

# Developing Metadata Infrastructure to facilitate a Data Driven Science Gateway and to provide INSPIRE / GEMINI compliance for CLIPC

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The CLIPC project is developing a portal to provide a single point of access for scientific information on climate change. This is made possible through the Copernicus Earth Observation Programme for Europe, which will deliver a new generation of environmental measurements of climate quality. The data about the physical environment which is used to inform climate change policy and adaptation measures comes from several categories: satellite measurements, terrestrial observing systems, model projections and simulations and from re-analyses (syntheses of all available observations constrained with numerical weather prediction systems). These data categories are managed by different communities: CLIPC will provide a single point of access for the whole range of data.

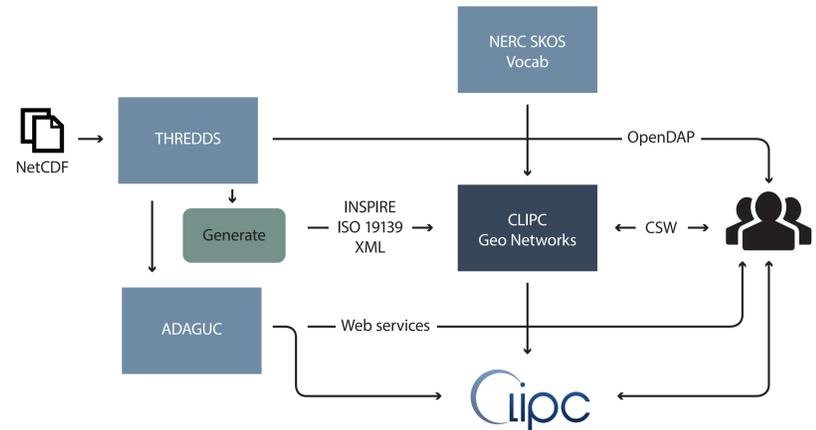
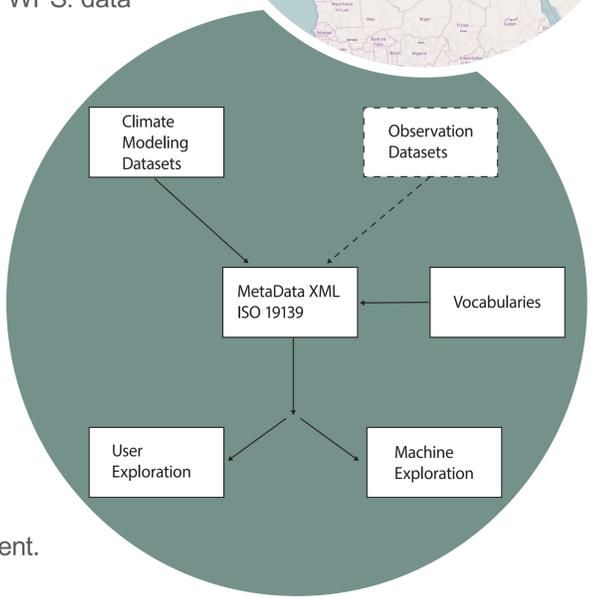
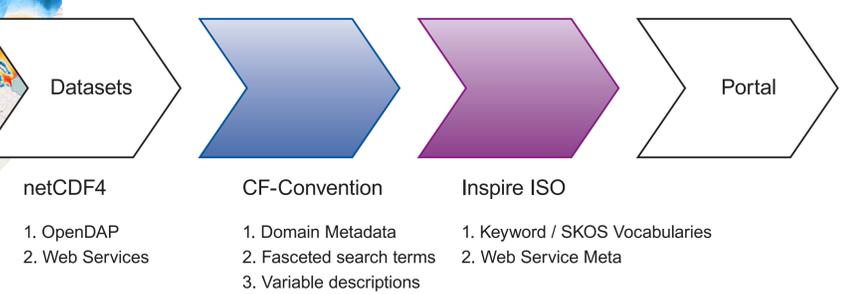
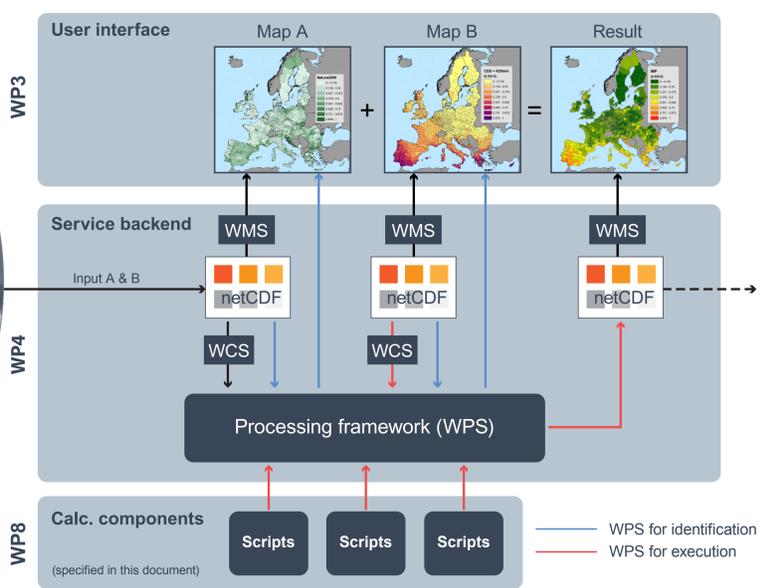
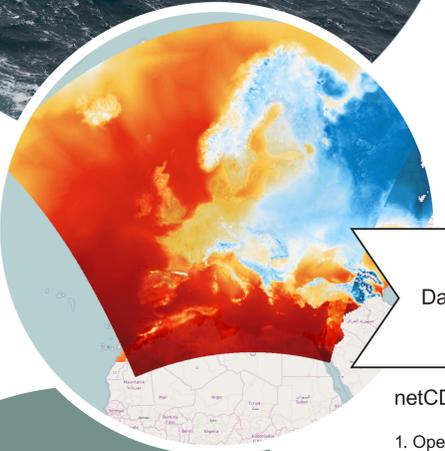
The goal of the metadata infrastructure is to provide a blueprint for creating a data driven science portal.

### CLIPC portal features:

1. Harmonized access to climate datasets
2. Climate Impact Tool Kit to evaluate, rank and aggregate indicators.
3. Distributed Services / Federal infrastructure
4. Compliance to existing metadata standards: INSPIRE ISO and GEMINI: provide web service relevant metadata.
5. Web portal generated from the available metadata blueprint.
6. netCDFs provide domain relevant metadata according to CF-Conventions.
7. OGC compliant web services such as WCS and WMS for front end and WPS: data set combine functions for data exploration.
8. Reliance on OpenDAP services for dataset storage and availability.

### Results

- Metadata can effectively drive portal content and web search systems.
- netCDF CF-Convention global attributes are crucial for successful faceted search and useful for portal content management.
- Inspire/Gemini metadata format is excellent for WMS and WCS service discovery and is effectively used as portal blueprint.
- Limitations in fully wrapping the CF-Conventions data in Inspire xmls.
- Limitations in providing full range of WPS services Inspire xmls.
- Domain relevant metadata was extended from CF-Conventions.
- SKOS standard used for vocabularies. Limited to agreed search terms.
- Geonetworks used as standard for CSW and backup metadata management.



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