



Data Services for Long Tail Science at the Integrated Earth Data Applications (IEDA) Data Facility

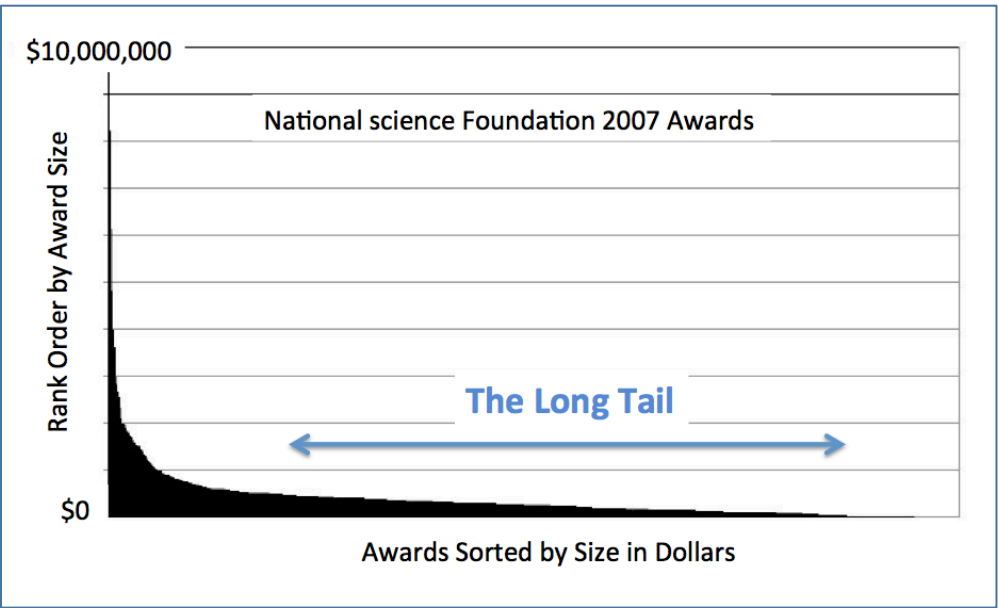
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What is IEDA?

IEDA, or **Integrated Earth Data Applications**, is a community-based data facility funded by the US National Science Foundation (NSF) to support, sustain, and advance the geosciences by providing data services for **observational solid earth data from the Ocean, Earth, and Polar Sciences**. IEDA is a partnership between EarthChem and the Marine Geoscience Data System.



Long Tail Science encompasses that done by individual researchers and relatively small labs. They collectively produce the bulk of scientific knowledge, but due to their heterogeneous nature, tend to have the least developed data services and systems.



1. Data Access

IEDA operates and maintains a suite of data systems and data collections that provide access to a wide variety of solid earth data from the marine, terrestrial, and polar environments.

Catalogs, maps, and data are delivered through standard programmatic interfaces, and a variety of OGC-enabled clients can be used to directly access some of our content through web services.

Sample-based data

- EarthChem Portal, PetDB, Geochron

Sensor-based data

- MGDS Data portals, Global Multi-Resolution Topography Portal

Images, videos, photos, diagrams



2. Data Analysis

IEDA develops and supports tools that facilitate data access and visualization, and that provide analytical capabilities to promote the use of data within the scientific community and for educational purposes.

Visualization tools:

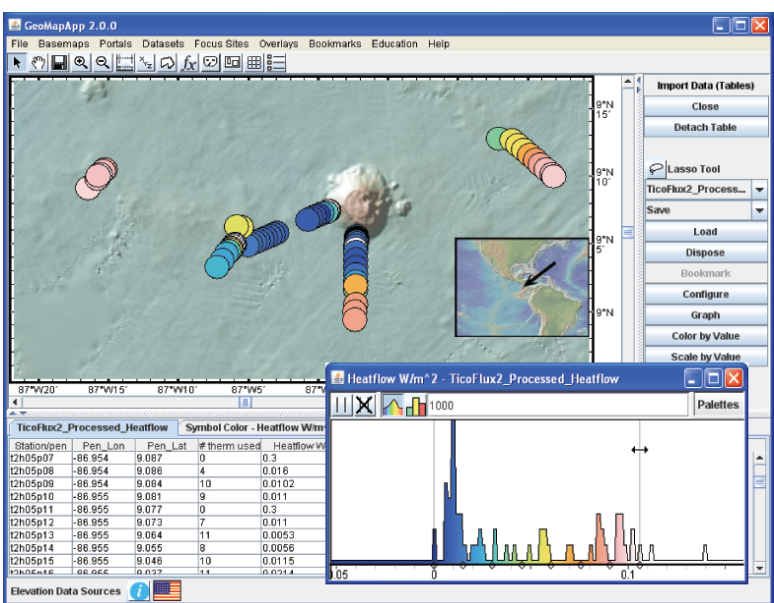
Create maps, plots, animations

- GeoMapApp
- Virtual Ocean
- EarthChem Portal

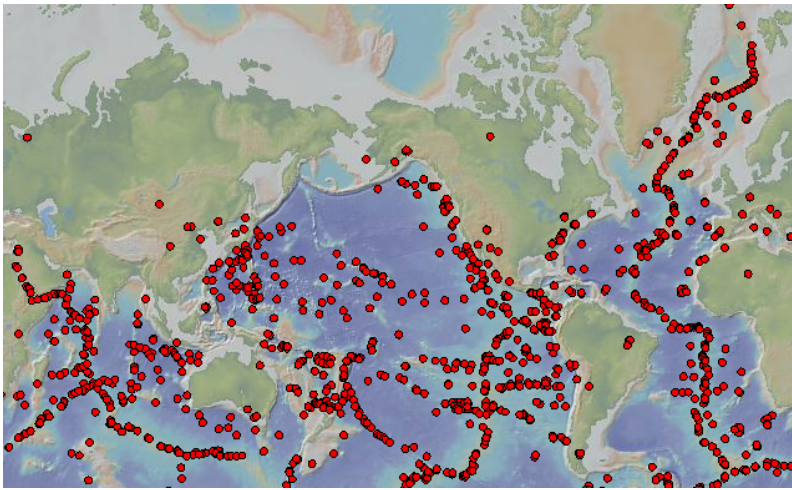
Data Integration Tools:

Synthesize, compare

- PetDB
- SedDB



GeoMapApp allows you to import, plot, and analyze your own data on a global topography and bathymetry map.

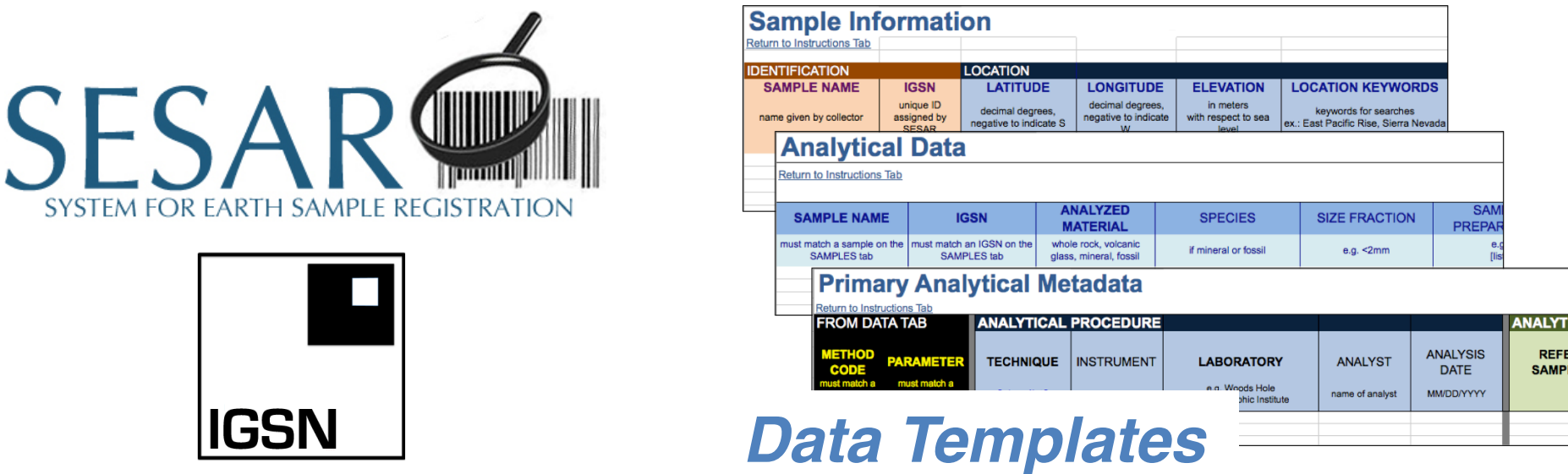


PetDB facilitates comparison of geochemical values for samples from all around the world.

3. Data Management and Reporting

IEDA offers simple tools to help investigators manage data and comply with funding agency data policies.

1. The **Data Management Plan Tool** allows a user to create new plans, save, and retrieve past plans.
2. The **Data Compliance Reporting Tool** for demonstrating data products from U.S. NSF Grants
3. SESAR (System for Earth Sample Registration) is a **sample registry that distributes the International Geo Sample Number (IGSN)** unique sample identifiers.
4. **Data Templates** for organizing and documenting analytical lab data



4. Data Publication

IEDA offers data publication services that registers primary scientific data in the DOI system, making them citable as publications with attribution to their investigators as authors. IEDA assigns DOIs to dataset. Long-term availability is guaranteed through a collaboration with Columbia University Digital Libraries.

IEDA DOI Search

Dataset DOI	
Identifier:	10.1594/IEDA/100054
Title:	Chemical composition of subducting sediment and its conseque
Date Available:	2010-12-31
Creator (Lead):	Plank, Terry
Format:	application/vnd.ms-excel
Download:	GRL # 66
Data Type:	Geochemistry
tsCitedBy:	doi: 10.1016/S0009-2541(97)00150-2

Search Data Sets Registered with DOIs			
Manheim, F., et al	ferromanganese crusts in the world ocean	2011-04-16	View Data Download Data
Michael, Peter, et al	Gakkel Ridge Basalt Geochemistry (H2O, CO2, Cl, F, S, Ti)	2011-09-30	View Data DOI Details Download Data
Moore, Daniel K., et al	Major and trace element analyses of volcanic rocks from the East Tintic Mountains, Utah	2011-10-14	View Data DOI Details Download Data
Mott, Michael J., et al	LauBasin_TUIM05MV_Mott	2010-10-01	View Data DOI Details Download Data
Nitsche, Frank, et al	Amundsen Sea bathymetry compilation	2007-09-12	View Data DOI Details Download Data
Pisias, Nicklas G., et al	MATLAB Scripts to Partition Multivariate Sedimentary Geochemical Data Sets	2012-03-08	View Data DOI Details Download Data
Plank, Terry, et al	Chemical composition of subducting sediment and its consequences for the crust and the mantle	2010-12-31	View Data DOI Details Download Data
Reagan, Mark K., et al	Major Element, Trace Element, and Isotopic Data for Samples From Shinkai 6500 Dive Sites and DSDP Sites 447, 458, and 459a	2012-02-15	View Data DOI Details Download Data
Reillinger, Robert, et al	GPS velocities in and around the Arabian Plate with respect to Eurasia	2009-12-04	View Data DOI Details Download Data
Reves-Sohn, Robert, et al	Seismic layer 2A thickness from East Pacific Rise (EPR) 9°50'N	2006-04-17	View Data DOI Details Download Data
Reves-Sohn, Robert, et al	Microseismicity earthquake catalog from East Pacific Rise (EPR) 9°50'N (1992-1993)	2007-04-19	View Data DOI Details Download Data