



Interoperability is Key

The necessity of international standards and the OGC Emergency and Disaster Management working group ... or

**4th UN-SPIDER Bonn Workshop on
Disaster Management and Space Technology**

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The four Cs

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Agenda



- **Challenge**
- **Change**
- **Community**
- **Commonality**



Challenges

Challenges ... Mine and Yours



- Mine
 - Who knows what the Open Geospatial Consortium is?
 - Who knows how to participate in our process, let alone how the process works?
 - OGC's Mission: To serve as a global forum for the cooperation of developers and users of spatial data products and services, and to advance the development of international standards for geospatial interoperability.

(<http://www.opengeospatial.org/ogc/vision>)

Challenges ... Mine and Yours



- Yours
 - ... are different (are you from a national body, the user side, industry, academia?)
 - Timeframes: Prevention, quick response (...) what about sustainability?
 - Communication: internal, external
 - Different disasters need different approaches

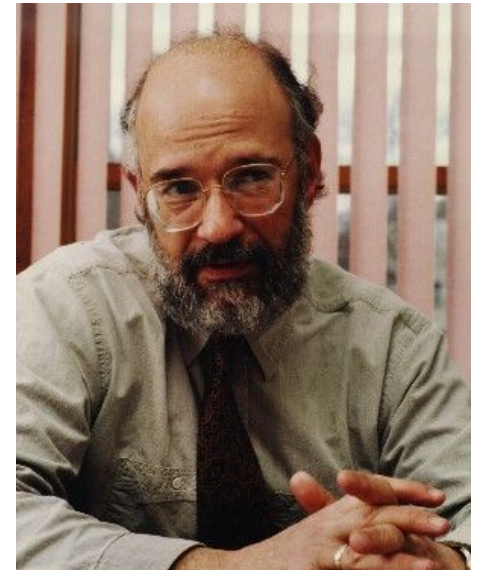
Challenges ...



- Some thoughts:
 - “What we are doing is facilitating a common picture of reality for different organisations which have different views of the reality, the disaster, the catastrophe, that they all have to deal with collectively.”

David Schell

Chairman and Founder OGC



Challenges ...



- So, it is also about semantics...



Challenges ...



- So, it is also about semantics...



Challenges ...



- So, it is also about semantics...



Source: Homer Simpson and the Donut Hell






http://thumbnails.hulu.com/8/897/26860_512x288_manicured__OZ-CCmqmIUe2k420Spz8Ng.jpg

Challenges ...



- So, it is also about semantics...



	ENGLISCH	DEUTSCH
Speichern	der ausgewählten Wörter im Trainer	67 Treffer
	Unmittelbare Treffer	
	Substantive (1 of 1)	
<input type="checkbox"/>  ①	hell	die Hölle
	Adjektive/Adverbien (14 of 14)	
<input type="checkbox"/>  ①	blond <i>adj.</i>	hell
<input type="checkbox"/>  ①	bright <i>adj.</i>	hell
<input type="checkbox"/>  ①	brightly <i>adv.</i>	hell



Change

Changes



- Changes might be difficult.
- New technologies allow and expect different approaches to communication.
- Crowd (we have the opportunity to access a huge amount of local and regional knowledge).
- For OGC: from standards development to implementing communities.
- Some thoughts:
 - „The conventional view serves to protect us from the painful job of thinking.“ - John Kenneth Galbraith, economist



Community

Communities of Practice



- Inclusion of different communities of practice in your work
- How, when, what for to include communities?
 - What (community) knowledge (data?) is needed after 6 hours, 24 hours, three days, one week, one month?
- Benefit from existing offers and efforts
- Don't re-invent the wheel
- Benefit from other's experiences – share your own!



Commonality

Commonality ... and ... Differences



- Which are our (common) targets?
- Which tools do we use?
- Use commonalities where possible, benefit from differences
 - Co-existence of various disaster management groups
 - Add value to your activities by using open standards
 - Provide data / results in an interoperable way, by using web services

What about OGC?



- Consensus process – that is reflecting a common understanding of requirements.
- Formalised standards development process – based on commonly agreed, structured and well defined policies and processes. (<http://www.opengeospatial.org/ogc/process>)
- Making use of innovative processes – for testing, verifying and documenting user requirements → OGC's Interoperability Program. (<http://www.opengeospatial.org/ogc/programs/ip>)
- Supports GEO/GEOSS activities (e.g. Architecture Implementation Pilot). (<http://www.ogcnetwork.net/Alpilot>)

What about OGC?



- Is bringing together industry, agencies, the public sector, academia and research (<http://www.opengeospatial.org/ogc/members>)
- Provides a Change Request and New Requirements tool (together with ISO/TC 211 and CEN/TC 287) (<http://www.opengeospatial.org/standards> → submit change request)
- Has a fast track standards process (<http://www.opengeospatial.org/pressroom/newsletters/201006/#C3>)
- OGC groups / work you might be interested in:
 - OGC Emergency & Disaster Management DWG : promote and support the establishment of requirements and best practices for web service interfaces, improve efficiency and effectiveness of users through changes and extensions to OGC standards which result in interoperable geospatial products and other information consumables that can be shared across communities. (<http://www.opengeospatial.org/projects/groups/edmdwg>)

OGC Emergency and Disaster Management WG and ICA Cartography in Early Warning and Crisis Management WG - Event



- OGC groups / work you might be interested in:
 - **Workshop**
OGC Emergency & Disaster Management DWG :
Early Warning and Crises
Management:
Cartography and GI - New Dimensions
and Challenges
promote and support the establishment of requirements and best practices for web service interfaces, improve efficiency and effectiveness of users through changes and extensions to OGC standards which result in interoperable geospatial products and other information accessible to be shared across communities. (<http://www.opengeospatial.org/projects/groups/edmdwg>)

18-19 October, 2010, Orlando, Florida, USA
<http://www.asprs.org/orlando2010>

See preliminary program page 12.

If you are interested participating in the workshop, please contact Prof. Dr. Milan Konecny (konecny at geogr.minu.cz) or Athina Trakas (atrakas at opengeospatial.org)

What about OGC?



- OGC groups / work you might be interested in:
 - Business Value Working Group
(<https://lists.opengeospatial.org/mailman/listinfo/business.value>)
 - France Forum Website (<http://www.forumogcfrance.org>)
 - Iberian Latin-American Forum (ILAF)
 - Public website:
http://external.opengeospatial.org/twiki_public/bin/view/ILAFpublic/WebHome
 - Open mailing list:
<https://lists.opengeospatial.org/mailman/listinfo/ila.forum>



Standards and future standards (examples)

- E.g.: Web Map Service (OGC WMS), Web Feature Service (WFS), Web Processing Service (WPS), GML, KML etc.

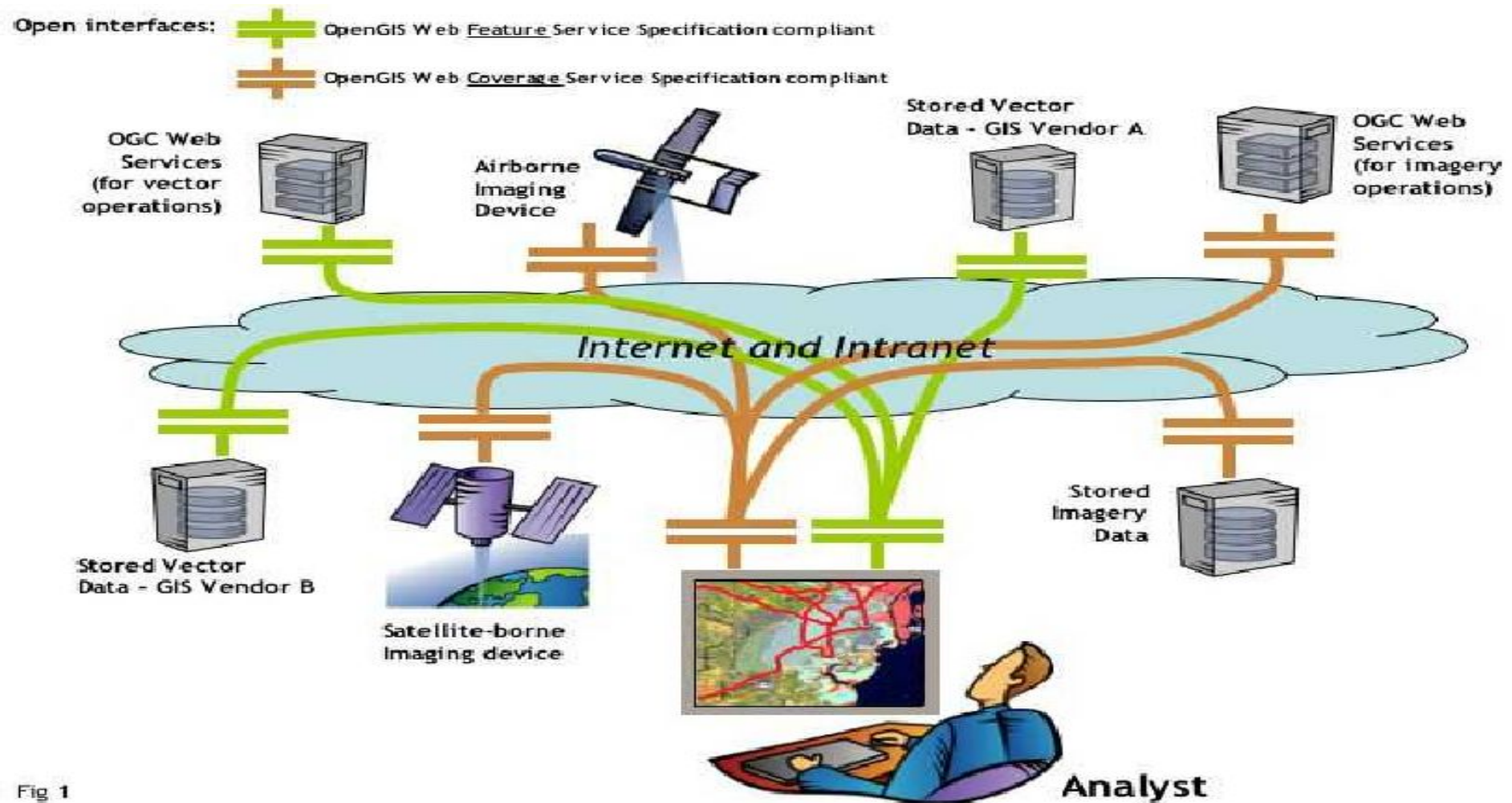
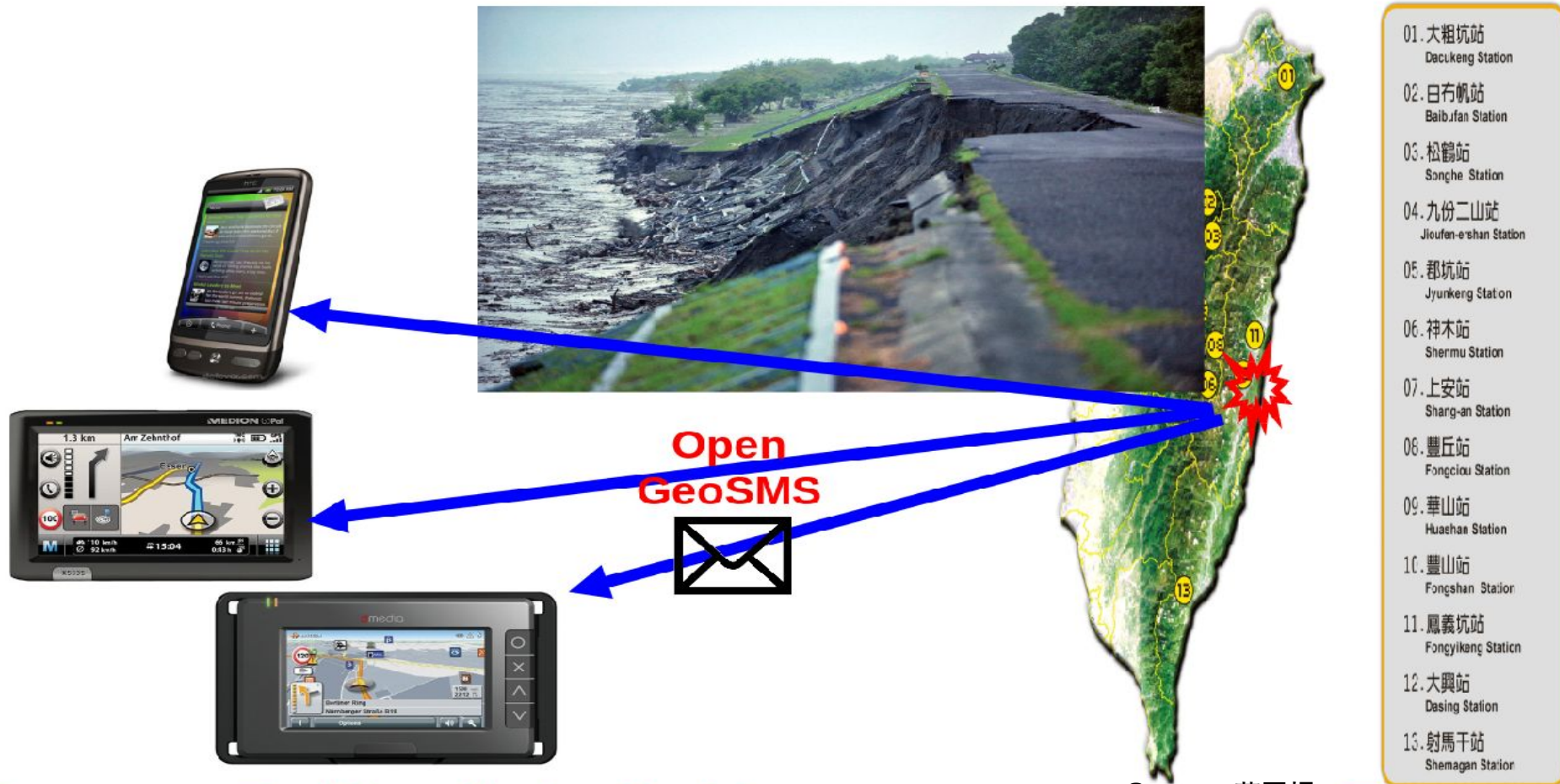


Fig 1

Open GeoSMS

(<http://www.opengeospatial.org/projects/groups/geosmsswg>)

Real-time Traffic Alert



Source: 莊國煜

Kuo-Yu slayer Chuang

Emergency Real-time Alert or Update

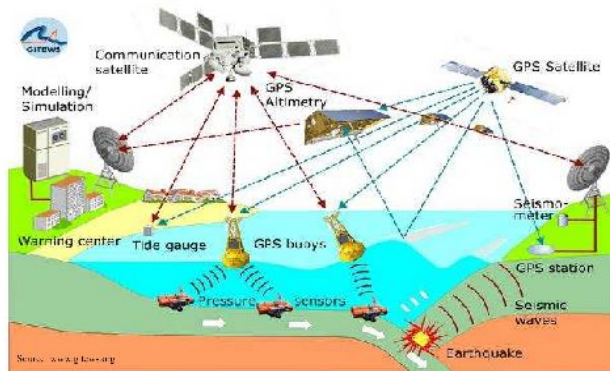
Sensor Web Enablement

(<http://www.opengeospatial.org/projects/groups/sensorweb>)



German-Indonesian Tsunami Early Warning System

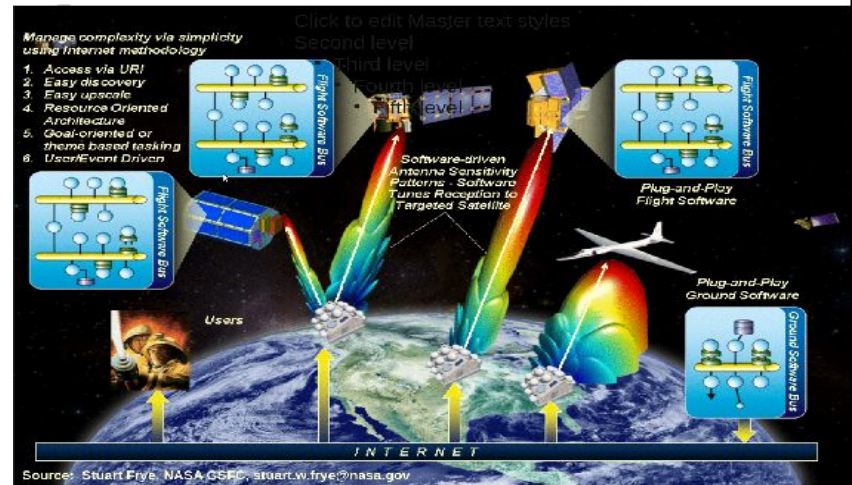
<http://www.gitews.org>



OGC

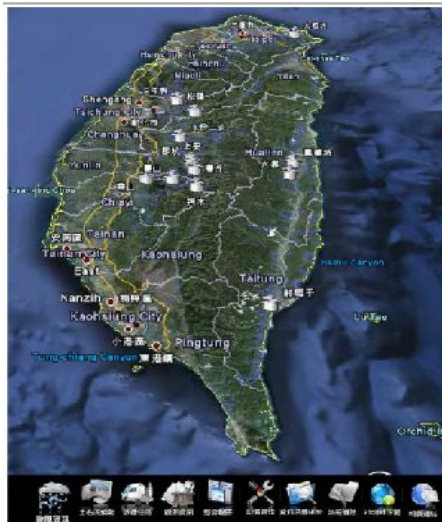
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NASA Sensor Web Vision

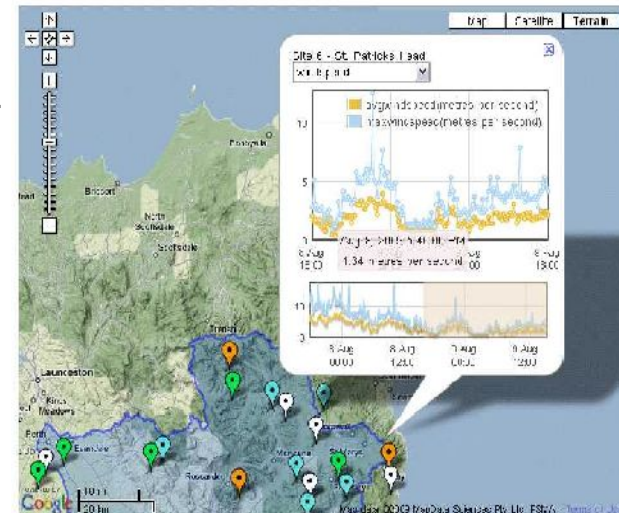


Source: Stuart Frye, NASA GSFC, stuart.w.frye@nasa.gov

South Esk River Catchment - Tasmania

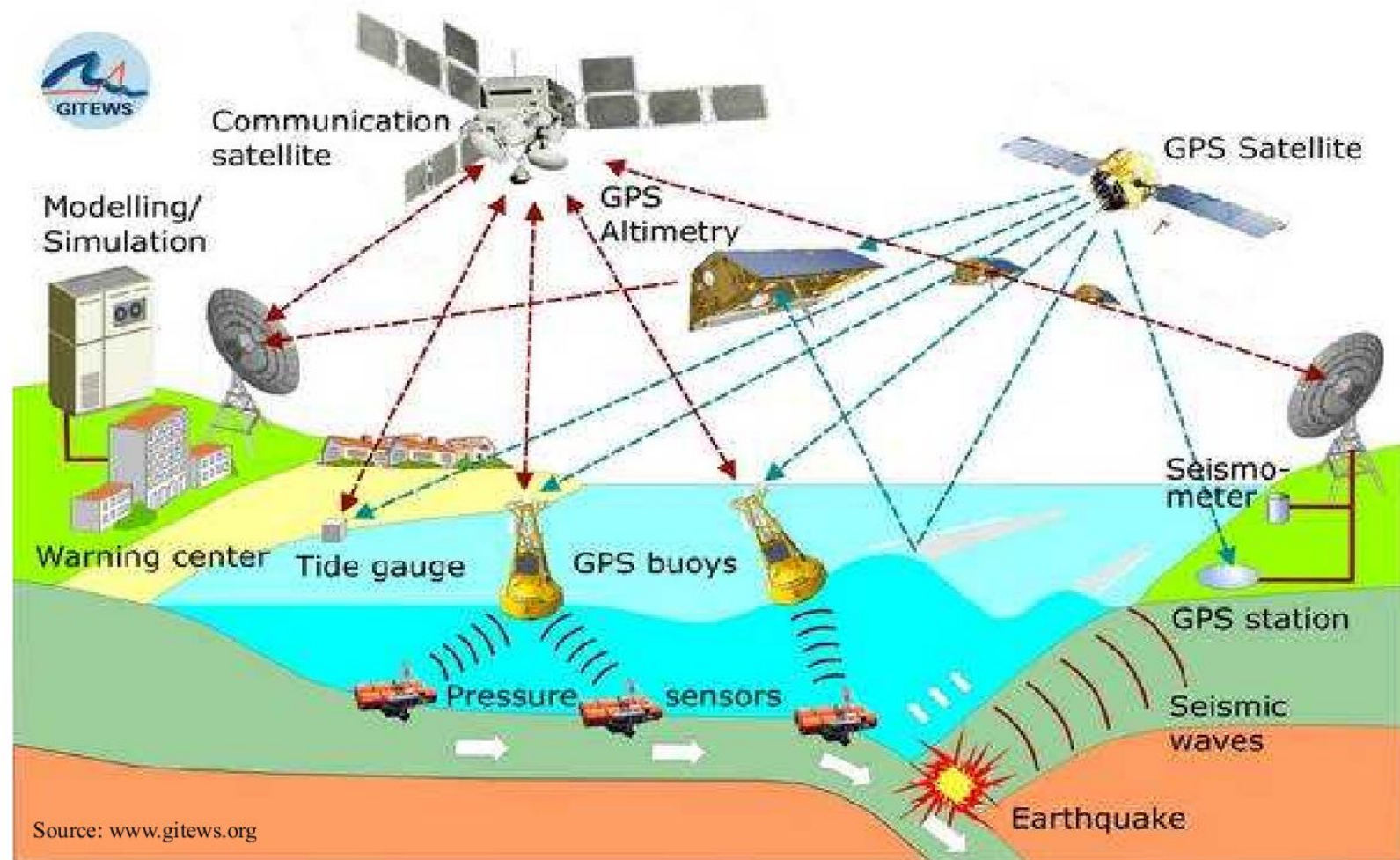


Debris Flow Monitoring Taiwan



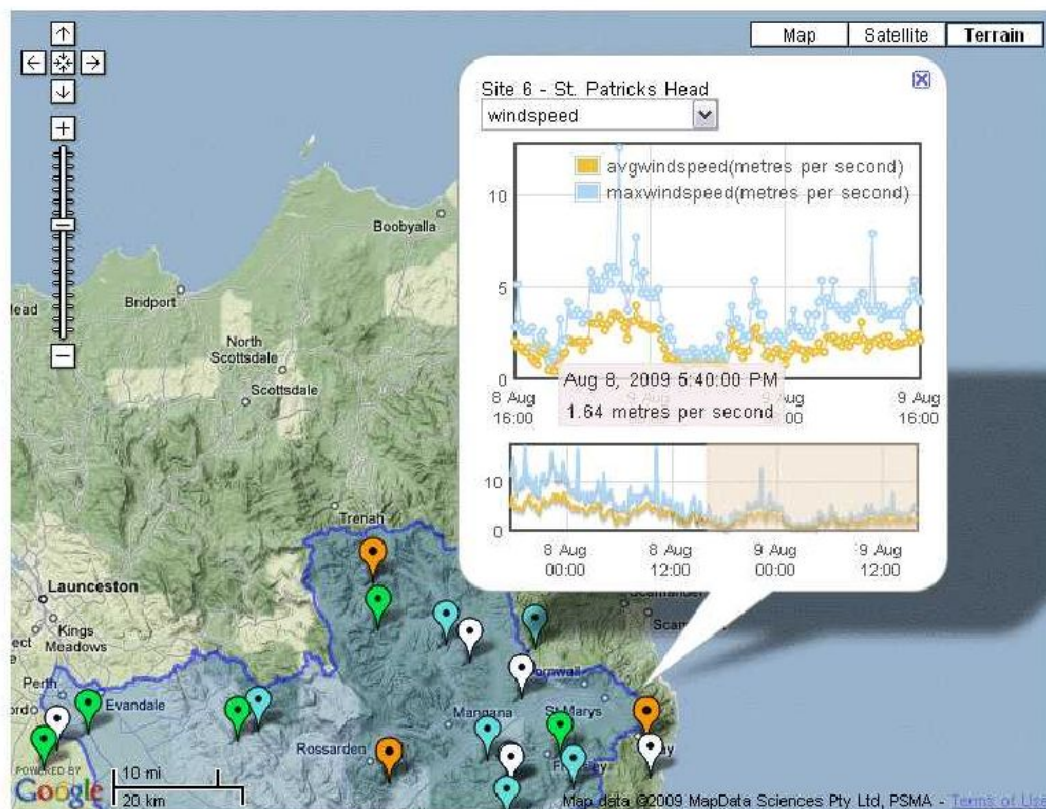
German-Indonesian Tsunami Early Warning System

<http://www.gitews.org>



Flood, Drought Monitoring / Forecasting

South Esk River Catchment – Tasmania

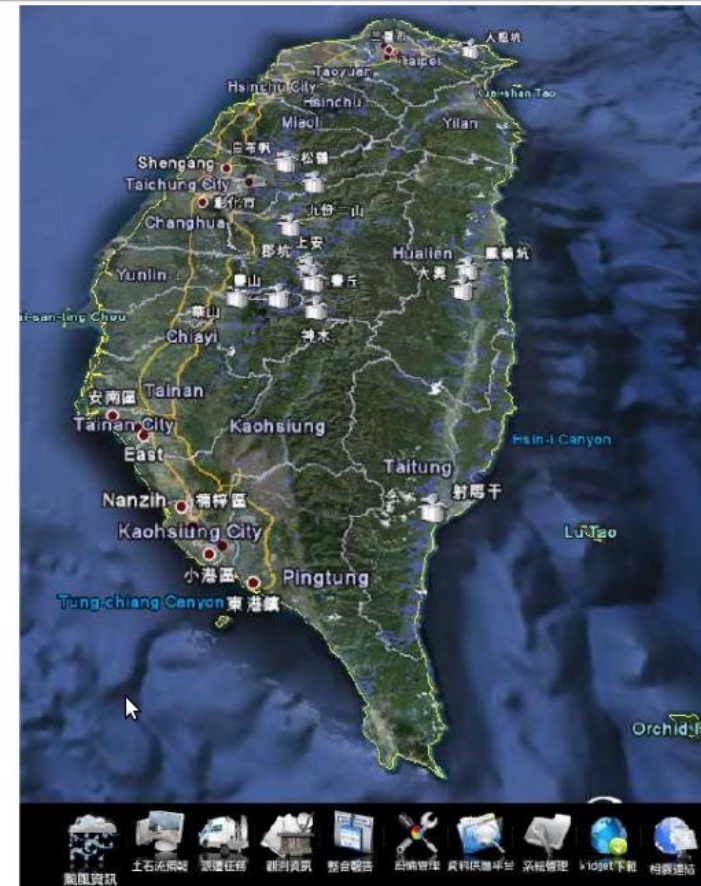


- OGC Standards used to monitor, model and forecast flood, drought and environmental events
- Goal - government agencies rapidly integrate data from their individual networks
- Other sensor information can be incorporated easily to improve modeling, prediction and decision making
- OGC Web Services, OGC Sensor Web Enablement, W3C OWL Standards

Debris Flow Monitoring - Taiwan



- Typhoons and earthquakes trigger landslides and flooding on a frequent basis
- OGC services used with an array of spatial data and sensors to provide situational awareness for forecasting, detecting, alerting and response to debris flow situations.
- Rapidly deployed network of debris flow sensors, and distributed services performing sensor data analysis and processing



OGC®



NASA Sensor Web Vision

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Second level

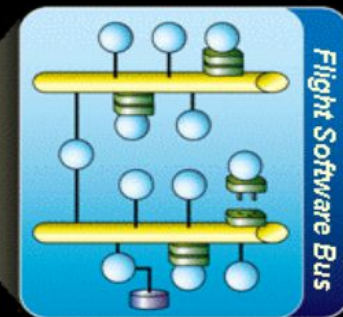
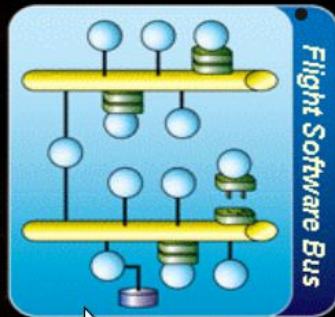
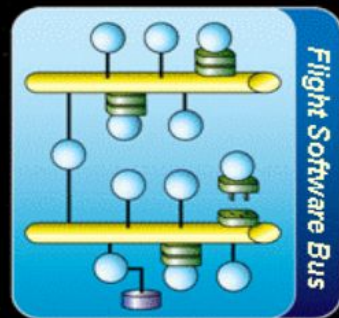
Third level

Fourth level

Fifth level

Manage complexity via simplicity
using Internet methodology

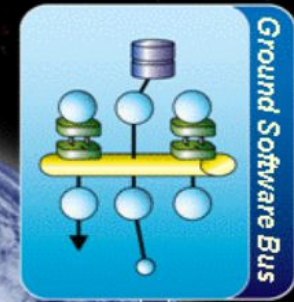
1. Access via URI
2. Easy discovery
3. Easy upscale
4. Resource Oriented Architecture
5. Goal-oriented or theme based tasking
6. User/Event Driven



Software-driven
Antenna Sensitivity
Patterns - Software
Tunes Reception to
Targeted Satellite

Plug-and-Play
Flight Software

Plug-and-Play
Ground Software



Users



I N T E R N E T

**Inform yourselves at
<http://www.opengeospatial.org>**



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