Including data quality concepts into the GEOSS Portal

Joan Masó (1), Daniel Nust (2), Daniel Diaz (1), Guillem Closa (1), Victoria Lush (3), Alaitz Zabala (4), and Stefano Nativi (5)

(1) CREAF, Bellaterra (Barcelona), Spain (joan.maso@uab.cat), (2) 52 North, Münster, Germany (d.nuest@52north.org), (3) 3 School of Engineering and Applied Science Aston univeristy, Birmingham, UK (lushv@aston.ac.uk), (4) Universitat Autònoma de Barcelona, Bellaterra (Barcelona), Spain (alaiz.zabala@uab.cat), (5) CNR-IIA Sesto Fiorentino, Italy (stefano.nativi@cnr.it)

The EC FP7 GeoViQua project has focussed in including quality information into the GEO Portal to increase the visibility of it and increase trust in the GEOSS data products. GeoViQua has fully adopted and extended the ISO19115 metadata model and the XML encoding, incorporating the ISO19157 concepts as new XML elements (pending the official XML encoding) but adding new elements detected as missing aspects in the model. This makes possible an easy transition and coexistence of both models in the GEO portal.

The GEOSS Portal enables the user to discover data introducing keywords and other filtering criteria. Once the list of results is returned, the user can read more about each result based on the metadata available in the GEOSS catalogues. In GeoViQua, we developed several metadata-based visualization tools through applying an XSLT allowing specialized visualization focused in different aspects. A provenance-based visualization tool emphasising the sequence of processes and data sources and its detailed description, has been integrated. It is also possible to assess the completeness of the metadata records using an extension of an initially developed by NOAA tool that is now enriched with quality indicators assessment. A metadata comparison tool is able to present metadata document side-by-side allowing parallel reading of the different metadata tags. Furthermore, numerical values are automatically compared and the best one is illuminated in green background colour, and a star plot and a parallel coordinates plot are used to easily show a graph with the best dataset as the large polygon and the highest line.

Each summary result combines both producer metadata with the possibility for the user to submit feedback consisting in ratings, comments, expert reviews, links to documentation and new quality indicators. Previous feedback items, coming for other users are shown next to the summary producer metadata. Also the both summaries and extended descriptions of each result are accompanied by a GEO label (i.e. a graphical representation of the presence and content of some aspects of the metadata that users data users interviewed by the project found important for them. Additionally, an special icon indicates the presence, and the possibility of showing in a WMS client, data values combined with other pixel level quality estimators in a single view (e.g. the mean and the variance of a measure that has an spatial distribution).