

And what about the rocks? Linking data to samples, the Earth Archive Collection at Harvard University

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The Mineralogical and Geological Museum at Harvard University (MGMH) has a centuries-long tradition of collecting and curating specimens, amassing a collection of over 300,000 minerals, gems, meteorites, and rocks and ores- The Earth Archive Collection (EAC). Adhering to the FAIR guiding principles (Findable, Accessible, Interoperable and Reusable), the MGMH aims to enhance visibility and accessibility of the EAC to a diverse range of stakeholders. However, within university museums, rock collections are usually curated by individual research groups. Lack of early inclusion of museum-quality standards for metadata collection and cataloguing, combined with inconsistent methods for transferal into the museum's collection has caused these unique and vast scientific collections to fall behind best curatorial practices.

The EAC not only reflects the history of Harvard University's Earth and Planetary Science department (EPS) but also includes collections from other universities, such as MIT, one of the many rescued orphan collections. These collections span from the inception of geological collecting and research in the United States and abroad to contemporary research on climate change and Earth-life co-evolution over the past 4 billion years. The EAC comprises over 114,000 well-researched and characterized specimens, including Legacy, Emeritus, and Active Collections. In collaboration with SESAR2, PetDB, and GeoRock, the MGMH is working to link data to samples and their repository, laying the foundation for improved accessibility and research opportunities.

The EAC offers a wealth of research opportunities, including the exploration of rare-earth elements from ore deposits (U. Petersen Collection), the Snowball Earth hypothesis and origin of life (P. Hoffman Collection), and the geochemistry of mid-ocean ridges (C. Langmuir Collection), among others. Researchers can access these collections at no field-campaign cost, and in some cases, for currently inaccessible locations. By creating well-curated data-sample sets, MGMH is enhancing the research potential of the EAC, ensuring its continued importance in the field of Earth and Planetary Science.