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SCIDIP-ES – A science data e-infrastructure for preservation of earth science data

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The capability for long term preservation of earth science data is a key requirement to support on-going research and collaboration within and between many earth science disciplines. A number of critically important current research directions (e.g. understanding climate change, and ensuring sustainability of natural resources) rely on the preservation of data often collected over several decades in a form in which it can be accessed and used easily. In many branches of the earth sciences the capture of key observational data may be difficult or impossible to repeat. For example, a specific geological exposure or subsurface borehole may be only temporarily available, and deriving earth observation data from a particular satellite mission is clearly often a unique opportunity. At the same time such unrepeatable observations may be a critical input to environmental, economic and political decision making. Another key driver for strategic long term data preservation is that key research challenges (such as those described above) frequently require cross disciplinary research utilising raw and interpreted data from a number of earth science disciplines. Effective data preservation strategies can support this requirement for interoperability, and thereby stimulate scientific innovation.

The SCIDIP-ES project (EC FP7 grant agreement no. 283401) seeks to address these and other data preservation challenges by developing a Europe wide e-infrastructure for long term data preservation comprising appropriate software tools and infrastructure services to enable and promote long term preservation of earth science data. Because we define preservation in terms of continued usability of the digitally encoded information, the generic infrastructure services will allow a wide variety of data to be made usable by researchers from many different domains. This approach will enable the cost for long-term usability across disciplines to be shared supporting the creation of strong business cases for the long term support of that data.

This paper will describe our progress to date, including the results of community engagement and user consultation exercises designed to specify and scope the required tools and services. Our user engagement methodology, ensuring that we are capturing the views of a representative sample of institutional users, will be described. Key results of an in-depth user requirements exercise, and also the conclusions from a survey of existing technologies and policies for earth science data preservation involving almost five hundred respondents across Europe and beyond will also be outlined. A key aim of the project will also be to create harmonised data preservation and access policies for earth science data in Europe, taking into account the requirements of relevant earth science data users and archive providers across Europe, liaising appropriately with other European e-infrastructure projects, and progress on this will be explained.