

**R**  **U T E S**

The Journal For Student Geographers

[routesjournal.org](https://routesjournal.org)

Moving from Wikipedia to peer-reviewed scholarship: a guide for A Level Students

Google Scholar and Google Books are a  
good starting point for A Level  
geographers to begin searching for  
academic research

This guide is intended for A Level  
geography students

At university, you will become more  
familiar with using academic databases  
to search for academic literature

# What is a journal?

A journal is a scholarly publication typically containing articles written by researchers, professors and other experts (*Routes* is also a journal but a bit of an exception as it is written by students!)

Journals focus on a specific discipline or field of study. Unlike newspapers and magazines, journals are intended for an academic or technical audience, not general readers.

Journals are published on a regular basis (monthly, quarterly, etc.) and are sequentially numbered.

Each copy is an **issue**; a set of issues makes a **volume** (usually each year is a separate volume). Like newspapers and magazines, journals are also called periodicals or serials.

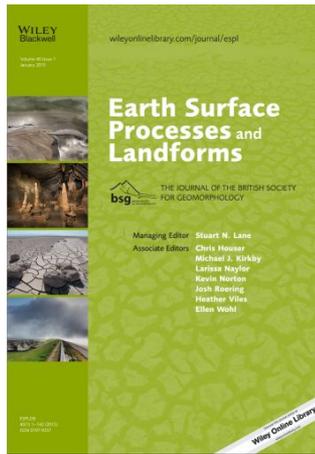
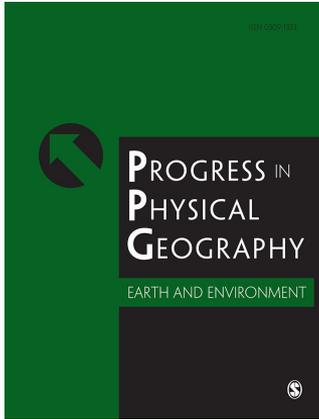
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Some well-known human geography journals!

Image credit: <https://eternalexploration.wordpress.com/2013/09/01/using-geography-journals-a-list-of-places-to-start/>



Some journals where physical geographers publish their work

# How to find journal articles? Go to <https://scholar.google.com>

The screenshot shows a Google Scholar search for "earthquakes". The search bar at the top contains the word "earthquakes" and shows "About 1,310,000 results (0.05 sec)". Below the search bar, there are four search results listed. Each result includes the title, author, year, source, a brief abstract, and citation information (cited by, related articles, and versions). The first result is "Injection-induced earthquakes" by W.L. Ellsworth (2013) from Science. The second is "The mechanics of earthquakes and faulting" by C.H. Scholz (2019) from books.google.com. The third is "Frequency of earthquakes in California" by B Gutenberg and C.F. Richter (1944) from the Bulletin of the Seismological Society of America. The fourth is "Earthquakes and friction laws" by C.H. Scholz (1998) from Nature. Below the search results, there is a "Related searches" section with links to "seismic earthquakes", "fracking earthquakes", "strong earthquakes", "fault earthquakes", "subduction earthquakes", "earthquakes floods", "predicting earthquakes", and "magnitude earthquakes". At the bottom, there is a partial result for "Landslides caused by earthquakes" by D.K. Keefer (1984) from the Geological Society of America Bulletin.

I've put the term *earthquakes* into Google Scholar. It's brought up a list of research articles (1.3 million in total!)

I'm going to select the first article because I know it's from a reputable scientific journal called *Science*. *It's also quite new research.*

I could read the whole article by clicking on the pdf which is often quite useful.



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REVIEW

# Injection-Induced Earthquakes

William L. Ellsworth

+ See all authors and affiliations

Science 12 Jul 2013:  
Vol. 341, Issue 6142, 1225942  
DOI: 10.1126/science.1225942

Article

Figures &amp; Data

Info &amp; Metrics

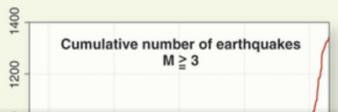
eLetters

PDF

## Structured Abstract

### Background

Human-induced earthquakes have become an important topic of political and scientific discussion, owing to the concern that these events may be responsible for widespread damage and an overall increase in seismicity. It has long been known that impoundment of reservoirs, surface and underground mining, withdrawal of fluids and gas from the subsurface, and injection of fluids into underground formations are capable of inducing earthquakes. In particular, earthquakes caused by injection have become a focal point, as new drilling and well-completion technologies enable the extraction of oil and gas from previously unproductive formations.



You can see this is fairly new research

Science is one of the most trusted sources of scientific information so I will read this article

Most articles are behind paywalls (when you get to university, they will be accessible as your university usually pays for these)

You can usually read the abstract of journal articles for free.

earthquakes

Scholar About 5,310 results (0.04 sec)

YEAR

Since 2020

Months-long thousand-kilometre-scale wobbling before great subduction earthquakes

JR Bedford, M Moreno, Z Deng, O Oncken, B Schurr... - Nature, 2020 - nature.com

Megathrust earthquakes are responsible for some of the most devastating natural disasters 1. To better understand the physical mechanisms of earthquake generation, subduction zones worldwide are continuously monitored with geophysical instrumentation. One key ...

☆ All 3 versions

Earthquakes, intensity

G Grünthal, RMW Musson - Encyclopedia of Solid Earth Geophysics, 2020 - Springer

The intensity, or macroseismic intensity, represents a classification of the severity of ground-motion shaking during an earthquake on the basis of observed effects at a given place (Grünthal et al. 1998). The word "macroseismic" refers to perceptible effects of earthquakes ...

☆ Cited by 14 Related articles

A multi-experiment approach to ascertain electromagnetic precursors of Nepal earthquakes

S Sharma, RP Singh, D Pundhir, B Singh - Journal of Atmospheric and ..., 2020 - Elsevier

The experimental data obtained from three different techniques such as (i) subsurface VLF electric field measured with the help of a borehole antenna (ii) total electron content (TEC) of the ionosphere measured with a GPS receiver and (iii) VLF amplitude of subionospheric ...

☆ Cited by 1 Related articles

Self-similar stochastic slip distributions on a non-planar fault for tsunami scenarios for megathrust earthquakes [PDF] researchsquare....

M Nakano, S Murphy, R Agata, Y Igarashi, M Okada... - 2020 - researchsquare.com

Megathrust earthquakes that occur repeatedly along the plate interface of subduction zones can cause severe damage due to strong ground motion and the destructive tsunamis they can generate. We developed a set of scenario earthquakes to evaluate tsunami hazards and ...

☆ All 2 versions

Any time

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Since 2016

Sort by relevance

Sort by date

I can sort by year to get the latest research

The top entry is an article from *Nature*. *Nature* is one of the most well known and trusted sources of scientific knowledge.

Related searches

- seismic earthquakes
- subduction earthquakes
- fracking earthquakes
- earthquakes floods
- strong earthquakes
- predicting earthquakes
- fault earthquakes
- magnitude earthquakes

## before great subduction earthquakes

Jonathan R. Bedford , Marcos Moreno, Zhiguo Deng, Onno Oncken, Bernd Schurr, Timm John, Juan Carlos Báez & Michael Bevis

*Nature* **580**, 628–635(2020) | [Cite this article](#)

**3487** Accesses | **370** Altmetric | [Metrics](#)

### Abstract

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Megathrust earthquakes are responsible for some of the most devastating natural disasters<sup>1</sup>. To better understand the physical mechanisms of earthquake generation, subduction zones worldwide are continuously monitored with geophysical instrumentation. One key strategy is to install stations that record signals from Global Navigation Satellite Systems<sup>2,3</sup> (GNSS), enabling us to track the non-steady surface motion of the subducting and overriding plates before, during and after the largest events<sup>4,5,6</sup>. Here we use a recently developed trajectory modelling approach<sup>7</sup> that is designed to isolate secular tectonic motions from the daily GNSS time series to show that the 2010 Maule, Chile (moment magnitude 8.8) and 2011 Tohoku-oki, Japan (moment magnitude 9.0) earthquakes were preceded by reversals of 4–8 millimetres in surface displacement that lasted several months and spanned thousands of kilometres. Modelling of the surface displacement reversal that occurred before the Tohoku-oki earthquake suggests an initial slow slip followed by a sudden pull-down of the Philippine Sea slab so rapid that it caused a viscoelastic rebound across the whole of Japan. Therefore, to understand better when large earthquakes are imminent, we must consider not only the evolution of plate interface frictional processes but also the dynamic boundary conditions from deeper subduction processes, such as sudden densification of metastable slab.

I can read the  
abstract of this  
*Nature* paper

# Larger tsunamis from megathrust earthquakes where slab dip is reduced

Bar Oryan  & W. Roger Buck

*Nature Geoscience* **13**, 319–324(2020) | [Cite this article](#)

**1374** Accesses | **99** Altmetric | [Metrics](#)

## Abstract

A subset of megathrust earthquakes produce anomalously large tsunamis for their magnitude. All of these recorded ‘tsunami earthquakes’ in the past 50 years had extensional aftershocks in the upper plate. These include the two largest and most destructive earthquakes of that period, the 2004 Sumatra–Andaman and the 2011 Tohoku events. Evidence from the region of Tohoku indicates that normal fault slip in the upper plate during the earthquake may have contributed to the tsunami size. Here we present a numerical model that shows how a reduction of the dip of a subducting slab, on a timescale of millions of years, can result in an extensional fault failure above a megathrust earthquake on timescales of seconds to months. Slab dip reduction bends the upper plate so that the shallow part fails in extension when a megathrust rupture relieves compressional stress. This results in a distribution of extensional aftershocks comparable to that seen above the Tohoku megathrust. Volcanic arc migration and uplift data for Tohoku and several other tsunami earthquakes is consistent with slab dip reduction. The collection of more such data might identify other areas of tsunami hazard related to slab dip reduction.

Here’s another  
journal article  
written in the  
journal *Nature*  
*Geoscience*

When reading an article, you might not understand every word and you might need to do further research to understand specific terms. This is normal (sometimes for experts too!)

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earthquakes

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**Earthquakes: Plate Tectonics and Earthquake Hazards**  
Timothy M. Kusky - 2008  
"Explores the furious impact of nature and the massive devastation that is often the result of the relentless forces built up within the Earth"--P. [4] of cover.  
Preview

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Seymour Simon - 2006 - No preview  
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Christopher H. Scholz

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# How to summarise the key points to reference in your work?

Citation (author, date, title) Book? Journal article?	Key summary of points- key quotes (including page number)
1.	
2.	
3.	

Draw up a table to help you keep track of your sources e.g. in Word or Excel. You can then plan out when to refer to each source in your writing

# How to format sources in your work?

Use the following to help you write references for your work

<https://georoutesuk.files.wordpress.com/2020/07/how-to-reference-for-routes.pdf>

**R**  **U** **T** **E** **S**

The Journal For Student Geographers

[routesjournal.org](https://routesjournal.org)

A guide to academic  
referencing

More on why using journal article is an important next step for A Level students and how to identify academic work

<https://eternalexploration.wordpress.com/2013/09/01/using-geography-journals-a-list-of-places-to-start/>

<https://bowvalleycollege.libguides.com/c.php?g=10229&p=52137>