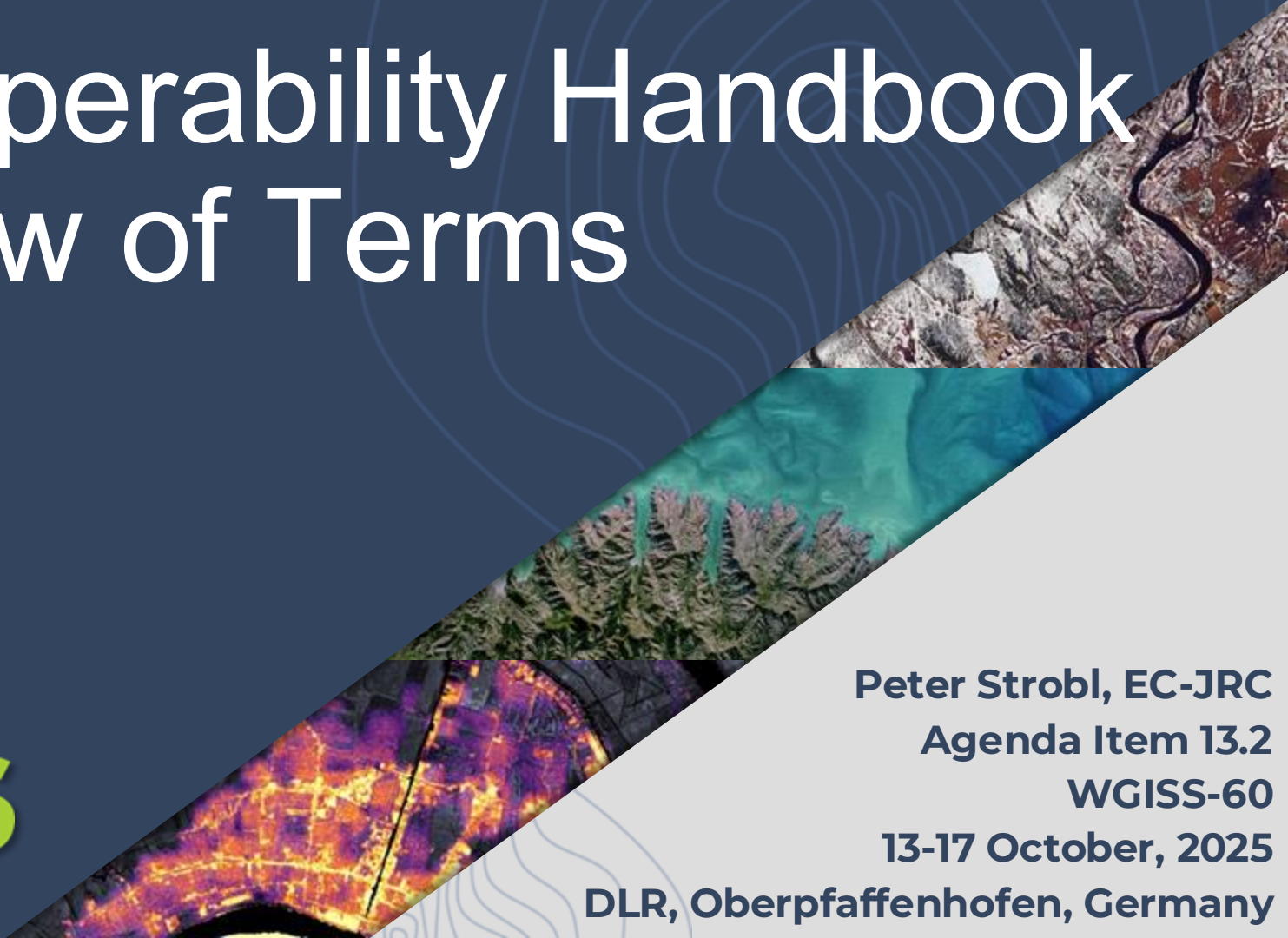
Interoperability Handbook Review of Terms



Peter Strobl, EC-JRC

Agenda Item 13.2

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CEOS
Committee on
Earth Observation Satellites

Example: “In-situ”

ISO

- **direct measurement of the measurand in its original place**

CEOS

1) **direct measurement of the measurand in its original place**
2) **any sub-orbital measurement of the measurand**

NASA:

- Latin for 'in original place.' Refers to measurements made at the actual location of the object or material measured. Compare remote sensing.

INSPIRE:

- The FeatureOfInterest is a sampling feature which is co-located with the ultimate FeatureOfInterest (i.e. the sampledFeature).

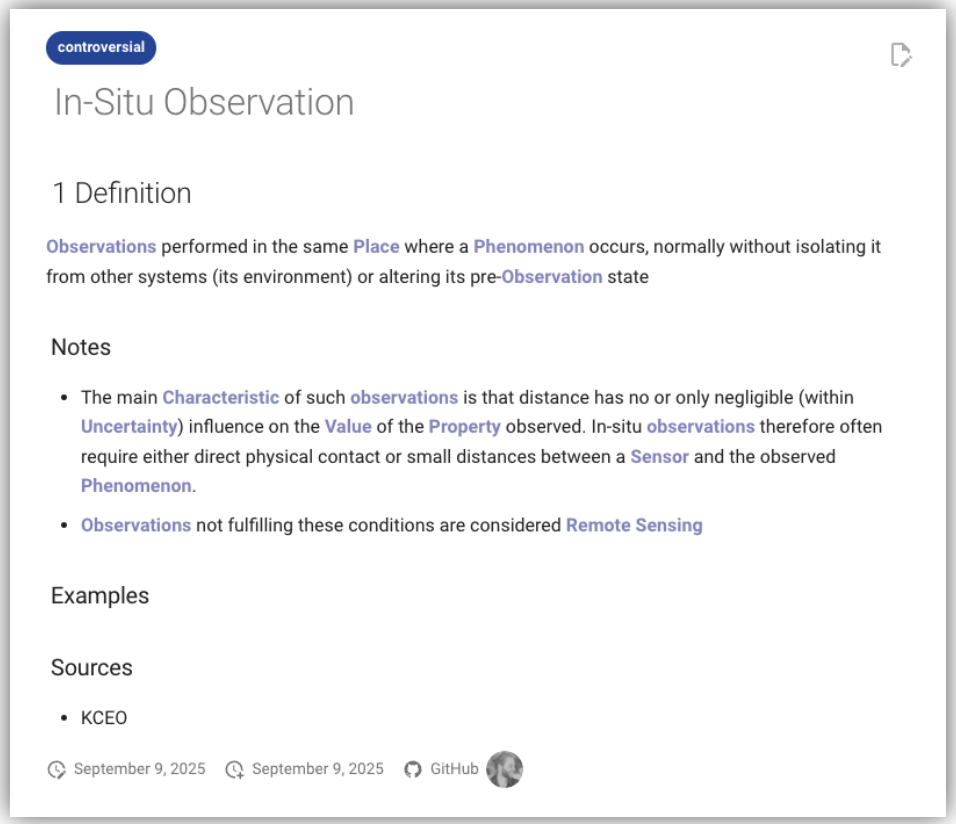
OGC:

- Not available

➢ No consistent spelling: in_situ, in-situ, insitu, in-Situ, insitu, …

EO Glossary

New definition focuses on complementarity with ‘remote sensing’



controversial

In-Situ Observation

1 Definition

Observations performed in the same Place where a Phenomenon occurs, normally without isolating it from other systems (its environment) or altering its pre-Observation state

Notes

- The main Characteristic of such observations is that distance has no or only negligible (within Uncertainty) influence on the Value of the Property observed. In-situ observations therefore often require either direct physical contact or small distances between a Sensor and the observed Phenomenon.
- Observations not fulfilling these conditions are considered Remote Sensing

Examples

Sources

- KCEO

September 9, 2025 September 9, 2025 GitHub

https://ceos-org.github.io/eo-glossary/tags/
https://ceos-org.github.io/eo-glossary/terms/in-situ_observation/

Example: “Resolution”

ISO - resolution (a. of a sensor) (b. of imagery)

a. smallest difference between indications of a sensor that can be meaningfully distinguished
   Note to entry: For imagery, resolution refers to radiometric, spectral, spatial and temporal resolutions.
b. smallest distance between two uniformly illuminated objects that can be separately resolved in an image

NASA:

- A measure of the ability to separate observable quantities. In the case of imagery, it describes the area represented by each pixel of an image. The smaller the area represented by a pixel, the more accurate and detailed the image.

INSPIRE:

- Resolution expresses the size of the smallest object in a spatial data set that can be described. It refers to the amount of detail that can be discerned. It is also known as granularity. Resolution is also limited because geo-spatial databases are intent

‘resolution’ issues

- Due to vagueness in definitions ‘resolution’ over time became synonymous to ‘grid spacing’
- ‘resolution’ and ‘grid spacing’ while related to some extent in gridded data are however **different and independent concepts**
- Clear definitions are needed to clarify this unfortunate situation

The issue with ‘data’

- ‘Data’ is a particularly complex and confusing issue in EO
- EO data handling overlaps with many domains, i.a. space agencies, IT platforms, SW communities, application specialists, all which maintain their own jargon
- Management, organisation, and use of cloud based, peta-byte scale EO/geospatial platforms would benefit from more clarity

The issue with ‘data’

An (incomplete) list of terms requiring conistent definition

- (Data) Archive
- (Data) Artifact
- (Data) Array
- (Data) Asset
- (Data) Catalogue
- (Data) Chunk
- (Data) Collection
- (Data) Composite
- (Data) Coverage
- (Data) Cube - Datacube
- (Data) Dataset
- (Data) Dataset Collection
- (Data) Dataset Series
- (Data) Endpoint
- (Data) Field
- (Data) File
- (Data) File-format
- (Data) Flag
- (Data) Format
- (Data) Granule
- (Data) Grid
- (Data) Item
- (Data) Layer
- (Data) Mask
- (Data) Measurand
- (Data) Mosaic
- (Data) Parameter
- (Data) Platform
- (Data) Product
- (Data) Product Type
- (Data) Product Group
- (Data) Product Family
- (Data) Product Category
- (Data) Product Portfolio
- (Data) Quantity
- [Data] Raster
- (Data) Record
- (Data) Sample
- (Data) Set
- (Data) Stack
- (Data) Stream
- (Data) Streaming Format
- (Data) Timeseries
- (Data) Tile
- (Data) Type
- (Data) Variable
- (Data) Vector

Thank you!

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