INSPIRE Thematic Cluster on
Elevation, Orthoimagery, Reference systems and Geographical grids

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Serving society
Stimulating innovation
*Supporting legislation*

Introduction to Thematic cluster scope
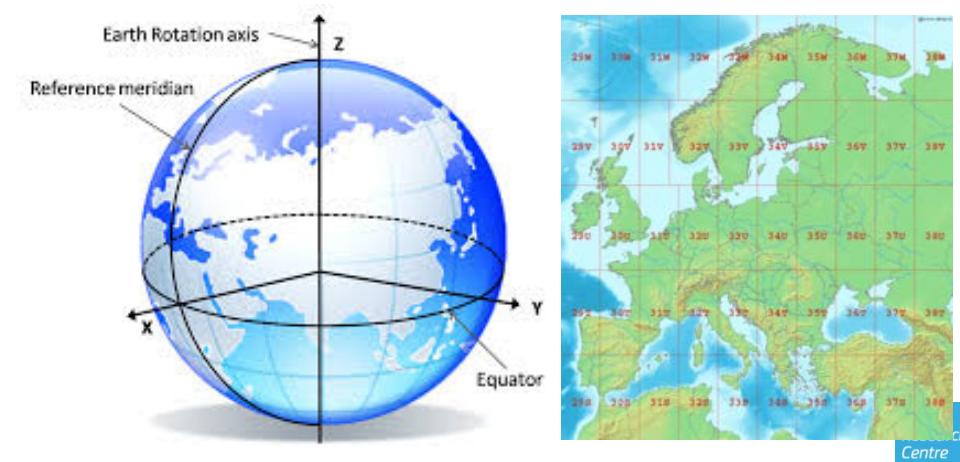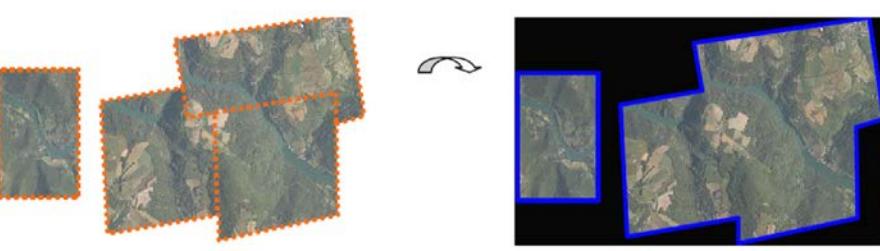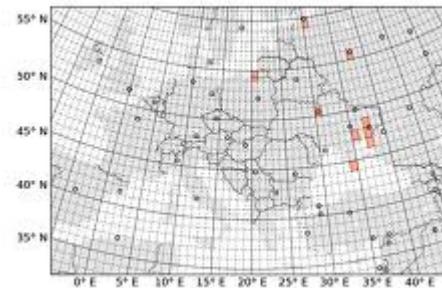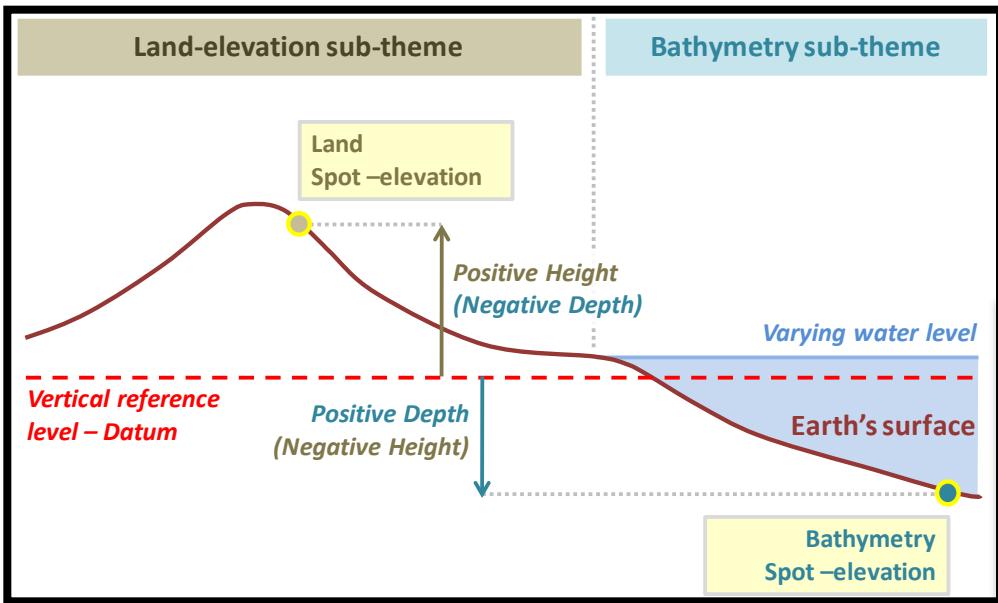
**Elevation, Orthoimagery,
Reference systems and Geographical grids (61)**

Main stakeholders: Mapping agencies, EU agencies,
EU and global coordination bodies

Elevation   (12)
Orthoimagery   (13)
Coordinate reference systems   (11)
Geographical grid systems   (9)

Introduction to Thematic cluster scope

Land-elevation sub-theme | Bathymetry sub-theme

Land Spot –elevation

Positive Height (Negative Depth)

Varying water level

Vertical reference level – Datum

Positive Depth (Negative Height)

Earth's surface

Bathymetry Spot –elevation

Thematic cluster/sub-group best practices

Best practices & Pan-European products

- EuroDEM
- EU-DEM
- PNOT (Spain):
  PNOA (Ortho/DTM) / PNT (Remote sensing) / SIOSE (LC)
- EuroGeographics INSPIRE KEN

Projects

- ELF
- CRS-EU
- ISO CRS Registry

Thematic cluster main group discussions

Categories

Common topics (Elevation, Orthoimagery)

Encoding / Delivery

- Issues encoding INSPIRE EL and OI coverages (GML COV) – Cross-cluster issue
- Encoding domain extent attribute using gml:boundedBy - GML best practice
- WCS as an INSPIRE download service option

S/W tools

- Use of different transformation tools (e.g. FME)

Validation and testing

- Existing validation rules (OGC validator, eENVplus)

Joint Research Centre

Thematic cluster sub-group discussions

Categories

Elevation, Orthoimagery, Reference Systems and Geographical Grids Cluster Categories

- Thematic use case `0`
- Data model/scope `0`
- Common terminology `1`
- Encoding `5`
- Data quality `3`
- Evolution - Thematic extensions `0`
- Portrayal `0`
- EU Thematic databases `4`
- S/W tools `5`
- Member State issues `8`
- Platform utilisation `0`
- Political/organisational framework `3`
- Codelists `0`
- Best Practice `3`
- Interoperability `4`
- Data provision `3`
- Data used for e-reporting `1`

Elevation

Thematic use cases / Interoperability

- Pan-European products (EuroDEM, EU-DEM)
  - Need for updating, Resolution needed
- Usefulness of Vector and TIN data

Encoding

- Use of the OGC SWE Quantity constraint

Orthoimagery

Interoperability

- Misalignments between orthoimages produced by different data providers

Joint Research Centre

Thematic cluster sub-group discussions

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Coordinate reference systems

Interoperability

- Order of coordinate axes in the Transverse Mercator projection (ETRS89-TMzn)
- Obligation to use ETRS89-TM26N to 39N instead of national Mercator projections (projection parameters shall be the same).
- Consistent transformation of coordinates of state boundaries between Member States.
- Need for an official CRS and geodetic parameters registry in Europe

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  - Data used for e-reporting `1`

Geographical grids

Thematic use cases / Interoperability

- Use of the 'Equal Area Grid' (Grid_ETRS89-LAEA)
- Usability of the 'Zoned Geographic Grid' (Grid_ETRS89-GRS80)
- New discussions about redefining the 'Zoned Geographic Grid' (New trends: WMTS, etc.)

Joint Research Centre

Proposals for MIG MIWP 14

Encoding (INSPIRE coverages)

• Provide support to Member States to perform the transformation to INSPIRE GML COV (S/W tools).

→ Experiences in Spain, Sweden and Germany (FME)

• Recommend in the TG the use of gml:boundedBy to encode Domain extent (in addition to 'extent' att.).

Elevation

• Correct in the TG the use of the OGC SWE Quantity constraint.

• Ask OGC to clarify the use of this constraint in SWE.

Proposals for MIG MIWP 14

CRS / Grids

- Need for an official European CRS.

→ ISO CRS Registry?

- Purpose / use of INSPIRE Grids is not clear.

→ Improve explanations in TGs, or

→ Additional documents.

- 'Zoned Geographic Grid'.

→ Changes?

→ Is it implementable?

Thematic cluster promotion

- **EuroGeographics INSPIRE KEN**

  - **06.03.2015 – Webinar**

    Introduction to the INSPIRE Thematic Clusters
    for Topographic and Cadastral Reference Data

    TC#3 (EL-OI-RS-GG) and **TC#6** (HY-GN-AU-CP-AD-BU-TN)

  - **16-17.04.2015, Prague – Workshop TC#6**

    Transformation workshop themes AD-AU-CP-BU-GN

  - **09/10.2015, Barcelona – Workshop TC#3**

    Transformation workshop themes EL-OI (raster data)

Thematic cluster promotion

- **INSPIRE Conference Workshop** (Thursday 28.05.2015)

"Supporting INSPIRE implementation: the Thematic Clusters for topographic and cadastral reference data"

- ▪ **Audience**
  - – Any producer of INSPIRE themes
  - – Any existing or potential user
- ▪ **Discussion of implementation issues**
  - – Flattening of data models
  - – How to make extensions of INSPIRE
  - – Encoding of coverages
  - – WCS as an INSPIRE download service

Thematic cluster promotion

National implementing working groups

- Empower their participation through NCPs

Engage communities not yet represented

- Hydrographic / River basin offices (Bathymetry)
- ESA (satellite imagery)
- ISO CRS Registry working group
- Developers of transformation and validation software
- European agencies and institutions (use cases & needs)

Linkage with existing initiatives / projects

- ISA & Copernicus (Earth Observation programmes)
- ARE3NA (applicable software)

Questions?

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JOIN THEMATIC CLUSTER #3