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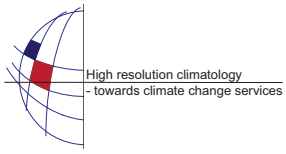

Forcing of planetary weather and climate: an ontological approach

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The forcing of Earth's and planetary weather and climate constitutes a complex scenario. In fact, the former has been widely studied; notwithstanding many issues are still open. The latter has been dependent on the robotic solar system exploration to carry out in situ measurements and has been still under development.

Clearly defined observational and theoretical frameworks have to be set up in order to properly assess the different forcing agents and their relationships with both weather and climate.

In particular, a large variety of relevant data sets from ground- and space-based observations is now available. Cross-searches and analyses are possible only when such data sets are adequately characterised by consistent metadata to be properly identified and standardised.

In this work, we present an approach based on concept maps to build up a domain ontology in this field that can greatly augment the search for data relationships by properly defining the terminology and by coding the relevant knowledge in both human and machine readable form. In particular, we will illustrate a set of concept maps developed by means of the Cmap Tools software by IHMC (FL, USA) that provides the scientific user with a multi-platform interactive framework.