

# Science.gov:

## Gateway to U.S. Government Science Information



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Welcome to Science.gov: Gateway to U.S. Government Science Information! My name is Andrea Morrison. I have been a long-time advocate for the understanding and use of government information in libraries. I work at Indiana University, Bloomington as a cataloging manager and I also co-teach graduate classes on government information.

Let's explore Science.gov together and learn how to find free online U.S. scientific and technical information using this amazing search service supported by 13 federal agencies.



Here is a screenshot of the homepage of Science.gov,

- You can access it simply by typing 'Science.gov'. Gov is the top-level domain for U.S.-based government organizations. This gateway is made available by a U.S. Government Agency.
- The Top right menu has a link to 'STEM Opportunities' This is a gateway to searching Federally-sponsored opportunities and programs for students in science, technology, engineering, and mathematics (STEM) areas. These includes scholarships and internships for undergraduates and graduates.
- The Translate option guides users in translating Science.gov content into other languages using Google Translate, for example to help users who prefer Spanish.
- Since the beginning of the Pandemic, New Federal Research on COVID-19 is a continually updated search hosted on the homepage. Check out how the search works to see a good search example!
- The homepage features the basic search box and a link to the advanced search, which is an amazing search tool! Try both options.
- The U.S. Federal Science Agencies' Public Access Plans are reports on how the agencies can support increased public access to the results of research funded by the Federal Government! I'll show you an example later from the National Science Foundation.

- Featured Websites are the logos and active links located at the bottom of the home page, these are popular science sites, and rotated regularly. Who needs government information? Everyone does, ***the public, citizens and noncitizens***
- Science.gov screenshot from <https://www.science.gov/>, May 18, 2022

Science.gov is developed and Maintained by maintained by the Office of Scientific and Technical Information, Office of Science, U.S. Department of Energy

<https://www.osti.gov/>



Science.gov was

Science.gov is governed by the interagency Science.gov Alliance  
an interagency working group of senior scientific and technical information  
managers.

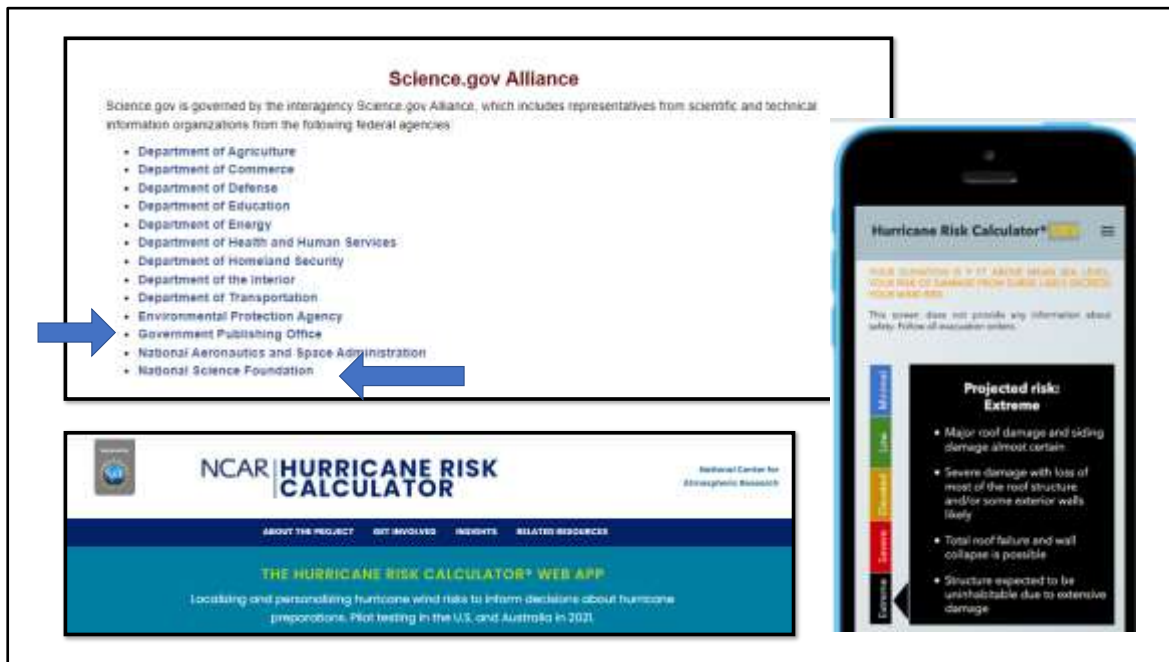
Science.gov is the U.S. contribution to

[WorldWideScience.org](http://WorldWideScience.org)

the Global Science Gateway, which provides access to science information from more than 70 nations.



Science.gov is the U.S. contribution to WorldWideScience.org, <https://worldwidescience.org/>, the Global Science Gateway, which provides access to science information from more than 70 nations. Try it!



Science.gov is governed by the Interagency Science.gov Alliance, <https://www.science.gov/agencies.html> . These 13 agencies produce and curate research, publications, and data, and they support federally funded research. These agencies represent most of the federal government’s Research & Development budget. You may understand why the Department of Defense has science information and data. It’s worth looking at these agencies and becoming familiar with their resources – I highly recommend it!

For example, the National Science Foundation funded research that created the Hurricane Risk Calculator Web App, which localizes and personalizes hurricane wind risks to help people make decisions about hurricane preparations. This is a project of the National Center for Atmospheric Research, which does research in earth system science and is sponsored by the National Science Foundation. Although it is not a government agency, this research is indexed in Science.gov, <https://wxrisk.ucar.edu/>

The Government Publishing Office is an important agency in the Science.gov Alliance. Government science policy, and federal regulations and legislation can be searched in Science.gov.

## U.S. Government Publishing Office (GPO)

### Mission

- *Publish trusted information for the Federal Government to the American people.*

### Vision

- America informed

--from <https://www.gpo.gov/who-we-are/our-agency/mission-vision-and-goals>



The U.S. Government Publishing Office (GPO) is a member of the Science.gov Alliance. That means that website content will be searched. This is their Mission and Vision. GPO also publishes guides and information on their website. For example, GPO featured Earth Day 2022 as a resource on the history of Earth Day with links to related legislation. Earth Day 1970 led to the establishment of the Environmental Protection Agency (EPA), another federal agency in the Alliance.

<https://www.govinfo.gov/features/earth-day-2022> . I

would expect this finding aid to be indexed and searchable in Science.gov.

## U.S. Government Publishing Office (GPO)

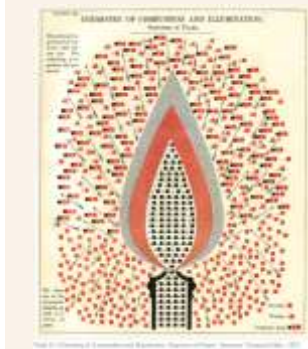
- Produces and distributes information [products and services](#) for all three branches of the Federal Government, including the official publications of Congress, the White House, and other Federal agencies in digital and print formats
- **Govinfo.gov**, <https://www.govinfo.gov/> -- free government information for all -- GPO's trusted official full-text repository
- **Catalog of U.S. Government Publications** (CGP), <https://catalog.gpo.gov/F>

Govinfo.gov is a repository with free government information for all, and it is the main way GPO provides trusted authentic and preserved official U.S. federal government information. The *Catalog of U.S. Government Publications* (CGP) provides bibliographic access to many full-text documents hosted on govinfo.gov and agency websites.

Users of Science.gov need to be aware that they will retrieve full-text resources for content like legislation and regulations hosted on govinfo.gov, but they also will retrieve bibliographic records from federal agency online catalogs like the Catalog of U.S. Government Publications. Science.gov gives searchers the ability to limit results to full-text resources! Therefore, if searchers don't want abstracts or catalog records, they can limit to full-text results.



## Library of Congress (LC)



- History of science and technology
- Inventions
- Military science
- Chemistry, Botany, Physical Sciences
- Much more!

The Library of Congress (LC) is the member of the Science.gov Alliance. I mention them because users may wonder why their content is indexed in Science.gov. LC has a Science, Technology and Business division and archives, digital collections, publications, and educational materials relating to science.

The image of a flame in the chemistry of combustion and illumination and the image of the chemistry of geology are illustrated plates from a rare book described in a May 19, 2022 blog by Nate Smith “A Visual Approach too 19<sup>th</sup> Century Chemistry” at [https://blogs.loc.gov/inside\\_adams/2022/05/youmans-chemical-atlas/](https://blogs.loc.gov/inside_adams/2022/05/youmans-chemical-atlas/) The book is *Chemical Atlas; or, the Chemistry of Familiar Objects: Exhibiting the General Principles of the Science in a Series of Beautifully Colored Diagrams, and Accompanied by Explanatory Essays, Embracing the Latest Views of the Subjects Illustrated*, by Edward L. Youmans (1857). [https://blogs.loc.gov/inside\\_adams/files/2022/04/Plate-XI-1-scaled.jpg](https://blogs.loc.gov/inside_adams/files/2022/04/Plate-XI-1-scaled.jpg) and [https://blogs.loc.gov/inside\\_adams/files/2022/04/Plate-IV-1-scaled.jpg](https://blogs.loc.gov/inside_adams/files/2022/04/Plate-IV-1-scaled.jpg) are the two images.

## What is Federal Scientific Government Information?

- Official information
- Authoritative information
- Readily available at no fee
- Most information NOT under copyright
- **Rich subject** content
- Data sets
- Fascinating & beautiful
- Educational/Learning plans
- Updated social media, multimedia, and innovative media, [NASA Mars Exploration Program](#)



*Aurora Borealis adds green hue to night sky over Glacier National Park, Montana,*  
image from  
<https://www.nps.gov/nature/photogallery.htm>

Connect with Government



So what is scientific Federal government information. First, it is official, authoritative and reliable information. U.S. government information is readily available at no fee. Most U.S. government information is NOT copyright restricted, although there are some exceptions – always look for copyright statement. Federal agency websites and photo/media galleries are indexed in Science.gov, for example, this image from the National Parks Service photo gallery, <https://www.nps.gov/nature/photogallery.htm> entitled ***Aurora Borealis adds green hue to night sky over Glacier National Park, Montana***, <https://www.nps.gov/media/photo/gallery-item.htm?pg=841891&id=0D1CEAAE-1DD8-B71B-0B71FB53A56B6793&gid=729F481A-1DD8-B71B-0B226D408AB3D737>

Check out the NASA Science, Mars Exploration Program, a site managed by the Program and the Jet Propulsion Laboratory for NASA's Science Mission Directorate, <https://mars.nasa.gov/>

The site has Images, Videos, Audio, Podcasts, Press Kits, factsheets and even stickers. You can find regular reports on the NASA Insight Mars lander, which is currently exploring MARS.

With Science.gov, we can search on “InSight Mars lander” and then limit by type of resource, text, multimedia, data sets, or public access to federally-funded scientific research, called “Public Access.”

## Some of Many Scientific Subjects Covered by U.S. Government Information

- Agriculture
- Astronomy
- Earth Sciences
- Environment
- Health
- Patents & Trademarks
- Plant Science
- Science Education
- Space
- Technical reports/research & development
- Wildlife



These are only some of many scientific subjects covered by U.S. Government Information. We will see many more categories listed in Science.gov Advanced Search. ***Who needs this information – we all do! How can we find this information in Science.gov?***

## What Does Science.gov Search?



- One stop searching of 70 scientific databases and an index of over 2,200 websites (together called sources)
- Many formats, **full-text** documents, citations, scientific data, federally funded research, and multimedia
- Searches sources across 13 federal agencies
- Sources selected by agency information managers and librarians as authoritative
- Sources are not limited to U.S. government
- Some information is not full-text – expect results from abstracts/indexes
- Selection criteria

What does Science.gov search? It is a one stop searching of 70 scientific databases (more than 60 now) and an index of over 2,200 websites, together called sources. It includes many formats, including full-text documents, citations, scientific data supporting federally funded research, and multimedia. Science.gov searches journal articles, peer-reviewed accepted manuscripts, and reports of research funded by federal science agencies, as well as the agencies' public access policies and requirements.

Using Science.gov to search is better than searching with a search engine because the sources are selected as authoritative by agency information managers. **“What is the difference between Science.gov and collections/gateways to government science information made available elsewhere?** The major difference is the agency source and authority of the information. Rather than automatically collecting content using spiders as private sector gateways might do, the Science.gov database and websites are selected by agency information managers and librarians as representing authoritative government science information. The information content results from government-funded research and development or similar activities in which there is a U.S. Government investment. The agencies are responsible for the source of their respective content included in Science.gov.” From Science.gov FAQs:

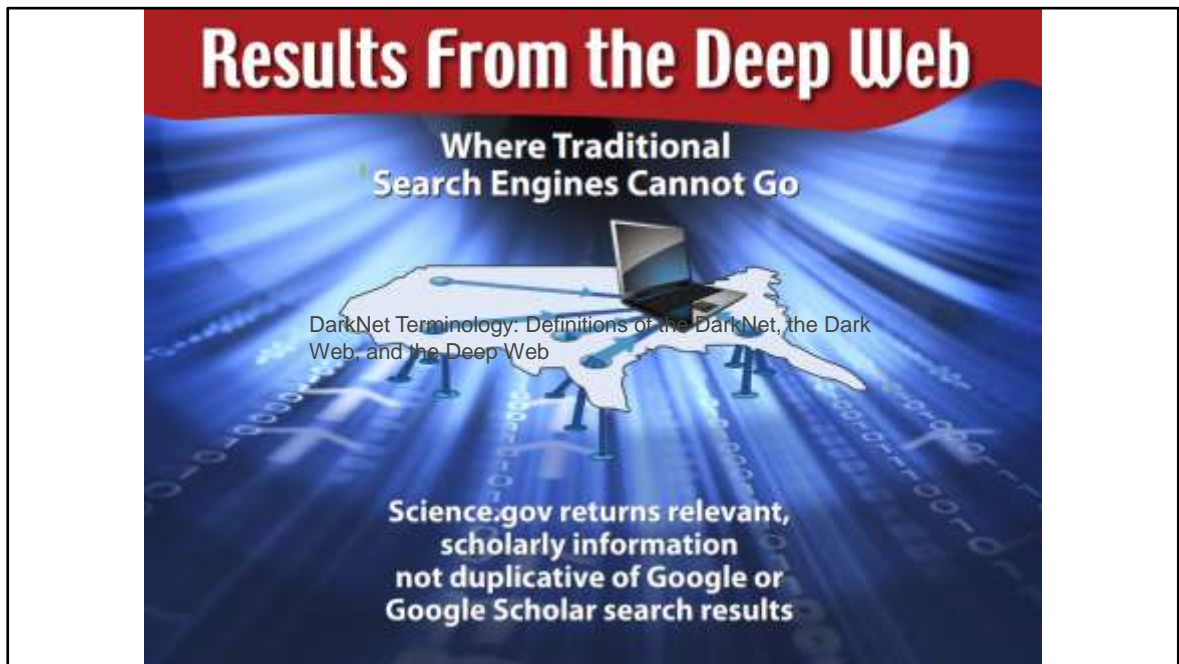
<https://www.science.gov/faq.html#what-is-the-difference> Expect perspective from the search content, but not intentional misinformation!

Sources are not limited to U.S. government information. Although Science.gov is made available by an agency of the United States Government, it posts a disclaimer: “The views and opinions of originators expressed herein do not necessarily state or reflect those of the United States Government or any agency thereof” from <https://www.science.gov/disclaimer.html#disclaimer>

Some information is not full-text – expect results for abstracts/indexes. Science.gov has powerful filtering options that help users narrow their results

Selection Criteria. “Science.gov includes databases or websites that are rich in science content. The content may consist of scientific or technical data, technical reports, publications, databases, or other forms of science information. The content might also include information about, for example, scientific user facilities, experts in scientific disciplines, or contacts to consult for assistance.

Science.gov does not include websites that are merely organization home pages or sites that require a password or other access privilege. Sites must also be current and well-maintained.” <https://www.science.gov/faq#advanced-search>



Here is another reason why Science.gov is better than searching with a search engine. It returns results from the Deep Web where traditional search engines cannot go. It returns relevant, scholarly information that does not duplicate Google or Google Scholar search results! What is Deep Web information?

Source: Science.gov poster entitled [Results from the Deep Web - 2010](https://www.science.gov/communications/posters/ResultsFromTheDeepWeb_6_10.pdf) ,  
[https://www.science.gov/communications/posters/ResultsFromTheDeepWeb\\_6\\_10.pdf](https://www.science.gov/communications/posters/ResultsFromTheDeepWeb_6_10.pdf)



To put it in perspective...

Mike Thompson of the Argonne National Laboratory defines **Deep Web**

According to the Argonne National Laboratory, Cyber Operations, Analysis, and Research, the DeepWeb is the portion of the web accessible through a browser but not indexed by Google or other search engines!

**“What is the difference between Science.gov and collections/gateways to government science information made available elsewhere?** The major difference is agency source and authority of the information. Rather than automatically collecting content using spiders as private sector gateways might do, the Science.gov database and websites are selected by agency information managers and librarians as representing authoritative government science information. The information content results from government-funded research and development or similar activities in which there is a U.S. Government investment. The agencies are responsible for the source of their respective content included in Science.gov.” From Science.gov FAQs: <https://www.science.gov/faq.html#what-is-the-difference>

I found this source through USA.gov, the official online guide to government information and services: “DarkNet Terminology: Definitions of the DarkNet, the Dark Web, and the Deep Web”, post by Mike Thompson, May 10, 2016, <https://coar.risc.anl.gov/coar-attends-department-of-homeland-security-hosted->



[darknet-summit/](#)

## How Does Science.gov Search?



- Searches selected sources simultaneously using **federated search technology**
- Returns results in real-time
- Displays top-level results from databases ranked by relevance
- Databases have different quality metadata/can affect searches
- **Avoid search frustration and use Science.gov Help Tools!**
  - Not all databases have similar search/index terms
  - If search results are confusing, change the search or filter search results
  - Use Advanced Search to select databases
  - Use Science.gov Topics Pages
  - Look at search Help
  - Use FAQs
  - Use Site Map
  - Contact Science.gov

How does Science.gov search? It searches selected sources or databases simultaneously using **federated search technology**. It returns results in real-time. It continually updates results because it queries the separate databases and returns results from individual databases at different times! You can continue working with results while Science.gov continues searching. The federated search updates immediately so that each search is current. Science.gov content is updated regularly, and its websites index is re-indexed each time sources are added.

Science.gov displays top-level results from databases ranked by relevance – the more stars, the more relevance.

- Databases have different quality metadata and that can affect searches. In a search on a topic, databases are not all created equal and may not be able to limit user searches because of old or poorer metadata and index terms. In case of doubt, Science.gov will return search results that are not exact matches. If searchers expect this, they can avoid frustration and change their search or filter their search results! Science.gov offers a lot of help.

Not all databases have similar search/index terms

If search results are confusing, change the search  
Use Advanced Search to select databases  
Use Science.gov Topics Pages  
Look at search Help  
Use FAQs  
Use Site Map (at the bottom of each page)  
and  
Contact Science.gov. I have e-mailed them and got responses within the week.

## Searching Science.gov for Electric Cars

The screenshot displays the Science.gov search interface. At the top, the search bar contains the text 'Electric Cars' and the word 'Search' is circled in green. Below the search bar, there are navigation options like 'Home', 'About', and 'Help'. The main content area shows search results for 'Electric Cars' with a star rating of 5 stars. The results list includes items such as 'Electric CARB/Land Use', 'Electric cars and land use: Do we need a new solution? A study to compare land use and electric cars in 2022 in The Netherlands?', and 'EM and OED: A High Power Charger of Battery Electric Car Cells?'. A progress indicator at the bottom right of the results list shows '66 of 71 sources complete'. On the left side, there are sections for 'Topics' and 'Clusters' with blue arrows pointing to them. The 'Topics' section lists categories like 'Electric Vehicle', 'Energy', 'Development', 'Power', and 'Report'. The 'Clusters' section lists authors like 'Schwartz, H. J.', 'Coffey, Andrew', 'Dorsey, Paul M.', 'Hartman, W. F.', 'Brown, Abby J.', and 'Stewart, J. C.'.

This is the result of a Basic Search from the home page. Science.gov compares this Basic Search to a Google Search. If I search Science.gov Basic Search with the terms 'electric cars', as a default Science.gov searches with Boolean 'and' as in 'electric' and 'cars'. 71 databases were searched. Results listed under the text box are 1136 resources, but they are the top results. These results are ranked as highest relevance, with a star rating of 5 stars. At the upper right, the Menu choices allows users to create an account and sign in, save, print, or e-mail search results. The tools icon is for setting user preferences. The icon at the right an exclamation point is the Alert Search Service. Where you see sources are not fully searched or complete, during an active search, you will get the choice of Adding Updates while the search is running. Click on the plus icon.

On the left, under the heading Topics, Clusters of topics are group related to your search topic. Select one of the topics, authors, or years, and you will see those results, also relevancy-ranked.

In the Menu on the upper right, you will **see Search circled in Green**. That takes you to the advanced search so you can further refine your search and chose database or categories to search. The search terms are retained.



In Science.gov, you can easily limit results to Text, Multimedia and Data in the results viewing pane. You can limit the results with either textual Topics or a Visual search guide. In both the visual guide and the results list, Multimedia is selected.

On the left, you can see the visualization feature, an interactive tool that groups results topics into an easy-to-view 'visual format, with up to three levels of sub-topics under each main topic. It's a Science.gov Donut Chart! You can see bright green visual option for Electric Vehicles, giving the user the more common search vocabulary. The results are returned by rank, but you can select date or Source Order. A User can also choose to see the top ranked results in a specific collection instead of all collections.

## Use Advanced Search to Select Databases

Expand categories!

Full Record  
electric cars

Title

Author

Date Range  
From: Pick Year To: Pick Year

Search Clear

All Categories

- Science.gov Websites - Selected Websites
- Agriculture & Food - Food Safety, Gardening, Pesticides, Veterinary Science
- Applied Science & Technologies - Biotechnology, Electronics, Engineering, Transport
- Astronomy & Space - Exploration, Planets, Space Technology
- Biology & Nature - Animals & Plants, Ecology, Genetics, Pest Control
- Earth & Ocean Sciences - Land, Maps, Natural Disasters, Oceans, Weather
- Energy & Energy Consumption - Energy Use, Fossil Fuel, Solar, Wind
- Environment & Environmental Quality - Air/Water/Noise Quality, Cleanup, Climate Change
- General Science - Multidisciplinary research
- Health & Medicine - Disease, Health Care, Nutrition, Mental Health
- Math, Physics & Chemistry - Physical Science Resources
- Multimedia - Multimedia sources
- Natural Resources & Conservation - Ecosystems, Energy Resources, Forest Science, Mining
- Science Education - Homework Help, Teaching Aids, Science Interactions
- Federal Regulations and Legislation
- Public Access - Peer-reviewed scholarly publications resulting from federally funded scientific research

Clear Selected Search Results — click the trashcan button to clear your selection of Search Results

Use Advanced Search to Select Databases. Because I started with a Basic Search then choose to further refine my search, my search terms electric cars is retained in Advanced search, but you can begin searching on Advanced Search without performing a basic search first.

Searching terms in the full record means you are searching across the entire content of a document, whether it is full-text, an abstract, or a citation. Expand categories by clicking on the plus sign. You may need to click on the trash can in the Menu to clear your selection of Search Results

## Use Advanced Search to Select Databases

Expand categories!

The screenshot shows an advanced search interface. At the top, the 'Full Record' search type is selected and circled in red. Below it are input fields for 'Title', 'Author', and 'Date Range'. The 'Date Range' field includes 'From: Pick Year' and 'To: Pick Year' dropdown menus. A 'Search' button and a 'Clear' button (circled in green) are located on the right. Below the search fields is a list of categories under the heading 'All Categories'. Each category has a plus sign icon to its left, indicating it can be expanded. The categories listed are: Science.gov Websites - Selected Websites; Agriculture & Food - Food Safety, Gardening, Pesticides, Veterinary Science; Applied Science & Technologies - Biotechnology, Electronics, Engineering, Transport; Astronomy & Space - Exploration, Planets, Space Technologies; Biology & Nature - Animals & Plants, Ecology, Genetics, Pest Control; Earth & Ocean Sciences - Land, Maps, Natural Disasters, Oceans, Weather; Energy & Energy Conservation - Energy Use, Fossil Fuel, Solar, Wind; Environment & Environmental Quality - Air/Water/Noise Quality, Cleanair, Climate Change; General Science - Multidisciplinary Resources; Health & Medicine - Diseases, Health Care, Nutrition, Mental Health; Math, Physics & Chemistry - Physical Science Resources; Multimedia - Multimedia sources; Natural Resources & Conservation - Ecosystems, Energy Resources, Forest Science, Mining; Science Education - Homework Help, Teaching Aids, Science Interactions; Federal Regulations and Legislation; and Public Access - Peer-reviewed scholarly publications resulting from federally funded scientific research.

Use Advanced Search to Select specific databases to search. You can search terms in the full record, that means across the entire content of a document. Expand categories by clicking on the plus sign. I am going to run this search again, but choose Energy & Energy Conservation as a category and, also, Environment & Environmental Quality. Click Clear when you want to clear your search choices.

I then change my search to a quoted phrase search “electric vehicles”. I can limit my date range from 2021-2022.

EV Charging and the Impacts of Electricity Demand Charges (F) 

★★★★☆

OSTI.GOV (F)

Borking, Brennan (ORCID:000000191421641); Bennett, Jesse (ORCID:000000041380110)

2022-05-02

Keywords: ADVANCED PROPULSION SYSTEMS POWER TRANSMISSION AND DISTRIBUTION, demand charges, electric vehicles, EV charging, EVs, EVSE, utility rates. These slides were presented at the Los Angeles Cleantech Incubator's (LACI's) April 2022 combined Light-Duty and Goods Movement Working Group meetings. The talk summarized MHD vehicles and estimate the impacts of utility demand charges on charging costs.

EV Charging and the Impacts of Electricity Demand Charges

Other Related Research

CONFERENCE:

[View Conference](#)

Please see [document availability](#) for additional information on obtaining the full-text document. Library patrons may search [WorldCat](#) to identify libraries that hold this conference proceeding.

SAVE / SHARE:

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Abstract

These slides were presented at the Los Angeles Cleantech Incubator's (LACI's) April 2022 combined Light-Duty and Goods Movement Working Group meetings. The talk summarized recent and ongoing research at NREL to model EV charging demands for passenger and commercial MHD vehicles and estimate the impacts of utility demand charges on charging costs.

Authors: [Borking, Brennan](#), [Bennett, Jesse](#)

Publication Date: 2022-05-02

Here is one of the search results on EV or electric vehicle charging. Notice the PDF Icon to select the resource from the search results. You can see that this resource is from the database, OSTI.GOV. If you really like this resource, you can click the link to open and search the database with full options. If you check the box to the left of the resource, then you have selected that result, and can print, save or e-mail your selected results.

When I click on the underlined title on EV Charging, I see the Abstract page for this resource shows that it is a Conference document. This is exactly why I like Science.gov. This is a very current presentation with reliable facts from NREL, the National Renewable Energy Laboratory, on a very timely subject!



Slides from  
a 2022  
presentation



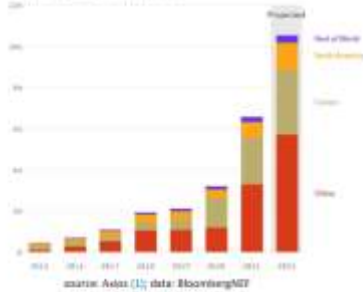
Here are slides from the presentation, “EV Charging & the Impacts of Electricity Demand Charges,” April 26, 2022, Slide 1,

<https://www.nrel.gov/docs/fy22osti/82738.pdf>

## EVs are becoming increasingly popular...

### Passenger electric vehicle sales

Before plugging in, we're looking at installed electric vehicles.



### President Biden sets a goal of 50 percent electric vehicle sales by 2030.

The initiative also promotes the construction of charging stations and includes financial incentives for consumers and commuters.

### CALIFORNIA

### California takes bold step to reduce truck pollution

Fleet-of-its-kind requirement for electric trucks will help communities hardest hit by air pollution.

### General Motors plans to exclusively offer electric vehicles by 2035

### European sales of electric cars overtake diesel models for first time

Switch to battery-powered vehicles enjoys record growth on back of government subsidies and emissions regulations.

[1] <https://www.aesol.com/2021/06/01/electric-vehicle-sales-expected-to-reach-10-million-in-2021/>  
 [2] <https://www.aesol.com/2021/06/01/electric-vehicle-sales-expected-to-reach-10-million-in-2021/>

[3] <https://www.sacramento.com/story/news/politics/2021/06/01/california-requires-electric-trucks/7267266002/>  
 [4] <https://www.gm.com/2021/06/01/gm-plans-to-exclusively-offer-electric-vehicles-by-2035.html>  
 [5] <https://www.bbc.com/news/technology-56112111>

As transportation electrifies, it will become **more integrated** with the electrical grid, smart buildings, renewables, and information ecosystems

I learned how passenger electric vehicle sales are growing exponentially with North America leading, and there are other facts with references. EV Charging & the Impacts of Electricity Demand Charges, April 26, 2022, Slide 5, <https://www.nrel.gov/docs/fy22osti/82738.pdf>.

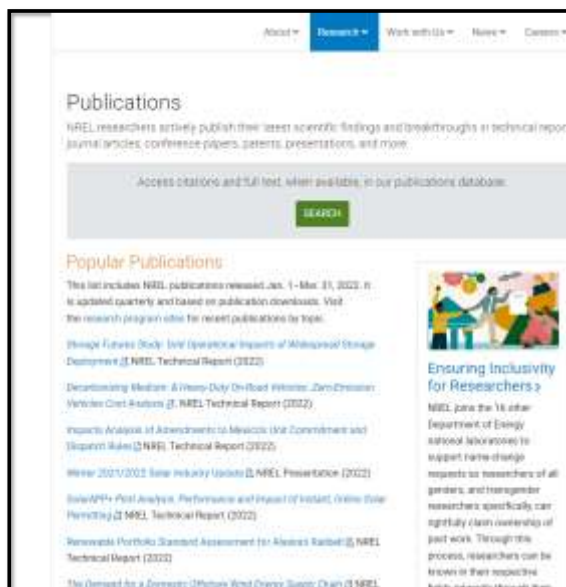
## NREL References

- [1] Muratori, M., Kortou, E., and Eichman, J., Electricity rates for electric vehicle direct current fast charging in the United States. *Renew Sust Energy Rev* **113**, 109235 (2019). <https://doi.org/10.1016/j.rser.2019.06.042>.
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- [3] Bashar Anwar, M. et al., Assessing the value of electric vehicle managed charging: a review of methodologies and results. *Energy Environ. Sci.* **2** (2022). <https://doi.org/10.1039/D1EE02205G>.
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- [6] Pennington, T. 2021. "Directed Electric Charging of Transportation using eXtreme Fast Charging (DirectXFC)." Presented at the U.S. Department of Energy Vehicle Technologies Office Annual Merit Review, June 23, 2021.
- [7] Borlaug, B. et al., Heavy-duty truck electrification and the impacts of depot charging on electricity distribution systems. *Nat Energy* **6**, 673–682 (2021). <https://doi.org/10.1038/s41560-02100855-0>.
- [8] Borlaug, B. et al., Charging Needs for Electric Semi-Trailer Trucks. Preprint: RSETR-D-22-00009 (2022). Available at SSRN: <http://dx.doi.org/10.2139/ssrn.4079508>.
- [9] Penev, Michael. Electric Vehicle Infrastructure Financial Analysis Scenario Tool (EVI-FAST). NREL. <https://www.nrel.gov/transportation/evi-fast.html>.

The last slide of the presentation (Slide 23), leads me to NREL References, with links to the online publications.

## NREL Research Publications

<https://www.nrel.gov/research/publications.html>



NREL research explores energy systems and technologies – and the science behind them – for a future powered by affordable, abundant, and clean energy. Searchers can choose to search further by Bioenergy, Energy Security and Resilience, Energy Storage, Geothermal, Grid Modernization, Hydrogen and Fuel Cells, Solar, Water, Wind and more.

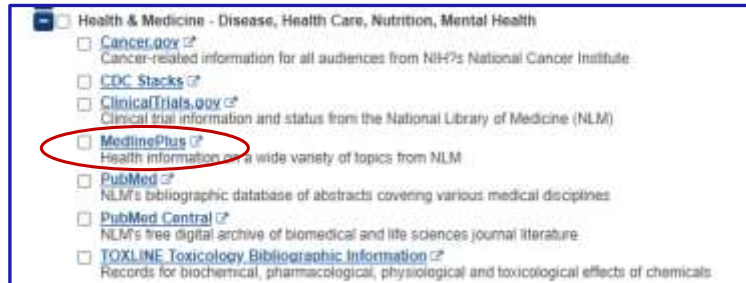
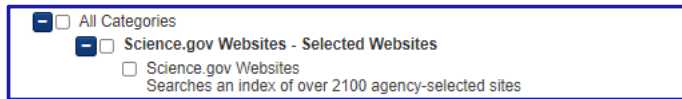
This website has many full-text research publications, and I can also search the website. Science.gov led me as user to these research publications, to the conference presentation, and to many other results from my Advanced Search. It feels like I found a treasure of government information! It's amazing that we have so much available to us at no cost.

Sometimes Science.gov provides a direct resource for a user, but sometimes it provides access to a database or website that the user can search for further information.

Let's return to Science.gov Advanced Search and look at other categories we can search.

## Science.gov Advanced Search: Select Categories or Databases

- Selecting websites categories (top) can affect results - don't choose it to see the difference
- Many databases under Health & Medicine! Select the entire category or individual databases.
- Can link directly to a database, select arrow widget



Select categories in Advanced Search by clicking boxes. Selecting websites can affect results – try search with and without that first category to see the difference.

Notice the many databases under Health & Medicine! Select the entire category or individual databases. Explore to find your preferred databases. You can even go directly to a database and search if you like the original results. For example, say you searched PubMed Central, the National Library of Medicine's free journal literature and it's too academic. Select the arrow widget to go to Medline Plus health information from the NLM, or National Library of Medicine, which has popular health content. These are all great resources, but they meet different needs. Having the brief annotation of the database in these categories, helps us decide if we want to select a database but we can also use Science.gov Advanced Search to find the right database and go to it directly! Let's look at MedlinePlus.


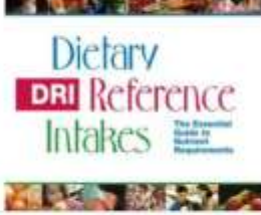



MedlinePlus, <https://medlineplus.gov/> is a wonderful database to search with Health Topics, Drugs & Supplements, Medical Tests, Healthy recipes and much more for consumers. However, we want to search for more information on nutrition to get a variety of sources in addition to National Library of Medicine. Return to Science.gov Advanced Search, expand the list, and you see the USDA-NAL, the United States Department of Agriculture Food and Nutrition Information Center!

## Food and Nutrition Center Information

<https://www.nal.usda.gov/programs/fnic>

### Featured Resources

		
<b>Dietary Guidelines for Americans</b> Learn about the Dietary Guidelines for Americans 2020-2025 and their recommendations for a healthy eating pattern. <a href="#">Explore Dietary Guidelines</a>	<b>Dietary Reference Intakes (DRIs)</b> Discover the nutrient needs of healthy populations using the Dietary Reference Intakes (DRIs) from the National Academies of Science, Engineering and Medicine. <a href="#">Learn About DRIs</a>	<b>MyPlate Resources</b> Browse this collection of MyPlate educational materials and tools, including the MyPlate Plan and Start Simple with MyPlate app. <a href="#">Search MyPlate Resources</a>

The Food and Nutrition Information Center provides information for the professional community, but wait, don't stop there if you want content appropriate for all ages! Keep looking. You'll see featured resources and most federal agencies have educational and consumer information. The MyPlate educational resources and app is for both professional and public use. <https://www.nal.usda.gov/legacy/fnic/myplate-resources-1>

There is interactive content, and even a resource called "Food Planning During the Coronavirus Pandemic", <https://www.myplate.gov/eat-healthy/healthy-eating-budget/covid-19>

As you know there is a shortage of baby formula nationwide. When I also searched these two categories for 'baby formula shortage' my result returned Nemours Children's Health, an organization dedicated to pediatric research and clinical trials. Although it is a .org, not a government agency, it has been vetted as an authoritative source. <https://www.nemours.org/patientfamily/baby-formula-shortage.html>

## Nemours Children's Health

Here are some tips on how to navigate the baby formula shortage:

Consider reading the Nemours KidsHealth article, [What Should I Feed My Baby if I Can't Find Baby Formula in Stores?](#) 

There are important reminders in the article about **what not to give a baby** such as:

- homemade formula
- watered-down formula to make it last longer
- formula bought overseas
- toddler formula

Additional articles and resources related to this topic, include:

- [Is Homemade Baby Formula Safe?](#) 
- [Feeding Your Family on a Tight Budget](#) 
- [Formula Feeding FAQs: Getting Started](#) 
- [Recalled Baby Formula and Comparable Brand](#) 

### Baby Formula Shortage



Science.gov indexes reliable non-governmental sources such as Nemours Children's Health. This organization has tips on how to navigate the baby formula shortage, an article on "What should I feed my baby if I can't find baby formula" with information reviewed by a doctor in May 2022 with important reminders about what NOT to give a baby such as homemade formula, watered down formula and formula bought overseas.



## Search Help Topics <https://www.science.gov/help.html>

**Search Help Topics**

- Basic Search
- Advanced Search
- Search Results
- Selecting and Exporting Results
- Source Status
- Spelling Suggestion
- Search Tips
- Need more Science Information?

See Alerts Help for Information on the Alerts Service

**Try our Basic Search**

Enter Search Terms

- Just type in your key word(s), like "climate change", and select
- You'll get results ranked by relevance. The higher the number of stars,  the more relevant the document is to your query.
- You will also see two tabs on the left side of the screen, **Topics** and **Visual**. On the right, you will see the related Wikipedia term, as well as related **EuroAlert** news items.
- Unlike many search engines, our results are retrieved in real time. So as results start to come in, you may want to select "Add Results" to update. You may work with your results while Science.gov continues searching.
- Don't miss our **Featured Search**, located underneath the search box on our homepage. These are relevant science topics, updated regularly.

Search Help Topics is a great resource, <https://www.science.gov/help.html>. Notice that you can find help on selecting and exporting results and learn that the higher number of stars, the more relevant the document is to your query

You can also register for free on Science.gov and create an Alerts Account. Alerts run automatically based on your schedule and you can get alerted via e-mail or an RSS feed. There is no limit. Results can be emailed, printed, or downloaded into a citation manager. Alerts Help page, <https://www.science.gov/helpalerts.html>

## Science.gov FAQs & Search Tips

- [What's the best way to find what I want?](https://www.science.gov/faq.html) - <https://www.science.gov/faq.html>
  - [Basic Search](#) – **start here**
  - [Advanced Search](#) – **refine your search & select sources to search**
  - [Query Expressions](#)
    - [Multiple Search Terms](#): A search for science technology will return results on both science and technology.
    - [Boolean Operators](#) -- *Examples*
  - A search for **science AND technology** will return results on both **science** and **technology**.
  - A search for **science OR technology** will return results on either **science** or **technology**.
  - A search for **science NOT technology** will return results on **science** but not **technology**.

The FAQs have great search tips! Searches are not case sensitive; no need to capitalize search terms. From Science.gov FAQs: <https://www.science.gov/faq>

## Use Science.gov Topics Pages

<https://www.science.gov/topicpages/>

- List of terms used in research are organized in lists with subcategories
- Many of the terms indexed are scientific acronyms or formulas like gene sequences
- Click on the term to perform the search in Science.gov

artificial intelligence research  
artificial intelligence robotics  
artificial intelligence search  
artificial intelligence sistema  
artificial intelligence software  
artificial intelligence systems  
artificial intelligence system  
artificial intelligence techniques  
artificial intelligence technical  
artificial intelligence techniques  
artificial intelligence technique  
artificial intelligence technologies

Science.gov Topics pages list the terms that are indexed in Science.gov. Many of the terms that are indexed are scientific acronyms or formulas like gene sequences or chemical compounds. Clicking on a term will perform the search.

## Search Tips from FAQs <https://www.science.gov/faq.html>

- [Exact Phrases](#) -- *Phrases contained in double quotations (" ") will be searched as an exact phrase.*
  - A search for "nuclear energy" will return only those results where energy immediately follows the term nuclear.
- [Parentheses](#) -- *Using parentheses provides control over the order in which Boolean expressions are evaluated.*
  - The search query nuclear ((energy consumption) OR waste) will search for nuclear and energy and consumption as well as for nuclear and waste.
- [Wildcards](#) -- *Wildcards ("\*" and "?") allow a search term to act as a "root" for words with different forms.*
  - A search for **part\*** will return results that include the terms **part**, **particle**, **participate**, etc.

From Science.gov FAQs: <https://www.science.gov/faq>

## Science.gov, <https://www.science.gov/>

- **COVID-19 Search:**

"Coronavirus" OR  
"2019-nCoV" OR  
"2019nCoV" OR  
"COVID-19" OR  
"SARS-CoV-2"

- Filter results by topic or visual'



The COVID-19 search is a good example of how Science.gov uses quotations around phrases. Phrases contained in double quotations (“ ”) will be searched as an exact phrase. It also shows you the use of the Boolean Operator OR. You can use AND, OR, and NOT. From Advanced Search FAQ: <https://www.science.gov/faq#advanced-search>

## Search Results from Science.gov FAQs

<https://www.science.gov/faq.html>

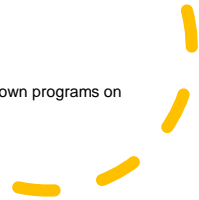
- [Search Results](#)
  - [Attributes](#) –
  - Timing of returning Search Results may be impacted, for example, by the size of a collection and internet connection. Incoming results are refreshed as the search completes.
  - Relevance of each Search Result to your query is denoted by one-to-five stars that appear beneath the title of each result. More stars indicate greater relevance.
  - Number of Search Results generally returns up to 100 of the most relevant or top-level results from each source returned. Top-level results are those that meet the terms of the search query most closely.
  - [Refine Search Results](#)
  - [Manage Search Results](#)

From Science.gov FAQs: <https://www.science.gov/faq>



## Use Science.gov Site Map for Navigating to Help

- Get to all the search help, FAQs and Topics page from the [Site Map](#) at the bottom of each page
- [Communications Archive](#)
  - Links to training & educational resources
  - Download tutorials, flyers, and images to feature your own programs on Science.gov



If you forget how to navigate to one some off Science.gov help tools, use the Science.gov Site Map to find them. Select the Site Map at the bottom of each page to find Science.gov Search Help, FAQs and Topics pages. Science.gov bookmark image is from the Communications Archive at [https://www.science.gov/communications/library/ScigovBookmark10\\_2015B\\_7up.pdf](https://www.science.gov/communications/library/ScigovBookmark10_2015B_7up.pdf)

## Search Help, FAQs & Contact Information



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Home About STEM Opportunities

### Contact Us

If you have a question or comment about Science.gov, check to see if it is on our list of [frequently asked questions](#). If your question isn't answered there, you may contact us using the information below. Thanks in advance. Your help is appreciated.

**Email**  
scgovwebsmanager@science.gov  
NOTE: Email messages are answered Monday - Friday, 9 a.m. - 4 p.m. We do our best to respond within 48 hours.

**Mail**  
Science.gov Operating Agent  
Office of Scientific and Technical Information  
P.O. Box 62  
Oak Ridge, TN 37831

Don't hesitate to contact Science.gov if you need help after consulting the Help tools. Here is the Science.gov Contact us page from <https://www.science.gov/contact.html>



The screenshot shows the USA.gov homepage with a search bar at the top and a grid of service categories. A blue arrow points to the 'Disasters and Emergencies' category, which includes information on how to prepare for and recover from disasters and emergencies.

**Disasters and Emergencies | USA.gov is a USA.gov created guide**

**Spanish language site**

**Advanced search limiters:**

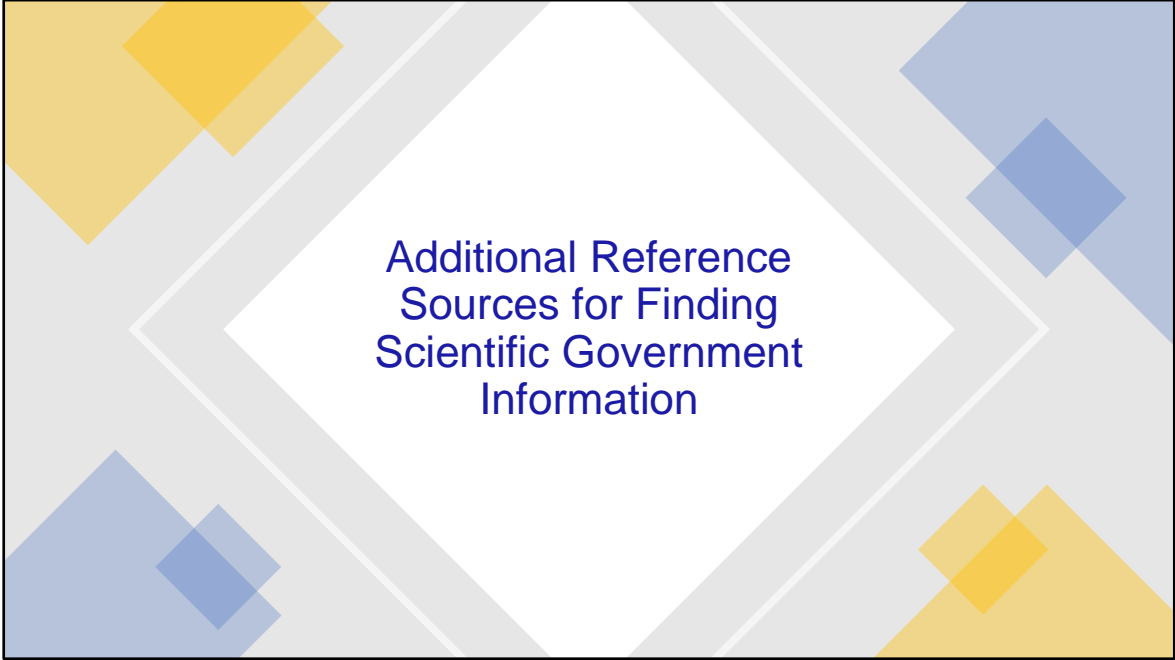
- images and videos
- USA.gov only

**If you have any trouble with definitions of terms on Science.gov, use this free government information to find definitions, dictionaries, or glossaries (as in 'Deep Web' example).**

“USAGov's mission is to make it easier for everyone to find and understand the government services and information they need—anytime, anywhere, any way they want” USA.gov partners with federal agencies to connect people with their government. State and local U.S. government and some vetted quality non-governmental sites are also indexed. USA.gov is an interagency product administered by USAGov, under the U.S. General Services Administration (GSA) <https://www.usa.gov/history-of-website>

If you have any trouble with definitions of terms on Science.gov, use this free government information to find definitions, dictionaries, or glossaries (as in the 'Deep Web' example earlier in the presentation).

Image of USA.gov created-guide on Disasters and Emergencies, <https://www.usa.gov/disasters-and-emergencies>



## Additional Reference Sources for Finding Scientific Government Information

Here are some additional reference sources for finding scientific government information. Remember that searching Science.gov can be frustrating and that you may need to reach out and get some help. A phrase I always liked is 'Suffering is optional'. Don't wait too long to ask for help!

## Federal Depository Library Directory <https://ask.gpo.gov/s/FDLD>



Look up a federal depository library near you through the *Federal Depository Library Directory*, <https://ask.gpo.gov/s/FDLD> The U.S. Government Publishing Office (GPO) through the Federal Depository Library Program (FDLP) distributes U.S. Federal Government information free of cost to these libraries, and the libraries provide free access for all users to this information. In addition, information specialists are available at these libraries to assist researchers with locating Federal information” -- in print, online, or other formats. The Indiana State Library is the regional depository library in Indiana. You can search for other libraries through a search interface or this clickable map.

To get help, visit in person or go to the library website. Contact the depository librarian or staff. They are a wonderful resource for information professionals and for the public! Use their online reference guides to government information and ask them questions about science information from the Federal Government!

## Federal Depository Library Program (FDLP)

- Federal Depository Library Program (FDLP) website, <https://www.fdlp.gov/> [About the FDLP](#) > Mission, History & Values and Brief History.
  - The FDLP is organized under GPO and led by the Superintendent of Documents.
  - Mission “is to provide free, ready, and permanent public access to Federal Government information, now and for future generations.”
  - The FDLP Academy is a free continuing education resource with webinars and events on U.S. government information

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## FDLP Academy <https://fdlp.gov/about/fdlp-academy>

- Continuing education source on U.S. Government information
- FDLP Academy Training Repository has science category

Science



Title	Date of Webinar
Library Research for Energy, Mineral, and Uranium Resources	August 27, 2020
Library Research for Atmospheric and Oceanic Sciences (Including Climate Change)	July 21, 2020
Issues In Forestry and Science Librarianship: Taxonomy and Authority Control: Experiences of a Federal Science Library	May 13, 2020
Digital Collections at the National Forest Service Library	March 17, 2020

The FDLP Academy is a free continuing education resource on U.S. Government information that is good for librarians, government officials, library users, and the public. You can search the Science category in the FDLP Academy.

# Science.gov Webinar on FDLP Academy

## Webinar: Using Science.gov to Access U.S. Government Science Information



Mary Moulton, Science.gov Co-Chair, Digital Librarian, Office of Information & Library Sciences, Department of Transportation

Joanna Martin, Science.gov Co-Chair, DC Liaison, Office of Scientific and Technical Information, Department of Energy



September 25, 2018

This webinar: “Using Science.gov to Access U.S. Government Science Information,” from 2018 is available online, both recording and presentation slides. It has more detail about managing search results. <https://fdlp.gov/using-science-gov-to-access-u-s-government-science-information>

Search  
USA.Gov  
<https://www.usa.gov/>



Another option is to search USA.gov, your online guide to government information and services. Notice that USA.gov is an official website of the United States government. If Science.gov only provides a citation or an abstract of a resource, users can search for the source in their library catalogs, through interlibrary loan, and by searching USA.gov. <https://www.usa.gov/> USA.gov is the official portal to U.S. government information, especially for timely, needed government information and services. It indexes state, tribal, and local .gov websites, a few non-.gov resources and .mil resources.

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### Other National Science Portals

Following is a collection of links to other national portals of scientific information. Descriptions are taken from informational materials provided on the respective websites. Access to the information provided is controlled by each portal.

**Note:** When utilizing the links on this page, you will be directed to non-federal databases or Websites. We are not responsible for the content, design, format, or maintenance of these pages.

<b>International</b>	<p><b>WorldWideScience.org</b></p> <p>WorldWideScience.org is a global science gateway—accelerating scientific discovery and progress through a multilateral partnership to enable federated searching of national and international scientific databases. Subsequent versions of WorldWideScience.org will offer access to additional sources as well as enhanced features. WorldWideScience.org was developed and is maintained by the Office of Scientific and Technical Information (OSTI), an element of the Office of Science within the U.S. Department of Energy.</p>
<b>Australia</b>	<p><b>Science.gov (Australia)</b></p> <p>From the Australian Department of Education, Science, and Training, the portal delivers science information and services to industry, investors, and the research community. Users can view research and science information by discipline, by purpose, by agency, or by sector.</p>
<b>Canada</b>	<p><b>Canada Institute for Scientific and Technical Information (CISTI)</b></p> <p>CISTI, part of the National Research Council of Canada, provides technology, engineering, and medical information to thousands of public and private libraries and researchers from through this portal. CISTI's collection and its document delivery service are available to users through the online Catalogue and CISTI Search.</p>

Science.gov also links to Other National Science Portals, <https://www.science.gov/scienceportals.html> Check them out if you have a user searching for information based in another country, such as Australia’s coral reefs.



# Thank you! Questions?

## Science.gov: Gateway to U.S. Government Science Information



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Indiana University, Bloomington  
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May 20, 2022

<https://go.iu.edu/4qn8>

Thank you for attending Science.gov: Gateway to U.S. Government Science Information. I will share slides with GID 2022 and you can contact me directly. My name is Andrea Morrison and my email is [amorriso@iu.edu](mailto:amorriso@iu.edu). I also brought a handout for Science.gov. Stay curious and keep exploring for the treasures of Federal Scientific Government Information!

If we have time, I would like to share a live search on “invasive plants”, cybersecurity, cartographic resources, and “electric grid”.

The presentation slides with speaker notes are available at <https://go.iu.edu/4qn8>