



# Semantically enable The National Map

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# Discussions

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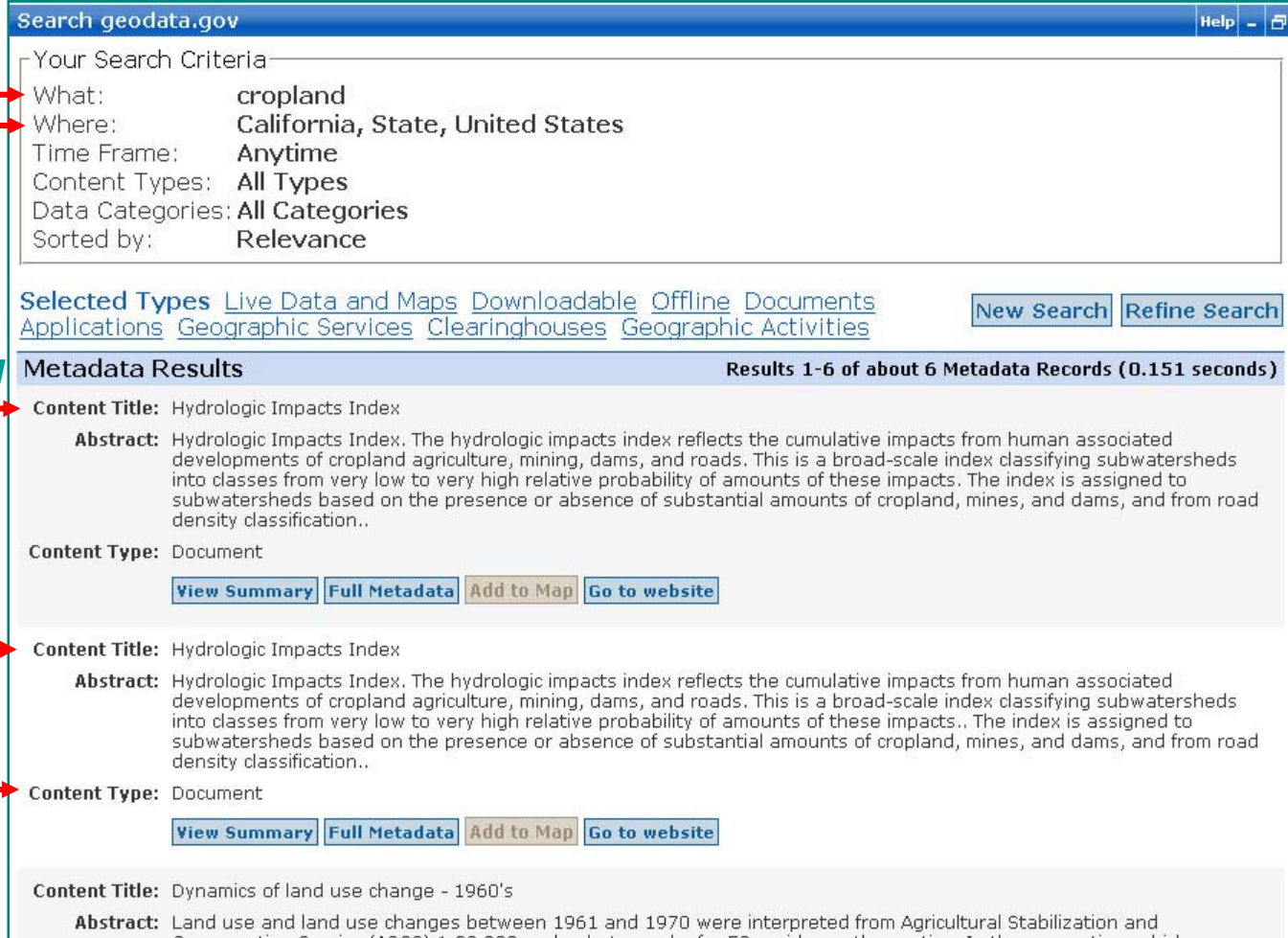


- Bottom-up vs. top-down.
- Data driven vs. standard-driven.
- Graphic-based vs. text-based search.
- (Semi-)Automated vs. manual.
- Spatial ontology.

# Current Data Portals

- Example: search for datasets that have *cropland* in *California*.

search criteria



The screenshot shows a search interface for geodata.gov. The search criteria are: What: cropland, Where: California, State, United States, Time Frame: Anytime, Content Types: All Types, Data Categories: All Categories, Sorted by: Relevance. The results section shows three metadata records for 'Hydrologic Impacts Index' and one for 'Dynamics of land use change - 1960's'. Each record includes an abstract and buttons for 'View Summary', 'Full Metadata', 'Add to Map', and 'Go to website'.

Search geodata.gov

Your Search Criteria

What: cropland  
Where: California, State, United States  
Time Frame: Anytime  
Content Types: All Types  
Data Categories: All Categories  
Sorted by: Relevance

Selected Types [Live Data and Maps](#) [Downloadable](#) [Offline Documents](#) [Applications](#) [Geographic Services](#) [Clearinghouses](#) [Geographic Activities](#) [New Search](#) [Refine Search](#)

Metadata Results Results 1-6 of about 6 Metadata Records (0.151 seconds)

**Content Title:** Hydrologic Impacts Index  
**Abstract:** Hydrologic Impacts Index. The hydrologic impacts index reflects the cumulative impacts from human associated developments of cropland agriculture, mining, dams, and roads. This is a broad-scale index classifying subwatersheds into classes from very low to very high relative probability of amounts of these impacts. The index is assigned to subwatersheds based on the presence or absence of substantial amounts of cropland, mines, and dams, and from road density classification..  
**Content Type:** Document  
[View Summary](#) [Full Metadata](#) [Add to Map](#) [Go to website](#)

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**Content Title:** Dynamics of land use change - 1960's  
**Abstract:** Land use and land use changes between 1961 and 1970 were interpreted from Agricultural Stabilization and

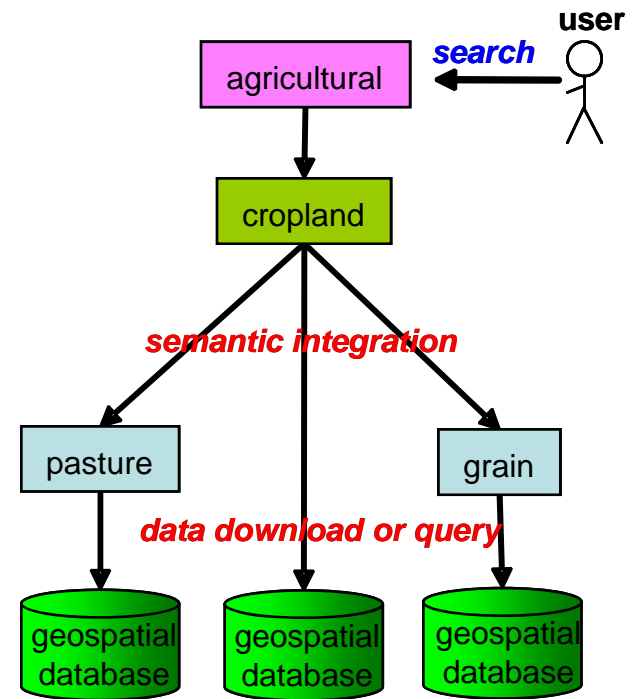
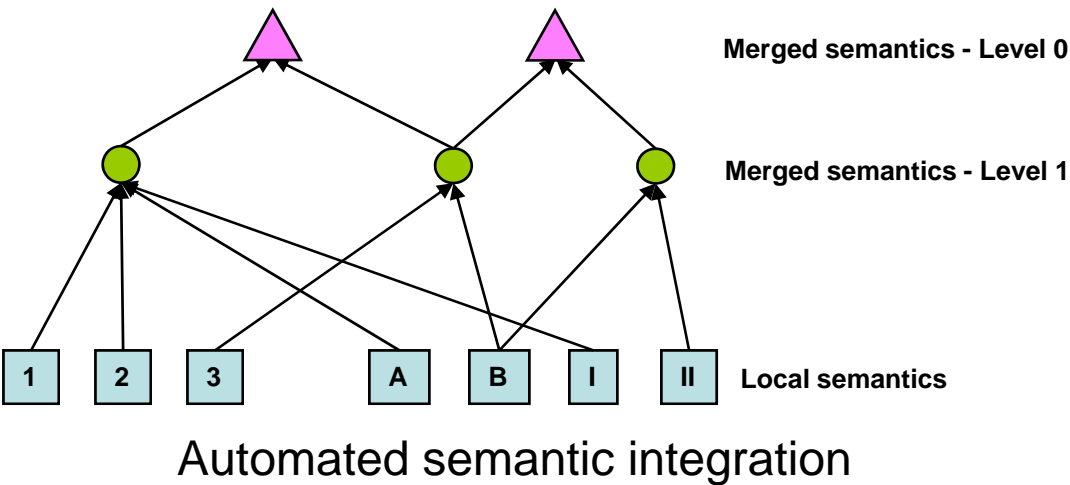
Geospatial One Stop  
(GOS), USGS.  
<http://gos2.geodata.gov>

metadata catalog  
result

# Research Goal

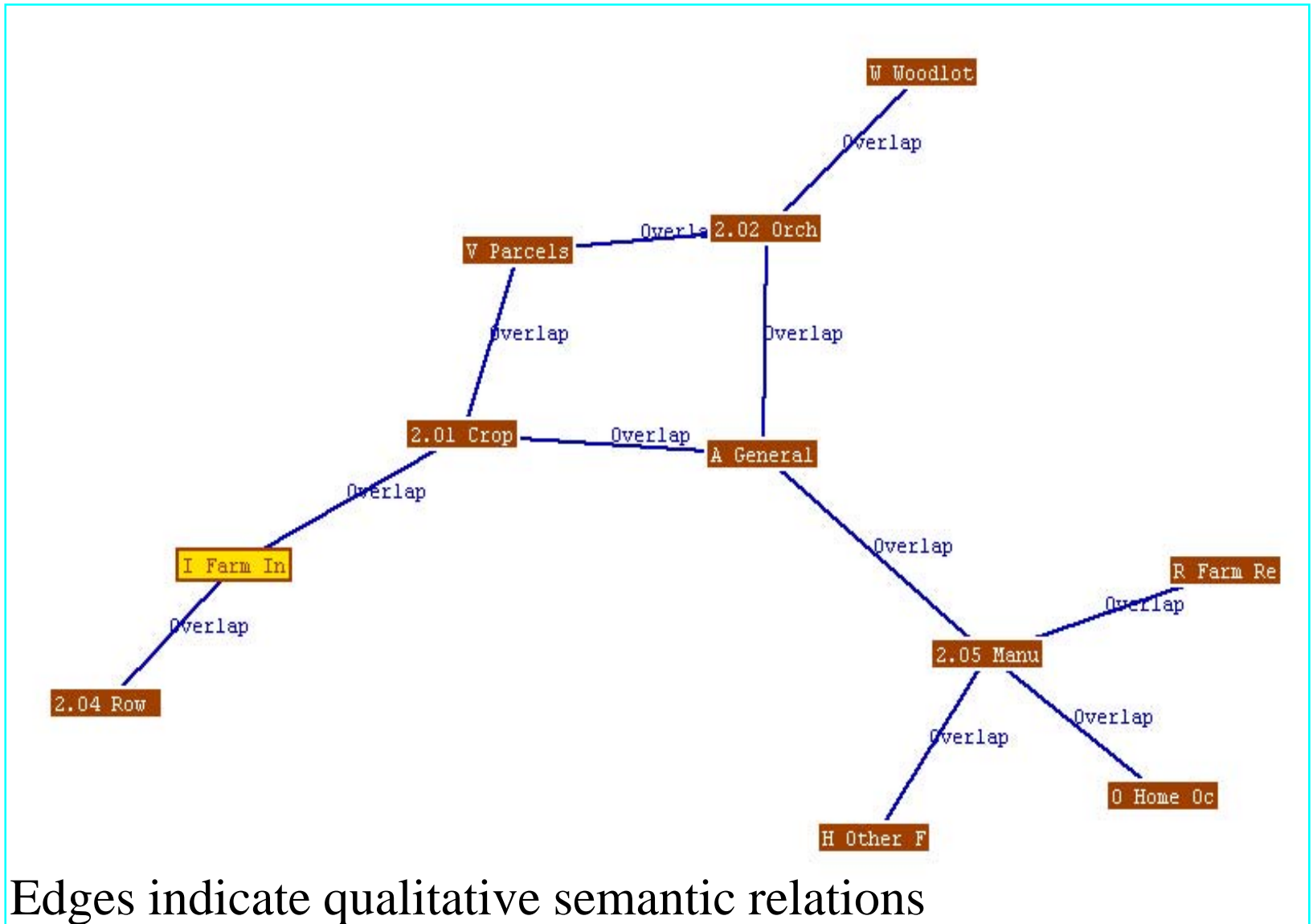
**Goal:** to improve users' search capability and accuracy

1. provide an integrated view of land use categories.
2. support semantic-based search.
3. browse, explore and search.

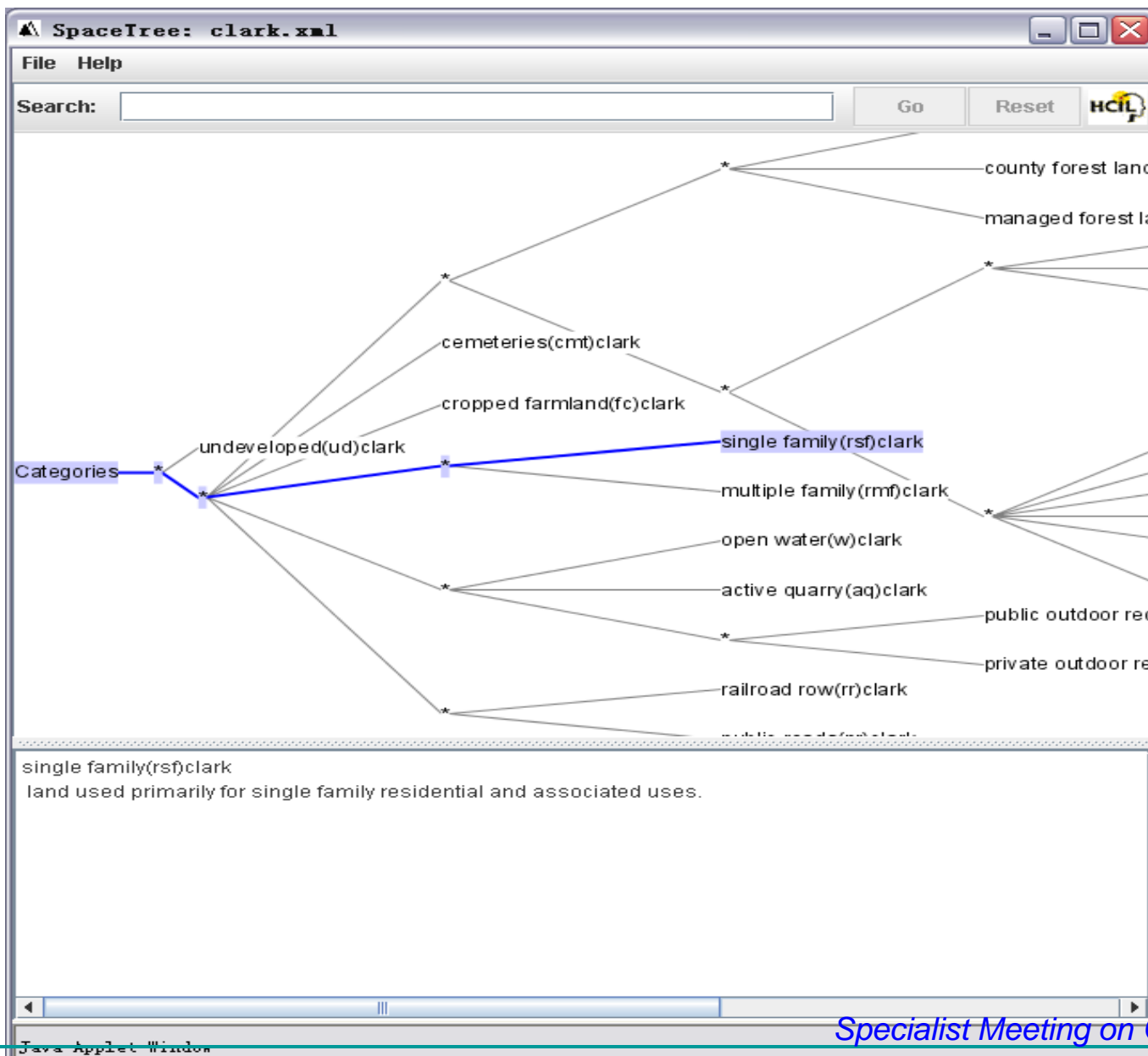


Hierarchical semantics of land categories

# Semantic Network of Categories



# Land categories are integrated into an ontology



- Tree-structured ontology.