UN-GGIM Core Data

Objectives and state-of-play on LC/LU

Nuria Valcarcel, UN GGIM EU WG A
UN body stresses vital role of geospatial data to achieving sustainable development goals

Climate change and sea level rise are shaping the Seychelles Islands in spectacular and dramatic ways. Photo: UNEP GRID Arendal/Lawrence Hislop
What is UN-GGIM?
United Nations initiative on Global Geospatial Information Management

What is UN-GGIM?

- Strong implication of the statistical community
- Integrating geospatial data, statistics and other information
UN-GGIM Activities

– Global level

<table>
<thead>
<tr>
<th>Subcommittee</th>
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<tbody>
<tr>
<td>1. Subcommittee on Geodesy (formerly WG on Global Geodetic Reference Frame)</td>
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<table>
<thead>
<tr>
<th>Expert Groups</th>
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<tr>
<td>1. Expert Group on the Integration of Statistical and Geospatial Information</td>
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<td>2. Expert Group on Land Administration and Management</td>
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<table>
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<th>Working Groups</th>
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<tr>
<td>1. Working Group on Development of a Statement of Shared Principles for the Management of Geospatial Information</td>
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<td>2. Working Group on Trends in National Institutional Arrangements in Geospatial Information Management</td>
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<td>3. Working Group on Geospatial Information and Services for Disasters</td>
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<td>4. Working Group on Global Fundamental Geospatial Data Themes</td>
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<td>5. Working Group on Legal and Policy Frameworks for Geospatial Information Management</td>
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<td>6. Working Group on Marine Geospatial Information</td>
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Inter-Agency and Expert Group on Sustainable Development Goals Indicators (IAEG-SDGs) - Working Group on Geospatial Information

– Regional level

- UN-GGIM ASIA-PACIFIC
- UN-GGIM AMERICAS
- UN-GGIM ARAB STATES
- UN-GGIM EUROPE
- UN-GGIM AFRICA
UN-GGIM Europe Working Groups:

- WG A “core Geospatial Reference Data (cGRD)”, France
- WG B Geospatial Information Integration, Germany
- Global Working Group on Fundamental Data (UK)
- WG GGR: Europe: EU contribution for GGRF for Sustainable Development
What is core data for WGA?

Core data is priority geospatial data, most useful to analyse, achieve or monitor the SDG, directly or indirectly.
How is core data complementing INSPIRE?

• INSPIRE is mainly about harmonisation of (existing) data
  – Common model, still heterogeneous content (no LoD, voidable attributes)

• Core data is about availability of data → encouraging production of new data (or upgrade of existing data)
### What was first step?

**Selection of core data themes:**

Most needed in **SDG related use cases**

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<thead>
<tr>
<th>Annex I</th>
<th>Annex II</th>
<th>Annex III</th>
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<tr>
<td>Coordinate Reference Systems</td>
<td>Elevation</td>
<td>Statistical units</td>
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<td>Geographical Grid Systems</td>
<td>Land Cover</td>
<td>Buildings</td>
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<td>Geographical Names</td>
<td>OrthoImagery</td>
<td>Soil</td>
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<td>Administrative Units</td>
<td>Geology</td>
<td>Land use</td>
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<td>Addresses</td>
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<td>Human health and safety</td>
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<td>Cadastral Parcels</td>
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<td>Utility and governmental services</td>
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<td>Transport Networks</td>
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<td>Environmental monitoring facilities</td>
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<td>Hydrography</td>
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<td>Production and industrial facilities</td>
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<td>Protected Sites</td>
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<td>Agricultural and aquaculture facilities</td>
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<td>Population distribution - demography</td>
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<td>Area management/restriction/regulation</td>
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<td>Atmospheric conditions</td>
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<td>Meteorological geographical features</td>
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<td>Oceanographic geographical features</td>
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<td>Sea regions</td>
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<td>Bio-geographical regions</td>
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<td>Habitats and biotopes</td>
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<td>Species distribution</td>
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<td>Energy resources</td>
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<td>Mineral resources</td>
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</table>
Locate places of interest (forests, built-up areas, wetlands...)

Ecosystem studies (ecological network, ecosystem accounts....)

Assess/forecast biomass and greenhouse stock

Understand/forecast propagation of phenomenon (erosion, pollution, water-flood, urban spreading....)

Derive indicators (soil sealing, soil erosion, land take.....) for SDG and European Directives

Find relevant place for projects

Communication

Background 2D map

Monitoring

3D models (risk, projects....)

Decision making: spatial planning, agricultural good practices, ...

Decision
LU (existing)

Locate places of interest

Understand/forecast propagation of phenomenon (urban spreading ....)

Assess activities and pressure on environment

Derive indicators for SDG and European Directives

* Close to LC

UN-GGIM: EUROPE
UNITED NATIONS INITIATIVE ON GLOBAL GEOSPATIAL INFORMATION MANAGEMENT
**LU (planned)**

<table>
<thead>
<tr>
<th>Source</th>
<th>Analysis</th>
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<tr>
<td>State-of-play of existing regulations before launching a new one</td>
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**Operational**

<table>
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<tr>
<th>Decision</th>
<th>Communication</th>
<th>Monitoring</th>
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<tbody>
<tr>
<td>Capture decision (best link between places and activities)</td>
<td>Make people aware of spatial planning</td>
<td>To deliver permits</td>
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<tr>
<td>Find relevant place (from legal point of view) for new project</td>
<td></td>
<td>Assess environmental impact of new projects</td>
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*close to AM*
### Source Analysis

- Understand interrelation with water, ecosystems (pollution....)
- Make studies on food production

### Operational

#### Decision
- Help to run agricultural activities

#### Communication

#### Monitoring
After selection of cGR Themes:

• Work out ‘Recommendations for Content’ for the selected themes (features+attributes, LoD, quality, etc.)

• Based on:
  – Existing standards: mainly INSPIRE
  – User requirements with focus on SDG related use cases
Recommendations for Content: principles

• Use INSPIRE specification and reqs. as starting point
  – => common terminology

• Further investigation on reqs.
  – Bibliography
  – User interviews
  – Questionnaires
  – WG members expertise
User requirements for UN-GGIM Core Data with focus on SDGs

http://dilbert.com/strips/comic/2001-04-14/
New EU requirement! (EC/EEA)

- In the 2016 legislative proposal by the European Commission to amend existing climate change legislation to support the countries in their reporting obligations on land use, land use change and forestry (LULUCF), the European Commission pointed out that a “legal proposal for the inclusion of LULUCF into the 2030 EU climate and energy policy framework is a key part of the Commission strategy for a resilient Energy Union with a forward looking climate change policy, underpinning its decarbonisation dimension”

- Challenge for CLC(+): improvement of the existing land monitoring tools (amongst other), by reducing the MMU from 25 to 0.5 ha for upcoming reporting obligations from 2021 onwards
Content – data model

- Identify main issues and/or first proposals regarding core data

– LC: no common classification in INSPIRE

Proposed action: Keep Inspire DS and review additional proposal made by the EAGLE group (after EEA conformance) for CLC+? Calendar!

![INSPIRE data model](image1)

![EAGLE data model](image2)
Content – data model

- Identify main issues and/or first proposals regarding core data
  - ELU, PLU

- Issue 1: HILUCS is a valid European Classification, out of the Environmental community?

  ➞ Proposed action: review additional proposal made by the EAGLE group to improve HILUCS (after EEA conformance) for CLC+? Calendar!
Content – data model

• Identify main issues and/or first proposals regarding core data
  – ELU, PLU

• Issue 2: minimum distinction is needed for LPIS LC & LU

• Issue 3: HILUCS valid for PLU? → doubts expressed by several NRCs, and others
  – proposed action: further investigation (consultation with EU/National experts) + Extended LU Codelist?
Contents: Levels of detail

• LC

  - As-is analysis:
    • National and subnational: scales around 5K, 10K, 25K
    • European DS: CLC + HRLs (100K), Copernicus Local Land around 10K
      Some countries (ES, GE, AT) are improving their National systems to
      link with cadastral/LPIS data (Master level 0)
  
  - INSPIRE data specifications: no recommendation about scale

  - New requirements Copernicus Land (EEA) for CLC+ after
    2018: 0,5 ha MMU (0,25 urban areas?)

Core/Recommendation for LC:
Master level 1 5K – 25K?: to be discussed
Contents: Levels of detail

- LU
  - As-is analysis:
    - PLU: scales around 2K, 5K
    - ELU: scales around 5K, 10K, 25K → 100K (CLC)
  - INSPIRE data specifications
  - New requirements Copernicus Land (EEA) for CLC+ after 2018: 0,5 ha MMU (0,25 urban areas?)
  - First proposal:

  Core/Recommendation for ELU: Master level 1
  5K – 25K? to be discussed
Conclusions

• LC considered as “difficult” because no common classification in INSPIRE → EAGLE/CLC+?

• ELU & PLU: HILUCS extended? → EAGLE/CLC+?

• New requirements Copernicus Land (EEA) for CLC+ after 2018

• on-going discussions, not yet any decision
Conclusions

Feed-back from this workshop and tomorrow’s Copernicus event will help WG A to take decisions about common minimum content of LC/LU.
UN-GGIM  Core Data

Objectives and state-of-play on LC/LU

Questions?

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