Driving geospatial interoperability - communities of interest

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Cross-Boundary / Limited or No Connectivity 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
Aeronautical Information Management (AIM)  
(OGC Web Services Phase 6 & 7 Testbeds)

- Develop and test standards-based service-oriented architecture to support the provision of aeronautical information directly to flight decks and Electronic Flight Bags (EFB)

- Support vision for Aeronautical Information Management
  - Interconnected systems with many actors and many users
  - Need for real-time information used in flight planning, navigation, rerouting, etc.
  - Right information at the right time at the right place to the right user
  - End-to-end management of information

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Aeronautical Information Management Architecture
(OGC Web Services Phase 6 Testbed)

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NNEW – NextGEN Network Enabled Weather
TAF – Terminal Aerodrome Forecast
WXXM – Weather Info. Exchange Model
WFS – OGC Web Feature Service
Community and Use Case Driven
Meteorology and Oceanography Domain Working Group

Aviation:
- ICAO WXCM / WXXM

Hydrology:
- OGC Hydro DWG
- Surface Water IE

Climate:
- Surface Temperatures
- CMIP5 etc.

Source: http://external.opengeospatial.org/twiki_public/MetOceanDWG/MetOceanUseCases
OneGeology

• Distributed, interoperable geologic information

• Leverages open standards:
  • OGC Web Map Service
  • OGC Web Feature Service
  • Geography Markup Language
  • OGC Observations & Measurements
  • GeoSCIML (GML Schema)

• Broad agreement between geologic surveys, organizational bodies

• [http://onegeology.org](http://onegeology.org)
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

165 organisations from 117 countries
Flood, Drought, Pollution Monitoring / Forecasting

South Esk River Catchment – Tasmania

- OGC Standards used to monitor, model and forecast flood, drought and environmental events
- Government agencies can rapidly integrate data from different sensor networks
- External (e.g. agricultural) sensor feeds can be incorporated easily to improve prediction and decision making
From Emergency Management to Mass Market

Open GeoSMS
Location Enabling SMS Messaging: GeoSMS

- Significant potential for many applications

- Characteristics
  - Multilingual
  - Multi-device
  - Harmonized with many existing applications
  - Incorporates relevant ISO standards

- Adopted in 2011
Domain Working Groups Active in OGC

- Hydrology
- Meteorology
- Oceanography
- Aviation
- Emergency & Disaster Management
- Defense & Intelligence
- Public Safety & Law Enforcement*

- Built Environment / 3D
- Mass Market

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Focus on Water Resources

Hydrology DWG Activities
- WaterML 2.0 SWG
- Groundwater IE
- Surface Water IE
- Forecasting IE

OGC Liaisons for Water
- World Meteorological Organization (WMO)
- Group on Earth Observation (GEO)
- US and international research centers

Water Info System: Concept Development Study
CUAHSI-sponsored, Completed in 2011
More OGC Areas of Focus

- Data-Quality
- Sensor-Fusion
- Decision-Fusion
- Cloud-Computing
- Data-Preservation
- Semantic-Mediation
- Cross-Community-Interoperability
- Internet-of-Things
- Compliance-Testing
- Water-Resources-Best-Practices
- Aviation-Information-Management
- Geosynchronization
- Modeling-and-Simulation
- Augmented-Reality
- Geo-Rights-Management
- Oblique-Imagery
- 3D-Portrayal
- 3D-Urban-Models
- Compliance-Certification
- Mobile-Internet
- Indoor-Location
- Linked-Data

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Standards are like parachutes...

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