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8 LESSONS 64 MIN TOTAL

# Investigative Reporting

This intensive course will help you take advantage of Internet sources such as court cases, public data and news archives. It is designed to improve the efficiency and efficacy of your in-depth research.

**Tools Used:**

YouTube, Google Public Data Explorer, Google Search, Google Chrome, Google Earth

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LESSON 01

# Advanced Search: Researching with precision

Simple tools and tips to help you get better results, faster.

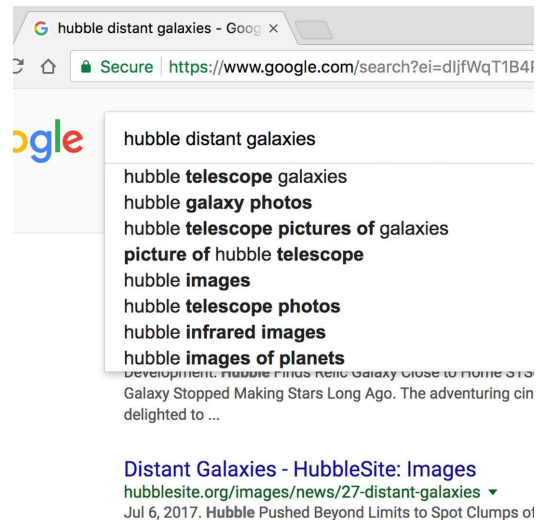
# Lesson overview

## Find exactly what you're looking for.

Journalists for publications all over the world use Google Search every day but many aren't getting the most out of it.

By taking advantage of helpful features built right within Search, you'll get better results, faster. Instead of typing paragraph-long search queries that generate irrelevant results, you can narrow or refine your searches to find more of what you're actually looking for.

Take a look at our FAQs video on YouTube [Watch now](#)



- 1 Search for this. Not that.
- 2 For better results, double up on modifiers.
- 3 Make it even easier with the Advanced Search tool.

For more Investigative Reporting lessons, visit:

[newsinitiative.withgoogle.com/training/course/investigative-reporting](https://newsinitiative.withgoogle.com/training/course/investigative-reporting)

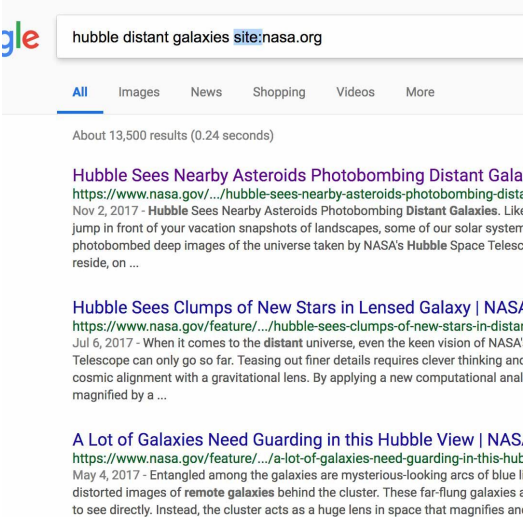
# Search for this. Not that.

Sometimes finding the specific information you need means filtering out what isn't useful. Adding modifiers to your search is a powerful way to focus on just what you're looking for.

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## STEP 1 OF 4

Use `site:` to just search for keywords on the specific site you're interested in.

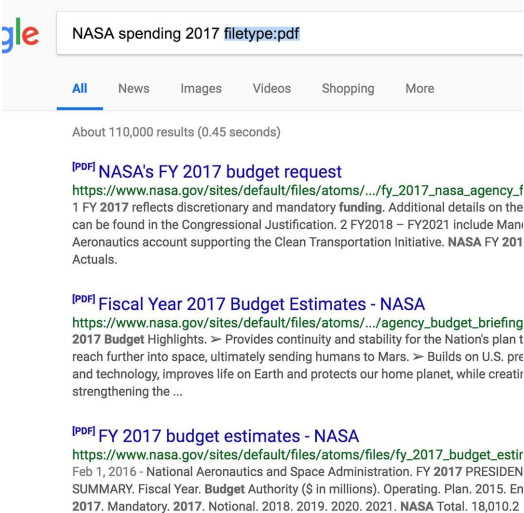


A screenshot of a Google search interface. The search bar contains the text "hubble distant galaxies site:nasa.org". Below the search bar, there are tabs for "All", "Images", "News", "Shopping", "Videos", and "More", with "All" selected. The search results show "About 13,500 results (0.24 seconds)". Three search results are visible, each with a blue title and a green URL. The first result is "Hubble Sees Nearby Asteroids Photobombing Distant Galaxies" with a URL starting with "https://www.nasa.gov/...". The second result is "Hubble Sees Clumps of New Stars in Lensed Galaxy" with a URL starting with "https://www.nasa.gov/feature/...". The third result is "A Lot of Galaxies Need Guarding in this Hubble View" with a URL starting with "https://www.nasa.gov/feature/...".

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## STEP 2 OF 4

Use `filetype:` to just look for specific types of files like a `.pdf` or `.xls` file.



A screenshot of a Google search interface. The search bar contains the text "NASA spending 2017 filetype:pdf". Below the search bar, there are tabs for "All", "News", "Images", "Videos", "Shopping", and "More", with "All" selected. The search results show "About 110,000 results (0.45 seconds)". Three search results are visible, each with a blue title and a green URL. The first result is "NASA's FY 2017 budget request" with a URL starting with "https://www.nasa.gov/sites/default/files/atoms/.../fy\_2017\_nasa\_agency\_f...". The second result is "Fiscal Year 2017 Budget Estimates - NASA" with a URL starting with "https://www.nasa.gov/sites/default/files/atoms/.../agency\_budget\_briefing...". The third result is "FY 2017 budget estimates - NASA" with a URL starting with "https://www.nasa.gov/sites/default/files/atoms/files/fy\_2017\_budget\_estir...".



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STEP 3 OF 4

Use the - symbol to eliminate results of related words you may not be interested in.

A screenshot of a Google search results page. The search bar contains the text "NASA spending 2017 -private". Below the search bar, there are tabs for "All", "News", "Images", "Videos", "Shopping", and "More". The "All" tab is selected. Below the tabs, it says "About 7,140,000 results (0.62 seconds)". The first search result is a news article titled "NASA receives more than \$19.6 billion in 2017 omnibus spending bill. The fiscal year 2017 omnibus spending bill provides NASA with \$19.65 billion, more than \$600 million above the original request for the agency by the Obama administration. May 1, 2017". To the right of the text is a small image of the NASA logo. Below the text is the URL "spacenews.com/nasa-receives-more-than-19-6-billion-in-2017-omnibus-spe". At the bottom right of the result box, there is a small icon and the text "About thi".

People also ask

How much money does NASA get a year?

How much money is spent on space exploration?

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STEP 4 OF 4

To search for related sites, put related: in front of a web address.

A screenshot of a Google search results page. The search bar contains the text "related:www.nasa.gov/mission\_pages/hubble/science". Below the search bar, there are tabs for "All", "Images", "Maps", "Shopping", and "More". The "All" tab is selected. Below the tabs, it says "About 46 results (0.19 seconds)". The first search result is titled "HubbleSite - Out of the ordinary...out of this world." with the URL "hubblesite.org/". Below the title is a short description: "Identify constellations, planets, deep-sky objects and more with our monthly guid IMAGE GALLERY. Witness the most spectacular and mysterious depths of the coo eye. SPACE TELESCOPE LIVE. Look at what Hubble is seeing right now! Email list Servicing ...". The second search result is titled "Sky & Telescope | Astronomy News, Tools & Resources" with the URL "www.skyandtelescope.com/". Below the title is a short description: "Sky & Tel covers the latest night-sky events, astronomy news, astrophotography a browse our video & podcast guides to tonight's sky." The third search result is titled "Federal Aviation Administration" with the URL "https://www.faa.gov/". Below the title is a short description: "The Federal Aviation Administration is an operating mode of the U.S. Department". The fourth search result is titled "EarthSky - Earth, Space, Human World, Tonight" with the URL "earthsky.org/".

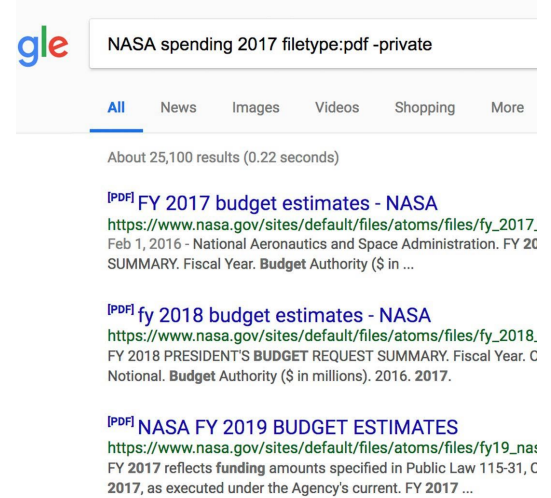
# For better results, double up on modifiers.

## SINGLE STEP

To make your searches even more relevant, try combining search modifiers.

You can use any combination of **site:**, **filetype:** and **-** modifiers at the same time.

Search for filetypes such as Excel spreadsheets by typing in **filetype:xls**. To eliminate certain terms from your search, use the **-** sign.



The screenshot shows a Google search interface with the search query "NASA spending 2017 filetype:pdf -private". The search results are filtered to show PDF files. The first result is "FY 2017 budget estimates - NASA" with a URL starting with "https://www.nasa.gov/sites/default/files/atoms/files/fy\_2017...". The second result is "fy 2018 budget estimates - NASA" with a URL starting with "https://www.nasa.gov/sites/default/files/atoms/files/fy\_2018...". The third result is "NASA FY 2019 BUDGET ESTIMATES" with a URL starting with "https://www.nasa.gov/sites/default/files/atoms/files/fy19\_na...".

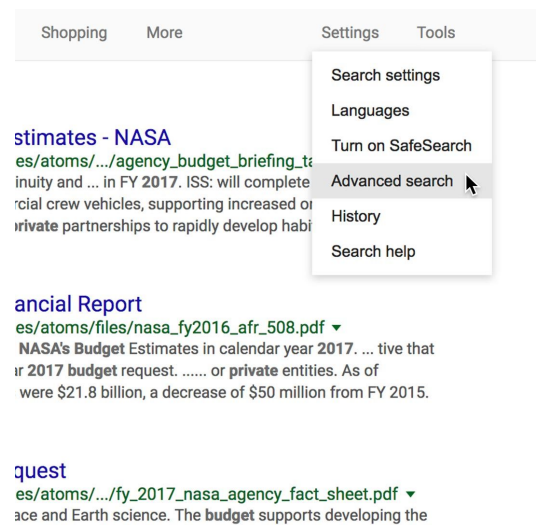
# Make it even easier with the Advanced Search tool.

Too hard to remember all these refinements? No problem.

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## STEP 1 OF 1

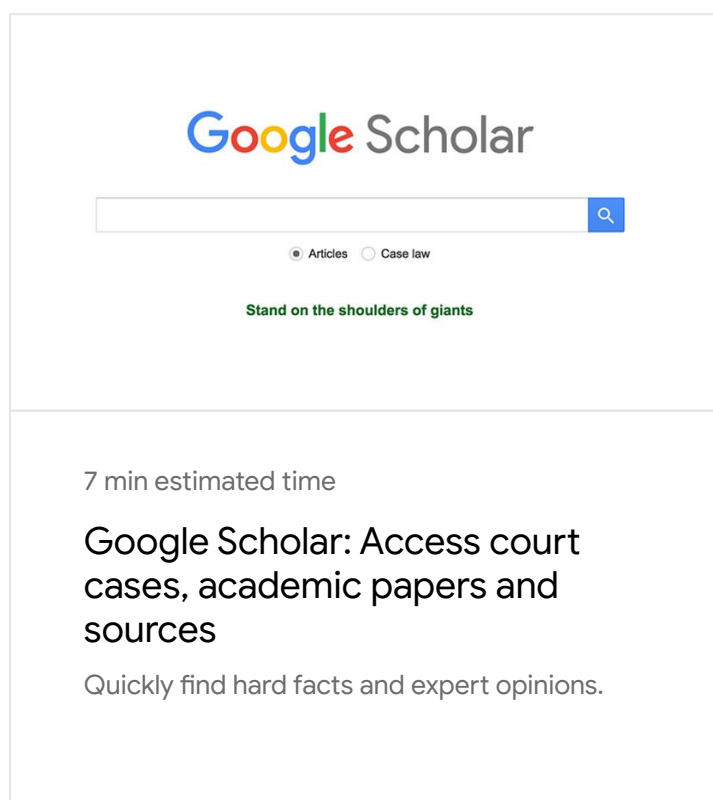
Check out the **Advanced Search** tool by going to the settings option at [google.com](https://www.google.com) and selecting **Advanced Search**.



# Congratulations!

You completed “Advanced Search: Researching with precision.”

To continue building your digital journalism skills and work toward Google News Initiative certification, go to our [Training Center](#) website and take another lesson:



7 min estimated time

**Google Scholar: Access court cases, academic papers and sources**

Quickly find hard facts and expert opinions.

For more Investigative Reporting lessons, visit:

[newsinitiative.withgoogle.com/training/course/investigative-reporting](https://newsinitiative.withgoogle.com/training/course/investigative-reporting)

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LESSON 02

# Google Scholar: Access court cases, academic papers and sources

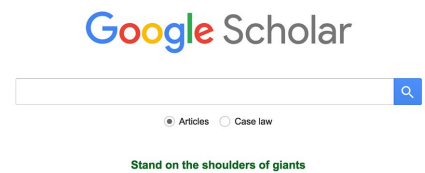
Quickly find hard facts and expert opinions.

# Lesson overview

## A source for sources.

Google Scholar is a search tool that allows you to find and explore a wide array of scholarly literature. Accessible material includes articles, theses, books, abstracts and court opinions from academic publishers, professional societies, online repositories, universities and websites.

☰ My profile ★ My library



- 1 Finding literature to help tell your story.
- 2 Refining your results on the homepage.
- 3 Refining your results on the results page.
- 4 Finding more information.
- 5 Finding people to help tell your story.
- 6 Google Scholar citations.
- 7 Google Scholar plugins.

For more Investigative Reporting lessons, visit:

[newsinitiative.withgoogle.com/training/course/investigative-reporting](https://newsinitiative.withgoogle.com/training/course/investigative-reporting)

# Finding literature to help tell your story.

## SINGLE STEP

Let's say you're doing a story about voter redistricting. Visit [scholar.google.com](https://scholar.google.com) and search for *voter redistricting* or simply *redistricting*. Your results will include relevant papers, opinions and studies from educators, lawyers and authors from all over the world.

The screenshot shows a Google Scholar search for "voter redistricting". The search bar at the top right contains the text "voter redistricting". Below the search bar, it indicates "Articles" and "About 17,300 results (0.03 sec)".

On the left side, there are filters for "Any time", "Since 2018", "Since 2017", "Since 2014", and "Custom range...". There are also checkboxes for "include patents" and "include citations", and a "Create alert" option.

The search results are sorted by relevance. The first result is "Taming the gerrymander—statistical physics approach to political districting problem" by Qi Chou and SP Li, published in *Physica A: Statistical Mechanics and its Applications* in 2006. The abstract mentions that political districting has become an issue that is always political, controversial, and sometimes even ugly. In the US, for example, the results of a population census in every 10 years may require a voter redistricting in order to redistribute the House seats among the states. It is cited by 39 and has 9 related articles.

The second result is "The Effects of Redistricting on Voting Behavior in Incumbent US House Elections, 1992—1994" by SC McKee, published in *Political Research Quarterly* in 2008. The abstract states that these studies aim to assess how redistricting influences voter preferences, and that this is most appropriately done with the use of survey data, which heretofore has been absent. In short, these works tend to tread heavily on the ecological inference fallacy. It is cited by 26 and has 15 related articles.

The third result is "Redistricting and the causal impact of race on voter turnout" by BL Fraga, published in *The Journal of Politics* in 2016. The abstract notes that recent work challenges traditional understandings of the link between race and voter turnout, suggesting that there is limited evidence of increased minority voting due to co-ethnic representation and majority-minority districts. Here, the author examines 65.3 million registrations. It is cited by 16 and has 5 related articles.

The fourth result is "The Missing middle: why median-voter theory can't save democrats from the boil-weevil blues" by D Lublin and DS Voss, published in *The Journal of Politics* in 2003. The abstract mentions that Democrats later recovered two of the North Carolina seats lost in 1994. The combined result of voter realignment and racial redistricting was to shift the South's congressional

# Refining your results on the homepage.

There are several ways to narrow your results and find helpful information.

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## STEP 1 OF 4

To start, choose **Articles** and **Case law** (for the US).

☰ My profile ★ My library

Google Scholar

Articles  Case law

Stand on the shoulders of giants

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## STEP 2 OF 4

You can further narrow your search by choosing Federal or local courts.

☰ My profile ★ My library

Google Scholar

Articles  Case law

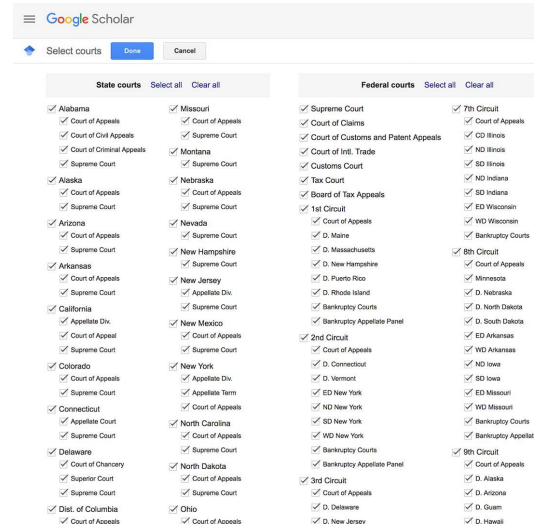
Federal courts  California courts [Select courts...](#)

Stand on the shoulders of giants



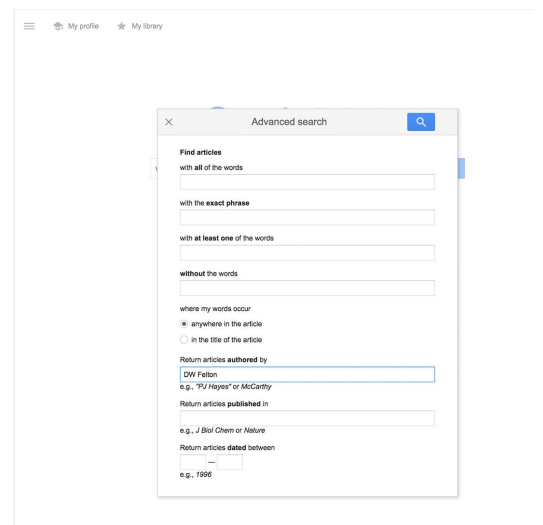
STEP 3 OF 4

To access a list of courts around the United States, click **Select courts.**



STEP 4 OF 4

If you select **Advanced Search** in the menu, a window will appear that allows you to narrow your results using specific words, authors or dates.

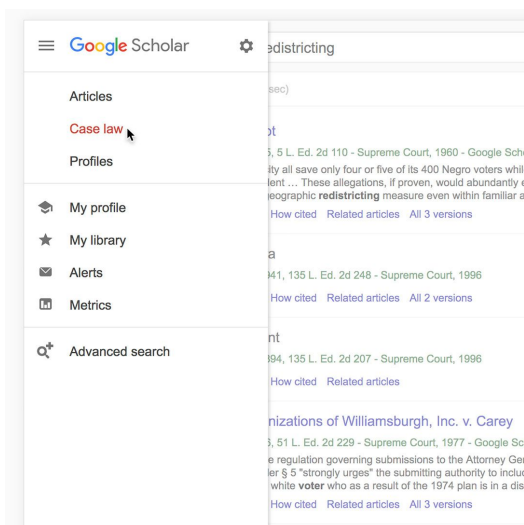


# Refining your results on the results page.

The results page also features various ways to narrow your results.

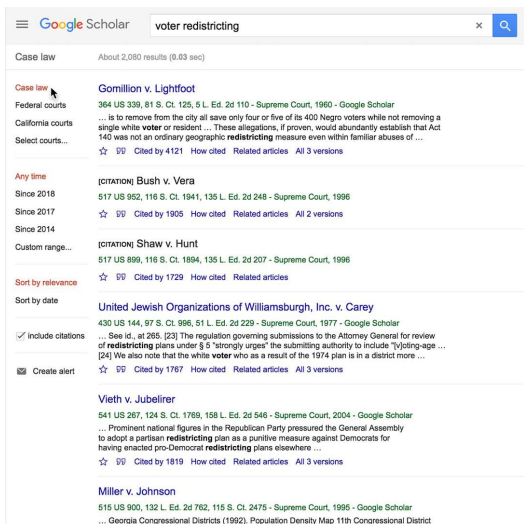
## STEP 1 OF 4

In the left column, click on the dropdown menu to choose between Articles and Case law.



## STEP 2 OF 4

For Case law, you can specify whether you want to search Federal or local court documents.



STEP 3 OF 4

You can sort your results by date.

California courts  
Select courts...

Any time  
Since 2018  
Since 2017  
Since 2014  
Custom range...  
2011 — 2018  
Search

Sort by relevance  
Sort by date

include citations

[CITATION] Bush v. Vera  
517 US 952, 116 S. Ct. 1941, 135 L. Ed. 2d 248 - Suprem  
☆ 77 Cited by 1899 How cited Related articles A

[CITATION] Shaw v. Hunt  
517 US 899, 116 S. Ct. 1894, 135 L. Ed. 2d 207 - Suprem  
☆ 77 Cited by 1728 How cited Related articles

United Jewish Organizations of Williamsbur  
430 US 144, 97 S. Ct. 996, 51 L. Ed. 2d 229 - Supreme C  
... See id., at 265. [23] The regulation governing submiss  
of **redistricting** plans under § 5 "strongly urges" the subr  
[24] We also note that the white **voter** who as a result of I  
☆ 77 Cited by 1755 How cited Related articles A

Vieth v. Jubelirer

STEP 4 OF 4

To refine your results by location, try searching your term with the area you're interested in, (Redistricting, California, for example).

ar Redistricting, California

20,200 results (0.03 sec)

**Redistricting California: An evaluation of the citizens commission**  
Jan, E McGhee - **California Journal of Politics and Policy**, 2012 - degruyter.com  
The first time in California history, a carefully vetted commission of citizens has over-  
seen the delicate task of redrawing the state's political boundaries. By analyzing the maps  
submitted by the commission and comparing these plans to the redistricting overseen b  
☆ 77 Cited by 25 Related articles All 4 versions

[CITATION] Morgan. 2006."  
Publisher - **Redistricting California**, 1971  
☆ 77 Cited by 6 Related articles

[CITATION] Morgan, "Redistricting: California 1971-2001,"  
Publisher - ... of Governmental Studies Press, Berkeley, California, 1997  
☆ 77 Cited by 4 Related articles

# Finding more information.

Reading an entire article sometimes requires a subscription, but many are available as abstracts or summaries. There are a few ways to look for these:

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## STEP 1 OF 4

Click the library's link to the right of the listing.

with 47 reasonably compact strong Dem seats  
2015 [cited July 21, 2015]

ance: The challenges of citizen participation [DOC] tsinghua.edu.cn

Wiley Online Library  
ia and Ontario citizens' assemblies and the  
The first occurred in Canada ... Once selected,  
g California in early 2011 ...  
6 versions

Item Analysis of Congressional Districts to  
A Case Study with California and North [PDF] researchgate.net

e Association of ..., 2015 - Taylor & Francis  
ians suggested a very slight bias toward  
ns. In North Carolina, the partisan  
ans during **redistricting** ...  
versions

missions Lead Us Out of the Political [PDF] albanygovernmentlawre...

Alb. Gov't L. Rev ..., 2016 - HeinOnline  
COMMISSIONS LEAD US OUT OF THE  
Sanchez Tyler Yeargain University of Central Florida ...  
TING COMMISSIONS INTRODUCTION ...  
versions

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## STEP 2 OF 4

Under the result, click **Versions** or **Related** articles.

2 Related articles

Public back into governance: The challenges of ci

Administration Review, 2015 - Wiley Online Library  
of these: the British Columbia and Ontario citizens' assemblie  
is **Redistricting** Commission. The first occurred in Canada ...  
egan its work of **redistricting California** in early 2011 ...

157 Related articles All 6 versions

oral Compactness Pattern Analysis of Congres:  
an Gerrymandering: A Case Study with Califor

er, DW Felton - Annals of the Association of ..., 2015 - Taylor  
tisan bias in the districting plans suggested a very slight bias t  
ifornia in both districting plans. In North Carolina, the partisan

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STEP 3 OF 4

To explore additional results, click **Related articles**.

Cited by 2 Related articles

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[Putting the public back into governance: The challenge and its future](#)

[Public Administration Review, 2015 - Wiley Online Library](#)  
... Consider three of these: the British Columbia and Ontario citizens' **California** Citizens **Redistricting** Commission. The first occurred in California. The commission began its work of **redistricting California** in early 2011.

[Cited by 157](#) [Related articles](#) [All 6 versions](#)

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[A Spatiotemporal Compactness Pattern Analysis of California's Partisan Gerrymandering: A Case Study with North Carolina](#)

[ER Wagner, DW Felton - Annals of the Association of ...](#), 2015  
... Analysis of partisan bias in the districting plans suggested a very slight advantage shifted from Democrats to Republicans during redistricting in **California** in both districting plans. In North Carolina, the

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STEP 4 OF 4

You can also click **Cited by** to look for more information.

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[Putting the public back into governance: The challenge and its future](#)

[M Finio - Public Administration Review, 2015 - Wiley Online Library](#)  
... Consider three of these: the British Columbia and Ontario citizens' **California** Citizens **Redistricting** Commission. The first occurred in California. The commission began its work of **redistricting California** in early 2011.

[☆](#) [🔗](#) [Cited by 157](#) [Related articles](#) [All 6 versions](#)

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[A Spatiotemporal Compactness Pattern Analysis of California's Partisan Gerrymandering: A Case Study with North Carolina](#)

[J Nichols, ER Wagner, DW Felton - Annals of the Association of ...](#)  
... Analysis of partisan bias in the districting plans suggested a very slight advantage shifted from Democrats to Republicans during redistricting in **California** in both districting plans. In North Carolina, the

[☆](#) [🔗](#) [Cited by 4](#) [Related articles](#) [All 6 versions](#)

# Finding people to help tell your story.

You can use Google Scholar to find expert sources. For your article on voter redistricting, for example, you may want to quote or gain insight from someone who has researched the topic in depth.

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## STEP 1 OF 5

If you find a useful result and the author's name is underlined, click on it to see his or her user profile.

☆ 🔗 Cited by 157 Related articles All 6

### A Spatiotemporal Compactness Pat Assess Partisan Gerrymandering: A Carolina

J Nichols, ER Wagner, DW Felton - Annals of the ... Analysis of partisan bias in the districting plan Democrats in **California** in both districting plan advantage shifted from Democrats to Republic

☆ 🔗 Cited by 4 Related articles All 6 v

### Can Independent Redistricting Co Thicket

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## STEP 2 OF 5

The author's profile will include additional articles written by the author and a list of topics he or she writes about.



**Jason R. Nichols**

Associate Professor of Political Science, [Texas Tech Univer](#)  
Verified email at [ttu.edu](#) - [Homepage](#)

[Elections](#) [Political Parties](#) [Southern Politics](#) [Voting Bel](#)

#### TITLE

**The Electoral College, Mobilization, and Turnout in the 2000 Presidential E**  
D Hill, SC McKee  
American Politics Research 33 (5), 700-725

**A Principle or a Strategy? Voter Identification Laws and Partisan Competiti**  
**the American States**  
WD Hicks, SC McKee, MD Sellers, DA Smith  
Political Research Quarterly 68 (1), 18-33

**The Participatory Effects of Redistricting**  
D Hayes, SC McKee  
American Journal of Political Science 53 (4), 1006-1023

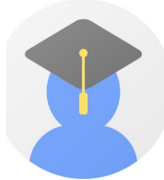
**Rural Voters and the Polarization of American Presidential Elections**  
SC McKee  
PS: Political Science & Politics 41 (1), 101-108

**Republican Ascendancy in Southern U.S. House Elections**  
SC McKee  
Westview Press

STEP 3 OF 5

By clicking on a topic on an author’s profile page, you can find other authors who cover it.

Google Scholar



**Jason R. Nichols**  
Associate Professor of Political Science  
Verified email at ttu.edu - [Homepage](#)

[Elections](#) [Political Parties](#) [Southern Politics](#)

TITLE

[The Electoral College, Mobilization, and Turnout in the 2000 Presidential Election](#)  
D Hill, SC McKee  
American Politics Research 33 (5), 700-725

[A Principle or a Strategy? Voter Identification Laws and Political Participation in the American States](#)

STEP 4 OF 5

If a source seems particularly knowledgeable, and has provided a link to their personal site, click Homepage and you may be able to contact them for a quote or comment on your story.

Google Scholar



**Jason R. Nichols**  
Associate Professor of Political Science, Texas Tech University  
Verified email at ttu.edu - [Homepage](#)

[Elections](#) [Political Parties](#) [Southern Politics](#)

[The Electoral College, Mobilization, and Turnout in the 2000 Presidential Election](#)  
McKee  
Politics Research 33 (5), 700-725


[A Principle or a Strategy? Voter Identification Laws and Political Participation in the American States](#)

STEP 5 OF 5


You can also use the search bar in **User Profiles** to try to find additional relevant authors.

Jason Nichols


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 **Matthew J. Finio**  
Arizona State University & University of Michigan  
Verified email at rice.edu  
[american politics](#) [elections](#) [political science](#) [representation](#)

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 **David W. Felton**  
University of Iowa  
Verified email at uiowa.edu  
[elections](#) [voting behavior](#) [political behavior](#) [forecast](#)

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 **Emily R. Wagner**  
University of Zurich  
[political methodology](#) [political psychology](#) [voting behavior](#)

# Google Scholar citations.

## SINGLE STEP

The My Profile button allows authors to track when and where their articles, opinions, research publications, etc. are cited. It should appear in upper lefthand corner of your browser, unless your window is very small. In that case, click **Menu > My Profile**.

If you have published scholarly articles or books, you can create a profile and monitor your own publications in Google Scholar, for example, this article on voter redistricting that appeared in an academic political science journal.

olar

Track citations to your articles. Appear in Scholar.

Name  
**Dave Felton**

Full name as it appears on your articles

Affiliation

E.g., Professor of Physics, Princeton University

Email for verification  
**David@osnelegal.com**

E.g., einstein@princeton.edu

Areas of interest

E.g., general relativity, unified field theory

Homepage (optional)

E.g., http://www.princeton.edu/~einstein

Next



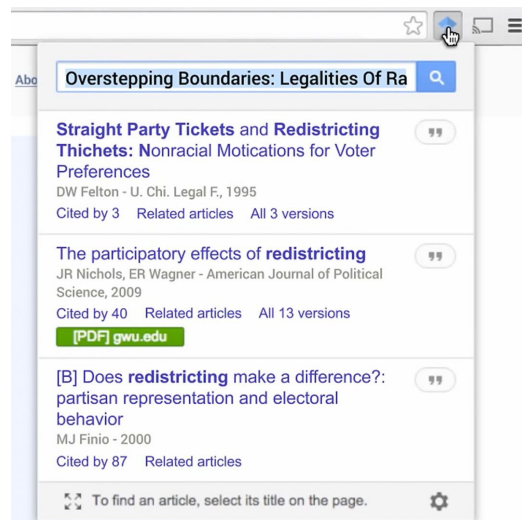
# Google Scholar plugins.

## SINGLE STEP

Google offers some useful Scholar plugins for Chrome, Firefox and Safari that allow you to look up scholarly articles as you browse the web.

This extension adds a browser button to your window for easy access to Google Scholar from any web page.

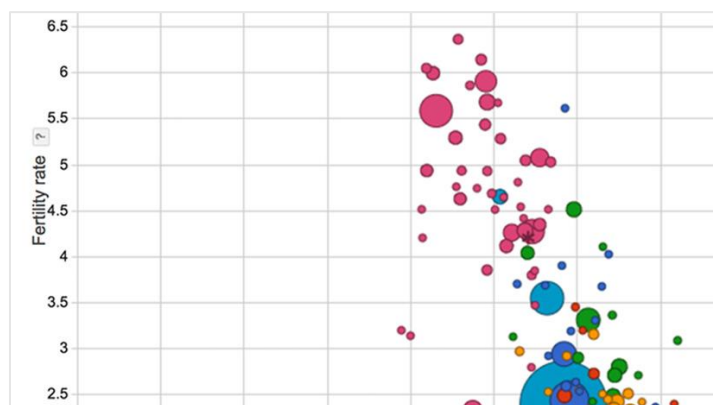
Just highlight the title of the paper you're reading and click the Scholar button to see results without leaving the window you're viewing.



# Congratulations!

You completed “Google Scholar: Access court cases, academic papers and sources.”

To continue building your digital journalism skills and work toward Google News Initiative certification, go to our [Training Center](#) website and take another lesson:



6 min estimated time

## Public Data Explorer: Access a world of data

Use high-quality data sets to create compelling visuals.

For more Investigative Reporting lessons, visit:

[newsinitiative.withgoogle.com/training/course/investigative-reporting](https://newsinitiative.withgoogle.com/training/course/investigative-reporting)

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LESSON 03

# Public Data Explorer: Access a world of data

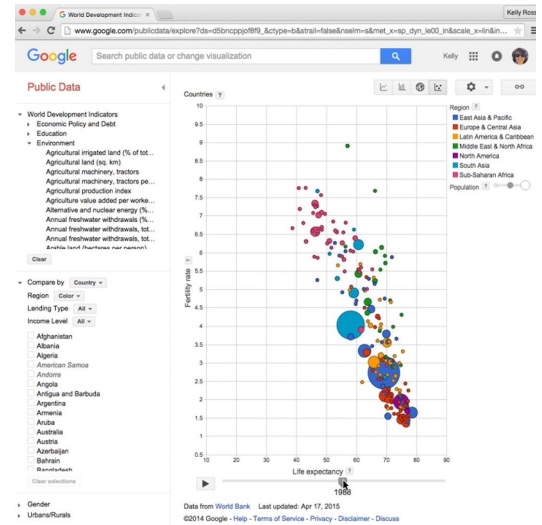
Use high-quality data sets to create compelling visuals.

# Lesson overview

## Find and visualize high-quality data.

When you're researching a story or on a tight deadline, finding quality datasets can be a roadblock. Google Public Data Explorer helps you find, interpret and share data to show how our world is changing.

It aggregates datasets from trusted sources and gives you simple tools to create sophisticated visualizations. With Google Public Data Explorer, you can monitor change over time, identify trends, compare metrics and strengthen your story using data.



- 1 A single source for quality data.
- 2 A library organized for fast, easy search.
- 3 Tell your story through charts, graphs or maps.

For more Investigative Reporting lessons, visit:

[newsinitiative.withgoogle.com/training/course/investigative-reporting](https://newsinitiative.withgoogle.com/training/course/investigative-reporting)

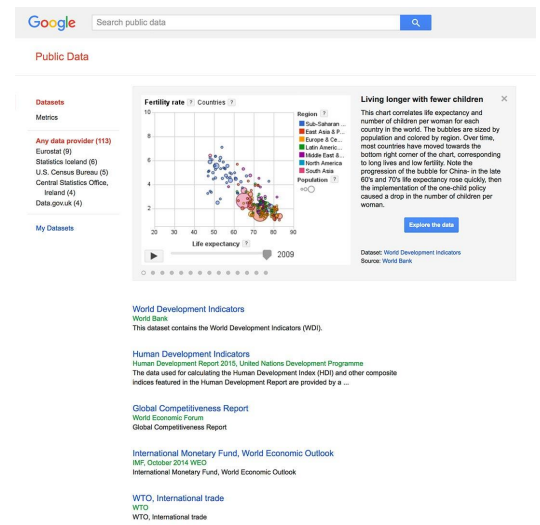
# A single source for quality data.

With datasets from the World Bank, IMF, Eurostat and more, Public Data Explorer provides global statistics on the environment, economics, labor, health, education, poverty and more. You'll also find more granular data from state and local governments, universities and nonprofits. So, whether your search is broad like "global CO2 emissions" or narrow like "high school dropout rates in Texas," there's a wealth of data to support your story.

Public Data Explorer can also help you uncover new data sources.

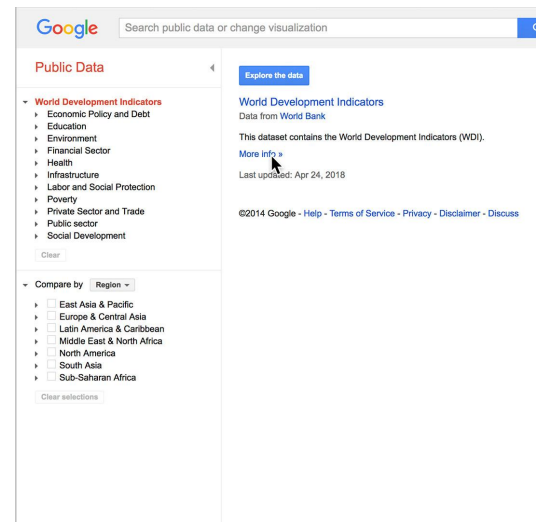
## STEP 1 OF 2

To learn when the data was published and who created it, click the blue links.



## STEP 2 OF 2

To go to the site where the dataset is hosted, and look for different file formats, click **More Info**.



# A library organized for fast, easy search.

The Google Public Data Explorer helps you search datasets and metrics by keywords as quickly as you would with Google Search.

## STEP 1 OF 2

A **Dataset** is a bundle of statistics created by a single data provider. For example, "Population of the United States," from the US Census Bureau, and "World Development Indicators," from the World Bank.

The screenshot shows a search for 'population' on the Google Public Data Explorer. The search bar at the top contains the word 'population'. Below the search bar, the page is titled 'Public Data'. On the left side, there is a navigation menu with 'Datasets' selected and 'Metrics' below it. The main content area displays a list of search results under the 'Any data provider (21)' category. The results include: 'Eurostat (2)', 'Statistics South Africa (2)', 'U.S. Census Bureau (2)', 'Data.gov.uk (1)', and 'General Statistics Office of Vietnam (1)'. On the right side, there are several result snippets, including 'Historical Population in the U.S.' (U.S. Census Data provided by Minnesota Population Center), 'Population in the U.S.' (U.S. Census Bureau), 'Iceland Population' (Statistics Iceland), 'Total population' (National Institute of Statistics and Geography (INEGI)), and 'Population Data according to Municipal Register' (National Statistics Institute of Spain).

## STEP 2 OF 2

**Metrics** are statistics that are components of a larger dataset. These include topics like "population," "unemployment rate," and "GDP." By default, search results appear in Metrics mode. You can switch modes by clicking **Datasets** on the left side of the page.

The screenshot shows the same search for 'population' on the Google Public Data Explorer, but now in Metrics mode. The search bar still contains 'population'. The navigation menu on the left now has 'Metrics' selected and 'Datasets' above it. The main content area displays a list of search results under the 'Any data provider (459)' category. The results include: 'World Bank (56)', 'UN Economic Commission for Europe (UNECE) (37)', 'Human Development Report 2015, United Nations Development Programme (36)', and 'Statistics Iceland (31)'. On the right side, there are several result snippets, including 'Population' (U.S. Bureau of Economic Analysis), 'Population' (U.S. Census Bureau), and 'Population' (Eurostat).

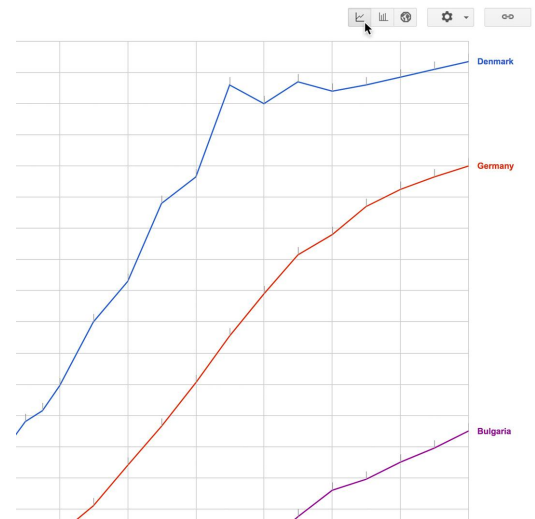
# Tell your story through charts, graphs or maps.

When it comes to statistics, visual representations can be powerful. In Google Public Data Explorer, the visualizations are dynamic, so you can watch them move over time, change topics, highlight different entries and alter the scale. You can easily publish a visualization with your story.

---

## STEP 1 OF 4

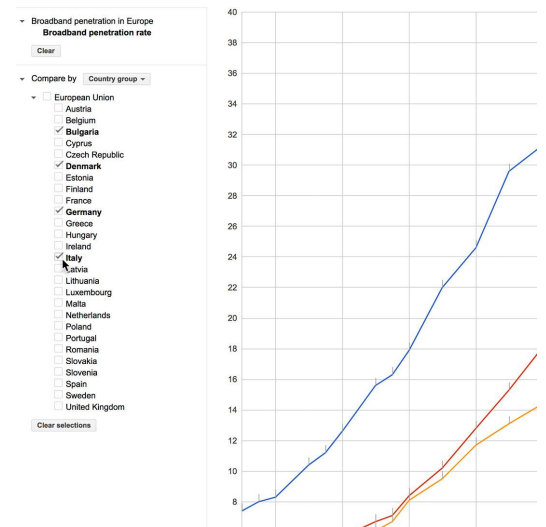
Select a visualization type (Line, bar, map, bubble).



---

## STEP 2 OF 4

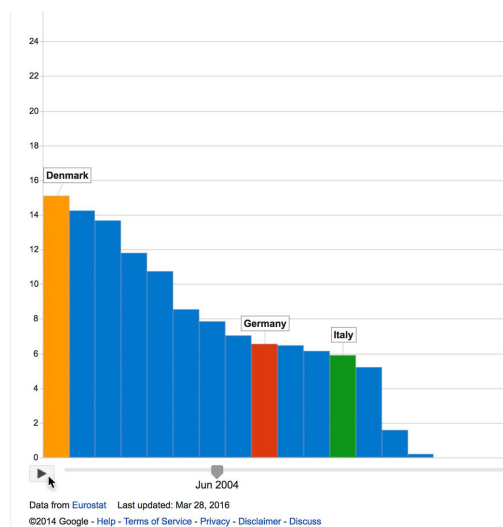
Choose statistics to show, compare and filter.



---

STEP 3 OF 4

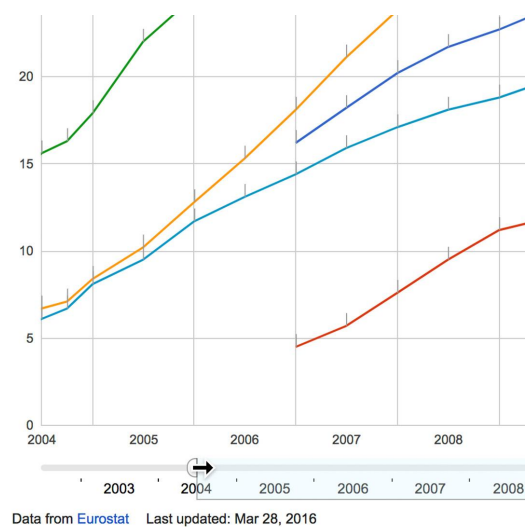
In a bar, map or bubble chart, click **Play** to animate it over time.



---

STEP 4 OF 4

In a line chart, you'll adjust the x-axis time range by sliding the tabs in the timeline.

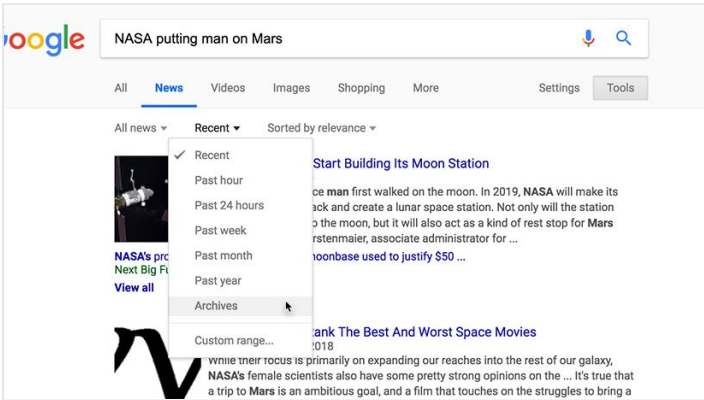




# Congratulations!

You completed “Public Data Explorer: Access a world of data.”

To continue building your digital journalism skills and work toward Google News Initiative certification, go to our [Training Center](#) website and take another lesson:



7 min estimated time

## Google News Archive: Access the past

Discover historical digital publications and scanned newspapers.

For more Investigative Reporting lessons, visit:

[newsinitiative.withgoogle.com/training/course/investigative-reporting](https://newsinitiative.withgoogle.com/training/course/investigative-reporting)

---

LESSON 04

# Google News Archive: Access the past

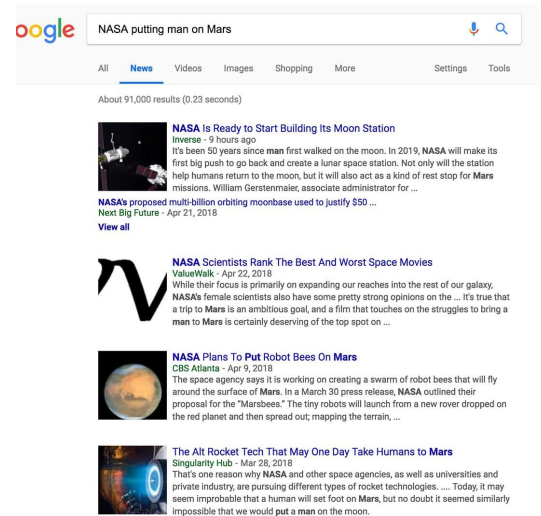
Discover historical digital publications and scanned newspapers.

# Lesson overview

## Searching historical articles.

When you search for news in Google, you'll get the most recent articles relevant to your query. But sometimes, you may need to see a topic's coverage over time or find the most significant article rather than the most recent.

Let's say you're doing a retrospective on NASA's ambitions for putting a man on Mars. You can trace how the story is unfolding using the news archives.



- 1 Articles from 2003 to the present.
- 2 Find stories before 2003.

For more Investigative Reporting lessons, visit:

[newsinitiative.withgoogle.com/training/course/investigative-reporting](https://newsinitiative.withgoogle.com/training/course/investigative-reporting)

# Articles from 2003 to the present.

## SINGLE STEP

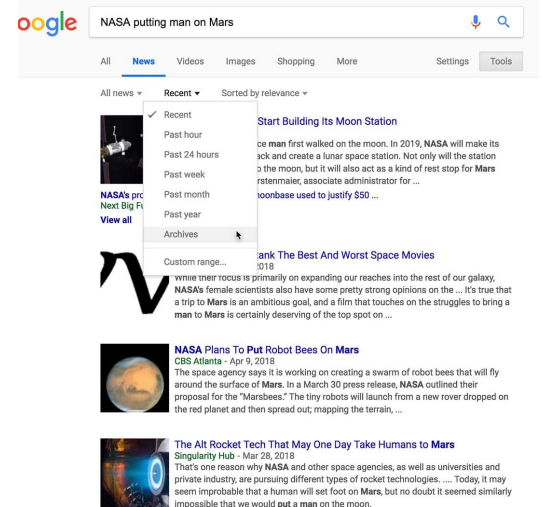
Go to [news.google.com](https://news.google.com) and enter your query in the search box.

From the results page that appears, go to **Tools** just below the search box.

From the menu that appears, click **Recent**.

On the dropdown list, click **Archive**. Or, if you'd like to specify a date range, click **Custom range**.

Your results will be ranked by significance and may include stories as far back as 2003.



# Find stories before 2003.

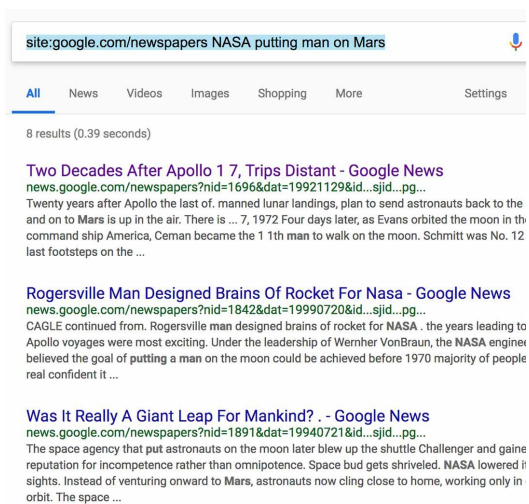
You've surveyed stories as far back as 2003, but how do you get to 1995? There are two ways to perform your research. The first is your regular Google Web Search. Just note that it doesn't support custom date ranges earlier than 1970 or link to content behind a paywall.

To find stories from 1995 or before, you can search for scanned newspaper articles.

---

## STEP 1 OF 2

Go to [google.com](http://google.com) and type in *site:google.com/newspapers*, followed by the search terms you'd like to use.



---

## STEP 2 OF 2

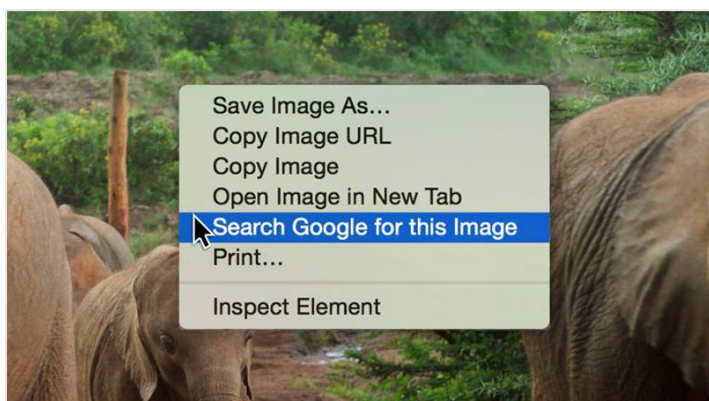
For example, *site:google.com/newspapers NASA putting man on Mars*. This should yield any scanned articles on your topic.



# Congratulations!

You completed “Google News Archive: Access the past”

To continue building your digital journalism skills and work toward Google News Initiative certification, go to our [Training Center](#) website and take another lesson:



5 min estimated time

## Verification: Advanced reverse image search

How to separate genuine eyewitness accounts from misattributed content.

For more Investigative Reporting lessons, visit:

[newsinitiative.withgoogle.com/training/course/investigative-reporting](https://newsinitiative.withgoogle.com/training/course/investigative-reporting)

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LESSON 05

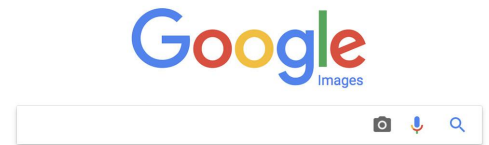
# Verification: Advanced reverse image search

How to separate genuine eyewitness accounts from misattributed content.

# Lesson overview

## Search by image.

When newsworthy footage emerges online, numerous copies will quickly follow in the race to claim ownership and accumulate views. Reverse image search is the quickest and easiest verification step and should always be the first check you run.



For example, if you were writing a story on ivory poaching and wanted to verify a post that depicts a recent increase in orphaned baby elephants in Nairobi National Park, you could start with a reverse image search.

- 1 Uncovering your image's backstory.
- 2 Image fact-checking 101.
- 3 Multiple images and video thumbnails.
- 4 Reverse Image Search on mobile.

For more Investigative Reporting lessons, visit:

[newsinitiative.withgoogle.com/training/course/investigative-reporting](https://newsinitiative.withgoogle.com/training/course/investigative-reporting)



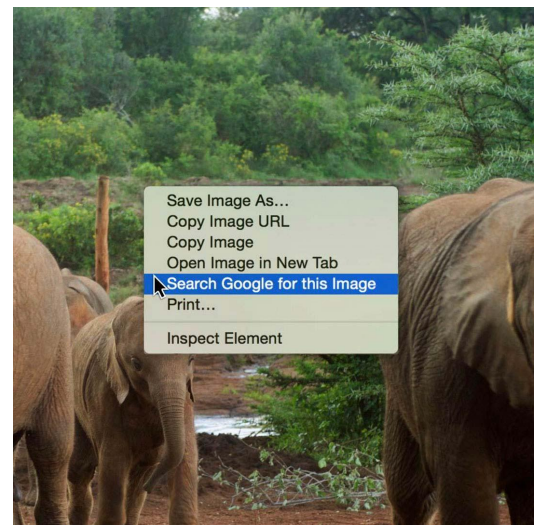
# Uncovering your image's backstory.

Knowing all the places a photo has been used or finding images that are similar to it can help you verify its source and authenticity. There are two easy ways to learn more about images online.

---

## STEP 1 OF 2

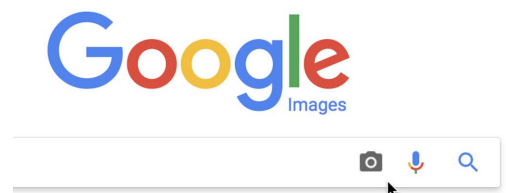
In Google Chrome, right click any image and select **Search Google for image**.



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## STEP 2 OF 2

In other browsers, go to [images.google.com](https://images.google.com), click on the **camera icon**, and either upload the image from your computer, or input the image URL to search for it.



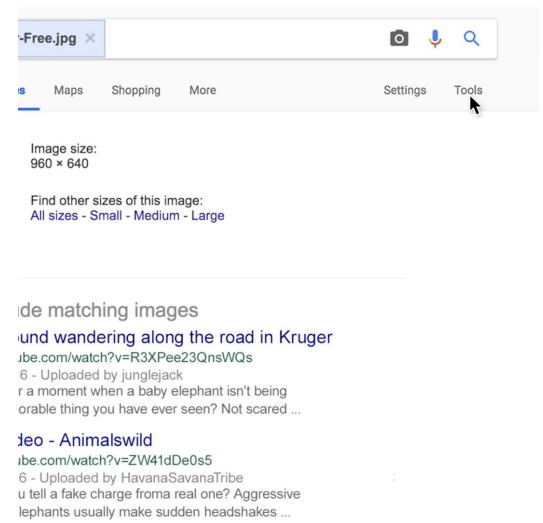
# Image fact-checking 101.

Once you've searched by image, you can do some research to see when and where it's been published.

---

## STEP 1 OF 3

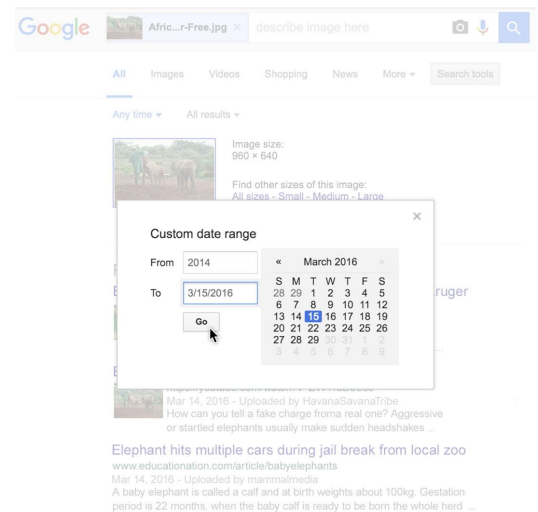
To filter your results by date, click on **Tools**.



---

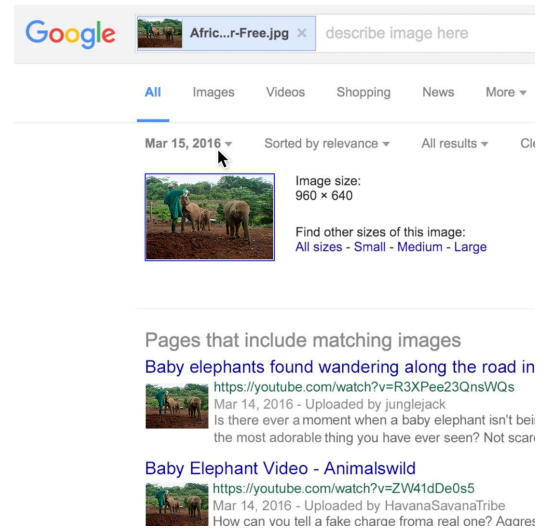
## STEP 2 OF 3

Select **Time** to set your parameters, which range from the past hour to the past year to custom dates.



STEP 3 OF 3

Continue to refine your results until you find the earliest date the photo appears.



The screenshot shows a Google Images search interface. At the top, the Google logo is on the left, and the search bar contains 'Afric...r-Free.jpg' with a 'describe image here' link. Below the search bar are tabs for 'All', 'Images', 'Videos', 'Shopping', 'News', and 'More'. The 'All' tab is selected. Below the tabs, there are filters for 'Mar 15, 2016', 'Sorted by relevance', and 'All results'. A mouse cursor is hovering over the date filter. Below the filters is a search result card for a photo of a baby elephant. The card includes the image, the text 'Image size: 960 x 640', and a link to 'Find other sizes of this image: All sizes - Small - Medium - Large'. Below the search result card is a section titled 'Pages that include matching images'. It contains two entries: 'Baby elephants found wandering along the road in' with a YouTube link and a thumbnail, and 'Baby Elephant Video - Animalswild' with a YouTube link and a thumbnail.

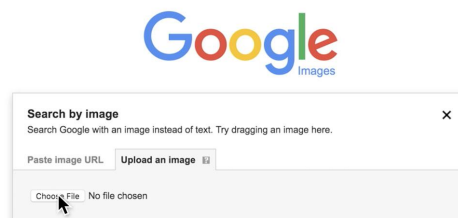
# Multiple images and video thumbnails.

Many of the same images circulate after major events like natural disasters, riots and airline crashes, so finding original news reports will help to identify misattributed content.

---

## STEP 1 OF 3

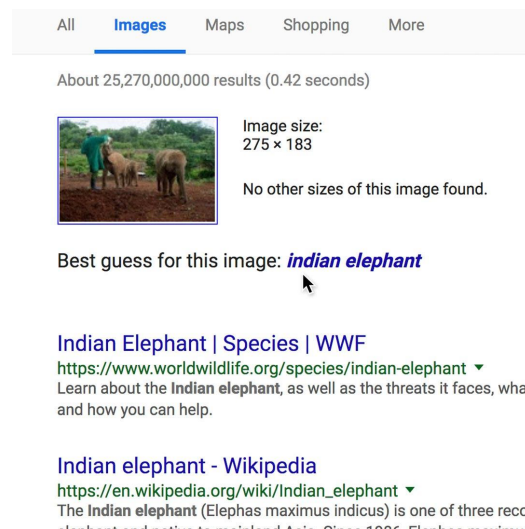
If you've saved the image to your computer, click the camera icon on the Google Images homepage, select **Upload an image** and then **Choose File**.



---

## STEP 2 OF 3

Google will suggest a **Best Guess** search term to accompany your image.



---

STEP 3 OF 3

Scroll down to show pages that include matching images.


When you are working to verify a video, try running a reverse image search of the video thumbnail to see if an earlier version of the same video exists online.



Report images

Pages that include matching images


**Baby elephants found wandering along the road in**

 <https://youtube.com/watch?v=R3XPee23QnsWQs>  
Mar 14, 2016 - Uploaded by junglejack  
Is there ever a moment when a baby elephant isn't be the most adorable thing you have ever seen? Not sca

**Baby Elephant Video - Animalswild**

 <https://youtube.com/watch?v=ZW41dDe0s5>  
Mar 14, 2016 - Uploaded by HavanaSavanaTribe  
How can you tell a fake charge from a real one? Aggre or startled elephants usually make sudden headshake

**Elephant hits multiple cars during jail break from k**

 [www.educationation.com/article/babyelephants](http://www.educationation.com/article/babyelephants)  
Mar 14, 2016 - Uploaded by mammalmedia  
A baby elephant is called a calf and at birth weights a period is 22 months, when the baby calf is ready to be

# Reverse Image Search on mobile.

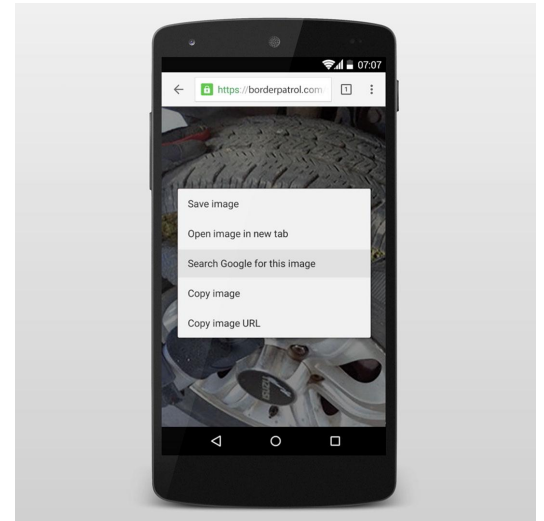
## SINGLE STEP

With the Google Chrome app installed on your smartphone, you can verify on the fly.

Maybe you're in the field when you get a breaking news alert about a drug bust that you want to investigate immediately. You can perform a reverse image search right on your phone.

Press on the image until the pop-up dialog box appears, then select **Search Google For This Image**.

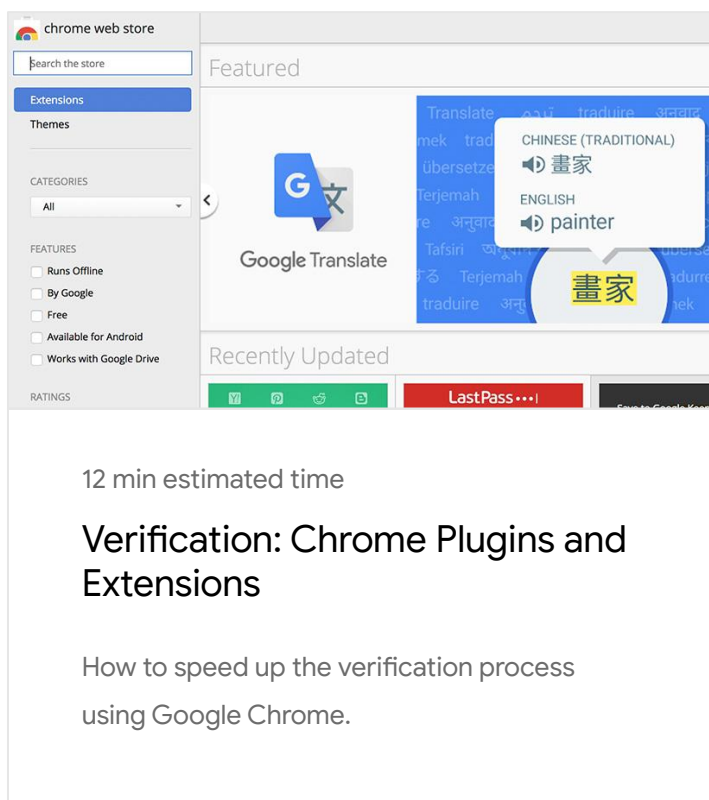
To learn more about reverse image search, check out our [FAQ video](#) on YouTube.



# Congratulations!

You completed “Verification: Advanced reverse image search.”

To continue building your digital journalism skills and work toward Google News Initiative certification, go to our [Training Center](#) website and take another lesson:



chrome web store

Search the store

Extensions

Themes

CATEGORIES

All

FEATURES

Runs Offline

By Google

Free

Available for Android

Works with Google Drive

RATINGS

Featured

Translate 翻譯 traduire अनुवाद  
mek trad  
übersetze  
Terjemah  
re अनुवाद  
Tafsir अनु  
78 Terjemah  
traduire अनु

Google Translate

CHINESE (TRADITIONAL)  
畫家

ENGLISH  
painter

畫家

Recently Updated

12 min estimated time

## Verification: Chrome Plugins and Extensions

How to speed up the verification process using Google Chrome.

For more Investigative Reporting lessons, visit:

[newsinitiative.withgoogle.com/training/course/investigative-reporting](https://newsinitiative.withgoogle.com/training/course/investigative-reporting)

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LESSON 06

# Verification: Chrome Plugins and Extensions

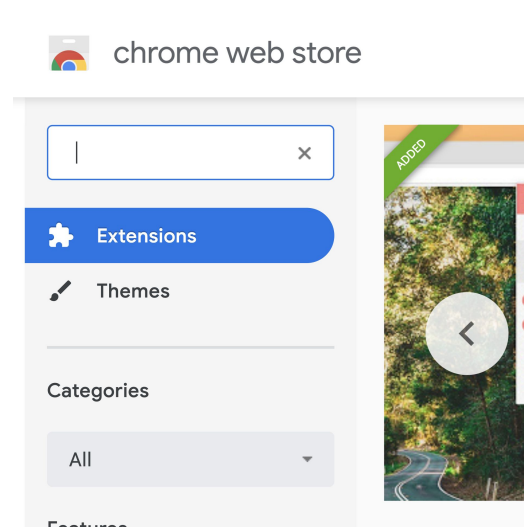
How to speed up the verification process using  
Google Chrome.



# Lesson overview

## Make your browser work harder.

From terrorist propaganda to celebrity hoaxes, social media is full of manipulated or misleading content. With the right extensions installed, Google Chrome becomes a verification dashboard that helps you investigate, debunk or confirm the authenticity of a photograph or video.



- 1 Personalize your plugins and extensions.
- 2 Journalists' favorite Chrome extensions.
- 3 Use Google Translate to translate web text.
- 4 How to make Chrome your default browser.
- 5 Amnesty International's YouTube DataViewer.

For more Investigative Reporting lessons, visit:

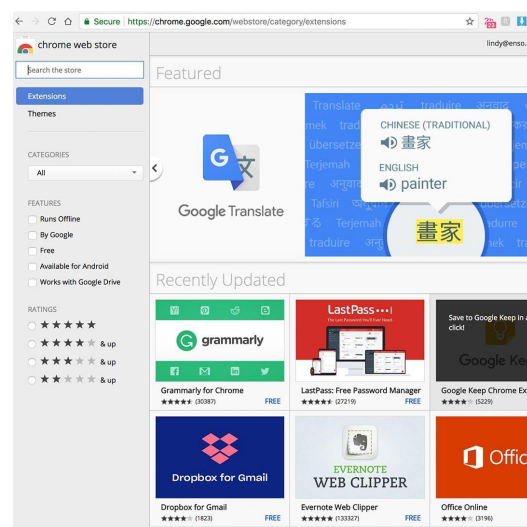
[newsinitiative.withgoogle.com/training/course/investigative-reporting](https://newsinitiative.withgoogle.com/training/course/investigative-reporting)

# Personalize your plugins and extensions.

With Google Chrome, you can personalize your extensions, settings, bookmarks or themes. They'll be synced to your user account, so you can access an identical experience when you login from any device with Chrome installed. It's an invaluable tool for journalists who are always on the move.

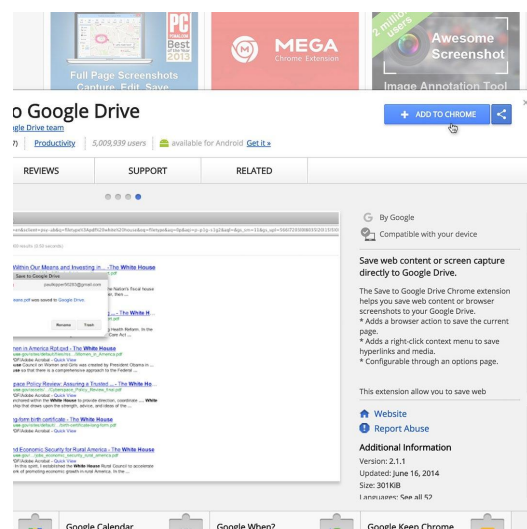
## STEP 1 OF 3

To install an extension, go to the Google Chrome Web Store at [chrome.google.com/webstore](https://chrome.google.com/webstore)



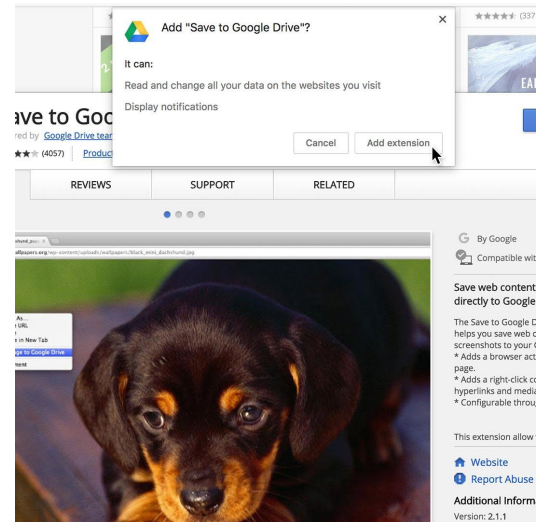
## STEP 2 OF 3

Find the extension you want and click **Add to Chrome**.



STEP 3 OF 3

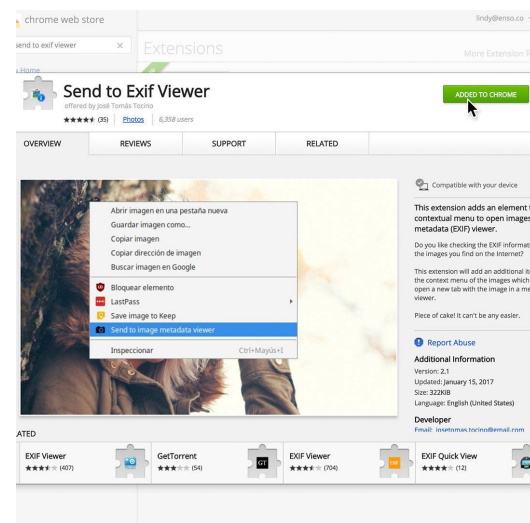
Then install it by clicking **Add extension.**



# Journalists' favorite Chrome extensions.

## STEP 1 OF 2

A tool called **Send to Exif viewer** is favored for its accuracy, detail and ease of use. You can upload a photo directly to the site here or install the Chrome extension **Send to Exif viewer** for maximum efficiency.



## STEP 2 OF 2

With the extension installed, you can simply right click on an image and select **Send to image metadata viewer** to see the time, date and location data of the point of capture. Since most social networks strip out EXIF data, this information may not always be available — but it's usually a good place to start.

*directs here. For other uses, see Tiger (disambiguation) and Tigress (disambiguation).*

*hera tigris* is the largest cat species, most recognizable for its pattern stripes on reddish-orange fur with a lighter underside. The species is genus *Panthera* with the lion, leopard, jaguar, and snow leopard. It is r, primarily preying on ungulates such as deer and bovids. It is snerally a solitary but social predator, often requiring large contiguous that support its prey requirements. This, coupled with the fact that it is me of the more densely populated places on Earth, has caused icts with humans.

is once ranged widely across Eurasia, from the Black Sea in the west, ean in the south, and from Kolyma to Su they have lost 93% of their historic rangd Central Asia, from the islands of Java outh, and East Asia. Today, they range fr tropical mangrove swamps. The species he IUCN Red List. Major reasons for pop itat fragmentation and poaching. The ext es than 1,184,911 km<sup>2</sup> (457,497 sq mi), i mid-1990s. The global wild population is and 3,948 individuals, down from aroun the most remaining populations occurring hich about 2,000 tigers live on the Indian bal wild tiger population of approximatel g the Third Asia Ministerial Conference on tiger conservation, the t that the world's count of wild tigers has risen for the first time in a

ng the most recognisable and popular of the world's charismatic atured prominently in ancient mythology and folklore, and continues to modern films and literature, appearing on many flags, coats of arms, ; for sporting teams. The tiger is the national animal of Bangladesh, and South Korea.

**Tiger**  
Temporal range:  
early Pleistocene–Present

PreЄ C O S D C P J K Pg N

il tiger (*P. t. tigris*) at Kanha Park, India, Continental Asia

**Conservation status**

Threatened Least Concern

(CR) (EN) (VU) (NT) (LC)

**taxonomic classification**

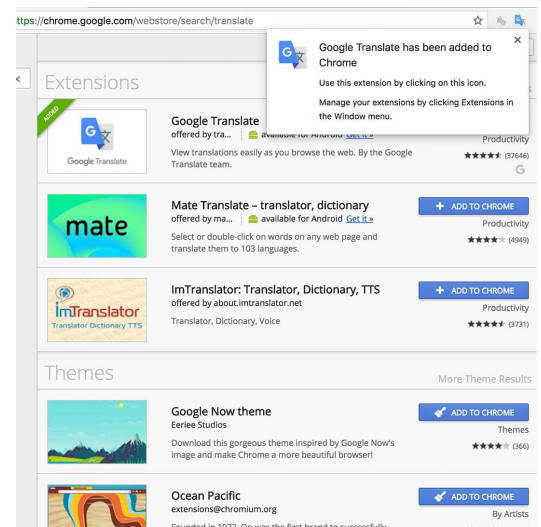
- Animalia
- Chordata
- Mammalia
- Carnivora
- Feliformia
- Family: Felidae
- Genus: *Panthera*
- Species: *P. tigris*

**Binomial name**

# Use Google Translate to translate web text.

## STEP 1 OF 3

Install the Google Translate Chrome extension to make translating individual words or phrases on a web page easier.



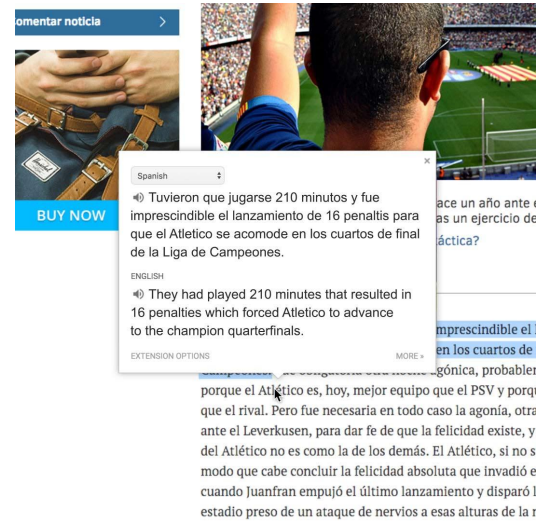
## STEP 2 OF 3

Highlight any section of text in a different language.



STEP 3 OF 3

Click the icon and a pop-up box will appear, showing the identified language and suggested translation.

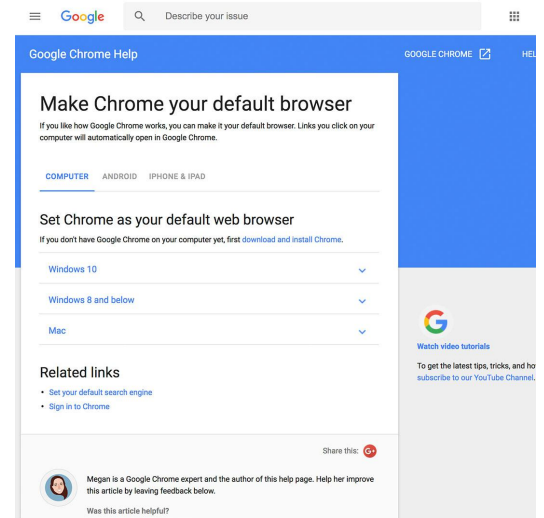


# How to make Chrome your default browser.

## SINGLE STEP

Once you've customized Chrome with tools and resources to empower your reporting, you might want to make it your default browser.

To do so, check out the Google Chrome support page, [here](#).



# Amnesty International's YouTube DataViewer.

---

## STEP 1 OF 2

This helpful verification tool was developed by Amnesty International's Citizen Evidence Lab. In one simple search, you can find the exact upload time for any video by copying and pasting its URL. Times are shown in UTC (Universal Time), but by using a date and time converter, you can calculate the time at the given location.

---

## STEP 2 OF 2

For verification purposes, remember that the upload time is often later than the time the video was shot.



### Youtube DataViewer



#### Oil spill cleanup underway for Gulf of Mexico

This is just sad. I was walking along the beach and saw this going on. The oil spill caused a lot of damage and the cleanup has begun. It's going to take a long time to clean up this mess.

Video ID: TAX2XBQn12s  
Upload Date (YYYY/MM/DD): 2016-03-13  
Upload Time (UTC): 22:30:49 (convert to local time)



#### Thumbnails:



[reverse image search](#)



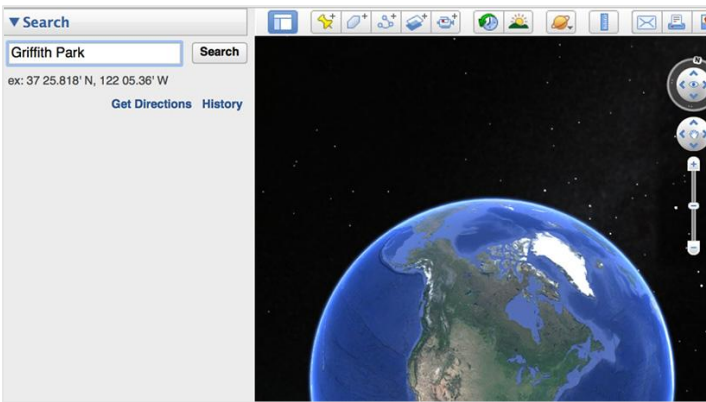
[reverse image search](#)



# Congratulations!

You completed “Verification: Chrome Plugins and Extensions.”

To continue building your digital journalism skills and work toward Google News Initiative certification, go to our [Training Center](#) website and take another lesson:



5 min estimated time

## Google Earth: Pinpoint eyewitness locations

Find out where a photo was taken and when it was uploaded.

For more Investigative Reporting lessons, visit:

[newsinitiative.withgoogle.com/training/course/investigative-reporting](https://newsinitiative.withgoogle.com/training/course/investigative-reporting)

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LESSON 07

# Google Earth: Pinpoint eyewitness locations

Find out where a photo was taken and when it was uploaded.

# Lesson overview

## Get to know Google Earth.

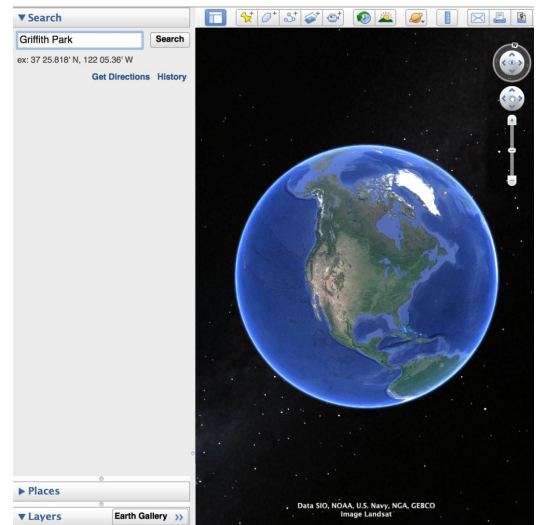
To successfully verify a photograph or video you need to confirm where it was captured, when it was captured and who captured it.

An interactive virtual globe, Google Earth can quickly help you complete the first step of establishing location.

Newsworthy images that emerge in social media often contain visual clues such as buildings or landmarks, that will help you establish the location. However, images captured in remote or rural areas present more of a challenge.

To begin your verification process, download the latest version of Google Earth:

<https://earth.google.com/>



- 1 Prepare for takeoff.
- 2 Look for visual clues.
- 3 Use layers to modify your view.
- 4 Pinpoint your location.
- 5 Examine image data.

For more Investigative Reporting lessons, visit:

[newsinitiative.withgoogle.com/training/course/investigative-reporting](https://newsinitiative.withgoogle.com/training/course/investigative-reporting)

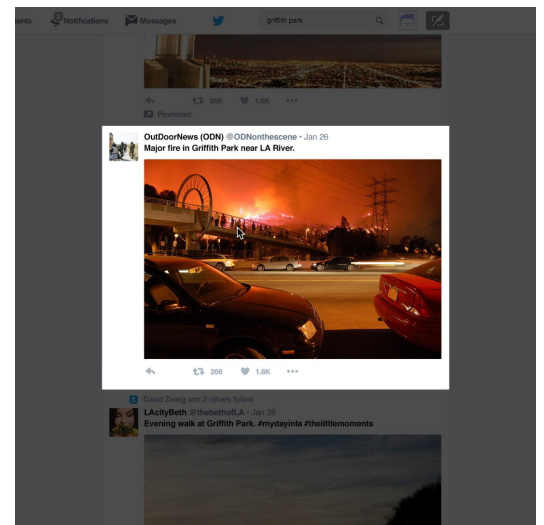
# Prepare for takeoff.

After you've installed Google Earth, the first thing you'll want to do is "fly" to the region where you think the media in question came from. Type the name of the country, town, city or even landmark into Google Earth and it will swoop the satellite view to that location. The more specific you can be, the better.

---

## STEP 1 OF 3

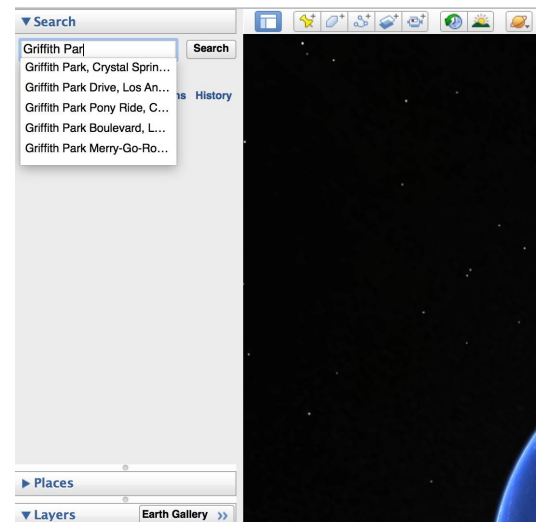
Let's say you're working on a story about Southern California wildfires and found a photo on Twitter that purports to be taken in Los Angeles near Griffith Park.



---

## STEP 2 OF 3

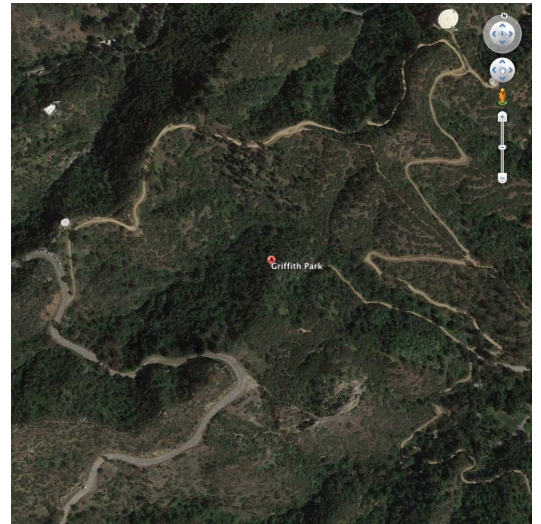
Type *Griffith Park* into your Google Earth search box to begin.



---

STEP 3 OF 3

Google Earth will zoom you in to start looking for clues.



# Look for visual clues.

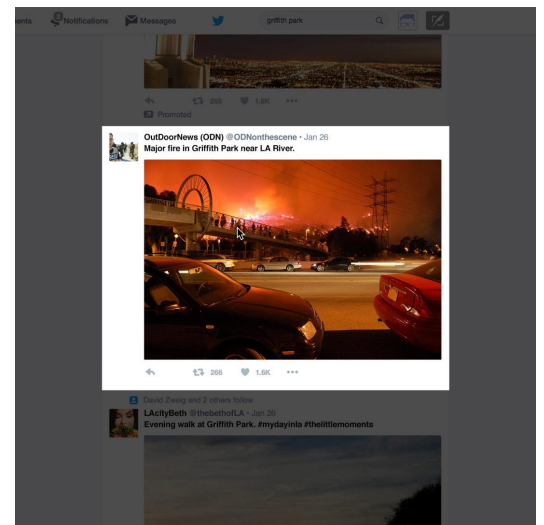
Now that you've got Google Earth up and running, it's time to return to your video or photo and study it carefully for visual clues that will help you narrow down the location.

Landmarks, signage, distinctive buildings, roads, abrupt changes in elevation, water features, wide open spaces, green spaces...make a list of all the elements you see in your region. It can also be helpful to print stills or take screen shots to compare to Google Earth imagery.

---

## STEP 1 OF 2

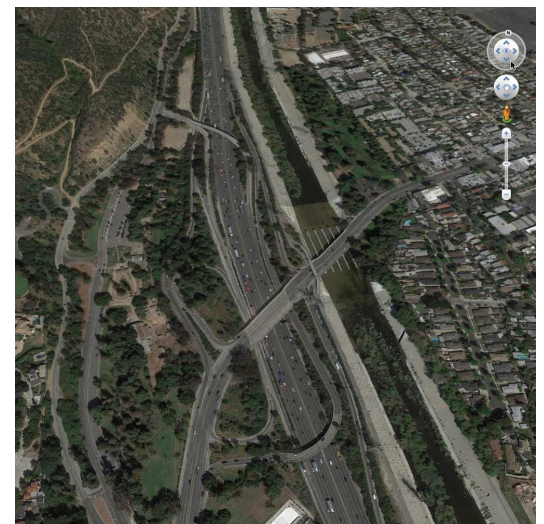
In this case, we're looking for areas of Griffith Park that parallel the Los Angeles River. We're also looking for a pedestrian bridge that crosses a major street.



---

## STEP 2 OF 2

Use the slider to zoom in until features on the landscape are visible, then click and drag to explore the surrounding area.

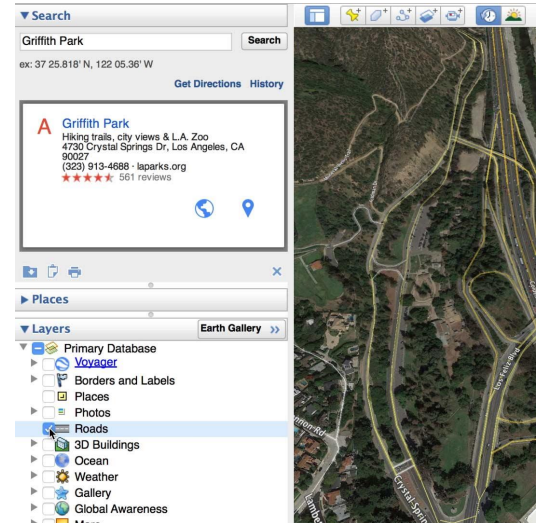


# Use layers to modify your view.

## SINGLE STEP

The **Layers** panel in Google Earth allows you to choose what kind of information you'd like display in your 3D viewer. Emphasizing different features may further your quest to pinpoint a location.

Selecting and deselecting a checkbox next to particular layer turns it on or off. For example, turning on the **Roads** layer will display main highways with yellow lines and minor roads with white lines, along with street names. Turn it off, and this information becomes invisible.





# Pinpoint your location.

Once you're in the correct vicinity, you can zoom in to try and match up the Google Earth view with your news image.

To learn more about imagery and collection dates, [click here](#).

---

## STEP 1 OF 3

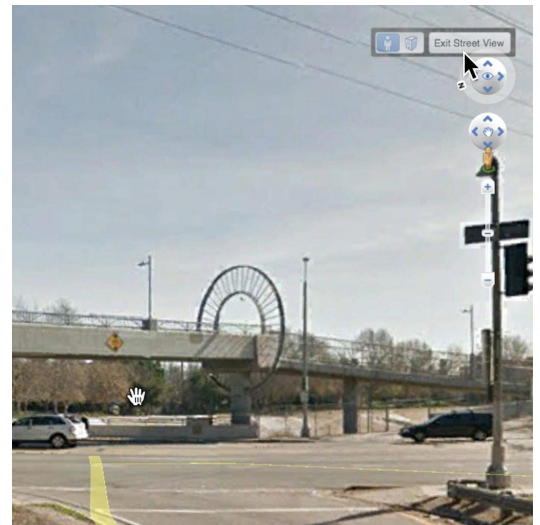
Double click on any point to zoom in for a close look. Use the top right navigation arrows to tilt the view and change your perspective.



---

## STEP 2 OF 3

If you zoom in too close, click **Exit Street View** in the top right corner of the screen to pull back to a wider shot.

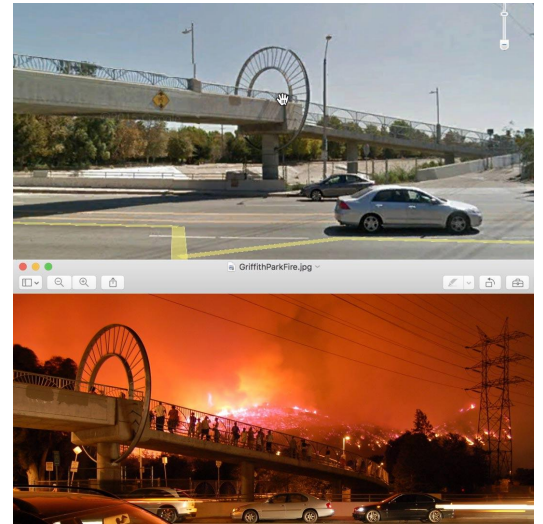




---

STEP 3 OF 3

Once you've found a precise location match you can move on to additional methods of verifying such as date or author, if they are relevant.



# Examine image data.

## SINGLE STEP

All digital images contain EXIF data; information gathered by the device at the point of capture, such as time, date, latitude and longitude coordinates. Entering these coordinates into Google Earth will take you straight to where the photograph was taken.

However, most social networks and messaging apps strip out EXIF data, so always ask a source to email you the original image so that you can extract the EXIF data yourself. There are many tools you can use for this task, including this [one](#).

To learn more about using Google Earth for verification, watch this [case study from First Draft](#).

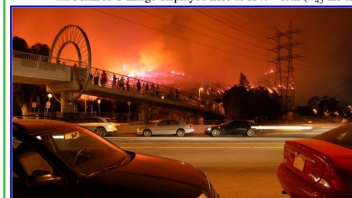
To see the full suite of Google Earth tutorials, [click here](#).

### Basic Image Information

Target file: parkFire.jpg

Caption:	Griffith Park Fire, Los Angeles
By Line:	<b>Eric Bettle</b>
Credit:	<b>Getty Images/Flickr Open</b>
Special Instructions:	NR
File:	<b>3,008 × 2,000 JPEG (6.0 megapixels)</b> 1,490,951 bytes (1.4 megabytes)
Color Encoding:	<b>WARNING: No color-space metadata and no embedded color profile: Windows and Mac web browsers treat colors randomly.</b> Images for the web are most widely viewable when in the sRGB color space and with an embedded color profile. See my Introduction to Digital-Image Color Spaces for more information.

Main JPG image displayed here at 15% width (1/65 the area of the original)



# Congratulations!

You completed “Google Earth: Pinpoint eyewitness locations.”

To continue building your digital journalism skills and work toward Google News Initiative certification, go to our [Training Center](#) website and take another lesson:



15 min estimated time

## Google Historical Imagery: Google Earth Pro, Maps and Timelapse

Look back in time almost anywhere in  
the world.

For more Investigative Reporting lessons, visit:

[newsinitiative.withgoogle.com/training/course/investigative-reporting](https://newsinitiative.withgoogle.com/training/course/investigative-reporting)

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LESSON 08

# Google Historical Imagery: Google Earth Pro, Maps and Timelapse

Look back in time almost anywhere in the world.

# Lesson overview

## History tells a story.

Sometimes the best way to explain the present is to explore the past. Google Earth Pro, Google Maps and Google Landsat Timelapse all allow you to access years of satellite, aerial and Street View imagery, which are an effective tool for demonstrating the development of cities, damage from natural disasters and changes in landscape over time.



- 1 Exploring history on Google Earth Pro.
- 2 Exporting still images and video.
- 3 View streets of the past on Google Maps.
- 4 Moving through time.
- 5 Google Earth Engine: Landsat Timelapse.
- 6 Sharing a timelapse.
- 7 Creating a custom timelapse.

For more Investigative Reporting lessons, visit:

[newsinitiative.withgoogle.com/training/course/investigative-reporting](https://newsinitiative.withgoogle.com/training/course/investigative-reporting)

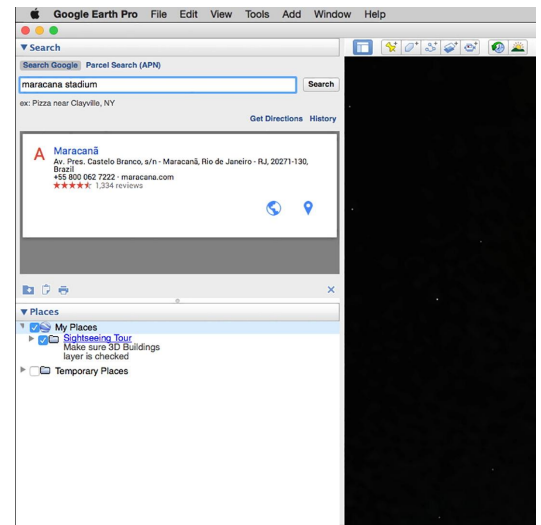
# Exploring history on Google Earth Pro.

Google Earth Pro's Historical Imagery feature is an easy way to go back in time. Let's say you want to show the history of renovations to Rio de Janeiro's Maracanã Stadium:

---

## STEP 1 OF 3

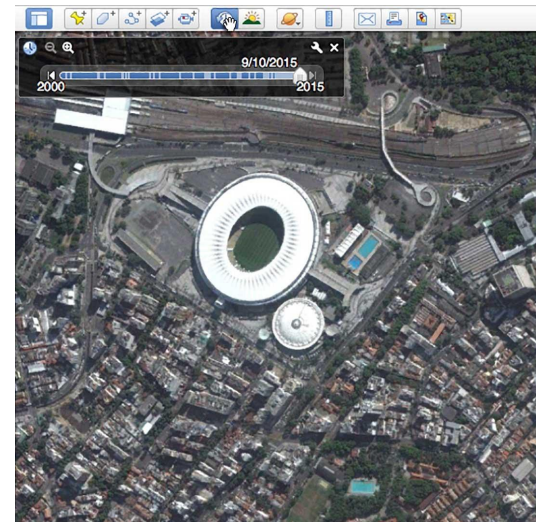
Type the stadium's name in the search window and fly to the location.



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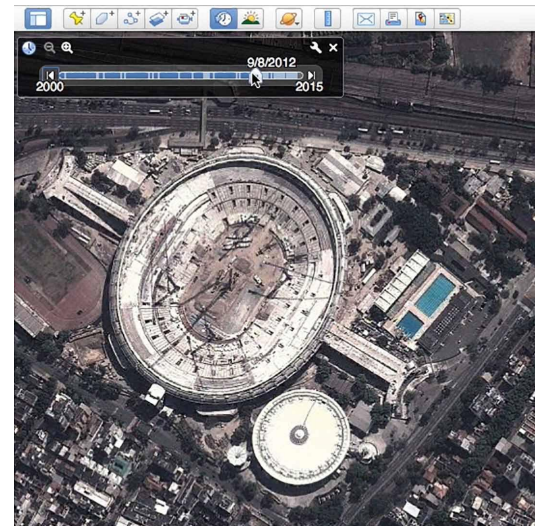
## STEP 2 OF 3

You'll first see the freshest or highest quality imagery available. Now click the **clock icon** in the top menu and a time slider will appear, displaying a notch for every piece of imagery available for this view.



STEP 3 OF 3

Move the slider all the way to the right to see if any fresher imagery is available, and move it to the left to see imagery from the past. The day, month and year of each piece of imagery is displayed within the slider. Coverage and availability of images will vary depending on the location.





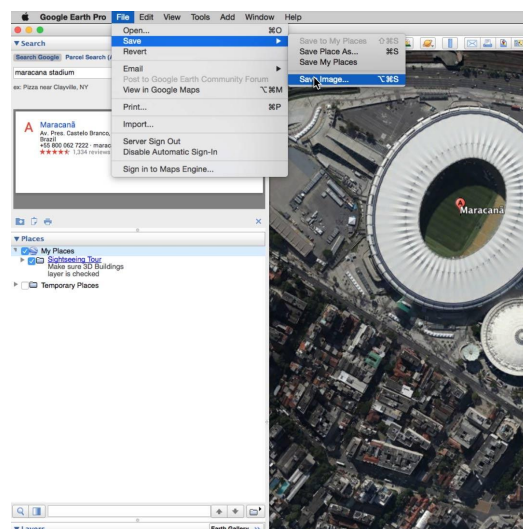
# Exporting still images and video.

Google Earth Pro also allows you to create and export HD tour videos for use in your stories. See our tutorials for [Google Earth Pro](#) and [Google Earth Pro: Export High Resolution Images](#) to learn more.

---

## STEP 1 OF 4

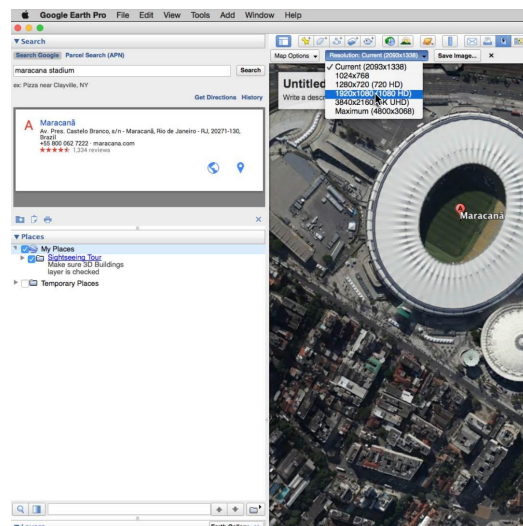
In Google Earth Pro, you can save and export high-resolution JPGs of these historical images by going to **File, Save**, then **Save Image**.



---

## STEP 2 OF 4

Buttons will appear above the map that allow you to choose the resolution of your images and keep or remove various elements on the map.

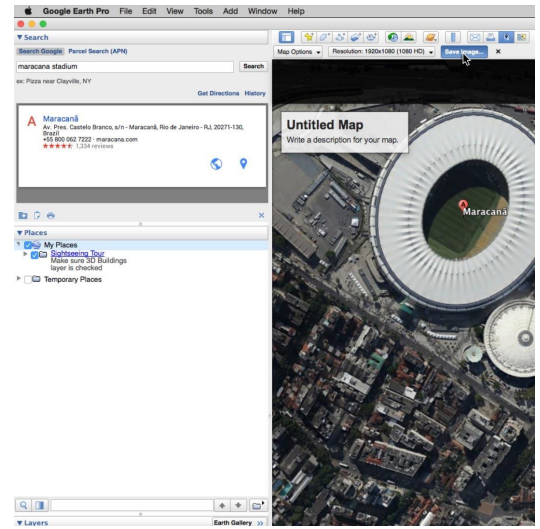




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STEP 3 OF 4

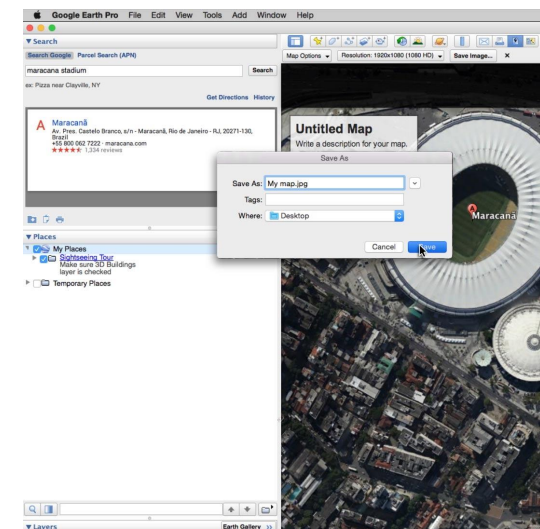
Then click **Save image**.



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STEP 4 OF 4

Finally, name your file and click **Save**.



# View streets of the past on Google Maps.

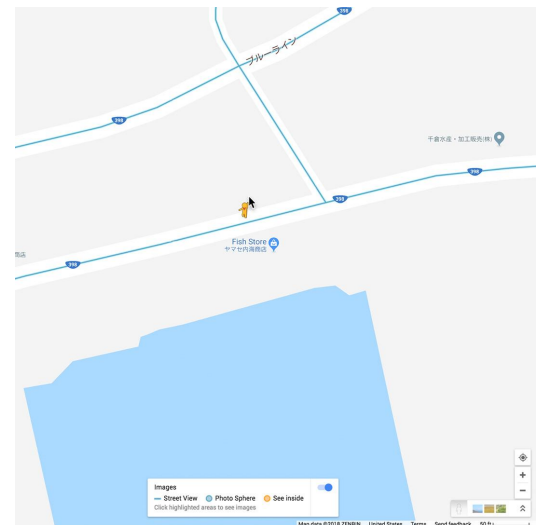
Similar to historical satellite imagery in Google Earth, Google Maps for desktop allows you to access historical Street View panoramas gathered from Street View collections dating back to 2007.

Let's say you're doing a story on the reconstruction of Onagawa, Japan after the 2011 earthquake and tsunami.

---

## STEP 1 OF 2

First, type Onagawa in the search bar to fly there. Then, to enter Street View in Google Maps, grab the Pegman and drag him to one of the blue lines on the map (blue lines indicate where Street View is available on the map).



---

## STEP 2 OF 2

When you first enter this mode, you'll see the freshest, highest quality panorama available for that spot.



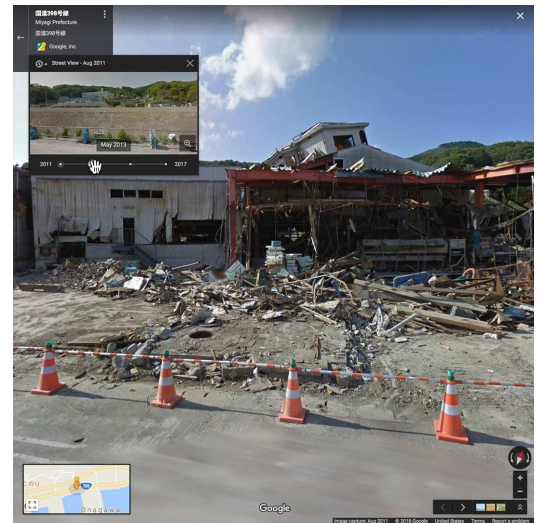
# Moving through time.

## SINGLE STEP

Now look for the clock icon in the upper left of the map, which indicates that historical panoramas are available (since coverage varies, you will not always see the clock). Use the slider to toggle on different panoramas, marked with the month and year each was collected.

To see a larger view of the selected panorama, click the magnifying glass icon.

If you would like to use available imagery for your story, for example, in a photo slideshow, video, or GIF, use your computer's screen capture feature to save the needed image. Remember to credit the imagery to Google Maps Street View (visit [google.com/permissions](https://www.google.com/permissions) or see our Permissions tutorial for details).



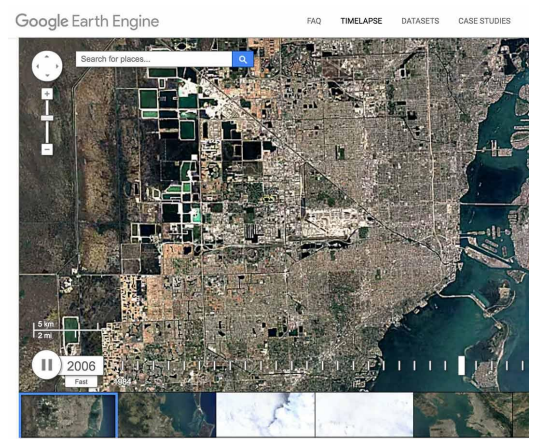
# Google Earth Engine: Landsat Timelapse.

A Timelapse map can be a powerful accompaniment to coverage of local, environmental or science-related issues. Working closely with the USGS and NASA, Google released more than a quarter-century of images of Earth taken from space, compiled into an interactive time-lapse map that allows viewers to watch change across the entire planet's surface beginning as early as 1984.

---

## STEP 1 OF 4

Visit [earthengine.google.com/timelapse](http://earthengine.google.com/timelapse)



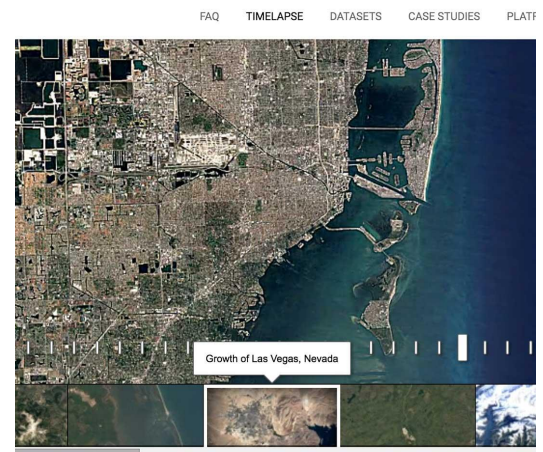
Timelapse

Timelapse is a global, zoomable video that lets you see how the Earth has changed over the past 32 years. It is made from 33 cloud-free annual mosaics.

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## STEP 2 OF 4

Click through the thumbnails of phenomenon such as the sprouting of Dubai's artificial Palm Islands, the retreat of Alaska's Columbia Glacier, the deforestation of the Brazilian Amazon and urban growth in Las Vegas.





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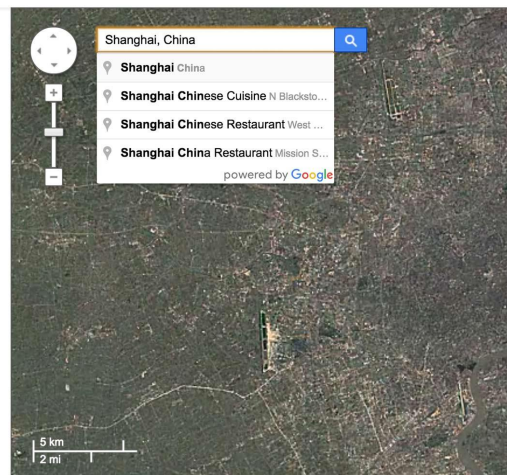
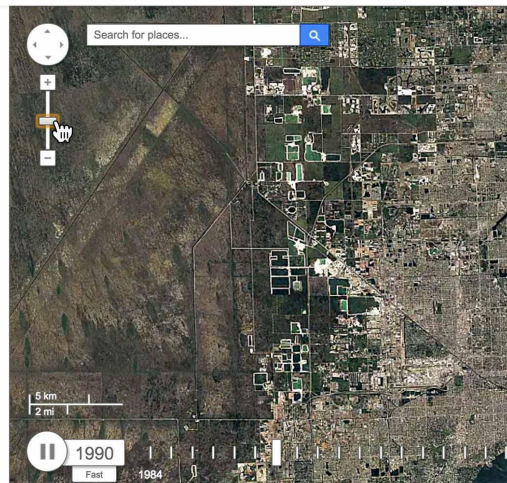
### STEP 3 OF 4

When viewing these areas, remember that Timelapse is an interactive map, so you can pan and zoom just as you would on Google Maps.

---

### STEP 4 OF 4

You can also use the map's search bar to view a location other than those featured on the homepage.

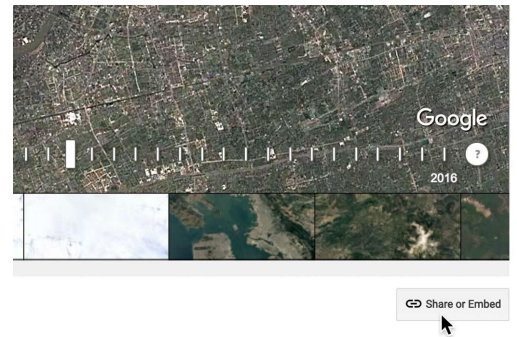


# Sharing a timelapse.

---

## STEP 1 OF 2

The **Share** button below the map generates a link you can use to share the map and embed it on your website.



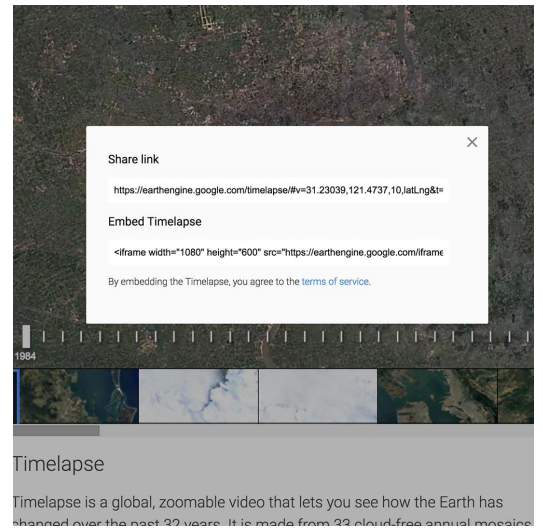
eo that lets you see how the Earth has  
; made from 33 cloud-free annual mosaics,  
6, which are made interactively explorable by  
[Lab's Time Machine library](#), a technology for  
pammable timelapses over space and time.

ver 5 million satellite images acquired over

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## STEP 2 OF 2

The link and embed will take viewers to the same area of the map you were viewing when you clicked **Share**.



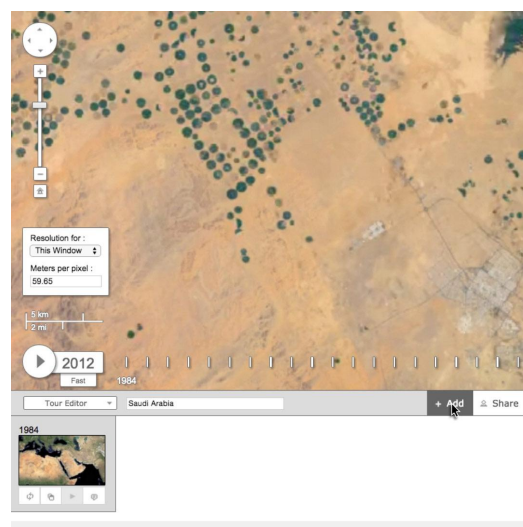
# Creating a custom timelapse.

Instead of showing one static area through the years, you can customize your map to travel in various directions over time. Use this [timelapse editor](#), developed by Carnegie Mellon's CREATE Lab, which allows you to fly to the locations you want to highlight and add keyframes at each stop. Let's say you're doing a story on the effects of irrigation in Saudi Arabia, and you'd like to show the change and expansion of the landscape as more water is introduced.

---

## STEP 1 OF 3

Start your tour above the irrigation fields, and add a keyframe. Now let's go in closer and add another keyframe, and move north so the camera reveals additional irrigation fields and add one more keyframe.



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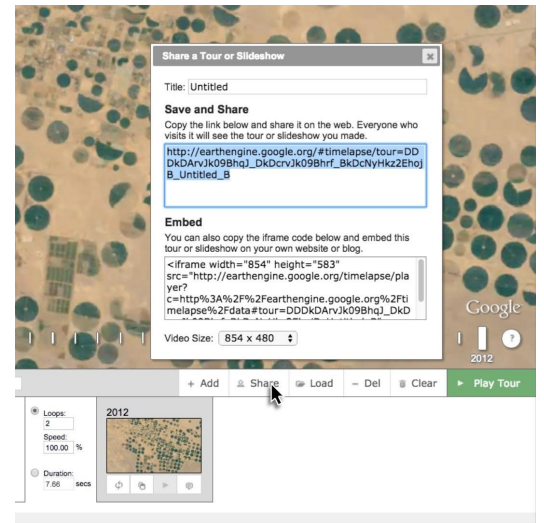
## STEP 2 OF 3

Click **Play Tour** to see your finished map. You can set loop and duration information for each key frame in the transition panels.



STEP 3 OF 3

When you're ready to share or embed this tour on your website, just click **Share**. The link above includes more options for customization.





# Congratulations!

You completed “Google Historical Imagery:  
Google Earth Pro, Maps and Timelapse.”

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