Standards Capacity Building for the Caribbean
Day 2

UN-GGIM Americas

August 2nd and 3rd

New York, NY, USA

UN-GGIM:Américas
COMITÉ REGIONAL DE LAS NACIONES UNIDAS SOBRE LA GESTIÓN GLOBAL DE INFORMACIÓN GEOESPACIAL PARA LAS AMÉRICAS

ACS AEC
Association of Caribbean States
Asociación de Estados del Caribe
Association des Etats de la Caraïbe

SRE
SECRETARÍA DE RELACIONES EXTERIORES

INEGI
INSTITUTO NACIONAL DE ESTADÍSTICA Y GEOGRAFÍA

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Workshop Goals

- ~~Introduction to OGC and International Geospatial Standards~~
- ~~Presentation of the UN-GGIM Core Standards Guide~~
  - ~~What are the standards associated with each level and what do they do?~~
  - What are the key applications/use cases for my country?
  - What level of capacity does my country have?
  - What level of capacity does my country want?
- Discussion amongst delegates on potential regional cooperative applications/use cases
- Maintain an open environment throughout intended to foster a vibrant discussion amongst delegates.

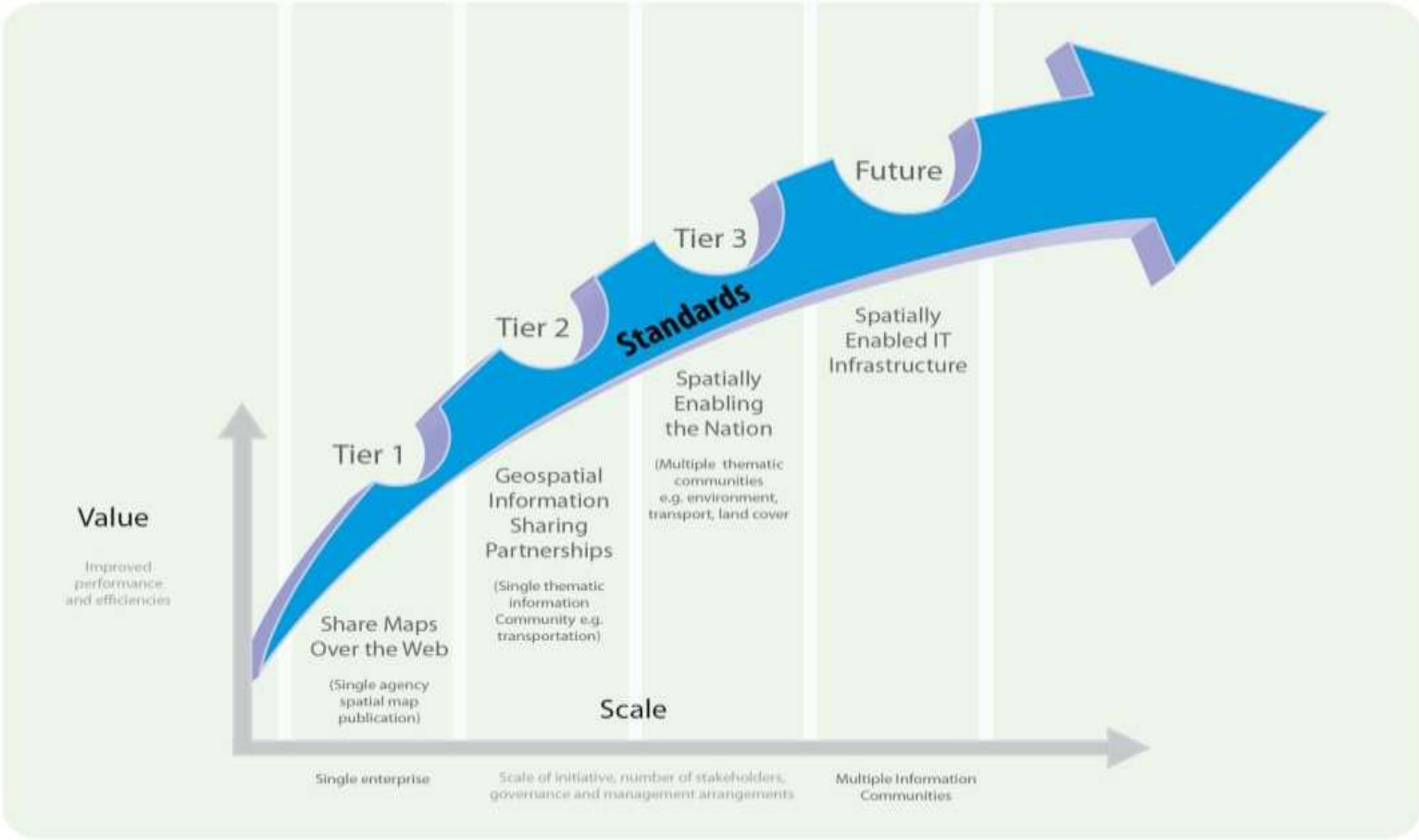
Non-technical (Mostly)!

Any Questions from Day 1 ?

Workshop Agenda

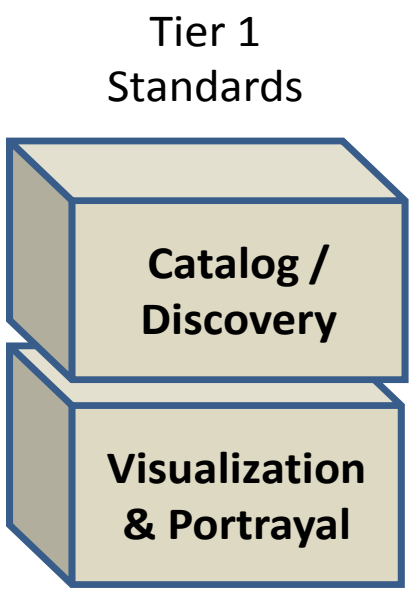
Date	Time	Topic
Sunday, August 2	1000-1200	Introduction to OGC and International Standards
	1200-1300	Lunch
	1300-1430	The UN-GGIM Core Standards Guide
	1430-1500	Break
	1500-1600	Operational Examples; ➢ Tier 1 ➢ Tier 2 ➢ Tier 3 ➢ The future
Monday, August 3	0830-1000	Review and Self Evaluation
	1000-1100	Break (pick up passes)
	1100-1230+	Open Discussion – Regional Requirements and Close
	1230-1400	Lunch
Room: CR2	1400-1545	Geospatial Standards Information Session
Room : CRB	1400-1545	Geospatial Services and Information to Support Emergency Response

SDI Standardisation Maturity Model



Tier 1: Share maps over the web

- Discover and view interactive maps on the Web.
- Organizations understand, describe, organize, collect and manage geospatial information.
- View and query geospatial information in client applications using a variety of devices such as a desktop, tablet, or other mobile devices.



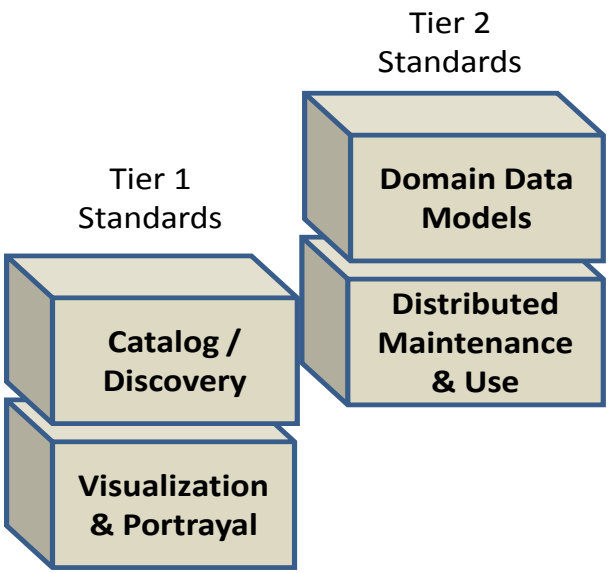
Tier 1 – Standards List

- **Visualisation & Portrayal**
  - OGC/ISO2 19128 Web Map Service (WMS)
  - OGC Web Map Tile Service (WMTS) 1.0
  - OGC Styled Layer Descriptor 1.1 (SLD)
  - OGC Web Map Context 1.1 (WMC)
  - OGC KML 2.2

- **Catalogue & Discovery**
  - ISO 19115, Geographic information – Metadata
  - OGC Catalogue Services Specification 2.0.2 - ISO Metadata Application Profile
  - OGC I15 (ISO19115 Metadata) Extension Package of CS-W ebRIM4 Profile 1.0

Tier 2; Information Sharing Partnerships

- Publish their geospatial information on the web.
- A “community” builds, shares, and uses datasets that provide a common view of important issues (e.g. navigation, flood control, road maintenance, disaster management)
- Data providers do not need to adopt the same technology solutions or change their database structures provided that they conform to agreed upon data models.
- Provides access to view, distribute, or share geospatial information that conforms to these agreed upon standards-based data models

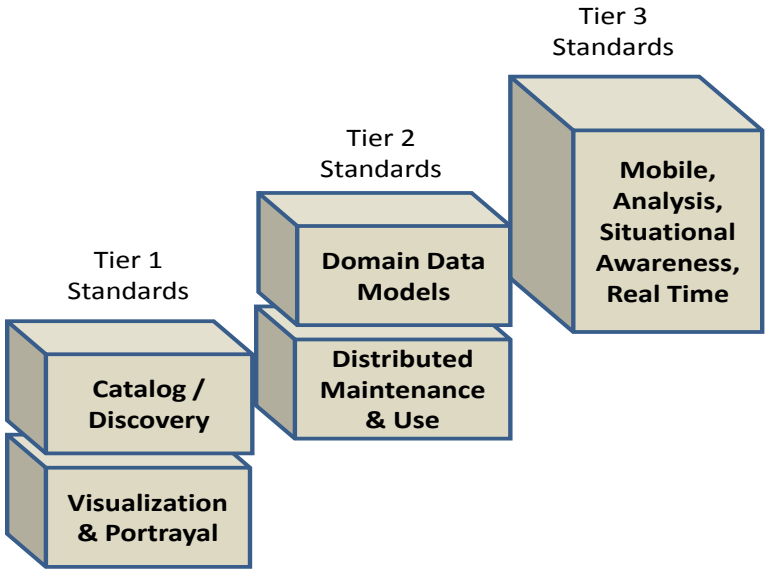


Tier 2 – Standards List

- **Distributed Maintenance & Use (Technology)**
  - OGC/ISO 19136 Geography Markup Language (GML)
  - OGC/ISO 19142 Web Feature Service 2.0
  - OGC/ISO 19143 Filter Encoding 2.0
  - OGC Web Coverage Service (WCS) 2.0
- **Domain Model standards (Content)**
  - OGC CityGML
  - ISO 19144, Geographic information -- Classification systems
  - ISO 19152, Geographic information -- Land Administration Domain Model (LADM)
  - GeoSciML – Geological structure and bore holes
  - OGC WaterML 2.0 - Sharing in-situ sensor water observations
  - S-57 - IHO Transfer Standard for Digital Hydrographic Data

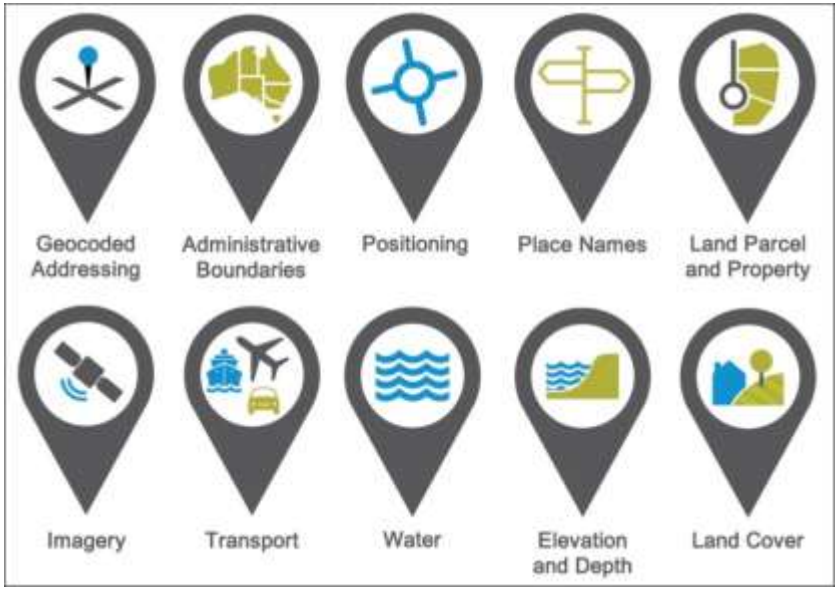
Tier 3:Spatially Enabling the Region

- Multiple organizations in share **<u>foundational geospatial information</u>** and services with each other and the broader community
- Improves knowledge and understanding, contributing to evidence-based decision making, situational awareness, and improved societal outcomes
- Multiplies the value of their geospatial information assets by sharing these assets with others
- Groups in different application domains
  - Share their data, discover and access data produced by others,
  - Benefit from improved understanding and knowledge
  - e.g. The same geospatial information needed for land use planning may also have value for flood prevention



What is Foundational Data?

- The development and publication of “foundation” or “framework” spatial data such as imagery, transportation, administrative boundaries, using content and technology standards and best practices enable geospatial data from different providers to be easily integrated and used across multiple applications domains,
- Decision making is based upon a common understanding.
- **These foundation themes have known accuracy and currency so that other geospatial data can be consistently integrated.**



Example: Foundation geospatial information layers (Source, ANZLIC)

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Typical scenarios for Tier 3

- A nation begins the implementation of **a National SDI** to deliver foundational or framework geospatial data for the nation.
- May be an effort that starts from scratch or **builds on domain specific activities** characterized in Tier 2;
- **Geoprocessing** over the web;
- **Delivery to multiple platforms** including desktop and mobile;
- **Real time data** from a variety of sensors is incorporated;
- Account for **data sovereignty**.
- A **robust framework of** policies has been established for organizations operating from the local to national level.
- Well defined geospatial data themes, content models, policies and service level agreements between organizations and governments for operations and **cooperative maintenance of data themes** are in place.

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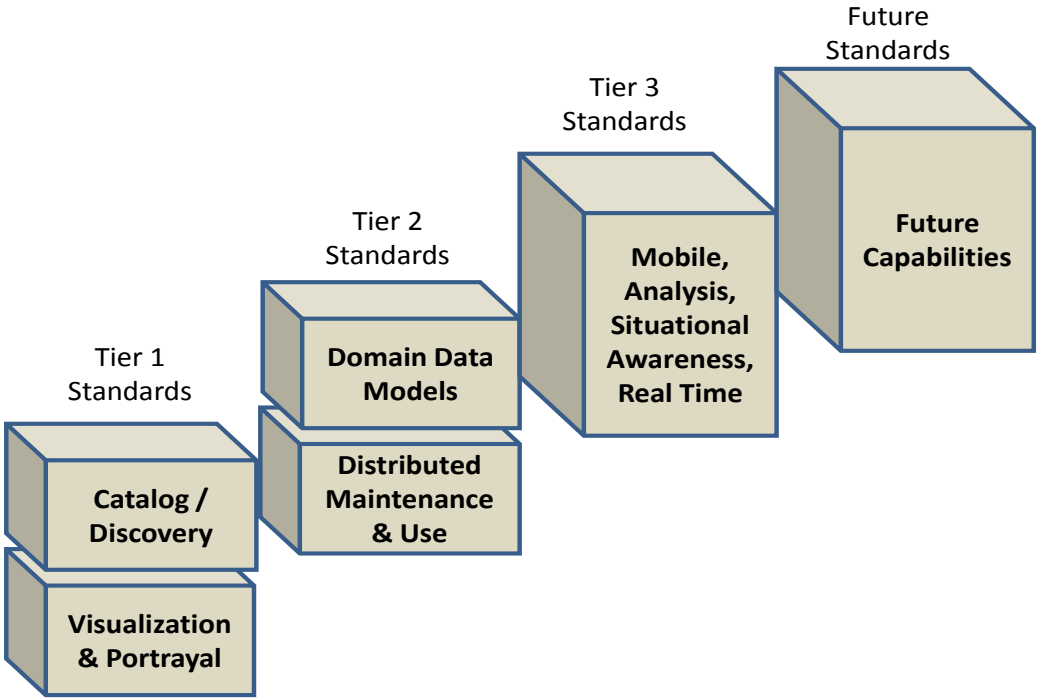
Tier 3 – Standards List

- **Geospatial Processing**
  - OGC Web Processing Service (WPS)
- **Mobile Devices**
  - OGC Open GeoSMS
  - OGC GeoPackage
- **Real Time**
  - OGC/ISO Observations & Measurements Schema (O&M) / ISO 19156
  - OGC Observations and Measurements XML (OMXML)
  - OGC Sensor Model Language (SensorML)
  - OGC Sensor Observations Service (SOS)
  - OGC Sensor Planning Service (SPS)
- **Geosemantics**
  - ISO 19150 Geographic information – Ontology

The Future



- Cloud Computing
- Linked Data
- Big Data Analytics
- Semantic web portals
- Mobile devices
- New and dynamic geospatial data collectors
- Social Media / Volunteered Geospatial Information
- Emerging Standards, Best Practices & Trends

Self Evaluation

- Objectives
  - What are the key applications/use cases for my country?
  - What level of capacity does my country have?
  - What level of capacity does my country want?
  - What do we need to get there ?

Guidelines – Self Evaluation

Feel Free to add other topics!

Element	Description
Key Applications	List your Country/Organisation's applications
Planned Applications	What new applications are planned?
Key Data	What are your key data sources?
Missing data	What data are you missing or can't be shared (for whatever reason)?
Technical Tools	What do you use for visualisation/analysis?
Data Sharing	How do you share data?
Standards Implementation	What Tier?
Desired Tier	Planned Tier?
Policy	Is there a formal policy for standards based data sharing?
Barriers	List barriers to Implementing a standards based system (e.g. policy, budget, political will….and others)
Notional Plan	Create a high level plan to raise interest in your organisation to attain the desired Tier. May include (but not limited to) the following main elements; • Specific Project ideas (use case/application) • Outreach to local community/decision makers • Resource Requirements • Technical Requirements • Data Requirements • Other Aspects
Comments	Any other comments?

Self Evaluation; Country

- Key Application(s)
- Planned Application(s)
- Key Data
- Missing Data
- Technical Tools:

Self Evaluation

- Data Sharing
- Standards Implementation
- Desired Tier
- Policy

Self Evaluation

- Barrier(s)

Self Evaluation

- Notional Plan

Presentations from the Group

- Revised: Please send your completed template to the organisers!

Open Discussion

This session is intended to get attendees thinking about potential regional requirements, potential projects, common challenges, etc.

Question to the group: Should we use Vegas Rules ?

- Regional Requirements ?
- Questions ?
- Project Ideas ?
- Other?

Close

- Thanks for your attention!
- See you in Mexico City ?