

## **PaleoStrat and Global Geoinformatics**

September, 2007

By definition, geoinformatics is international in scope, and the building of a true global network of geoinformatics providers is a process that provides many opportunities but also poses many challenges. PaleoStrat is committed to being a productive partner in this international system. We have done this by chairing/co-chairing sessions and town hall meetings at European Geosciences Union (EGU), Geological Society of America (GSA), and American Geophysical Union (AGU) meetings. We have also entered into working agreements with several international-based groups on various aspects of geoinformatics. We summarize some of those activities here.

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### **International Commission on Stratigraphy (ICS):**

The ICS is the largest scientific body within the International Union of Geological Sciences (IUGS) and is concerned with stratigraphy in its broadest sense on a global scale, including the development and sanction of the geologic time scale. The ICS, lead by James Ogg (ICS Secretary-General; Purdue University), will collaborate with the PaleoStrat-hosted data system in at least four ways:

- (1) Using the channels of the Permian and Carboniferous subcommissions (newsletters, e-mail lists, websites, conference meetings) to invite the global community to share their stratigraphic information, detailed data, and insights. Using the same channels, PaleoStrat can distribute its early results, data availability and tools. This is a way for experts to contribute information to a community database and for PaleoStrat to allow these users to explore possible relationships using the community data.
- (2) The TimeScale Creator visualization software developed by Jim Ogg and Adam Lugowski for the ICS, will be hosted on PaleoStrat. This JAVA-based program (available at [www.stratigraphy.org](http://www.stratigraphy.org)) will be modified for PaleoStrat to allow users to display many types of stratigraphic information.
- (3) Members of the ICS are working on cycle-scaling of the repetitive facies ("cyclothem") and a special ICS working group has been formed to focus enhancing the Cenozoic-Mesozoic time scale through cycle stratigraphy and on the development of methodology and public toolkits for cyclostratigraphic analysis. These tools should be applicable to the PaleoStrat datasets and will be made available through the site and allow high-resolution proxies (facies, geochemistry, geophysics logs) contained within the PaleoStrat sections and/or composites to be uploaded into these cyclostratigraphy tools.
- (4) At least one ICS officer will serve on the PaleoStrat advisory board; presently that is Jim Ogg, Purdue University. This person is charged with helping to insure that PaleoStrat will be tailored to meet the needs of the entire geological community.

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### **Carboniferous-Permian Paleoclimate Working Group:**

At the June, 2007 meeting of the International Congress on Carboniferous and Permian (ICCP) in Nanjing, China, participants agreed to form a paleoclimate working group. This reflects a growing awareness of the importance of paleoclimate for addressing a variety of Permo-Carboniferous issues.

Two evening workshops were held, one on the PaleoStrat data system for paleontology, stratigraphy, geochemistry, and geochronology, and the other dedicated to GeoSystems and paleoclimate. Many of the talks encompassed issues of paleoclimate, so the GeoSystems workshop was attended by about 50 people. Lively discussions by this international group of participants covered issues of science, politics and funding. It was agreed that the formation of a Paleoclimate Working Group would:

- 1) Increase the visibility for the science
- 2) Provide ICCP continuity between the every 4-year ICCP meetings
- 3) Enhance interaction with other organizations
- 4) Advance the science through the sharing ideas and data

and that it would foster the development of:

- 5) Community Carboniferous-Permian climate models
- 6) A "library" of paleogeographic maps
- 7) Access to paleontologic, geochemical and stratigraphic data
- 7) A community "toolbox" of analytical and statistical tools

The working group will be sponsored by the ICCP, the International Commission on Stratigraphy (ICS), the Permian Subcommittee of the ICS, and GeoSystems. If you are interested in joining this group, please send an e-mail to Walter Snyder ([wsnyder@boisestate.edu](mailto:wsnyder@boisestate.edu)) indicating that you would like to join and if you want to be part of the: 1) paleogeographic map committee, and/or 2) join the digital data committee.

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### **The paleontology and stratigraphy database of China:**

The Nanjing Institute of Geology and Paleontology is just starting a long-term effort to build a paleontology-stratigraphy data system for all of China. This effort is lead by Dr. Shuzhong Shen. The system will be compatible with that of PaleoStrat to both insure the exchange of data and to lessen development efforts for the Chinese system and to foster the exchange of ideas and technology. This partnership will also bring many new enhancements and modifications to PaleoStrat, in particular the development of tools for better user interaction with the systems. A team from the Nanjing Institute will be visiting PaleoStrat in October, 2007 to begin this collaborative effort.