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Representing Core Concepts for solid-Earth sciences with DCAT – the EPOS-DCAT Application Profile

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The European Plate Observing System (EPOS) is building a pan-European research infrastructure (RI) for solid-Earth sciences that targets ten different scientific communities. The EPOS RI will enable sharing of data and resources; promote collaboration and harmonisation of practices and methods and; foster innovation and novel scientific discoveries.
Participating communities provide existing assets and knowledge bundles that contribute to a shared information space. Such an information space underpins the EPOS RI and drives the discovery and access processes and the management of workflows and automated methods.
Building the EPOS shared information space poses demanding challenges. Core concepts from each discipline ought to be acknowledged and represented in such a way that they can be understood and applied in a broader scope, thereby achieving semantic interoperability. To define the set of core concepts that are relevant to the shared information space communication and exchange with the scientific communities are crucial. Information needs to be collected, organised and represented in a suitable form to meet EPOS communities' requirements. Whilst ensuring stability, the representation of the information space needs to account for flexibility and agility and requires mechanisms for extensions and modifications.
To address those challenges and requirements we developed the EPOS DCAT Application Profile, leveraging the DCAT vocabulary. EPOS-DCAT-AP is adopted to capture the complexity of the information provided by the EPOS communities, it collects and manages concepts such as data, services, additional resources and their relationships.
In this contribution we present the EPOS-DCAT Application Profile and describe its key features, rationale and the motivations that inspired this extension of the DCAT model. Also, we present the status of the developments and future plans.
EPOS-DCAT-AP has been conceived for the solid-Earth sciences community, however, the set of requirements addressed make such a model suitable to be adopted by other RIs and to be applied in different contexts.