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Activity of DOI-minting to Geomagnetic Data in Russia

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A digital object identifier (DOI) is used for the unique identification of a digital object, for example, papers in electronic journals. Now the DOI system is expanded to a wide range of observational data. The data sets with assigned DOIs are subjects that should be cited and referenced in the articles. Data citation facilitates publishing and reuse of science data by linking between articles and datasets across networked data repositories.
Recognizing the importance of data citation, the Geophysical Center of the Russian Academy of Sciences develops the project “Earth Science Database” (ESDB). The goal of the project is the creation of a modern system for registration and publication of geophysical data with assignment of DOI registered in the CrossRef system, which provides the ability to cite data in scientific publications.
The Central Repository and landing pages of data are formed during the registration and publication of databases and data sets. A web site of the Central Repository was created (http://esdb.gcras.ru/). Landing pages contain data descriptions and information on producers and publishers, a sample of how to cite the data and the URL to access the data. Metadata about the registered object are stored in association with the DOI name, they include a location, such as URL, where the object can be found. On the first stage of the Project DOIs are assigned to geomagnetic data accumulated in the World Data Center for Solar-Terrestrial Physics, Moscow (regular member of the World Data System) since its creation in 1957, and new observational data obtained under the current international projects, e.g. INTERMAGNET.
In the ESDB system Database of one minute magnetic variation measurements of the elements of the Earth’s magnetic field recorded on 22 Russian observatories for the period 1983-2009; Databases of calculated values of the geomagnetic field elements derived at the observatories "Klimovskaya" and "Saint-Petersburg" of the Russian-Ukrainian INTERMAGNET segment; Database of catalogues of magnetic pulsations for the period 1957-1992; Database of 26 annual datasets of the new wave ULF index have been registered. DOIs were assigned to each data set within these databases.
The implementation of the ESDB will help to increase the availability of observational data on the Earth Sciences. The project will promote the introduction of a culture of citing data and more intensive use of data.