

PAGES
Past Global Changes

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1. General Description

The Past Global Changes (PAGES) project is directed at securing a better understanding of the natural and human-induced variations of the Earth system in the past, through the organization of coordinated national and international endeavors to obtain and interpret a variety of natural and written records.

In this report, I describe the recent movements of PAGES that are characterized into the following three levels: International, regional (Asian) and national (Japanese).

2. International Level

The evolving plans for IGBP-PAGES have been described in IGBP-Report No. 19 which is the result of the first meeting PAGES-Scientific Steering Committee (SSC), in March of 1991 in Mainz.

The second meeting of PAGES-SSC was held in April of 1992 in Bern. The PAGES Executive Committee (EC) was appointed by PAGES-SSC to enable a fast response to requests and acts on behalf of PAGES-SSC. The PAGES Core Project Office (CPO) has recently been opened in Bern, Switzerland.

The PAGES endorses the Paleoclimates of the Northern and Southern Hemisphere (PANASH) as the initial research focus. The focus of PANASH is on a North/South interhemispheric integration of paleo-data for the reconstruction of global climate history. The PANASH I will focus on the last 1,000 years, and PANASH II will be to promote the development of the land-based records over the last 150 ka.

3. Regional (Asian) Level

The Asian IGBP Workshop was held in February of 1991 in New Delhi. The working group of PAGES recognized that the cooperated project should be made of the Past Asian Monsoon Variations.

There was a meeting on Asian Planning Meeting for IGBP in December of 1991 in Singapore. It was decided to recommend the regional cooperative programme. Matsumoto was requested to be the coordinator.

The meeting with the title "Paleo-environments in Monsoon Asia" was held as a part of IGBP-Waseda Symposium in March of 1992 in Tokyo. This meeting is regarded as the first PAGES Asian Workshop.

A planned meeting in April 1993 in Taipei, with the title "Climate Changes of the Last 2,000 Years in Monsoon Asia" is regarded as the second PAGES Regional Workshop.

4. National Level

The Project VI of Japanese IGBP Plan corresponds to PAGES. It consists of five studies. Three of the five studies are funded by Ministry of Education, Science and Culture, and are going from 1992 for a period of 5 years. Three studies are (1) Paleooceanographic study in the West Pacific, (2) Paleoenvironmental Change of Monsoon Asia and Japan and (3) Historical Weather Database Construction.

Table 1 PAGES Project Organization

Research Tasks

Research Themes	STREAM I (2K)	STREAM II (150K)
A. Solar and orbital forcing and response	A.1 Solar Variations of the Last 2ka A.2 Forcing Mechanisms	A.2 Forcing Mechanisms A.3 Response of the Ocean A.4 Past Insolation Calculations
B. Fundamental Earth System Processes		
1. Trace Gas Composition and Climate	B.1.1 Role of Trace Gases in the Last 2ka	B.1.2 Trace Gases in Glacial - Interglacial Changes B.1.3 Trace Gases in the Late Pleistocene
2. Global Impacts of Volcanic Activity	B.2.1 Volcanic Events during the Last 2ka B.2.2 Climatic Variations at Times of Major Eruptions B.2.4 Role of Volcanism in Climate Change	B.2.3 Volcanic Events during the Late Pleistocene
3. Ice - Sheet Mass Balance and Global Sea - Level Change	B.3.1 Ice-Sheets and Sea - Level during the Last 2 ka	B.3.2 Response of Ice - Sheets to External Forcing B.3.3 Long - Term History of Sea Level Change
4. Biosphere Dynamics and Environmental Change	B.4.1 Effects of Climate and Human Impacts on the Biosphere	B.4.1 Effects of Climate and Human Impacts on the Biosphere
C. Rapid and Abrupt Global Changes	C.1 Causes of Abrupt Climatic Changes	C.1 Causes of Abrupt Climatic Changes
D. Multi - Proxy Mapping	D.1 Maunder Minimum Pilot Study	