

STATE LIBRARY¹
QUEENSLAND

Year 10 Earth Sciences

Unit 1 – The Big Bang and the Evolution of the Universe.

Unit 2 – Climate Change.

Cover: Selection of databases available through State Library, 2023.

© 2026. This work is licensed under the Attribution-NonCommercial-ShareAlike 4.0 International Creative Commons ([CC BY-NC-SA 4.0 license](https://creativecommons.org/licenses/by-nc-sa/4.0/)) by the State Library of Queensland. You are free to share and adapt the work under the following terms: you must give appropriate credit, it is for a non-commercial purpose and, if you remix, transform, or build upon the materials, you must distribute your contributions under the same license as the original.

For other uses please contact State Library at copyright@slq.qld.gov.au



Date prepared: 04 March 2026

Copyright information for teachers

This research guide is designed for individual use by students.

Please note, due to licensing arrangements, State Library's subscription databases and eBooks are for private research and study purposes only. They may not be used as teaching resources in classroom environments in schools or other educational institutions and students must not be required to access specific databases or eBooks as part of the curriculum.

Teachers can advise students on State Library's resources and encourage their use to help with their studies and research. Students are encouraged to access State Library's resources at school, but not during class time.

Teachers are most welcome to advise students what is available via State Library, and to encourage students to make use of eBooks and databases to help with their studies. It is permissible for a teacher to demonstrate the use of State Library's catalogue, and to point out how various online material can be accessed.

It is also permissible for students to access State Library's online resources at school – but this must not be during class time. An example of permitted use might be where students have a spare period when they work on assignments or homework, and they are accessing databases as private members of the State Library. Information about joining the State Library is [here](#).

Please also note that State Library has digitised a range of material such as diaries, and out of copyright publications held in our collections. There are no restrictions on the use of this material as part of a teaching program – and no requirement to be a member of the library to use this material. They are easily findable searching our catalogue using the "SLQ digitised collections" option in the dropdown menu.

For other information visit [Understanding copyright](#) or contact State Library at copyright@slq.qld.gov.au

Overview

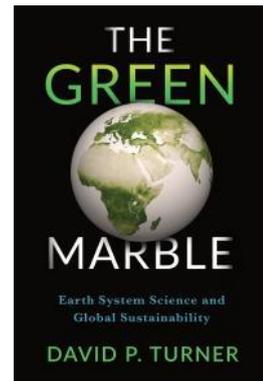
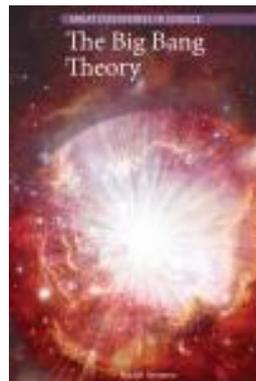
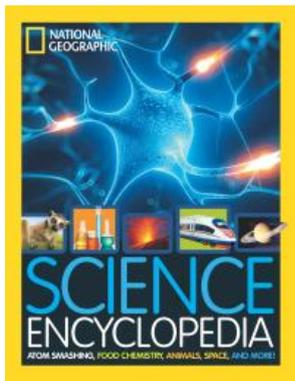
As Queensland's leading research library, State Library is a great place to find information to complete your research-based assessments.

State Library's One Search catalogue is the gateway to an extensive suite of national and international journals, databases, eBooks, encyclopedias, newspaper archives, and collections of thousands of historical images, letters, artworks, diaries, and artefacts to interrogate as sources.

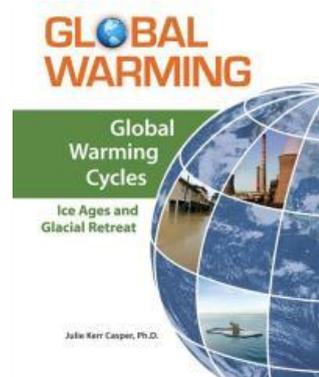
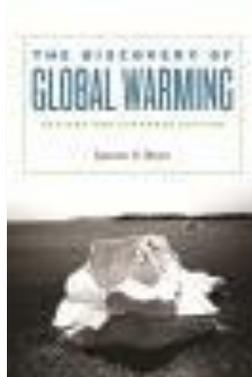
Before you get started

[Become a member](#) of State Library of Queensland (it's free!). Once you have joined State Library, [log in](#) to your account in One Search so you can use the links in this research guide to access the featured collection items. You can search our [OneSearch catalogue](#) or begin exploring by clicking on some of the featured items contained in this research guide.

E-Books

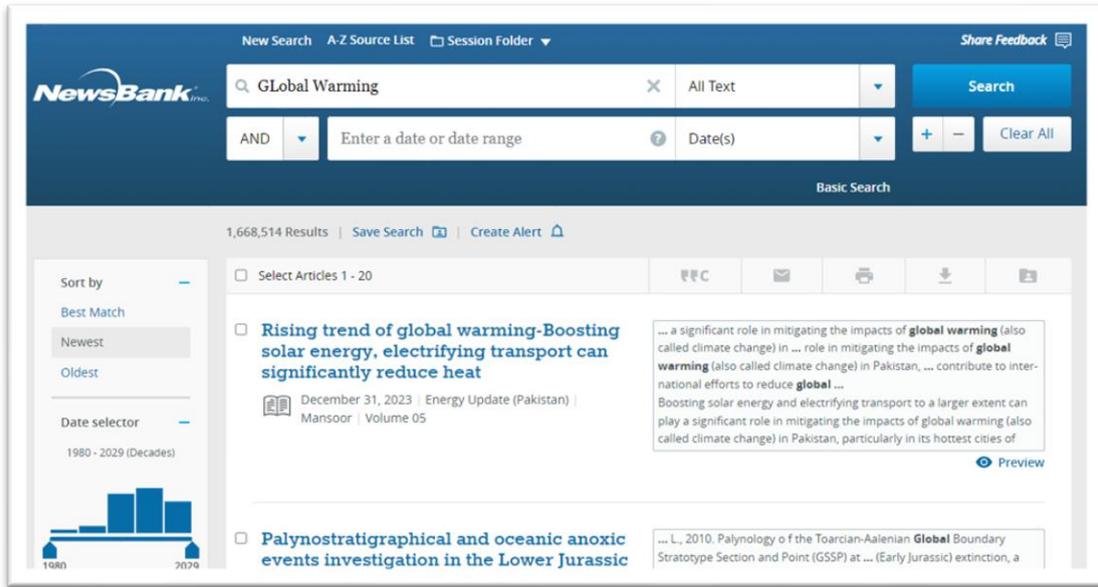


This is an advanced reading resource

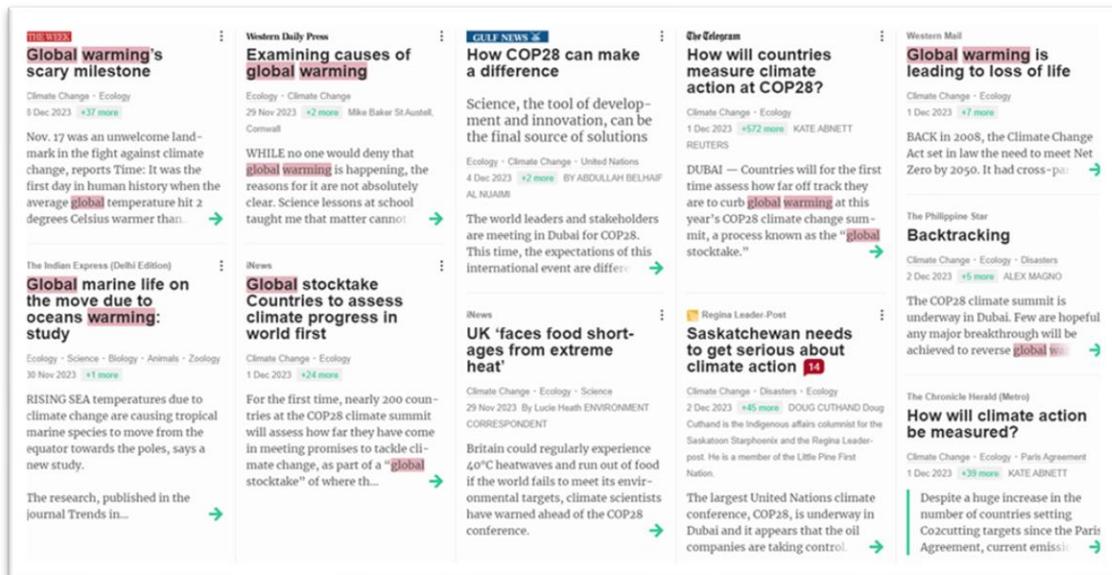


Learning Area Resources

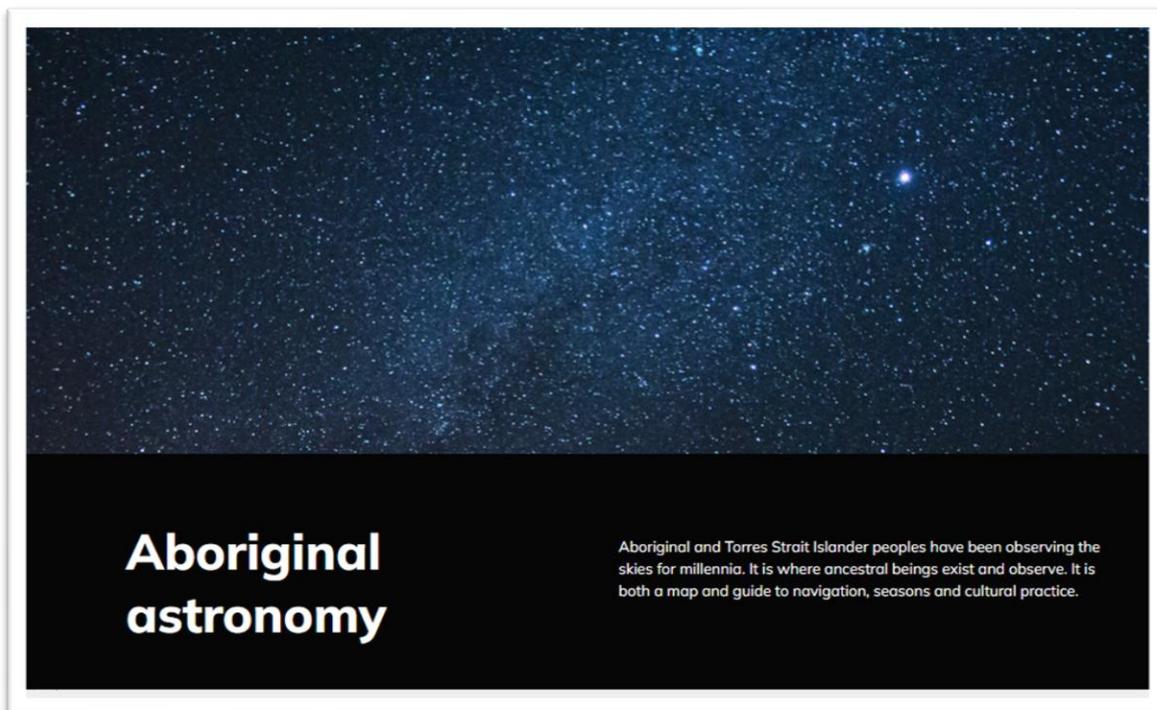
[NewsBank](#) provides a comprehensive collection of reliable news sources featuring over 8,000 titles from 200 countries covering a combination of global, regional, and local news from Queensland. The searchable archive features news articles back to the 1980s.



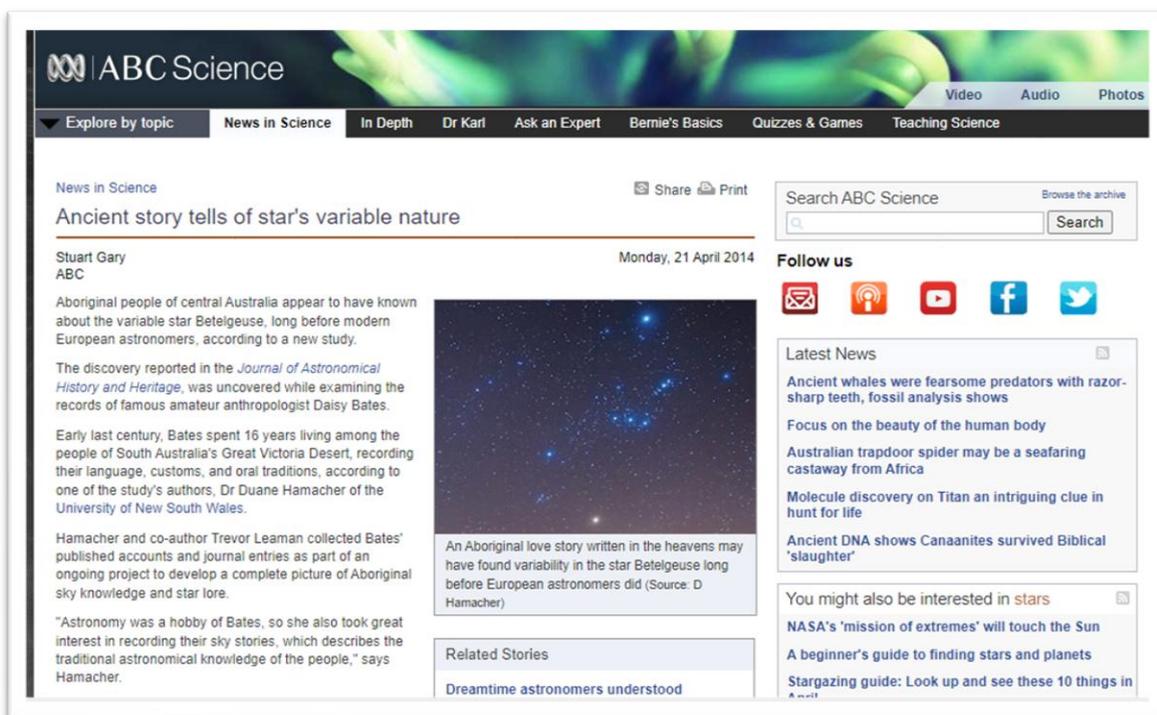
[PressReader](#) provides access to nearly 6000 newspapers and magazines from all over the world, featuring the latest issues of publications from over a hundred countries.



[Australian Institute of Aboriginal and Torres Strait Islander Studies](#) is a resource-rich platform providing insight to the knowledge and programs driven by First Nations knowledge and culture.



This article provides an example of links between First Nations oral histories and scientific evidence. This article is one of many examples of First Nations people



[Queensland Museum](#) provide Learning Resources website students with many activities, fact sheets, images, and videos.

The screenshot shows the Queensland Museum Learning Resources website. At the top left is the Queensland Museum Network logo. The main header is "Learning Resources". On the right, there are links for "Home" and "About", and a "Save list" button with a plus icon. Below the header, it says "Showing 15 of 66 resources". Three resource cards are displayed in a row. Each card has a large image at the top, a title, a list of years, and a subject label at the bottom.

Resource Title	Years	Subject
Carnivorous Sponges and Deep Sea Creatures	Years: 5, 6, 7, 8, 9, 11, 12	Biology
Project DIG 3D Gallery Sketchfab	Years: Early Years, Prep, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, Other	Biology
Project DIG Meet the Megafauna	Years: Early Years, Prep, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, Other	Biology

Big Bang Theory

Describe how the big bang theory models the origin and evolution of the universe and analyse the supporting evidence for the theory.

- Describing the major components of the universe using appropriate scientific terminology and units including astronomical units, scientific notation and light-years.
- Constructing a timeline to show major changes in the universe which are thought to have occurred from the big bang until the formation of the major components such as stars and galaxies.
- Examining how stars' light spectra and brightness is used to identify compositional elements of stars, their movements and their distances from earth.
- Explaining how each different type of evidence, such as cosmic microwave background radiation, red or blue shift of galaxies, Edwin Hubble's observations and proportion of matter in the universe, provides support for the acceptance of the big bang theory.
- Researching first nations australians' knowledges of celestial bodies and explanations of the origin of the universe.
- Identifying the different technologies used to collect astronomical data and the types of data collected.
- Exploring recent advances in astronomy, including the australian square kilometre array pathfinder, and astrophysics, such as the discovery of gravitational waves, dark matter and dark energy; and identifying new knowledge which has emerged.

[Oxford Reference](#) spans 25 different subject areas, bringing together 2 million digitised entries across Oxford University Press’s dictionaries, companions, and encyclopedias.

The screenshot shows the Oxford Reference website interface. At the top, the 'Oxford Reference' logo is on the left, and a search bar is on the right. Below the logo, there are navigation tabs for 'Subject' and 'Reference Type', along with 'My Content (0)' and 'My Searches'. The main heading is 'Oxford Reference Search Results'. On the left, there is a sidebar with 'Signed in as: State Library of Queensland' and a 'Narrow Your Choices' section with 'REFINE TERMS' and a search box containing 'big bang theory'. The main content area shows 'You are looking at 1-20 of 319 entries for: All: big bang theory'. Below this, there are filters for '319 ENTRIES' and '2 BOOKS', and a 'View' section with 'Items per page: 20' and 'Sort by: Relevance'. A search result for 'big bang theory' is displayed, including a book cover, the title 'big bang theory', and details: 'A Dictionary of Geology and Earth Sciences (5 ed.)', 'Reference type: Subject Reference', 'Current Version: 2020', 'Subject: Science and technology, Earth Sciences and Geography', and 'Length: 81 words'. A 'Quick reference' link is also visible.

The [Britannica Library](#) has articles, images and more, with a selection of resources especially for teenagers.

The screenshot shows the Britannica Library website interface. At the top, the 'Library' logo is on the left, and 'Teens' is highlighted. A search bar contains 'SEARCH' and 'Your Britannica Resources'. Below the search bar, the main heading is 'You searched for "Big Bang theory"'. Below this, it says 'DISPLAYING 1 - 10 OF 1,904 RESULTS.'. There is a 'Reading Level' section with buttons for '1', '2', and '3', where '2' is selected. To the right, there is an 'Advanced Search' link. Below the search results, there are tabs for 'Articles', 'Images', 'Videos', and 'More'. The first result is 'big bang theory (cosmology)', with a brief description: 'big bang theory | The big bang theory is a general theory held by many astronomers that the universe may have originated about 12 to 15 billion years ago as ...'. The second result is 'cosmology (astronomy)', with a brief description: 'Evidence for the big bang theory | The first of these predictions was quickly supported by spectroscopic studies. Indeed, the visible matter in the universe ...'. At the bottom, there is a section for 'images related to this search:' with a 'See all images' link and several image thumbnails.

[National Geographic Virtual Library](#) is a powerful tool for research offering access to over 100+ years of magazines and hundreds of books, maps, videos, and images.

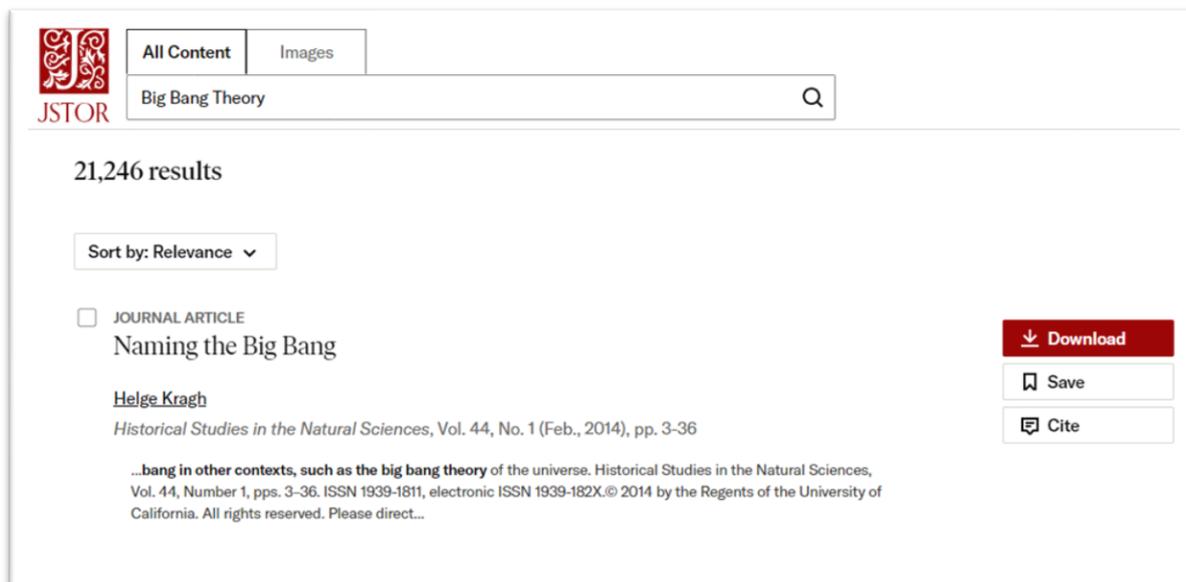
Big Bang Theory

The screenshot shows the National Geographic Virtual Library search interface. At the top, there's a banner with 'ALE PRESENTS NATIONAL GEOGRAPHIC' and a background image of elephants. Below the banner is a search bar containing 'Bang theory' and an 'Advanced Search' button. To the right of the search bar are navigation links: 'Browse Magazines', 'About', 'Explore Topics', 'Search History', and 'Ge'. Below the search bar, it says 'VIEWING RESULTS FOR' followed by a list of content types: 'Content Types' (selected), 'Featured Articles (6)', 'Books (3)', 'Brief Articles (3)', and 'Videos (2)'. On the left side, there's a 'CONTENT TYPES' section with a search term 'Bang theory' and a 'Revise Search' link. Below that, it says 'FEATURED ARTICLES (6)'. The first featured article is 'A First Glimpse of the Hidden Cosmos' by Timothy Ferris and Robert Clark, published in National Geographic Magazine in Jan. 2015, Volume 227, Issue 1, p. 108. It is an article found in the National Geographic Archive 1995+. Below this is another article titled 'Beyond the Big Bang: Einstein's Evolving Universe'. On the right side, there's a 'FILTER YOUR RESULTS' section with buttons for 'Subjects', 'Publication Title', 'Publication', 'Document Type', and 'Search Within'. Below that is a 'TOPIC FINDER' section with the text 'Discover topics and results related to your search' and a 'Start the Topic Finder' button. At the bottom right, there's a 'TERM FREQUENCY' section with a 'Term Frequency' button.

[ProQuest Central](#) brings together 47 databases across 175 subject areas, providing easy intuitive access to an incredibly broad and comprehensive range of content.

The screenshot shows the ProQuest Central search results for 'Big Bang Theory'. At the top, there's a header with 'ProQuest Central' and a search bar containing 'Big Bang Theory'. Below the search bar, there's a 'Select 1-20' dropdown and a 'Quick look' button. The first result is 'THE STORY OF SCIENCE: From the Writings of Aristotle to the Big Bang Theory' by Kirkus Reviews, published in Austin Vol. LXXXIII, Iss. 6, (Mar 15, 2015). The description includes: '...geology and biology, from earth science to Darwin's theory of natural selection... author begins with Einstein's theory of relativity and covers works on quantum... chaos theory. In addition to guiding inquisitive readers to the original texts...'. Below the description are buttons for 'Abstract/Details' and 'Full text'. The second result is 'Big Bang Theory: The Learning Network' from the New York Times (Online), published by New York Times Company on Mar 12, 2001. The description includes: '...reading and discussing "New Gun Control Politics: A Whimper, Not a Bang"... of "New Gun Control Politics: A Whimper, Not a Bang" (1 per student) -classroom... 2. As a class, read and discuss "New Gun Control Politics: A Whimper, Not a Bang...'. Below the description are buttons for 'Abstract/Details' and 'Full text'.

[JSTOR](#) provides access to more than 12 million scholarly journal articles and eBooks, and is especially good for primary sources.



The screenshot shows the JSTOR search interface. At the top left is the JSTOR logo. To its right are two tabs: 'All Content' (selected) and 'Images'. Below the tabs is a search bar containing the text 'Big Bang Theory' and a magnifying glass icon. Below the search bar, it displays '21,246 results'. A dropdown menu shows 'Sort by: Relevance'. Below that, there is a checkbox for 'JOURNAL ARTICLE' which is checked. The main result is titled 'Naming the Big Bang' by Helge Kragh. The journal information is 'Historical Studies in the Natural Sciences, Vol. 44, No. 1 (Feb., 2014), pp. 3-36'. To the right of the article title are three buttons: 'Download' (red), 'Save' (white with a bookmark icon), and 'Cite' (white with a document icon). Below the article title, there is a snippet of text: '...bang in other contexts, such as the big bang theory of the universe. Historical Studies in the Natural Sciences, Vol. 44, Number 1, pps. 3-36. ISSN 1939-1811, electronic ISSN 1939-182X. © 2014 by the Regents of the University of California. All rights reserved. Please direct...

Global Warming

Use models of energy flow between the geosphere, biosphere, hydrosphere and atmosphere to explain patterns of global climate change.

- Examining the role of radiation from the sun and how its interactions with the atmosphere, ocean and land are the foundation for the global climate system.
- Investigating indicators of climate change such as changes in ocean and atmospheric temperatures, sea levels, biodiversity, species distribution, permafrost and sea ice.
- Identifying changes in global climate over time, exploring visualisations and using simulations to explore why energy balances have changed.
- Examining the factors, including energy, that drive deep ocean currents, their role in regulating global climate and their effects on marine life.
- Investigating how quantum computers enhance modelling of complex weather and climate systems.
- Predicting changes to the Earth system and identifying strategies designed to reduce climate change or mitigate its effects.

[Oxford Reference](#) spans 25 different subject areas, bringing together 2 million digitised entries across Oxford University Press’s dictionaries, companions, and encyclopedias.

The screenshot shows the Oxford Reference search results page. At the top, the 'Oxford Reference' logo is on the left, and a search bar is on the right. Below the logo, there are navigation tabs for 'Subject' and 'Reference Type'. The search results are for 'global warming', showing 1,632 entries and 5 books. The page includes a 'Narrow Your Choices' sidebar with 'REFINE TERMS' and a 'Did you mean' section. The main content area shows an overview of 'global warming' with a subject classification of 'Science and technology, Environmental Science' and a brief description: 'The gradual increase in the overall temperature of the earth's atmosphere due to the greenhouse effect caused by increased levels of carbon dioxide, CFCs, and other pollutants.'

The [Britannica Library](#) has articles, images and more, with a selection of resources especially for teenagers.

The screenshot shows the Britannica Library search results page for 'Global Warming'. The page features a teal header with the search term and the number of results (83). Below the header, there are navigation options for 'Articles', 'Images', 'Videos', and 'More'. The first result is 'global warming (Earth science)', which includes a brief description: 'The rise of air temperatures near Earth's surface over the past one to two centuries is known as global warming. Earth has experienced ...'. Below the article preview, there is a section for 'images related to this search:' with several image thumbnails and a 'See all images' link.

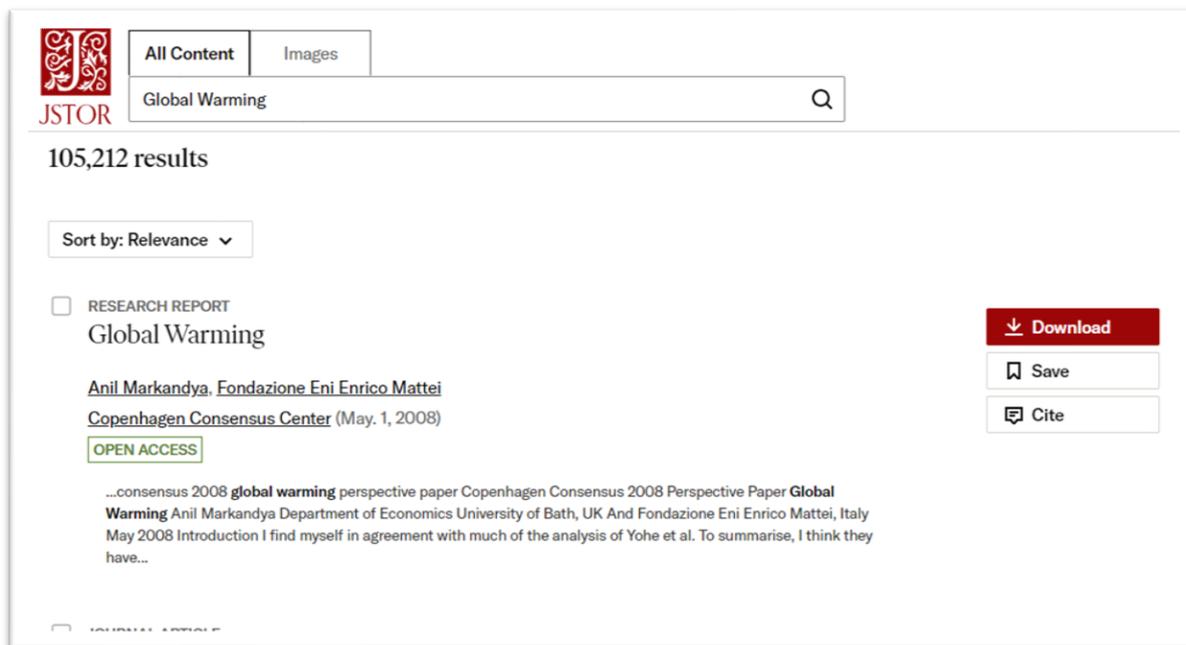
[National Geographic Virtual Library](#) is a powerful tool for research offering access to over 100+ years of magazines and hundreds of books, maps, videos, and images.

The screenshot shows the National Geographic Virtual Library search interface. At the top, there is a search bar with the text 'global warming' and an 'Advanced Search' button. Below the search bar, it says 'SHOWING RESULTS FOR' and lists 'All Content Types' with sub-categories: Featured Images (2), Videos (13), Advertisements (10), Featured Articles (48), Maps (3), and Books (12). Underneath, there is a section for 'FEATURED IMAGES (2)' with two entries: 'Venice' (Found in National Geographic: People, Animals, and the World) and 'Studying Nematodes in Antarctica'.

[ProQuest Central](#) brings together 47 databases across 175 subject areas, providing easy intuitive access to an incredibly broad and comprehensive range of content.

The screenshot shows the ProQuest Central search results for 'Global Warming'. The interface includes a search bar with the text 'Global Warming' and a 'Select 1-20' option. Below the search bar, there are two search results listed. The first result is from 'The Greenville News' and is titled 'Fight against global warming can begin at grocery store'. The second result is from 'Financial Times' and is titled 'The global warming effect of [...]: The US methane leakage behind global warming [Europe Region]'. Each result includes a 'Details' button and a 'Full text' button.

[JSTOR](#) provides access to more than 12 million scholarly journal articles and eBooks, and is especially good for primary sources.



The screenshot shows the JSTOR search interface. At the top left is the JSTOR logo. To its right are two tabs: 'All Content' (selected) and 'Images'. Below these is a search bar containing the text 'Global Warming' and a magnifying glass icon. Below the search bar, it displays '105,212 results'. A dropdown menu shows 'Sort by: Relevance'. Below that, there is a checkbox for 'RESEARCH REPORT' which is checked. The main result is titled 'Global Warming' and lists the author 'Anil Markandya, Fondazione Eni Enrico Mattei' and the source 'Copenhagen Consensus Center (May. 1, 2008)'. A green 'OPEN ACCESS' button is visible. To the right of the result are three buttons: 'Download' (red), 'Save' (white), and 'Cite' (white). The start of a second result is visible at the bottom.

Borrow items.

Order items online through State Library's One Search catalogue and [borrow items from State Library's collections](#) when you visit us onsite.

Ask a librarian

Ask one of State Library's expert librarians for [help with your research inquiry](#).