Discovering Spatial Data for Our Changing Earth

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Tucson, Arizona

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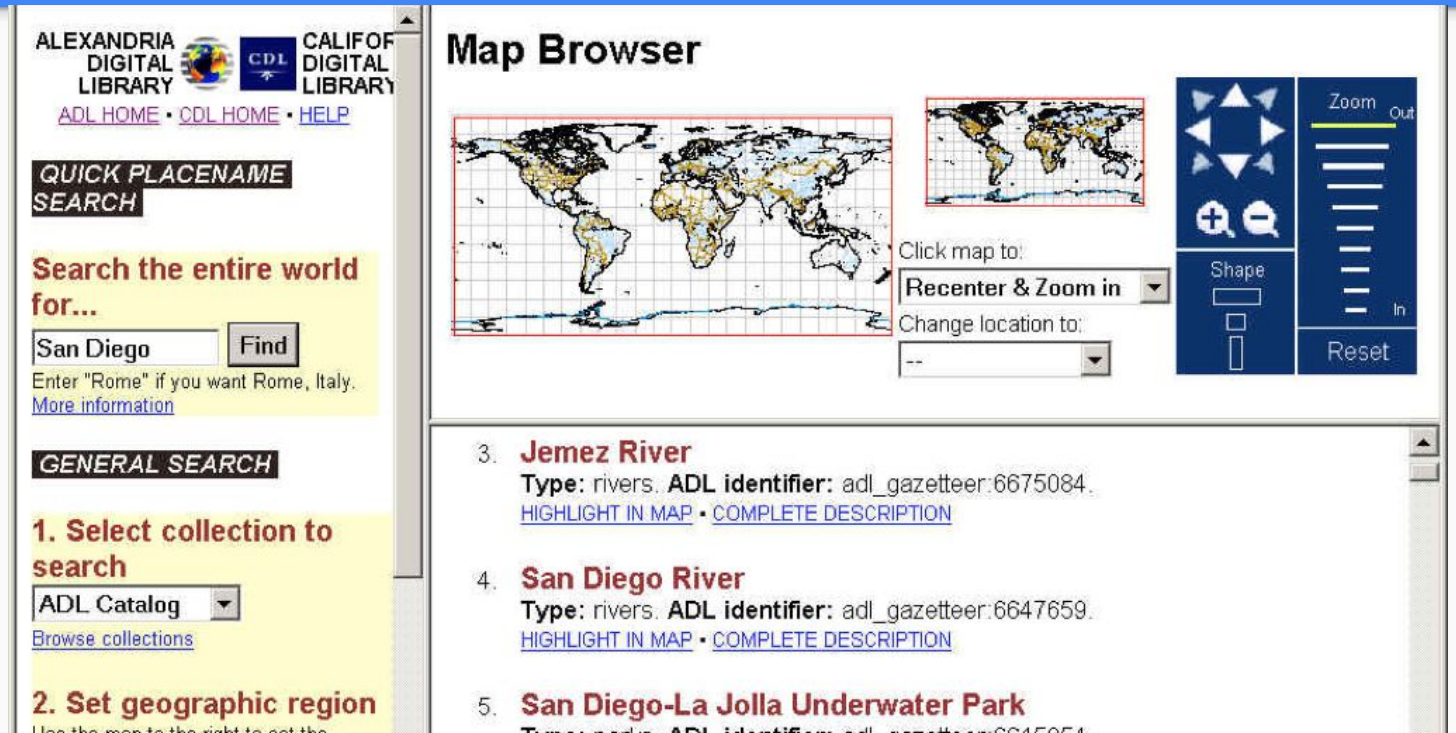
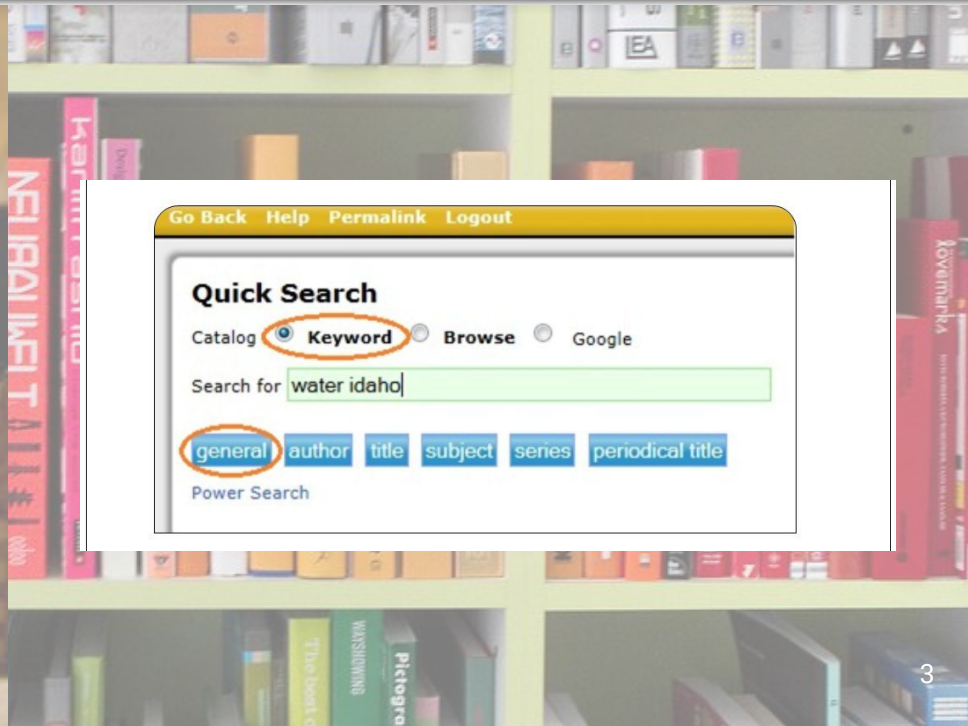
spatial@ucsb
CENTER FOR SPATIAL STUDIES

UCSB | geography

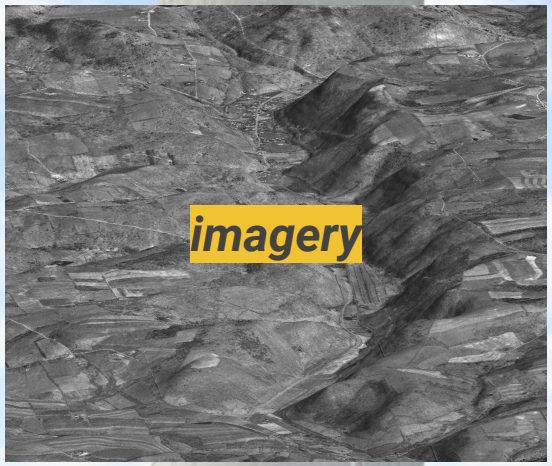
Search, and **research**, have evolved dramatically over the past decades.

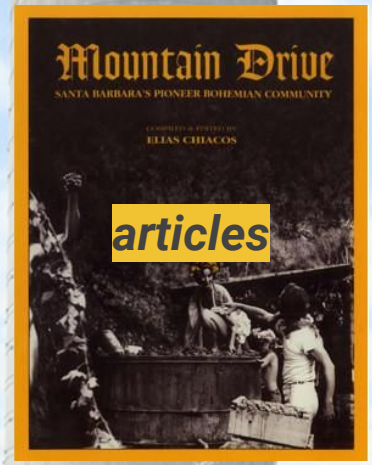


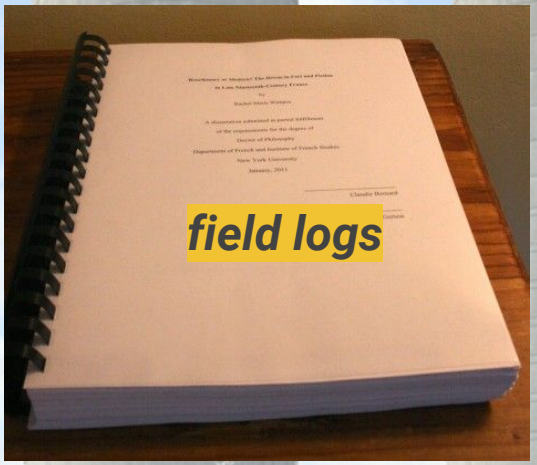
Physical search spaces, like card catalogs or library shelves, create neighborhoods.



Academic research tends to be **siloed,** posing discovery challenges.







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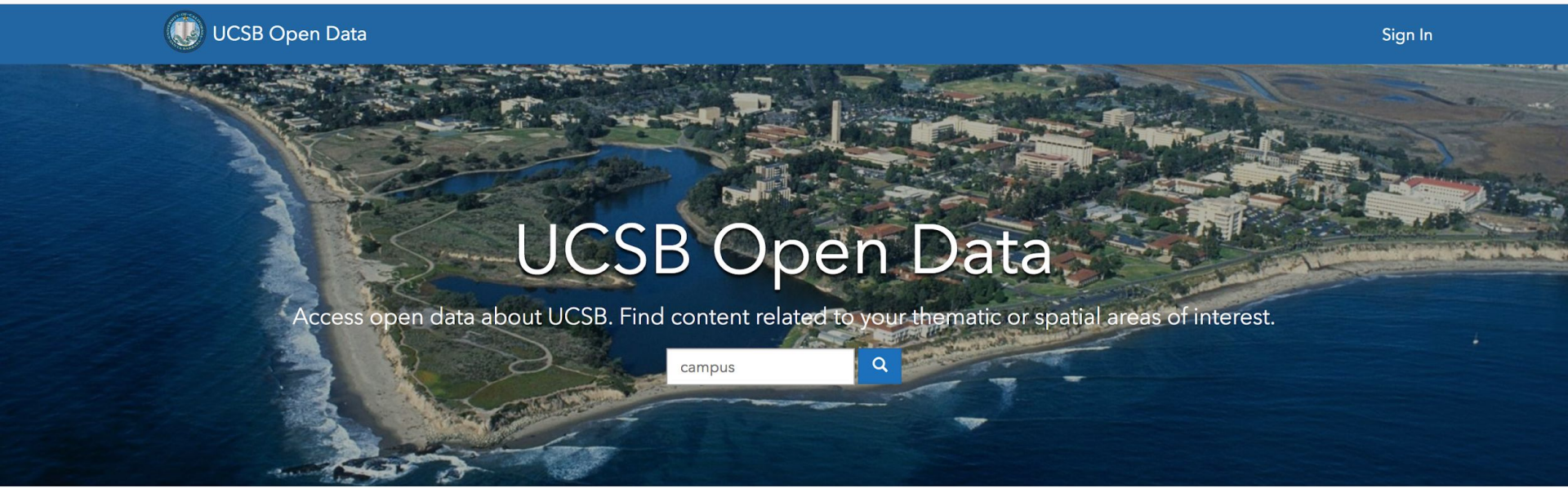
1	probeset	ITCC0600	ITCC0
2	1007_s_at	430.8	2
3	1053_at	79.5	
4	117_at	65.9	
5	121_at	203.3	
6	1255_g_at	5	1
7	1294_at	114.6	
8	1316_at		
9	1320_at		
10	1405_i_at	313.8	1
11	1431_at	18.8	
12	1438_at	2.4	
13	1487_at	94	
14	1494_f_at	30	
15	1552256_a_at	33.4	
16	1552257_a_at	109.2	
17	1552258_at	31.2	

tables

How can we better **integrate** institutional data to make it **discoverable**?



Explore Open Data Groups

MesoAmerican Research Center

Interdisciplinary Research Collaboratory

Interactive Campus Map

Cheadle Center for Biodiversity

Integration by location

Dr. Katja Seltmann

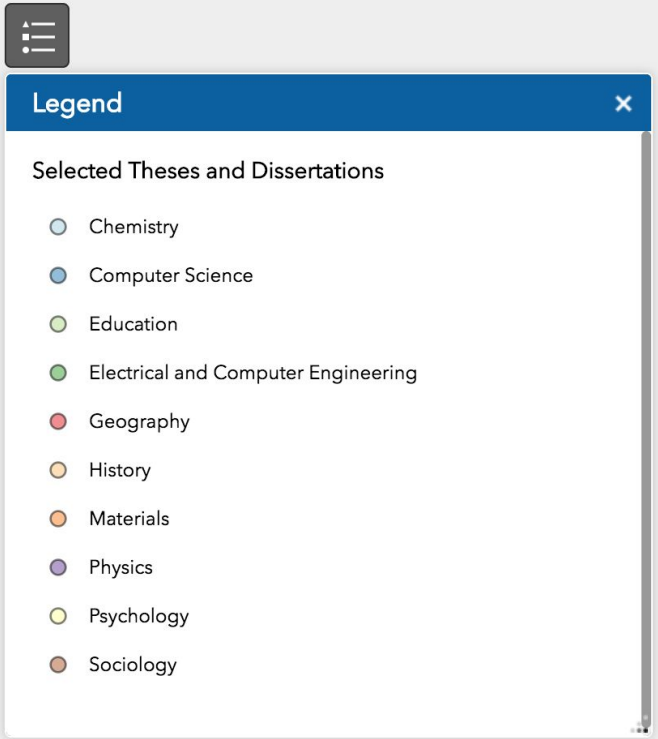
“insect counts”

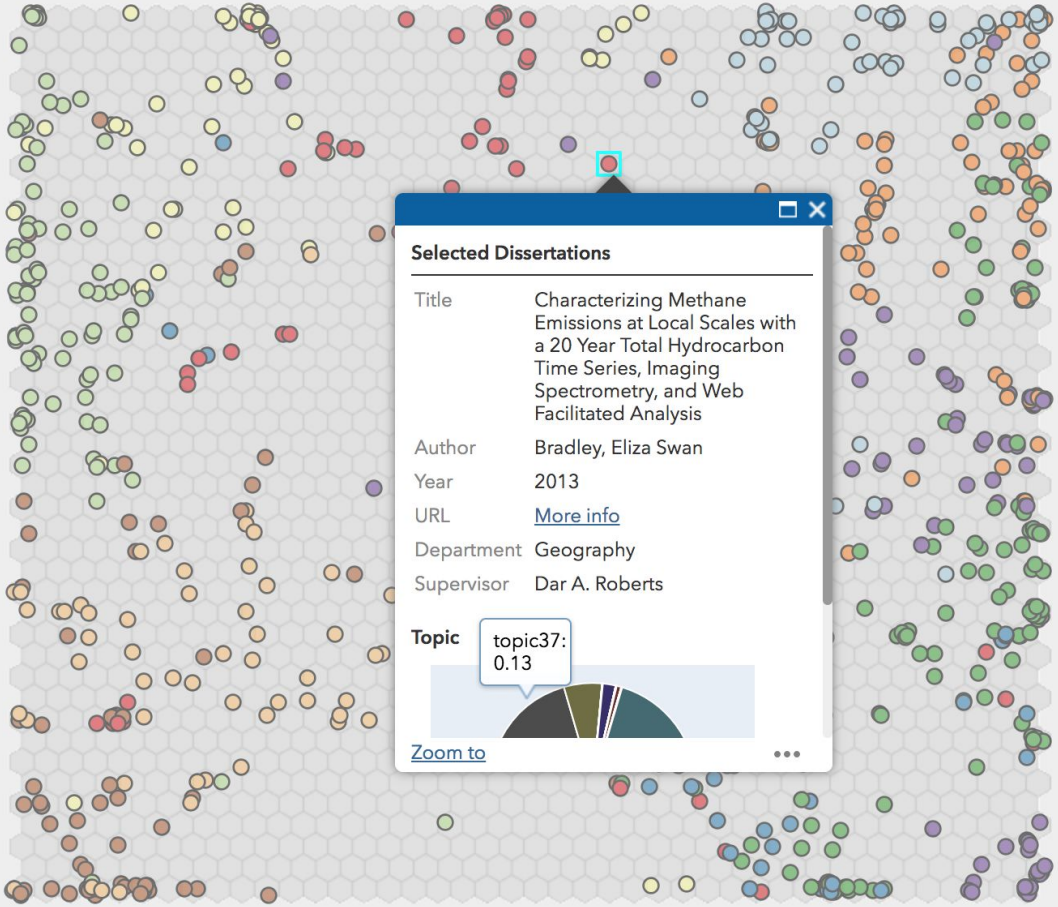
Dr. Anabel Ford

“excavation sites”

Dr. Tom Patterson

“contested borders”





Integration by theme

How can we **improve** search for institutional data to make it more broadly **accessible**?

Search for data using **colloquial** user terms must be supported **semantically**.

Browse by Categories

Safe
Crime
Disaster
Emergency Response

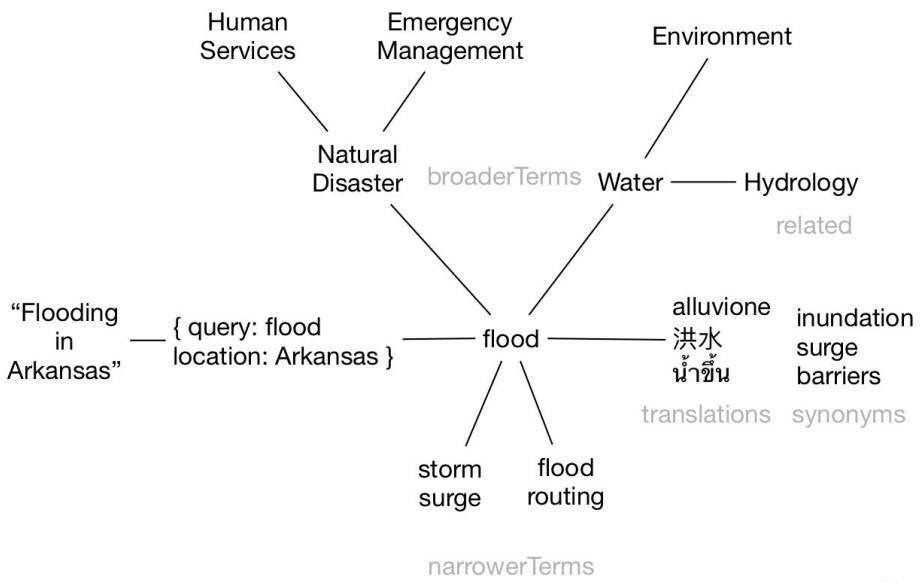
Prosperous
Demographics
Economy
Education

Sustainable
Climate
Energy
Infrastructure

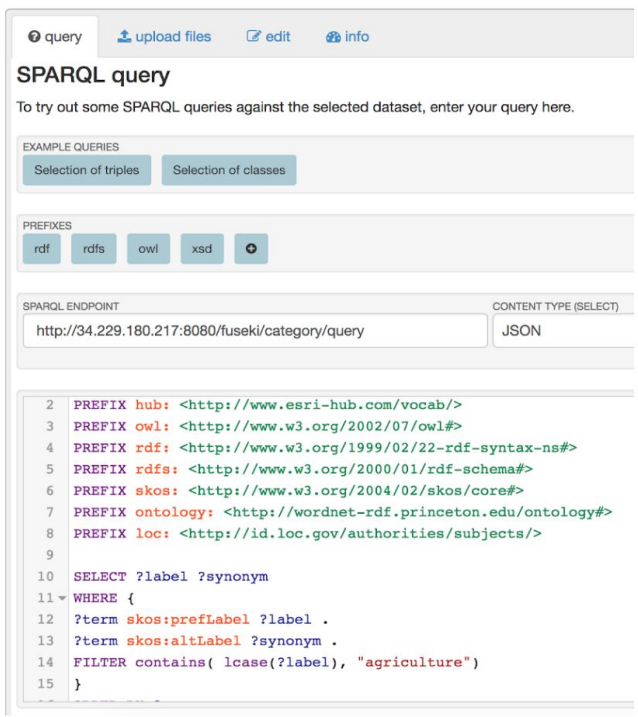
Healthy
Agriculture
Disease
Health-Care

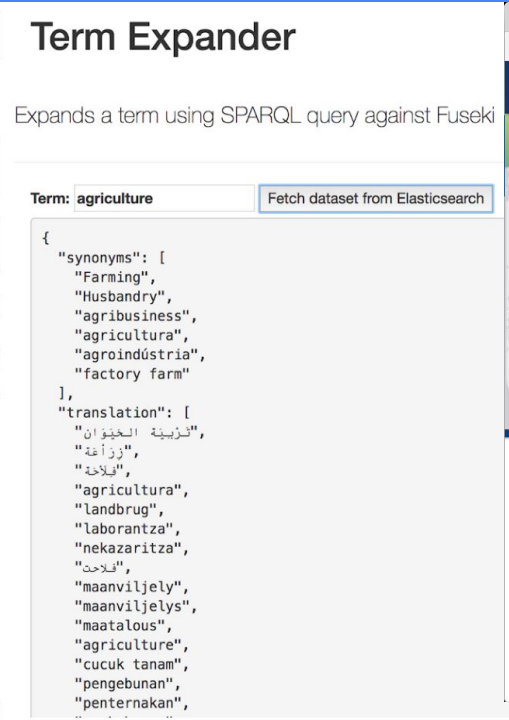
Liveable
Culture
Housing
Transportation

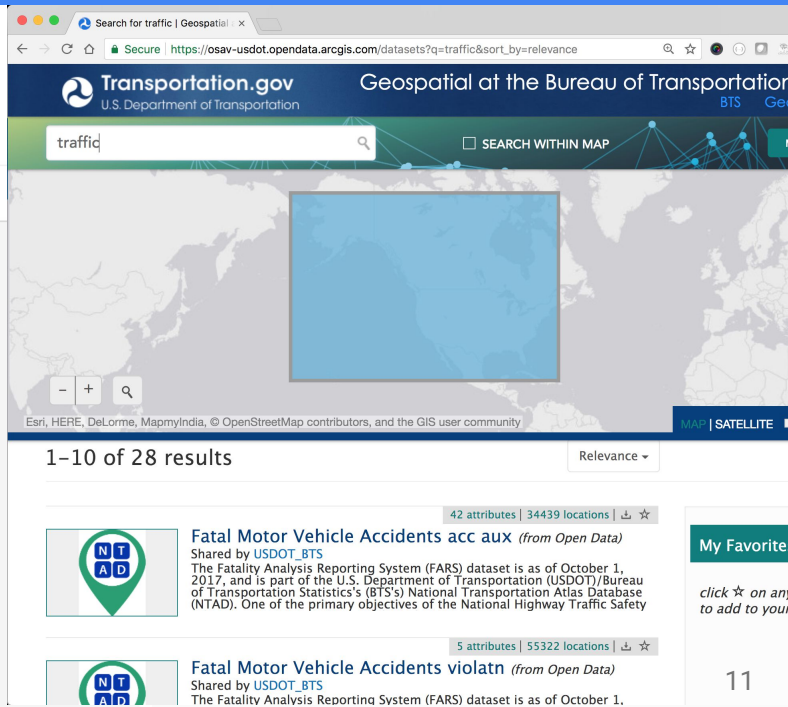
Well-Run
Boundaries
Financial
Planning & Land Use

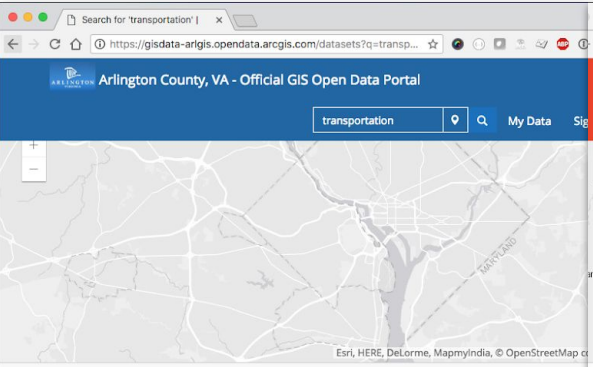


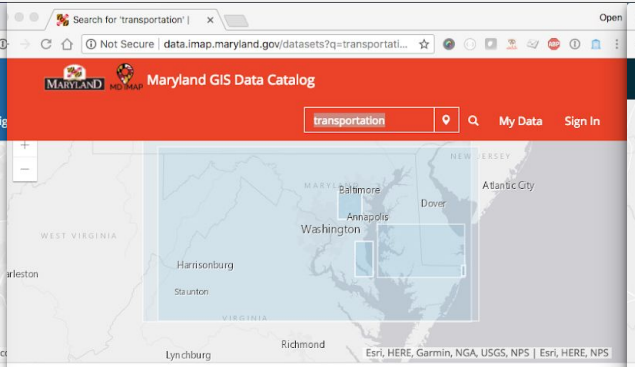
Semantic web technologies can bridge users' terms with technical metadata.

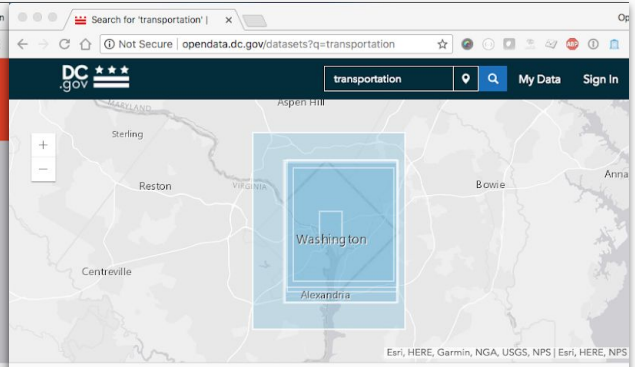












No datasets found.
Please try different search terms.

Browse All Datasets

Filter By

Tags

Maryland (180)
Wms (169)
Kml (168)
Md (168)
Md Imap (168)

More

Source

ArcGIS Online for Maryland (171)

Content Type

spatial dataset (171)
web mapping application (14)

1 - 10 of 185 results

Relevance

MDOT SHA - Transportation Projects

Shared by marshall.stevenson1

The Maryland Department of Transportation (MDOT) Maryland State Highway Administration (SHA) has established an innovative approach for presenting its transportation projects

Custom License | 2/2/2018 | Web Mapping Application

Maryland Recreational Uses - Charter Transport

Shared by mdimapdatacatalog

This is a MD iMAP hosted service layer. Find more information at http://imap.maryland.gov.Maryland, through its Coastal Zone Management (CZM) Program, is collecting information on how

Custom License | 7/1/2014 | Spatial Dataset | 4 Rows

Maryland Local Transit - Regional Transportation Agency Stops

Shared by mdimapdatacatalog

This is a MD iMAP hosted service. Find more information on http://imap.maryland.gov. This layer displays RTA Bus Stops. Data was retrieved from GTFS feed. Created by CMRT. Layer

Custom License | 5/27/2016 | Spatial Dataset | 796 Rows

MDOT SHA - Transportation Alternatives Program (TAP)

Shared by marshall.stevenson1

As part of the Federal Highway Administration Surface Transportation Program, the Transportation Alternatives Program (TAP) is a reimbursable federal aid funding program

Custom License | 2/2/2018 | Web Mapping Application

Maryland Local Transit - Calvert County Public Transportation Stops

Filter By

Tags

Transportation (363)
Washington Dc (343)
District Of Columbia (338)
Dc (337)
Washington (282)

More

Source

City of Washington, DC (387)

Content Type

spatial dataset (284)
table (99)
document (4)

1 - 10 of 387 results

Relevance

Transportation Study Areas

Shared by DCGISopendata

Transportation Study Area locations. The dataset contains locations and attributes of TransportationStudyAreas, created as part of the District of Columbia, Department of Transportation

1/29/2018 | Spatial Dataset | 77 Rows

Construction Permits (via DDOT TOPs)

Shared by DCGISopendata

This data sets shows construction permits from DDOT's Transportation Online Permitting System. https://tops.ddot.dc.gov/

1/29/2018 | Spatial Dataset | 110,533 Rows

Service Roads

Shared by DCGISopendata

Street Roadway Segments. A single line, segmented at all intersections (alley , service road, drive, street, and driveway centerline types), representing each street in the District. They

12/25/2013 | Spatial Dataset | 124 Rows

Tour Bus Drop-off Pick-up Locations

Shared by DCGISopendata

Tourbus Loading and Unloading Locations. The dataset contains locations and attributes of locations for Tourbus loading/unloading locations, created as part of the District of

1/29/2018 | Spatial Dataset | 29 Rows

Guardrails and Barriers

Shared by DCGISopendata

Guardrails and barriers. This dataset was collected as part of the planimetric mapping project. Hidden features were added as enhancements to this dataset.

Improved spatial discovery can help us realize the **socioeconomic value** of data.

Spatial **data integration** and **semantic search** can improve the discovery of valuable field station data in the near future.

SANTA CRUZ ISLAND

The largest of the Channel Islands and the site of important archaeological resources and many endemic plant and animal species including the island fox.

SEDGWICK

Over nine square miles at the base of Figueroa Mt. encompassing a diverse array of geological features and a wide variety of vegetation types and wildlife

CARPINTERIA SALT MAR

Protects a critically impor estuarine ecosystem that supports many sensitive plan and animal species.

COAL OIL POINT

Includes coastal dune and wetland ecosystems that provide critical habitat for migratory birds and threatened and endangered species.

Increasing **semantic interoperability** helps track progress toward collaborative goals.

Thank you!

Werner Kuhn, UCSB (graduate advisor)

Mark Schildhauer, NCEAS (project supervisor)

Katja Seltmann, UCSB (master's committee)

Andrew Turner and **Pranav Kulkarni**, Esri Research and Development (project supervisors)