TIME-SCALE CREATOR *Visualization System for Earth History*

What TSCreator is all about

TimeScale Creator, a free JAVA package (*www.tscreator.org*) developed in conjunction with the Subcommission on Stratigraphic Information (*stratigraphy.science.purdue.edu*) of the International Commission on Stratigraphy and the Geologic TimeScale Foundation includes:

(1) On-screen exploration of any portion of the geologic time scale from **internal datasets** (ca. 20,000 biologic, geomagnetic, sea-level, stable isotope, igneous provinces, bolide impacts, images of reconstructions and fossils, and other events).

(2) Loading additional specialized **regional stratigraphy** datapacks of lithologies and fossil zonations compiled jointly with geological surveys (Canada, New Zealand, Britain, Belgium, China, Russia, etc.) or insertion of self-constructed datasets.

(3) **Search** functions, including an "in context" auto-display feature for selected geologic formations or datums.

(4) **Geographic interfaces** and displays of regional stratigraphy.

(5) **Cross-plotting** of outcrops/wells (meters) against the extensive global/regional time scales (myr) and depth-to-age conversion after user-selected control points.

(6) Display of geologic **transects**.

(7) On-screen "hot-curser-points" attached to datums/formations with **windows and URL links** to provide in-depth details.

(8) A **web interface** for "lite" usage.

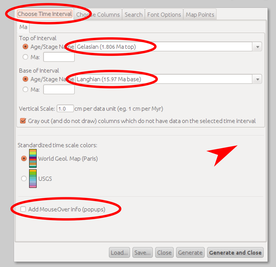
(9) A wealth of chart-modification features and output in SVG-PDF or other **formats for publication.**

The software development and extensive datasets are the products of Purdue students in computer engineering and in earth sciences during the past five years. The databases and visualization package are envisioned as a convenient reference tool, chart-production assistant, and a window into the geologic history of our planet for both educational and professional users.

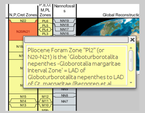
All age models for the datasets will be updated to *Geologic Time Scale 2012* (Gradstein et al.) next year.

From Data to Chart in 3 Simple Steps

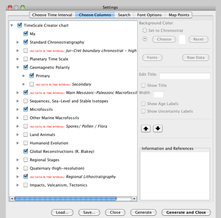
Step 1: Select Time Interval *by stage; or by Ma*



MouseOver option: On-screen windows containing details references, calibrations and even links to URLs will open on generated chart!

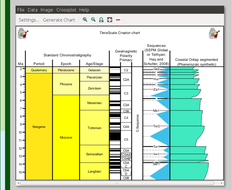


Step 2: Select Columns



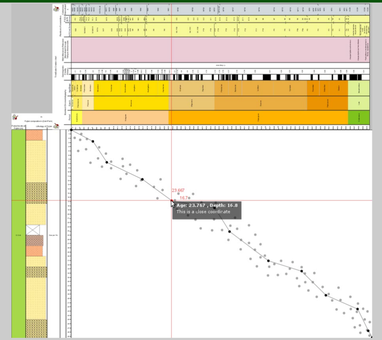
Over 300 stratigraphic columnsgrouped into themes. You can change scales, colors, fonts, and many other graphic options for each column.

Step 3: Generate

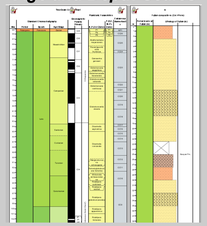


Save as **SVG** (Scalable Vector Graphics) or **PDF**, for importing into Adobe Illustrator, etc

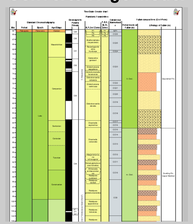
Crossplot & Depth to Age Conversion



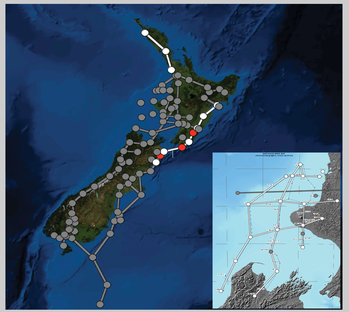
Age and Depth Scales

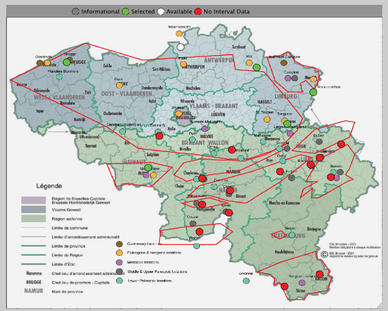


Converted Age Model

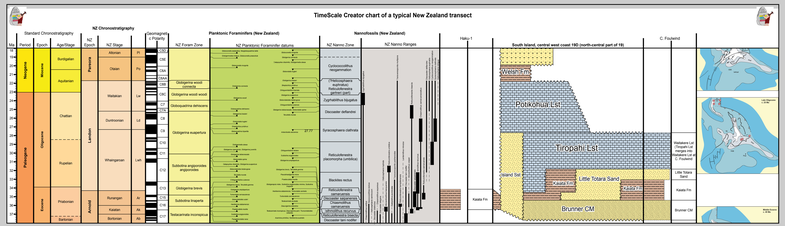


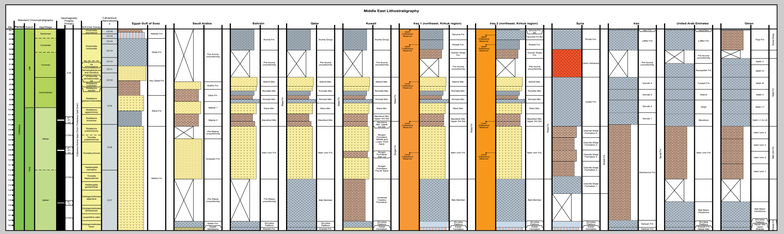
Map Packs -- New Zealand and Belgium





Transects and Regional Stratigraphy -- New Zealand and Middle East





Collaborators

Earth and Atmospheric Sciences

James Ogg
jogg@purdue.edu
Jane Block
jblock@purdue.edu
Cecilia Shafer
cmshafer@purdue.edu
Justin Pflug
jpflug@purdue.edu
Jon Buening
jbuening@purdue.edu

Dept. of Computer Engineering

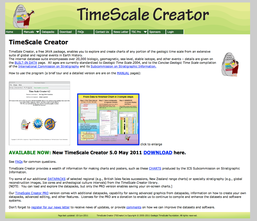
Aaron Ault
ault@purdue.edu
Nag Varun Chunduru
nchundur@purdue.edu
Gangi Palem
gpalem@purdue.edu
Andrew Balmos
abalmos@purdue.edu

TimeScale Creator Pro

Enhanced functions:
- External datapacks
- Easy editing of columns, or creating new ones
- Create lithologic patterns
- Saving of customized datasets e.g., insert your own regional bio/lithostrat
- Libraries of specialized datapacks (On-lap curves; Australia; North Sea; Benthic forams; Human cultures)
- And more …

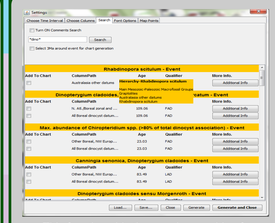
For more information, contact: James Ogg (jogg@purdue.edu)

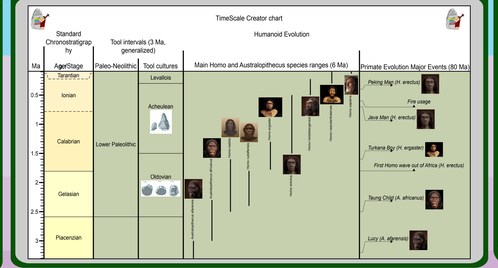
Website Access



Available FREE from the TSC Website (www.tscreator.org)

Search Function



This function aids the user in searching for information through the datapack

Humanoid Evolution Ranges