

WG 2: FUNDAMENTAL DATA AND GEO-STANDARDS



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UNITED NATIONS INITIATIVE ON
GLOBAL GEOSPATIAL
INFORMATION MANAGEMENT



GLOBAL GEOSPATIAL INFORMATION MANAGEMENT

GGIM MANDATE:

- TO PROMOTE COOPERATION AND DIALOGUE
AMONG COUNTRIES
AND AMONG COUNTRIES
AND REGIONAL / INTERNATIONAL ORGANIZATIONS,
AS WELL AS THE USE OF GEOSPATIAL INFORMATION
IN SUPPORT OF SUSTAINABLE DEVELOPMENT



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GGIM VISION:

- TO MAKE ACCURATE, RELIABLE AND AUTHORITATIVE
GEOSPATIAL INFORMATION

READILY AVAILABLE

TO SUPPORT
NATIONAL, REGIONAL AND GLOBAL DEVELOPMENT



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GLOBAL GEOSPATIAL INFORMATION MANAGEMENT

- **GEOSPATIAL INFORMATION APPLIED IN A VARIETY OF AREAS:**
 - **digital mapping,**
 - **census taking and atlases,**
 - **urban systems,**
 - **buildings and establishments,**
 - **cadastre mapping,**
 - **land information administration,**
 - **etc.**
- **≠ GEOSPATIAL INFORMATION INFRASTRUCTURE**



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GLOBAL GEOSPATIAL INFORMATION MANAGEMENT

■ GEOSPATIAL INFORMATION CHALLENGED WITH NEW TECHNOLOGIES / PRACTICES FOR:

- **collecting**
- **processing**
- **accessing**
- **distributing**

relevant information in time and place for various users



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GLOBAL GEOSPATIAL INFORMATION MANAGEMENT

- **THREE FIGURES ABOUT *GOOGLE MAPS***
 - **200 countries and territories covered**
 - **over 1 billion active users per month**
- **... *AND GOOGLE***
 - **20% of requests linked with geospatial information**

Le Point Magazine, 21 May 2015



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DEFINITIONS (DRAFT STATUTES):

■ GEOSPATIAL INFORMATION:

- the information about the entities or features that can be referenced to specific places relating to below, on or above the Earth's surface

■ GEOSPATIAL INFORMATION MANAGEMENT:

- management of all types of geospatial information for better decision-making and policy formulation to meet humanitarian needs, peace and security, environmental and development challenges through the maximized use of geospatial information...



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TWO APPROACHES:

- **GEOSPATIAL INFORMATION:**
 - **technically-oriented, bottom-up / inside-outside approach**
- **GEOSPATIAL INFORMATION MANAGEMENT:**
 - **uses-oriented, top-down / outside-inside approach**



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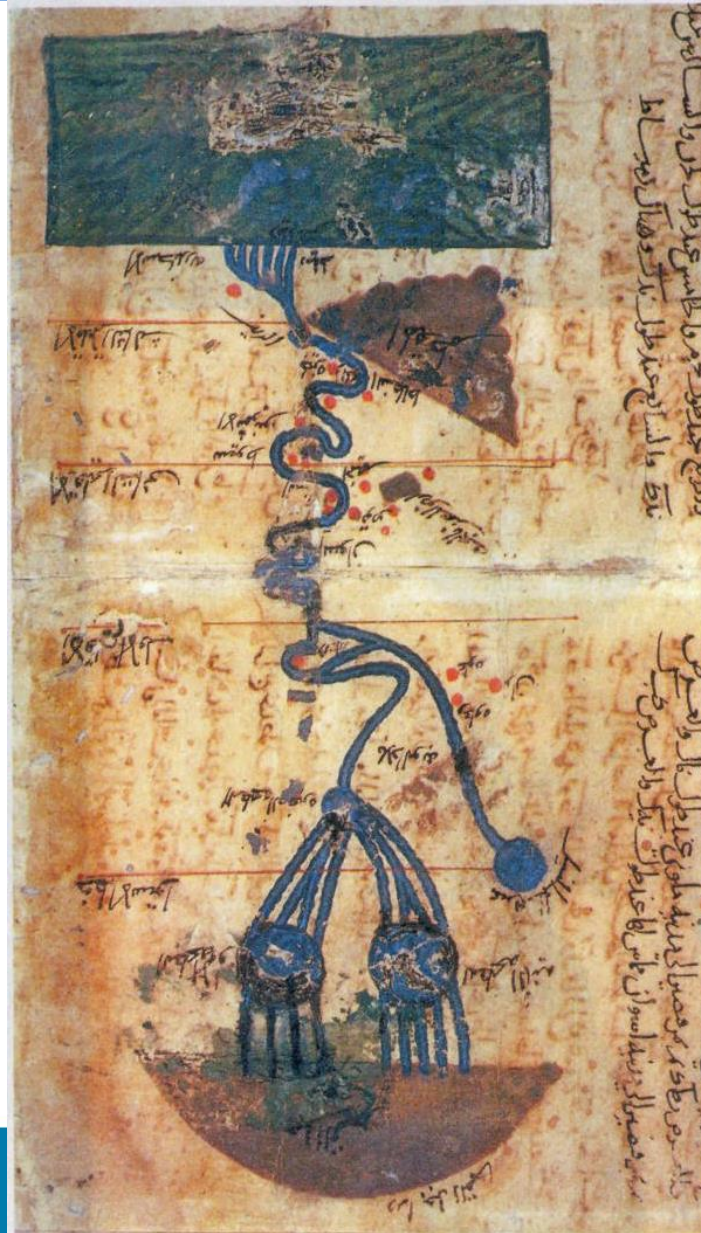
- A MAP IS NOT THE WORLD, IT IS ONLY A GLANCE A MAN CASTED ONE DAY AT THE WORLD.
 - *La carte n'est pas le monde, elle n'est que le regard qu'un homme a un jour posé sur lui*
Rémi Caron, French cartographer (1980)
- ANY MAP IS FIRST A SENSITIVE METAPHOR OF THE WORLD.
 - *Toute carte est, avant tout, une métaphore sensible du monde.*
Julien Verhaeghe, French philosopher (2015)



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- **Map
of the Nile River**

**Muhammad
ibn Musa
al-Khwarizmi
(780-850)**



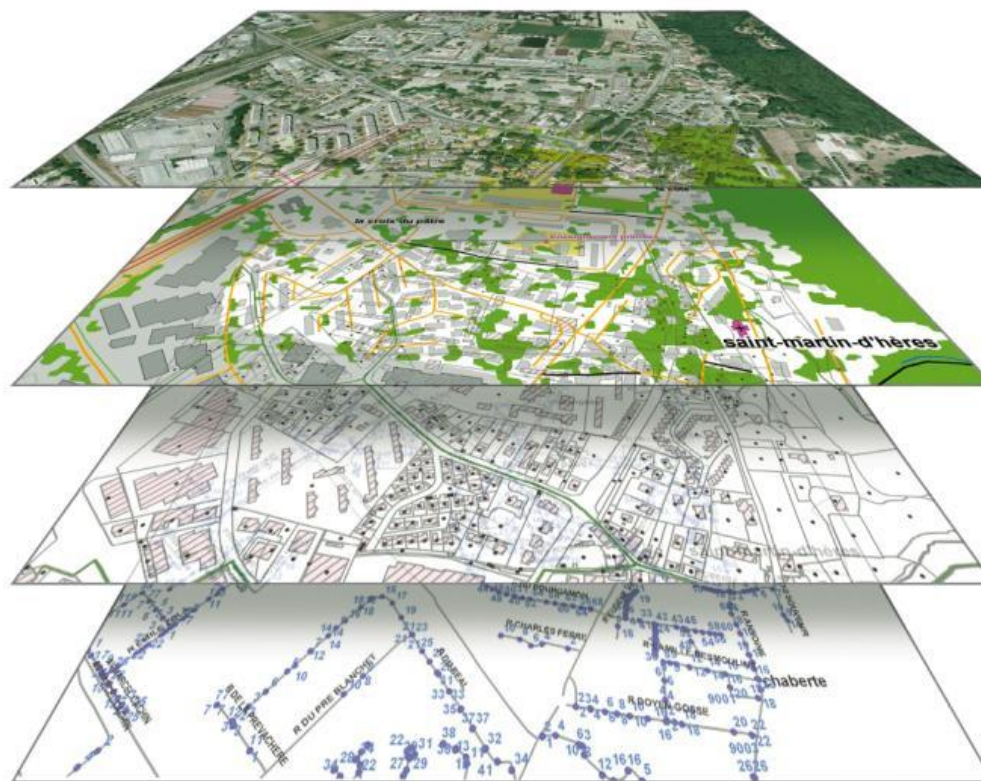
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- TECHNICAL 'IN-OUT' APPROACH:
 - Benchmark of existing national/regional databases



ORTHOPHOTOS

TOPOGRAPHY

CADASTRE

ADDRESSES



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■ TECHNICAL 'IN-OUT' APPROACH:

■ INSPIRE European Directive datasets

- Coordinate reference systems, Geographical grid systems, Geographical names, Administrative units, Addresses, Cadastral parcels, Transport networks, Hydrography, Protected sites
- Elevation, Land cover, Ortho-imagery, Geology
- Statistical units, Buildings, Soil, Land use, Human health and safety, Utility & governmental services, Environmental monitoring facilities, Production & industrial facilities, Agricultural and aquaculture facilities, Population distribution - demography, Area management/restriction/regulation zones and reporting units, 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



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■ USES-ORIENTED 'OUT-IN' APPROACH:

- **Public policies:**
 - **Water accessibility, Food security, Agricultural development, Health infrastructure, Education distribution and accessibility, Natural resources exploitation, Town planning, Utilities accessibility, Transport infrastructures, Energy production and transport, Industry, Mining, Environmental protection, Biodiversity, Land property security, Taxes, Election organization, Decentralization, Fair and open governance, E-Administration, National security and defence**



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■ FUNDAMENTAL DATA CONCEPT

- **Users need homogenous, recent, quality-assessed geospatial data**
 - to enable the implementation of public policies in a coherent way within countries and within regions
 - to directly fulfil their requirements and to geo-reference their own thematic / statistical geospatial data
 - to enable opportunities for services developed by the industry to be delivered without locally-based specific conversions / adaptations
- **A prerequisite: to identify geospatial fundamental data sets, [to be] harmonized, meeting these requirements**
- **Bottom-up approach from expertise / benchmark and from available authoritative data sets of member states**



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■ METHODOLOGY (IDEAS)

- **Public policies and aims defined in international arena**
 - **UN Sustainable Development Goals (17 SDGs) and targets (169)**
- **Identification of available source material**
 - **UN-GGIM Regional Groups / UN-GGIM: Europe WG A on core data**
 - **INSPIRE European Directive and its documentation**
 - ...



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■ METHODOLOGY (IDEAS)

- **Selection of major topics, for example:**
 - **Availability and sustainable management of water and sanitation**
 - **End of hunger, food security, sustainable agriculture**
 - **Access to affordable, reliable, sustainable and modern energy**
- **Identify relevant geospatial data categories at various geographical levels and policy stages**
 - **international and strategic level, policy definition and evaluation**
 - **national and management level, policy planning**
 - **local and action level, policy implementation**
- **Compile existing specifications and data sets**
- **Define ways to complete / harmonize / make available**



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■ STANDARDS

- To facilitate connection of systems, data, people, hardware, software, procedures, ...
- To gain time, assets, resources, opportunities, ...

■ GEO-STANDARDS

- Key international organizations:
 - International Organization for Standardization (ISO)
Technical Committee 211 Geographic Information / Geomatics
 - Open Geospatial Consortium (OGC)
 - International Hydrographic Organization (IHO)



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■ GEO-STANDARDS

- **A Guide to the Role of Standards in Geospatial Information Management**
delivered to and approved by UN-GGIM in 2014
- **Standards referred to tiers and goals:**
 - **Tier 1: Sharing maps over the web**
 - catalog / discovery, visualization and portrayal
 - **Tier 2: Partnerships / Sharing, Integrating and using geospatial information from different providers**
 - domain data models, distributed maintenance and use
 - **Tier 3: Spatially enabling the nation**
 - mobile, analysis, situational awareness, real time





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