Geophysical Research Abstracts
Vol. 18, EGU2016-12405, 2016
EGU General Assembly 2016

Utilizing the International GeoSample Number Concept during ICDP Expedition COSC

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The concept of the International GeoSample Number (IGSN) was introduced to uniquely identify and register geo-related sample material, and make it retrievable via electronic media (e.g., SESAR - http://www.geosamples.org/igsnabout). The general aim of the IGSN concept is to improve accessing stored sample material worldwide, enable the exact identification, its origin and provenance, and also the exact and complete citation of acquired samples throughout the literature.
The ICDP expedition COSC (Collisional Orogeny in the Scandinavian Caledonides, http://cosc.icdp-online.org) prompted for the first time in ICDP's history to assign and register IGSNs during an ongoing drilling campaign. ICDP drilling expeditions are using commonly the Drilling Information System DIS (http://doi.org/10.2204/iodp.sd.4.07.2007) for the inventory of recovered sample material. During COSC IGSNs were assigned to every drill hole, core run, core section, and sample taken from core material. The original IGSN specification has been extended to achieve the required uniqueness of IGSNs with our offline-procedure. The ICDP name space indicator and the Expedition ID (5054) are forming an extended prefix (ICDP5054). For every type of sample material, an encoded sequence of characters follows. This sequence is derived from the DIS naming convention which is unique from the beginning. Thereby every ICDP expedition has an unlimited name space for IGSN assignments. This direct derivation of IGSNs from the DIS database context ensures the distinct parent-child hierarchy of the IGSNs among each other.
In the case of COSC this method of inventory-keeping of all drill cores was done routinely using the ExpeditionDIS during field work and subsequent sampling party. After completing the field campaign, all sample material was transferred to the "Nationales Bohrkernlager" in Berlin-Spandau, Germany. Corresponding data was subsequently imported into the CurationDIS used at the aforementioned core storage facility. This CurationDIS assigns IGSNs on samples newly taken in the repository in the identical fashion as done in the field. Thereby, the parent-child linkage of the IGSNs is ensured consistently throughout the entire sampling process. The only difference between ExpeditionDIS and CurationDIS sample curation is using the name space ICDP and BGRB respectively as part of the corresponding ID string.
To prepare the IGSN registry, a set of metadata is generated for every assigned IGSN using the DIS, which is then exported from the DIS into one common xml-file. The xml-file is based on the SESAR schema and a proposal of IGSN e.V. (http://schema.igsn.org). This systematics has been recently extended for drilling data to achieve additional information for future retrieval options. The two allocation agents GFZ Potsdam und PANGAEA are currently involved in the registry of IGSNs in the case of COSC drill campaigns.
An example for the IGSN registration of the COSC-1 drill hole A (5054_1_A) is "ICDP5054EEW1001" and can be resolved using the URL http://hdl.handle.net/10273/ICDP5054EEW1001. Opening the landing page for the complete COSC core material for this particular hole showcases graphically a hierarchical tree entitled "Sample Family". An example of an IGSN citation associated with a COSC sample set is featured on an EGU-2016 poster presentation by Ulrich Harms, Johannes Hierold et al. (EGU2016-8646).