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Geospatial Data Discovery & Access: Implementing Open Geoportal at the University of Arizona

Presented by Ben Hickson and Chris Kollen

GIS Coop, October 9, 2015

-49.51619, 27.23803

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Goals

1. Develop a spatial data discovery portal for the University of Arizona that includes multiple search functionality, ability to preview, download and share data with others
 - ▶ Bring together disparate UA spatial data repositories in one resource
 - ▶ Provide a portal for faculty, staff, and students to share their spatial data
 - ▶ Improve seamless access to campus spatial data

Goals (cont.)

2. Provide support for:

- ▶ Libraries' GIS and geospatial data services
- ▶ University's GIS programs (such as the Masters in GIST) and other classes with spatial data needs
- ▶ Center for Geographic Innovation in Science and Technology

Open Geoportal

Open Geoportal Initiative (<http://opengeoportal.org>)

- ▶ *“ The Open Geoportal is a collaboratively developed, open source, federated web application to rapidly discover, preview, and retrieve geospatial data from multiple repositories.”*



Open Geoportal

Advantages

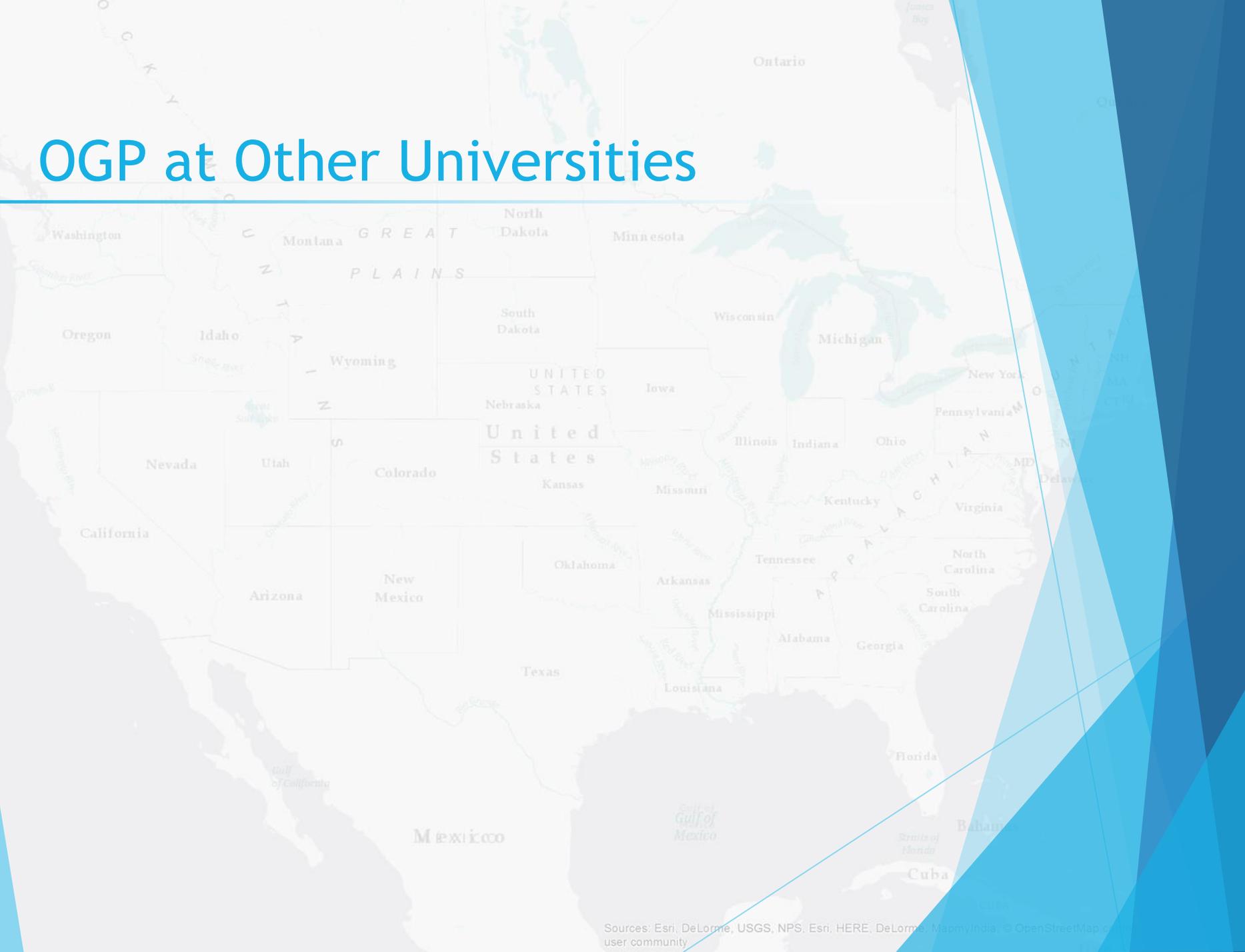
- ▶ Robust search capabilities (by location, keyword, originator, data-type, date, topic, repository)
- ▶ Preview and style geospatial data
- ▶ Access to metadata
- ▶ Download geospatial data in multiple formats
- ▶ Ability to download multiple datasets at a time and share a cart of data
- ▶ Direct WCS, WMS, and WFS services
- ▶ Access to repositories from other contributing institutions

Open Geoportal Community

- ▶ OpenGeoPortal.org
 - ▶ Development Group
 - ▶ Metadata Working Group

- ▶ Multi-Institutional Collaboration

OGP at Other Universities



OGP at Other Universities

● UC Berkeley
California

● U Arizona

● U Minnesota

● UW-Madison

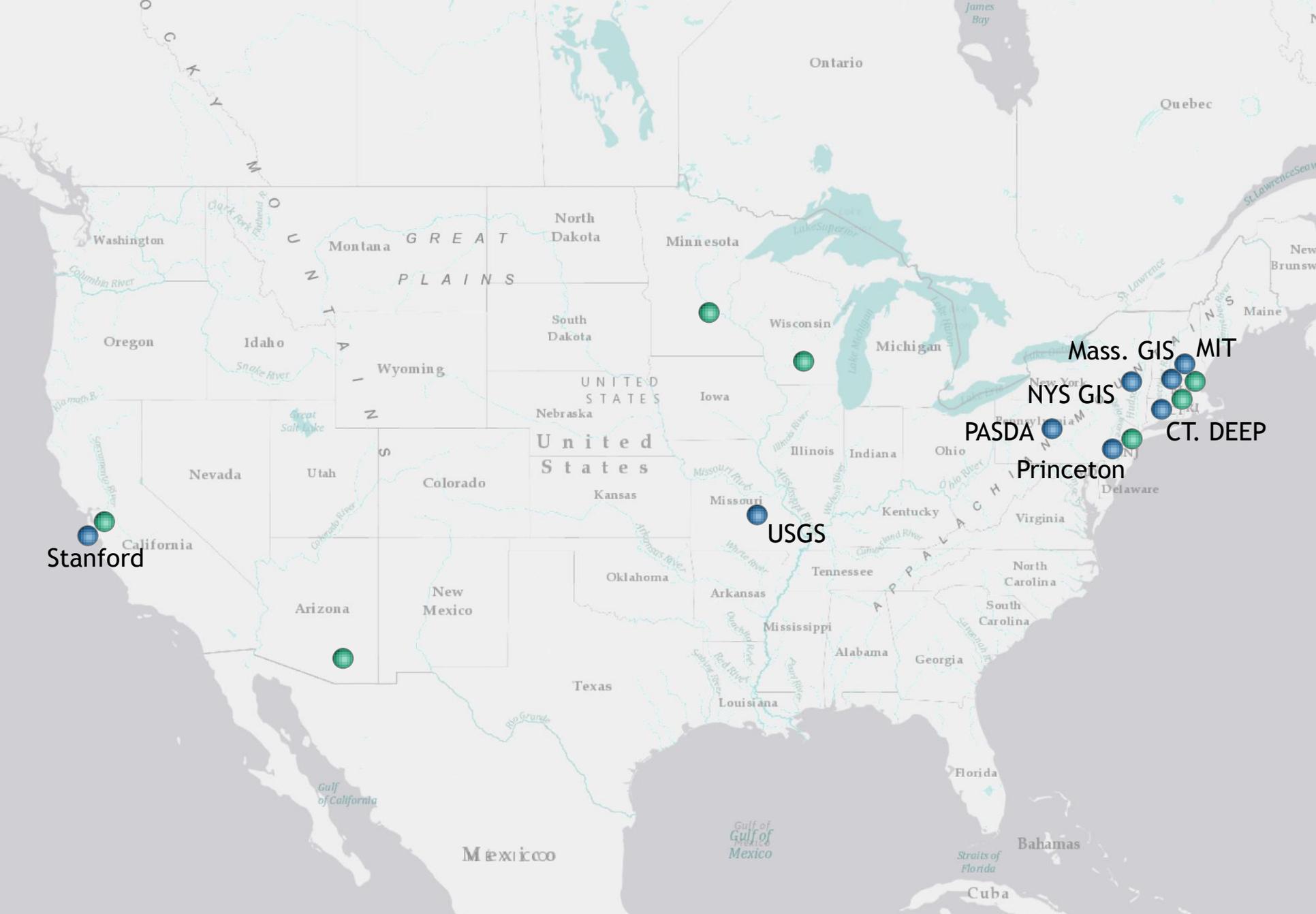
● Tufts

● Harvard
● Columbia

● Active OGP Instances (7)

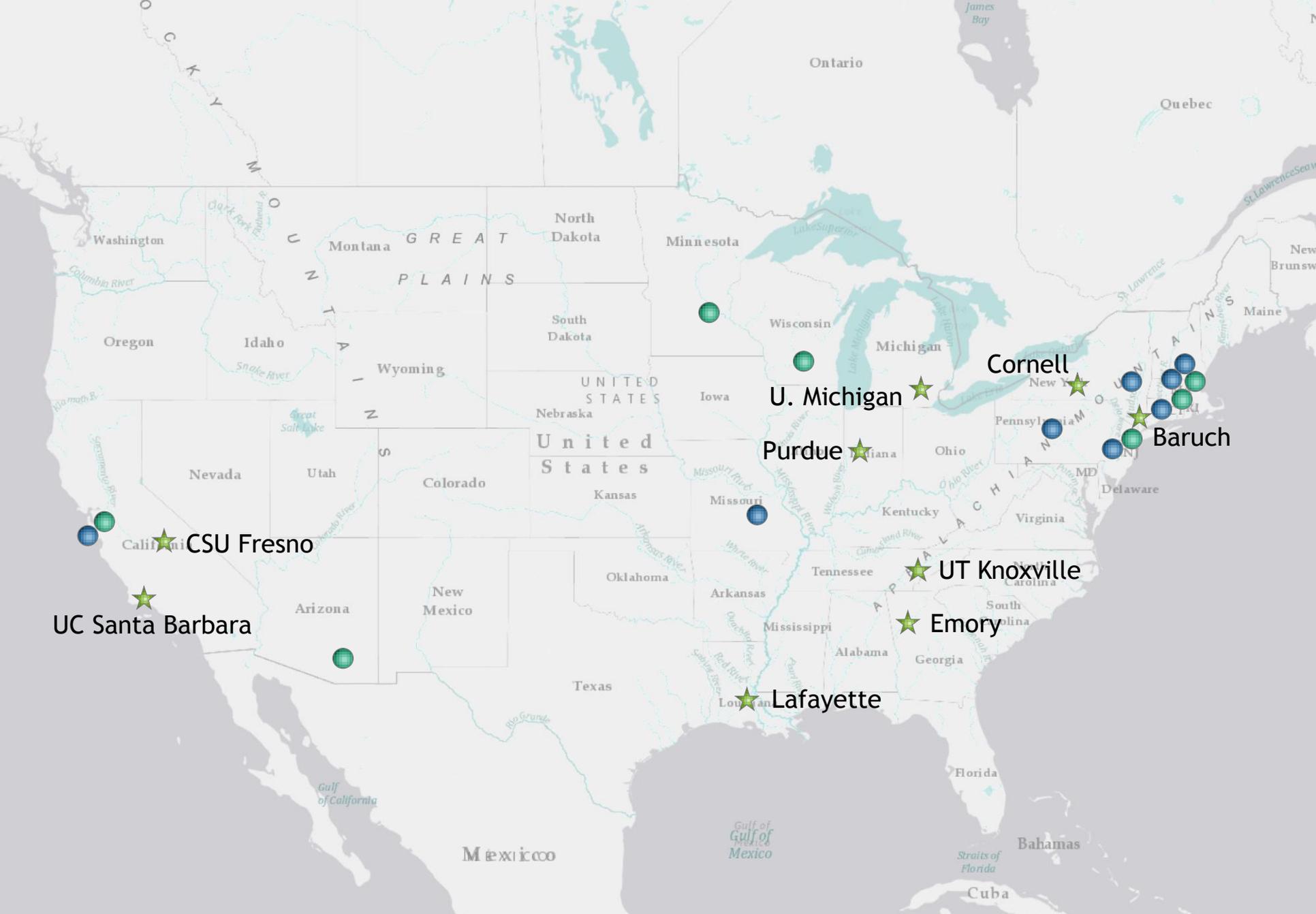
Additional Contributing Institutions

- ▶ Stanford
- ▶ MIT
- ▶ Princeton
- ▶ Massachusetts GIS
- ▶ NYS GIS Clearinghouse
- ▶ US Geological Survey
- ▶ Pennsylvania Geospatial Data Clearinghouse
- ▶ Connecticut Dept. of Energy & Environmental Protection



● Active OGP Instances (7)

● Additional Data Contributors (8)



● Active OGP Instances (7)

● Additional Data Contributors (8)

★ Other MWG Members (23)

DEMO

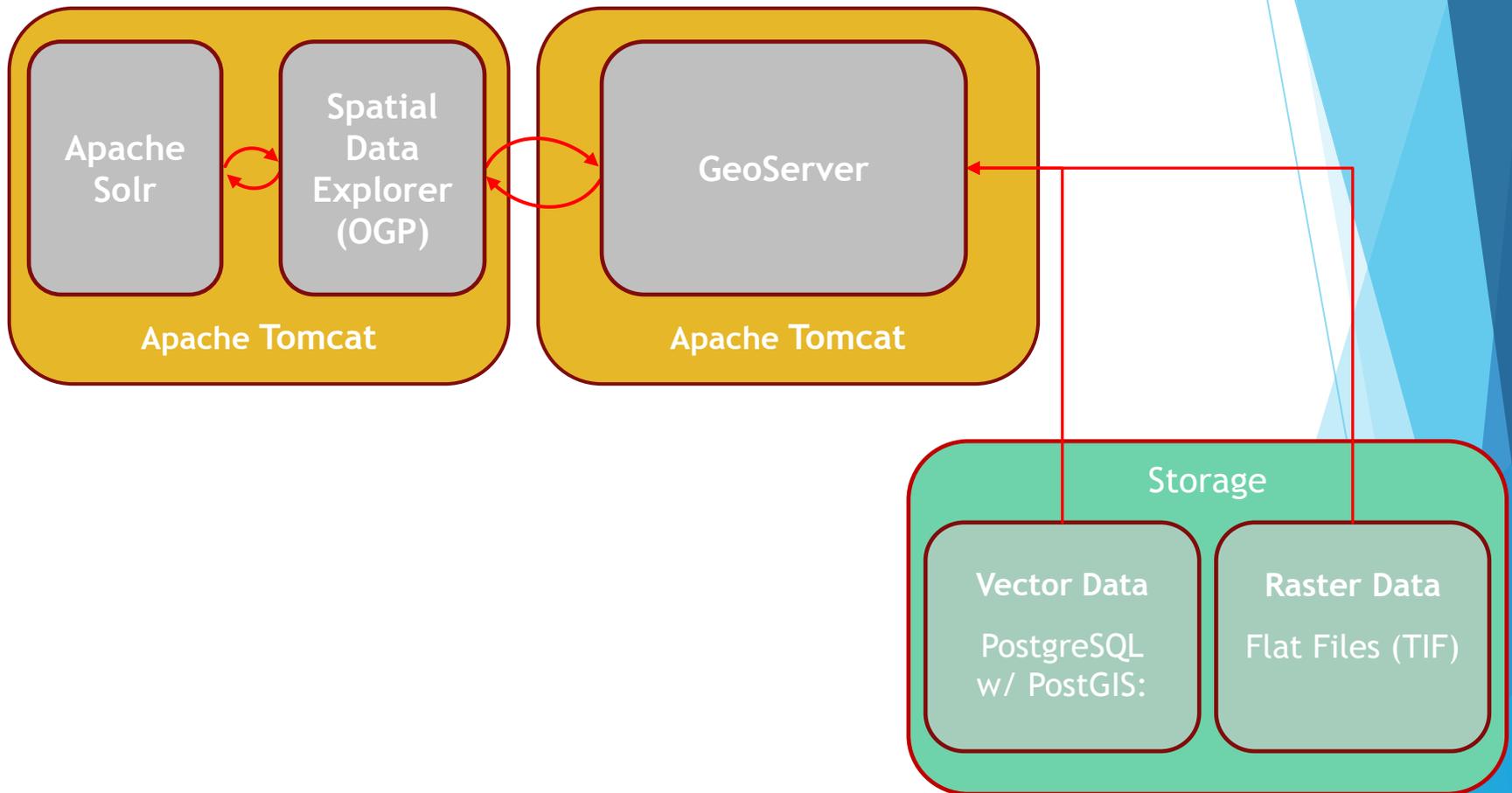
<https://geo.library.arizona.edu>

Open Geoportal Software Stack

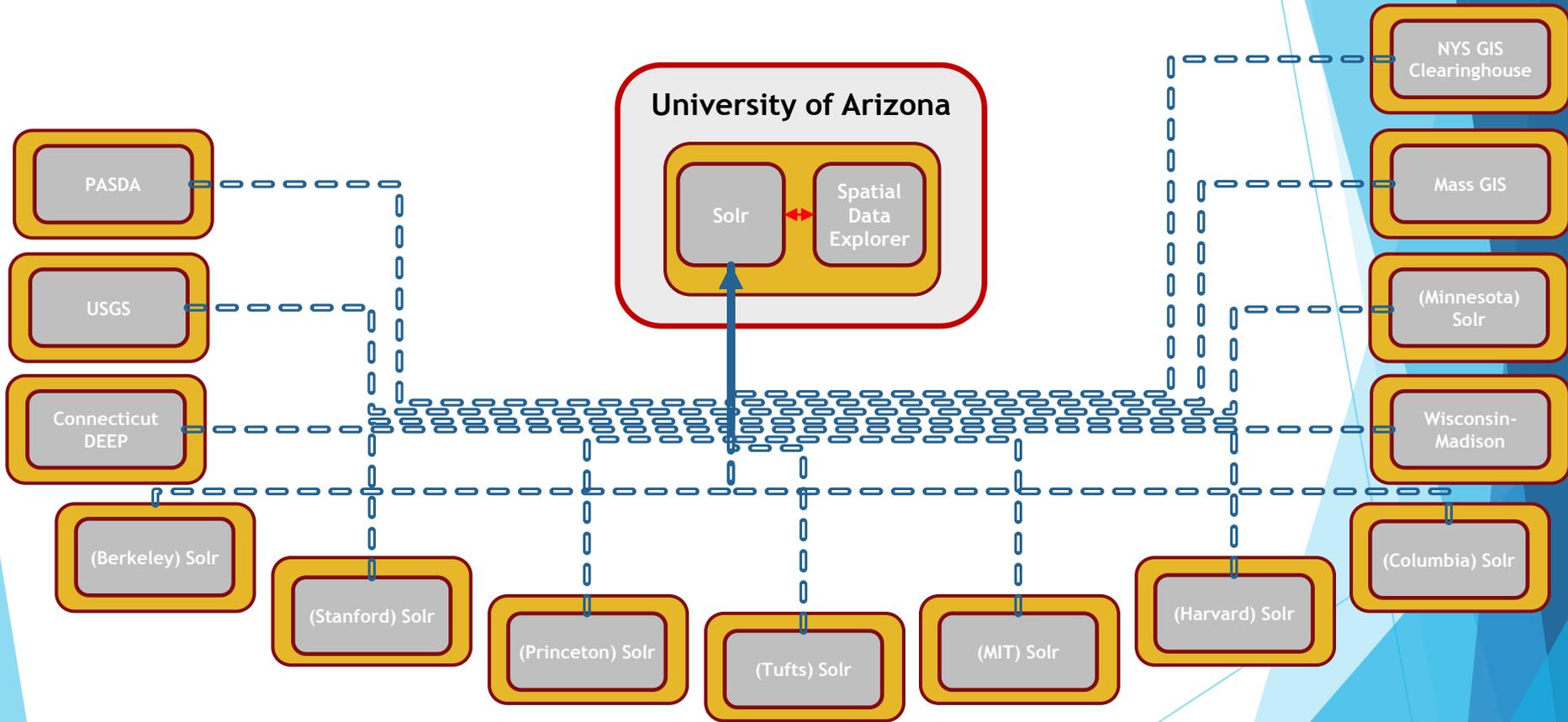
- ▶ 100% Open Source
 - ▶ Javascript
 - ▶ Openlayers (v. 2.12), jQuery with Datatables
 - ▶ Geoserver (2.7)
 - ▶ Apache Solr (4.10)



Structure



Harvesting Metadata



University of Arizona

```
Placekeywordssynonyms : United States Middlesex County Massachusetts New England Marlborough ,  
"GeoReferenced": true,  
"Abstract": "This line dataset represents easements found in Marlborough, MA.",  
"Location": "{\"wfs\":\"https://geoserver02.uit.tufts.edu/wfs\", \"wms\": [\"https://geoserver02.uit.tufts.edu/wms\"]}",  
"MaxY": 42.379873,  
"MinY": 42.313876,  
"MaxX": -71.473874,  
"MinX": -71.623118
```

Data Storage

(Tufts)
GeoServer

Data Storage

(Columbia)
GeoServer

Data Storage

(Harvard)
GeoServer

Data Storage

(Berkeley)
GeoServer

Data Storage

(MIT)
GeoServer

Data Storage

(Harvard)
GeoServer

Data Storage

(Stanford)
GeoServer

Spatial data survey and plans

Surveyed faculty, researchers, and graduate students last spring to gauge interest in contributing spatial data to the UA Spatial Data Explorer

- ▶ Ninety-five faculty, appointed personnel, and graduate students responded and thirty-two indicated being interested in sharing their data or had recommendations of data to include
 - ▶ Disciplines including ecology, public health, climate change, natural resources, planning, archaeology, landscape architecture, history, sociology, water resources, remote sensing, cultural geography
- ▶ We will be getting in touch with them to talk in more detail about their data and determining if it fits our criteria and if any prep work needs to be done

Questions or comments?

UA Spatial Data Explorer - <https://geo.library.arizona.edu>

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Thank you for coming!