Closing Plenary

Scott Simmons and TC Chairs

The 120th OGC Member Meeting

20 September 2021

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Agenda

- Welcome
- Keynote: Yana Gevorgyan, Secretariat Director, GEO
- Quorum confirmation
- TC Motions
  - Simple Features – Part 1: John Herring
  - GeoPackage Corrigendum and Tiled Gridded Coverage Data Extension: Jeff Yutzler
  - OGA API – Common – Part 1: Core: Chuck Heazel
  - CoverageJSON Community Standard Work Item: Chris Little
  - Best Practice for Earth Observation Application Package: Ryan Ahola
- Upcoming TC Meetings
- TC Chair announcements and motions
- Working Group reports with motions: 3 to Z
- "Important Things" discussion
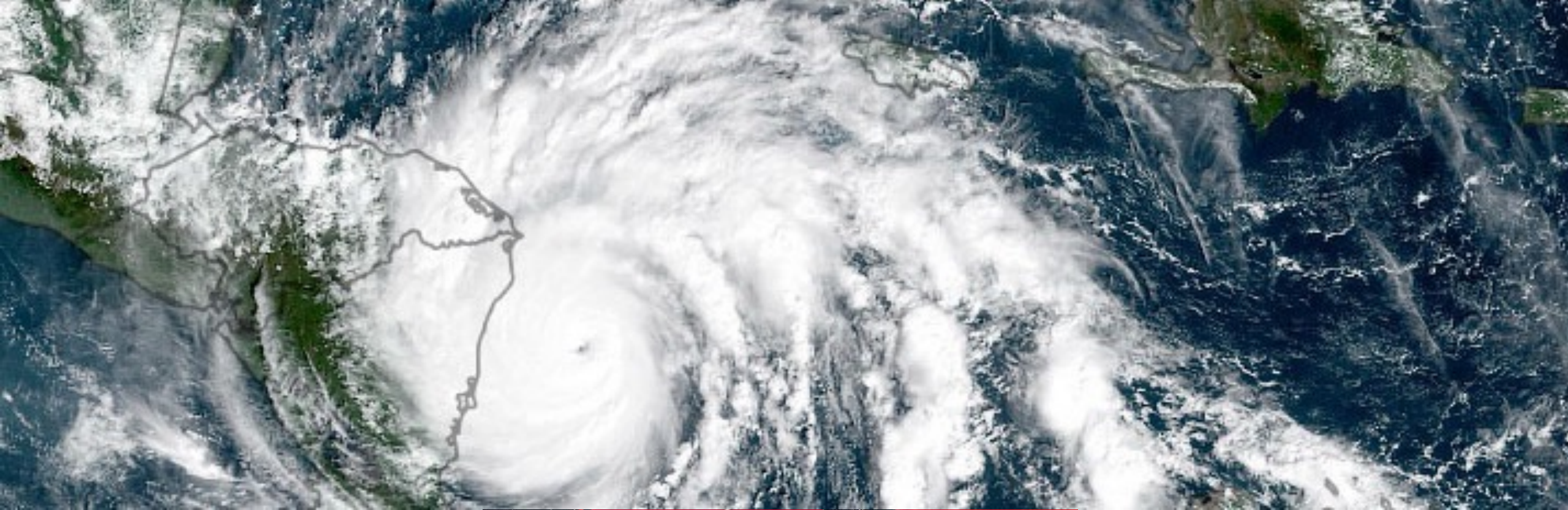
12 : 45 : 87
FEB - 05 - 3254
167   78   894

- Yana Gevorgyan, Secretariat Director, GEO
- Expert on international relations
- Formerly GEO Program Manager and International Relations Specialist at NOAA
- Received NOAA's Silver Sherman award for her outstanding leadership

Hurrican ETA
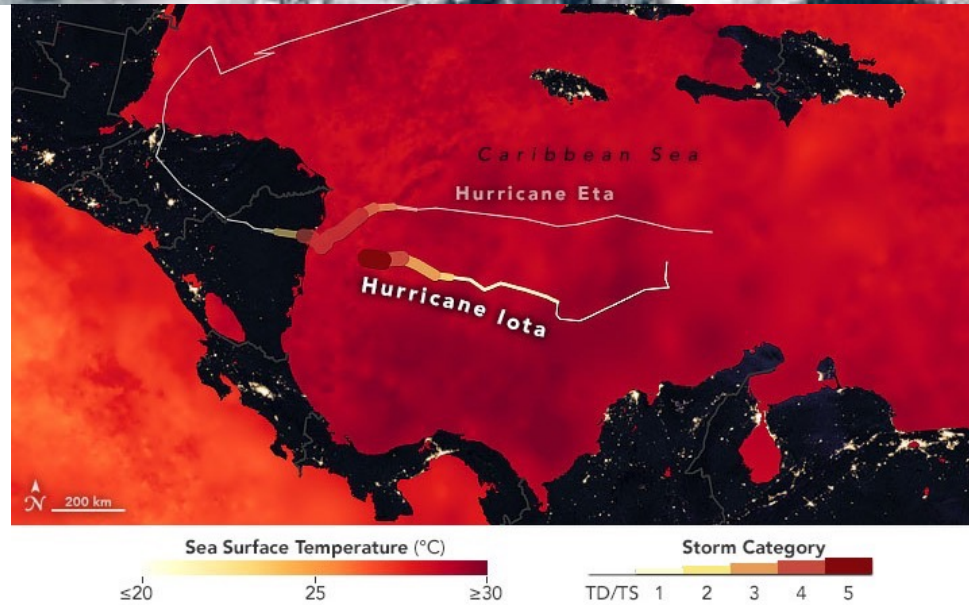2020

Results, Impact & Value

GEO GLOWS
GLOBAL WATER SUSTAINABILITY

RESULTS

During Hurricanes Eta and Iota the Honduran state power company ENEE used the GEOGloWS ECMWF Streamflow Forecast Services to direct discharge of 200 million m3 of water in the El Cajón reservoir before Iota's arrival, creating flood storage while avoiding loss of power generation or worse.

IMPACT

The Sula Valley generates about 65% of gross domestic product (GDP), representing over 50% of Honduras exports. Direct and indirect impacts on roughly 2 million people (30% of the national population) residing in rural and urban areas within the valley would have been incalculable.

VALUE

The economic losses from Eta and Iota in 2020, when compared to those from Hurricane Mitch in 1998 that had a similar impact magnitude, were about 30% less thanks because of the flood control provided by El Cajón
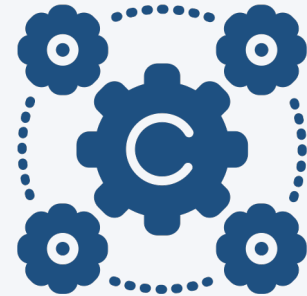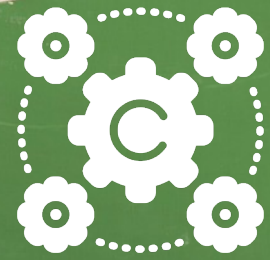
OGC Disaster Pilot Peru

OGC Innovation Program
Peru is an active GEO member

OGC-GEO Collaboration

Getting results into the right hands

1

Geo Knowledge Hub

2

Practical guide

3

Policy briefs

Open knowledge for the benefit of humankind

ygevorgyan@geosec.org

TC Motions

OGC 21-011r2
Simple Feature 2021

John R. Herring

GeoPackage SWG

Closing Plenary Report

Jeff Yutzler, Image Matters LLC

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OGC API - Common SWG Closing Plenary Report

Chuck Heazel, Heazeltech

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CoverageJSON Community Standard Justification OGC21-040r2

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Jon Blower, Ethan Davis, Tom Kralidis, Chris Little, Lewis McGibbney, Steve Olson

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Upcoming Member Meetings

Future OGC Member Meetings

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Date	Location	Host/Sponsor
June 2021	Virtual	
September 2021	Virtual	Singapore Land Authority
December 2021	Virtual – PST time zone	
Feb/March 2022	Europe	
June 2022	Americas	
Sept/Oct 2022	Singapore	Singapore Land Authority

We could switch

Who wants to host in 2022 and 2023? It is SO FUN to host!!!!

WG Reports not to be briefed

3DIM DWG

Agriculture DWG

Citizen Science DWG

CityGML SWG

CRS DWG/SWG

Data Quality DWG

DGGS DWG

DGGS SWG

EDM DWG

Energy & Utilities DWG

Features API SWG

Features and Geometries JSON SWG

GeoAI DWG

GeoPose SWG

GeoSemantics DWG

GeoTIFF SWG

Met Ocean DWG

MUDDI SWG

O&M SWG

OGC API – Maps and - Tiles SWGs

OGC API – Processes SWG

OGC API – Records SWG

POI SWG

Portrayal DWG

Routes API SWG

Security DWG

Styling & Symbology SWG

UxS / Aviation DWG

3 to Z

WG Reports with TC Motions

Architecture DWG Closing Plenary Report

Joan Maso (UAB-CREAF), Gobe Hobona (OGC)

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Should OGC require that OGC standards provide conceptual models represented in UML, encoded in XMI and integrated into a consolidated model?

Session Agenda

- May 2021 OGC API Code Sprint Summary Engineering Report - Gobe Hobona (OGC)

- July 2021 OGC API Code Sprint Summary Engineering Report - Joana Simoes (OGC)

- Schemas for OpenAPI that are not necessarily for OpenAPI - Joan Maso (UAB CREAF)

- Summary of Conceptual Modeling Sub-Group Discussion - Sam Meek (Helyx SIS)

- Consistent versioning approach on OpenAPI definition documents - Gobe Hobona (OGC)

- Testbed-17 Preliminary Findings on OpenAPI Code Generators - Samantha Lavender (Pixalytics), Aleksandar Balaban (m-click.aero), Josh Lieberman (OGC)

Activity Summary

- Discussion topics

  - Outcomes of recent OGC API Code Sprints

  - The need for a consistent versioning approach on OpenAPI definition documents during development of OGC API standards

  - The need for JSON schemas for responses independent from OpenAPI definition documents during development of OGC API standards

  - Testbed-17 has been experimenting with code generators ingest OpenAPI definition documents

  - There's a need for a shared repository of UML models used in OGC standards

- Coordination (ongoing and planned)
  - OGC API SWGs

- Upcoming deliverables
  - Review of assigned Testbed-17 Engineering Reports

- Future meetings
  - December 2021 OGC Member Meeting
  - Conceptual modeling subgroup telecons

- Facilitating OGC API cross-SWG discussions

- The Conceptual Modeling Sub-group of the Architecture DWG has held its first meeting

- The group will focus on model:
  - Correctness (according to the OMG standard in the case of UML)
  - Consistency (in terms of its representation)
  - FAIRness (findable, accessible, interoperable and reusable)
  - Value (what *work* does it do?)

- The outcomes of the group were:
  - Create a mailing list (done) – please sign up if you are interested.
  - Create a GitHub repository (done).
  - Create a regular meeting slot
  - Assist in the creation of a centralized repository for modeling work.

OGC

- Lets reserve the openapi folder for the things that are openapi specific:

  - a.k.a OpenAPI domain documents (with openapi schemas) and OpenAPI examples.

- …/schema

- …/schema/examples

- …/openapi

- …/openapi/examples

Discuss at
OGC API – Common GitHub repo
Issue #199

- The Architecture DWG recommends that the OGC Technical Committee approve release of OGC 21-042 "May 2021 OGC API Code Sprint Summary Engineering Report" as an OGC Public Engineering Report.

  - There was no objection to unanimous consent

  - Abstract: The subject of this Engineering Report (ER) is a code sprint that was held from 26 to 28 May 2021 to advance the development of the OGC API - Maps draft standard, OGC API - Tiles draft standard, and the OGC API – Styles draft standard. An Application Programming Interface (API) is a standard set of documented and supported functions and procedures that expose the capabilities or data of an operating system, application or service to other applications (adapted from ISO/IEC TR 13066-2:2016). The code sprint was hosted online. The code sprint was sponsored by Ordnance Survey (OS) and Natural Resources Canada (NRCan).

OGC

- The Architecture DWG recommends that the OGC Technical Committee approve release of OGC 21-055 "July 2021 OGC API Code Sprint Summary Engineering Report" as an OGC Public Engineering Report.

  - There was no objection to unanimous consent

- Abstract: The subject of this Engineering Report (ER) is a virtual code sprint that was held from July 21st to July 23rd, 2021 to advance the development of the OGC API - Processes draft standard, OGC API - Records draft standard, and the OGC API – Coverages draft standard. An Application Programming Interface (API) is a standard set of documented and supported functions and procedures that expose the capabilities or data of an operating system, application or service to other applications (adapted from ISO/IEC TR 13066-2:2016).

CDB SWG Closing Plenary Report

David Graham, CAE Inc.

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CITE SC Closing Plenary Report

Chuck Heazel, Heazel Technologies

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An Executable Test Suite for OGC API – Common will be built as soon as the candidate standard is approved by the OGC Membership. Will this be an issue?

OGC

- Planning for How to certify Compliance to OGC API – Common
  - Gobe Hobona

- TEAM Engine Updates
  - Dirk Stenger

- An Update from the Testbed-17 CITE activity
  - Luis Bermudez

- Modular APIs and Compliance
  - Chuck Heazel

- Any other business

Activity Summary

12 : 45 : 87
FEB – 05 – 3254
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- Discussion topics
  - Whether to include the OGC API – Common tests inside other OGC API ETS or to implement them as their own or both
  - Whether the OGC API – Common ETS should expect a landing page and how to handle absence of a landing page
  - CDB 1.0 ETS now on the Production Validator
  - Potential implications of the Conformance Modules on Compliance Testing (following on from Open OAB discussion)
  - What is the best general purpose OpenAPI validation library to use?

- Coordination (ongoing and planned)
  - Features API SWG
  - EDR API SWG
  - Testbed-17 CITE thread

- Upcoming deliverables
  - Production version of ETS of **OGC API – Features – Part 2**
  - Beta version ETS of **OGC API – Processes – Part 1**
  - Beta version ETS of **OGC API – EDR**

- Future meetings
  - Next Member Meeting

- TEAM Engine development

- Executable Test Suite development
  - We need more volunteers to serve as Test Leads
  - We need more sponsors to support Test Suite development in Testbed-18

OGC

- The CITE Subcommittee recommends that the Technical Committee approves the Executable Test Suite (ETS) of version 1.0 of the OGC API – Features – Part 2: CRS by Reference Standard as an official OGC Compliance Test Package.

- At the time of this motion, there are 3 early implementors that have passed the compliance test. 2 are already certified.

  - There was no objection to unanimous consent

NOTE: OGC Compliance Policy Section 5 "**It is required to have at least three implementations that pass a conformance class for a conformance class to be released as official.** However, if a test has been in beta for more than 6 months and one or two implementations have passed the test, the CITE SC can consider a motion related to releasing the test as official with an exception about requiring three minimum implementations. When the TC approves a Compliance Test Package. It is published at the OGC Web-based Testing Facility. Organizations may then certify their products using the new Compliance Test Package"

Coverages SWG
Closing Plenary Report

Jerome St-Louis, Ecere
Stephan Meißl, EOX
Peter Baumann, rasdaman

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ISG DWG Closing Plenary Report

Lance Marrou, Leidos

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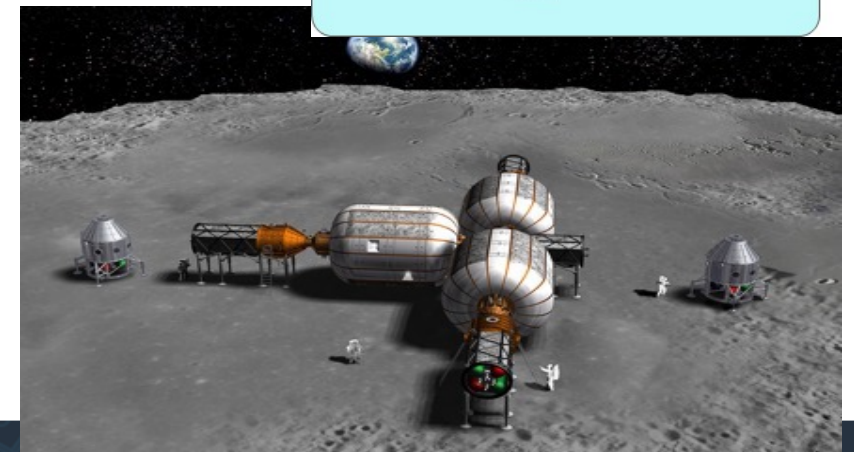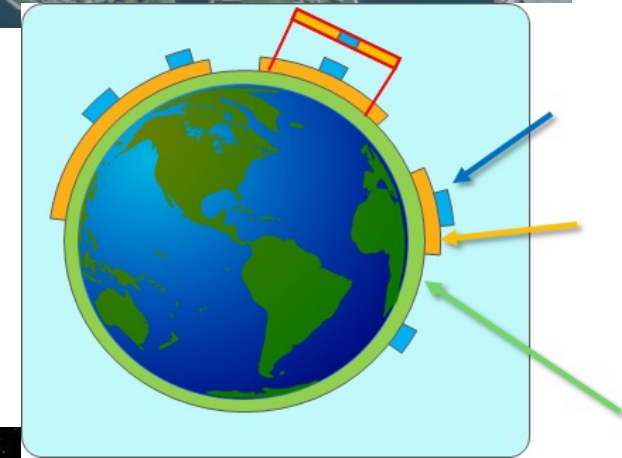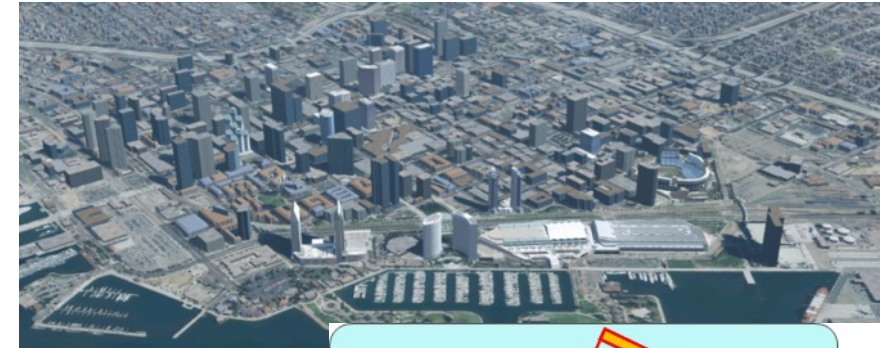
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Session Agenda

- Introductions and welcome – Lance Marrou

- ISG Sprint Year 2 ER – Leonard Daly, Rollin Phillips

- OWT Update – Ron Moore

- SISO SpaceFOM – Björn Möller

12 : 45 : 87
FEB - 05 - 3254
167   78   894

- Leonard provided a summary and presentation of the ISG Sprint Year 2 Engineering Report. The report as a PDF is available in Pending documents and the data (videos) are hosted in the Sprint folder (observer agreement required).

- Ron presented the current status and some examples of the work under the One World Terrain contract (U.S. Army). This has a lot of overlap and synergy of OGC standards.

- Bjorn Moller presented work primarily from SISO on the SpaceFOM (Federated Object Model) with relevant ties to geospatial and OGC standards.

O W T
ONE WORLD TERRAIN

OGC

- The ISG DWG recommends that the OGC Technical Committee approve release of [OGC 21-058] "ISG Year 2 Sprint" as an OGC Engineering Report.

  - There was no objection to unanimous consent

- The OGC Interoperable Simulation and Gaming Year 2 Sprint advanced the use of relevant OGC and Khronos Group [https://www.khronos.org/] standards in the modeling, simulation, and training communities through capability development, compatibility testing, and gap analysis. Of particular interest was the use of glTF models, game engines, and 3rd-party mobile device libraries for the display and interaction with OGC data and APIs.

- Also approved by CDB SWG

OGC Naming Authority SC

Gobe Hobona (OGC), Erik Stubkjær (AAU)

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Should the OGC-NA offer a service that resolves compound CRS as shown below?

```
{crs1}+{crs2} == http://www.opengis.net/def/crs-compound?1=crs1&2=crs2
```

Session Agenda

- Motion to approve revision of OGC-NA Name type specification - specification elements - Gobe Hobona (OGC)

- Motion to approve revision of OGC Naming Authority - procedures - Gobe Hobona (OGC)

- Proposal to Register the International Astronomical Union (IAU) as an authority - Gobe Hobona (OGC)

- Proposal to Register DGIWG Profile TIFF/GeoTIFF Tags in the OGC Definitions Server - Emmanuel Devys (IGN)

- Proposal to Register http://www.opengis.net/def/crs/OGC/0/CRS84 as an alias of http://www.opengis.net/def/crs/OGC/1.3/CRS84 - Clemens Portele (interactive instruments)

- A CURIE approach to Simplification of URIs - Rob Atkinson / Gobe Hobona (OGC)

- OGC Definitions Server Briefing - Rob Atkinson (OGC)

Activity Summary

- **Discussion topics**

  - Revisions of OGC-NA Procedures policy and OGC-NA policy on Specification Element policy were approved.

  - Registration of the International Astronomical Union (IAU) as an Authority, and relation to future Planetary DWG. Registration was approved.

  - Registration of DGIWG TIFF/GeoTIFF Tags in the OGC Definitions Server, and related private key governance issues. Registration was approved.

  - The proposal for an alias for CRS84 and whether the scope should cover all object types, not just CRS. Further investigation is needed.

  - The use of Compact URIs, also known as CURIEs. A proposal to simplify OGC URIs through CURIEs was approved (Issue#92).

- **Coordination (ongoing and planned)**

  - Several DWGs and SWGs

- **Upcoming deliverables**

  - OGC-NA Name type specification - specification elements

  - OGC Naming Authority - procedures

- **Future meetings**

  - Next Member Meeting

OGC

- Revision of OGC Name Type Specification - definitions - part 1 – basic name

- Registration of additional resources in the Definitions Server

- Updates to the Definitions Server infrastructure

- The OGC Naming Authority Sub-Committee recommends that the OGC Technical Committee approves the publication of OGC 10-103r1 "OGC-NA Name type specification - specification elements v2.1" as a revision of OGC Policy.

- Result: NOTUC

- Abstract: This document specifies a rule for constructing OGC names that may be used for identifying specification elements defined in the OGC Specification Model – Modular Specification.

- This revision adds a section that describes each segment along the path of a specification element URI as a resource.

- The OGC Naming Authority Sub-Committee recommends that the OGC Technical Committee approves the publication of OGC 09-046r6 "OGC Naming Authority - procedures" as a revision of OGC Policy.

- Result: NOTUC

- Abstract: In the terminology defined in ISO 19135, OGC-NA is the Control Body for the register of OGC Names. This document describes the framework of documents, registers and other resources required for OGC-NA to execute that role.

- This revision adds explanations of status flags.

- OGC-NA Chair to register the International Astronomical Union (IAU) as an authority in the OGC Definitions Server. After registration, OGC staff will engage with IAU representatives, the CRS DWG, and the future Planetary DWG to facilitate the future registration of planetary coordinate reference systems.

- If the Planetary DWG does get established, it will become a key advisor to the OGC-NA on registration of planetary CRS's.

Important Things discussion

Closing Plenary Reports – no motions

WG Chairs

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3DIM DWG Closing Plenary Report

F Biljecki, NUS, C Roensdorf, OS

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How do we position (Urban) Digital Twins/Triplets in OGC?

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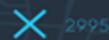
- IMDF for Emergency Response, David Coggeshall

- Open and Agile Smart Cities, Michael Mulquin

- Smart Cities and Digital Triplets, Josh Lieberman

Activity Summary

- Discussion topics
  - Urban Digital Twins / Smart cities
  - Application of IMDF

- Upcoming deliverables
  – n/a

- Coordination (ongoing and planned)

- Future meetings
  – next Member Meeting

Agriculture Closing Plenary Report

Karel Charvat, Plan4all

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As the most hot topic, we discussed Semantic and Data Models.
It was recognized as key issue for sharing of Agriculture Information

Session Agenda

- Intro Ag DWG chair (Karel Charvát)

- Nils Hempelmann (OGC) - Importance of interoperability in agriculture

- Tomas Mildorf (Plan4All) - Digital Innovation Hubs as a part of Research Infrastructures

- Bente Lilja Bye (BLB) - NextGEOSS data hub and platform connecting infrastructures - empowered by OGC standards

- Raul Palma (PSNC) - PSNC research infrastructure

- Panel discussion

- Wrap-up and what's next?

Activity Summary

- Discussion topics

  - Research Infrastructure

  - Digital Innovation Hub

  - Standardization

  - Soil data interoeprability

  - Semantic

- Upcoming deliverables
  - N/A

- Coordination (ongoing and planned)
  - Semantic WG

- Future meetings
  - Next TC, focus will be on semantic for cross domain data sharing

OGC

- Semantic

- Innovation Hubs

- Interaction between Research, development and governamnt

- Continue in extension of group of continental co chair

- Preparing next meeting

- Focus of Semantic and sharing with other domai

- Digital Twins

- Sustainable Development Goals

CitSci DWG Closing Plenary Report

Joan Masó (UAB-CREAF)

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ogc.org |

We made an effort to connect with the Asia Pacific community and we are proud to have new participants that never attended the sessions before.

Welcome!
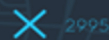
Agenda

- Introduction: standardizations issues in Citizen Science and the OGC DWG
  - Joan Maso (CREAF) 10'

- Pocket Science Lab project in Singapore
  - Hong Phuc Dang (FOSSASIA) 15'

- Participatory Bird Monitoring in India - Technologies, Opportunities & Challenges
  - Praveen Jayadevan (Bird Count India) 15'

- How BioCollect is implementing standards for citizen science and it's impact in the data value chain – an example from the biodiversity domain
  - Peter Brenton (Atlas of Living Australia) 15'

- Mobile observation integration service with the SensorThings API
  - Norbert Schmidt and Joep van der Heiden (DDQ B.V) 15'

- Discussion
  - Joan Maso and Andreas Matheus (CREAF and Secure Dimensions GmbH) 20'

Activity Summary

- Discussion topics
 - STA4CS is now STAplus

- Upcoming deliverables
  - STAplus White Paper.

- Coordination (ongoing and planned)
  - Sensor Things API SWG

- Future meetings
  - Next OGC MM
  - Reactivation of the 2on phase of the Interoperability Experiment and finalize the ER.

Super-summary

- Introduction: standardizations issues in Citizen Science and the OGC DWG. Joan Maso
  - A presentation based on the application of the FAIR principles to CitSci

- Pocket Science Lab project in Singapore. Hong Phuc Dang
  - A hardware board that allows many things with Arduino including spectral analysis and oscilloscopes.

- Participatory Bird Monitoring in India - Technologies, Opportunities & Challenges. Praveen Jayadevan
  - Observations of bird biodiversity. They have their own app.

- How BioCollect is implementing standards for citizen science and it's impact in the data value chain – an example from the biodiversity domain. Peter Brenton
  - Concentrate biodiversity observations in a single app and see the together. Usage of PPSR and Darwin CORE.

- Mobile observation integration service with the SensorThings API. Norbert Schmidt and Joep van der Heiden
  - Goods and bads of using STA for CitSci.

- Discussion
  - What we can do to reduce the proliferation of APIs and de-silo CitSci?

Key activities

- We continue progress on the Sensor Thing API extension for Citizen Science. This time it was presented to the STA.SWG group. We would like to see a white paper of even an standard emerging from it.
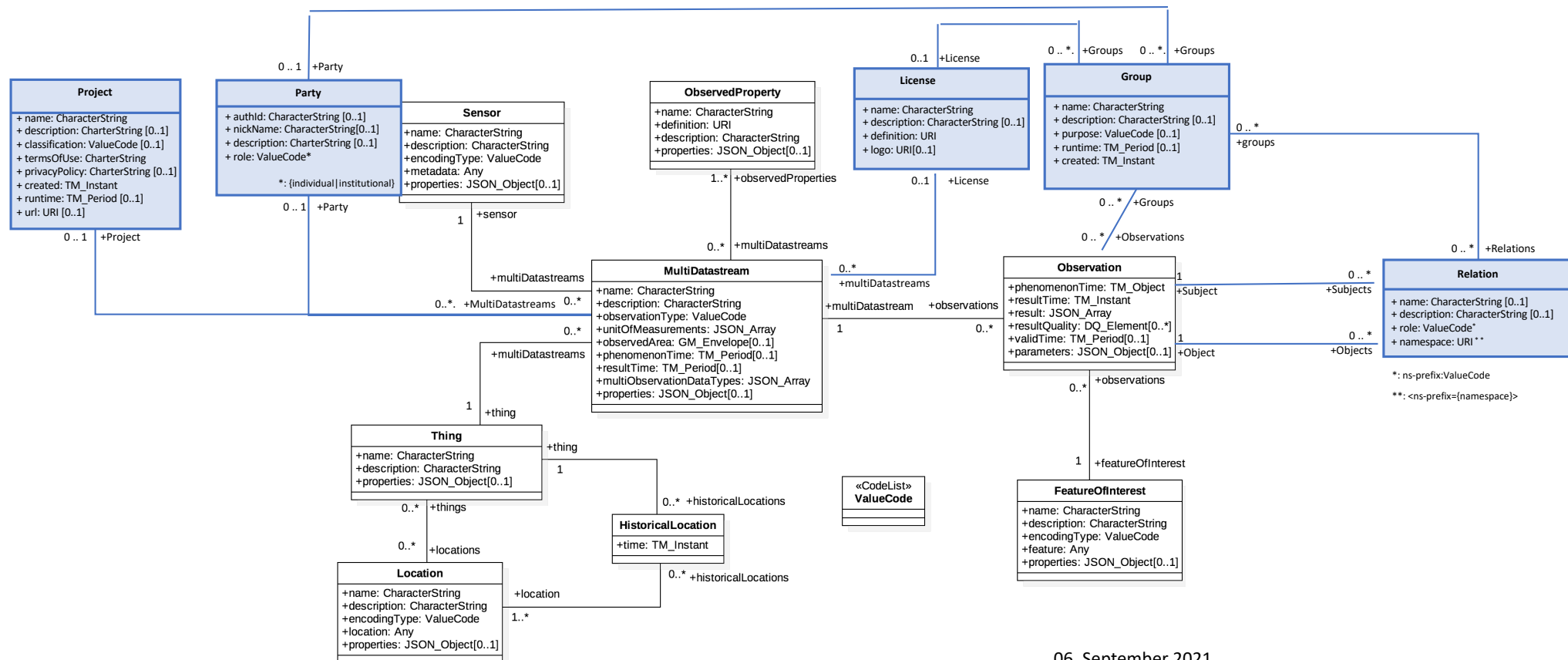
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SWE.IoT SWG

CityGML SWG Closing Plenary Report

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The most important thing for this WG is...

Virtual beverages were handed out to the SWG members to mark the publication of the CityGML 3.0 Conceptual Model standard by the Open Geopspatial Consortium on Monday, 13 September 2021.

CRS Joint DWG/SWG Meeting

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Significant progress has been made on the Deformation Model Functional Model and the Gridded Geodetic data eXchange Format.

- Now is the time to review these Project Team documents before they move over the to the SWG.

- Now is the time to implement prototypes to prove out the proposed model and exchange format.

The Coordinate Reference Systems meeting will again be a joint DWG/SWG. This quarter's meeting will cover:

Ongoing Domain Working Group Project Team Reports:
- Deformation model functional model
- GGXF : Gridded Geodetic data eXchange Format

Coordinate Reference Systems in a new ISO work item - ISO15143-4: Earth-moving machinery and mobile road construction machinery – Worksite data exchange

Activity Summary

- Discussion topics
  - Update on Deformation Model Functional Model and
  - Update on the Gridded Geodetic data eXchange Format
  - Presentation on Coordinate Reference Systems in a new ISO work item - ISO15143-4: Earth-moving machinery and mobile road construction machinery – Worksite data exchange
  - Other Business –CRS adjustments in France, dynamic datums, and CRS in BIM

- Upcoming deliverables
  - Project team documents are being reviewed and finalized for the Deformation Model Functional Model and the Gridded Geodetic data eXchange Format
  - Developer prototyping of NetCDF and GeoTiff as format vehicles for the Gridded Geodetic data eXchange Format is underway

- Coordination (ongoing and planned)
  - Coordinating with the Naming Authority regarding issues raised over the past quarter.
  - Coordination as need to assist the ISO15143-4 project team with understanding of 19111/OGC Topic 2

- Future meetings
  - Continue every other week meetings for the DWG Project teams.

[Data Quality WG] Closing Plenary Report

Ivana Ivánová, Curtin University

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Effective contribution to ISO/NP 19157-3 Geographic information – Data quality – Part 3: Data quality measures ISO/TC211 and OGC Joint Project

- ISO 19157-1 & ISO 19157-3 update – Ivana Ivánová

- OGC's Definition Server and it's utility for Data Quality – Joan Masó

- OGC&ISO/TC211 joint projects: lessons learned – Scott Simmons

Activity Summary

- **Discussion topics**

    - ISO 19157 standards for data quality

    - OGC's definition server and its feasibility to store DQ

    - Effective ISO/TC211 and OGC collaboration

- **Upcoming deliverables**
    - none

- **Coordination (ongoing and planned)**
    - ISO/TC211

- **Future meetings**
    - Data Quality Workshop Part 2 @Dec'21 OGC Member Meeting

Key activities

- Since end of 2019 ISO 19157 data quality standard is regularly briefed, with DQ DWG co-chair leading the revision and many OGC members involved in the project;

- In parallel, DQ DWG is involved in development of the International Guidelines for FAIR dataset quality information with OGC DQ DWG leading the use-cases collection.

- Data Quality Workshop series has been established during successful 1st run in June 2021 – next edition expected during Dec' 21 OGC Member Meeting

Discrete Global Grid Systems Domain Working Group Closing Plenary Report

Dr. Matthew B.J. Purss, Pangaea Innovations Pty. Ltd.

The 120th OGC Member Meeting

20 September 2021

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One thing that is most important for this WG is to raise wider awareness of DGGS and OGC APIs for DGGS throughout the wider geospatial community.

- Introduction & Logistics

  – Chair (5 min)

- Discussion: Brief background and status update on OGC API DGGS

  – Matthew Purss (10 min)

- Discussion: OGC API DGGS WKT Geometry Encoding

  – Robert Gibb (45 min)

- Discussion: OGC API DGGS Swagger Doc update and refinement for use in October Code Sprint

  – Matthew Purss (20 min)

- Presentation: The Role of DGGS Beyond SDI

  - Robert Gibb (10 min)

-

Activity Summary

- Discussion topics

  - Review of current status of OGC API - DGGS

  - OGC API DGGS WKT encodings

  - OGC API DGGS implementation and the OGC API Code Sprint in October.

- Upcoming deliverables

  - Nil

- Coordination (ongoing and planned)
  - Engagement with all relevant OGC API SWGs to help determine key patterns and structures for DGGS APIs to assist the DGGS SWG in its task of drafting the OGC API DGGS implementation standards.
  - Engagement with the OGC Innovation Program to review outcomes from planned OGC DGGS API code sprints to be conducted in 2021.

- Future meetings
  - Next Virtual Meeting – OGC September Members Meeting.
  -

Key activities

- Review of DGGS API implementations and their alignment with existing OGC API Standards to define the appropriate scope of a OGC API DGGS Specification.

- Ongoing work to develop and implement the OGC DGGS Registry will continue into 2021, in close coordination with the OGC API DGGS activities.

Discrete Global Grid Systems Standards Working Group Closing Plenary Report

Dr. Matthew B.J. Purss, Pangaea Innovations Pty. Ltd.

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EDM DWG Closing Plenary Report

Don Sullivan, NASA

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The OGC Disasters Pilot is extremely important

The evolution of higher performance edge computing capabilities are resulting in a sea change

Some of the other things that are most important for this WG are the collaborations with other organizations and standards bodies

- Josh Lieberman

  - A short update on the OGC Disasters Pilot

- 周老師 Tien-Yin (Jimmy) Chou

  - AI with edge computing for smart monitoring

- Don Sullivan (for Amy Duffy)

  - Background on the Western Regional Partnership - Amy will be in person in December !

- Maintaining engagement and momentum from the Building Energy Mapping and Analytics Concept Development Study (BEMA-CDS) by identifying interoperability pilots to demonstrate and build an energy Spatial Data Infrastructure (eSDI)
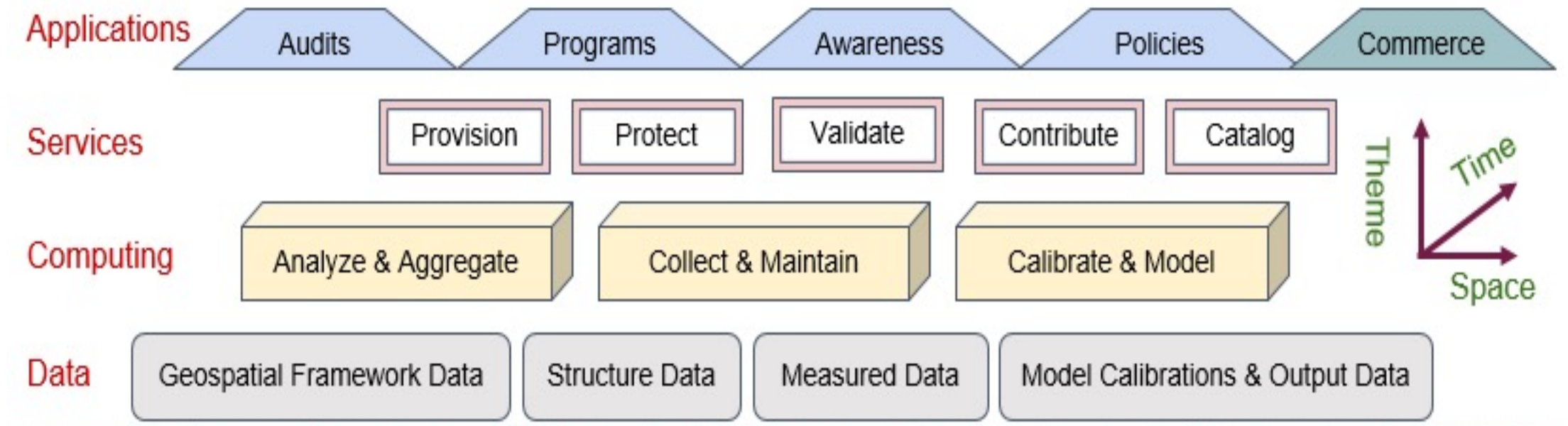
Notional energy Spatial Data Infrastructure (eSDI) architecture

Session Agenda

Agenda

1. **Welcome/Introductions**

2. **Lightening Talks**

    Dr. Steve Liang, SensorUp/University of Calgary - Sensor Web Enablement

    Sylvain Vallières, Natural Resources Canada - National Building Layer

    Sanam Dabirian, Concordia University - HTAP and Data Modelling

    Josh Lieberman, OGC - Interoperability Program, Integrated Digital Built Environment

3. **Discussion: Potential for interoperability experiments**

4. **Priorities for 2022**

5. **Close**

"This session included discussions on next steps for building energy mapping and analysis, the potential for interoperability experiments to address particular challenges in this area, lightning talks from other relevant DWG/SWGs, and planning for an Energy Summit in 2022."

Activity Summary

Discussion topics

- eSDI notional architecture as key output of BEMA-CDS study

- Interoperability experiments e.g. Integrated Digital Built Environment Pilot

- Related standards of which the DWG should be aware

Upcoming deliverables

- Blog to promote the BEMA-CDS, via OGC website.

Coordination (ongoing and planned)

- E&U DWG members invited to review best practice methane emissions data exchange based on SensorThings API when document posted to pending

- Watching brief on BuildingSMART Integrated Digital Built Environment Interoperability Pilot

Future meetings

- E&U DWG meeting to be held at December Member meeting

- Planning for Energy Summit in 2022

Key activities

- **Maintain momentum from BEMA-CDS** in DWG through lightening talks on initiatives already working on the research opportunities + next steps identified in the study

- Main topics of discussion, components of potential interoperability experiments:

  - Existing standards – OGC (e.g. CityGML, SensorThings API etc…) ISO/IEC JTC 1/SC 25/WG 5, I-IREC, ASHRAE 100

  - Existing data and making it interoperable

    e.g. Is it possible to share data from Retscreen, EnerGuide and Portfolio Manager to National Building Layer and vice versa?

  - A handful of potential collaborative opportunities were identified

- **Blog** on BEMA-CDS to be posted to OGC website

  - While not an E&U DWG product, the anticipated *OGC White Paper on the Standards Landscape for Building Data*, completed for the National Building Layer (NBL) relates closely to the E&U DWG and its activities

National Building Layer – Core Attributes

Slide by: Sylvain Vallieres, NRCan
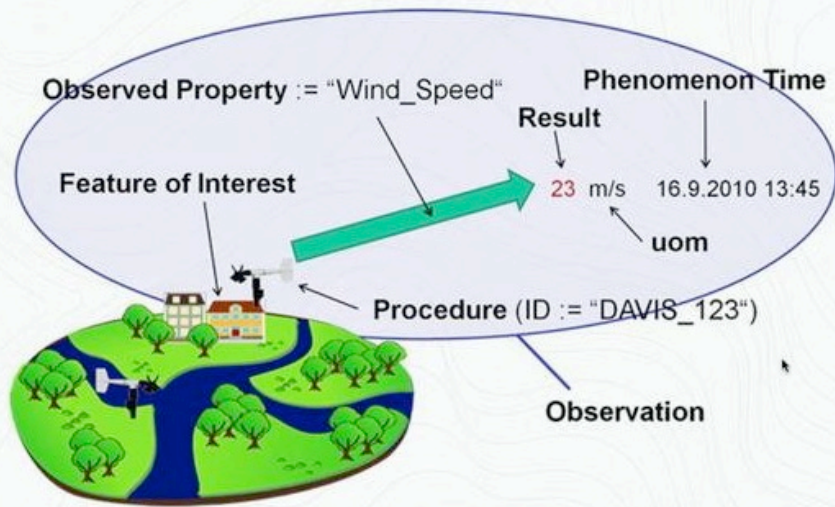
Slides from: Dr. Steve Liang, CEO SensorUp

- Promote the blog on the Building Energy Mapping and Analytics Concept Development Study and the BEMA-CDS study itself
- Share with DWG members
  - *OGC White Paper on the Standards Landscape for Building Data*
  - CityGML 3.0 standard
  - Best practice methane emissions data exchange based on SensorThings API

Features API SWG

Closing Plenary Report

Clemens Portele, Panagiotis (Peter) Vretanos

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Features and Geometries JSON SWG

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GeoAI DWG Closing Plenary Report

Kyoung-Sook Kim, Tien-Yin (Jimmy) Chou,
Anneley Hadland, Dimitris Kotzinos, Ashley Antonides

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- Need common data models/formats to share geospatial training datasets

- Potential value of identifying construction sites and classifying construction stages using satellite images and machine learning models.

Session Agenda

- Sept 13th, 6:30 AM - 8:00 AM (EDT)

6:30 - 6:35	Introduction
6:35 - 6:55	Overview of HDF5 format; Aleksandar Jelenak (The HDF Group)
6:55 - 7:15	NetCDF-LD; Jonathan Yu (CSIRO)
7:15 - 7:35	MODERNIZING CONSTRUCTION INDICATORS THROUGH MACHINE LEARNING AND SATELLITE IMAGERY; Deirdre Bishop, Stephanie Studds and Aidan Smith (CENSUS/GEO FED)
7:35 - 7:55	Point Cloud Annotation System by using HDF5; Wijae Cho, Kyoungsook Kim (AIST)
7:55 - 8:00	Closing

GeoPose SWG

Closing Plenary Report

Christine Perey, PEREY Research &

Consulting

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Geosemantics DWG Closing Plenary

Report

Jo Abhayaratna (Geoscape Australia)

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Reconnecting with its purpose…

Agenda

GeoSemantics DWG

- Sergio Taleisnik (Skymantics): Disaster Pilot JSON-LD ER
- Joseph Abhayaratna (Geoscape Australia): Maintenance for Shapes that are not part of the GeoSPARQL Standard (30 min)

Spatial Data on the Web interest group

- Linda van den Brink (Geonovum): SDW best practice update: co-editor needed
- Jeremy Tandy (MetOffice): SDWIG discussion on where next to drive impact from geospatial data (30 min)

Activity Summary

- **Discussion topics**

  - Disaster Pilot JSON-LD ER Roadmap.

  - Storage of spatial semantic artefacts.

  - Updating the Spatial Data on the Web Best Practices.

- **Upcoming deliverables**

  – GeoSPARQL 1.1 (via GeoSPARQL SWG).

- **Coordination (ongoing and planned)**
  – GeoSPARQL SWG
  – W3C Spatial Data on the Web Interest Group

- **Future meetings**
  – Next OGC MM

GeoTIFF.SWG

Closing Plenary Report

Joan Masó (UAB-CREAF)

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Met Ocean DWG Closing Plenary Report

Chris Little (Met Office) Steve Olson (NOAA)

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Widespread implementation of OGC API-EDR across a variety of domains

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- Brief overview of Meteorology and the Met Ocean Domain WG
- Overview of WMO WIS2.0 plans (Enrico Fucile/Chris Little)
- Overview of SpaceWx activities in Met Services (M Gibbs/C Little)
- Brief review of standards sponsored by the Met Ocean DWG (C Little)
- Brief review of proposed standards, including W3C (C Little)
- Discussion (All)
  - Metadata, controlled vocabularies
  - Collaboration on API chains (Records, Sensors, Processes, etc)

Met Ocean DWG Activity Summary

- Discussion topics

  - Prioritized developments for API-EDR V1.1

  - SpaceWx forecasting

  - WMO WIS2.0 initiative

- Upcoming deliverables

  - Standardization of CoverageJSON

- Coordination (ongoing and planned)
  - EDR API SWG, API-Records, API-Processes, SensorThingsAPI
  - CoverageJSON community
  - Temporal DWG
  - W3C SDWWG
  - RDA Data Granularity WG

- Future meetings
  - Regular weekly GTM meetings, Thursdays
  - December TC, not in California
  - 2021 Common Alerting Protocol (CAP) implementation Workshop, OASIS/ITU Rec. X.1303, Webinar, 13-14 October

- OGC Best Practices for using Web Map Services (WMS)
  - with Time-Dependent or Elevation-Dependent Data (OGC 12-111r1)
  - with Ensembles of Forecast Data (OGC 16-086r3)

- OGC/WMO/ICAO Weather/Aviation Model for SWIM/SESAR/NextGen(v2 2013..)

- OGC WCS Application Profile & Extensions
  - OGC MetOcean Application Profile of WCS2.1: Part 0 MetOcean Metadata (OGC15-045r7)
  - OGC MetOcean Application Profile for WCS2.1: Part 1 MetOcean GetCorridor Extension (OGC15-108r3)
  - OGC MetOcean Application Profile for WCS2.1: Part 2 MetOcean GetPolygon Extension (OGC17-086r3)
  - OGC CF-netCDF 3.0 encoding using GML Coverage Application Schema (OGC14-100r2)
  - OGC GML Application Schema – Coverages : GRIB2 Coverage Encoding Profile (OGC16-060r2)

- OGC TimeSeriesML
  - OGC TimeseriesML 1.2 – XML Encoding of the Timeseries Profile of Observations & Measurements (OGC15-042r5)
  - OGC Timeseries Profile of Observations and Measurements (OGC15-043r3)

- OGC Abstract Specification Topic 2: Referencing by coordinates Corrigendum, contributed Calendar examples (OGC18-005r5)

- OGC API-EDR Environmental Data Retrieval (OGC19-086r4) Published this week! (spatio-temporal data retrieval)

Overview: Met Ocean Communities

- Did you know that there are only about 20 organisations that forecast globally routinely? (and well!) ~10km resolution

- Less than 100 countries run regional models, with boundary conditions from the global models, resolutions ~1km to ~10km

- Global warning systems: volcanic ash, nuclear & chemical releases, hurricanes, tsunami, locusts, etc

- Modelling and prediction now encompasses: lower/upper atmosphere, oceans, tides, cryospheres, terrestrial, sub-surface, hydrology, ecology, chemistry, pollution, air quality, space weather, other planets, …

- the Data is BIG, VERY BIG

- Publication of OGC API-EDR on Monday 13 Sept 2021

- Perhaps publicize operational 24/7 SpaceWx forecasting?

Moving Features SWG

Closing Plenary Report

Nobu & Kyoung-Sook & Mahmoud

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MUDDI SWG Closing Plenary Report

C Roensdorf, A Hughes, A Leidner

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O&M SWG Closing Plenary Report

Ilkka Rinne, Spatineo

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OGC API - Maps and Tiles SWGs

Closing Plenary Report

Joan Masó (UAB-CREAF)

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OGC API – Processes SWG

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Benjamin Pross, 52°North

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OGC API Records

Closing Plenary Report

Panagiotis (Peter) Vretanos, Tom Kralidis, Charles Heazel

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PoI SWG

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Christine Perey, PEREY Research &

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Portrayal DWG Closing Plenary

Report

Iain Burnell, Co-Chair

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Establish a common vision and scope for describing the portrayal of symbols, and their encoding.

OGC

- International Cartographic Association (ICA) presentation "How can we contribute to the work of the OGC Portrayal DWG?" (Previously presented at June Meeting).

- Discussion on Portrayal

- Future meetings:
  Call out for presentations from OGC Community for December 21 and Spring 22 Members Meetings. Portrayal DWG is continuing it presentation series.

Activity Summary

- Discussion topics

  - Serena Coetzee, University of Pretoria - International Cartographic Association: How can we contribute to the work of the OGC Portrayal DWG?

  - Discussion after presentation

- Upcoming deliverables
  - none

- Coordination (ongoing and planned)
  - Ensure coordination with the API-Styles SWG
  - Ensure coordination with Styles and Symbology Encoding SWG

- Future meetings
  - Coordinate a December's meeting Portrayal DWG that brings in presentations on portrayal requirements and capabilities from a broad cross section of the OGC and industry.
  - One presentation lined up on Portrayal and Accessibility.
  - Please get in touch if interested in presenting.

Routes API SWG

Closing Plenary Report

Clemens Portele (for Jeff Harrison)

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SECURITY NEEDS TO BE CONSIDERED FROM THE START

- SECURITY BY DESIGN -

GeoXACML 3

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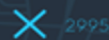
- Update on Data Centric Security task from Testbed 17

  - Alex Balaban

- Testbed 17 DCS Demonstration

  - Andreas Matheus (Secure Dimensions) / Adam Parsons (Compusult)

- Testbed 15 / 16 / 17 DCS Summary / Future Work / Discussion

  - Alex Balaban (mclick.aero)

  - Andreas Matheus (Secure Dimensions)

Styles & Symbology Encoding SWG Closing Plenary Report

Jerome St-Louis, Ecere

Oliver Ertz, HEIG-VD

Erwan Bocher, LabSTICC CNRS

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UxS/Aviation DWG

Closing Plenary Report

Don Sullivan, NASA

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OGC UxS Command and Control Interoperability Experiment

Aviation SWG to standardize the Aviation API

MAJOR Accomplishments !

Session Agenda

- Teodor Hanchevici
  - Update on the OGC UxS Command and Control Interoperability Experiment

- Antonio Correas
  - Progress report on creating an Aviation SWG to standardize the Aviation API

- 樂文 Lawrence Chiu
  - Development Plan of Hydraulic structure Inspections and platform establishment with multi-sensors UAV

- Sergio Taleisnik
  - Brief update on the Testbed's work

- Jane Wyngaard
  - Progress on automation of semantic drone data annotation

- Don Sullivan
  - Announcing AGU 2021 Town Hall:
    - Autonomous Scientific Observations: Building reproduceable research today and into the future