

# Earth Science Graphs

## Relationship Review

In SI units, this acceleration is expressed in metres per second squared (in symbols,  $\text{m/s}^2$  or  $\text{m}\cdot\text{s}^{-2}$ ) or equivalently in newtons per kilogram ( $\text{N/kg}$  or  $\text{N}\cdot\text{kg}^{-1}$ ). Near Earth's surface, the acceleration due to gravity, accurate to 2 significant figures, is  $9.8 \text{ m/s}^2$ ...

Every academic discipline or field, in creating its terminology, thereby lays the groundwork for an ontology. Each uses ontological assumptions to frame explicit theories, research and applications. Improved ontologies may improve problem solving within that domain...

The current increase in CO<sub>2</sub> concentrations is primarily driven by the burning of fossil fuels. Other significant human activities that emit CO<sub>2</sub> include cement production, deforestation, and biomass burning. The increase in atmospheric...

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Ontology (information science)

*causal relationships between concepts. Commonsense knowledge bases Concept map Controlled vocabulary Classification scheme (information science) Folksonomy*

In information science, an ontology encompasses a representation, formal naming, and definitions of the categories, properties, and relations between the concepts, data, or entities that pertain to one, many, or all domains of discourse. More simply, an ontology is a way of showing the properties of a subject area and how they are related, by defining a set of terms and relational expressions that represent the entities in that subject area. The field which studies ontologies so conceived is sometimes referred to as applied ontology.

### American Geophysical Union

*within the Earth and space sciences. The geophysical sciences involve four fundamental areas: atmospheric and ocean sciences; solid-Earth sciences; hydrologic*

The American Geophysical Union (AGU) is a 501(c)(3) nonprofit organization of Earth, atmospheric, ocean, hydrologic, space, and planetary scientists and enthusiasts that according to their website includes 130,000 people (not members). AGU's activities are focused on the organization and dissemination of scientific information in the interdisciplinary and international fields within the Earth and space sciences. The geophysical sciences involve four fundamental areas: atmospheric and ocean sciences; solid-Earth sciences; hydrologic sciences; and space sciences. The organization's headquarters is located on Florida Avenue in Washington, D.C.

### Gravity of Earth

*"Long wavelength gravity and topography anomalies". Annual Review of Earth and Planetary Sciences. 9: 415–418. Bibcode:1981AREPS...9..415W. doi:10.1146/annurev*

The gravity of Earth, denoted by  $g$ , is the net acceleration that is imparted to objects due to the combined effect of gravitation (from mass distribution within Earth) and the centrifugal force (from the Earth's rotation).

Natural sciences: the study of natural phenomena (including cosmological, geological, physical, chemical, and biological factors of the universe). Natural science can be divided into two main branches: physical science and life science (or biology).

Branches of science

*Earth science (also known as geoscience, the geosciences or the Earth sciences) is an all-embracing term for the sciences related to the planet Earth*

The branches of science, also referred to as sciences, scientific fields or scientific disciplines, are commonly divided into three major groups:

Social sciences: the study of human behavior in its social and cultural aspects.

The term hockey stick graph was popularized by the climatologist Jerry Mahlman, to describe the pattern shown by the Mann, Bradley & Hughes 1999 (MBH99) reconstruction, envisaging a graph that is relatively flat with a downward trend to 1900 as forming an ice hockey stick's "shaft" followed by a

sharp, steady increase corresponding to the "blade" portion. The reconstructions have featured...

Carbon dioxide in the atmosphere of Earth

*carbon dioxide*; *Annual Review of Earth and Planetary Sciences*. 37 (1): 117–34. Bibcode:2009AREPS..37..117A. doi:10.1146/annurev.earth.031208.100206. hdl:2268/12933

In the atmosphere of Earth, carbon dioxide is a trace gas that plays an integral part in the greenhouse effect, carbon cycle, photosynthesis, and oceanic carbon cycle. It is one of three main greenhouse gases in the atmosphere of Earth. The concentration of carbon dioxide (CO<sub>2</sub>) in the atmosphere reached 427 ppm (0.0427%) on a molar basis in 2024, representing 3341 gigatonnes of CO<sub>2</sub>. This is an increase of 50% since the start of the Industrial Revolution, up from 280 ppm during the 10,000 years prior to the mid-18th century. The increase is due to human activity.

Humboldtian science

*mechanisms and entities of past science were taken lightly; a new set of conceptual tools, including isomaps, graphs, and a theory of errors; the application*

Humboldtian science refers to a movement in science in the 19th century closely connected to the work and writings of German scientist, naturalist, and explorer Alexander von Humboldt. It maintained a certain ethics of precision and observation, which combined scientific field work with the sensitivity and aesthetic ideals of the age of Romanticism. Like

Romanticism in science, it was rather popular in the 19th century. The term was coined by Susan Faye Cannon in 1978.

Formal sciences: the study of formal systems, such as those under the branches of logic and mathematics, which use an a priori, as opposed to empirical, methodology. They study abstract structures described by formal systems.

Personal knowledge base

*discussed knowledge graphs as they were implemented in some software of the time. Later, other writers used the term personal knowledge graph (PKG) to refer*

A personal knowledge base (PKB) is an electronic tool used by an individual to express, capture, and later retrieve personal knowledge. It differs from a traditional database in that it contains subjective material particular to the owner, that others may not agree with nor care about. Importantly, a PKB consists primarily of knowledge, rather than information; in other words, it is not a collection of documents or other sources an individual has encountered, but rather an expression of the distilled knowledge the owner has extracted from those sources or from elsewhere.

History of Earth

*natural history of Earth concerns the development of planet Earth from its formation to the present day. Nearly all branches of natural science have contributed*

The natural history of Earth concerns the development of planet Earth from its formation to the present day. Nearly all branches

of natural science have contributed to understanding of the main events of Earth's past, characterized by constant geological change and biological evolution.

## Google Earth

*Google Earth is a web and computer program created by Google that renders a 3D representation of Earth based primarily on satellite imagery. The program*

Google Earth is a web and computer program created by Google that renders a 3D representation of Earth based primarily on satellite imagery. The program maps the Earth by superimposing satellite images, aerial photography, and GIS data onto a 3D globe, allowing users to see cities and landscapes from various angles. Users can explore the globe by entering addresses and coordinates, or by using a keyboard or mouse. The program can also be downloaded on a smartphone or tablet, using a touch screen or stylus to navigate. Users may use the program to add their own data using Keyhole Markup Language and upload them through various sources, such as forums or blogs. Google Earth is able to show various kinds of images overlaid on the surface of the Earth and is also a Web Map Service client. In 2019...

It is a vector quantity, whose direction coincides with a plumb bob and strength or magnitude is given by the norm

g

The example of Humboldt's life and his writings allowed him to reach out beyond the academic community with his natural

history and address a wider audience with popular science aspects. It has supplanted the older Baconian method, related as well to a single person, Francis Bacon.

g

$$g = |\mathbf{g}|$$

Hockey stick graph (global temperature)

*Hockey stick graphs present the global or hemispherical mean temperature record of the past 500 to 2000 years as shown by quantitative climate reconstructions*

Hockey stick graphs present the global or hemispherical mean temperature record of the past 500 to 2000 years as shown by quantitative climate reconstructions based on climate proxy records. These reconstructions have consistently shown a slow long term cooling trend changing into relatively rapid warming in the 20th century, with the instrumental temperature record by 2000 exceeding earlier temperatures.

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Scientific knowledge must be grounded in observable phenomena and must be capable of being verified...

The term personal knowledge base was mentioned as early as the 1980s, but the term came to prominence in the 2000s when it was described at length in publications by computer scientist Stephen Davies and colleagues, who compared...

The geological time scale (GTS), as defined by international convention, depicts the large spans of time from the beginning of Earth to the present, and its divisions chronicle some definitive events of Earth history. Earth formed around 4.54 billion years ago, approximately one-third the age of the universe, by accretion from the solar nebula. Volcanic outgassing probably created the primordial atmosphere and then the ocean, but the early atmosphere contained almost no oxygen. Much of Earth was molten because...

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