

# Issues in Forestry and Science Librarianship: Taxonomy and Authority Control

EXPERIENCES OF A FEDERAL SCIENCE LIBRARY



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# National Forest Service Library

[HTTPS://WWW.FS.FED.US/LIBRARY/](https://www.fs.fed.us/library/)

USDA FOREST SERVICE

CRYSTAL FALCONER



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# Who I am:



Crystal Falconer

ILS Management

CMS Management

Digitization and Preservation

Outreach

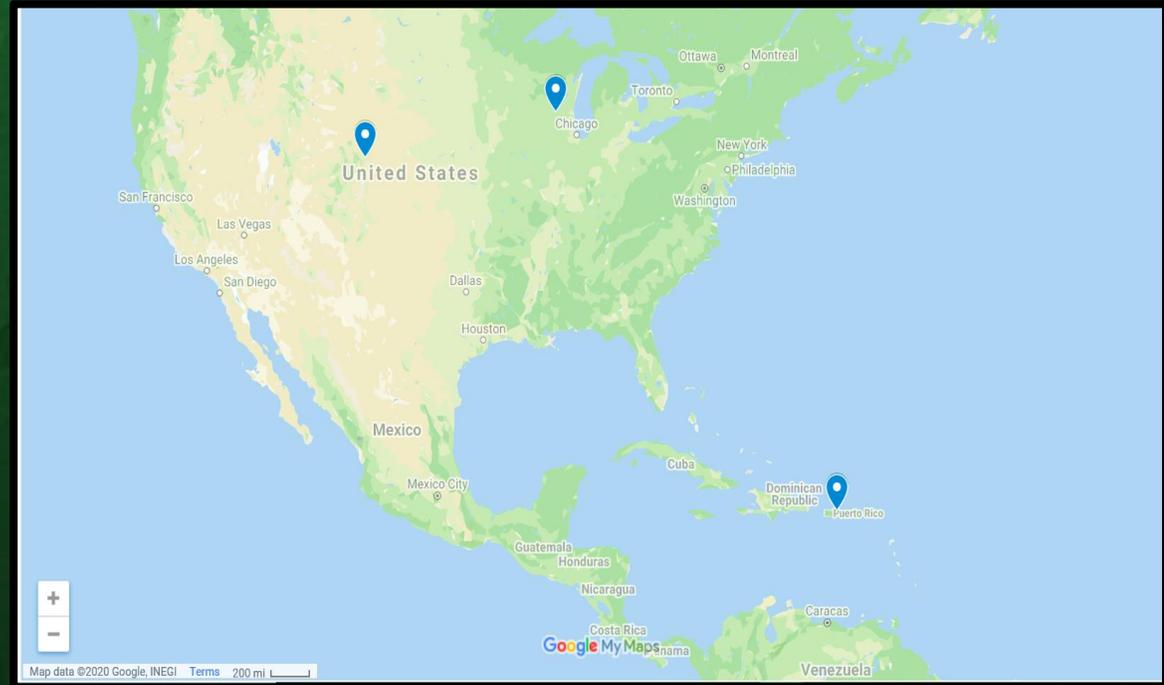
Website Management



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# Makeup of the National Forest Service Library:

- ▶ **National Forest Service Library**  
**(Fort Collins, CO)**
- ▶ **Forest Products Laboratory Library**  
**(Madison, WI)**
- ▶ **International Institute of Tropical Forestry Library**  
**(Rio Piedras, PR)**



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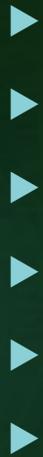
# Taxonomy in Science Libraries

EFFORTS BY THE NATIONAL FOREST SERVICE LIBRARY  
TO LINK DATA AND STREAMLINE SUBJECT METADATA.



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# Why Science is Complicated



Cultural Values

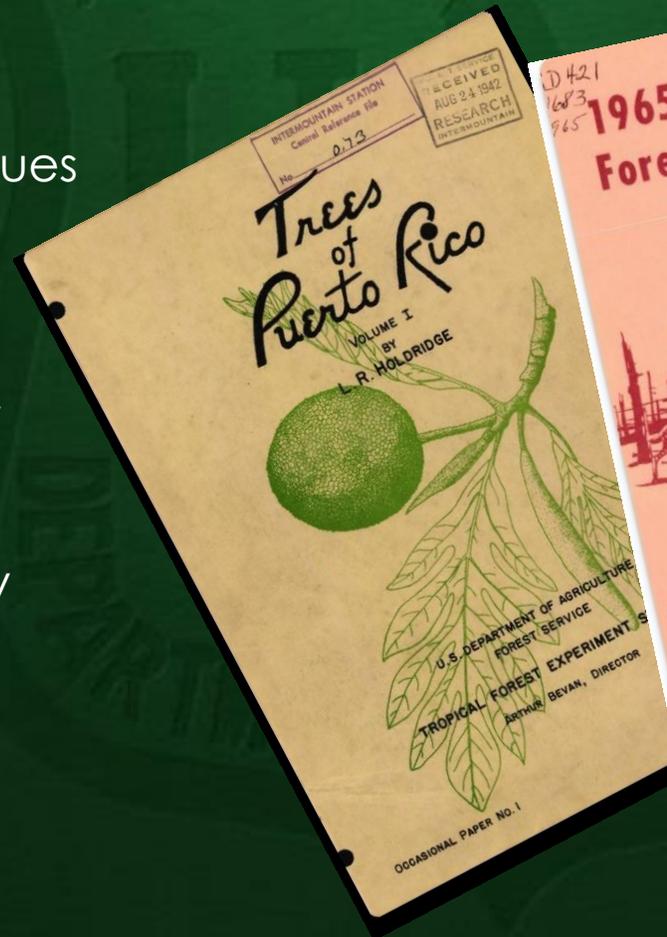
Discoveries

Methods

Technology

Language

Terminology



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# Why does Controlled Vocabulary Matter?

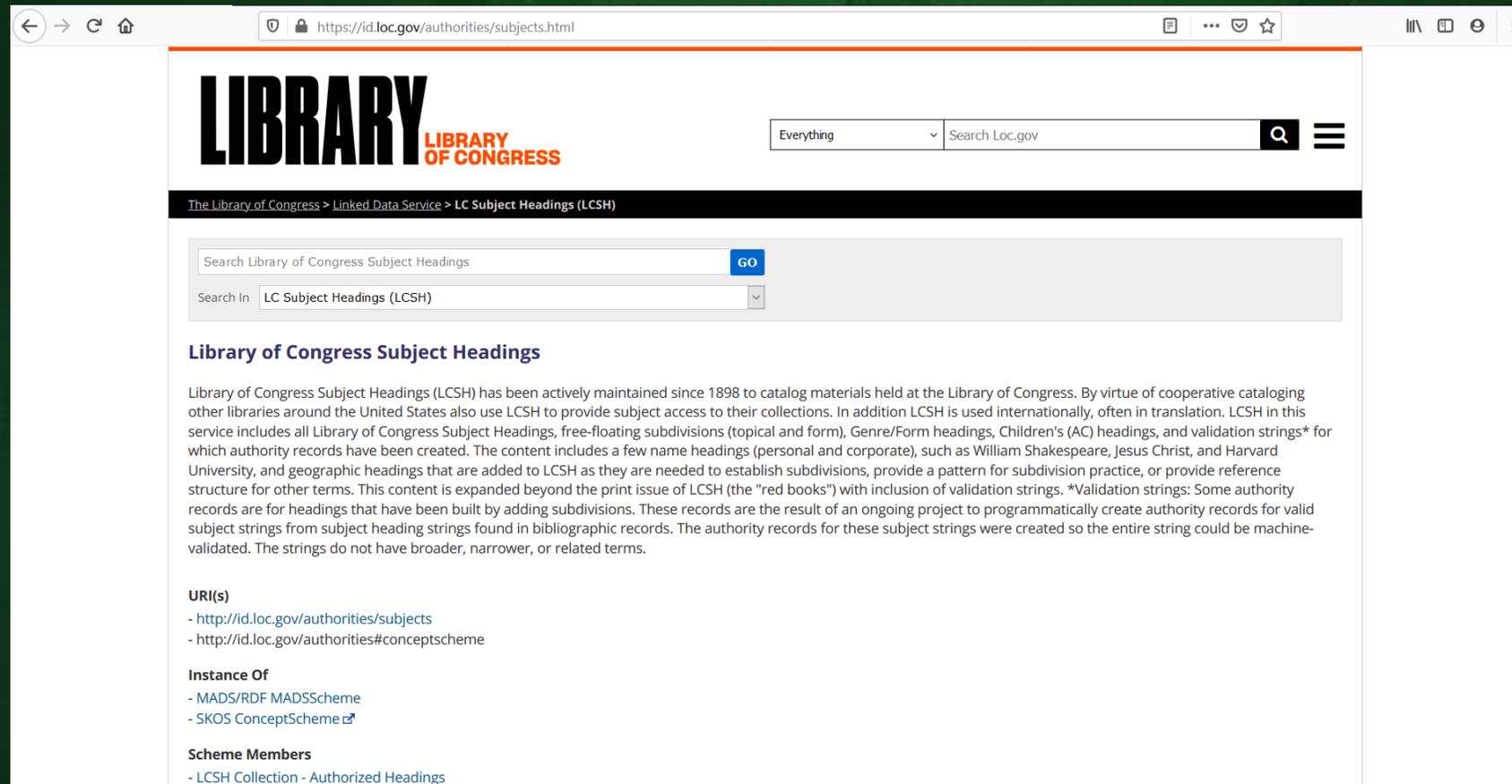
Ex. London Plane Tree

(Photo credit goes to the Arbor Day Foundation)



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# Common Library Subject Sources



The screenshot shows a web browser window displaying the Library of Congress Subject Headings (LCSH) page. The browser's address bar shows the URL <https://id.loc.gov/authorities/subjects.html>. The page features the Library of Congress logo and a search bar with a dropdown menu set to "Everything" and a search input field containing "Search Loc.gov". Below the search bar, the breadcrumb trail reads "The Library of Congress > Linked Data Service > LC Subject Headings (LCSH)". A search box is present with the text "Search Library of Congress Subject Headings" and a "GO" button. Below this, a "Search in" dropdown menu is set to "LC Subject Headings (LCSH)".

## Library of Congress Subject Headings

Library of Congress Subject Headings (LCSH) has been actively maintained since 1898 to catalog materials held at the Library of Congress. By virtue of cooperative cataloging other libraries around the United States also use LCSH to provide subject access to their collections. In addition LCSH is used internationally, often in translation. LCSH in this service includes all Library of Congress Subject Headings, free-floating subdivisions (topical and form), Genre/Form headings, Children's (AC) headings, and validation strings\* for which authority records have been created. The content includes a few name headings (personal and corporate), such as William Shakespeare, Jesus Christ, and Harvard University, and geographic headings that are added to LCSH as they are needed to establish subdivisions, provide a pattern for subdivision practice, or provide reference structure for other terms. This content is expanded beyond the print issue of LCSH (the "red books") with inclusion of validation strings. \*Validation strings: Some authority records are for headings that have been built by adding subdivisions. These records are the result of an ongoing project to programmatically create authority records for valid subject strings from subject heading strings found in bibliographic records. The authority records for these subject strings were created so the entire string could be machine-validated. The strings do not have broader, narrower, or related terms.

**URI(s)**

- <http://id.loc.gov/authorities/subjects>
- <http://id.loc.gov/authorities#conceptscheme>

**Instance Of**

- [MADS/RDF MADSScheme](#)
- [SKOS ConceptScheme](#)

**Scheme Members**

- [LCSH Collection - Authorized Headings](#)



# Examples of Science Term Deficit in LC

The screenshot shows the Library of Congress website interface. At the top left is the 'LIBRARY OF CONGRESS' logo. To the right is a search bar with a dropdown menu set to 'Everything' and the text 'Search Loc.gov'. Below the search bar is a navigation breadcrumb: 'The Library of Congress > Linked Data Service'. The main content area is titled 'Refine your results' and features a search input field containing 'london plane tree' with 'GO' and 'RESET' buttons. Below the search bar, there are two rows of 'Results: 1-0 of 0'. The first row is a table with columns: Label, Vocabulary, Concept, Subdivision, and Identifier. The second row contains the text 'Do you need assistance with your search?'. On the left side, there are several filter categories: Scheme, Type, Collection, Created Date, and Modified Date, each with a minus sign icon and 'No values' listed below. At the bottom of the page, there is a 'Follow Us' section with social media icons for email, Facebook, Twitter, YouTube, Pinterest, LinkedIn, Instagram, and Facebook. To the right of these icons is a link to 'Take our survey'. The footer contains links for Accessibility, Legal, Inspector General, External Link Disclaimer, USA.gov, Careers, Contact, Media, Donate, and Shop. On the right side of the footer are the logos for CONGRESS.GOV (United States Legislative Information) and Copyright (United States Copyright Office).



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# Cab Thesaurus

The screenshot shows the CAB Thesaurus website in a browser window. The URL is <https://www.cabi.org/cabthesaurus/mtwdk.exe?k=default&l=60&w=247429&s=5&t=2>. The page has a green header with the CAB logo and navigation links: Home, All terms A-Z, Browse by subject / category, and Send Feedback. The main content area is divided into three columns. The left column contains search filters: a search box with a right arrow, Language (English), Search type (terms begin with text), Results format (simple term list), Terms per page (15), Match terms \* (Equal or Greater), and Term type \* (Any). A search button is at the bottom of this column. The middle column is titled 'All terms A-Z' and shows a list of terms for 'Platanus hispanica' with an 'add' button next to the term. The terms listed are: Taxonomic Rank (Nothospecies Nothospecies - interspecific hybrid), Technical Category (SCI Scientific Name - Organisms), Subject Category (ON Organism Names), History Note (From 1988.), Preferred Term (Platanus acerifolia), Dansk (Platanus hispanica), Deutsch (Platanus hispanica), Français (Platanus hispanica), Italiano (Platanus hispanica), Nederlands (Platanus hispanica), and Norsk. A '<< Back' link is above the list. The right column is titled 'Search string' and contains a large empty text box, a 'clear search' link, and a 'Send to CAB Direct' button with sub-options: '> Send to Google' and '> Send to Yahoo!'. The Windows taskbar at the bottom shows the search bar, system tray, and various application icons. The system clock shows 1:26 PM on 3/27/2020.



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# Cab Thesaurus: British vs. American English

Language: English

Search type: terms begin with text

Results format: simple term list

Terms per page: 15

Match terms \*: Equal or Greater

Term type \*: Any

[search](#)

\* Available only to search type "term begins with text"

[Help with search >>](#)

[Get Sample Data >>](#)

[<< Back](#) | [Show Hierarchy](#)

**plant fibres** [add](#)

Technical Category  
P Plural Form  
Subject Category  
CO Commodities and Products  
Broader Term  
natural fibres [add](#)  
plant products [add](#)  
Narrower Term  
coir [add](#)  
cotton [add](#)  
flax [add](#)  
hard fibres [add](#)  
hemp [add](#)  
henequen [add](#)  
jute [add](#)  
kapok [add](#)  
kenaf [add](#)  
sisal [add](#)  
soft fibres [add](#)  
sunn hemp [add](#)  
wood fibres [add](#)  
Related Term  
cellulosic fibres [add](#)  
fibre plants [add](#)  
non-food products [add](#)  
textiles [add](#)  
Deutsch  
Pflanzenfasern  
English - United States  
plant fibers  
Nederlands



# 653 Usage

651	3	\a New Mexico.
651	0	\a Pecos River (N.M. and Tex.).
651	0	\a Rio Grande.
653		\a Hesperioidea.
653		\a Assemblages.
653		\a Biological indicators.
653		\a Metrics.
653		\a Stresses.
653		\a Assessment.
653		\a Quality.
653		\a Riparian vegetation.
653		\a Indexes.



# National Agriculture Library Thesaurus

The screenshot shows a web browser window displaying the National Agriculture Library Thesaurus. The browser's address bar shows the URL: <https://agclass.nal.usda.gov/mtwdk.exe?k=default&l=60&w=87745&s=5&t=2>. The page header includes the USDA logo and the text "United States Department of Agriculture National Agricultural Library" on the left, and the IICA logo and text "Inter-American Institute for Cooperation on Agriculture" on the right. Below the header is a navigation menu with links for "Home", "About Thesaurus and Glossary", "Download Files", "Help", "Contact Us", and "En Español". A search bar is located on the left side of the page, with a "Search" button. The main content area displays search results for the term "Platanus hispanica". The results include the term "Platanus hispanica", the word "Use", and the synonym "Platanus acerifolia". The "Term Number" is listed as 89068. On the right side of the results, there is a section titled "Search your Term in:" with links to "Google Scholar", "AGRICOLA Articles", "AGRICOLA Books", and "Navigator (USDA only)". Below the search results, there are search options including "Language" (set to English), "Search type" (set to terms contain text), and "Terms per page" (set to 100). At the bottom of the page, there is a footer with various links: "NAL | IICA | USDA | Agricultural Research Service | Science.gov | GPO Access | Web Policies and Important Links | Site Map | FOIA | Accessibility Statement | Privacy Policy | Non-Discrimination Statement | Information Quality | FirstGov | White House". The Windows taskbar at the bottom shows the search bar, task view button, and several application icons. The system tray on the right shows the time as 1:20 PM and the date as 3/27/2020.



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# Background on NALT

## Originally created for:

- ▶ United States Department of Agriculture (USDA)
- ▶ Agricultural Research Service (ARS)

## Used by:

- ▶ AGRICOLA
- ▶ Food Safety Research Information Office (FSRIC)
- ▶ Agricultural Network Information Center (AgNIC)
- ▶ Economic Research Service



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# What Sources Were Used to Create NALT?

- ▶ Numerous glossaries, dictionaries, and classification sources from varying subject areas:
- ▶ Neurology, Pesticides, Cellular biology, Ecology, Business and Economics, Botany, Nutrition, Bacteriology, Biomass, Medicine, Chemistry, Disease, Environmental Protection, Fish and Fishing, Veterinary science, Genetics, Horticulture, Pulp and Paper Production, and more
- ▶ Sources can be found at: <https://agclass.nal.usda.gov/bib.shtml>



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# Tested Against the Best

- ▶ Ritchie S., Banyas K., & Sevin C. (2019). **A Comparison of Selected Bibliographic Database Search Retrieval for Agricultural Information**. *Issues in Science and Technology Librarianship*, (93). <https://doi.org/10.29173/istl48>

“A generalized linear model statistical analysis determined that AGRICOLA ranked highest for precision and was statistically more likely to produce a relevant result than four other databases.” (Quote from abstract)



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# NALT Annotator

The screenshot shows the NALT Annotator web application. At the top, there is a menu bar with 'File', 'Edit', 'View', 'Favorites', 'Tools', and 'Help'. Below the menu is a large empty text input field. Underneath the input field is a section titled 'Include non-NAL terms in result?' with a radio button labeled 'No' that is currently selected. Below this is an 'Annotate' button. A blue notification banner at the bottom of the interface reads 'Here are the NAL Terms found!' with a close button (X) on the right. Below the banner is a table with the following data:

NAL Entity	Frequency	Thesaurus Link	Select Item
trees	1	<a href="http://lod.nal.usda.gov/nalt/11816">http://lod.nal.usda.gov/nalt/11816</a>	<input type="checkbox"/>
Platanus acerifolia	1	<a href="http://lod.nal.usda.gov/nalt/50547">http://lod.nal.usda.gov/nalt/50547</a>	<input type="checkbox"/>
hybrid species	1	<a href="http://lod.nal.usda.gov/nalt/315069">http://lod.nal.usda.gov/nalt/315069</a>	<input type="checkbox"/>
DNA	1	<a href="http://lod.nal.usda.gov/nalt/1560">http://lod.nal.usda.gov/nalt/1560</a>	<input type="checkbox"/>
botanists	1	<a href="http://lod.nal.usda.gov/nalt/18789">http://lod.nal.usda.gov/nalt/18789</a>	<input type="checkbox"/>

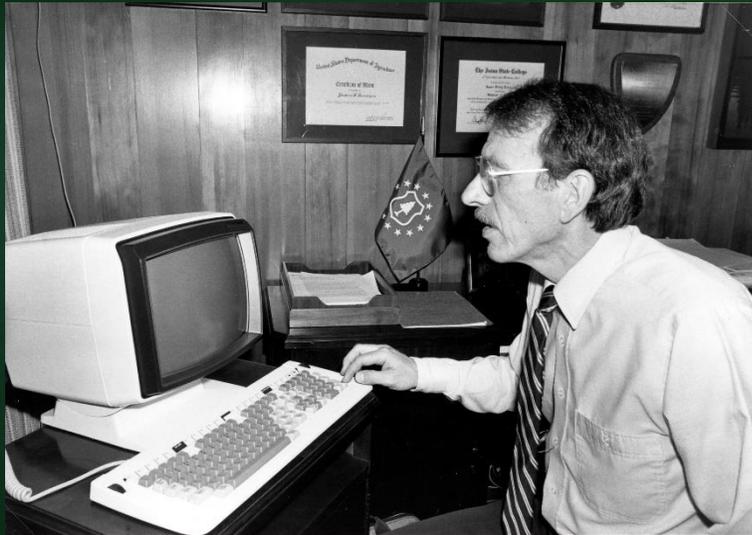
Below the table are two buttons: 'Copy' and 'Copy All'.

# How we got there:



Image: Logan River Foot bridge, Cache (Wasatch) National Forest, 1935 (United States Forest Service)

# What we gained:



- ▶ The catalog records are cleaner than ever before.
- ▶ We made tons of improvement to our subject indexing.
- ▶ Our relationship with NAL is stronger than ever before.
- ▶ Staff has been impressed by the ease of use with NALT and the Annotator.
- ▶ Our researchers have noticed a vast improvement in our information retrieval and access.



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# Why Taxonomy is Important:

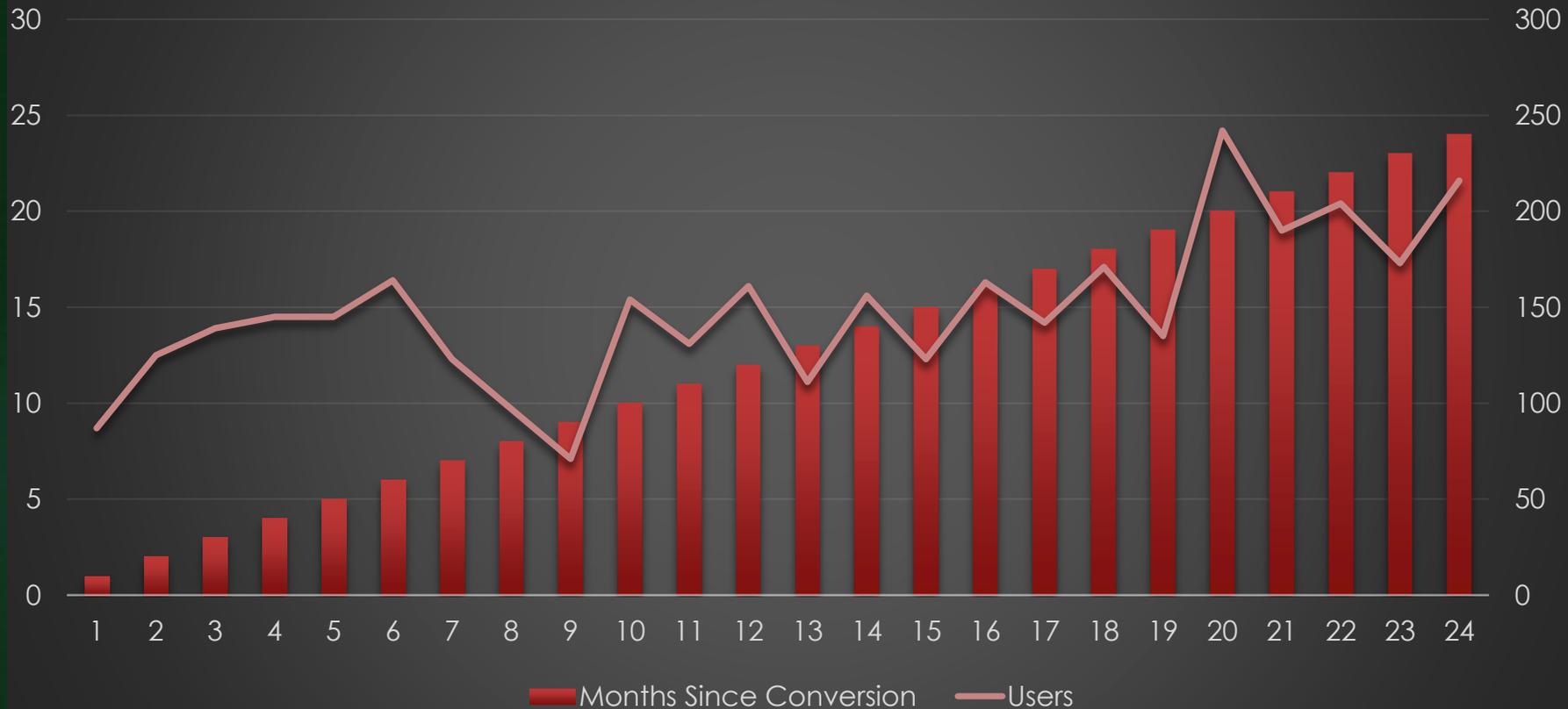
Improves the Forest and Forestry Research experience for our USDA Forest Service Researchers

Improves cohesiveness between organizations and their resources



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## OPAC Popularity Since NALT Conversion



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# ILS and CMS Cataloging

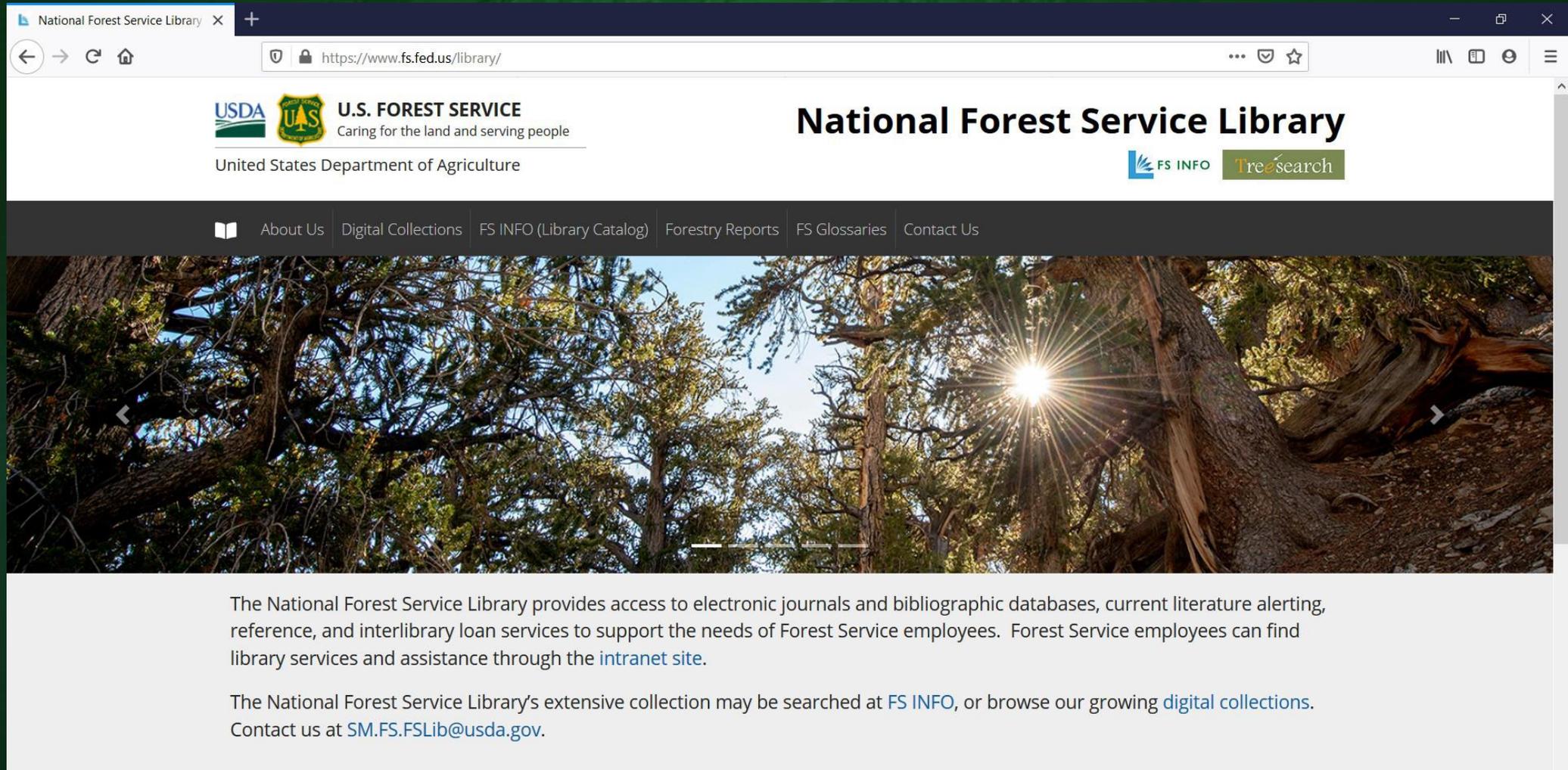
<https://nfsi.contentdm.oclc.org/digital/>

<https://www.fs.fed.us/library/search-the-catalog.shtml>

The screenshot shows the website <https://nfsi.contentdm.oclc.org/digital/>. The header features the USDA logo, the U.S. Forest Service logo, and the text "National Forest Service LIBRARY". Below the header is a search bar and an "Advanced Search" button. The main content area includes a mission statement: "The U.S. Forest Service manages and protects 154 national forests and 20 grasslands in 43 states and Puerto Rico. Its mission is to sustain the health, diversity, and productivity of the Nation's forest and grasslands to meet the needs of present and future generations. The repository contains U.S. Forest Service documents, reports, photographs, and audio files in support of the mission." Below this, there are four featured collections: "Forest Service Reports and Maps", "Forest Health Protection Historical Digital Collection", "Inaja Fire Photographs and Documents, 1956", and "Forest Products Laboratory Prefabricated Houses".

The screenshot shows the website <https://www.fs.fed.us/library/search-the-catalog.shtml>. The header features the USDA logo, the U.S. Forest Service logo, and the text "U.S. FOREST SERVICE Caring for the land and serving people" and "National Forest Service Library". Below the header is a search bar and a "re:search" button. The main content area includes a navigation menu with "About Us", "Digital Collections", "FS INFO (Library Catalog)", "Forestry Reports", "FS Glossaries", and "Contact Us". Below the navigation menu is a large banner image of a mountain range with the text "Search the Library's Collections". Below the banner is a search bar with a "Search" button.

# Our Website:



National Forest Service Library

USDA U.S. FOREST SERVICE  
Caring for the land and serving people  
United States Department of Agriculture

National Forest Service Library

FS INFO TreeSearch

About Us Digital Collections FS INFO (Library Catalog) Forestry Reports FS Glossaries Contact Us

The National Forest Service Library provides access to electronic journals and bibliographic databases, current literature alerting, reference, and interlibrary loan services to support the needs of Forest Service employees. Forest Service employees can find library services and assistance through the [intranet site](#).

The National Forest Service Library's extensive collection may be searched at [FS INFO](#), or browse our growing [digital collections](#). Contact us at [SM.FS.FSLib@usda.gov](mailto:SM.FS.FSLib@usda.gov).

# Questions:

- ▶ For obvious reasons, my library is most concerned with Forestry and Forest Science terms. What other specialized vocabularies exist in the other sciences?
- ▶ I discussed the solutions we tried at NFSL to remedy these issues. What have other libraries done to address these issues?
- ▶ My experiences are very specialized. In the broader audience, what networking opportunities exist for science librarians and catalogers? What groups do you all participate in, and what do you subscribe to that is helpful?
- ▶ Any other comments or questions?



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# Contacts:

## Digital Collection Manager:

- ▶ Crystal Falconer (Technical Information Specialist)
- ▶ [Crystal.I.falconer@usda.gov](mailto:Crystal.I.falconer@usda.gov)

## Library Director

- ▶ Tom Moothart (Library Director)
- ▶ [Thomas.Moothart@usda.gov](mailto:Thomas.Moothart@usda.gov)

\*Images used in this presentation are owned by the United States Forest Service.



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