

STATE LIBRARY
OF 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.

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Overview

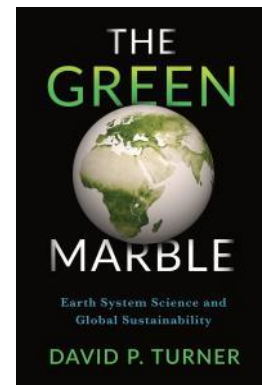
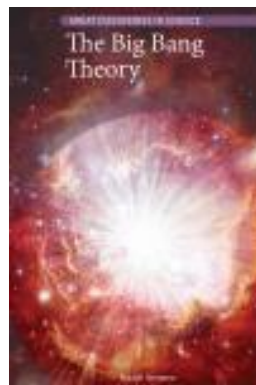
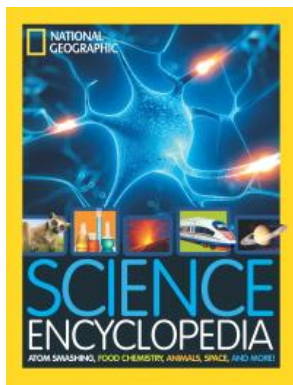
As Queensland's leading research library, State Library is a great place to find information to complete your research-based assessments.

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.

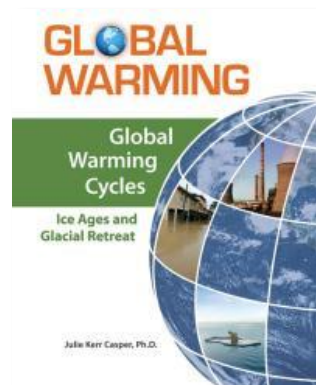
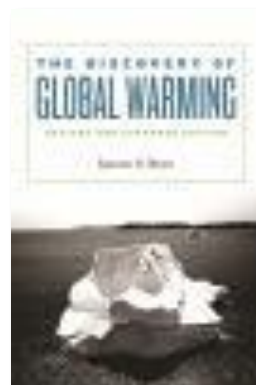
Before you get started

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E-Books

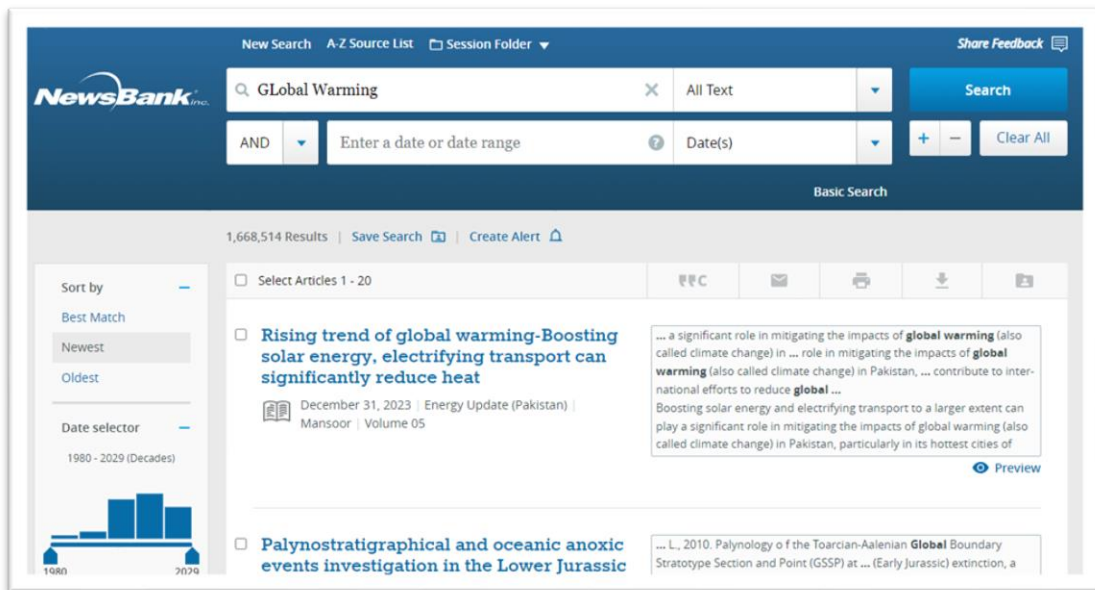


This is an advanced reading resource

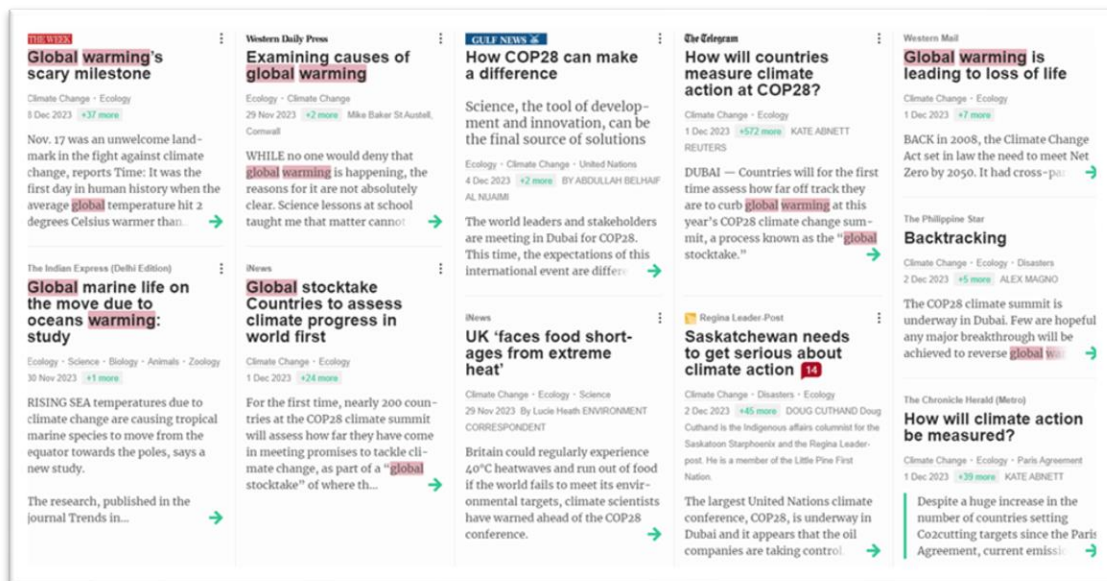


Learning Area Resources

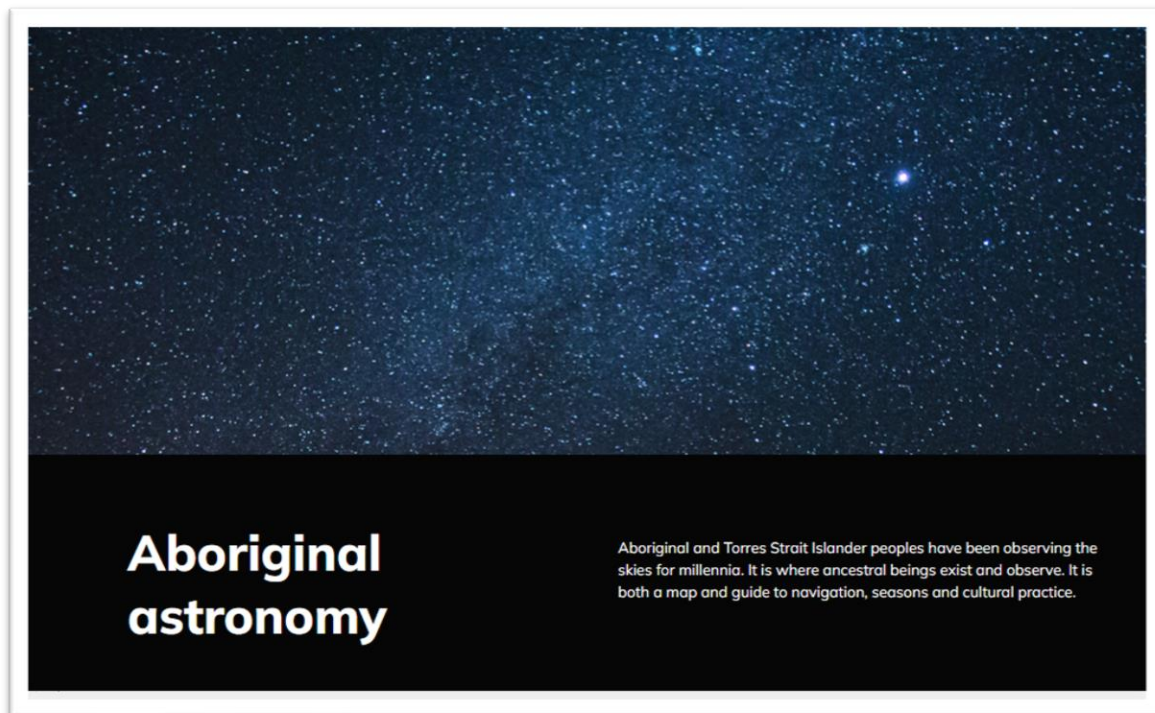
[NewsBank](#) provides a comprehensive collection of reliable news sources featuring over 8,000 titles from 200 countries covering a combination of global, regional, and local news from Queensland. The searchable archive features news articles back to the 1980s.



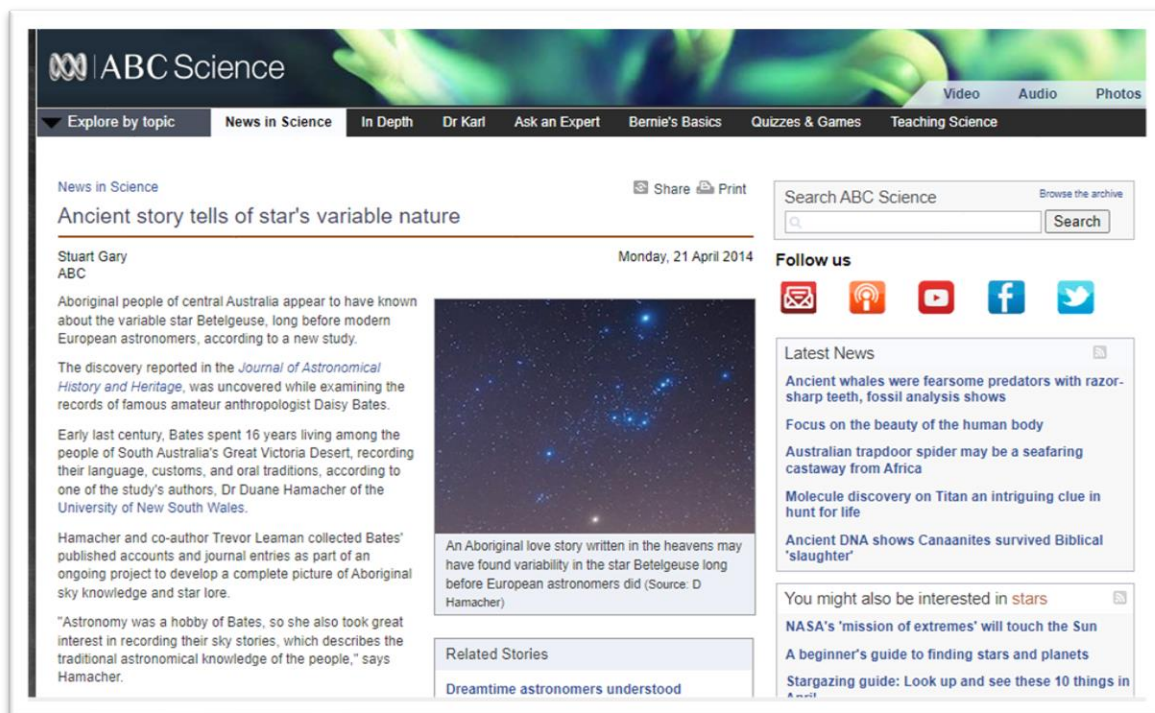
[PressReader](#) provides access to nearly 6000 newspapers and magazines from all over the world, featuring the latest issues of publications from over a hundred countries.



[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 'Learning Resources' page of the Queensland Museum Network. The header includes the museum logo, navigation links for 'Home' and 'About', and a 'Save list' button. Below the header, it indicates 'Showing 15 of 66 resources'. Three resource cards are displayed:

- Carnivorous Sponges and Deep Sea Creatures**
Image: A vibrant underwater scene featuring large, pink, branching sponges and other deep-sea organisms.
Years: 5, 6, 7, 8, 9, 11, 12
- Project DIG 3D Gallery | Sketchfab**
Image: A 3D digital model of a large, orange and black striped dinosaur in a naturalistic environment.
Years: Early Years, Prep, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, Other
Biology
- Project DIG | Meet the Megafauna**
Image: A digital reconstruction of a prehistoric landscape with various megafauna animals, including a large marsupial and a bird.
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', and user account links for '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' dropdown set to 'Items per page: 20' and 'Sort by: Relevance'. The search results list includes a book entry for 'big bang theory' from the 'Oxford Dictionary of Geology & Earth Sciences (5 ed.)', with details on its reference type, current version (2020), subject, and length (81 words).

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, there is a 'Library' logo with a 'Teens' tag, a search bar, and navigation links for 'Your Britannica Resources', 'Research Tools and Materials', 'Help', and 'My Britannica'. The main heading is 'You searched for "Big Bang theory"', with a sub-heading 'DISPLAYING 1 - 10 OF 1,904 RESULTS.'. Below this, there is a 'Reading Level' selector with options 1, 2, and 3, and an 'Advanced Search' link. The search results are categorized by '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 ...'. Below the results, 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.

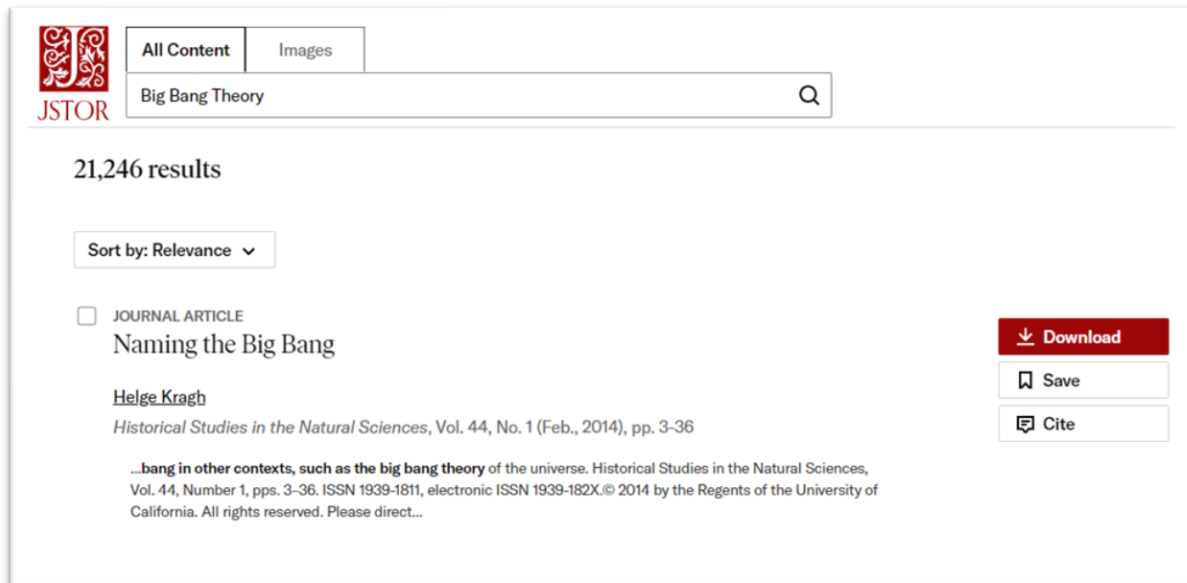
Big Bang Theory

The screenshot shows the National Geographic Virtual Library search interface. At the top, there is a banner for 'NATIONAL GEOGRAPHIC' with a background image of elephants. Below the banner is a search bar containing the text 'Bang theory'. 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' and lists content types: 'Content Types', 'Featured Articles (6)', 'Books (3)', 'Brief Articles (3)', and 'Videos (2)'. On the left, under 'CONTENT TYPES', there is a search term 'h Terms: Keyword: Big Bang theory' and a 'Revise Search' link. Below this, 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, Jan. 2015, Volume 227, Issue 1, p. 108. Below this is another article, 'Beyond the Big Bang: Einstein's Evolving Universe'. On the right, there is 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 a 'Start the Topic Finder' button. At the bottom right, there is 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 interface. At the top, there is a banner for 'ProQuest Central' with a background image of a globe. Below the banner is a search bar containing the text 'Big Bang Theory'. Below the search bar, there are icons for 'Select 1-20', 'Quote', 'Email', 'Print', and 'More'. Below this is a 'Quick look' section. 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...', and '...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' by New York Times (Online), published by New York Times Company, 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...', and '...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 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 displayed in a grid layout. On the left, there is a sidebar with 'Signed in as: State Library of Queensland' and 'Narrow Your Choices' section. The main content area shows 'You are looking at 1-20 of 1,632 entries for: All: global warming'. Below this, there are filters for '1,632 ENTRIES' and '5 BOOKS', and a 'View' dropdown set to 'Relevance'. The 'OVERVIEW' section for 'global warming' is visible, with the subject '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 has a teal header with the text 'You searched for "Global Warming"'. Below the header, there is a 'Reading Level' indicator with '2' selected. The main content area shows the article 'global warming (Earth science)' with a brief description: 'global warming | 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, there is a section for 'Weather Modification' from the article 'weather'. At the bottom, 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, it says "GALE PRESENTS NATIONAL GEOGRAPHIC". A search bar contains the text "global warming" and has an "Advanced Search" button. Below the search bar, it says "SHOWING RESULTS FOR" and lists content types: "All Content Types", "Featured Images (2)", "Featured Articles (48)", "Books (12)", "Videos (13)", "Maps (3)", and "Advertisements (10)". Under "ALL CONTENT TYPES", it shows "Search Terms: Keyword: global warming" and "Revise Search". The "FEATURED IMAGES (2)" section displays two image thumbnails: one for "Venice" (Found in National Geographic: People, Animals, and the World) and another for "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 has a teal header with the ProQuest Central logo and a search bar containing "Global Warming". Below the search bar, there are icons for "Select 1-20", "Quote", "Email", "Print", and "More". The results list shows two items:

1. **Fight against global warming can begin at grocery store**
Plant-based diet fights global warming: Fight against glo
The Greenville News; Greenville, S.C. 20 Aug 2018: A.8.
... global warming is not just about a gentle sea rise anymore. These tragic...
...prestigious Food Climate Research Network concluded that solving the global...
Details Full text
2. **The global warming effect of [...]: The US methane leakage behind global warming [Europe Region]**
Financial Times; London (UK). 29 Jan 2022: 18.
... global warming effect of record production in the Permian...
...Imaging Spectrometer and ASU's Global Airborne Observatory Source: Carbon Mapper...
Details 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 'Global Warming' and a magnifying glass icon. Below the search bar, it displays '105,212 results'. A dropdown menu shows 'Sort by: Relevance'. Below this, there is a checkbox for 'RESEARCH REPORT' and the title 'Global Warming'. The author is listed as 'Anil Markandya, Fondazione Eni Enrico Mattei' and the source as 'Copenhagen Consensus Center (May. 1, 2008)'. A green 'OPEN ACCESS' button is visible. To the right of the report information are three buttons: 'Download' (red), 'Save' (white), and 'Cite' (white). Below the buttons, a snippet of the report's introduction is visible, starting with '...consensus 2008 global warming perspective paper Copenhagen Consensus 2008 Perspective Paper Global Warming Anil Markandya Department of Economics University of Bath, UK And Fondazione Eni Enrico Mattei, Italy May 2008 Introduction I find myself in agreement with much of the analysis of Yohe et al. To summarise, I think they have...'. At the bottom left, there is a checkbox for 'JOURNAL ARTICLE'.

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