PAVING THE WAY FOR A SUCCESSFUL INSPIRE IMPLEMENTATION

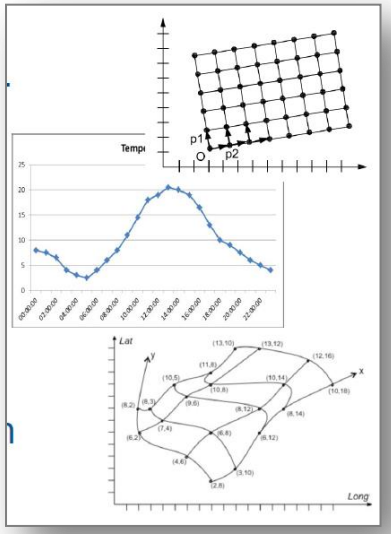
INSPIRE THEMATIC CLUSTER #3

Jordi Escriu – jordi.escriu@icgc.cat

Head of Unit / IDEC - SDI of Catalonia

Facilitator INSPIRE Thematic Cluster #3
Elevation, Orthoimagery, Reference systems and Geographical grids

European Commission – Joint Research Centre



ICGC Institut Cartogràfic i Geològic de Catalunya

IDEC Infraestructura de Dades Espacials de Catalunya

Generalitat de Catalunya

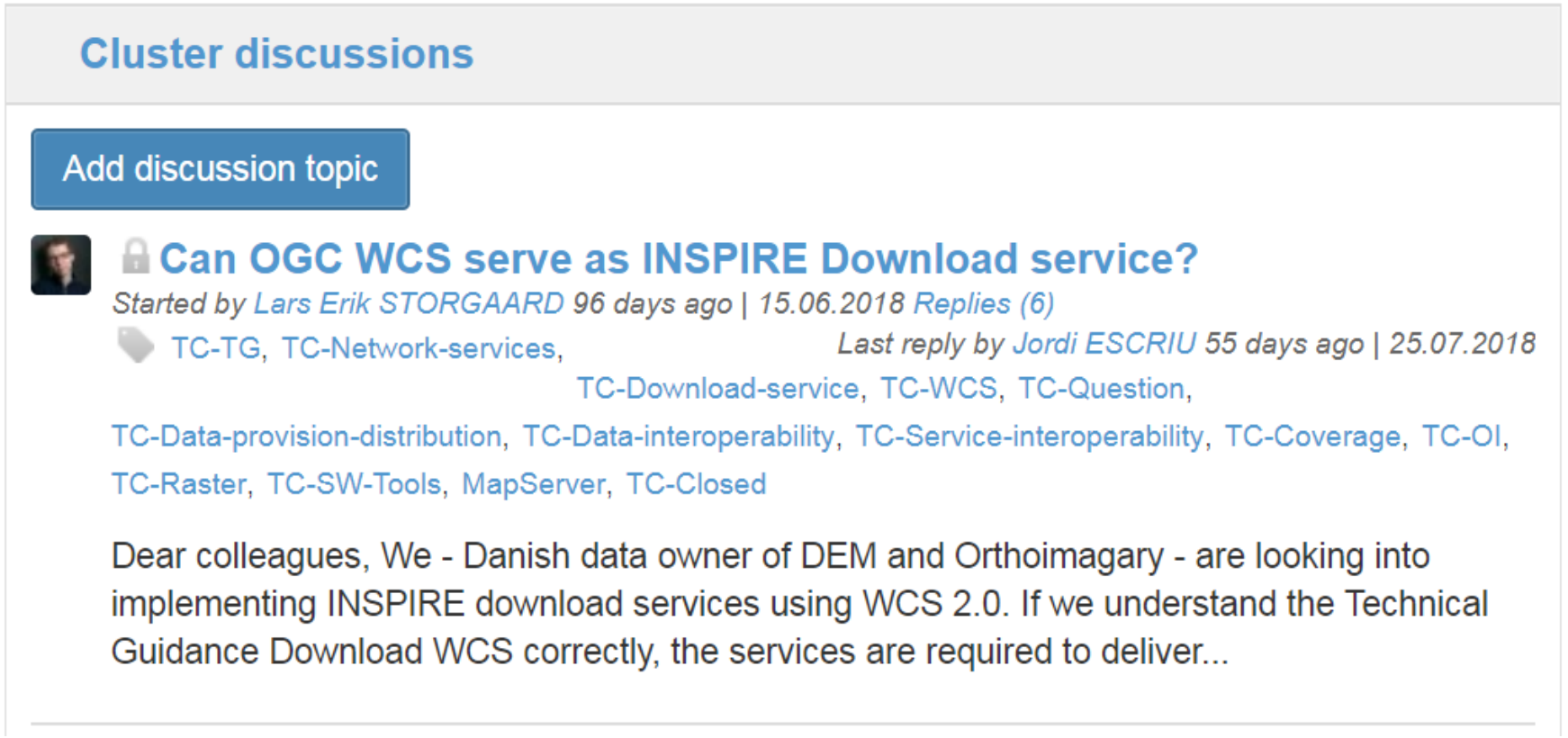
INSPIRE – Infrastructure for Spatial Information in Europe

INSPIRE Thematic Cluster #3

Interoperability is better achieved

…sharing solutions in a collaborative way

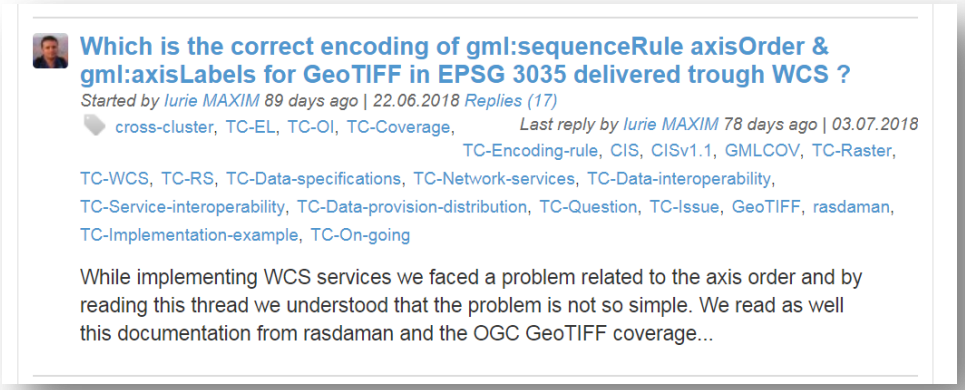
Relevant discussion topics



- Generic questions about interpretation of requirements and recommendations in the IR / TG.
- Links between discussions topics.

Relevant discussion topics

- **Specific issues on INSPIRE EL & OI coverages.**
  - Spread potential of WCS data and services across the community
  - Terminology
  - Coverage encoding
  - How to mapping of INSPIRE properties to OGC coverage standards
  - Clues for a better service efficiency



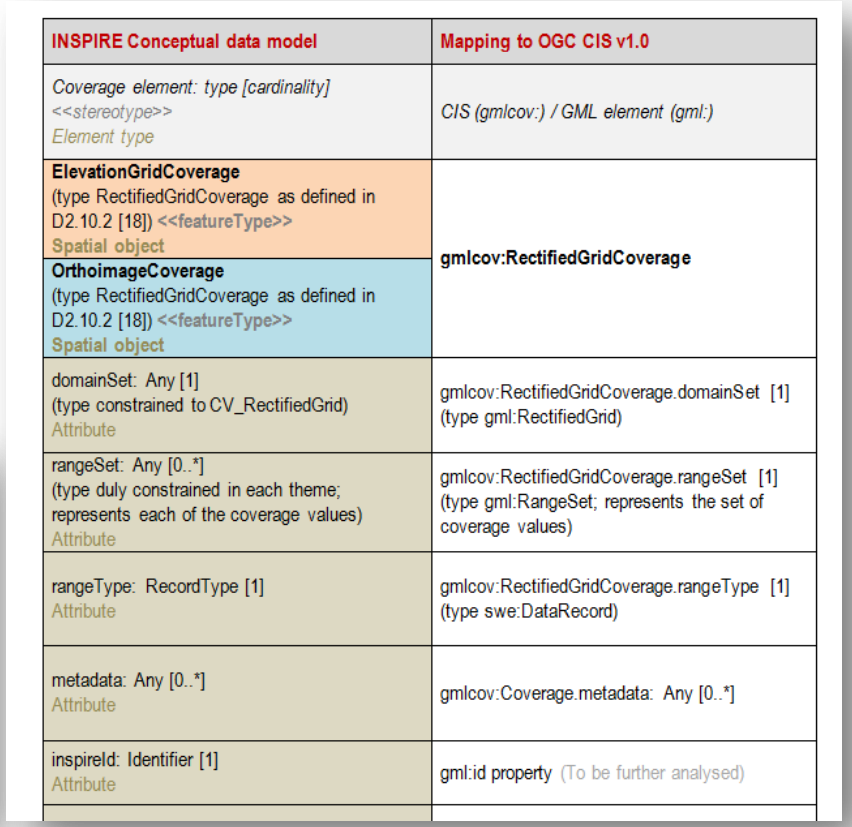
Which is the correct encoding of gml:sequenceRule axisOrder & gml:axisLabels for GeoTIFF in EPSG 3035 delivered trough WCS ?

Started by Iurie MAXIM 89 days ago | 22.06.2018 Replies (17)

Last reply by Iurie MAXIM 78 days ago | 03.07.2018

cross-cluster, TC-EL, TC-OI, TC-Coverage, TC-Encoding-rule, CIS, CISv1.1, GMLCOV, TC-Raster, TC-WCS, TC-RS, TC-Data-specifications, TC-Network-services, TC-Data-interoperability, TC-Service-interoperability, TC-Data-provision-distribution, TC-Question, TC-Issue, GeoTIFF, rasdaman, TC-Implementation-example, TC-On-going

While implementing WCS services we faced a problem related to the axis order and by reading this thread we understood that the problem is not so simple. We read as well this documentation from rasdaman and the OGC GeoTIFF coverage...



INSPIRE Conceptual data model	Mapping to OGC CIS v1.0
Coverage element: type [cardinality] *<<stereotype>>* *Element type*	*CIS (gmlcov:) / GML element (gml:)*
ElevationGridCoverage (type RectifiedGridCoverage as defined in D2.10.2 [18]) <<featureType>> Spatial object	**gmlcov:RectifiedGridCoverage**
OrthoimageCoverage (type RectifiedGridCoverage as defined in D2.10.2 [18]) <<featureType>> Spatial object	
domainSet: Any [1] (type constrained to CV_RectifiedGrid) Attribute	gmlcov:RectifiedGridCoverage.domainSet [1] (type gml:RectifiedGrid)
rangeSet: Any [0..*] (type duly constrained in each theme; represents each of the coverage values) Attribute	gmlcov:RectifiedGridCoverage.rangeSet [1] (type gml:RangeSet; represents the set of coverage values)
rangeType: RecordType [1] Attribute	gmlcov:RectifiedGridCoverage.rangeType [1] (type swe:DataRecord)
metadata: Any [0..*] Attribute	gmlcov:Coverage.metadata: Any [0..*]
inspireId: Identifier [1] Attribute	gml:id property (To be further analysed)

Thematic Cluster activities

- **Documentation of all the TC activities**

Cluster Presentations & Activities [EL, OI, RS, GG] Public History Edit

Last updated 14 days ago | 05.09.2018 by Jordi ESCRIU

Presentations, TC-EL, TC-OI, TC-RS, TC-GG, TC-IKB, TC-Dedicated-page

Promotion of the INSPIRE Thematic Clusters initiative

General presentations about Thematic Cluster #3

Coverages and WCS

INSPIRE GWF 2015 Workshop - The Thematic Clusters for Topographic and Cadastral Reference Data

INSPIRE KEN / Thematic Clusters Workshop on Transformation of Coverage-Based Data Themes and WCS

Results from the WS on Transformation of Coverage-Based Data Themes and WCS and related Follow-up Webinar

Results from the WS on Implementation and potential of INSPIRE coverage data and WCS

Webinar "Implementation of INSPIRE Coverages"

Thematic Cluster activities

- **Specific activities for tackling implementer's issues**

Webinar "Implementation of INSPIRE Coverages" Public History

Last updated 14 days ago | 05.09.2018 by Jordi ESCRIU Comments (1)

cross-cluster, TC-EL, TC-OI, TC-Coverage, TC-Encoding-rule, TC-Raster, CIS, CISv1.1, TC-Network-services, TC-WCS, TC-IKB, TC-IKB-Implement, TC-Data-interoperability, TC-Data-provision-distribution, TC-Service-interoperability, TC-I, TC-Open, Webinar, TC-Dedicated-page

Webinar "Implementation of INSPIRE Coverages"

When:

Monday 6th November 2017, 10:30 – 12:00 CET.

Where:

Online webinar - Connection details:

Please, access the following URL on the date and at the time scheduled for the webinar an instructions:

https://ecwacs.webex.com/meet/rtomas

Objective

Coverages are widely used in INSPIRE as an interoperable way for providing raster data ready t

Jordi ESCRIU *260 days ago | 02.01.2018*

Material and documentation presented in the webinar

- Presentation:
- Excel spreadsheet - Description of Alternative 1 & Alternative 2:
- Alternative 2 applied to Elevation UML diagram:

- Alternative 2 applied to Orthoimagery UML diagram:

Featured outcomes

- **Recommendations and Best practices**

How to deal with huge volume of coverage data - Case 2. Delivery through WCS

Public History Edit

Last updated 14 days ago | 05.09.2018 by Jordi ESCRIU

cross-cluster, TC-EL, TC-OI, TC-Coverage, TC-Encoding-rule, TC-Raster, TC-Network-services, Workshop, TC-IKB, TC-IKB-Learn, TC-Data-interoperabili, TC-Data-provision-distribution, Recommendation, TC-Good-practice, TC-Dedicated-page

Results

Source

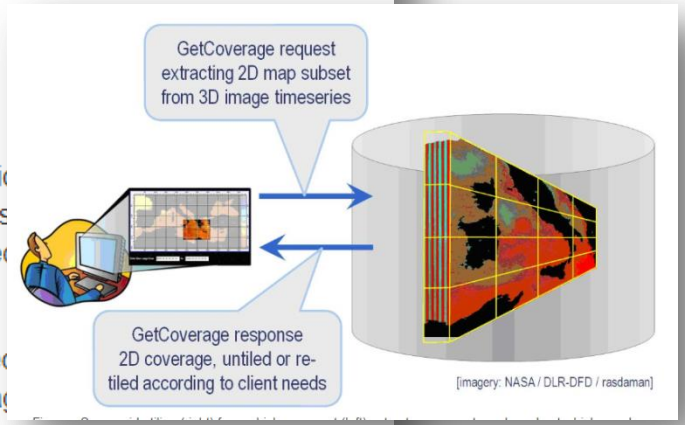
Workshop "Implementation and potential of INSPIRE coverage data and WCS" - 30th September 2016 - INSPIRE Conference 2016, Barcelona.

Summary

WCS is a service explicitly designed to deliver and exploit coverage data.

For user convenience, data providers may offer all data files based on a common gri defined in a specific CRS, with predefined resolution levels) and range type, as one s the opportunity to request only a subset of it. Nevertheless, the coverage may be tile for increasing efficiency of data access.

WCS allows hiding the complexity of tiles from the user so that any subset can be re the server – reassembled to the desired result. Such a result can be internally tiled a suitable data format such as TIFF which supports internal tiling.



Featured outcomes

- **Encoding examples**

3) Section 9.4.1.2 – "Default encoding(s) for application schema ElevationGridCoverage (coverage data)" of TG on EL:

- Replace the GMLCOV example currently provided in this section with the following example prepared in collaboration of Thematic Cluster #3:

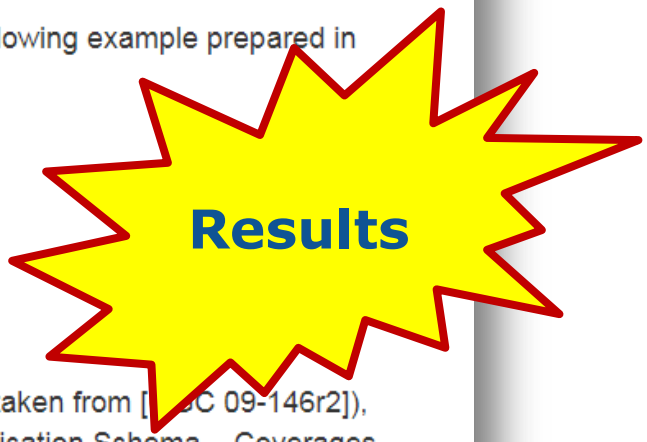
Edit the full description of the example, replacing the text:

"EXAMPLE The following is a complete RectifiedGridCoverage instance (taken from [OGC 09-146r2]), using the base type RectifiedGridCoverage defined in the OGC GML Application Schema – Coverages available from http://schemas.opengis.net/gmlcov/1.0/."

With the following text proposal:

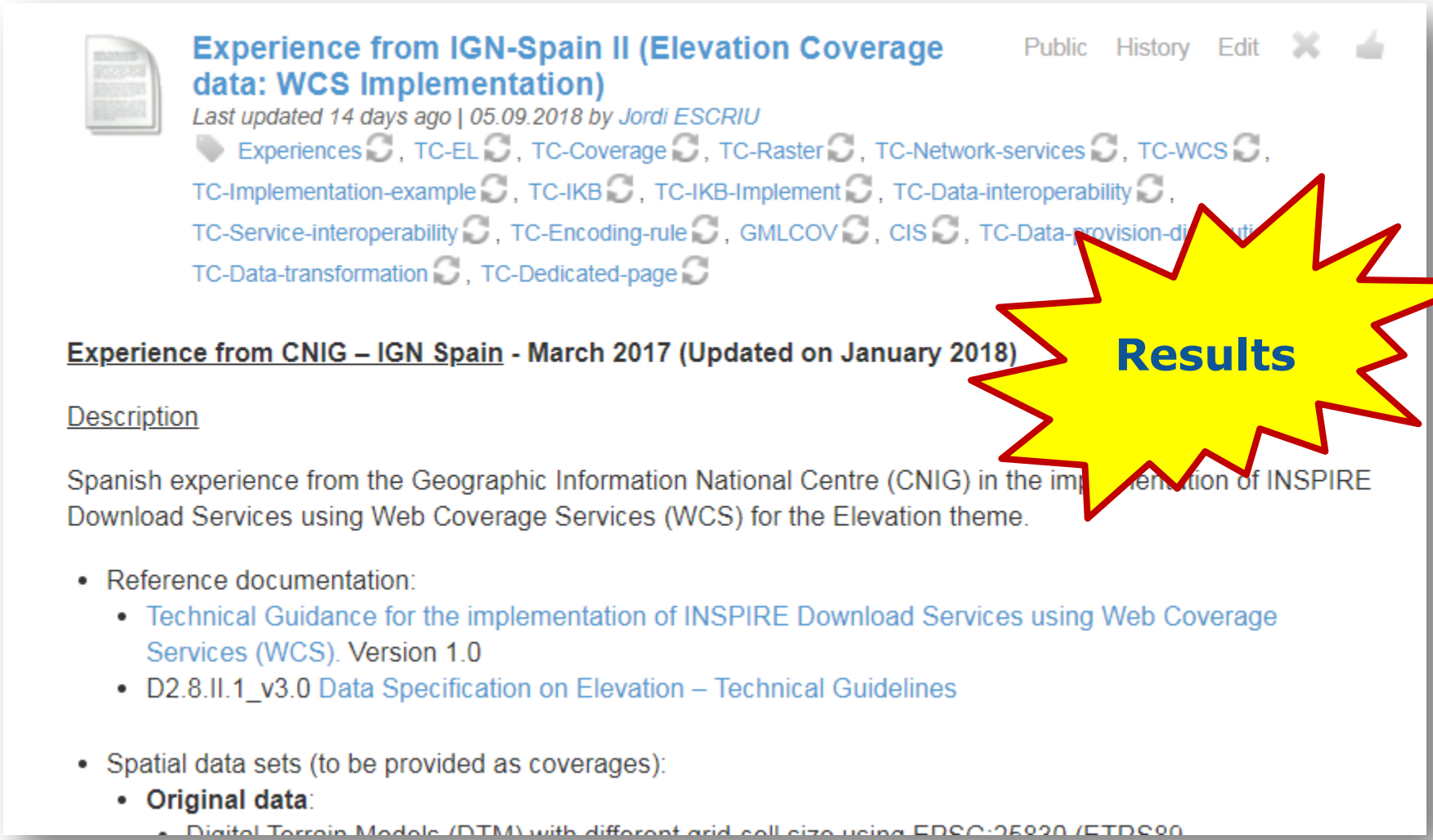
"EXAMPLE The following is a complete RectifiedGridCoverage instance showing an ElevationGridCoverage using GML multipart representation."

Note that this example shall be placed at the same level of Section 9.4.1.2 or at the level of the new subsection on "GML multipart representation" (newly proposed here - https://themes.jrc.ec.europa.eu/pages/view/54815/clarify-structure-of-coverage-encoding-related-sections-in-tgs-default-encodings-and-alternative-encodings).



Featured outcomes

- **Examples of related INSPIRE services**



Experience from IGN-Spain II (Elevation Coverage data: WCS Implementation)

Public History Edit

Last updated 14 days ago | 05.09.2018 by Jordi ESCRIU

Experiences, TC-EL, TC-Coverage, TC-Raster, TC-Network-services, TC-WCS, TC-Implementation-example, TC-IKB, TC-IKB-Implement, TC-Data-interoperability, TC-Service-interoperability, TC-Encoding-rule, GMLCOV, CIS, TC-Data-provision-di..., TC-Data-transformation, TC-Dedicated-page

Results

Experience from CNIG – IGN Spain - March 2017 (Updated on January 2018)

Description

Spanish experience from the Geographic Information National Centre (CNIG) in the imp...entation of INSPIRE Download Services using Web Coverage Services (WCS) for the Elevation theme.

- Reference documentation:
  - Technical Guidance for the implementation of INSPIRE Download Services using Web Coverage Services (WCS). Version 1.0
  - D2.8.II.1_v3.0 Data Specification on Elevation – Technical Guidelines

- Spatial data sets (to be provided as coverages):
  - **Original data**:
    - Digital Terrain Models (DTM) with different grid cell size using EPSG:25830 (ETRS89...

Next activities

- **Workshop: Practicing INSPIRE coverages - Enhancing your raster and datacube assets!**

  Thursday 20th Sept, 9:30 – 10:30 h

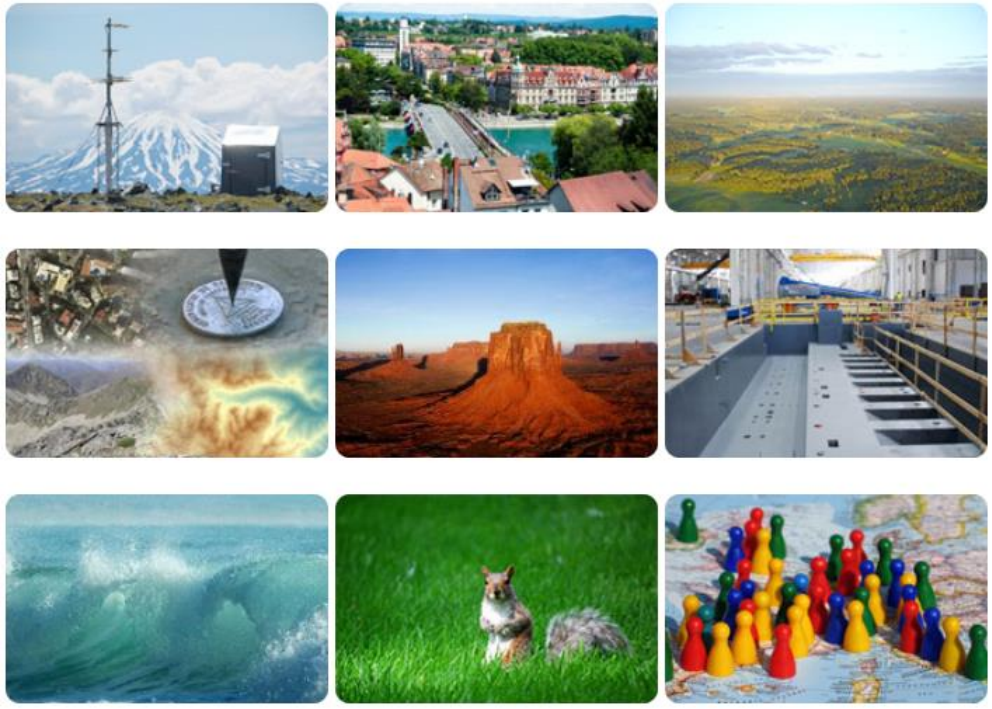
  Room: Nightingale

- Agenda
  - **Coverage Overview**
    - Coverages data and services – General basic concepts
    - OGC Coverage Implementation Standards evolution
  - **INSPIRE coverage data and services**
    - WCS view: Coverage-based Data Models in INSPIRE
    - SOS view: Coverages as Observation Results
  - **Issues in Provision by WCS**
  - **Proposal for a revised model for INSPIRE coverages**
  - **Discussion**

Looking for your participation...

INSPIRE Thematic Clusters

https://themes.jrc.ec.europa.eu/



Open platform where implementers can ***build communities***, ***share experiences***, ***best practices***, ***raise questions, resolve issues and find relevant examples***...

- Discussion topics
- Uploaded contents
- News
- Implementation activities
- Featured outcomes

JOIN & PARTICIPATE IN THEMATIC CLUSTER #3