

Caltrans Digital Archive of Geotechnical Data (GeoDOG)

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GEOTECHNICAL SERVICES
OFFICE OF GEOTECHNICAL DESIGN POLICIES AND PRACTICES

Outline



Role of Office of Geotechnical Design Policies and Practices



Explanation and history of GeoDOG



How to search and download for geotechnical records



How to submit documents to GeoDOG

Office of Geotechnical Design Policies & Practices

The Office of Geotechnical Design Policies and Practices (OGDPP) is responsible for the development and implementation of all geotechnical policy, process improvements, technical guidance, and business practices.

Some OGDPP responsibilities:

- Geotechnical Manual (technical standards, reporting guidance, and specifications)
- GeoDOG (Digital Archive of Geotechnical Data)
- ARS Online
- GS webpages
- GS software (e.g., SNAIL, QUAIL)
- GS representatives on DES Committees - develop/maintain DES guidance

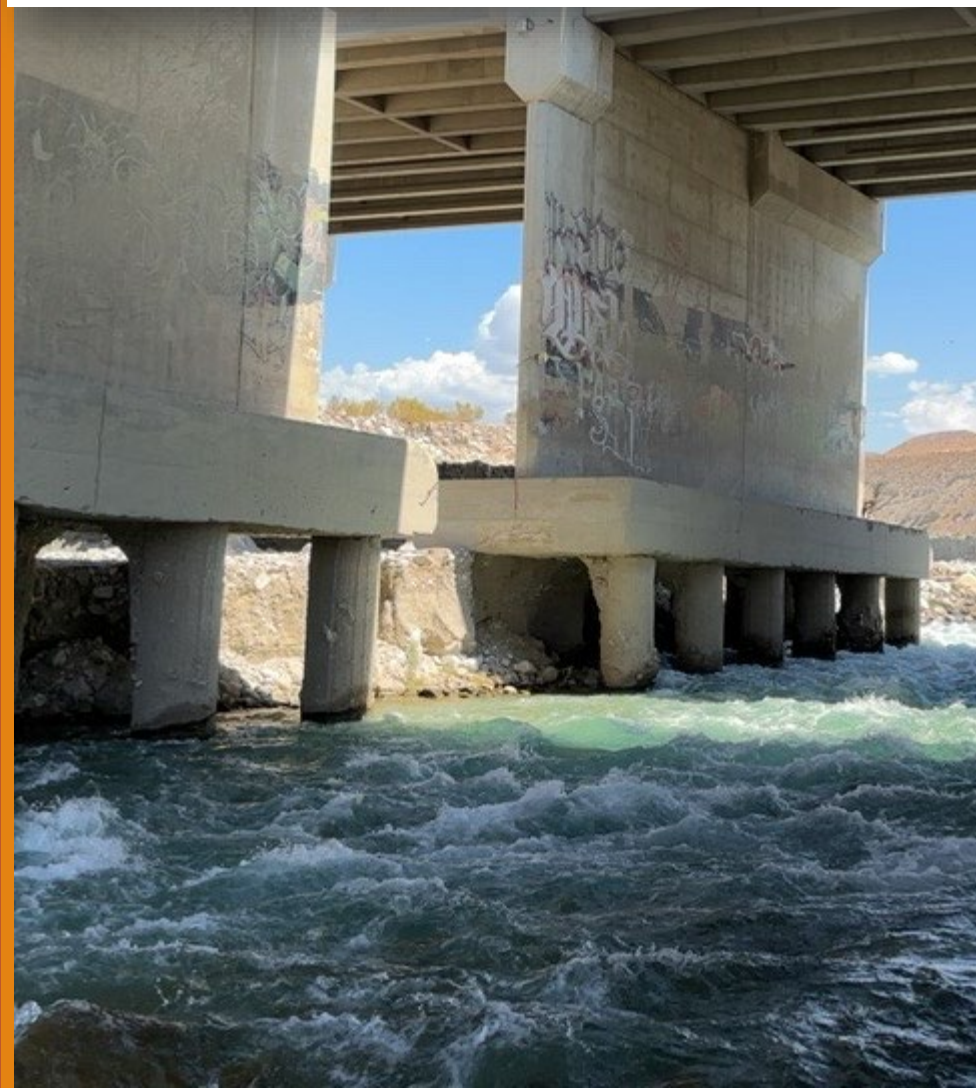
Scour Critical Bridge Program

- Structural and hydraulic evaluations are performed by Caltrans Structures Maintenance & Investigations (SM&I).
- Geotechnical evaluation performed by OGDPP.
- Every bridge within the state is evaluated every 2 years.
- **Scour Critical Bridges are the responsibility of the owner, which includes mitigating the risk of failure due to scour.**
- Caltrans and the Federal Highway Administration use the Highway Bridge Program to help local public agencies and state authorities replace, rehabilitate, or fix deficient and scour-critical bridges.

From: **DEPARTMENT OF TRANSPORTATION**
DIVISION OF ENGINEERING SERVICES
GEOTECHNICAL SERVICES – MS 5
OFFICE OF GEOTECHNICAL DESIGN-POLICIES & PRACTICES

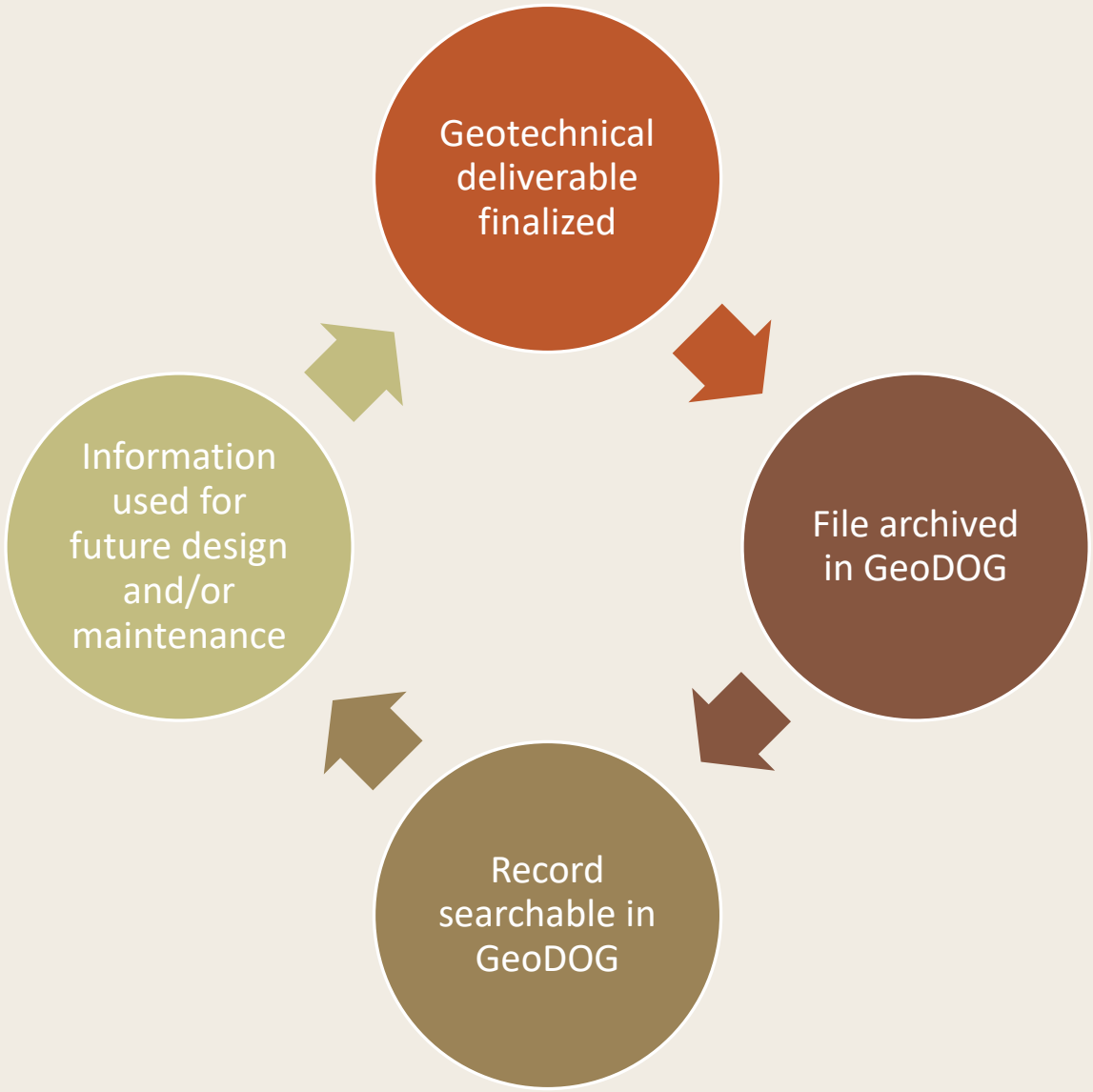
Subject: Geological and Geotechnical Scour Evaluation for Stony Creek Bridge

This memorandum is in response to the August 27, 2026 request from Structure Maintenance and Investigations (SM&I), Office of Specialty Investigations-Hydraulic Inspections Branch (SM&I) for a geological and geotechnical scour assessment of Stony Creek Bridge (No. 11-0072L/R). Specifically, this memorandum provides an evaluation of current and remaining ultimate pile capacity at Pier 11 after estimated future scour conditions. Elevations in this report are referenced to the datum shown on the 1964 As-built plans.



What is GeoDOG?

- GeoDOG is Caltrans web platform for storing and maintaining geotechnical records.
  - GeoDOG supports searching, uploading, and downloading of records.
  - It is continuously updated with new information.
- What is stored?
  - Geotechnical Design Reports and Foundation Reports
  - Log of Test Borings and Boring Records
  - Pile quantities and driving data, pile acceptance testing results
  - Laboratory testing results
  - As-built plan sheets, and other supporting technical materials.



Why GeoDOG Matters

Effective Maintenance

- Use data from design through construction to make informed maintenance decisions.

Speed & Efficiency

- Reduce time spent hunting for past work, avoid duplicate investigations, and support faster emergency response.

Better Decisions

- Enable consistent, data-driven design and review statewide.

Shared Value

- Every contribution strengthens the GeoDOG system for all practitioners.

History and Evolution

2000s

Need to consolidate geotechnical records from across the state into one central location

Convert physical records into digital records

Provide public access to records

2026 Updates

Updated logos and interface

Created a process for external-user uploads

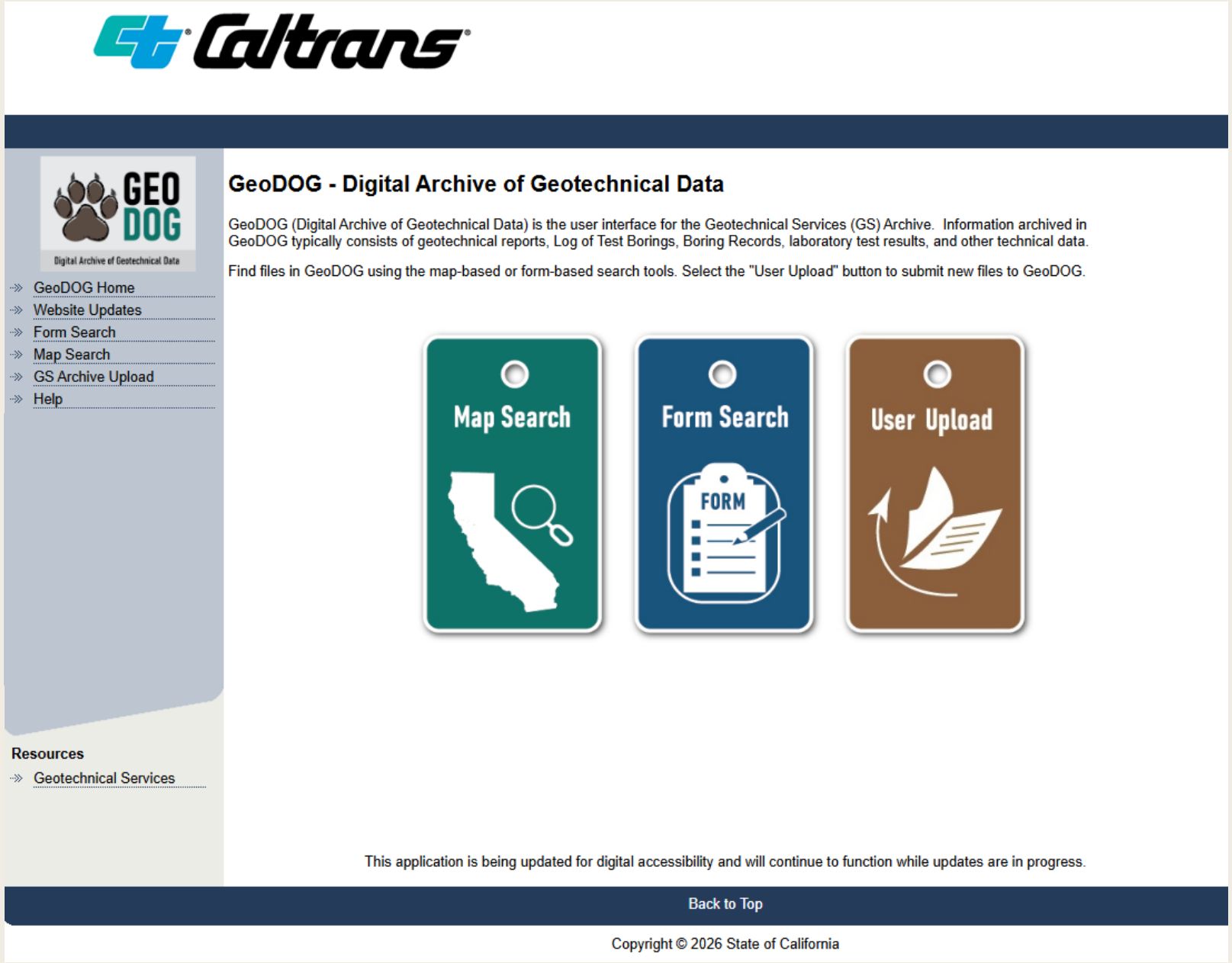
Future Goals

Expand participation by local agencies and consultant partners to strengthen the database for all users

If you would like to follow along, go to:



GeoDOG - Home Page



Form or Map Search

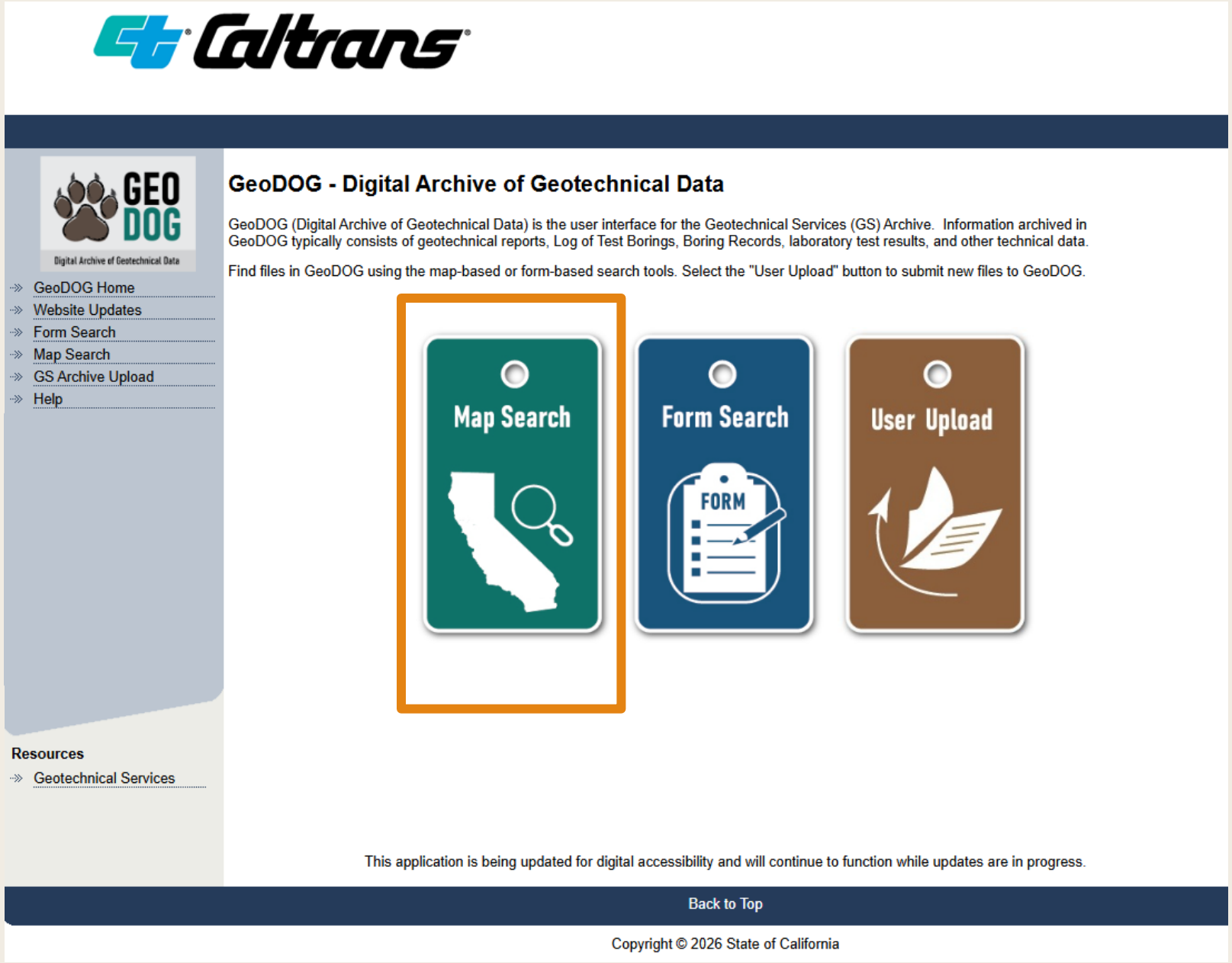
Use Map Search When:

- You know the physical location
- You want to see everything near a site
- You are evaluating a corridor or geographic area
- You have coordinates, an address, or bridge information

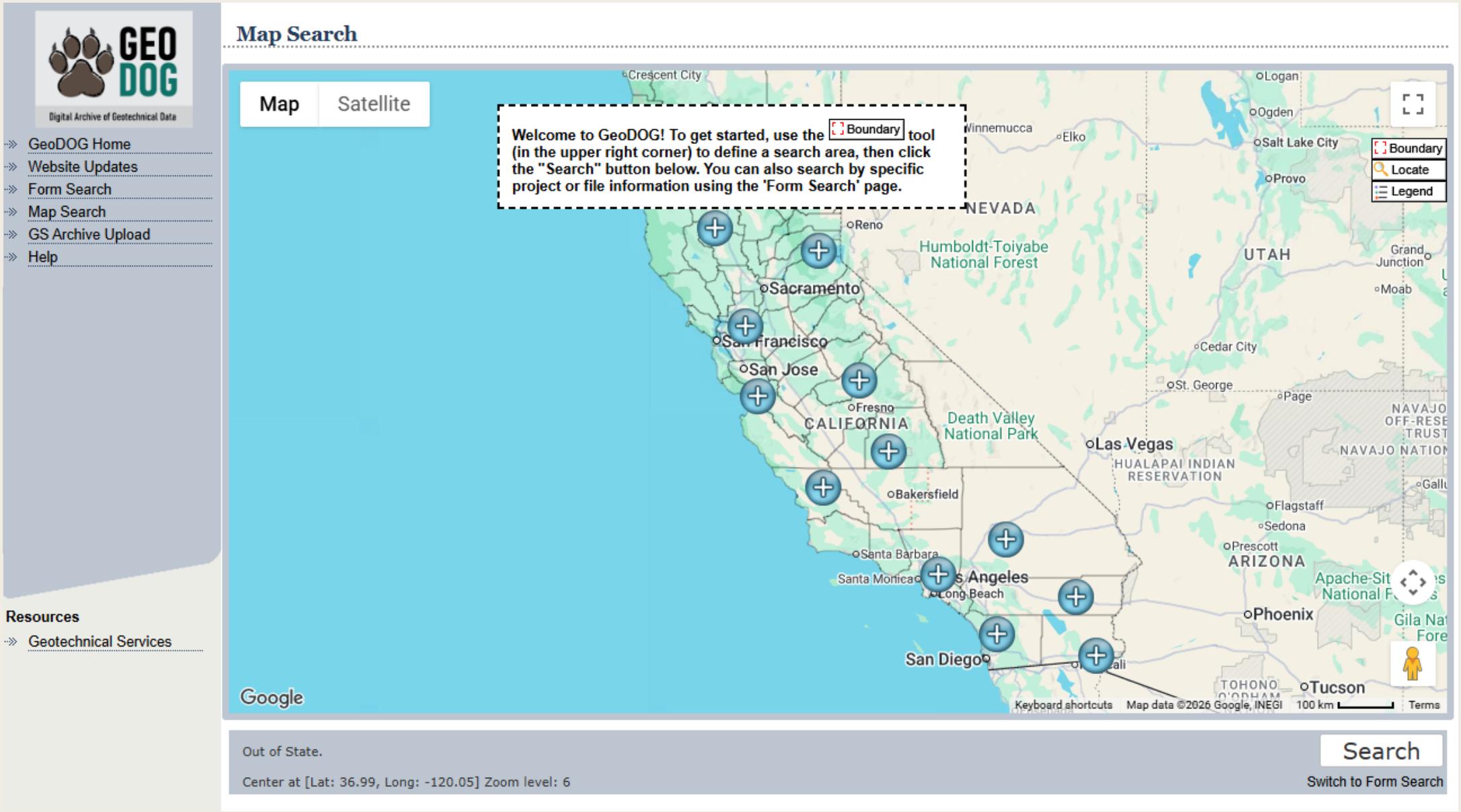
Use Form Search When:

- You know project attributes
- You want to filter by district, county, route, or postmile
- You are looking for a particular record or project
- You want to refine a broad result set

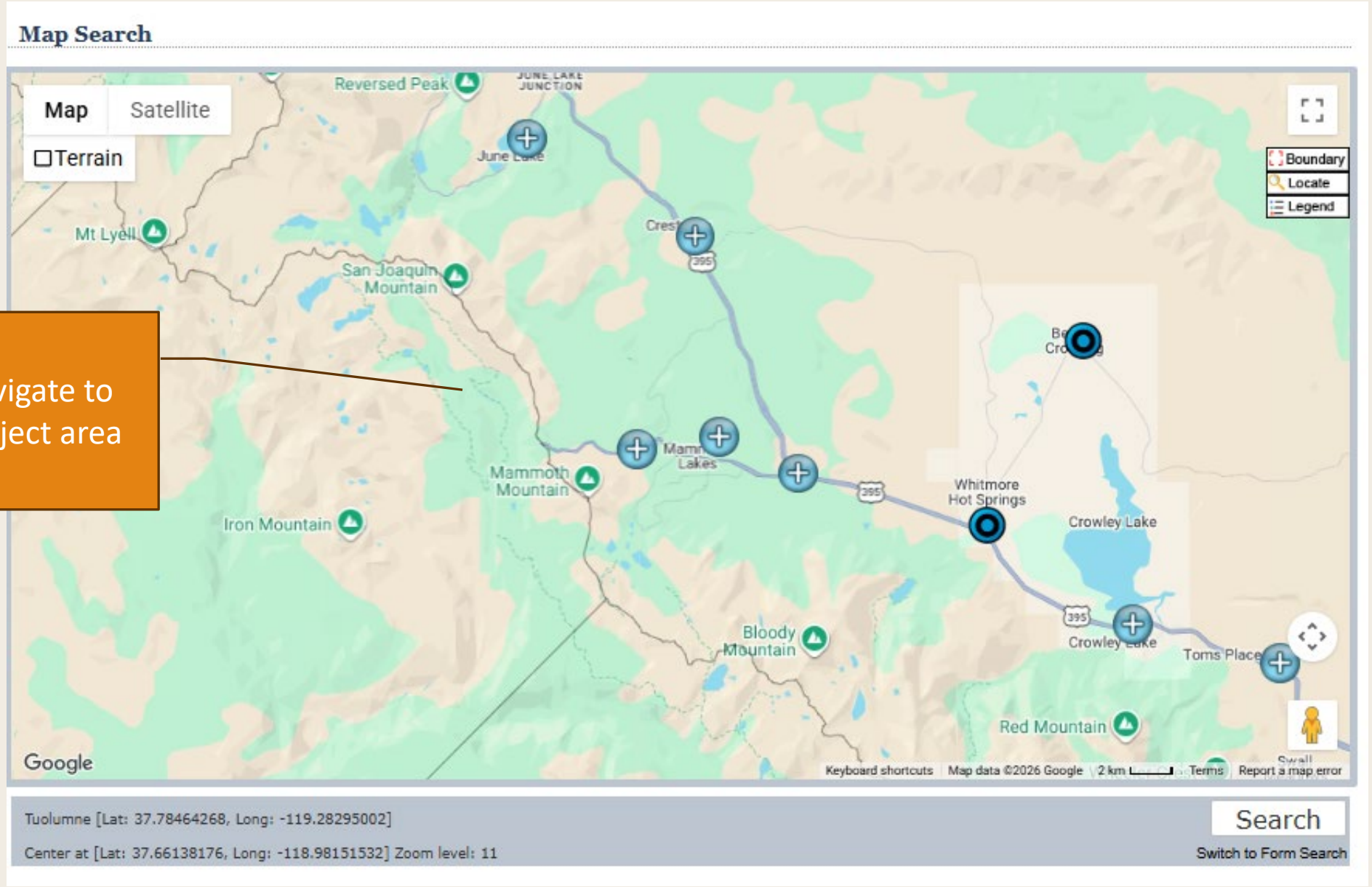
GeoDOG – Map Search



GeoDOG – Map Search Boundary Tool

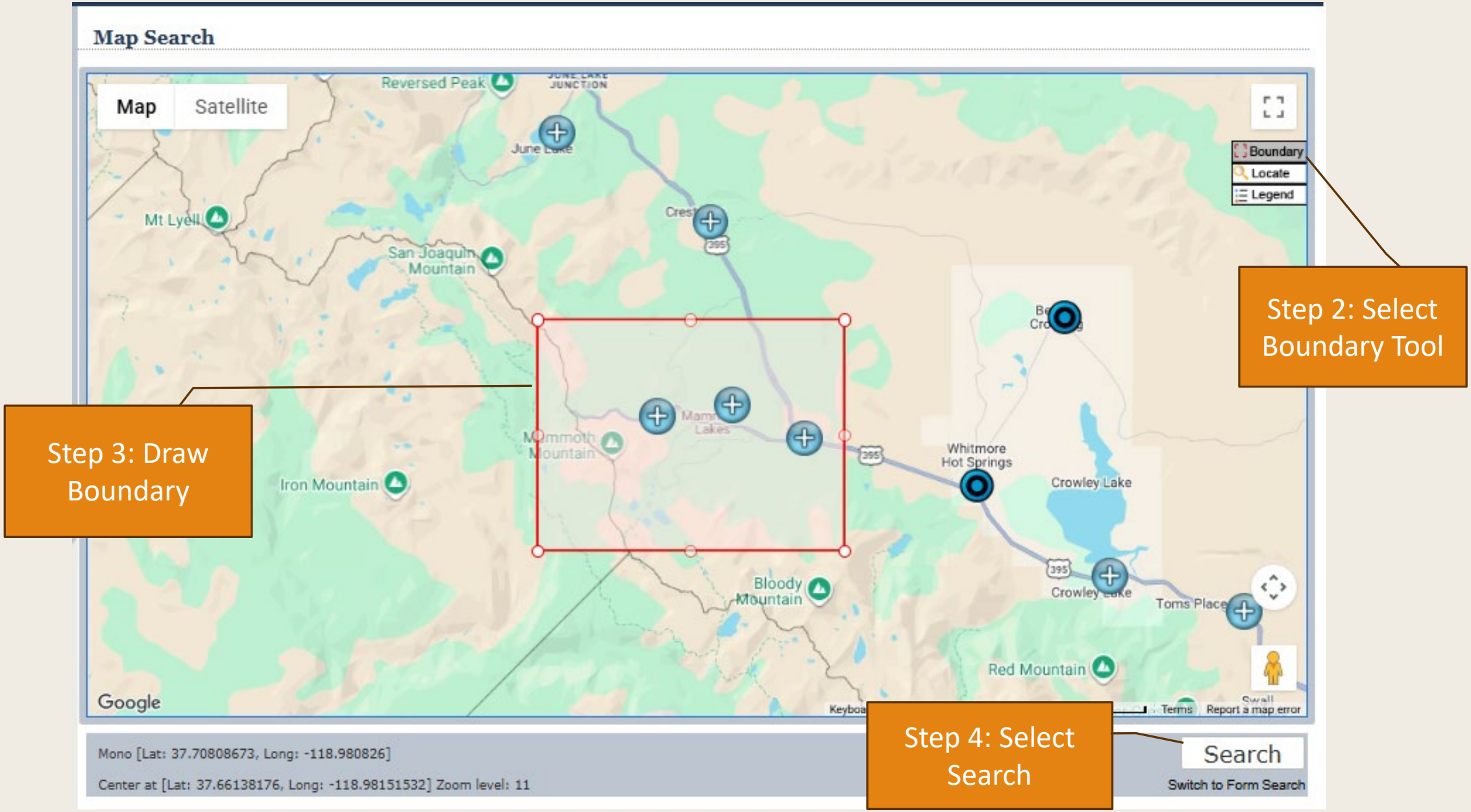


GeoDOG – Map Search Boundary Tool

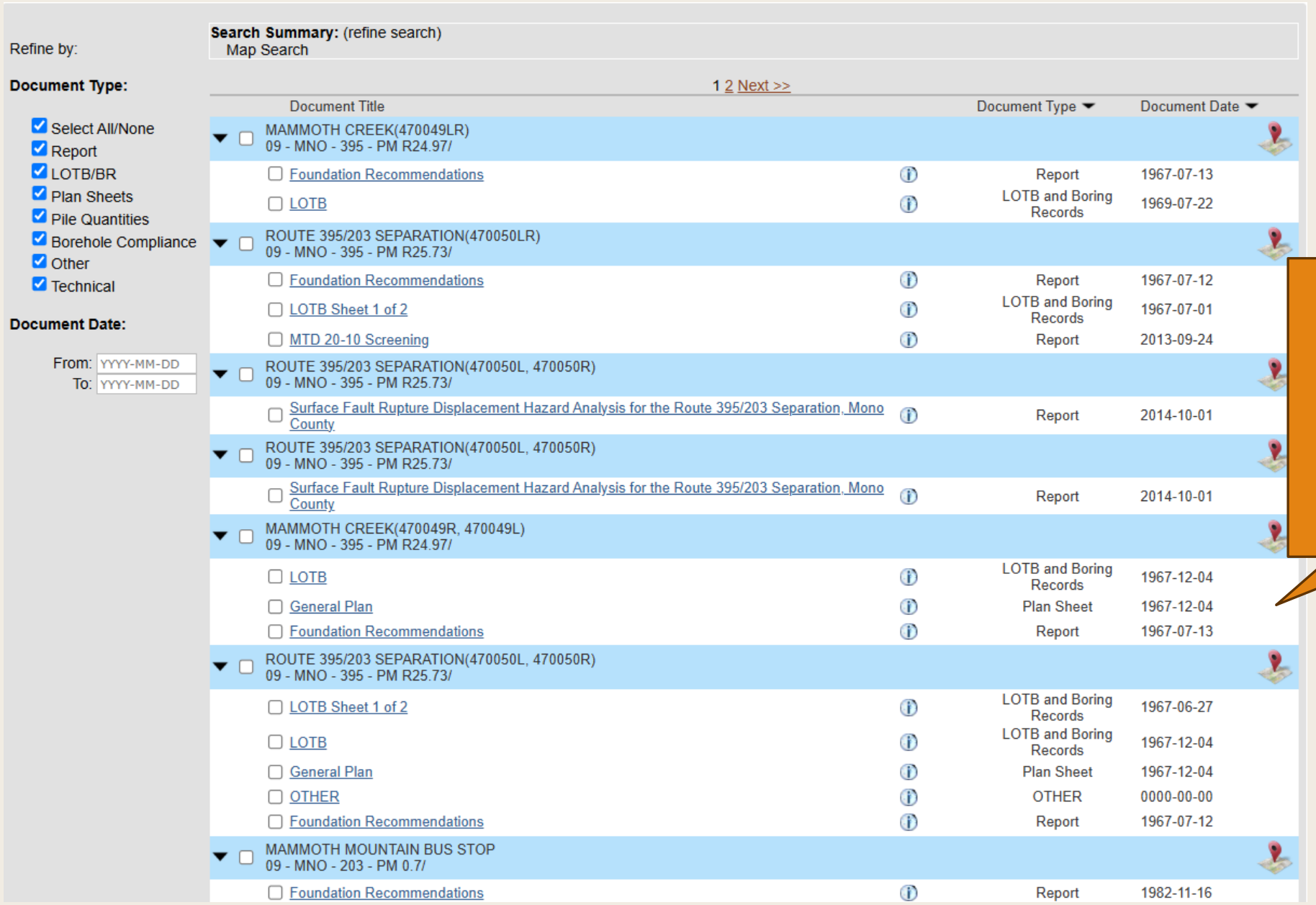


Step 1: Navigate to general project area

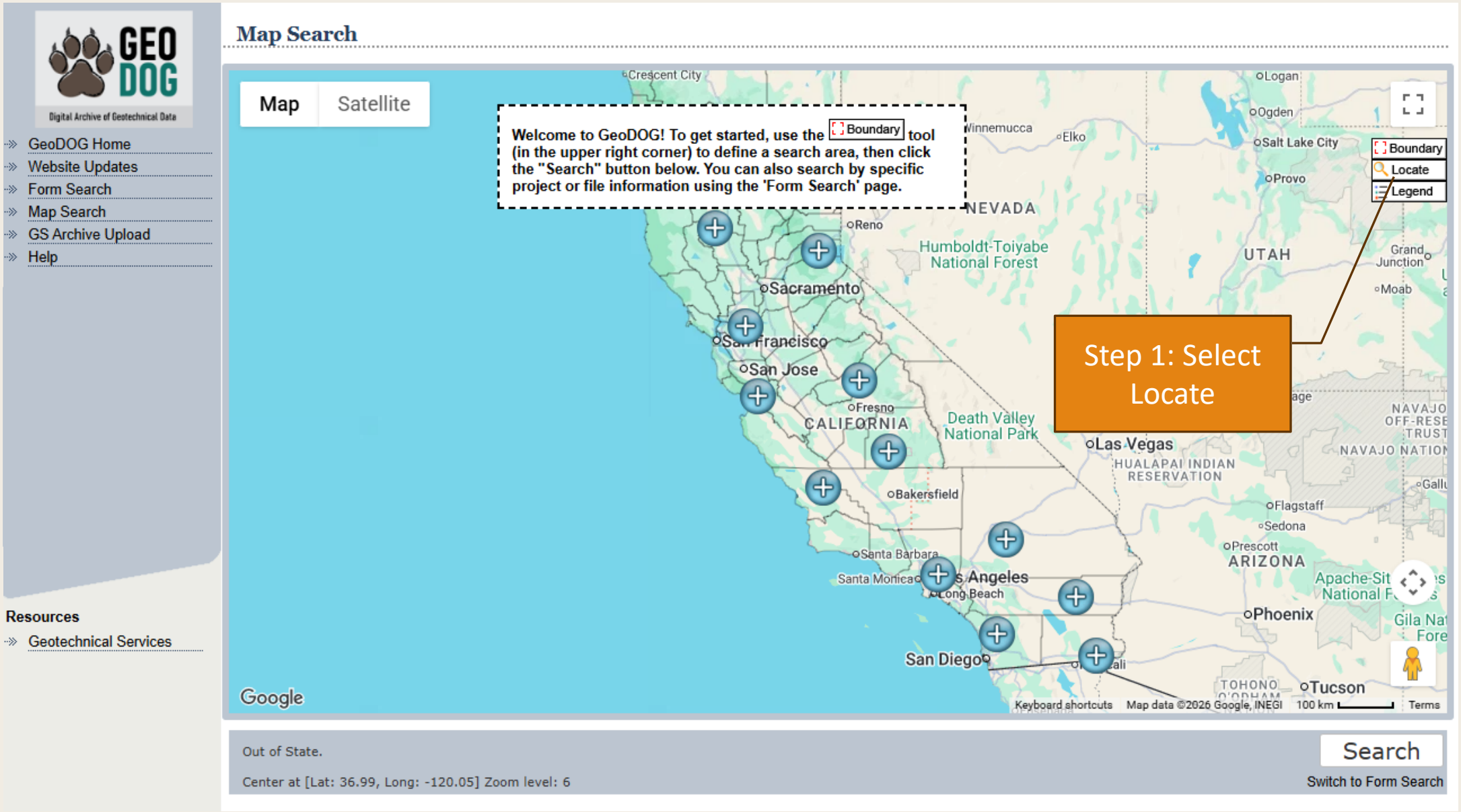
GeoDOG – Map Search Boundary Tool



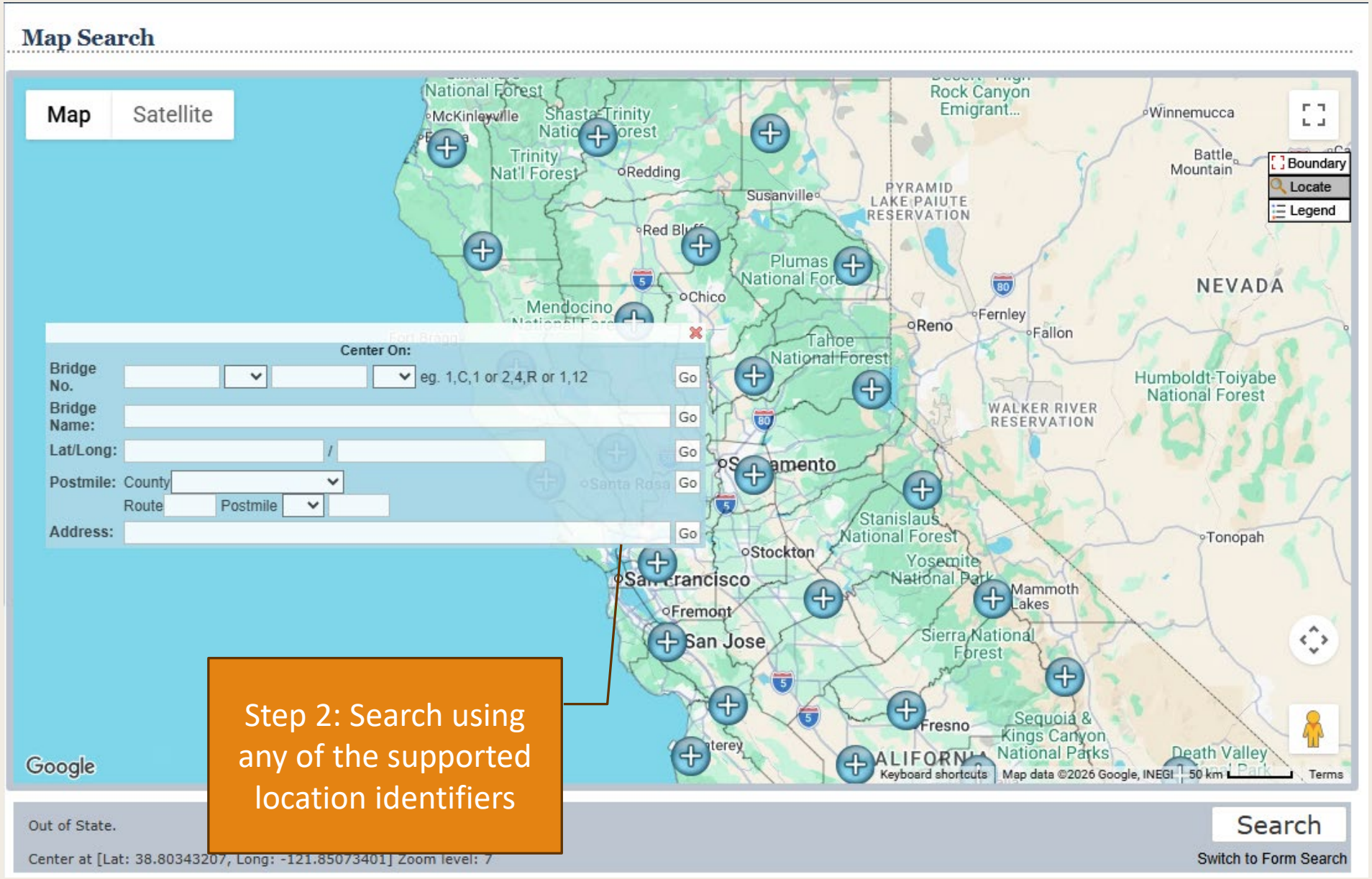
GeoDOG – Map Search Boundary Tool



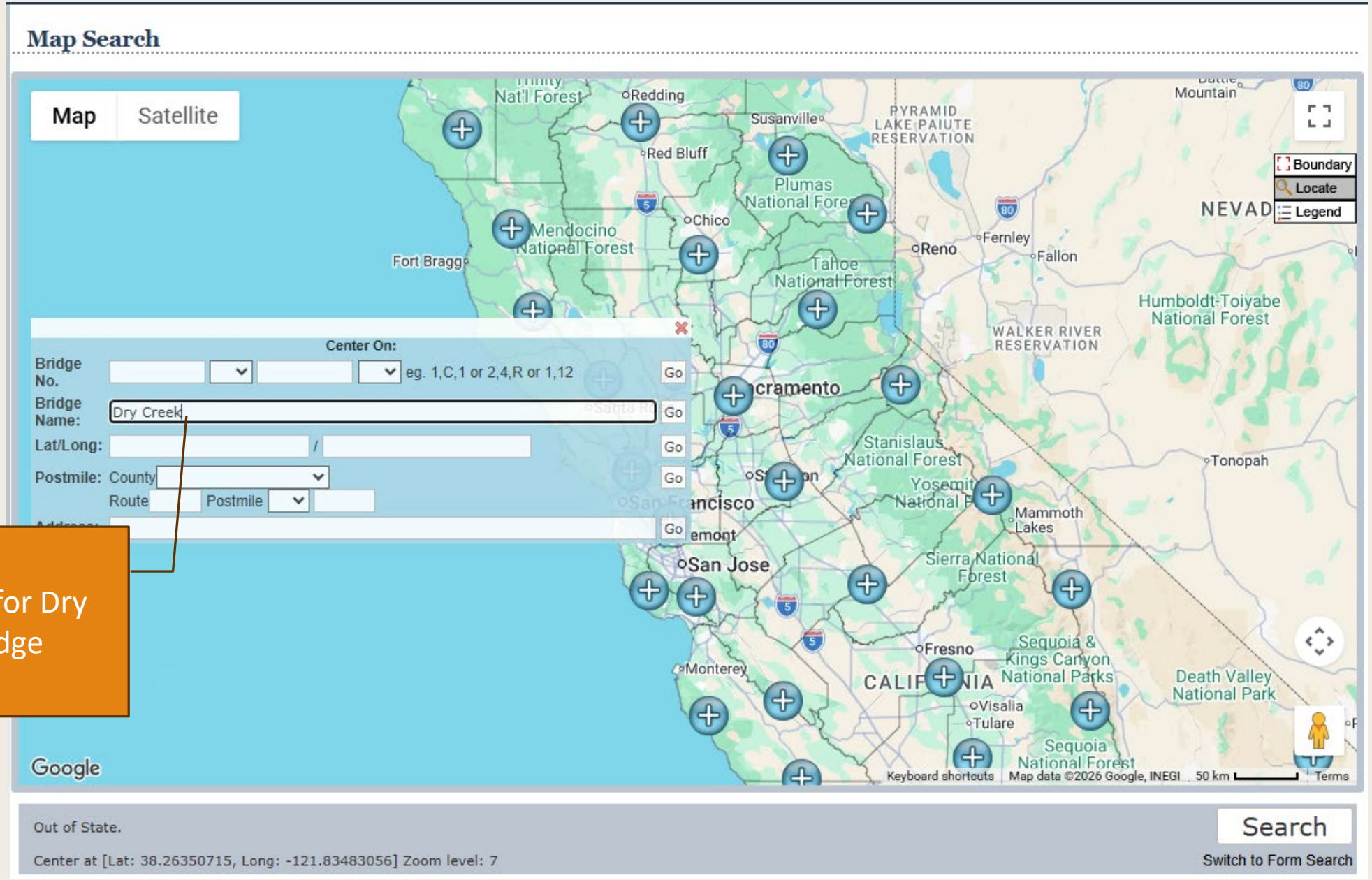
GeoDOG – Map Search Locate Tool



GeoDOG – Map Search Locate Tool

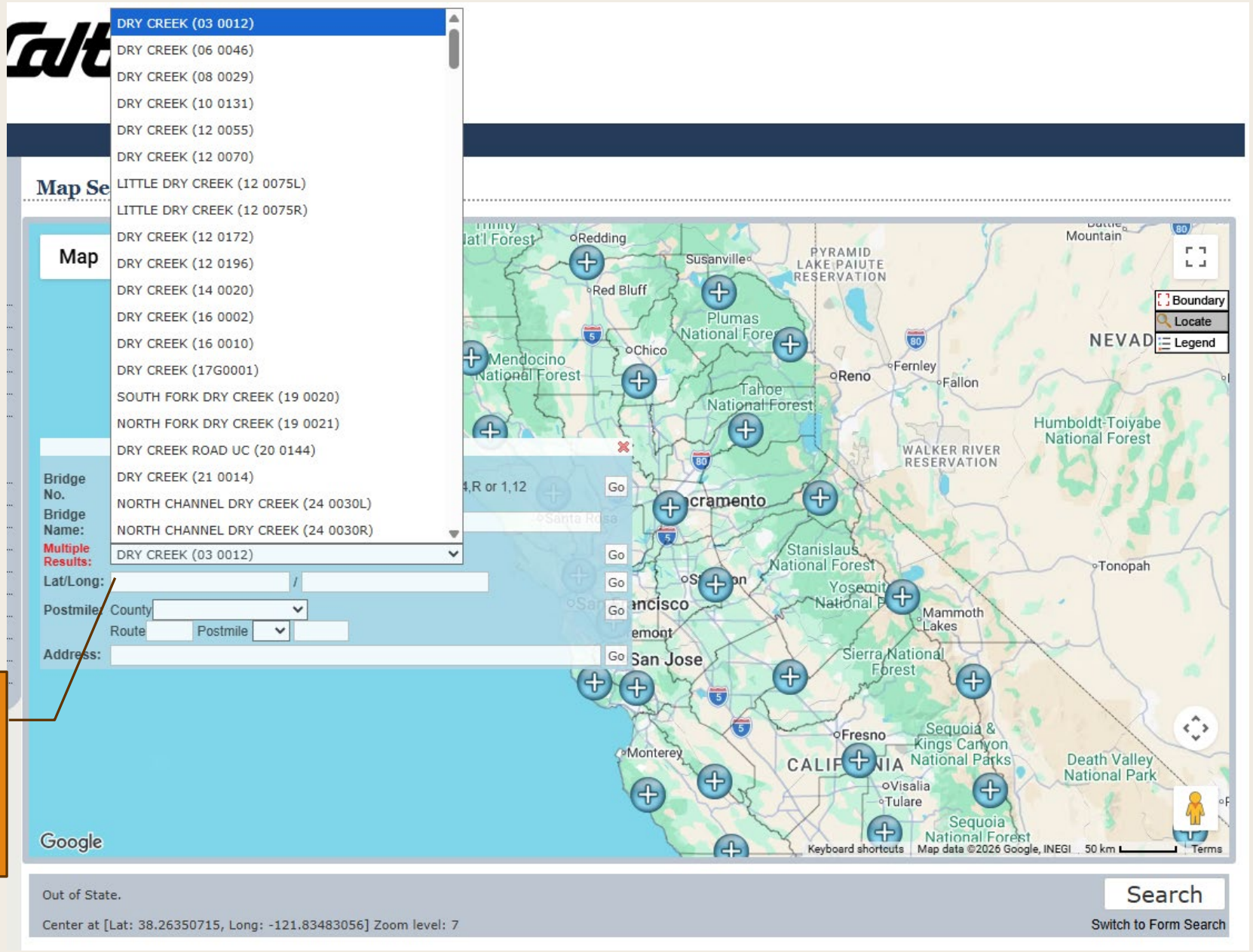


GeoDOG – Map Search Locate Tool



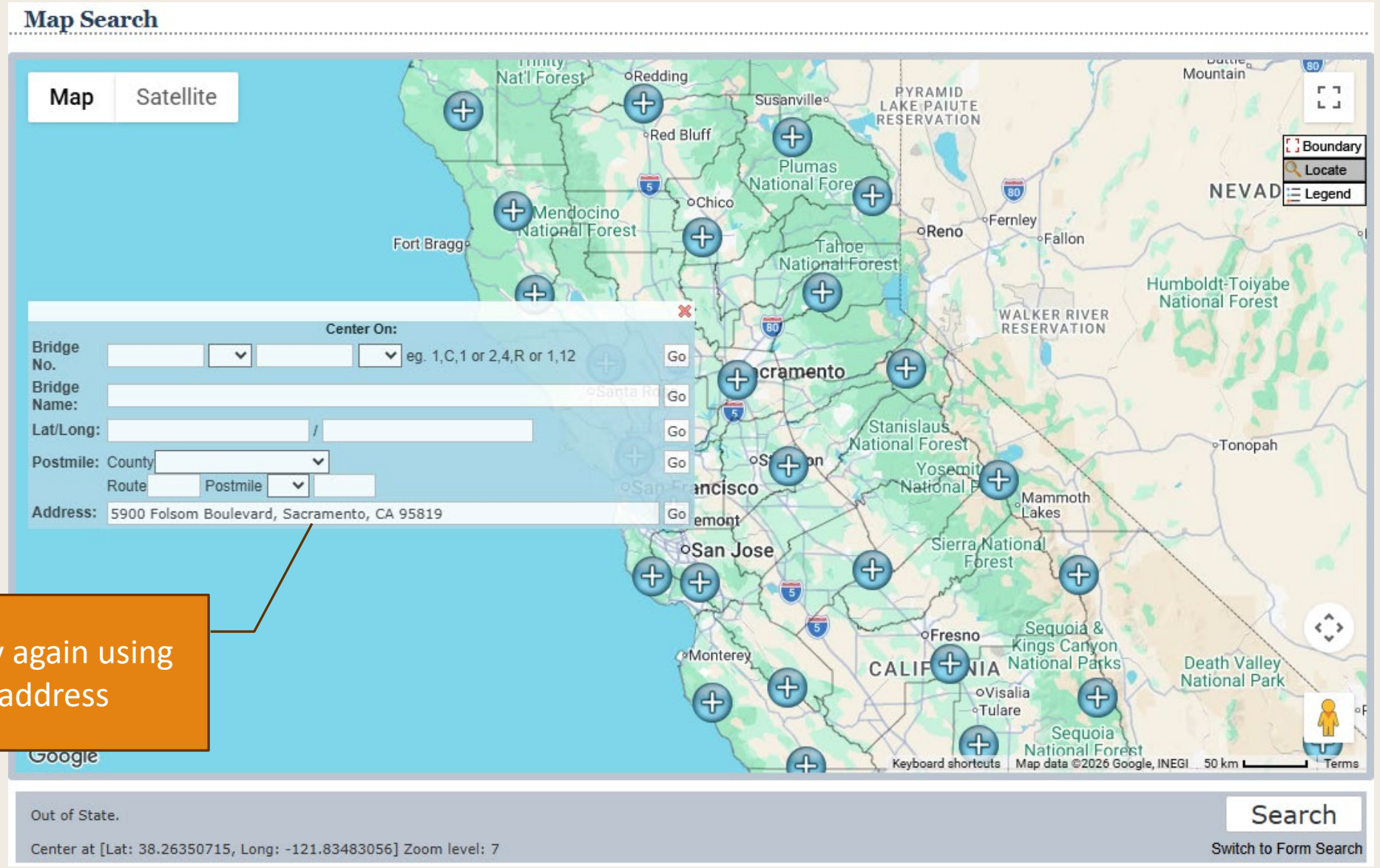
Let's search for Dry Creek Bridge

GeoDOG – Map Search Locate Tool



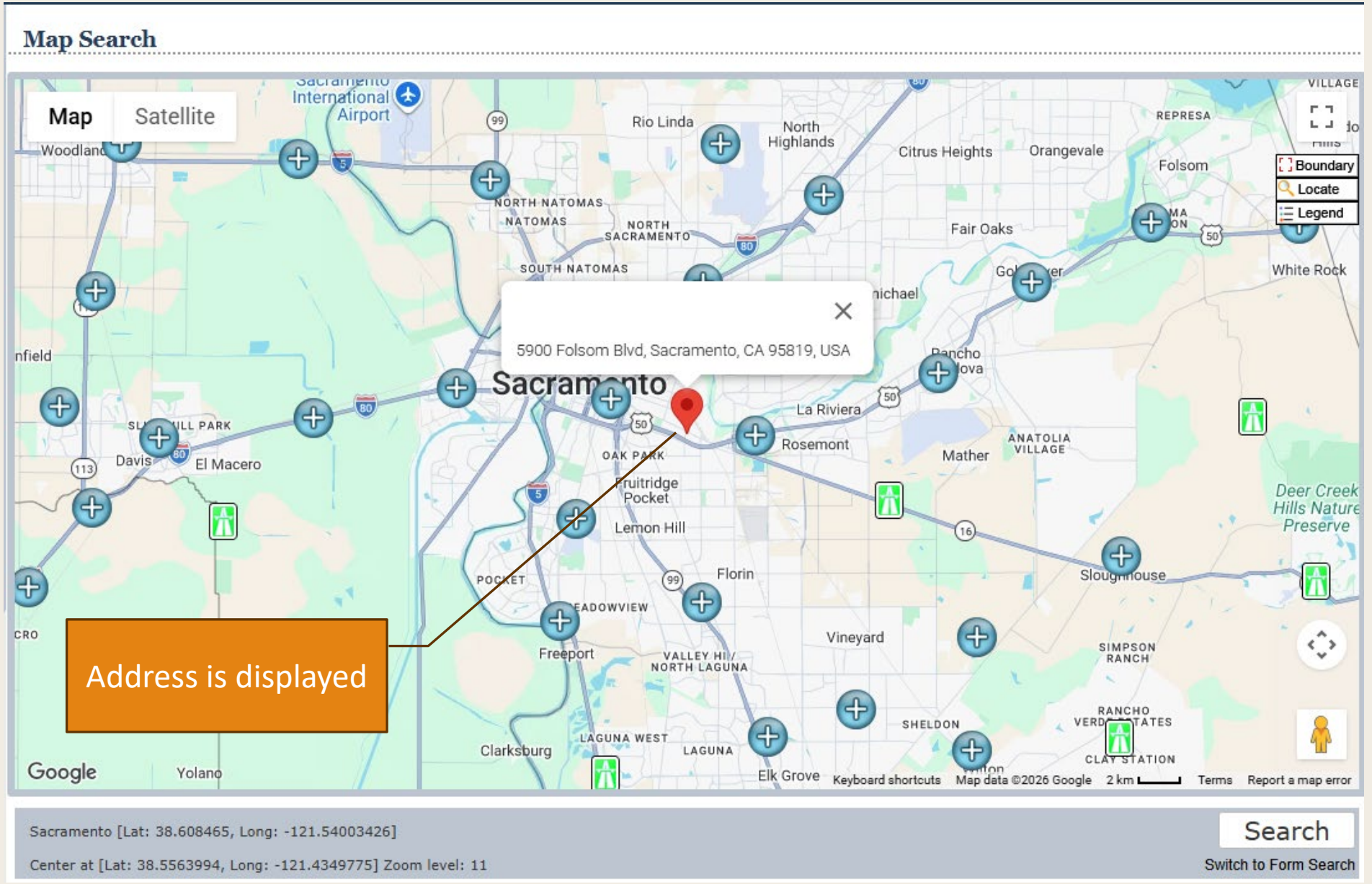
Generic names will result in the user needing to refine the search

GeoDOG – Map Search Locate Tool

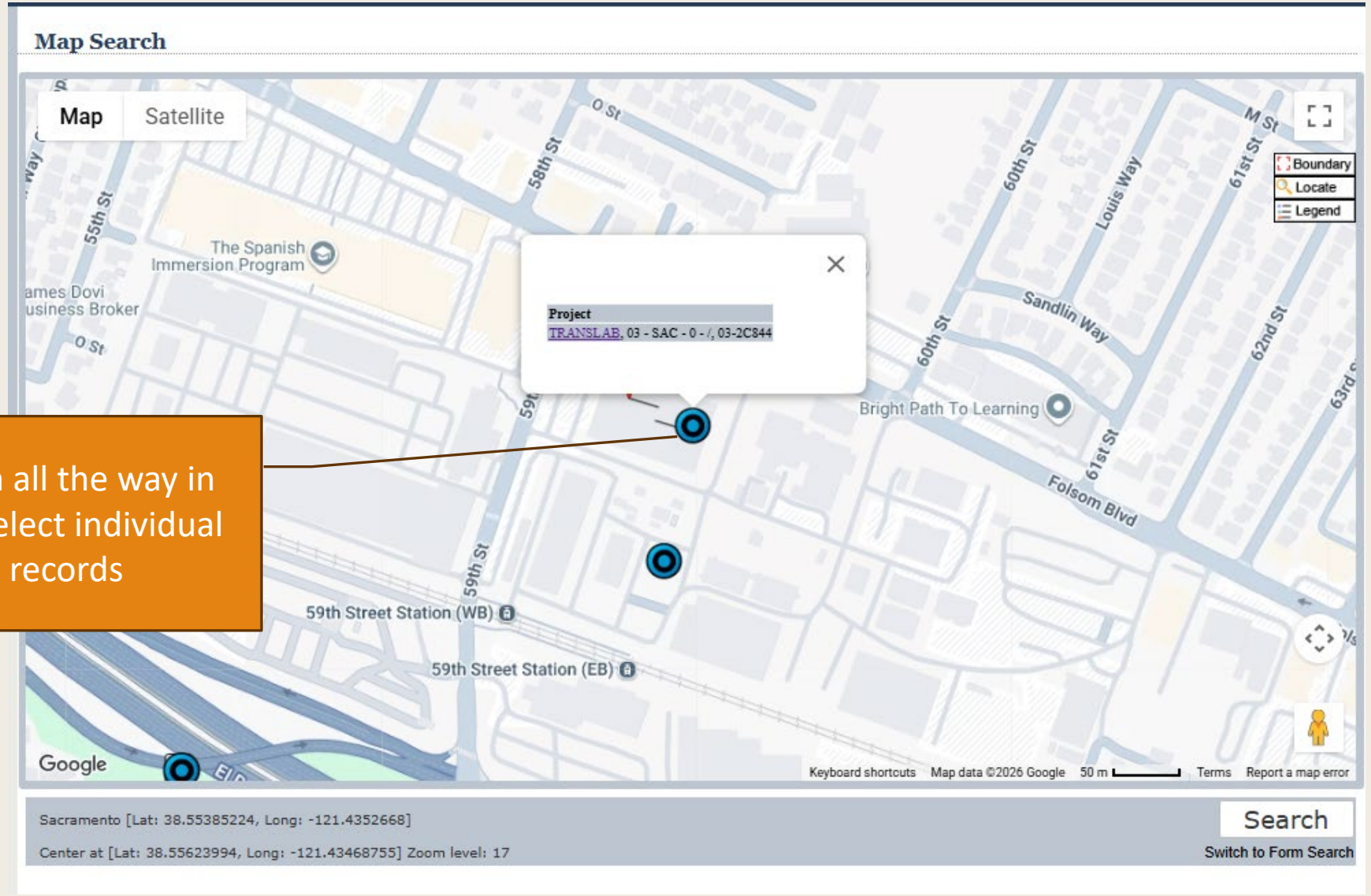


Let's try again using an address

GeoDOG – Map Search Locate Tool

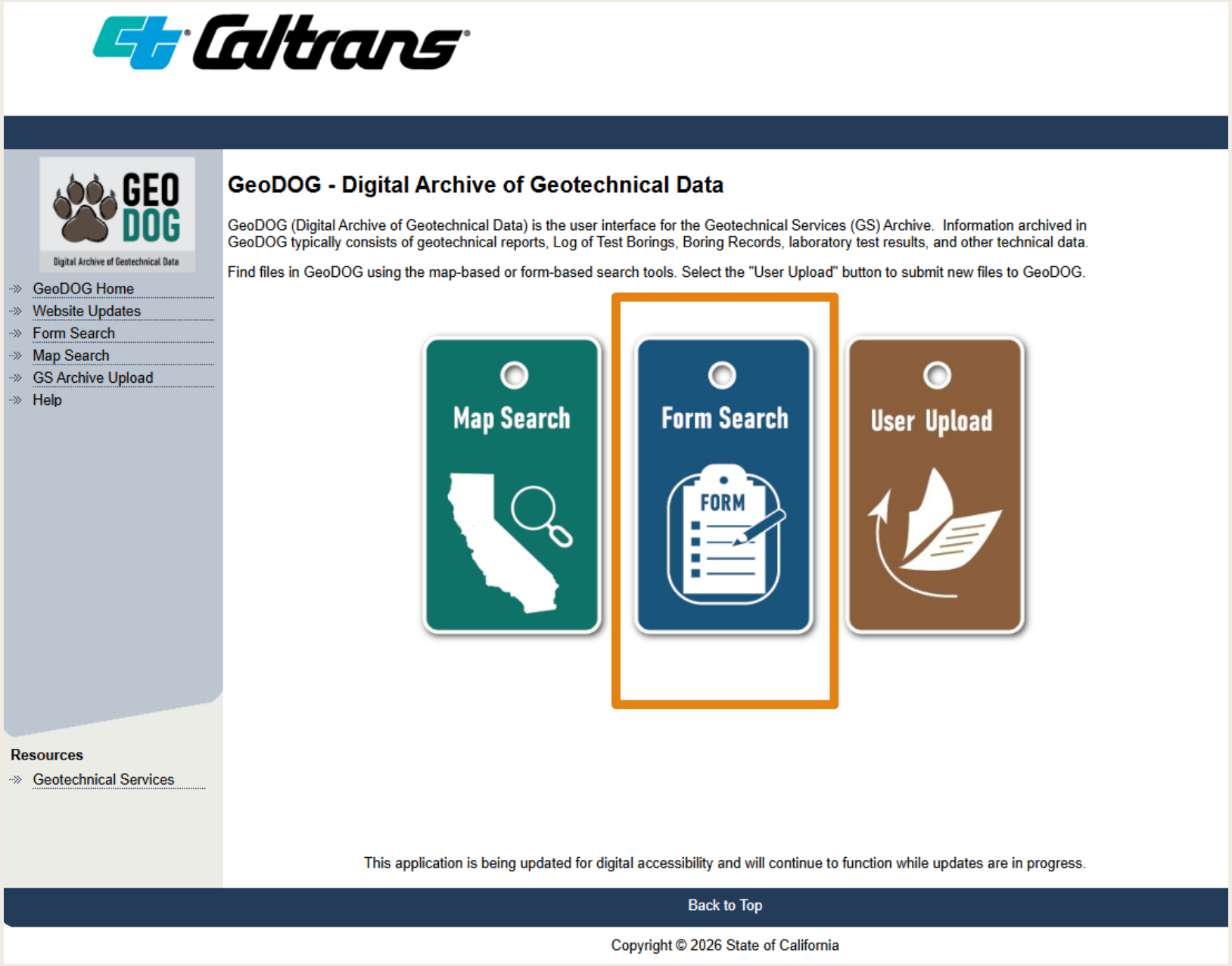


GeoDOG – Map Search Locate Tool



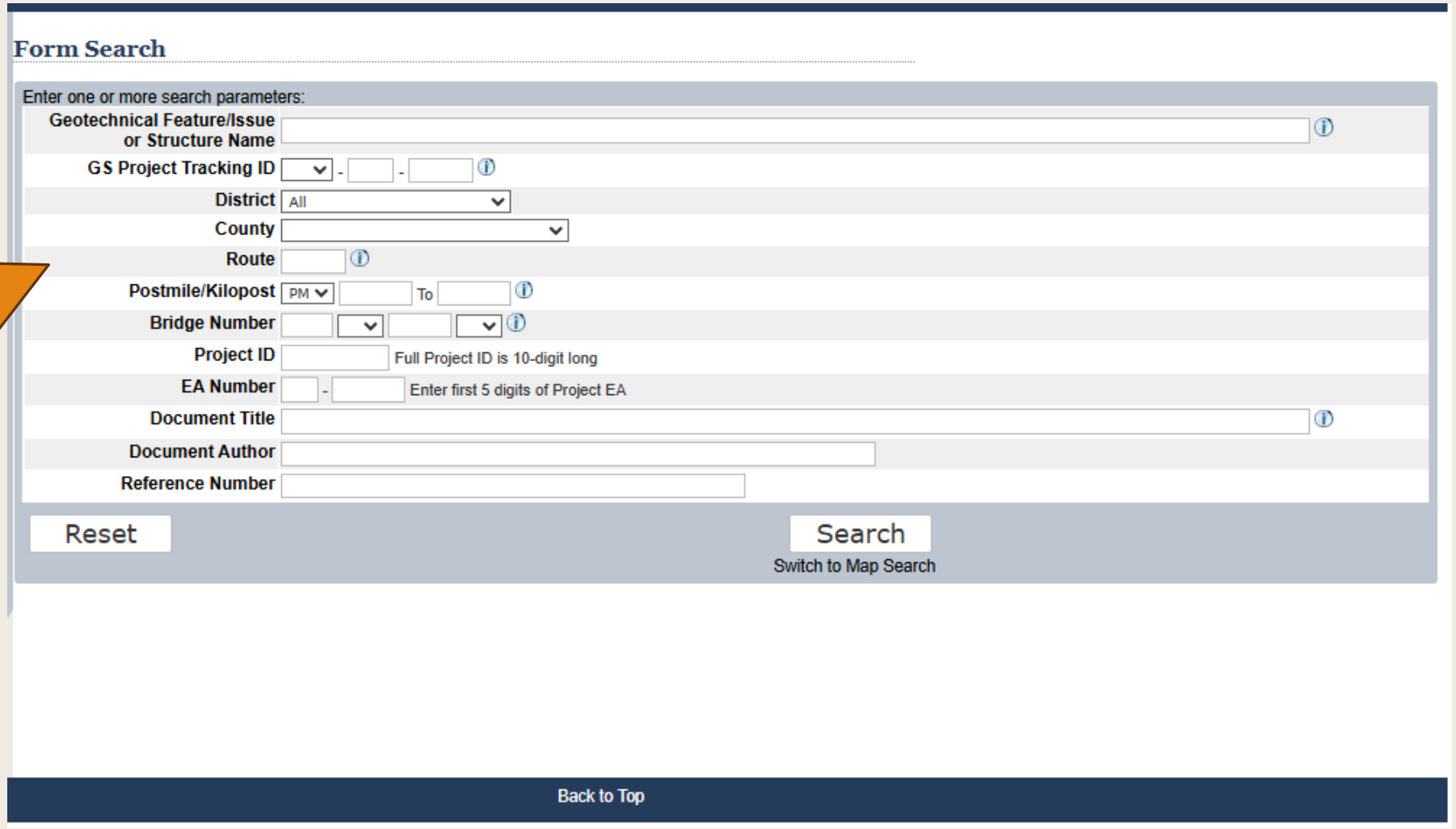
Zoom all the way in and select individual records

GeoDOG – Form Search



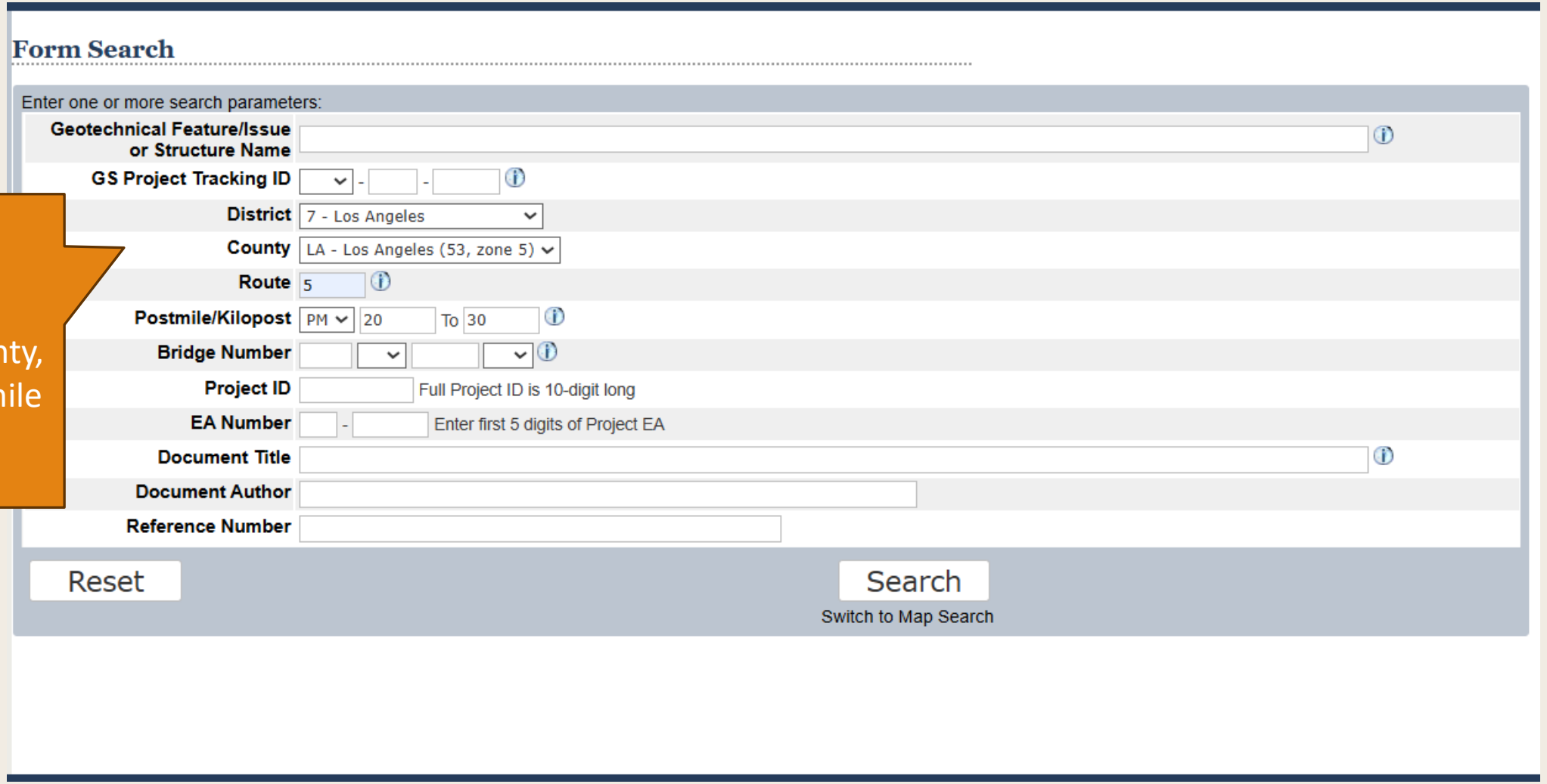
GeoDOG – Form Search

Search using any of these parameters



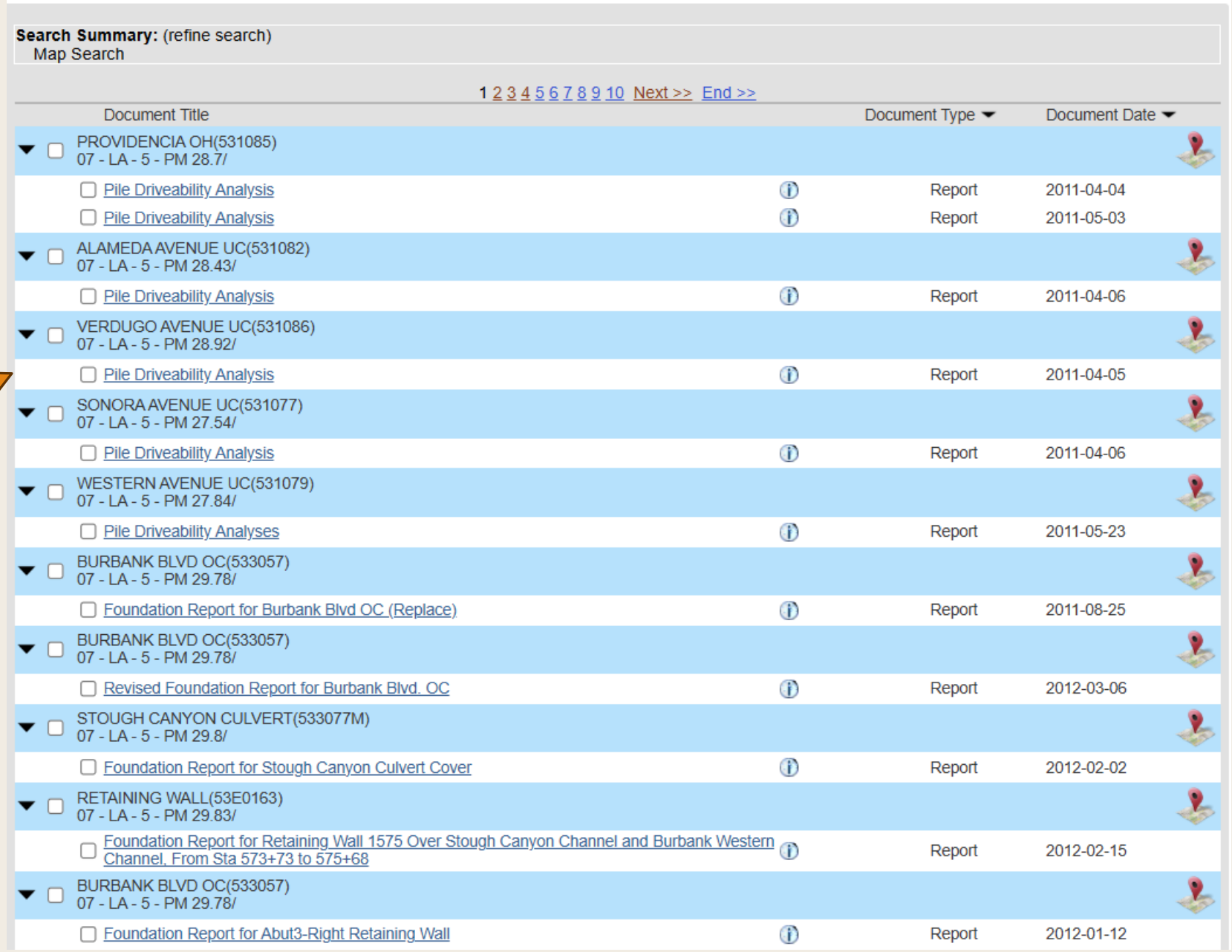
GeoDOG – Form Search

Search by District, County, Route, Postmile



GeoDOG – Form Search

Results populate

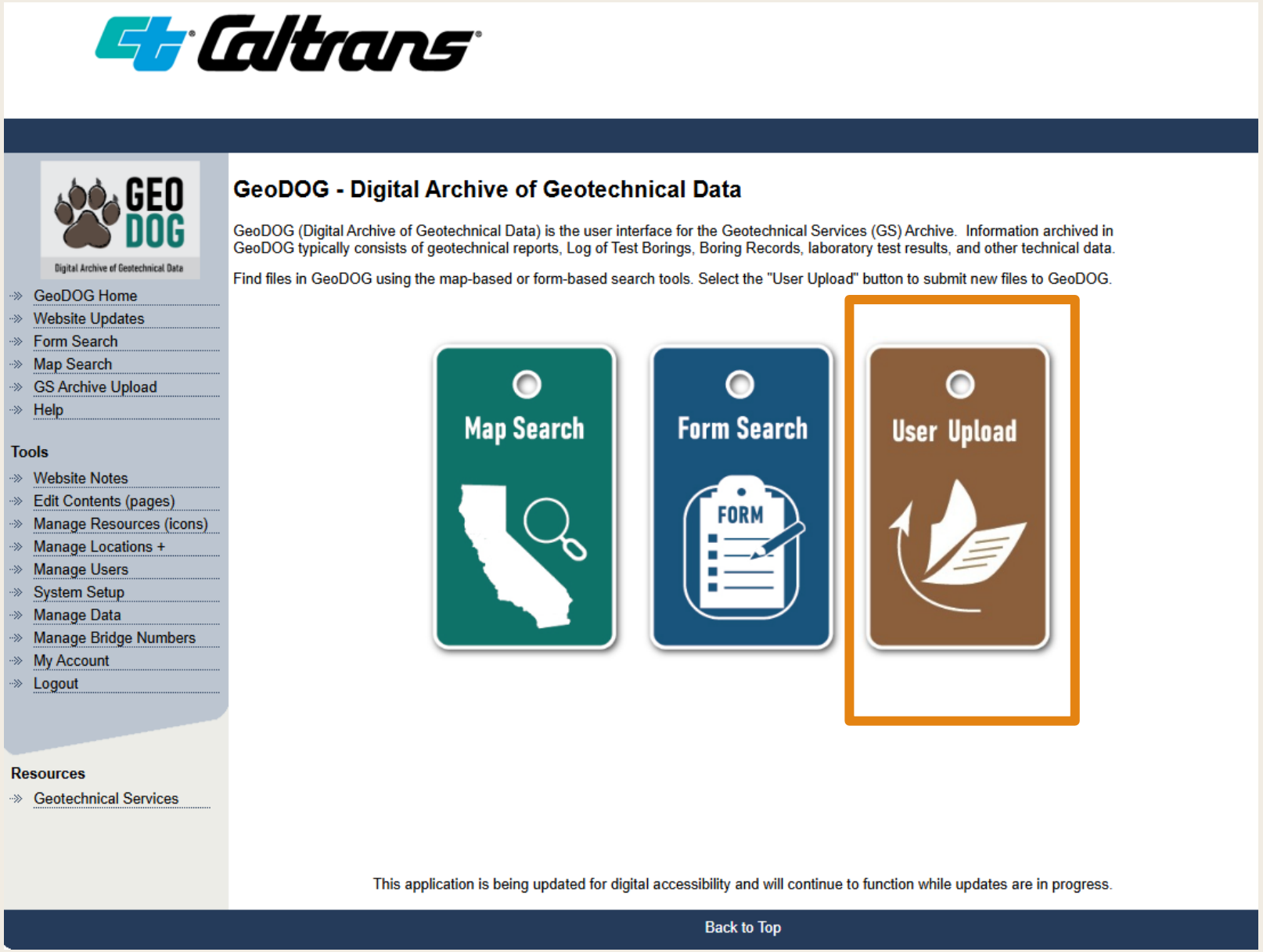


Search Summary: (refine search)
Map Search

1 2 3 4 5 6 7 8 9 10 Next >> End >>

Document Title		Document Type	Document Date
PROVIDENCIA OH(531085) 07 - LA - 5 - PM 28.7/			
Pile Driveability Analysis		Report	2011-04-04
Pile Driveability Analysis		Report	2011-05-03
ALAMEDA AVENUE UC(531082) 07 - LA - 5 - PM 28.43/			
Pile Driveability Analysis		Report	2011-04-06
VERDUGO AVENUE UC(531086) 07 - LA - 5 - PM 28.92/			
Pile Driveability Analysis		Report	2011-04-05
SONORA AVENUE UC(531077) 07 - LA - 5 - PM 27.54/			
Pile Driveability Analysis		Report	2011-04-06
WESTERN AVENUE UC(531079) 07 - LA - 5 - PM 27.84/			
Pile Driveability Analyses		Report	2011-05-23
BURBANK BLVD OC(533057) 07 - LA - 5 - PM 29.78/			
Foundation Report for Burbank Blvd OC (Replace)		Report	2011-08-25
BURBANK BLVD OC(533057) 07 - LA - 5 - PM 29.78/			
Revised Foundation Report for Burbank Blvd. OC		Report	2012-03-06
STOUGH CANYON CULVERT(533077M) 07 - LA - 5 - PM 29.8/			
Foundation Report for Stough Canyon Culvert Cover		Report	2012-02-02
RETAINING WALL(53E0163) 07 - LA - 5 - PM 29.83/			
Foundation Report for Retaining Wall 1575 Over Stough Canyon Channel and Burbank Western Channel, From Sta 573+73 to 575+68		Report	2012-02-15
BURBANK BLVD OC(533057) 07 - LA - 5 - PM 29.78/			
Foundation Report for Abut3-Right Retaining Wall		Report	2012-01-12

GeoDOG Uploads



GeoDOG Uploads – What Should Be Submitted?

Accepted records include:

- Geotechnical Design Reports and Foundation Reports
- Test Boring Layouts
- Log of Test Borings and Boring Records
- Pile quantities and driving data
- Pile acceptance testing results
- Laboratory test results
- Other supporting geotechnical materials

GeoDOG Uploads

Message to Our Local Agencies and Consultant Partners

Caltrans is working to build a more robust, comprehensive geotechnical database to support practitioners across the state. Your contributions play a vital role in strengthening the Digital Archive of Geotechnical Data (GeoDOG) and ensuring geotechnical information is available to all users.

Caltrans gladly accepts submittals of geotechnical documents, including:

- Geotechnical Design Reports and Foundation Reports
- Log of Test Borings & Test Boring Layouts
- Boring Records
- Pile quantities and driving data
- Pile acceptance testing results
- Laboratory test results
- General and Foundation Plan sheets
- Other supporting geotechnical materials

Why participate?

1. Speed & efficiency: Reduce time spent hunting for past work, avoid duplicate investigations, and support faster emergency response.
2. Effective maintenance: Use data from design through construction to make informed maintenance decisions.
3. Better decisions: Enable consistent, data-driven design and review statewide.
4. Shared value: Every contribution strengthens the GeoDOG system for all practitioners.

To submit, please use the following Email Template with prepopulated fields to facilitate data entry.

Click to start email

For any questions, email GS.Archive@dot.ca.gov.

Your assistance helps improve the availability of data statewide, supports consistent statewide practices, and enhances the resources available to every user of the GeoDOG system.

GeoDOG Uploads



Hello GS Archive,

Please find files attached for the project listed below, to be added to the Geotechnical Archive.

Bridge or Structure Number:
Bridge or Structure Name:
Project ID/EA: / (if applicable)
District:
County:
Route: (list 0 for non-state highway system route)
Postmile: to (if applicable)
Location: Latitude/Longitude

Document Title: (List the title embedded within the document. Do NOT use abbreviations. For example, Preliminary Foundation Report for Dry Creek Bridge)

Document Type: (Choose from: Report, LOTB or Boring Record, Plan Sheet, Pile Quantity, Technical, Other)
Author:
Date: (Input date of the document, not the upload date)

If multiple documents are attached, please list each document title, type, author, and date.

Thank you,

GeoDOG Uploads – Special Cases

How to submit a project that covers multiple routes?

- List each route and the applicable postmiles.

How to submit several files for one project location?

- Type in the additional title, type, author, and date fields, and attached the additional files as separate PDFs.

How to revise or correct a previously submitted file?

- Contact the GS Archive Manager (GS.Archive@dot.ca.gov) and provide:
- Detailed project location
- Exact file requiring correction
- Description of the requested update

What Happens After Submission?

Submit	User provides the project information and PDF document to be uploaded using the email template.
Review	The GS Archive Manager reviews the submission.
Correct (if needed)	Incomplete or unclear submissions will be responded to with additional questions or instructions.
Approve and Post	Approved records are posted to GeoDOG, and the submitter will receive confirmation of acceptance.

Final Takeaways

Three things to remember:

- Search geographically with Map Search
- Search by known attributes with Form Search
- Submit complete and final PDF records

Final Tips:

- Utilize the Help Page for reminders on how to use form and map search.
- View the Help Page for frequently asked questions
- Contact the GS Archive Manager at GS.Archive@dot.ca.gov for archive assistance.
- Help to build GeoDOG into a more robust database, please submit your records for archiving!



Questions?

Have existing geotechnical data that you need saved to GeoDOG?

Contact me:

Amanda Kahn, PG, CEG
Caltrans Division of Engineering Services
Geotechnical Services, Office of Geotechnical Design Policies and Practices

Amanda.Kahn@dot.ca.gov

For search questions, contact the GS Archive Manager at GS.Archive@dot.ca.gov.