UN-GGIM: Europe Plenary 2018
Workshop on fundamental data

The work of the UN-GGIM: Europe Core Data WG "A" and how it relates to the Fundamental Themes

François Chirié, France

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Introduction – Reminder

What is Core Data?

- Core data is **priority data**

  – Geospatial data

  – The most useful to analyse, achieve or monitor the SDGs

  – Directly or indirectly

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Objectives of the Working Group "A" on European Core Data

- **Define Core Data** and encourage UN European Member States to produce and supply it

  - Common requirements → common (minimum) content

- **Define priorities** for producing new data or for improving existing data

  - Recommendations for Content: meant for decision-makers and data providers

The Two Steps of the Working Group "A" on European Core Data

- **First Step**

  – Selecting Core Data Themes

- **Second Step**

  – Defining Content of Core Data Themes

1st Step: Selecting Themes
Relation between
European Core Themes
and
Global Fundamental Themes

Methodology
1) Delimiting Themes

- Core data
  - European context
  - Used INSPIRE terminology as starting point
  - Tried to stay as close as possible to it

- Fundamental data
  - International context:
    no obligation to "stick to" INSPIRE
  - Has not been so close to INSPIRE
    - e.g. functional areas, buildings and **settlements**, land parcels, water

Methodology
2) Theme Selection Process

- Both working groups
  - **Selection process based on user requirements with focus on SDGs**

- European core data
  - Detailed analysis of SDG requirements

- Global fundamental data
  - High level investigation of SDG requirements

- Collaboration between the two working groups
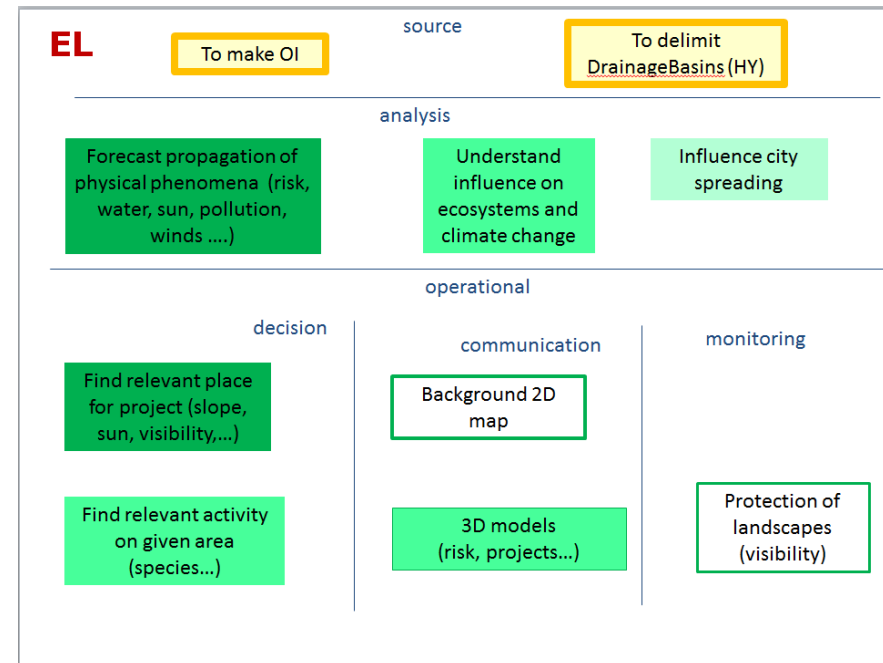
Selected Themes

- Lots of commonalities in selected themes

- Global Fundamental WG
  more ambitious than
  European Core Data WG

Selected Themes European Core Data

Annex I

Coordinate Reference Systems

Geographical Grid Systems

Geographical Names

Administrative Units

Addresses

Cadastral Parcels

Transport Networks

Hydrography

Protected Sites

Annex II

Elevation

Land Cover

OrthoImagery

Geology

Annex III

Statistical units

Buildings

Soil

Land use

Human health and safety

Utility and governmental services

Environmental monitoring facilities

Production and industrial facilities

Agricultural and aquaculture facilities

Population distribution - demography

Area management/restriction/regulation

Natural risk zones

Atmospheric conditions

Meteorological geographical features

Oceanographic geographical features

Sea regions

Bio-geographical regions

Habitats and biotopes

Species distribution

Energy resources

Mineral resources

Commonalities in Selected Themes

Eur. Core Data Themes	Global Fundamental Data Themes
	Global Geodetic Reference Frame
Geographical Names	Geographical Names
Addresses	Addresses
Administrative Units + Statistical units + Area management	Functional areas
Buildings	Buildings **and Settlements**
Cadastral Parcels	Land parcels
Transport Networks	Transport Networks
Elevation	Elevation and depth
	Population demographics
Land Cover & Land use	Land Cover and Use
	Geology/Soils
Basic services	Physical infrastructure (Utility and Governmental Services + **Production Facilities**)
OrthoImagery	Imagery
Hydrography	Water (Hydrography + **Oceanography** + **Sea regions)**

Selected Themes
Global Fundamental Data WG
More ambitious than
European Core Data WG "A"

Global WG selected more themes:

- **Reference Frame**
  - WG A: Important theme, but not a **"data** theme**"**
- **Population Distribution**
  - WG A: Important theme, but not **geospatial** theme

→**2 important themes, but not in core data scope**

- Global WG selected more themes (cont.)
  - Geology-Soils
  - Water (incl. **marine** water)
- European WG dealing with themes Geology, Oceanography, Meteorology
  - Many discussions
  - Well scored during selection process
  - →Agreement:
    - First stage: not core
    - Subsequently: to re-consider **(core themes in future?)**
      - UN-GGIM being a young initiative, don't do everything at once
      - To be done later by relevant communities
      - Should not be on NMCA-NSI responsibility to decide for these themes

- Global WG selected more themes (cont.)
  - Physical Infrastructure
    (incl. **industrial production facilities**)
- Main disagreement with European WG view:
  - Industrial facilities:
    - not core
    - geocoding Business Registers may be sufficient
    - theme Address as a proxy for production facilities

- Conclusion
  - European WG Workplan
    - э « recommendations for content »
  - →Incited mode modest choices

Respective Objectives

- ## WG European Core Data
  - Detailed « recommendations for content »
    - Features and Attributes
    - Quality, Level of Detail

- ## WG Global Fundamental Data
  - High level (one-pagers) theme descriptions

Cooperation between the two working groups

- Common participants in the two 2 WGs

- Global Fundamental Theme Descriptions were reviewed by WG A

Commonalities

- Global WG: Structure of One-Pagers
  - Theme tittle
  - Description
  - **Why is this theme fundamental?**
  - Which SDGs will it help to meet?
  - **Geospatial data features in more detail**
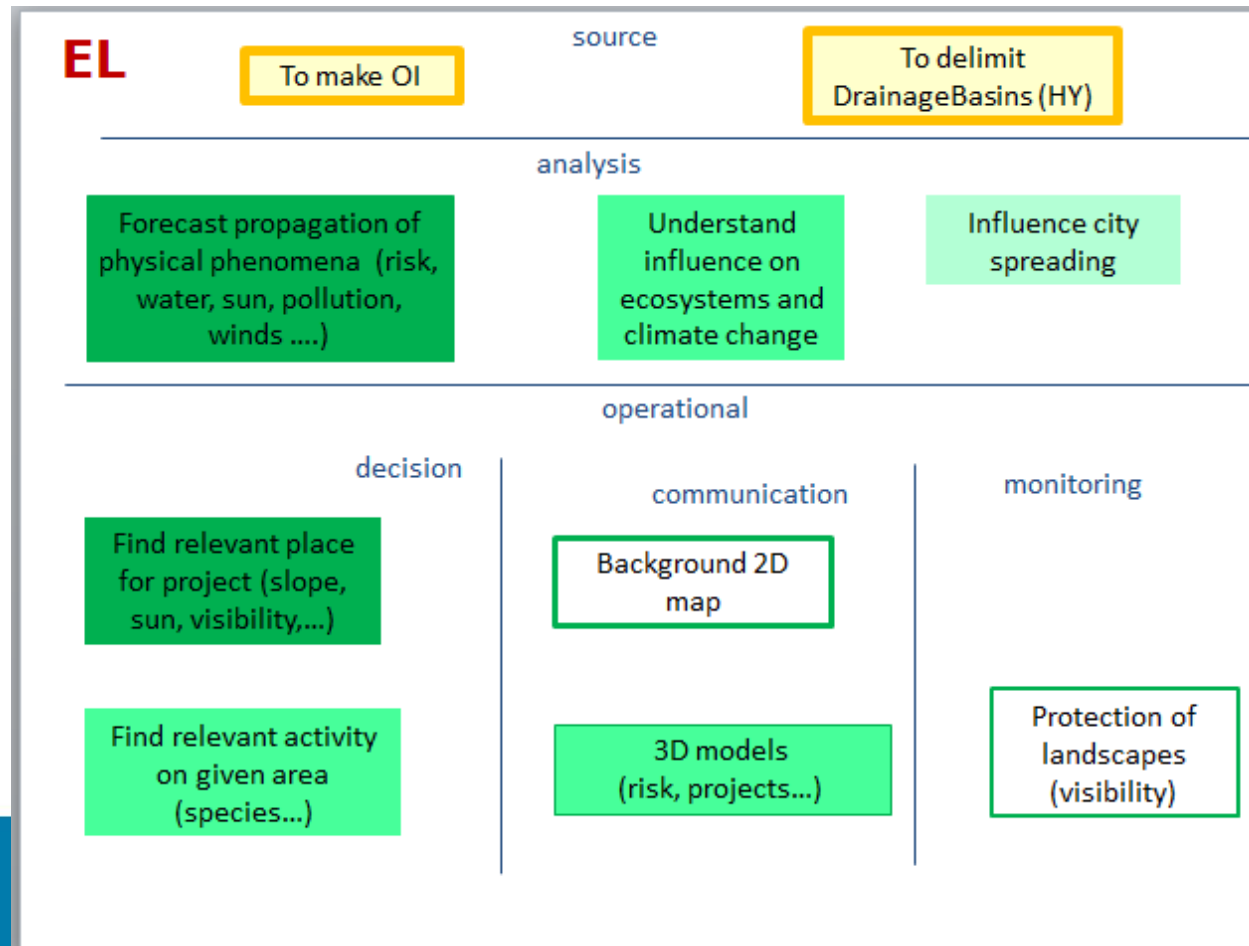 - Possible sources of data
  - Existing data standards

European WG outputs widely used by Global WG

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Examples of Commonalities (1)
Why is Elevation theme fundamental /
Map of use cases for Elevation core theme

Elevation is essential to help determine **appropriate places for human developments and activities**, to map relief in **2D maps** and to build **3D models**, to delimitate **drainage basins** in hydrology, to map floodplain areas, to support national forest inventories, to forecast the **propagation of physical phenomena** (such as pollution, flooding, landslide risks, etc.), to understand **ecosystems**, **climate change**.

EL

source
To make OI
To delimit DrainageBasins (HY)

analysis
Forecast propagation of physical phenomena (risk, water, sun, pollution, winds ....)
Understand influence on ecosystems and climate change
Influence city spreading

operational

decision
Find relevant place for project (slope, sun, visibility,...)
Find relevant activity on given area (species...)

communication
Background 2D map
3D models (risk, projects...)

monitoring
Protection of landscapes (visibility)

Examples of Commonalities (3)
Address fundamental data features in more detail / List of attributes of Address core theme

The addresses fundamental theme comprises a single feature type, address, to which a variable number of attributes may be attached.

Typically, in urban areas these comprise at least one **locator** (building, floor or apartment number and/or name), a **two-dimensional geographic position** and a number of **address components** which place the address within other features such as a road, a locality, an administrative unit or postal code.

Core data should comprise feature type Address with at least the following attributes: one **two dimensional geographic position**, one **locator** (e.g. number or name) if available, and such other **address components** as are in current use.
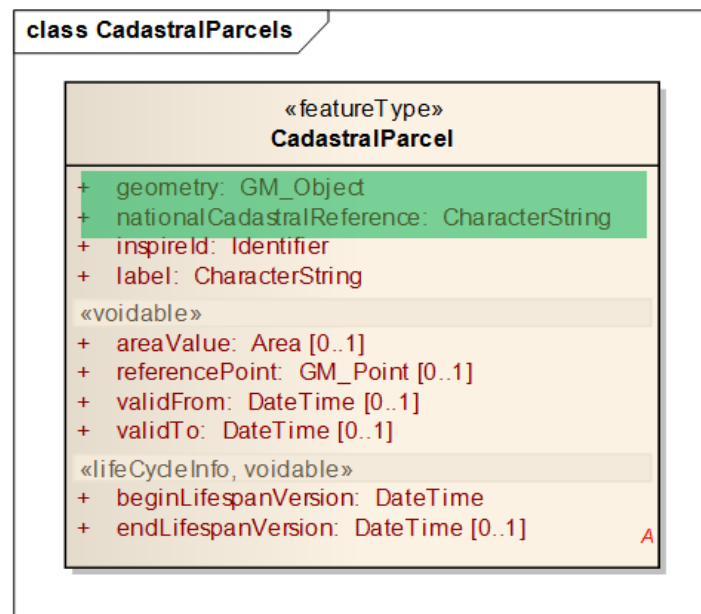
Examples of Commonalities (4)
Land Parcel fundamental data features in more detail / List of attributes of Cadastral Parcel core theme

The Land Parcels fundamental theme mainly comprises the feature land parcel with three basic attributes:

- The **geographic location**

- A **unique identification** of the parcel

- The type of parcel (may be implicit)


```
class CadastralParcels

        «featureType»
        CadastralParcel
 +   geometry:  GM_Object
 +   nationalCadastralReference:  CharacterString
 +   inspireId:  Identifier
 +   label:  CharacterString
 «voidable»
 +   areaValue:  Area [0..1]
 +   referencePoint:  GM_Point [0..1]
 +   validFrom:  DateTime [0..1]
 +   validTo:  DateTime [0..1]
 «lifeCycleInfo, voidable»
 +   beginLifespanVersion:  DateTime
 +   endLifespanVersion:  DateTime [0..1]          A
```

Core attributes are **geometry** and **national cadastral reference**

Examples of Commonalities (5)
Land Parcel fundamental theme recommendations / Cadastral Parcel core theme recommendations

- Land parcels may be **associated with land registries**.

- Cadastral parcels allowing easy and reliable **link to cadastral registry**.

- It is recommended managing the land parcel's **temporal information**.

- It is recommended to manage the **history of features**, using the mechanism provided by the INSPIRE data specifications: versioning and life-cycle attributes.

Examples of Commonalities (6)
Geographical Names
Fundamental Theme / Core Theme
Recommendations

- Many named features have indeterminate boundaries but, where feasible, their **delineation** should be included.

- Capture the **"true" geometry** of named places.

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Conclusions

Conclusion

- **Different Contexts and Targets**
  - Global: High level recommendations
  - Europe: Detailed recommendations
    - → common (minimum) content for SDGs

- Results are overall **consistent**

→ **Implementation** can be **unified** in European UN Member States