

Preservation of Samples Utilized in Geoscience Research

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The MARGINS Subduction Factory initiative has involved many dimensions of geoscience, from modeling, to experimentation, to expeditions, to petrology and geochemistry. The program mandates archiving of metadata in various repositories (see <http://www.nsf-margins.org/XLS/DataArchives.xls>) including a couple of repositories for samples (e.g., Scripps, Oregon State, and LDEO). Certainly retention of and ready-access to data are necessary for continued robust inquiry and synthesis of the topics encompassed in MARGINS. However, distinct from marine cores and perhaps dredge samples, there are no rock sample repositories at institutions with a specific mandate for preserving physical samples, whether rocks, sediments, or experimental products. Individual investigators are expected to retain physical samples, however, there is considerable evidence that individual responsibility alone is not a reliable mechanism for preservation of samples. Notably, NSF has not uniformly mandated preservation of samples in nationally recognized repositories from sponsored petrological or experimental research.

Natural history samples are preserved, in particular, in research museums of natural history and natural science. This role is well appreciated in the sciences related to living and fossil organisms. It is opportune to address the need to preserve samples studied as part of the successor to MARGINS in institutions with a mandate and record for preservation, care, and disclosed-lending policies of research collections. Several of these institutions also preserve synthetic and experimental samples as well, recognizing that experimental products are as critical to the scientific edifice as are natural samples.

Consequently, a mandate for retention of samples studied as a part of funded research should include the ultimate destination of these samples in institutions with collections policies that address long-term preservation and equitable loan procedures. Ultimately, considerations should include funding for sample preservation and curation at these institutions actively serving the sample-oriented research community.