

ScienceBase Services and Models

The following section provides technical documentation on various components of ScienceBase architecture.

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ScienceBase Catalog

The ScienceBase Catalog sits at the heart of all ScienceBase functionality. It provides the basic metadata that describes everything in ScienceBase and enables functionality of the entire system.

ScienceBase Items

A ScienceBase Item is the basic unit of data within the ScienceBase Catalog. An Item can be anything from a metadata description of a data service to a dataset in the Digital Repository to a description of a project. Items share a common set of simple metadata elements based on the Dublin Core Metadata Element Set and may be extended with additional properties.

ScienceBase Item Service

ScienceBase provides a REST web service for querying the catalog and an individual item service for retrieving a known item by its identifier. [ScienceBase Item Service](#)

ScienceBase Communities

ScienceBase is built on a foundation of specific science teams and larger initiatives doing work within the platform, contributing new ideas and needs for the ongoing development of the concept and technology. In simple terms, ScienceBase Communities are created by creating a ScienceBase Item and applying the ScienceBase [Community Extension](#). The Community Extension supplies a few additional descriptive fields of information and houses saved searches for the community. It becomes a top-level "folder" for new, original items along with shortcuts to other items of interest to the community.

ScienceBase Digital Repository

ScienceBase provides a digital data repository for scientific data assets of many different types. This is an evolving capability of ScienceBase, driven by the needs of individual communities who use ScienceBase as their data management platform. Certain types of data such as shapefiles, GeoTIFF images, and a few others are able to be served from the Repository using appropriate types of web service technology (e.g., OGC-WMS, OGC-WCS, etc.) for streaming-type uses in addition to original file downloads.

ScienceBase Directory

The ScienceBase Directory contains "master data" about people, organizations, and related elements that the ScienceBase Catalog uses to help connect the dots between disparate data and information elements and to aid in data discovery. For instance, the ScienceBase Directory provides "catalog party" pages that list everything that ScienceBase knows about a given person or organization so that when an author or some other contact associated with an item is discovered, users (including machine processes) can link to find more information associated with that party.

ScienceBase Directory Service

The [ScienceBase Directory](#) provides information in ScienceBase on people and organizations. ScienceBase provides a REST web service for querying the Directory and retrieving records.

ScienceBase Services

One of the major parts of the vision for ScienceBase is the provision of an array of web services that expose ScienceBase data and metadata in a way that they can be incorporated into many other applications. These services will be evaluated and augmented over time to meet many different needs. The basic value for the ScienceBase project is to provide its information in a way that supports the unanticipated good uses of what projects are feeding into ScienceBase.