

## Conference Abstract

# Adaptation of Darwin Core Standards and Development of New Standards for Geologic Specimens

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## Abstract

The Darwin Core data standard has rapidly become the go-to standard for biological and paleontological specimens. In order to accommodate all of the timescale data for paleontology specimens, standards for geologic age were developed and incorporated into Darwin Core. At the Sternberg Museum of Natural History (FHSM), digitization of the paleontology collection has been a primary objective. The adoption of the Darwin Core standard for FHSM's paleontology data spurred the idea to use Darwin Core for the geology collection as well. There are currently no widely accepted data standards for geology specimens, but there are some organizations who have uploaded their data management standards online. Even though Darwin Core was developed for the dissemination of biological information, many of the data fields are applicable to geology. FHSM is working to adopt and adapt Darwin Core standards for its geology collection.

FHSM currently has 84 fields to record geology data. Approximately sixty percent of these data fields directly correspond with Darwin Core terms and have been adopted with the corresponding data format. Seven percent of the fields correspond with Darwin Core terms but require adaptation by adding new shared language within the term. These fields include the classification of rocks and minerals and the addition of "geologicSpecimen" for the Darwin Core term "Basis Of Record". Fortunately, minerals have a classification system that loosely resembles animal taxonomy. For example, quartz is a mineral species that is

part of a group called Tectosilicates, which is subsequently grouped into Silicates. One quarter of the FHSM fields are specific to geology and do not fit within the current Darwin Core data set. When determining terminology for these fields, FHSM staff utilized the terms and standards set by the Open Geospatial Consortium (OGC), an international organization for making open standards for the global geospatial community. The terms adopted from the OGC come from a category called "EarthMaterial." The remaining fields are specific to FHSM recordkeeping. In order to share these terms with others and hopefully start a larger conversation about data standards for this area of natural history, the terms and definitions will be made available on the FHSM website in the geology section. Using the same terms, formats, and overall standard across the disciplines at FHSM increases usability and uniformity of the different data sets, increases workflow efficiency, and simplifies development of the relational database for paleontological and geological specimens at FHSM.

## **Keywords**

Darwin Core, geology, natural history, digitization, paleontology

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