Frequently Asked Questions

Table of contents

Questions

1. General Questions

1.1. What are RSS Feeds and how can I use them?

The RSS (Really Simple Syndication) feeds you see on the opening <u>page</u> are dynamically created indexes of some of the data on the CHRONOS site. We will be expanding in the web site more of these in the future as a method for people to "subscribe" to changes in the data available from this system. This will allow data to come to you, rather than you looking for data. We also plan to allow you to subscribe to searches in the near future. These searches would periodically run and inform you of any changes in the search results that might be of interest to you. Modern browsers (like Safari and Firefox) allow users to discover and subscribe to RSS feeds. E-mail clients like <u>Thunderbird</u> are also able to subscribe to these feeds and inform you interactively of updates to the feed, much like when email is received.

1.2. What does 'CHRONOS' stand for?

CHRONOS is the Greek word for time (cronos) and this project is about geologic time and Earth's history.

KHRONOS was the PROTOGONOS (firstborn immortal that emerged at creation) of time who emerged self-formed at the very beginning of time. He was an incorporeal being, serpentine in form with three heads - that of a man, a bull, and a lion. He and his mate, the serpentine Ananke (Inevitability), entwined the world-egg in their coils and split it apart, forming the ordered universe of earth, sea and sky.

Khronos remained as the remote, incorporeal god of time who encircled the universe, driving the rotation of the heavens and the eternal passage of time. He occasionally appeared to Zeus in the form of an elderly man with long white hair and beard, but for the most part he remained a force beyond the reach and power of the younger gods.

Checkout <u>http://www.theoi.com/</u> for all your mythological needs.

1.3. What are metadata?

Metadata are "data about data", or information known about an image in order to provide access to the image. Usually includes information about the intellectual content of the image, digital representation data, and security or rights management information. Metadata describe the attributes of an information-bearing object (IBO) - document, data set, database, image, artifact, collection, etc.; metadata acts as a surrogate representation of the IBO. A metadata

record can include representations of the content, context, structure, quality, provenance, condition, and other characteristics of an IBO for the purposes of representing the IBO to a potential user - for discovery, evaluation for fitness for use, access, transfer, and citation. Examples of metadata format are the MARC format used by the library community, Content Standards for Digital Geospatial Metadata developed by the Federal Geographic Data Committee Directory Interchange Format (DIF) used by NASA's Global Change Master Directory Government Information Locator Service (GILS), and Dublin Core set of attributes for electronic resources developed with the lead of the Online Computer Library Center (OCLC).

1.4. What is Postgresql?

Postgresql is a sophisticated, open-source (i.e., free) object-relational database management system that allows you to store and retrieve data according to various parameters given in a query and that supports almost all SQL constructs, including transactions and user-defined types. The PostgreSQL Global Development Group is a community of companies and people co-operating to drive the development of PostgreSQL, the world?s most advanced Open Source database software. The PostgreSQL software itself had its beginnings in 1986 inside the University of California at Berkeley as a research prototype, and in the 16 years since has moved to its now globally distributed development model.

1.5. How can I have my paleontologic or stratigraphic data made available through CHRONOS?

Please contact data@chronos.org for details on how to share your data through CHRONOS.

1.6. How do I cite in a publication a dataset that I have obtained through CHRONOS?

Citing a reference related to a specific dataset or a source, you want to identify the work/data source and provide information on how to locate a copy of the same work. Citing electronic resources such as CHRONOS is tricky because they continuously change. The suggestions provided below summarizes information from the Chicago Manual of Style (2003), the Columbia Guide to Online Style (1998), the Library of Congress, the US Census Bureau Guidelines to cite dynamically generated files, and the ISO standard on bibliographic references.

To cite a web page or an online database, one should include the URL and the date when the site or database was accessed or viewed.

References to **material (data) from a single publication** obtained through computer services like CHRONOS should be treated like first references to the original printed

material except that the usual reference information is followed by the name of the service, the accession or identifying number within the service, if available, and the date when the material was accessed (Chicago Manual of Style, 2003). In our case, the service is CHRONOS. A unique GUID (Global Unique ID) is being developed for datasets in CHRONOS (CHRONOS dataset GUID).

E.g.: Smith, J.A., 2002. Strontium isotope records of orbulinids. Journal of Electronic Publications, 34, 256-264, CHRONOS dataset <GUID> (12 November 2005).

If the data **sources are multiple**, a unique citation number will be provided (also a GUID, different from the dataset GUID mentioned above - under development). Suggested citations for CHRONOS and data downloaded through CHRONOS are:

Entire System:
CHRONOS System [online]. Available from World Wide Web: http://chronos.org (DATE WHEN SYSTEM WAS ACCESSED).

Data from multiple databases in the CHRONOS System:
CHRONOS System [online]; generated by USERNAME; using CHRONOS XML searches; http://chronos.org; <dataset GUID> (DATE WHEN DATASET WAS ACCESSED).

Data from Neptune database:
Neptune [online]; generated by USERNAME; using CHRONOS XML searches; http://services.chronos.org/databases/neptune/index.html; CHRONOS <dataset GUID> (DATE WHEN DATASET WAS ACCESSED).

For further information, please consult:
ISO 690-2, Bibliographic references, Part 2: Electronic documents or parts thereof
http://www.collectionscanada.ca/iso/tc46sc9/standard/690-2e.htm#5.1
The US Census Bureau citing Dynamically Generated Tables/Files-
http://www.census.gov/main/www/citation.html
Emory University Electronic Data Center
http://einstein.library.emory.edu/citations_general.html and
http://einstein.library.emory.edu/citing_EDC_sources.html

The assistance of Jennifer Harbster, Research Specialist in the Science, Technology, and Business Division of the Library of Congress, and of the science librarians at Iowa State University is gratefully acknowledged.

1.7. How do I cite in a publication software that I have obtained through CHRONOS?

References to computer software should include the complete title, version, release date (if available), the short name or acronym, and the location and name of the person,company or

organization having the property rights to the software (Chicago Manual of Style, 2003). E.g.: Time scale web service v. 1.0, timeDOM.jws, CHRONOS, http://services.chronos.org:8080/axis/nepwss.jws

2. Cyberinfrastructure

2.1. I just want to search for data, how do I start?

Go to the "Searches" tab of this portal and select "Data Searches". This is the best place to start, but you can also try the Timescale and GIS interfaces (GIS is under development and only includes the Neptune database at this time)

2.2. What is a relational database?

A database in the form of tables which have rows and columns to show the relationships between items, and in which information can be cross-referenced between two or more tables to generate a third table. A query language is used to search for data. If data is changed in one table, it will be changed in all related tables. The relational database was invented by E. F. Codd at IBM in 1970. A database that has only one table is called a flat file database.

2.3. What is a database schema?

The overall structure of the database tables that store information: user profile data, content metadata, or pure structured information. In the simplest case, a database schema has a single database table of user information. Each record (row) within this table might represent a unique customer, with each field (column) representing relevant customer information (address, city, phone number, etc.). More complex schema would involve multiple database tables related to one another through a common unique identifier. Such relational database tables are necessary for more complex data schemas for performance and easier administration.

2.4. What is a federated database in CHRONOS's network?

A federated database is a database that is not hosted at CHRONOS's server and that is networked to other databases using some kind of IT connection (e.g., JDBC pipe). PaleoStrat and Paleobiology database are two examples of federated databases in CHRONOS's network.

2.5. What is a hosted database in CHRONOS's network?

A hosted database is a database that permanently resides on CHRONOS's server. Neptune is an example of a CHRONOS hosted database.

2.6. What databases are currently part of the CHRONOS federation?

We have integrated eight databases (as of January 2006) - Neptune (hosted), Mesozoic Planktonic Foraminifera Database (hosted), HERMES (hosted), PaleobiologyDB, PaleoStrat, ODP/JANUS, FAUNMAP, and MIOMAP. Additionally, two data repositories, Pangaea and S.net, have been connected into the search system via web service.

2.7. What are the Services CHRONOS provides?

CHRONOS provides a range of services including standard web services and ReST services. You can find out more about these at the Tools tab. We will also be providing soon more information about how you can incorporate these services directly into your web sites and applications. All the search services and ReST interfaces like those used in the "Data Searches" section are open and available for others to use in their web site. Please contact CHRONOS if you are interested in learning more about this.