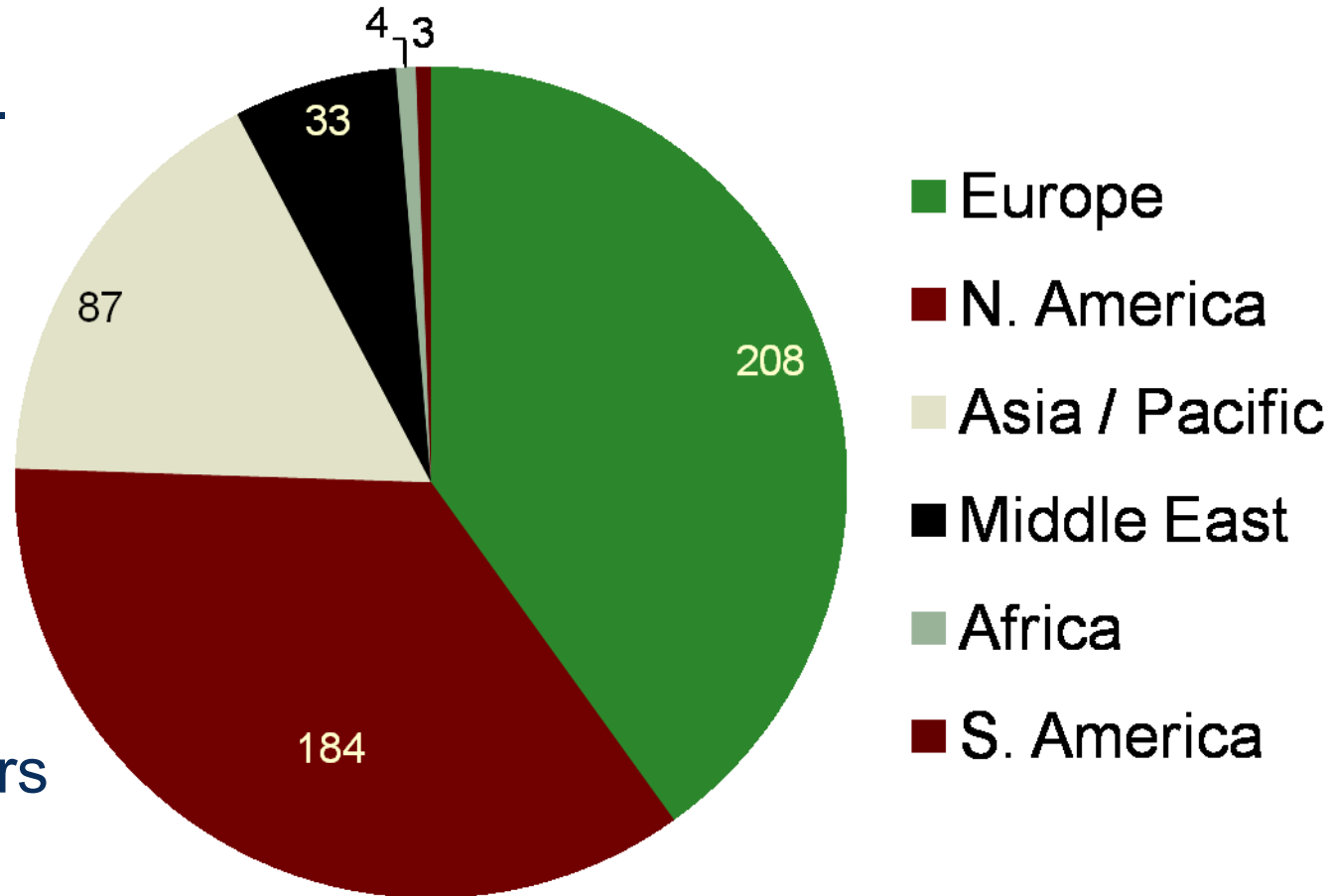


2008 - mostly N. American members

2010 - more European members

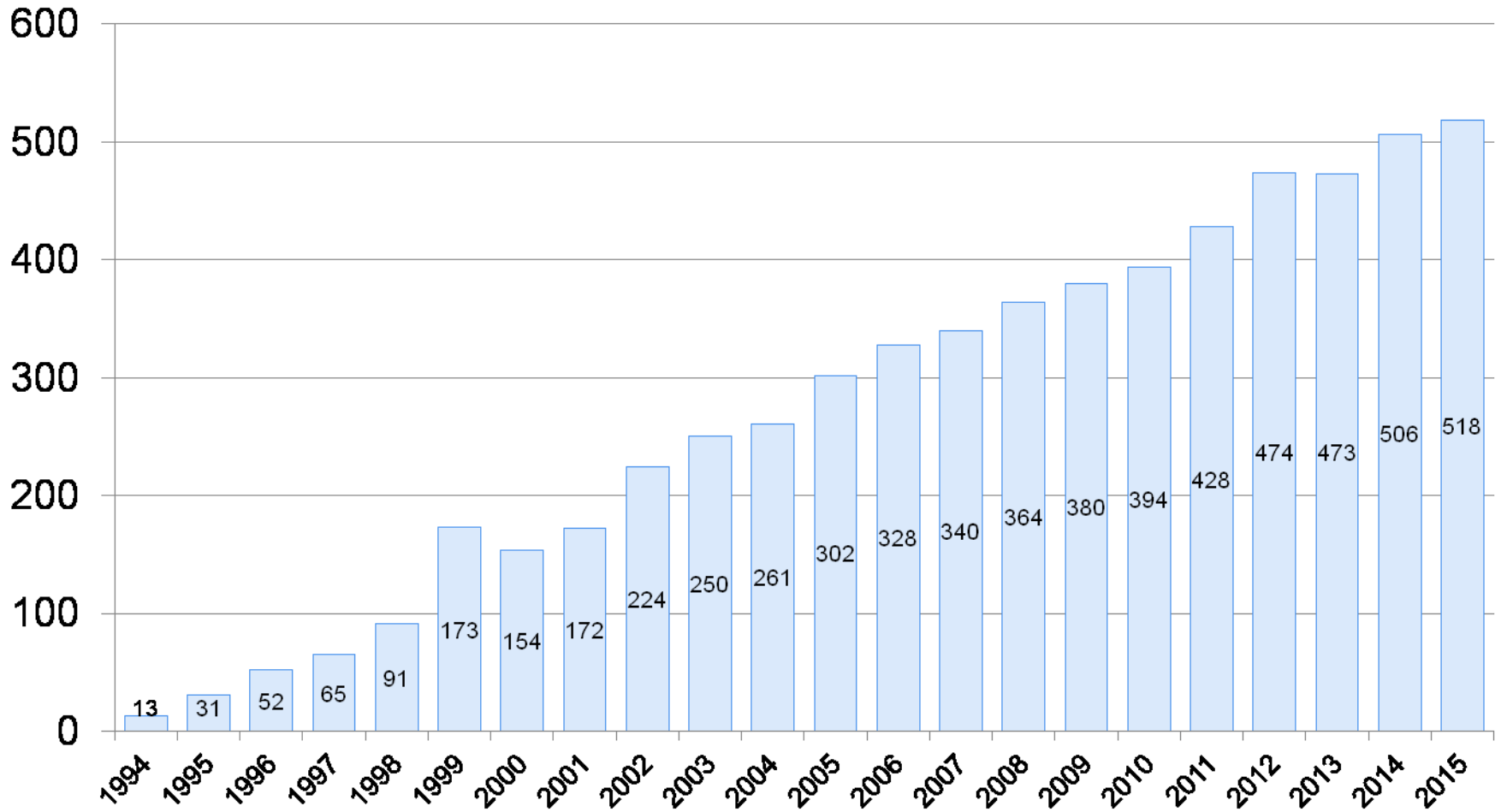
2012 – big increase of Eastern members

– becoming more global



“Only game in town!”

OGC Membership Growth



OGC: Where is the money?



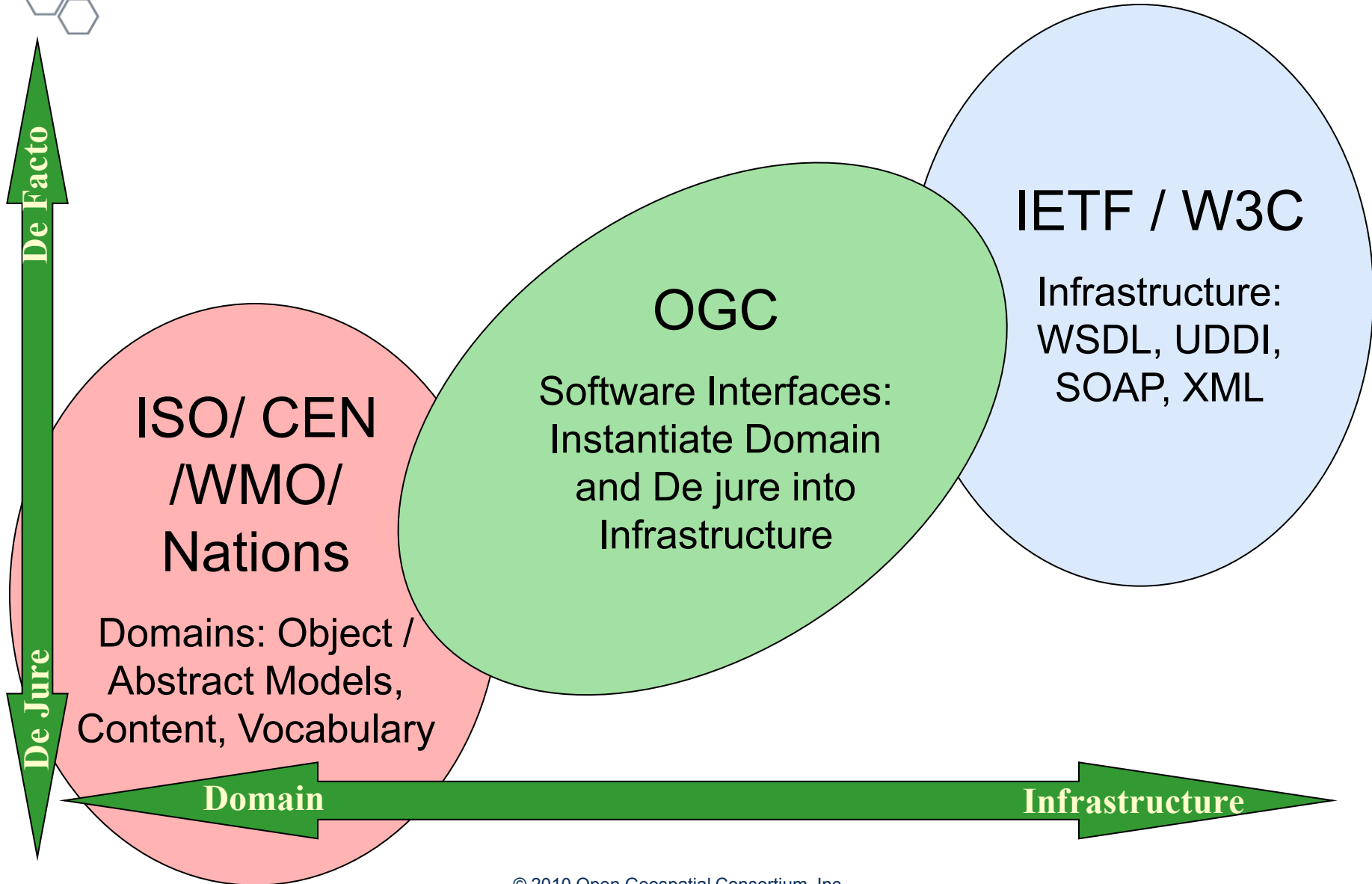
	Annual cost	Voting	Conf Places	Other Benefits
Strategic (5)	"Significant resources"	Strategic Advisory Committee	20 free	6 memberships for contracts 40 hours training
Principal (18)	\$55K	Planning Committee	4 free	3 memberships for contracts 24 hours training
Technical (74)	\$11K	Technical Committee	2 free	
Associate	\$4.4K	SWG & DWG	1 free	
Associate <\$2m p.a.	\$2.2K	SWG & DWG	1 free	
Non Gov Not for Profit	\$1.1K	SWG & DWG	1 free	
University	\$0.5K	SWG & DWG	1 free	
Provincial Government	\$0.5K	SWG & DWG	1 free	
Individuals	\$0.5K	SWG & DWG	1 free	
Local Government	\$0.2K	SWG & DWG	1 free	

Other Standards Organisations



- WMO
- ICAO
- ISO
- ITU
- UNESCO/IOC
- IHO
- IMO
- ...
- IETF (Internet Engineering Task Force)
- IANA (Internet Assigned Name Authority)
- IEEE (Institute of Electrical and Electronic Engineers)
- ...
- W3C (World Wide Web Consortium)
- OASIS (Organization for the Advancement of Structured Information Standards)
- OMG (Object Management Group)
- ...

Where does OGC fit in the 'standards' world?



OGC: Approach to Advancing Interoperability



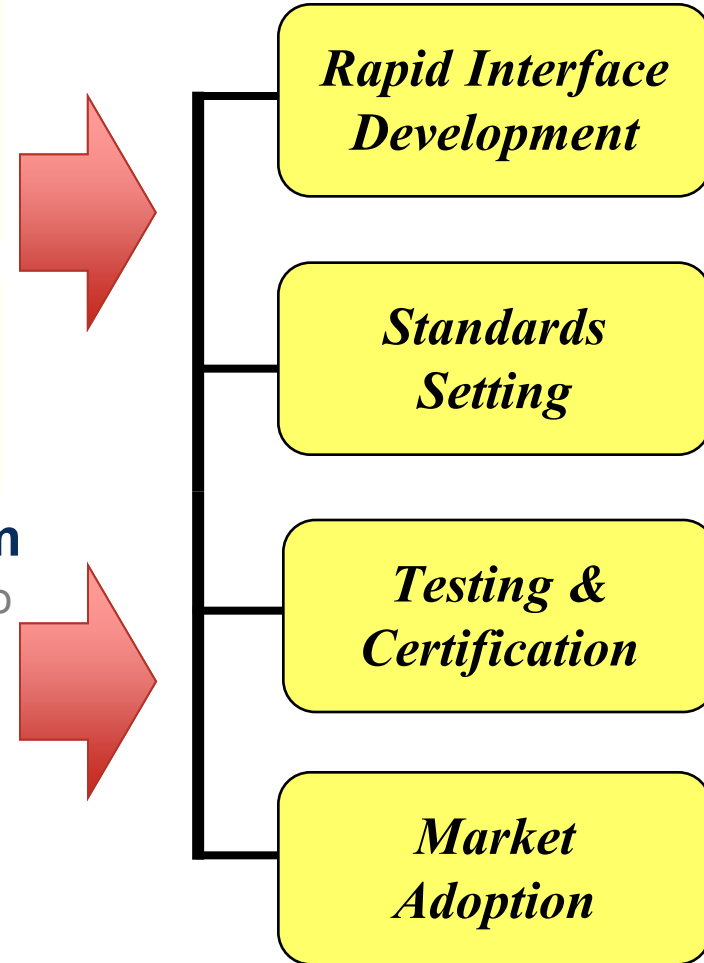
- **Interoperability Program** – a global, innovative, hands-on rapid prototyping and testing program designed to unite users and industry in accelerating interface development and validation, and the delivery of interoperability to the market

- **Specification Development Program** – consensus standards process similar to other Industry consortia (World Wide Web Consortium, OMA etc.)

- **Compliance Testing & Certification Program** – allows organizations that implement an OGC standard to test their implementations with the mandatory elements of that standard



- **Marketing and Communications Program** – education and training, encourage take up of OGC specifications, business development, communications programs



OGC: Specification - How is it done?



- Voluntary consensus processes:
 - Specify
 - Implement
 - Interoperability Experiments
 - Change standards/implementations
 - Repeat
- Technical & Planning committees every 3 months
- Standard Working Groups
 - Project orientated, ‘vertical’
 - Create one standard
 - Change one standard
- Domain Working Groups
 - Programme orientated ‘horizontal’
 - Communities of interest
 - Raise requirements for SWGs

Classes of OGC Standards



- Interface Standards
 - Application Profiles (extensions) to an interface standard
- Encoding Standards
 - Profiles
 - Application Schemas
- Tightly or Loosely Coupled
 - Server-Client or
 - Web Service

Key OGC Standards



Web Services – work over HTTP:

- WMS, Web Map Service: “Get me a map”
- WFS, Web Feature Service: “Get me something on a map”
 - Point or line
- WCS, Web Coverage Service: “Get me data covering an area on a map”
 - Area
 - Could be polygon, imagery or grid

Lots of associated standards & profiles: WMTS, SLD/SE, etc

Also Best Practices, Discussion Papers, Engineering Reports,
etc

Other OGC Standards



- O&M Observations & Measurements: conceptual model and mark-up language
- SWE Sensor Web Enablement:
 - SPS Sensor Planning Service
 - SOS Sensor Observation Service
 - WaterML2.0 (now WMO standard)
- 3D ML
- CityGML, IndoorML
- Mobile
 - GeoSMS, GeoPackage, etc
- IoT Internet of Things

Key OGC Foundation Standards



Abstract Reference Model:

- Commonality with ISO 19xxx geospatial standards
- Well established and still relevant

GML Geospatial Mark-up Language:

- XML to describe geospatial things
- ISO standard

OWS Common: OGC Common to Web Services

- Shared entities
- Needs updating

OGC Technical Issues



2D standards well accepted

- Stuff everything into 2D + ‘layers’

3D not quite integrated

- Mainly in city building descriptions

4D causing ‘churn’

- ‘slice & dice’
- WCS 2.0 approved but not yet widespread support
- WMS2.0 failed to gain support
- OWS Common, Abstract Ref Model probably need revision

5D ??

- Ensembles/Probability Distribution Function
- Another Layer?

OGC 'Strategies'



- 'Old Guard' "2D world" vs 'New Guard' "4D+ world"
- Restructuring standards into Core + Extensions (Mod Spec)
- Moving from KVP Client/Server API to RESTful http based
- Keep using Interoperability Experiments and Test Beds
- Scenario and Use Case driven
- Establishing naming, registries & validation chains with URIs
- Expanding from US based to European to global
 - Expanding out of traditional GIS communities
- Opened up Twikis, Mailing lists, Domain WGs
 - In response to Met Ocean DWG lead
- Documents migrating to GitHub/HTML5 rather than MS Word

2. Origins of the Met Ocean DWG



Met Ocean Domain Working Group



- Regular ECWMMF 11th Operations Workshop 2007:
 - recommended workshop/conference on GIS
- Workshop on the Use of GIS/OGC Standards in Meteorology:
 - ECMWF, 2008-11-24/26
 - Review use of OGC (Open Geospatial Consortium) standards in geosciences in Europe & worldwide
 - Promote collaboration between meteorological services in order to define a set of common standards that will enhance interoperability
 - **Recommended OGC involvement and establish Met DWG**
 - Météo-France joined OGC 2007, UKMO 2008
 - **Established major theme: Web Map Services interoperability for National Met Services**

Organise another Workshop!

Met Ocean Domain Working Group - 2



2009-03 OGC Technical Conference, Athens:

- Meteorology DWG established
- Hydrology DWG also established

2009-06 OGC Technical Conference, Boston

- Meteorology DWG Co-chair elected

2009-09 OGC Technical Conference, Darmstadt:

- Meteorology DWG converted itself to :
- Meteorology & Oceanography DWG
- Stopped separate Climatology DWG
- Environmental System Science DWG already well established

2009-11 OGC and WMO signed MoU (Met, Ocean, Hydro)

- Short legal doc, flexible Annex, lightweight – let experts work

Met Ocean Domain Working Group - 3



- 2nd Workshop on Use of GIS/OGC Standards in Meteorology
Toulouse, 23-25 November 2009
Established second major work theme: Conceptual modelling
Third workshop planned Exeter 2010, Observations theme
- 3rd Workshop on Use of GIS/OGC Standards in Meteorology
Exeter, 15-27 November 2010
Progressed previous work, re-established Interoperability Experiments,
SLD/SE started
Nothing happened about Obs
4th workshop planned: Washington/Boulder/Offenbach?

Met Ocean Domain Working Group - 4



2011-11 ECMWF 13th Workshop on Operational Meteorology

- **Emphasised WCS requirements**
- Emphasise Discovery, Access & Retrieval rather than Visualisation

4th Workshop on Use of GIS/OGC Standards in Meteorology:

- 2013-03 Reading
- WMS 1.3 Best Practice needs editorial work only
- Support WMS2.0 work (-> 4D)
- WCS 2.0 Met Ocean extensions work started, including Data tiling
- Temporal work started
- WKT CRS work started
- Inspire recommendations
- Mismatch between OGC CSW3.0 and WMO WIS SRU1.3
- Link GitHub Weather symbols to real WMO registry

Met Ocean Domain Working Group - 5



5th Workshop on Use of GIS/OGC Standards in Meteorology: Offenbach, 28/30 October 2014

WMS further work:

- Implementation testing, extend to Profile or Standard
- Extend for climatological time
- Support WMS2.0 (now in abeyance)

Conceptual Modelling:

- Aviation more or less finished
- Another domain starting (climatology?)
- Time Model needed (Temporal DWG started: leap seconds, Gregorian calendar start, heliocentric coordinates, climatological periods)
- SLD/SE GitHub symbols need styling and linking to real WMO registry

WCS 2.0 Extension:

- Appl. Profile, 4D+, not 2D+Layers, ensembles, time, 'corridors', tiles
- Encoding formats GRIB2 TBD
- Data tiling TBD may be separate standard

3. Met Ocean DWG work



Wiki (open)

http://external.opengeospatial.org/twiki_public/MetOceanDWG/WebHome

Mailing list (open)

meteo.dwg@lists.opengeospatial.org

Teleconferences most / many Tuesdays, 15:00 - 16:00 UTC

GitHub

<https://github.com/OGCMetOceanDWG/WorldWeatherSymbols>

Challenges for OGC standards in Met Ocean



- Long history of interoperability at human/paper level
- Spatial & Temporal, 2D, 3D, 4+D, constantly changing
- Not MBytes, but GB, TB and PBytes of data daily.
- Regular & Irregular time intervals
- Timescales: hours,..., seasons,..., centuries, + & -
- Multiple Time attributes
- ‘Regular’ grids are not always regular
- Continual change of coordinate systems & re-projecting
- Eulerian versus Lagrangian viewpoints
- Vertical coordinates
- Cross-sections, height-time diagrams, T/φs, etc
- Ensembles: probabilistic distributions
- Significant ‘Objects’, features of interest

Met Ocean DWG work



- WMS Best Practice, retrofit WMS 1.3:
 - TIME
 - (Climatological Periods & Time)
 - Vertical Coordinates, ELEVATION
 - Coordinate Reference Systems CRS (being tackled in other groups)
 - Customer / User orientated, so no Met traditional terminology
- SLD/SE wiki and GitHub <https://github.com/chris-little/WorldWeatherSymbols>
- Conceptual Modelling
 - Based on O&M
 - Jeremy Tandy leading, driven by Aviation, but other domains in longer term
- WCS, new WCS 2.0

WMO / Met Ocean DWG Standard Interests - 1



- WMS –Proactive
 - Time & Elevation – consensus achieved. Published. Plugfest held. Referenced by defence standard profile (DGIWG)
 - Ensembles – active again
 - Map Projections – changes to existing repositories in progress, WKT
 - SLD/SE – Aviation SigWx and standard WMO Plots Use Cases - slow
 - Tiling – commonplace but need DATA tiling – progressing
- Conceptual Modelling - Proactive
 - IWXXM for Aviation
 - GML3.2.1, KML2.2
 - Emergency & Disaster Management COP architecture – big issues

WMO / Met Ocean DWG Standard Interests - 2



- WCS/WFS – lots of ‘churn’ – **Proactive**
 - Met Ocean extensions - **proactive**
 - Payload formats (GRIB2) - **inactive**
 - Data Cubes/Tiling - **active**
- Temporal CRS – **Proactive**
 - Temporal WKT for Calendars - **proactive**
 - Best Practice - **active**
- Vertical CRS - **Just starting to be active**
- CSW – compatibility with ISO23950, OpenSearch - **Reactive**
- O&M, SWE increasing in importance - **Passive**

Met Ocean DWG: Some Interesting Domain WGs



Active dialogues

- Aviation
- Catalogues
- Co-ordinate Reference Systems
- Coverages
- Defence & Intelligence
- Emergency & Disaster Management
- Hydrology
- Metadata (Discovery, not Interpretation)

Not currently Active

- Data Preservation
- Decision Support
- Earth Systems Science
- Location Services
- Mass Market
- Sensor Web Enablement *
- Internet of Things*

WMO / Met Ocean DWG currently **NOT*** Interested



- GeoXAMCL – security at detailed feature level
- CityGML – city and building modelling
- OpenLS - Location Services ??
- WPS - Web Processing Service ??
- 3D and Augmented Reality ?? **But some activity**
- Etc

* Or rather: **no critical mass of interested volunteers**

Activities outside Met Ocean DWG



- WCS2.0 Extensions:
 - Collections of Coverages
 - 4-D Trajectory corridors
- WC (Data) Tile Service SWG
- Time:
 - Timeseries ML SWG (based on WaterML2.0 Time Series)
 - Temporal DWG working on Best Practice
 - Temporal WKT for Calendars SWG established:
 - 360, 365 day calendars, Gregorian no leap secs
- Vertical CRS **just starting**
- NetCDF SWG
- EDM Emergency & Disaster Management DWG
- **Joint OGC / W3C Spatial Data on the Web WG**

4. Met Ocean DWG Future Work



Met Ocean DWG future work priorities*




- Work on Met Ocean aspects of WCS2.0 extension proposals
- Follow GeoTIFF WCS shortcut process with WMO GRIB format
- Develop WCS Data Tile standard
- Extend WMS1.3 BP to other standards (WMTS... Other than WCS 2.0)
- Extend the BP towards a Profile (+ Chair WMS SWG?) + conformance
- Expand WMS1.3 BP with climatological periods, calendars, etc
- Express Requirements/Change Request to WMS2.0 (now back to 1.4)
- Carry on with weather symbols in SVG, & styles, for SLD/SE on Github
- Interact more with the on Aviation DWG for Met
- Influence or use other OGC standards e.g. O&M, PubSub, WPS, etc
- Work on WMO Registries, Vertical & Temporal CRSs, SKOS/LD etc

Met Ocean DWG Summary



- Members: UKMO, M-F, DWD, ECWMF, EUMETSAT, met.no, FMI, CMC, NOAA, KNMI, meteoromania (**JMA, KMA, ??**)
- WMS 1.3 Best Practice recommendations being adopted
- Consistency between WMO, ICAO and OGC conceptual models achieved, published
- Work started on WCS & data payloads (NetCDF, GRIB, data tiles/cubes, 'slice & dice', 'curtains & corridors')
- Temporal DWG producing Best Practice on TIME (CRS, Calendars, statistics, ...), WKT for calendars
- Non-WMO observations are increasingly important, so OGC observation standards are becoming very important
- Lots of work, increasing importance, – **join in!**

OGC Summary

- 
-
- OGC becoming global, rather than American
 - Has opened up processes to community groups:
 - Twikis, Mailing lists, **Domain WGs**
 - Is updating standards:
 - To Modular Specifications (to enable conformance testing)
 - From client/server to RESTful
 - To a 'Core & Extensions' model
 - In middle of '2D+Layers' versus '4D+slice & dice' churn
 - Interoperability Experiments & Test beds are heavyweight
 - To protect members' IPR
 - Not an issue for Met Ocean community
 - Realistic Met & Ocean data needed, both volume and timeliness
 - Takes on Met Ocean requirements in key standards
 - Even when Met Ocean people not actively involved

5. Met Ocean DWG

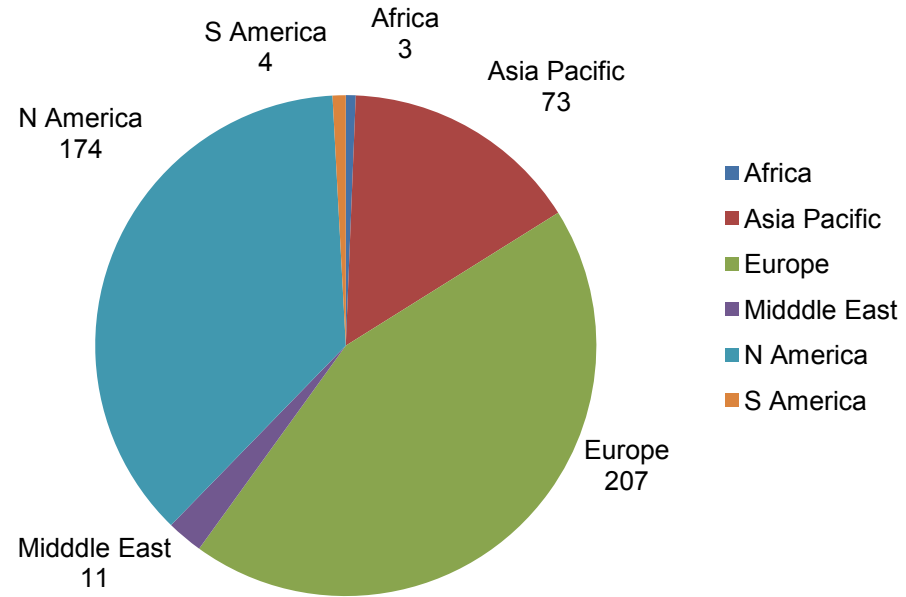
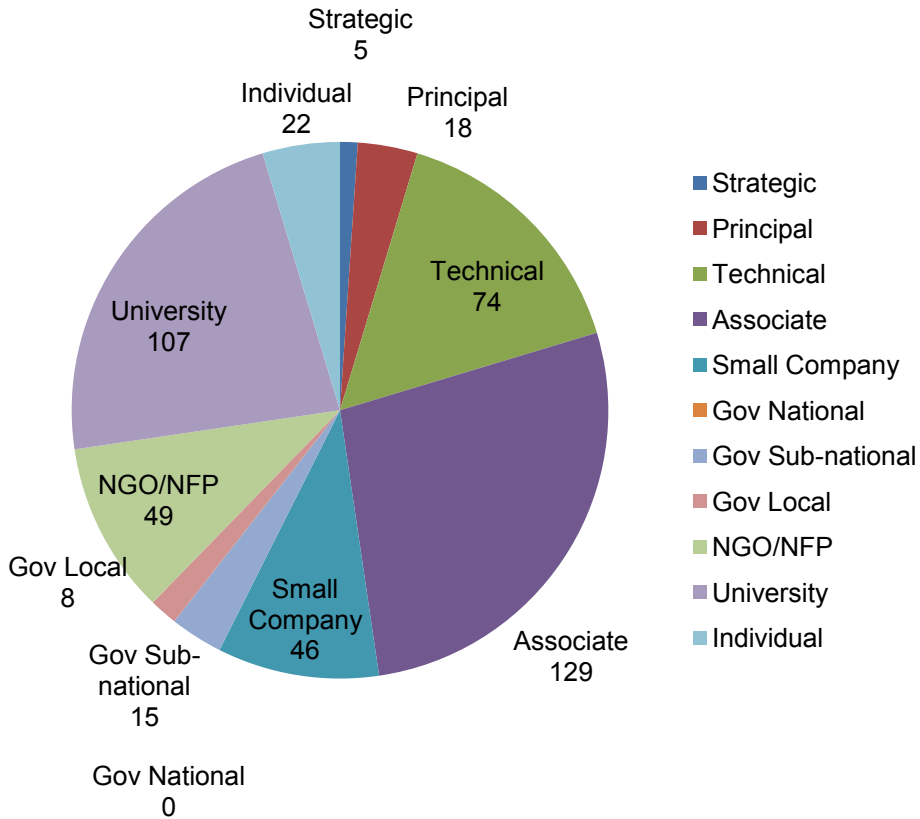


- Questions and Answers?

6. Further Background Info slides



OGC Membership breakdown



Met Ocean DWG Achievements



Open Wiki, open mailing list, community established

- OGC more open Twikis, Mailing lists in response to Met Ocean

WMS 1.3 Best Practice published, no Met terminology

- Successful EGOWS plugfest 2014 Oslo

Aviation/Meteorology Conceptual modelling published

- Founded on O&M

WCS 2.0 Extension progressing (slice, dice, curtain, ...)

Met Ocean DWG and Hydro DWG collaboration

- Hydro WaterML is now WMO standard

Météo-France participated in OGC IE Test bed

- Lightweight Plugfests preferable to IE

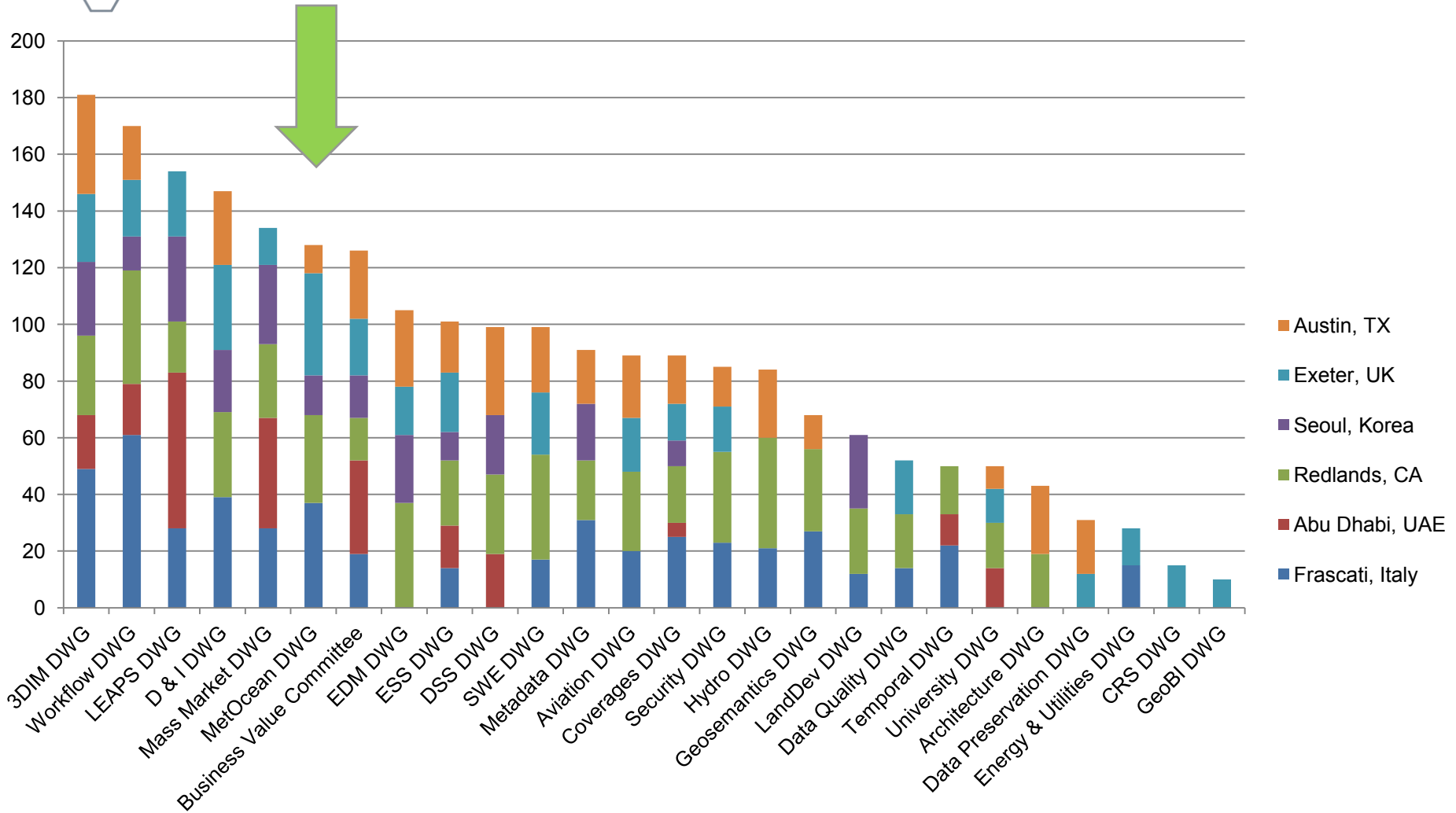
Contributing to 2D versus 4D debate in OGC

- Move to 4D world has slowed in OGC









Realise importance of O&M, Sensor Web, IoT

OGC[®] Clearer view of importance of other standards























DWG Attendance, including Met Ocean



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Webs

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-  [ClimateChallenge2009](#)
-  [EarthCube](#)
-  [EnergyUtilitiesDwg](#)
-  [GML](#)
-  [HydrologyDWG](#)
-  [ILAFpublic](#)
-  [JapanAssistance](#)
-  [Main](#)
-  [MassMarket](#)
-  [MetOceanDWG](#)
-  [NREwg](#)
-  [NordicForum](#)
-  [OGC](#)
-  [SWE](#)
-  [Sandbox](#)
-  [System](#)
-  [GeoMobile](#)
-  [Vocabulary](#)
-  [WPS](#)
-  [WaterML](#)



Welcome to the MetOceanDWG web

The Meteorology and Oceanography Domain Working Group (Met Ocean DWG) is a community orientated working group of the Open Geospatial Consortium (OGC). The group does not directly revise OGC [standards](#), but rather enables collaboration and communication between groups with meteorological and oceanographic interests. The Met Ocean DWG maintains a list of topics of interest to the meteorological and oceanographic communities for discussion, defining feedback to the OGC Standards Working Groups (SWG), and performing interoperability experiments. The DWG covers Oceanography as well, because of the long history of collaboration and shared institutions between meteorology and oceanography. Climatology is, of course, a subset of Meteorology.

The Met Ocean DWG is intended to be a public forum for communication, and both the [email list](#) and this Twiki are open to interested parties.


- **Charter** : Please see the current [Met Ocean DWG Charter](#). (*The original charter is at [Meteo DWG Charter](#)*).
- **Twiki** : Anyone can edit this wiki, but, of course, responsibly. Instructions can be found on the [TWiki Text Formatting Rules](#) page.
- **Email list** : Subscribe to the public email list at : <https://lists.opengeospatial.org/mailman/listinfo/meteo.dwg>

Events

- [Met Ocean Teleconfs and Meetings Announcements](#) **UPDATED**, **UPDATED**
-  **Last meeting Austin, Texas, USA : OGC TC/PC Meeting : 19 March- 23 March 2012 : [MetOceanDWGAustin](#)**
-  **Next meeting Exeter, UK : OGC TC/PC Meeting : 18 June-21 June2012 : [MetOceanDWGExeter](#)**
- [Other connected events](#)
- [Met Ocean DWG Meetings archives](#)

Current Activities

* *WMS Best Practices:*

-  [Minutes of all telecons on WMS Best Practices](#)
- [Met Ocean WMS Best Practices Hot Topics](#)  **Cleaned up in March 2012 to focus on issues that really impact the Best Practices**
- [Archives of older works on Met Ocean WMS Best Practices Hot Topics](#)

* *SLD/SE Requirements:*

- [Styling \(using SLD/SE\)](#) in other words: **Weather Symbols**

* *Conceptual Modelling:*

UNDER REORGANISATION TO ENHANCE CLARITY

- [Overview](#)
- [Use Cases for conceptual modelling](#)
- [Roadmap](#) **[TO BE DEFINED]**

Abstract Specifications:

reference models for the development of OGC Implementation Specifications



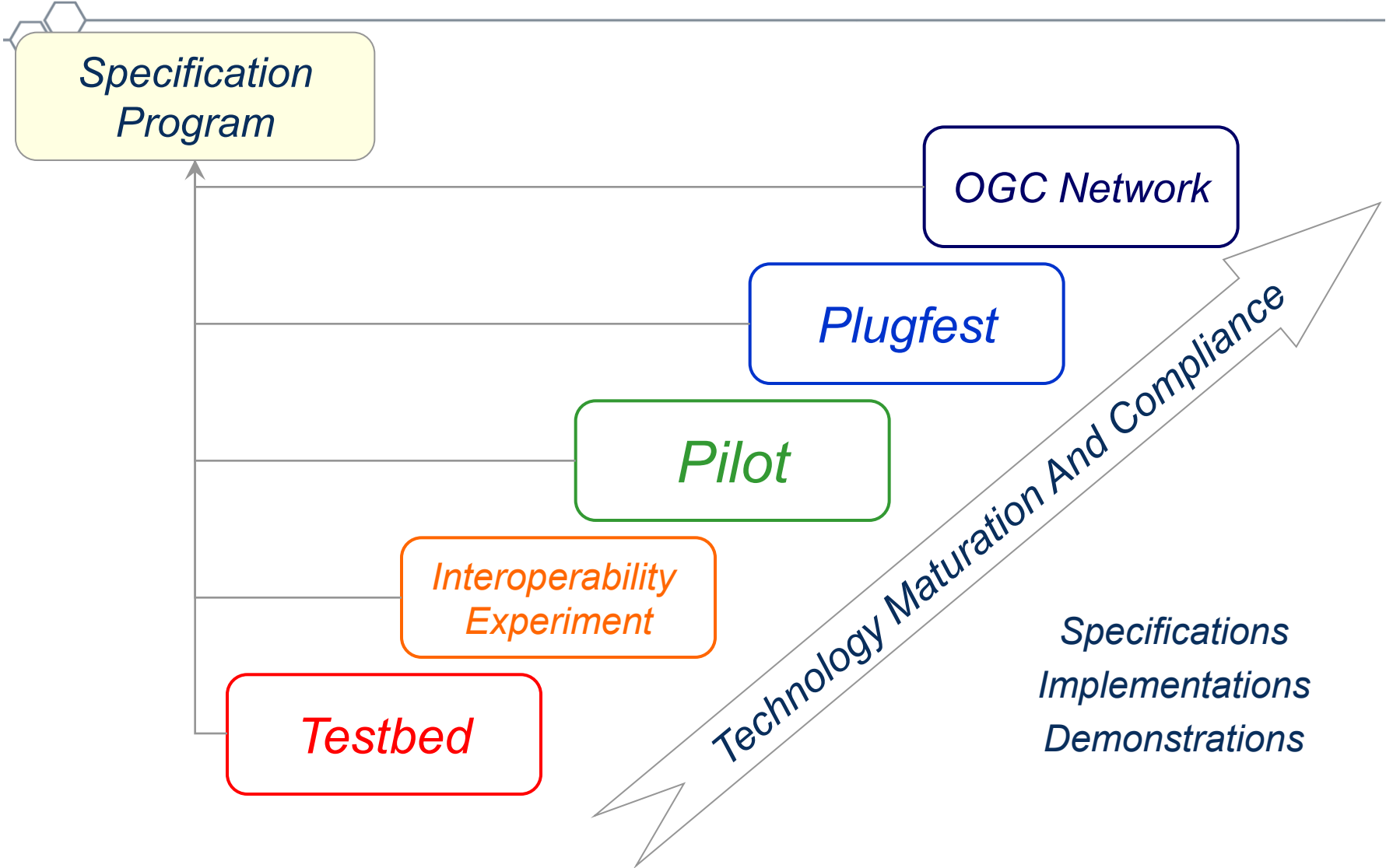
1. Feature Geometry
2. Spatial Referencing by Coordinates
3. Locational Geometry Structures
4. Stored Functions and Interpolation
5. Features
6. Coverage Type
7. Earth Imagery
8. Relationships between Features
9. Feature Collections
10. Metadata
11. OpenGIS Service Architecture
12. Catalog Services
13. Semantics and Information Communities
14. Image Exploitation Services
15. Image Coordinate Transformation Services
16. Location-based Mobile Services
17. Geospatial Digital Rights Management Reference Model (GeoDRM RM)
18. Topic Domain Models 1 - Telecommunications

OGC Structures



- Board of Directors (25) , Staff (16) , Members (506)
- Strategic Member Advisory Committee
- OGC Architecture Board
- Planning Committee – quarterly
- **Technical Committee – quarterly, open conference**
- Standing Subcommittees:
 - Documentation
 - Naming Authority
 - Compliance Interoperability & Testing Evaluation
- **SWG Standards Working Groups – ‘vertical’ (36)**
 - Short life, for duration of creation/change of standard
- **DWG Domain Working Groups – ‘horizontal’ (28)**
 - Met Ocean
 - Aviation
 - Health
- Regional and National Forums
- Programmes:
 - Specification
 - Interoperability
 - Outreach & Adoption © 2010 Open Geospatial Consortium, Inc.

OGC Interoperability Program



Types of Interoperability Program Initiatives

The Evolution of the OGC Strategic Focus...

Technical and Socioeconomic Impact



Information and multi-platform interoperability capacity, composite services

Second generation web-based interoperable services and decision support systems

Improved integration of geoprocessing with mainstream information technology capabilities

Improved inter-community and multi-enterprise data and processing resource sharing and platform-independent interoperability

First generation of web-based interoperable services

Improved multi-source information operations for technical interoperability in web-based environments, enabled enterprise applications and location services, broad base of operational implementations

Open GIS Abstract Models

Enhanced understanding of geoprocessing interoperability and digital representation of Earth and Earth phenomena

Open GIS Consortium established and Technical Committee organized

Current Strategic Focus is:
Steady improvement in the Technical Baseline and inter-community resource sharing capacity

OGC Technical Baseline

Capacity to exchange geospatial information and services across multiple computing environments, integrated with mainstream information technology

1994 1996 1998 2002 2004 2006 2008

OGC Public Documents



All at the [OGC Portal](#)

- Implementation Standards (50)
- Profiles of Standards (5)
- Abstract Specification and Reference Model (~20 topics)
- Formal Schemas (26)
- Best Practices (25)
- Public Discussion Papers & Engineering Reports (~200)
- Policy directives and documents (8)
- White Papers (36)
- Requests for Comment, Requests for Quotation
- Change Requests
- Deprecated and Retired Documents

>38 OGC Public Standards



[Catalogue Service \(CSW\)](#) / [Cat: ebRIM App Profile: Earth Observation Products](#)

[CityGML](#)

[Coordinate Transformation](#)

[Filter Encoding](#)

[Geography Mark-up Language \(GML, ISO19136:2007\)](#) / [GML in JPEG 2000](#) / [KML](#)

[Geospatial eXtensible Access Control Mark-up Language \(GeoXACML\)](#)

[Location Services \(OpenLS\)](#)

[Observations and Measurements \(O&M, proposed ISO19156\)](#)

[Sensor Model Language \(SML\)](#)

[Sensor Observation Service \(SOS\)](#)

[Sensor Planning Service \(SPS\)](#)

[Simple Features](#) / [CORBA](#) / [OLE/COM](#) / [SQL](#) (SF, ISO19106:2004, ISO19107:2003)

[Styled Layer Descriptor](#) / [Symbology Encoding \(SLD/SE\)](#) / [Geographic Objects](#)

[Transducer Mark-up Language \(TML\)](#)

[Web Coverage Service](#) / [Web Coverage Processing Service](#) / [Grid Coverage Service](#)

[Web Feature Service \(WFS\)](#)

[Web Map Service \(WMS, ISO19128:2005\)](#) / [Web Map Context](#)

[Web Map Tile Service \(WMTS\)](#)

[Web Processing Service \(WPS\)](#)

[Web Service Common \(OWS Common\)](#)

OGC Standards Working Groups (2015)



3D Portrayal SWG (3DP SWG)
Catalogue Services 3.0 SWG (Cat 3.0 SWG)
CDB SWG (CDB SWG)
CityGML SWG (CityGML SWG)
CRS Well Known Text SWG (CRS WKT SWG)
Discrete Global Grid Systems SWG (DGGS SWG)
ebRIM AP of CSW SWG (ebRIM AP of CSW)
ebXML RegRep SWG (ebXMLRegRepSWG)
EO Product Metadata and OpenSearch SWG (EO PMOS SWG)
GeoAPI 3.0 SWG (GeoAPI 3.0 SWG)
GeoPackage SWG (GeoPackage SWG)
GeoSciML SWG (GeoSciML SWG)
Geospatial User Feedback SWG (GUFswg)
GeoSynchronization 1.0 SWG (Geosync SWG)
GeoTIFF SWG (GeoTIFF SWG)
GeoXACML SWG (GeoXACML SWG) GML 3.3 SWG (GML 3.3 SWG)
GMLJP2 SWG (GMLJP2-SWG)
I15 (Cataloging of ISO19115 Metadata) Extension Package of ebRIM Profile of CS-W 1.0 SWG (I15 SWG)
IndoorGML SWG (IndoorGML SWG)
KML 2.3 SWG (KML SWG)
Land and Infrastructure SWG (LandInfraSWG)
Moving Features SWG (MovFeat SWG)
NetCDF SWG (NetCDFSWG)
O&M 2.0 SWG (OM 2.0 SWG)
OLS 1.3 SWG (OLS 1.3 SWG)
OWS Common 1.2 SWG (OWSCommon1.2SWG)
OWS Context SWG (OWScontextSWG)
PipelineML SWG (PipeML SWG)
Points of Interest SWG (PoI SWG)
PubSub SWG (PubSub SWG)
RESTful Services Policy SWG (RESTful SWG)
Sensor Model Language (SensorML) 2.0 SWG (SensorML2.0SWG)
SensorThings SWG (SensorThings)
Simple Features SWG (SF SWG)
Styled Layer Descriptor and Symbology Encoding 1.2 SWG (SLDSE 1.2 SWG)
WaterML 2.0 SWG (WaterML2.0SWG)
Web Coverage Service (WCS) SWG (WCS.SWG)
Web Mapping Service 1.4 SWG (WMS 1.4 SWG)
Web Processing Service 2.0 SWG (WPS 2.0 SWG)
WFS Gazetteer Profile 1.0 SWG (WFSgaz1.0 SWG)
WFS/FES SWG (WFS/FES SWG)

OGC Portal <http://www.opengeospatial.org/ogc>

The screenshot shows a Mozilla Firefox browser window displaying the OGC Request page. The browser's address bar shows the URL <http://www.opengeospatial.org/standards/requests>. The page header includes the OGC logo with the tagline "Making location count" and navigation links for "About", "Standards", "Programs", "Press", "Events", "Implementing", and "Compliance". A search bar is located in the top right corner.

The main content area is titled "OGC Request" and features a sub-header "OGC Seeks Comments on Candidate GeoAPI 3.0 Interface Standard". A red-bordered box contains a "Please note" message: "Please note: This Request is scheduled to close on 1 May 2010." Below this, a "Description" section explains that the Open Geospatial Consortium, Inc. (OGC@) is seeking public comment on the candidate OGC GeoAPI 3.0 Application Programming Interface. It details that the GeoAPI standard provides a set of Java language interfaces based on the ISO 19100 series of geospatial abstract models for metadata and feature geometry, and that the OGC GeoAPI 3.0 Standards Working Group is producing a test suite for developers.

A second paragraph states that the GeoAPI project emerges from the earlier OGC Geographic Objects effort and aims to provide a set of interfaces in the Java language to help software projects produce high quality geospatial software. A third paragraph notes that the candidate OGC GeoAPI 3.0 Interface Standard and information on submitting comments are available below, with the public comment period closing on 1 May 2010.

The "Downloads" section lists two items: "GeoAPI 3.0 Application Programming Interface" and "GeoAPI 3.0 Application Programming Interface (Complete Package, including the PDF document, geoap-2.3-M7.jar, and geoap-2.3-M7-sources.jar)".

The "Comment" section provides instructions for submitting comments to a dedicated email reflector, noting that comments will be consolidated and reviewed by OGC members. It includes a link to "Click here to submit comments" and a reference to a "Comments Template" for the message body.

The left sidebar contains two sections: "Pressroom" with links to "Email Lists", "Press Releases", "OGC Newsletters", "Press Coverage", and "White Papers"; and "Standards" with a list of various standards and documents, including "Requests (RFP's, RFQ's...)", "White Papers", "Change Requests", and "Submit Change Request or Requirement".

- Standards**
- ▶ OpenGIS® Standards
 - Specification Profiles
 - Abstract Specification
 - OpenGIS® Reference Model
 - Public Engineering Reports
 - GeoDRM Reference Model
 - Best Practices
 - Discussion Papers
 - Deprecated Documents
 - Retired Documents
 - Requests (RFP's, RFQ's...)
 - White Papers
 - **Change Requests**
 - Submit Change Request or Requirement

HOME » STANDARDS

Change Requests

Change Requests are submitted by anyone for any existing or proposed OpenGIS® Standard. The process for public submission of Change Request is rather simple:

1. Visit the **On-line Change Request Form**.
2. Follow the Instructions on the form
 - Submitter Contact Information
 - Confirmation of Submitter Information
 - Input of Change Request
3. The Change Request will be reviewed (by OGC Staff/SWG)
4. Change Request will be posted to the page below

Format	Document Title (click to download)	Version	Document #	Editor	Date ↓	Status
	SWE Common Data Model 2.0 RFC Comments	1	10-077	Alexandre Robin	2010-04-16	Pending
	WCS 2.0 RFC responses	1	10-076	Peter Baumann	2010-04-15	Pending
	OWS-7 AIXM 5.1 Metadata CR	1	10-072	David Burggraf	2010-03-23	Pending
	Management of a modularised specification and Application Domain Extensions	1	10-063	Carsten Roensdorf	2010-03-10	Pending
	Harmonisation with Inspire Themes	1	10-062	Carsten Roensdorf	2010-03-10	Pending
	Thematic module for walls in cities	1	10-053	Claus Nagel	2010-02-26	Pending
	Thematic module for man-made subsurface structures	1	10-048	Claus Nagel	2010-02-26	Pending
	Thematic module for bridges	1	10-051	Claus Nagel	2010-02-26	Pending
	Surface property specification	1	10-050	Claus Nagel	2010-02-26	Pending
	Standard properties for boundary surfaces	1	10-046	Claus Nagel	2010-02-26	Pending
	Replace ref syntax with xpath	1	10-045	Stefan Below	2010-02-26	Pending
	OGC-NA should review names in OGC standards	1	10-042	Simon Cox	2010-02-26	Pending
	Modify maximum number of times an Input may be present	1	10-022	Alexander Padberg	2010-02-26	Pending
	Generic attributes for Appearance model	1	10-049	Claus Nagel	2010-02-26	Pending
	Fixing of ArrayLink	1	10-024	Stefan Below	2010-02-26	Pending
	Enhancement of generic attributes	1	10-054	Claus Nagel	2010-02-26	Pending
	enhance mask/ MaskInformation/ type	1	10-023	Stephan Zinke	2010-02-26	Pending
	Compression archive format	1	10-052	Claus Nagel	2010-02-26	Pending
	Clarify OGC versioning and backward compatibility policy	1	10-044	Simon Cox	2010-02-26	Pending
	CityGML Change Request - Network topology for indoor routing	1	10-056	Hideki Hayashi	2010-02-26	Pending
	CityGML Change Request - Description of Storey	1	10-057	Nobuhiro Ishimaru	2010-02-26	Pending
	CityGML Change Request - Description of Doors and Windows	1	10-058	Nobuhiro Ishimaru	2010-02-26	Pending
	Additional properties for core CityObject	1	10-055	Claus Nagel	2010-02-26	Pending

OGC Domain Working Groups (2015)



3DIM DWG (3DIM DWG)

Agriculture DWG (Agriculture DWG)

Architecture DWG (Arch DWG)

Aviation DWG (Aviation DWG)

Big Data DWG (BigData DWG)

Catalog DWG (Cat DWG)

Coordinate Reference System DWG (CRS DWG)

Coverages DWG (Coverages DWG)

Data Preservation DWG (PreservDWG)

Data Quality DWG (DQ DWG)

Defense and Intelligence DWG (D and I DWG)

Earth Systems Science DWG (ESS WG)

Emergency & Disaster Management DWG (EDM DWG)

Energy and Utilities DWG (EnergyUtilities)

Geography Markup Language (GML) DWG (GML DWG)

Geosemantics DWG (Semantics)



Health DWG (Health DWG)

Hydrology DWG (Hydrology DWG)

Land and Infrastructure DWG
(LandInfraDWG)

Law Enforcement And Public Safety DWG
(LEAPS DWG)

Metadata DWG (Metadata DWG)

Meteorology & Oceanography DWG (Met
Ocean DWG)

Mobile Location Services DWG (MLSDWG)

Point Cloud DWG (Point Cloud DWG)

Security DWG (SecurityDWG)

Sensor Web Enablement DWG
(SensorWeb DWG)

Temporal DWG (Temporal DWG)

University DWG (Univ DWG)

Urban Planning DWG (Urban Planning)

Web Feature Service DWG (WFS DWG)

Workflow DWG (Workflow DWG)