UN-GGIM: Europe and GeoSTAT: requirements for spatial data integration
UN-GGIM: Europe and GeoSTAT - Agenda

UN-GGIM: Europe
Modern Map Production
Global Statistical Geospatial Framework
Resume
Established in July 2011 through a resolution by the United Nations Economic and Social Council (ECOSOC),

- the United Nations initiative on Global Geospatial Information Management (UN-GGIM) **draws on the national capacities** and capabilities of Member States.
- It takes a **leading role in setting the agenda** for global geospatial information development and
- promotes the **benefits of geospatial information** for addressing national policy and key global challenges.
The aim of UN-GGIM: Europe is

- to ensure that the **national mapping** and **cadastral** authorities and national **statistical institutes** in the European UN Member States, the European Institutions and associated bodies **work together**

- to contribute to the more **effective management** and availability of **geospatial information** in Europe, and

- its **integration with other information**, based on user needs and requirements.
Modern Map Production

- Web of Data
- Distributed Sources
- Inhomogeneity
  - content,
  - quality,
  - lineage,
  - license models ...
- Delivery requirements (supply chain)

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Modern Map Production: Paradigm Change

- **<Collect, Store and Process> vs. <Find, Bind, (Re-)Use>**

- Decentralized SDI
Linking society, economy and environment through data integration

Source: Statistics Australia and Statistics New Zealand.
Processes involving geospatial integration

1) **Specify needs**: Find out what the users need; promote geospatial statistics and the potential of geospatial information.

2) **Design**: Recognise geospatial data sources; assess data processing capacity; specify geospatial statistics output.

3) **Build**: Create a flexible production set-up; build the geocoded survey frame.

4) **Collect**: Obtain and manage geospatial data.

5) **Process**: Conduct geospatial data quality assessment; assess identifiers to enable correct data linkage; geocode data; prepare geospatial statistics products.

6) **Analyse**: Assess data dissemination constraints.

Principles of the GSGF
(Global Statistical Geospatial Framework)

1. Use of fundamental geospatial infrastructure and geocoding
2. Geocoded unit record data in a data management environment
3. Common geographies for dissemination of statistics
4. Statistical and geospatial interoperability
5. Accessible and usable

SOURCE: Australian Bureau of Statistics (ABS) / UN-GGIM, illustration by Statistics Sweden

GSGF Europe - Implementation guide for the Global Statistical Geospatial Framework in Europe - Proposal from the GEOSTAT 3 project EFGS and Eurostat 2019
Statistical-geospatial data model

Tier 1 - Address location, enumeration districts, statistical regions, grids

Tier 2 - Buildings/dwellings, cadastral parcels, transport network, land parcel information

Tier 3 – Authoritative topographic data, ortho photo and satellite imagery, land cover data, Digital Elevation Models

Tiers of information in the generic statistical-geospatial data model for the production and dissemination of statistics.

Online first Haldorson: 1–19; DOI: 10.15196/RS090106
Geocoding Infrastructures

The conceptual difference between point-based and area-based geocoding infrastructures.

Online first Haldorson: 1–19; DOI: 10.15196/RS090106
Resume GSGF

- The implementation guide identifies some 20 requirements and 80 recommendations. The requirements and recommendations address a wide range of issues and goals.

- It is an overwhelming number of tasks, but the implementation of the GSGF in Europe does not require a big-bang approach and a complete redesign of enterprise architectures, production processes and legislation.

- Small and stepwise improvements are possible, or even recommended, and countries are advised to start with simple “traffic light assessments.”

- Identify the biggest challenges in a national context.

- Smaller implementation steps should also feed-back into the future revisions of the GSGF and GSGF Europe, e.g. into the planned GEOSTAT 4 project.
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