

**First Forum
Seoul, Republic of Korea, 24-26 October 2011**

**Standards for Cross Community Understanding and
Decision-making ***

* Submitted by: Mr. Mark E. Reichardt, President & CEO, OGC



Standards for Cross Community Understanding and Decision- making

UN High Level Forum on Global Geospatial Information Management

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Cross-Boundary and Cross Domain Information Sharing

- Continues to be one of our biggest challenges!



Source: www.fao.org/docrep/008/ae929e/ae929e03.htm



Source: David Rydevik, Thailand Tsunami, 2004



Ability to access, fuse and apply diverse content when and where needed...

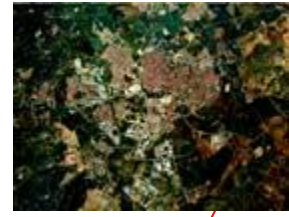
Standards Activities Must Be Driven by Community Needs



Education & Research



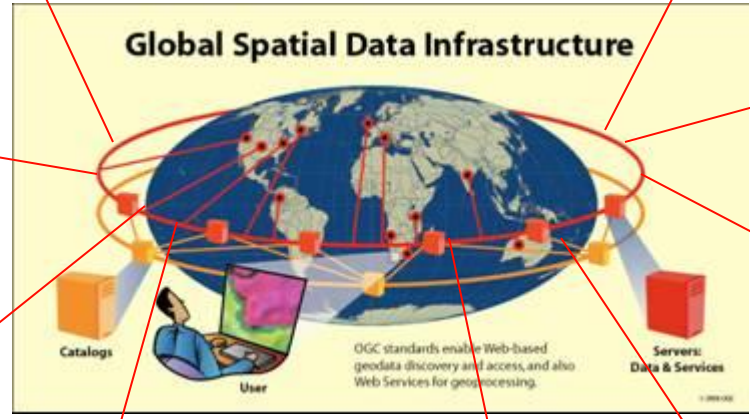
Sustainable Development



Utilities



Health



E -Government



Emergency Services



Consumer Services



Energy



Water

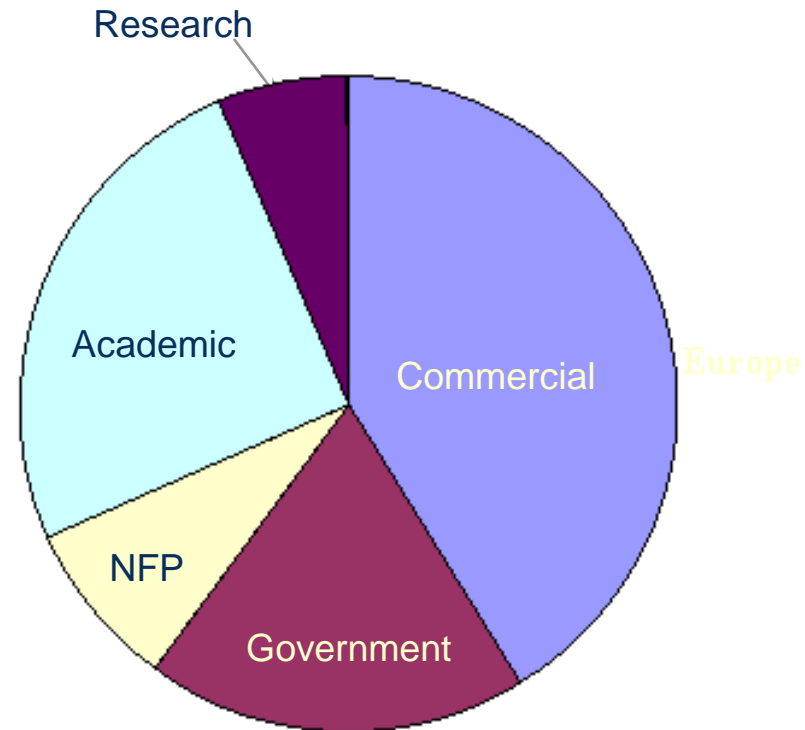


OGC Snapshot



- A Voluntary Consensus Standards Organization, founded in 1994.
- 435 members
- 30+ adopted standards
- Hundreds of product implementations
- Broad user community implementation worldwide
- Alliance partnerships with 30+ standards & professional orgs

OGC Membership Distribution



OGC Standards



- Rapid discovery, access, fusion and application of location information for:
 - Critical Infrastructure
 - Emergency Management
 - Weather Forecasting / Warning
 - Climate Change
 - Defense and Intelligence
 - Local Government Services
 - Routing / Logistics
 - And many more applications...
- Formal liaison with, and adoption through ISO/TC 211





Community Implementations

-Share Broadly

-Mobilize Quickly

- Repurpose when needed

-Save Lives

-Save Time

-Reduce Costs

Norway



Norway Digital



- Norway Digital is the Norwegian government's initiative to build the national geographical infrastructure.
- Norway Digital is already a working co-operation and infrastructure with reference data and thematic data available, more than 100 operational web map services, geoportal and other services.

www.statkart.no/Norge_digitalt/Engelsk/About_Norway_Digital/

Norway digital

geoNorge
nasjonal geografisk portal

INSPIRE - Infrastructure for Spatial Information in Europe

URLs:
www.geonorge.no
www.norgedigitalt.no
<http://www.ec-gis.org/inspire/>
www.statkart.no

Enabling Cross-Government Data Sharing Norway Digital



Generelt innsyn, temaapplikasjoner



Bruk av data i egne applikasjoner, datasett nedlasting

Internettjenester (WMS og WFS)



434 kommuner



Statens vegvesen



Direktoratet for naturforvaltning



NIJOS
Norsk institutt for jord- og skogkartlegging



STATENS KARTVERK



FMGT



19 fylker



Andre og nye parter

400

municipalities

19

counties

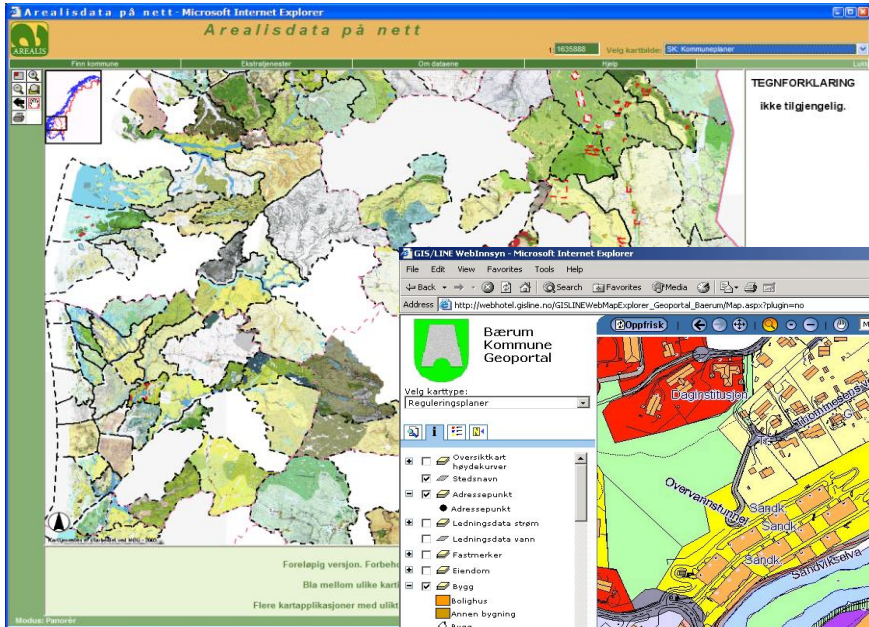
Norway Digital

Source http://www.statkart.no/Norge_digitalt/Engelsk/About_Norway_Digital/

Norway Digital – Applications

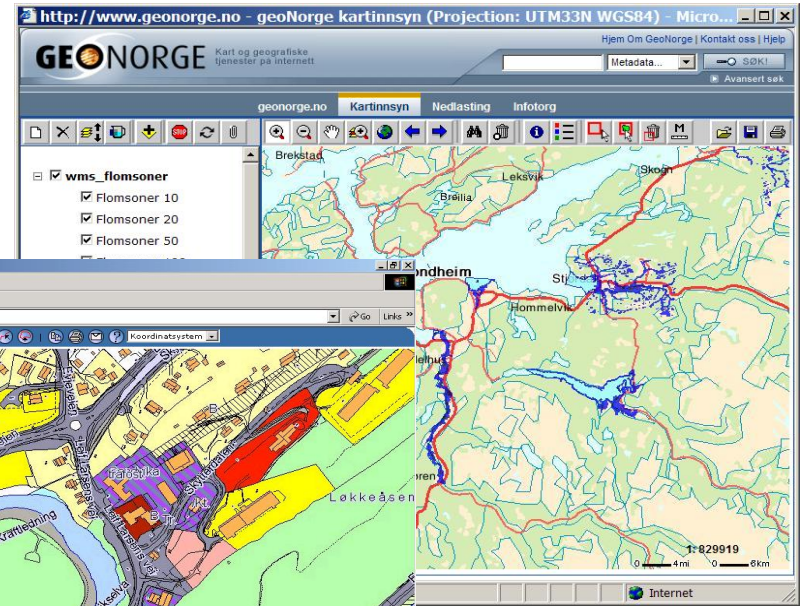


Municipal Areas

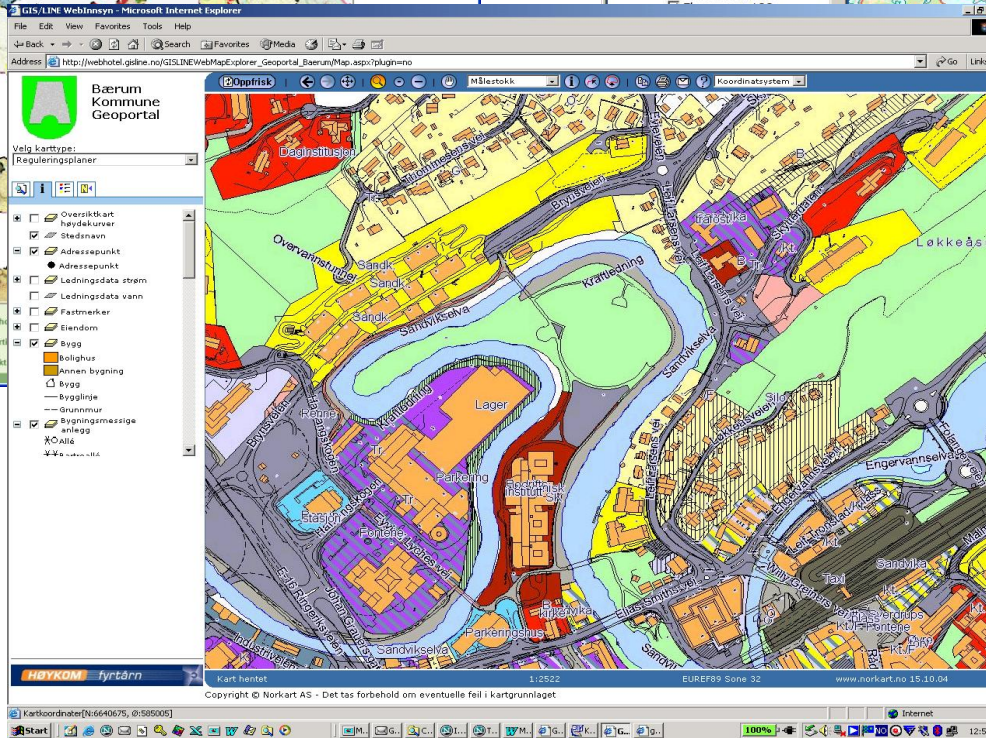


- Fisheries
- Waste Water Outflow
- Water Supply

Flood Risk Areas

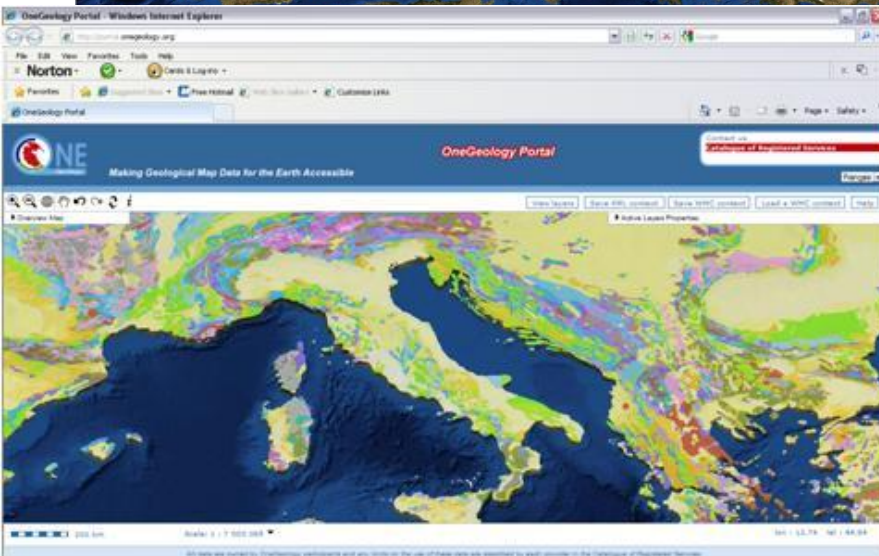
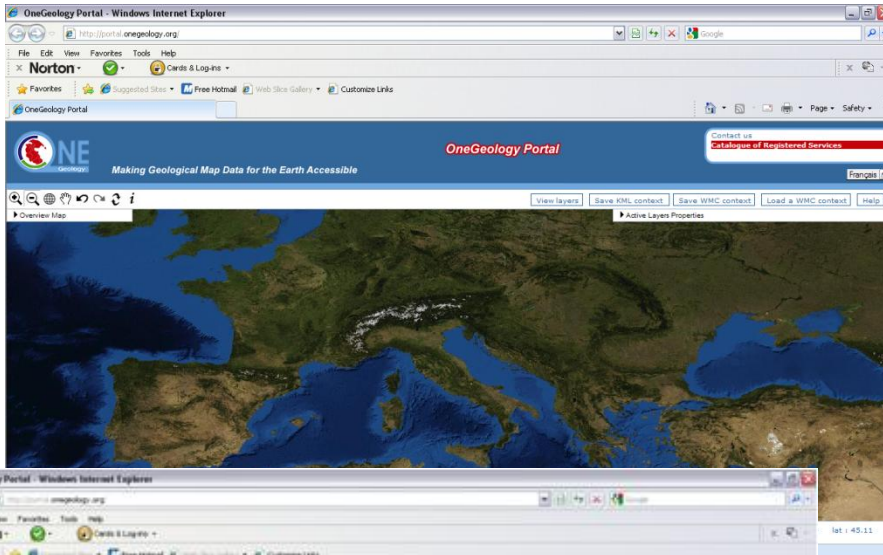


- Demography
- Biodiversity
- Agriculture and Forestry



Land Use

OneGeology



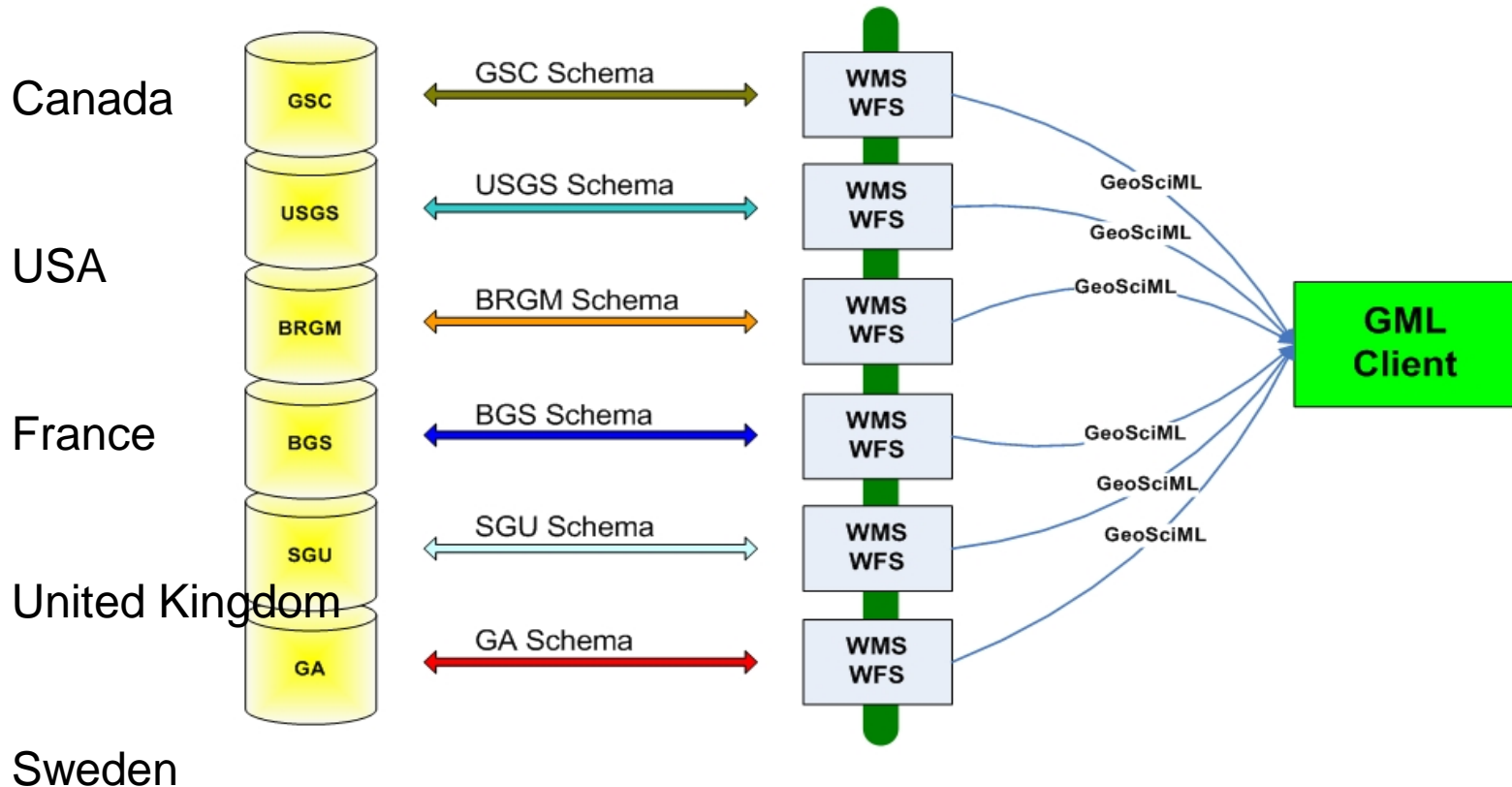
- Distributed, interoperable geologic information
- Powered by:
 - OGC Web Map Service
 - OGC Web Feature Service
 - Geography Markup Language
 - OGC Observations & Measurements
 - GeoSCIML (GML Schema)
- Agreement between national Survey and umbrella organizations
 - <http://onegeology.org>

OneGeology

Addressing Semantic Differences



GeoSciML – an OGC Geography Markup Language application schema for the sharing of Geologic information



Source: Commission for the Management and Application of Geoscience Information(CGI)

OneGeology Participants



 **ONE**
Geology

Making Geological Map Data for the Earth Accessible

Home > Participants > Country flags

What is OneGeology +

Participants +

- Countries involved
- Organisational bodies
- Interactive map
- Current status map

Organisation +

Getting involved

Technical overview +

Technical detail +

for participants

Meetings +

Portal

OneGeology eXtra +

Press information

165 organisations from 117 countries



Commercial Imagery Provider Interoperability Crisis Event Services



- Worldwide monitoring and coverage
- Historical context exploiting pre-event imagery
- Color, Pan and NIR* imagery
- Over 3 million sqkm available Online

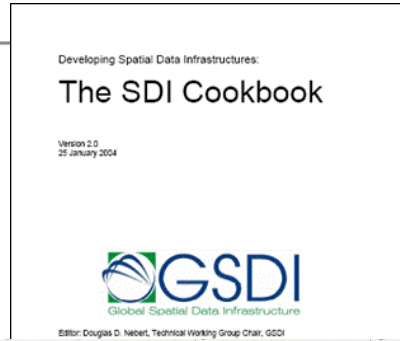
Leveraging OGC
For Crisis Response




Geospatial Standards – Policy / Guidance



- National level policy and legislation, e.g. Canada, The Netherlands, India, Australia, New Zealand...
- European INSPIRE Directive
- Global Earth Observation System of Systems (GEOSS)
- NATO C3
- European Space Agency
- Defense and Intelligence
- Sub-national level - Delhi, Abu Dhabi



RFP FOR CREATION OF DELHI STATE SPATIAL DATA INFRASTRUCTURE (DSSDI)



**SURVEY OF INDIA
(DEPARTMENT OF SCIENCE & TECHNOLOGY)
GOVT. OF INDIA**

Issue of RFP	1400 Hrs on 5 th November 2007 to 1500 Hrs on 8 th November 2007
Submission of Written Queries	1100 Hrs on 12 th November 2007
Pre bid Conference (will be held at Raman Auditorium, DST, New Mehrauli Road, New Delhi)	13 th November 2007 (1500 to 1700Hrs)
Submission of RFP	26 th November 2007 at 1100 Hrs.
Opening of the Technical bids	28 th November 2007 at 1600 Hrs.

Cost of Tender : Rs.1000/-

Standard on Geospatial Data

- 1. Effective date**
2.1 This standard will take effect on June 1, 2009. Departments will have until May 31, 2010 to fully implement sections 6.3 of the standard.
- 2. Application**
2.1 This standard applies to departments as defined in section 2 of the *Standard on Geospatial Data*, unless excluded by specific acts, regulations or Orders in Council.
2.2 In the standard, any reference to all or part of national or international standards or specifications shall be construed as a reference to the most recent version of those standards or specifications, as well as any officially issued corrigenda. Any change to referenced national or international standards or specifications that affect the standard shall be implemented no later than one year after the effective date of the change.
2.3 Section 7.1 and the provisions in section 6.3.1 and 6.3.2 relating to the role of the Treasury Board Secretariat in monitoring compliance and directing consequences for non-compliance do not apply with respect to the Office of the Auditor General, the Office of the Privacy Commissioner, the Office of the Information Commissioner, the Office of the Chief Electoral Officer, the Office of the Commissioner of Lobbying, the Office of the Commissioner of Official Languages and the Office of the Public Sector Integrity Commissioner. The deputy heads of these organizations are solely responsible for monitoring and ensuring compliance with the standard within their organizations, as well as for responding to cases of non-compliance in accordance with any Treasury Board instruments providing principles and guidance on the management of compliance.
- 3. Context**
3.1 Geospatial data is defined as data with implicit or explicit reference to a location relative to the Earth. This standard establishes the information infrastructure to support the discovery and use of geospatial information and to enable information sharing among departments, with other jurisdictions, and with the private sector.
3.2 Geospatial data relevant to social, economic and cultural well-being is produced or used by federal departments, the provinces, territories, and others. This includes mapping products to support activities such as search and rescue, geospatial intelligence, and fire fighting. Standardization is essential in this context. It allows data from one source to be easily used with those from another source to create a richer and more useful product. The Standard on Geospatial Data adopts measures that have been endorsed by federal departments, provincial and territorial governments, as well as by academic and private sector participants in the Canadian Geospatial Data Infrastructure.
3.3 This standard will also apply to departments to share data and ensure effective use of resources.



Geospatial Intelligence Standards
Enabling a Common Vision

November 2006

NATIONAL GEOGRAPHIC INTELLIGENCE AGENCY



Building on Community Needs and Market Trends

A Key to Success

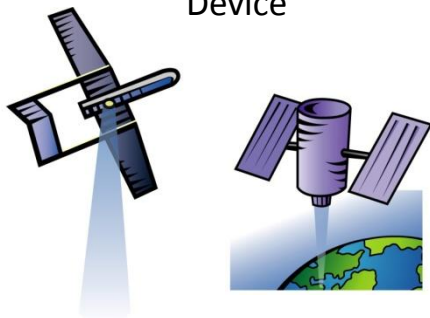
Sensors and Sensor Data

Real-time Situational Awareness

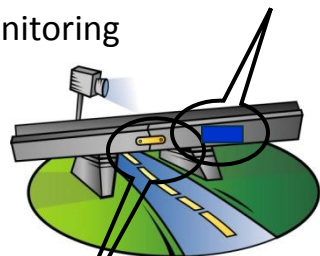


- Sensors connected to and discoverable on the Web
- Sensors have position & generate observations
- Sensor descriptions available
- Services to task and access sensors
- Local, regional, national scalability
- Enabling the Enterprise

Airborne & Space-based Imaging Device



Traffic Monitoring



Strain Gauge

Temp Sensor

Automobile As Sensor Probe



Industrial Process Monitor



Environmental Monitor



Stored Sensor Data



Smart Meter



Source: Duke Energy, Flickr

Charging Station



Source: DDOTDC, Flickr

Health Monitor



1/

Webcam



Source: retro bebel design, Flickr

Bridging the Ecosystems

Linking Crisis Response to Volunteer Information Organizations



English (US)

HOME | REPORTS | SUBMIT A REPORT | GET ALERTS | CONTACT US | ABOUT US | FAQ/HELP

This project is in Stage 3: Pilot. Please Provide Feedback to help improve this service.

On 29 January 2011, we ran a trial in the Healesville area. All reports from this date are Test reports. Read updates and known issues on this blogpost.

Category Filter: [HIDE]

- ALL CATEGORIES
- PREPARATION
- AGENCY REPORTS
- EMERGENCY
- COMMUNITY UP-D
- TEST

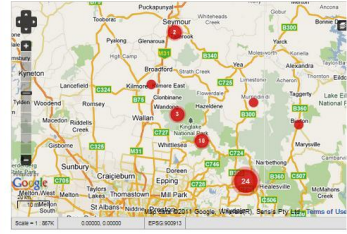
Other Layers: [HIDE]

- VICTORIA POLICE STATIONS

How to Report

- By sending a message to 61429883485
- By sending an email to info@bushfireconnect.org
- By sending a tweet with the hashtag #bushfireconnect
- By filling out a form on the website

FOLLOW US ON Twitter



Website



Map Services



Feeds



Command Centre - COP



Satellite Hotspots



Field Reports

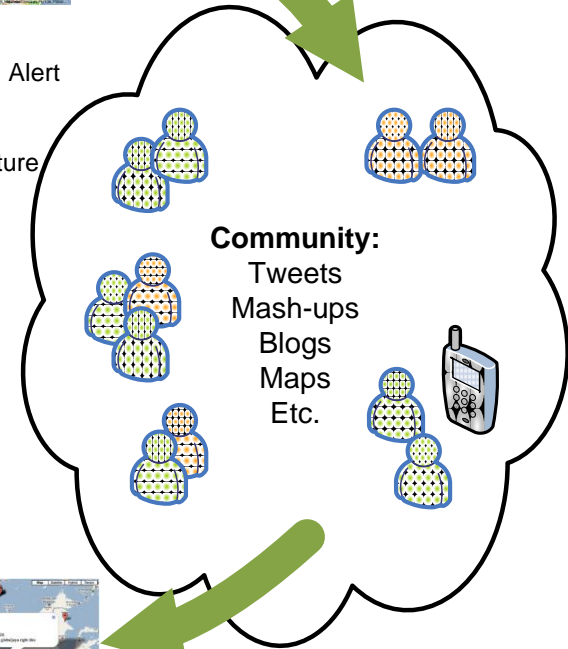


Weather



A2C

- Additional Alert Channels
- Scalable Infrastructure



C2A

Crowdsourced "Human Intelligence"

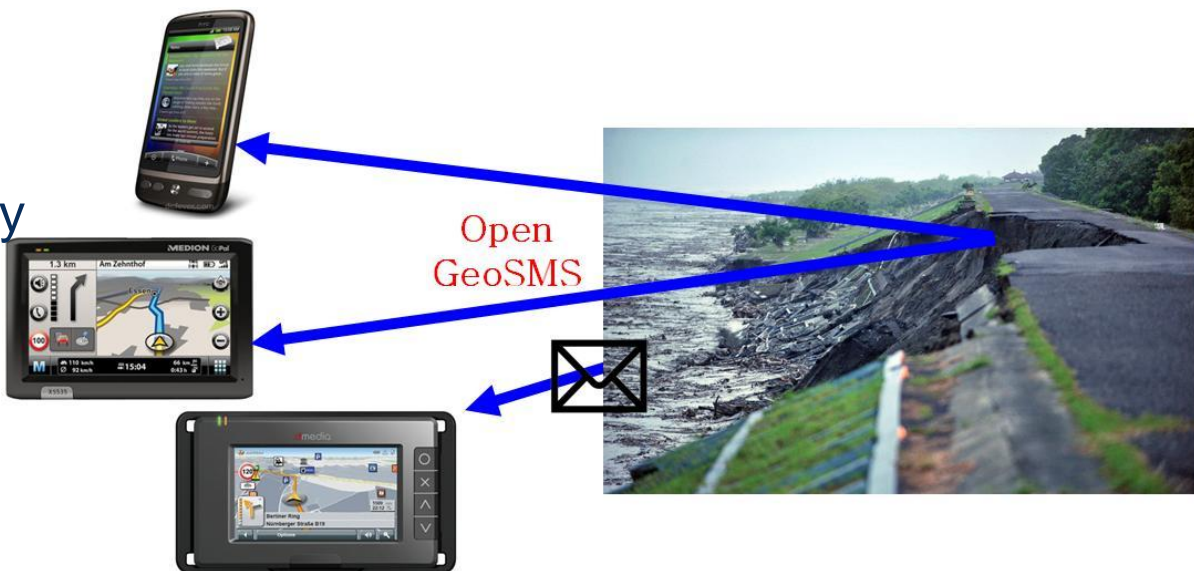
Source: www.bushfireconnect.org



An Emerging Standard: OGC Open GeoSMS



- Significant potential from emergency/disaster response to consumer services
- Characteristics
 - Multilingual
 - Multi-device
 - Harmonized with many existing applications
 - Incorporates relevant ISO standards
 - Approved as an OGC Standard in September 2011



Open Data & Linked Data

www.ottawa.ca/online_services/opendata/

Home > Open Data Ottawa

- Open Data Ottawa
- Apps4Ottawa winners
- Data Catalogue
- Glossary
- Questions and Answers
- Terms of Use

OPEN DATA

As part of the City of Ottawa's commitment to improving transparency and accountability to its resident government organizations within Canada and around the world, the City of Ottawa is releasing its Open Data Ottawa site.

The Open Data Ottawa site is a first step in creating a more varied sets of data in more formats. Through this initial release of data focuses primarily on geospatial data. The project aims to enhance current open data and to release more data in the future.

The Cities of Ottawa, Toronto, Edmonton, and Vancouver are just a few of the groups that will benefit from this initial release of data.

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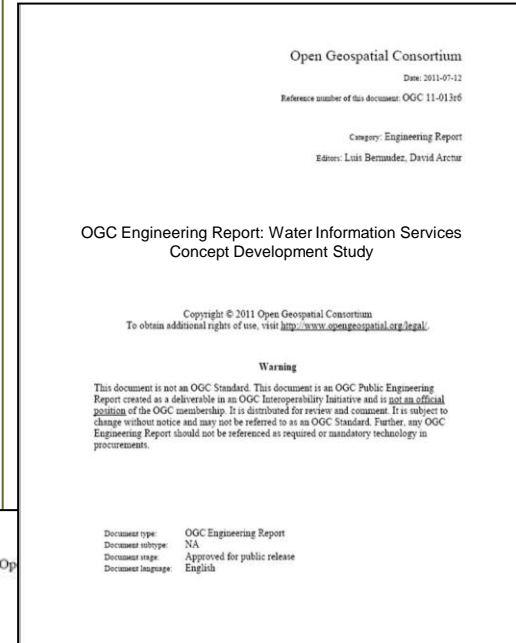
Other Ongoing Standards Activities



Recommendation #1: Coordinate Sharing of Best Practices

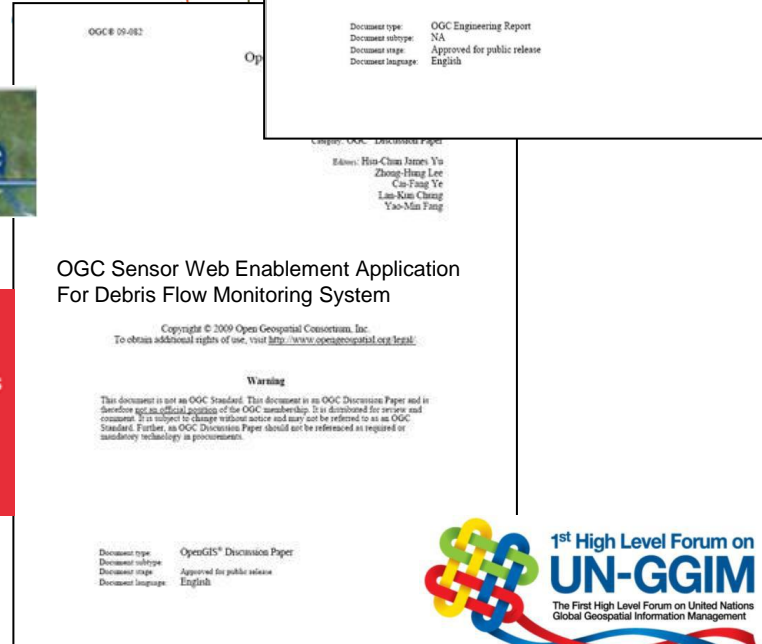


www.landgate.wa.gov.au/slip



OGC Forms GeoSynchronization Services Standards Working Group. See:
<http://www.opengeospatial.org/pressroom/pressreleases/1308>

5 Nov via web



OGC®



Recommendation #2: Practice, Pilot, Prepare



- Emphasize pilot projects
 - Investigate / test and validate improved interoperability frameworks and methods
 - Validate geospatial information, technologies, standards, best practices, procedures and policies
 - Based on member nation use cases and experiences
 - Share outcomes broadly
 - Involve industry data providers, vendors, and academia, and standards organizations



Sendai Airport – By Roberto Devido

Pre-typhoon

2008/11



Post-Morakot

2009/8



Interoperability Program

Active Prototyping, Testing and Validation



- Testbeds, Pilots, Experiments
 - Join technology providers and users
 - Based on real world use cases provided by the user community
 - Proven Process – over 40 Initiatives since 1999
 - Produce:
 - Tested and validated draft standards, architectural recommendations and Best Practices
 - Industry technology implementations
 - Live demonstrations to validate utility of standards frameworks in user context



OGC Web Services Phase 4 Testbed (2006)
Scenario: Dirty bomb in port of NY/NJ

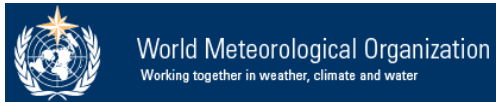
Recommendation #3 – Maintain Agility



- Active involvement in standards organization programs
 - Identify issues and promote standards and associated Best Practices
 - Water Resources
 - Climate Change
 - Earth Observation (GEOSS)
 - Emergency / Disaster Management
 - ↓ Urban Planning & Management
 - Influence the maintenance of existing standards and advance new standards when needed
 - Work directly with industry, academia and government members to address market trends and adopt new standards & best practices
 - Influence how location is addressed in broader IT standards community

Location Is A Critical Requirement

OGC SDO and Association Alliance Partners



... and many others

www.opengeospatial.org/ogc/alliancepartners



Making Location Count ...





Standards are like
parachutes...

...they work
best when
they're open.

Thank you



Taichung, Chinese Taipei June 2011



Mountain View CA, USA December 2009



Bonn, Germany, March 2011



United Nations, New York USA, January 2005