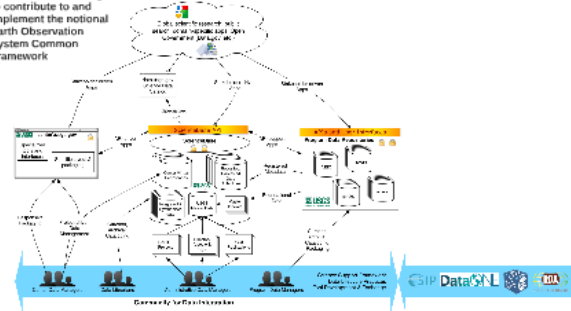


How USGS is working to contribute to and implement the national Earth Observation System Common Framework

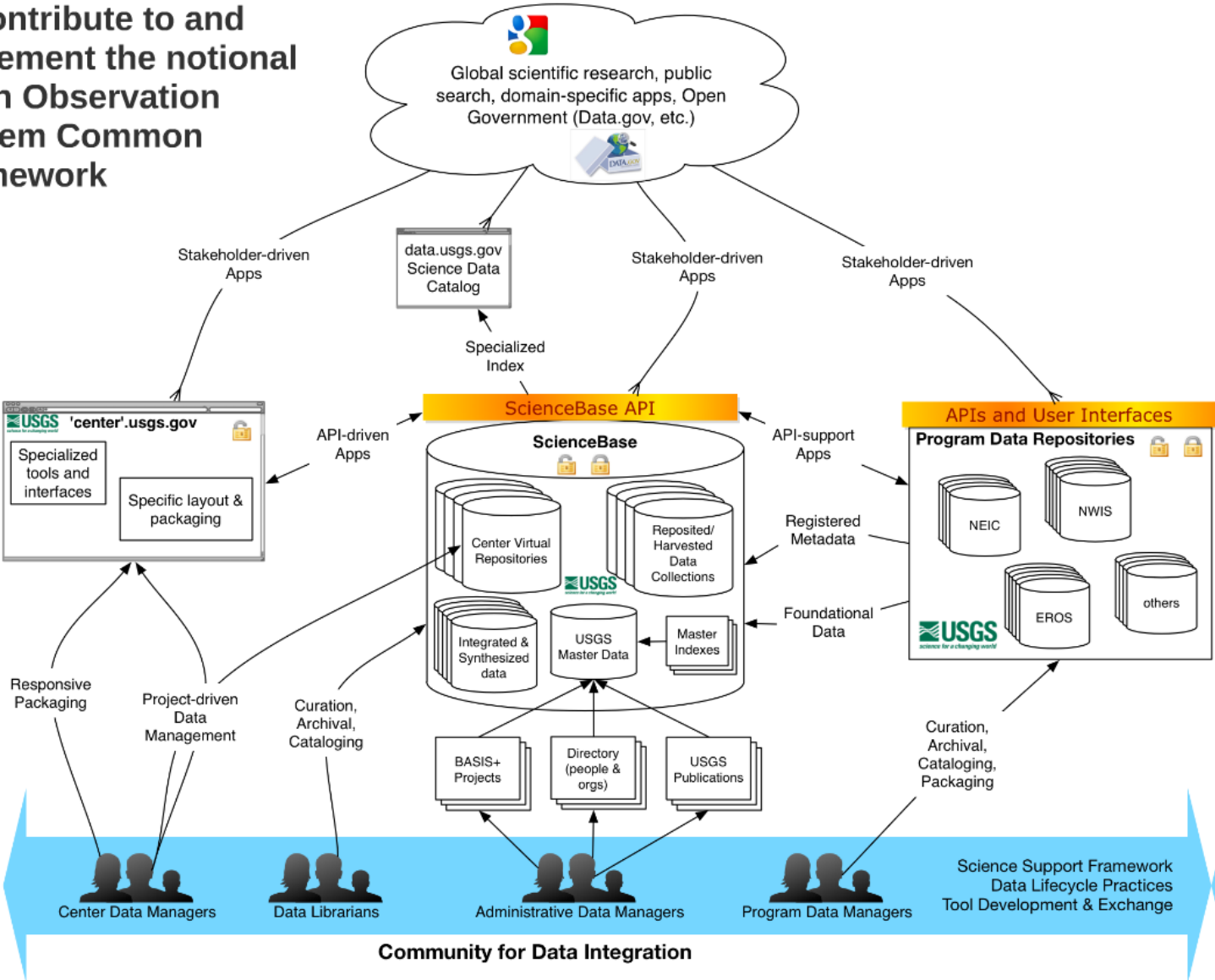


Sky Bristol  
sbristol@usgs.gov

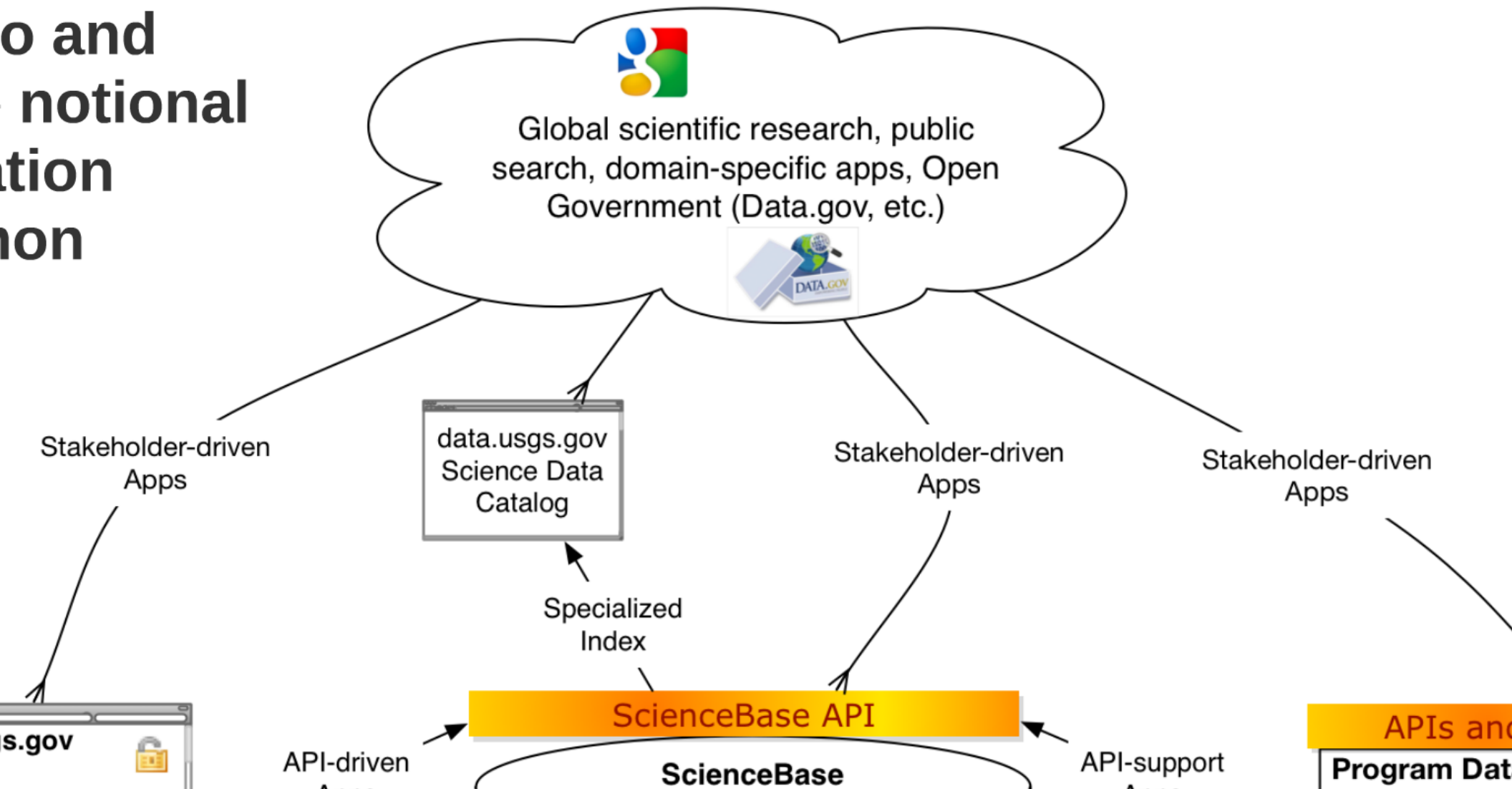


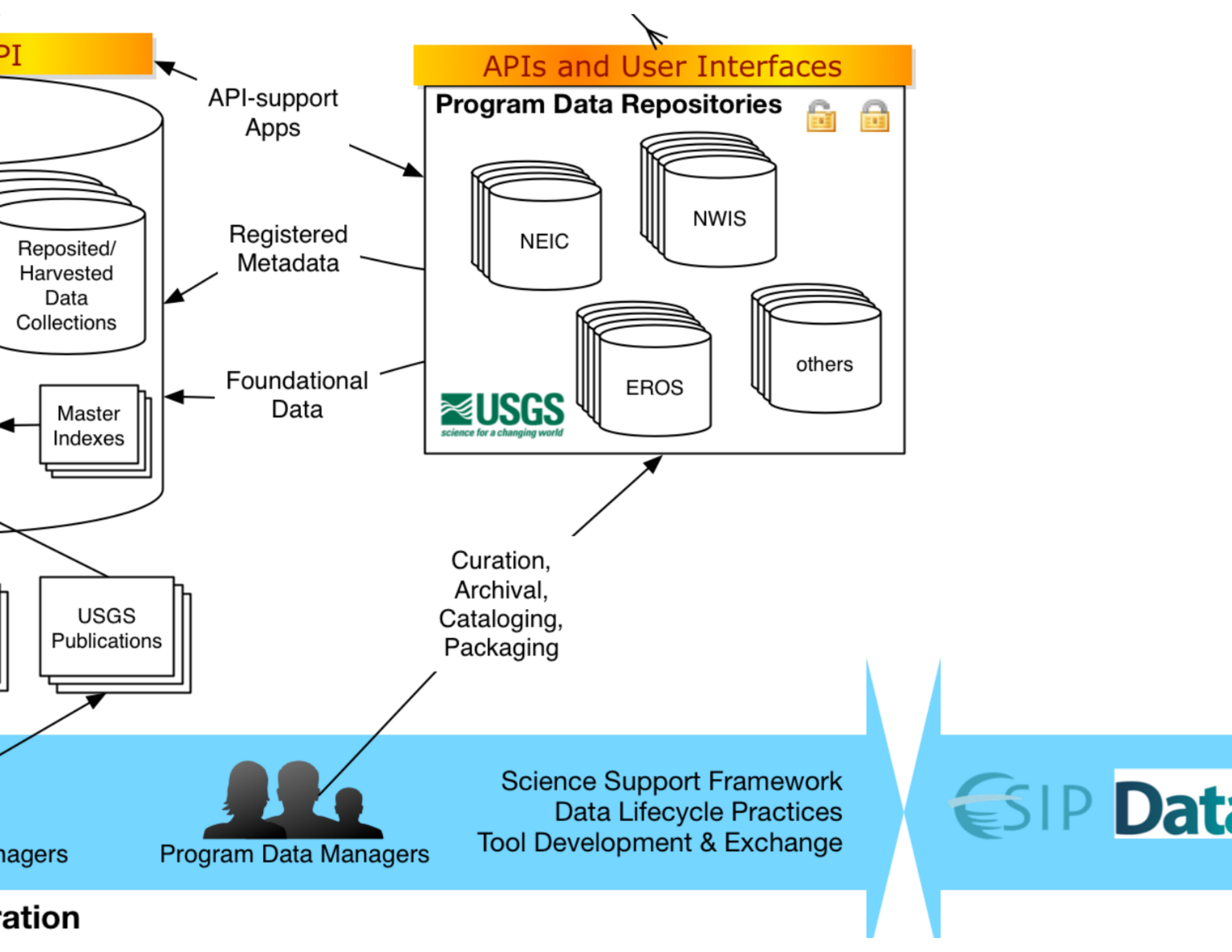
# **How USGS is working to contribute to and implement the notional Earth Observation System Common Framework**

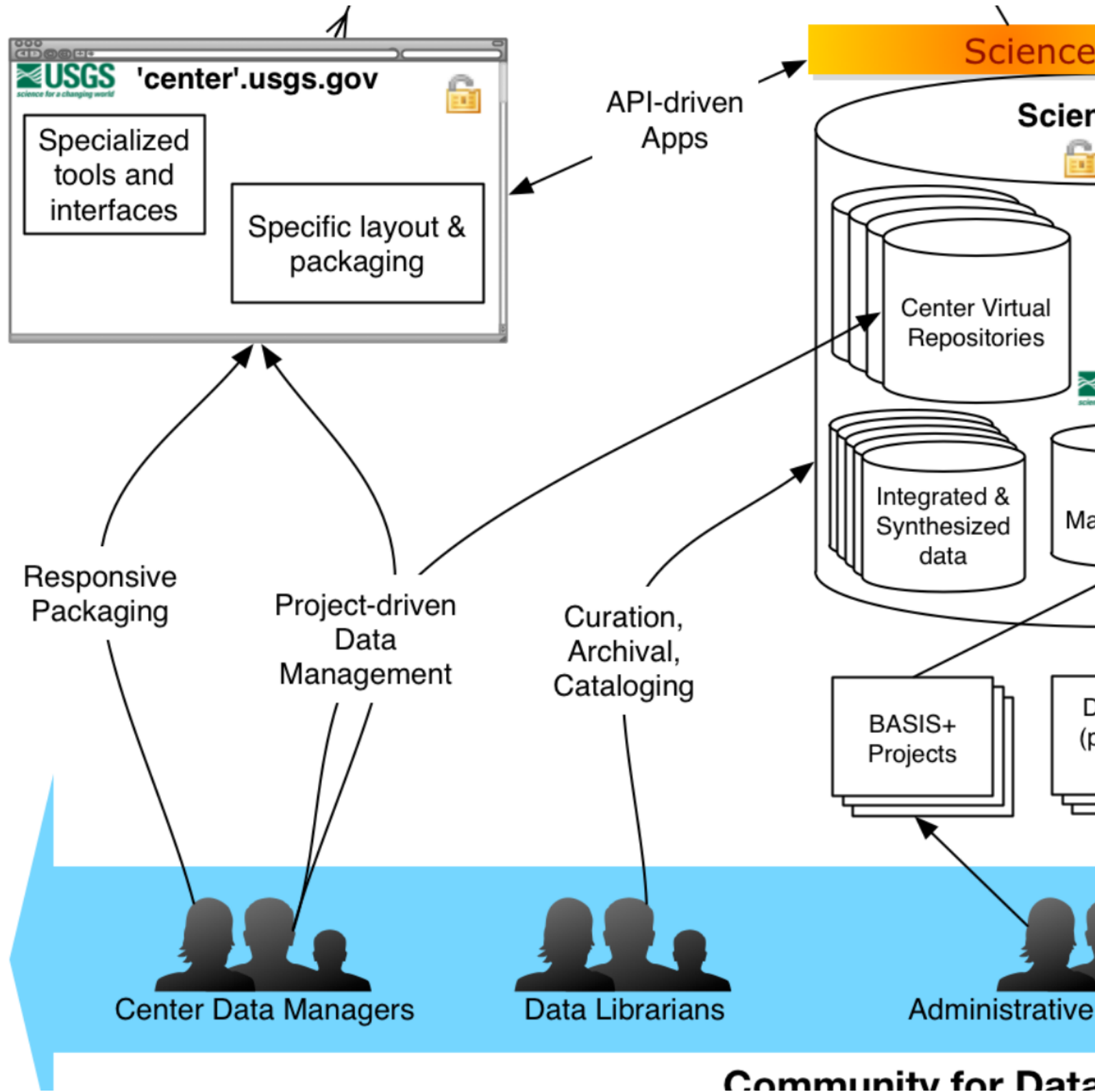
**USGS is working  
to contribute to and  
implement the notional  
Open Observation  
System Common  
Network**

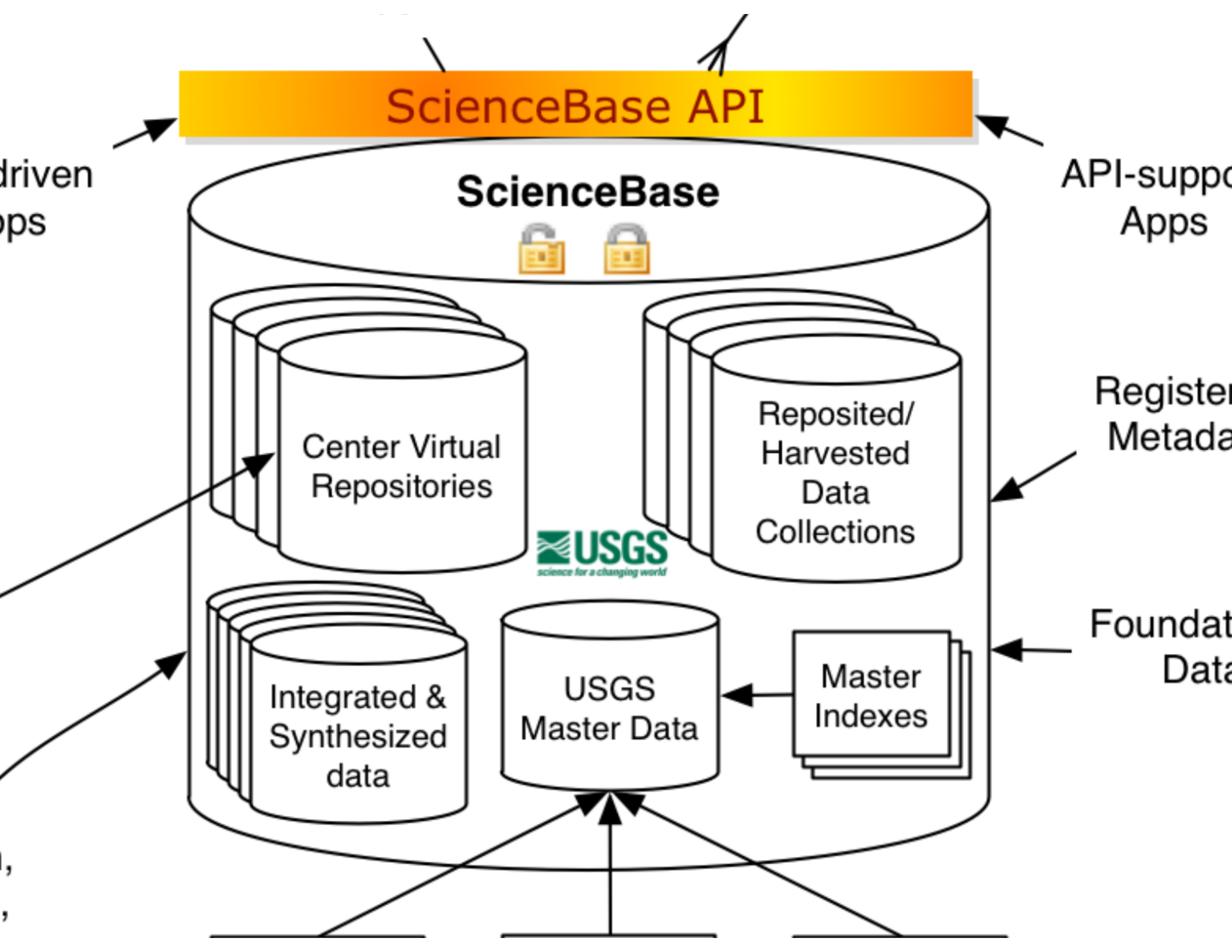


# Working to and notional ation ion









# ScienceBase API

## ScienceBase



Center Virtual Repositories

Reposited/  
Harvested  
Data  
Collections



Integrated &  
Synthesized  
data

USGS  
Master Data

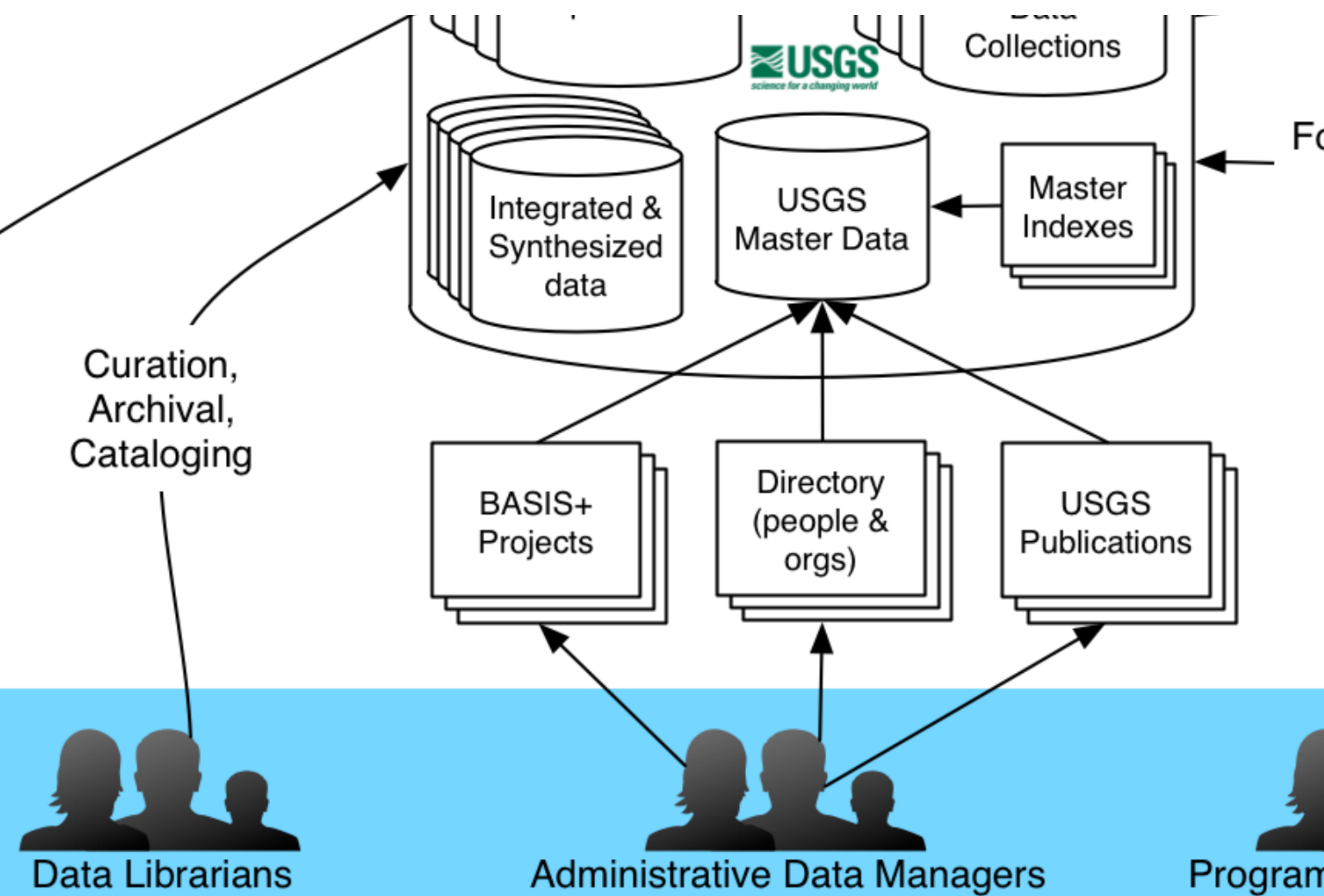
Master  
Indexes

API-supporting  
Apps

Registered  
Metadata

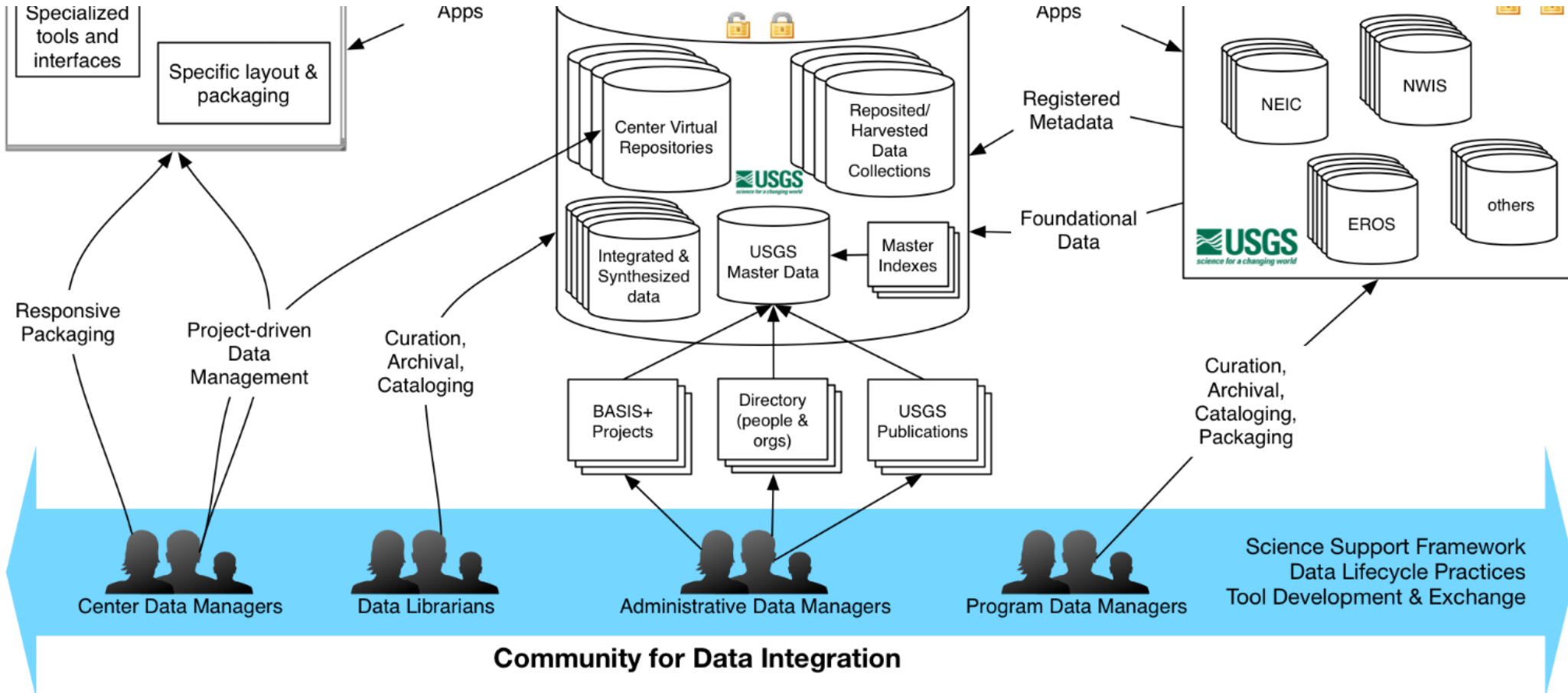
Foundation  
Data

API-driven  
apps



## Community for Data Integration





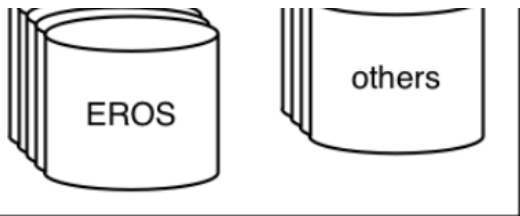
# Sky Bristol

ackaging

Science Support Framework  
Data Lifecycle Practices  
Tool Development & Exchange



for a changing world



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rchival,  
ataloging,  
ckaging

Science Support Framework  
Data Lifecycle Practices  
Tool Development & Exchange



RESEARCH DATA ALLIANCE

Government (Data.gov, etc.)



data.usgs.gov  
Science Data  
Catalog

Stakeholder-driven  
Apps

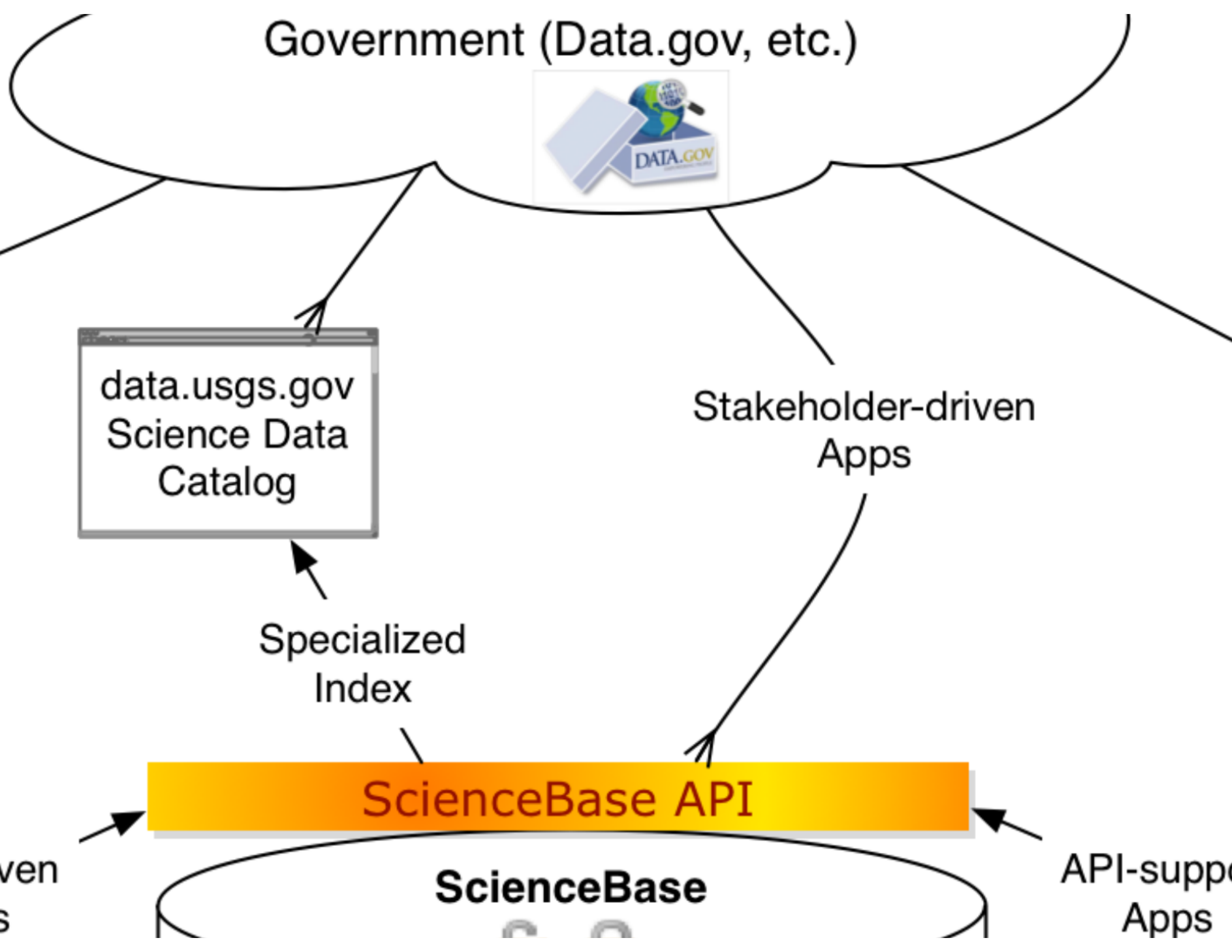
Specialized  
Index

ScienceBase API

ScienceBase

API-suppp  
Apps

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s





**Mission Area: Ecosystems**

Discover Catalog Holdings provided by the USGS Ecosystems Mission Area

(press ESC to close suggestions)

[RSS](#) [Web Services](#) [Help](#)

Data Search



[Limit search by location](#)

**Current Selection(s): 6290 Results Found**

All Catalog Holdings

**Filter By:**

**Keywords**

- geophysics (1609)
- magnetic field (earth) (1594)
- field monitoring stations (1592)
- aeromagnetic surveying (1587)
- aeromagnetic data (1473)
- magnetic (1471)
- total field (1471)
- residual magnetic field (1471)

< 1 2 3 ... 628 629 >

Results: 10 Sort By: Relevance

Displaying 1 to 10 of 6290

**USGS Groundwater Data for the Nation - National Water Information System (NWIS)**

**Featured Dataset**

**Data Source:** Water National Spatial Data Infrastructure Node

**Begin Date:** Unknown

**Mission Area:** Water Resources

**End Date:** 12/31/2014

The USGS compiles online access to water-resources data collected at approximately 1.5 million sites in all 50 States, the District of Columbia, Puerto Rico, the Virgin Islands, Guam, American [more](#)



This webpage is not available

ERR\_TIMED\_OUT

[Details](#)

Reload

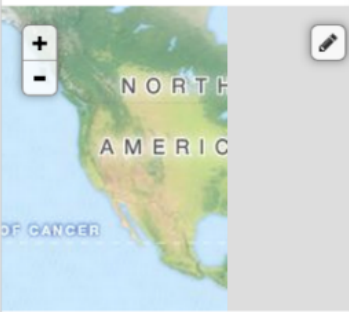


Order by:  
Select an option ▾

Datasets ordered by Popular

Organizations:  
U.S. Geological Survey, Department of the Interior ✕

Filter by location Clear  
Enter location... ▾



Map data CC-BY-SA by [OpenStreetMap](#)  
Tiles by [MapQuest](#)

## 4,448 datasets found

- Collection** USGS US Topo Map Collection 👁️ 102 recent views  
*U.S. Geological Survey, Department of the Interior* – Layered GeoPDF 7.5 Minute Quadrangle Map. Layers of geospatial data include orthoimagery, roads, grids, geographic names, elevation contours, hydrography, and other...  
waf Esri REST csw oal-pmh **WMS** **WMS** 6 more in dataset Federal
- Collection** USGS National Geologic Map Database Collection 👁️ 99 recent views  
*U.S. Geological Survey, Department of the Interior* – The National Geologic Map Database (NGMDB) is a Congressionally mandated national archive of geoscience maps, reports, and stratigraphic information. According to... Federal



» / item / capabilities / discoveryCapabilities

→ Search Terms: [controller:terms, vocabKey:54bbe9b5e4b0c9445e68cd6d, action:, max:10, offset:0]

### Searching Terms in Discovery Capabilities : 2 Results

Search:  Search

### Term Search Results (2)

Name	Label	Description	Vocab Path
<a href="#">catalogRegistry</a>	Catalog Registry	Item is registered in appropriate catalogs	/item/bedi/discoveryCapabilities
<a href="#">discoveryMetadata</a>	Discovery Metadata	Item is described with sufficient discovery metadata	/item/bedi/discoveryCapabilities

« »

### Other Views

- [JSON Representation of Collection Query Results](#)



[/](#) / [item](#) / [capabilities](#) / [accessCapabilities](#)

→ **Search Terms:** [vocabKey:54bbea34e4b0c9445e68cd6e, max:10, offset:0]

## Searching Terms in **Access Capabilities** : 5 Results

Search:

### Term Search Results (5)

Name	Label	Description	Vocab Path
<a href="#">api</a>	<a href="#">API</a>	Item is available through a more advanced Application Programming Interface that provides advanced functionality (e.g., summarization, custom subsetting, etc.)	/item/bedi/accessCapabilities
<a href="#">customService</a>	<a href="#">Custom Service</a>	Item is available through some form of custom service specific to the data source	/item/bedi/accessCapabilities
<a href="#">download</a>	<a href="#">Download</a>	Item is available for file download of some kind	/item/bedi/accessCapabilities
<a href="#">landingPage</a>	<a href="#">Landing Page</a>	Item can be accessed through a landing page/web site of some kind.	/item/bedi/accessCapabilities
<a href="#">standardService</a>	<a href="#">Standard Service</a>	Item is available through an appropriate standard service (e.g., OGC-WFS)	/item/bedi/accessCapabilities

[/](#) [item](#) / [capabilities](#) / [useCapabilities](#)

→ **Search Terms:** [vocabKey:54bbea5de4b0c9445e68cd6f, max:10, offset:0]

### Searching Terms in **Use Capabilities** : 4 Results

Search:  Search

### Term Search Results (4)

Name	Label	Description	Vocab Path
<a href="#">applicationMatch</a>	<a href="#">Application Match</a>	Data item is connected to applications that provide some form of use or utility on the specific dataset (e.g., mapping application that puts the data in context and provides exploration and/or analysis functionality)	/item/bedi/useCapabilities
<a href="#">publicationMatch</a>	<a href="#">Publication Match</a>	Data item is connected to one or more associated publications that describe how the data were produced or how they have been applied to research or other purposes. This can be done in metadata or via some form of linkage.	/item/bedi/useCapabilities
<a href="#">toolMatch</a>	<a href="#">Tool Match</a>	Data item is connected in some way to available tools; through metadata or some form of linking	/item/bedi/useCapabilities
<a href="#">usabilityMetadata</a>	<a href="#">Usability Metadata</a>	Item has metadata that facilitates use (e.g., lineage/provenance, feature catalog, etc.)	/item/bedi/useCapabilities

« »

### Other Views

usgeo / eoa2012

Search Terms: [vocabKey:54bc0b7ce4b0c9445e68cd80, max:10, offset:0]

### Searching Terms in Earth Observation Assessment 2012 : 60 Results

Search:  Search

#### Term Search Results (60)

Name	Label	Description	Vocab Path
<a href="#">AirborneLiDAR</a>	<a href="#">Airborne LiDAR</a>		/usgeo/eoa2012
<a href="#">DisasterIncidentReports</a>	<a href="#">Disaster Incident Reports</a>		/usgeo/eoa2012
<a href="#">MercuryDepositionNetwork</a>	<a href="#">Mercury Deposition Network</a>		/usgeo/eoa2012
<a href="#">NationalInvasiveSpeciesNetwork</a>	<a href="#">National Invasive Species Network</a>		/usgeo/eoa2012
<a href="#">NationalTrendsNetwork</a>	<a href="#">National Trends Network</a>		/usgeo/eoa2012
<a href="#">PortableWaterGauges</a>	<a href="#">Portable Water Gauges</a>		/usgeo/eoa2012
<a href="#">ShipboardRadars</a>	<a href="#">Shipboard Radars</a>		/usgeo/eoa2012
<a href="#">SocioeconomicSurveys</a>	<a href="#">Socioeconomic Surveys</a>		/usgeo/eoa2012
<a href="#">VolcanoWebcam</a>	<a href="#">Volcano Webcam</a>		/usgeo/eoa2012
<a href="#">AerialDetectionSurveys</a>	<a href="#">Aerial Observers - Aerial Detection Surveys</a>		/usgeo/eoa2012



usgeo / cdi

→ Search Terms: [vocabKey:54bc0cf2e4b0c9445e68cd81, max:10, offset:0]

### Searching Terms in Climate Data Initiative : 6 Results

Search:

### Term Search Results (6)

Name	Label	Description	Vocab Path
<a href="#">CoastalFlooding</a>	<a href="#">Coastal Flooding</a>	Coastal flooding theme from the Climate Data Initiative and Climate Resilience Toolkit	/usgeo/cdi
<a href="#">EcosystemVulnerability</a>	<a href="#">Ecosystem Vulnerability</a>	Ecosystem Vulnerability theme from the Climate Data Initiative and Climate Resilience Toolkit	/usgeo/cdi
<a href="#">FoodResilience</a>	<a href="#">Food Resilience</a>	Food Resilience theme from the Climate Data Initiative and Climate Resilience Toolkit	/usgeo/cdi
<a href="#">HumanHealth</a>	<a href="#">Human Health</a>	Human Health theme from the Climate Resilience Toolkit	/usgeo/cdi
<a href="#">toolkit</a>	<a href="#">Climate Resilience Toolkit</a>	The themes used in the Climate Data Initiative and the Climate Resilience Toolkit are listed in this vocabulary as separate terms. This 'toolkit' term is added to describe data items that are specifically tied to a tool in the CRT.	/usgeo/cdi
<a href="#">Water</a>	<a href="#">Water</a>	Water theme from the Climate Data Initiative and Climate Resilience Toolkit	/usgeo/cdi



usgeo / USGSMission

→ Search Terms: [vocabKey:54bc7486e4b0c9445e68cdc4, max:10, offset:0]

### Searching Terms in USGS Mission Priorities : 7 Results

Search:  Search

#### Term Search Results (7)

Name	Label	Description	Vocab Path
<a href="#">ClimateAndLandUseChange</a>	Climate and Land Use Change Mission Area		/usgeo/USGSMission
<a href="#">CoreScienceSystems</a>	Core Science Systems Mission Area		/usgeo/USGSMission
<a href="#">Ecosystems</a>	Ecosystems Mission Area		/usgeo/USGSMission
<a href="#">EnergyAndMinerals</a>	Energy and Minerals Mission Area		/usgeo/USGSMission
<a href="#">EnvironmentalHealth</a>	Environmental Health Mission Area		/usgeo/USGSMission
<a href="#">NaturalHazards</a>	Natural Hazards Mission Area		/usgeo/USGSMission
<a href="#">Water</a>	Water Mission Area		/usgeo/USGSMission

» / usgeo / DOIPriorities

→ Search Terms: [vocabKey:54bc7a3be4b0c9445e68cdcc, max:10, offset:0]

### Searching Terms in DOI Priorities : 3 Results

Search:

### Term Search Results (3)

Name	Label	Description	Vocab Path
<a href="#">GreatOutdoors</a>	<a href="#">America's Great Outdoors</a>		/usgeo/DOIPriorities
<a href="#">LandscapeUnderstanding</a>	<a href="#">Landscape Scale Understanding</a>	Understanding ecosystem processes and conservation practice at landscape scales	/usgeo/DOIPriorities
<a href="#">Youth</a>	<a href="#">Youth Initiative</a>	Hiring and engagement initiative for young Americans	/usgeo/DOIPriorities

« »


### Other Views

- [JSON Representation of Collection Query Results](#)


- Map Service (6)
  - OGC WMS Service (5)
  - OGC WMS Layer (5)
  - OGC WFS Layer (5)
  - ArcGIS REST Map Service (1)
- Extensions**
- Community (2)
  - ArcGIS REST Service (1)
- Contacts**
- U.S. Geological Survey
  - Peter N Schweitzer
  - Web site administration: U.S Geological Survey Central Publications Group
  - USGS Forest and Rangeland Ecosystem Science Center
  - U.S. Geological Survey, Department of Interior and the National Geophysical Data Center, NOAA
  - **More...**
- Tag Types**
- Catalog (8748)
- Tags (with Scheme=https://www.sciencebase.gov/vocab/category/item/bedi/accessCapabilities)**
- landingpage (4793)
  - download (3844)
  - standardservice (111)

View Results as: JSON ATOM CSV  
Browse Folder

tags...

 **Superfund GIS - Physiographic Provinces, Aquifer Outcrops and Recharge Rates in Tennessee**

This dataset is a coverage of the physiographic provinces, aquifer outcrops and recharge rates for Tennessee. Each polygon is attributed with its associated physiographic region name (Miller, 1974), aquifer type and composition (Connell and Barron, 1993, p. 2), and aquifer recharge rates (Hoos, 1990 p. 19).  
Tags: State of Tennessee, physiographic regions, aquifer outcrops, aquifer recharge, recharge rates, inlandWaters, landingPage, download

 **National Assessment of Oil and Gas Project, Northern Alaska Province (001). Petroleum Systems and Geologic Assessment of Gas Hydrates in Northern Alaska 2008. Limits of the Gas Hydrate stability zone contour lines**

The limits of Gas Hydrate (GH) stability zone contour lines (GH stability thickness zero) shown here is a geographic boundary defined and mapped on basis of U.S. Geological Survey Digital Data Series DDS-35 Gas Hydrate assessment contours that were created in Support of the 1995 National Assessment of United States Oil and Gas Resources. The 1995 CD-ROM released digital map data, figures, and text used in the "1995 National Assessment of United States Oil and Gas Resources -- Results, Methodology, and Supporting Data," U.S. Geological Survey Digital Data DDS-30 (Gautier and others, 1995). The 1995 Assessment Gas Hydrate thickness boundaries were revised and updated according to recent methane hydrate stability zone...  
Tags: USGS World Energy Region 5, National Assessment of Oil and Gas, Natural Gas, North Slope Alaska, US02 = Alaska, **All tags...**



 **National Assessment of Oil and Gas Project - Montana Thrust Belt Province (027) Assessment Units**

The Assessment Unit is the fundamental unit used in the National Assessment Project for the assessment of undiscovered oil and gas resources. The Assessment Unit is defined within the context of the higher-level Total Petroleum System. The Assessment Unit is shown here as a geographic boundary interpreted, defined, and mapped by the geologist responsible for the province and incorporates a set of known or postulated oil and (or) gas accumulations sharing similar geologic, geographic, and temporal properties within the Total Petroleum System, such as source rock, timing, migration pathways, trapping mechanism, and hydrocarbon type. The Assessment Unit boundary is defined geologically as the limits of the geologic...  
Tags: 50270201 = Helena Salient Conventional Oil and Gas, 502707 = Tertiary Lacustrine Shale, USGS World Energy Region 5, National Assessment of Oil and Gas, Natural Gas, **All tags...**

 **Coal Quality Samples from the Northern Rocky**



Type some text to search... Search Advanced Search

Folders: ROOT > System > Big Earth Data Initiative Working Catalog > Cataloging Ready List ( Show all descendants )

250 results (53ms)

**Location**

**Folder**

ROOT

\_\_System

\_\_Big Earth Data Initiative Working Catalog

\_\_Cataloging Ready List

**Filters**

**Date Range**

- Past day (0)
- Past week (0)
- Past month (0)
- Past year (250)
- Custom range...

**Bounding Box**

- Choose Bounding Box

**Contacts**

- U.S. Geological Survey
- Smith, David B.
- Peter N Schweitzer
- National Oceanic and Atmospheric Administration (NOAA), National Ocean Service (NOS), National Centers for Coastal Ocean Science (NCCOS), Center for Coastal Monitoring and Assessment (CCMA), Biogeography Branch
- USDOC/NOAA/NOS/NCCOS/CCEHBR/Coastal Ecology

### 18. National Water Quality Assessment (NAWQA) Program

The U.S. Geological Survey (USGS) began its NAWQA (National Water Quality Assessment) program in 1991, systematically collecting chemical, biological, and physical water quality data from 51 study units (basins) across the nation. The data warehouse currently contains and links the following data: Chemical concentrations in water, bed sediment, and aquatic organism tissues for about 3,000 chemical constituents Site, basin, well and network characteristics with many descriptive variables Daily stream flow information for fixed sampling sites Groundwater levels for sampled wells 4,700 surface water sites and 9,500 wells 68,000 nutrient samples and 45,000 pesticide samples as well as 13,000 VOC samples 2,700 samples...

Tags: WaterQualitySensors, streamGageNetwork, usgsWaterQualitySamples

### EnviroAtlas - Durham, NC - Ecosystem Services by Block Group

### Global 30 Arc-Second Elevation (GTOPO30)

Global 1-km digital raster data derived from a variety of sources.

Tags: AirborneLIDAR

### HYDRO1K

A global hydrologic database derived from 1996 GTOPO30 data.

Tags: AirborneLIDAR

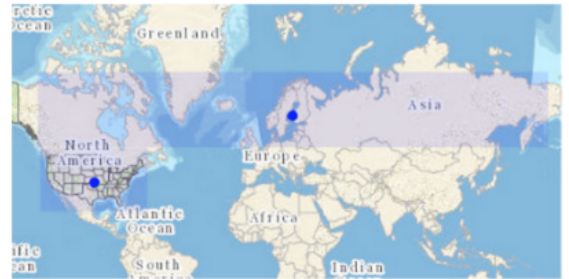
### Forest Carbon Tracking

The Forest Carbon Tracking Task (GEO FCT) was created to support countries wanting to establish national forest-change, carbon estimation and reporting systems.

Tags: landsat

### Conservation Effects Assessment Project (CEAP) Cropland Baseline Conservation Condition for Upper Mississippi River Basin

### EnviroAtlas - Recreation, Culture, and Aesthetics Metrics for Conterminous United States







Type some text to search...  [Advanced Search](#)

Filters: Tags: {"type": "Catalog", "name": "broken link"} (X)

Folders: ROOT > System > USGS Collections ( Show direct descendants )

261 results (313ms)

**Location**

**Folder**

- ROOT
- System
- USGS Collections
  - Airborne geophysical surveys: magnetic anomaly and gamma ray from USGS and NURE
  - Alaska Science Center
  - Coastal and Marine Geology Program
  - Core Science Analytics and Synthesis
  - Earth Resources Observation and Science
  - [More...](#)

**Filters**

**Date Range**

- Past day (0)
- Past week (0)
- Past month (0)
- Past year (261)
- Custom range...

**Bounding Box**

- Choose Bounding Box

**Contacts**

**Square-Mile Cells that represent Proprietary Gas-producing Wells from Shale Intervals in the United States**

The U.S. Geological Survey has compiled a map of shale gas assessments in the United States that were completed by 2012, such assessments having been included as part of the U.S. Geological Survey National Assessment of Oil and Gas Project. Using a geology-based assessment methodology, the U.S. Geological Survey quantitatively estimated potential volumes of undiscovered gas within shale-gas assessment units. These shale-gas assessment units are mapped, and square-mile cells are shown to represent proprietary shale-gas wells. The square-mile cells include gas-producing wells from shale intervals. In some cases, shale gas formations contain gas in deeper parts of a basin and oil at shallower depths (for example, the...)

Tags: U.S. Geological Survey, Natural Resources, Shale gas resources, Oil and Gas Production, ShaleGas, [All tags...](#)



**Map service: Cretaceous-Tertiary Coalbed Gas--National Assessment of Oil and Gas - Tertiary Strata and Cretaceous-Tertiary Coalbed Gas, Upper Jurassic-Cretaceous-Tertiary Composite Total Petroleum System, Gulf Coast (Provinces 047, 048 and 049)**

A geographic information system focusing on Tertiary strata and Cretaceous-Tertiary coalbed gas was developed for the U.S. Geological Survey's (USGS) 2007 assessment of undiscovered, technically recoverable oil and natural gas resources of the Gulf Coast Region. The USGS Energy Resources Science Center has developed map and metadata services to deliver the 2007 assessment results GIS data and services online. The Gulf Coast assessment is based on geologic elements of a total petroleum system (TPS) as described in Dubiel and others (2007) and Warwick and others (2007). The estimates of undiscovered conventional oil and gas resources are within 33 assessment units (AUs) and the estimates of continuous coalbed gas resources...

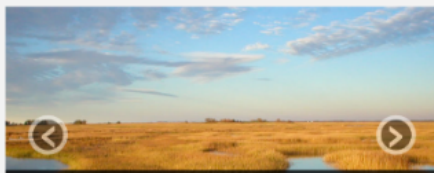
Tags: USGS World Energy Region 5, National Assessment of Oil and Gas, Natural Gas, 50470143 = Middle Miocene Slope And Basin Gas, Jackson Louisiana-Mississippi-Alabama Area, Assessment Unit 50470130, [All tags...](#)

**Map service: Paleocene--National Assessment of Oil and Gas - Tertiary Strata and Cretaceous-Tertiary Coalbed Gas, Upper Jurassic-Cretaceous-Tertiary Composite Total Petroleum System, Gulf Coast (Provinces 047, 048 and 049)**

A geographic information system focusing on Tertiary strata and Cretaceous-Tertiary coalbed gas was developed for the U.S. Geological Survey's (USGS) 2007 assessment of undiscovered, technically recoverable oil and natural gas resources of the Gulf Coast Region. The USGS Energy Resources Science Center has developed map and metadata...

**U.S. Geological Survey Science Data Catalog**

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**Mission Area: Ecosystems**  
Discover Catalog Holdings provided by the USGS Ecosystems Mission Area

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Data Search

[Limit search by location](#)

**Current Selection(s): 6290 Results Found**  
All Catalog Holdings

**Filter By:**

**Keywords**

- geophysics (1609)
- magnetic field (earth) (1594)
- field monitoring stations (1592)
- aeromagnetic surveying (1587)
- aeromagnetic data (1473)
- magnetic (1471)
- total field (1471)
- residual magnetic field (1471)

< 1 2 3 ... 628 629 >

Results: 10 Sort By: Relevance

Displaying 1 to 10 of 6290

**USGS Groundwater Data for the Nation - National Water Information System (NWIS)**

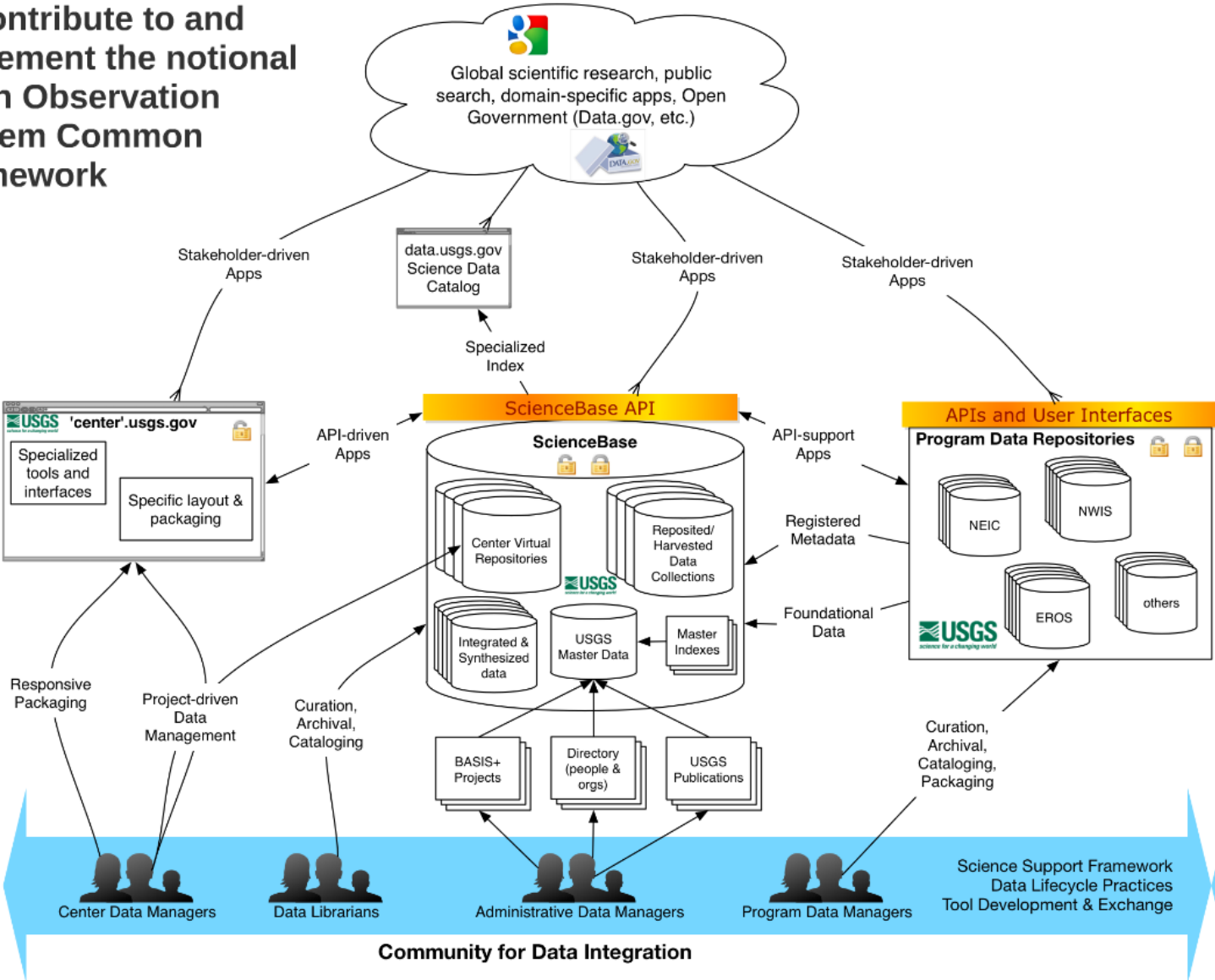
**Featured Dataset**

**Data Source:** Water National Spatial Data Infrastructure Node  
**Mission Area:** Water Resources

**Begin Date:** Unknown  
**End Date:** 12/31/2014

The USGS compiles online access to water-resources data collected at approximately 1.5 million sites in all 50 States, the District of Columbia, Puerto Rico, the Virgin Islands, Guam, American [more](#)

**USGS is working  
to contribute to and  
implement the notional  
Open Observation  
System Common  
Network**



***Sky Bristol***  
***sbristol@usgs.gov***