

International Geological Correlation Programme (IGCP) Annual Report

PROJECT 509: **PALEOPROTEROZOIC SUPERCONTINENTS AND GLOBAL EVOLUTION**

Duration: Active, 2005-2009

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2006 ANNUAL REPORT

Project Number and Title:

509: Palaeoproterozoic Supercontinents & Global Evolution

1. Project website: <http://earth.geology.yale.edu/igcp509/>

2. Summary of major overall achievements of Project 509

A. The project has brought together more than 300 participants from 33 countries; the scientists hail from academia, governments, and the ore-deposit industry.

B. Templates for the global stratigraphic correlation charts and database have been presented and discussed at meetings in Brazil, Canada, Finland, and USA. Discussion on these formats will continue into early 2007, when final decisions will be made and construction of the products can begin in earnest.

C. Special volumes arising from workshop proceedings and general contributions are currently being negotiated with various journal publishers. An initial expression of interest among participants resulted in more than 30 titles on diverse topics and areas spanning the globe.

3. Achievements of the project this year

*3.1. List of countries involved in the project (*active this year)*

Algeria, Argentina, Australia*, Belgium, Botswana, Brazil*, Burkina Faso, Cameroon*, Canada*, China*, Democratic Republic of Congo, Denmark, Finland*, France, Germany*, India*, Ireland, Japan*, Madagascar, Mongolia, Namibia, Netherlands, Nigeria*, Norway*, Romania*, Russia, South Africa*, Sweden*, Tanzania, United Kingdom, USA*, Zambia, Zimbabwe.

3.2. General scientific achievements (including societal benefits)

A. Creation of the project webpage and Google Groups email distribution list to foster communications among more than 300 participants from 33 countries.

B. Establishment of a formalized scheme in which participants may apply for IGCP funds to attend annual workshops. We especially encourage applicants from developing nations, and we preferentially fund such applications. We are revising the scheme to attract a higher proportion of this subset in the following years (more

advance notice of awards, and larger awards to a fewer number of participants who need the most support). We are approaching project participants from the ore-deposit industry to seek grant support to augment our UNESCO funds.

C. We have advertised draft templates of the stratigraphic charts and global database at various conferences, seeking comments from Project 509 participants. The time window for consideration of comments will close in February, 2007, when we the project leaders will distribute general guidelines and instructions, with examples, to all regional coordinators.

3.3. List of meetings with approximate attendance and number of countries

Our designated workshop for 2006 was held in Ouro Preto, Brazil, in September. A complete description of this meeting is described in a separate IGCP form. Briefly, more than 50 scientists from seven countries attended the workshop. Although small, the meeting focused discussions among regional and global experts of Brazil and Palaeoproterozoic Earth history. The organization by Fernando Alkmim and our other Brazilian hosts was outstanding. Field guidebooks and abstracts are available on the Project 509 website.

Other occasions in which Project 509 leaders discussed various aspects of the project and its aimed outcomes, included (1) discussions on the formats of tangible outputs at the Geological Association of Canada (GAC) annual meeting in Montreal, (2) several days of extensive discussion on Scandinavian geology and hurdles of formatting the stratigraphic charts, as D.Evans visited Finland on a lecture tour (paid by Finnish colleagues), and (3) planning of the 2007 Beijing workshop, at the International Association of Gondwana Research (IAGR) annual meeting in Hong Kong, attended by our Chinese project participants as well as Project 509 co-leader D.Evans and secretary A.Collins.

3.4. Educational, training, or capacity-building activities

One participant at our Brazil workshop sought and obtained advice regarding a potential new proposal to IGCP regarding the achievements and opportunities of women geoscientists in the developing world. Project 509 has been deeply involved in planning sessions and field trips at the International Geological Congress (IGC) in Oslo, 2008.

3.5. Participation of scientists from developing countries

About half of the countries represented in the Project 509 roster are "developing" nations, and among these, several were involved in this year's activities. We seek to encourage participation from developing nations by whatever means available to us.

Some extensive areas of Palaeoproterozoic outcrops are located in these countries, and we have endeavored to include local experts as regional leaders in the project's organizational structure.

*3.6. List of most important publications (including maps)
Distinguish between peer-reviewed literature and other (no abstracts).*

We are currently canvassing our participants for their Project 509-related publications since commencement of the project, and we are also establishing a format by which titles of new, relevant papers may be disseminated to all participants. The format adopted by Project 512, in which one appointed member sends regular notices of relevant papers, seems effective and will be emulated by Project 509.

3.7. Activities involving other IGCP projects or the IUGS

Project 509 is most closely aligned with recently completed Project 440 (Rodinia Assembly and Breakup), following broadly on the organization and goals of that project, with many of our participants in common. We also overlap with Project 453 (Uniformitarianism revisited: a comparison of modern and ancient orogens), Project 497 (The Rheic Ocean: its origin, evolution and correlatives), and Project 512 (Neoproterozoic ice ages) in which we gratefully have utilized their website template with minor adjustments for our specific needs and goals.

4. Activities planned

4.1. General goals with timeline

January: confirm proposed sessions for the 2008 International Geological Congress
February: finalize the format of global stratigraphic charts and database
March: begin compilation of the charts and database among all regions
April: advertise travel grant availability for the Beijing field workshop
June: complete arrangements for special volumes arising from the 2006 Brazil workshop and the general solicitation among participants
August: Beijing field workshop; meetings and field trips
October: compile list of relevant publications from project participants
December: complete annual report for 2007

4.2. Specific meetings and field trips for 2007

As agreed during our inaugural planning workshop of the project in 2005, there are two classes of project-related meetings: a single "designated workshop" in which participants may apply for UNESCO-sponsored funds, and any number of "supported meetings" in which sessions or symposia are related to the Palaeoproterozoic Earth

system and participants may apply for their countries' IGCP national funds. This format helps to focus the expenditure of UNESCO-sponsored funds toward a single project-unifying event.

Designated workshop for 2007: Beijing, China, in conjunction with the International Symposium on Precambrian Chronology and Tectonic Evolution (ISPCTE). This meeting, to be held in late August, is well advanced in its preparation and will host 3-4 days of presentations as well as four field trips visiting various regions of the North China craton—including one of the world's best areas for the record of 2.5–2.4 Ga tectonism in the earliest Palaeoproterozoic Era, as well as a globally renowned reference section of 1.8–1.4 Ga siliciclastic and carbonate stratigraphy with potential for containing the Global Stratotype Section and Point (GSSP) for the Palaeo-Mesoproterozoic boundary.

Supported meetings in 2007:

May: Geological Association of Canada (GAC) Annual Meeting, Yellowknife

June: NUNA Pulse of the Earth (organizer: Wouter Bleeker), Sudbury

July: Geol.Soc.Australia Specialist Group in Structural Geology & Tectonics (SGTSG) biennial meeting, Alice Springs

September: Geological Society of America (GSA) Annual Meeting, Denver

4.3. Other activities

Project 509 will continue to maintain its website as a research tool for participants from all over the world. We have begun to post research reports from various field excursions, including text and photos, and we hope to assemble a globally representative set of these informative entries by the completion of the project.

5. Project funding requested

US \$10,000 is requested to subsidize travel, accommodation, and registration expenses for participants attending the "designated" IGCP 509 meeting in Beijing, in August. We note with sadness that in 2006 we witnessed late cancellations from our Brazilian workshop by African geoscientists who were unable to leverage the \$1500 that we offered them, for remaining support. If we are funded at a higher level in 2007, we will be able to provide larger portions of support to those among our project's participants who need the funds most. *None* of our 2006 funds were spent on Project 509 leaders, and with the possible exception of partial travel support for our Indian co-leader R.Mazumder, we intend to continue this policy throughout the project.

6. Request for extension, on-extended-term-status, or intention to propose successor project

N.A.