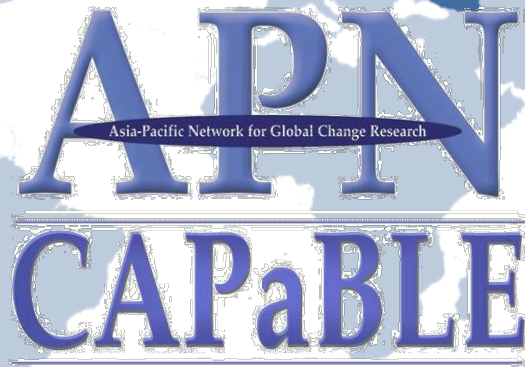


The Past: A Compass for Future Earth - PAGES 2nd Young Scientists Meeting and 4th Open Science Meeting



- Making a Difference -

Scientific Capacity Building & Enhancement for Sustainable Development in Developing Countries

The following collaborators worked on this project:

Thorsten Kiefer, PAGES International Project Office, Switzerland, kiefer@pages.unibe.ch

Collaborator Name, Institution, Country, Email

Collaborator Name, Institution, Country, Email

Collaborator Name, Institution, Country, Email

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The Past: A Compass for Future Earth - PAGES 2nd Young Scientists Meeting and 4th Open Science Meeting

**Project Reference Number: CBA2012-18NSY-PAGES
Final Report submitted to APN**

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OVERVIEW OF PROJECT WORK AND OUTCOMES

Minimum 2pages (maximum 4 pages)

Non-technical summary

Past Global Changes (PAGES), a core project of the International Geosphere-Biosphere Programme (IGBP), held its 2nd Young Scientists Meeting (YSM) from 11–16 February 2013 in Goa, India, as a prelude to the subsequent 4th Open Science Meeting (OSM). These two coupled meetings are PAGES premier scientific events, held once every four years and geared toward helping the best young and established scientists advance their scientific skills and build international networks with peers and programme representatives. The generous co-sponsorship of the Asia-Pacific Network (APN) enabled 25 early-career researchers from the Asia-Pacific region to participate in the YSM and afterwards mingle with their more established colleagues at the OSM.

The meetings aimed at building capacity for young and established scientists in the Asia-Pacific region and fostering scientific exchange and collaboration internationally. Event highlights included scientific sessions on ongoing paleoclimatic and paleoenvironmental research; strategic debates on future research requirements and their implementation; dissemination and outreach through scientific publications and reports, videos, and downloadable materials; networking via poster sessions, breakout discussions, social events, and post-meeting projects; and knowledge transfer through scientific sessions, professional skill development, and presentation feedback.

Keywords

PAGES, Young Scientists Meeting, Open Science Meeting, global change science, Asia-Pacific, paleoscience

Objectives

The main objectives of the project were:

1. To discuss global change research and coordination strategies at the highest level.
2. To advance science and promoting regional cooperation on Asia-relevant topics such as monsoon, sea-level rise and the coastal zone, regional climate variability, river systems and estuaries, land-cover change, biodiversity, ecosystem processes, and ocean circulation.
3. To facilitate science-policy-public interaction in Asia.
4. To cooperate with global change networks and organizations, including defining the future role of past global change science, particularly in the context of “Future Earth.”

Amount received and number years supported

The Grant awarded to this project was:

US\$ 30,000 for Year 1

Activity undertaken

The meetings took place as planned, first the Young Scientists Meeting (YSM) for two days, followed by the Open Science Meeting (OSM) for four days. The YSM was the main motivation for this APN grant. It's central elements were scientific topical sessions with talks and poster presentations where participants presented and discussed their research results. Five prizes were given for the best presentations. APN supportee Vladimir Matskovsky from Russia won a prize for his talk, Gayatri Kathayat from China for her poster. Peer feedback among the young participants on each others' presentations was organized and summarized.

Educational elements included a series of program items on professional skill development. These included a panel discussion with active journal editors on The Art of Reviewing, an online presentation and discussion on The Art of Communicating Science, and an on-site interactive talk on The Art of Sharing Data.

Breakout groups provided a forum for discussions on specific topics in small groups. Summaries of

the discussion outcomes were presented to the plenary and written up for publication in the PAGES newsletter. Breakout topics were on the research priorities in paleoscience for the next 10 years, on ways to advocate for paleo-research, on communication strategies, and on key educational ingredients for an ongoing success of the research field.

During the subsequent OSM, all YSM participants attended as well and presented their work to the broader community of established researchers.

YSM participants were offered the opportunity to publish their work in a special issue as research papers in the internationally established peer-reviewed open access journal *Climate of the Past*. In addition, six YSM participants were invited to be co-guest editors under the supervision of experienced guest editors. The APN beneficiaries Rajeev Saraswat and Guanshen Chen were among these junior guest editors. The special issue is almost finished. Thirteen papers will be published, three of them first-authored by APN beneficiaries (Chen, Matskovsky, Gaire).

Results

Basic results were that 79 selected young scientists, 25 partially or fully APN supported, participated in the YSM and OSM and certainly learned a lot about their scientific discipline, improved some skills required for a successful researcher, and broadened and their international network. How this will have changed their career and how the participants make use of their network and take up leadership roles will only turn out over the years.

Results in the form of products are numerous and can all be accessed through the YSM website: <http://www.pages-osm.org/ysm/>

A peer-reviewed special issue in the open-access journal *Climate of the Past* with 13 articles. These are planed to be highlighted with brief features in one of the next PAGES magazines. Two papers are still in the review process, and a preface is in preparation. (http://www.clim-past.net/special_issue65.html)

A report in the AGU's *Eos*, authored by three of the early-career scientists. Reports of the YSM as a whole, and of each of the "The Art of" skills development sessions were written by participants for the PAGES newsletter. The breakout discussions were summarized into brief articles for the PAGES newsletter. Slides were prepared summarizing the peer-feedback on posters and talks and can be downloaded.

Of course abstract books were produced for both the YSM and the OSM. They can be downloaded. The keynote events of the YSM and OSM were recorded and short impression videos of both meetings were put together. They can be viewed on PAGES' YouTube channel.

Relevance to the APN Goals, Science Agenda and to Policy Processes

The proposed activity addressed all four goals stated in APN's Third Strategic Plan

Goal 1. Supporting regional cooperation in global change research on issues particularly relevant to the region: The 4th OSM furthered science particularly relevant in the Asia-Pacific region like monsoon, sea-level rise, regional climate variability, etc., all addressed in specific oral and poster sessions.

Goal 2. Interactions among scientists and policy-makers; scientific input to policy decision-making and public: Indian government representatives and senior scientists advising governments were present at the conference ensuring policy input. The Indian Ministry of Earth Sciences was a major funder and opened the conference. A public lecture was given as part of the OSM by the chair of the Intergovernmental Panel on Climate Change (IPCC) Rajendra Pachauri.

Goal 3. Improving scientific/technical capabilities of nations in the region; transfer of know-how and technology: The conferences attracted the best paleoscientists in the world to India, which may have boosted capacity building for developing country scientists from the APN region. The YSM may have supported the career development of young scientists, provided access to international research networks and prepared them for leadership roles.

Goal 4. *Cooperating with other global change networks and organisations*: One objective of this project was to define the role of past global change science for the next decade, particularly in the context of 'Future Earth'. This mandate included promoting cross-disciplinarity and better integration of human and ecosystem aspects, i.e. closer collaboration with organizations representing these communities. Ideas discussed during the meetings found their way into proposals of PAGES to the National Science Foundations of Switzerland and the US and into the PAGES input to the Future Earth process.

Self evaluation

Over all the YSM and the OSM were spectacular successes that exceeded the highest hopes in most aspects, including scientific standard, organization, and community building. This assessment is based on observations and discussions by the PAGES Scientific Steering Committee, but also on feedback from attendees. The Scientific standard was remarkably high. Worries that the remote location might discourage leaders in the field from coming did not substantiate, at least not to a degree that would significantly lower the scientific standards. Participation was truly international. With 12 of 79 participants from India at the YSM, and 87 of 400 at the OSM. The meetings themselves gave the impression that Indian scientists benefitted hugely from the international exposure. They were visibly engaged in discussing their research at the meeting with international peers, which is an exposure they probably rarely have.

Negative aspects were few, but are most useful for initiating improvements, hence are mentioned in the following in disproportionate detail:

A major issue that we had underestimated and that might be relevant to APN was the difficulty for people with nationality or family background from Indian neighbor states, in particular China and Pakistan, to get entry visa. This resulted in discouragements of colleagues to consider this meeting and several last-minute cancellations, which was a major drawback for the idea to offer an international meeting in Asia.

The enthusiasm about hosting the meetings and the possibility to get involved in follow-up activities did level off after the meetings, e.g. six Indian YSM participants had signed up to submit a manuscript for the special issue, but only one actually submitted a manuscript.

Potential for further work

The PAGES YSM is a much appreciated, well-established format that has been copied by other organizations in the meantime and could be hopefully inspire more organizations. The PAGES SSC has decided to hold another YSM in association with the next OSM, to be held presumably in 2017. Participants requested to hold YSMs or similar early-career meetings more frequently. The demand would certainly be there, but currently can't be met by PAGES with its limited resources.

The special issue publication project might be a good model for publication training of young scientists. Especially those advanced young scientists who joined the guest-editor team may have learned a lot. This format could be applied more regularly.

The YSM network can be used to encourage people to participate in disciplinary activities offered in PAGES and beyond. This is happening and ongoing.

Publications (please write the complete citation)

All products of the YSM and OSM, including PPT and video material, can be accessed here:

<http://www.pages-osm.org/ysm/post-meeting-material/>

<http://www.pages-osm.org/osm/post-meeting-material/>

Special YSM issue, 9 papers already published, 2 more expected to come through:

The Past: A Compass for Future Earth – PAGES Young Scientists Meeting 2013; Eds: G. Chen, A.-L.

Daniau, M. E. de Porras, A. Elmore, K. Mills, R. Saraswat, S. Phipps, A. Reyes, and T. Kiefer; *Climate of the Past*, 65, 2014.

http://www.clim-past.net/special_issue65.html

and “Open Discussion Phase”: http://www.clim-past-discuss.net/special_issue74.html

Bogus, K., Bouimetarhan, I., Richey, J., 2013. Early-Career Scientists Discuss Research and Future Directions for the Paleoclimate Field. *Eos, Transactions American Geophysical Union* 94, 233-233. <http://onlinelibrary.wiley.com/doi/10.1002/2013EO260007/abstract>

Articles in PAGES news (2013) vol. 21.2

<http://www.pages-igbp.org/products/pages-news/1749-21-2-el-nino-southern-oscillation>

R. Saraswat and B. Jensen, A brief report on the 2nd PAGES Young Scientists Meeting in Goa, India
H. Roop, G. Martínez-Méndez and K. Mills, The Art of Communicating Science: traps, tips and tasks for the modern-day scientist

R. Panchang, A. Govin and C. Omuombo, The Art of Reviewing: Holding up quality in the scientific quality control system

A. Elmore, F. Lehner and J. Franke, The Art of Data Sharing: key in future climate science

S. Dee, F. Muschitiello, Breakout Group A: What should the research questions and priorities in paleoscience be for the next 10 years?

I. Bouimetarhan, H-C. Steen-Larsen, Breakout Group B: Advocating the relevance of paleo- research to a funding agency or policy maker

H.Roop, E. Dietze, Breakout Group C: Challenges and solutions for enhanced paleoscience communication

R. Panchang, J. Richey, Breakout Group D: Key educational ingredients to ensure the success of future paleoscientists

The Past: A Compass for Future Earth – PAGES Young Scientists Meeting 2013, Goa, India

Abstract Book http://www.pages-igbp.org/download/docs/meeting-products/abstracts/osm4ysm2/YSM2013abstract_book.pdf

The Past: A Compass for Future Earth – PAGES Open Science Meeting 2013, Goa, India

Abstract Book http://pages-igbp.org/download/docs/meeting-products/abstracts/osm4ysm2/OSM2013abstract_book.pdf

References

See above

Acknowledgments

The Ministry of Earth Sciences via its National Centre for Antarctic and Ocean Research (NCAOR) hosted the meetings, supported by the National Institute of Ocean Technology (NIOT), Indian National Centre for Ocean Information Services (INCOIS), and the Indian Institute of Tropical Meteorology (IITM). International co-sponsors included the Asia-Pacific Network for Global Change Research (APN), System for Analysis, Research and Training (START), the International Geosphere-Biosphere Programme (IGBP) through its Brazil Regional Office, the International Association of Sedimentologists (IAS), and the Oeschger Centre for Climate Research in Switzerland. PAGES is funded by the U.S. and Swiss National Science Foundations, and the National Oceanic and Atmospheric Administration (NOAA). The PAGES International Project Office is hosted by the University of Bern. We also thank the members of the Local Organizing Committee and the Scientific Committee for their work.

TECHNICAL REPORT

Minimum 15-20 pages (excluding appendix)

Preface

The Past Global Changes (PAGES) project held its 2nd Young Scientists Meeting (YSM) from 11–16 February 2013 in Goa, India, as a prelude to the subsequent 4th Open Science Meeting (OSM). These two coupled meetings are PAGES premier scientific events, held once every four years and geared toward helping the best young and established scientists advance their scientific skills and build international networks with peers and programme representatives. APN's generous co-sponsorship enabled 25 early-career researchers from the Asia-Pacific region to participate in the YSM and afterwards mingle with their more established colleagues at the OSM.

The meetings aimed at building capacity for young and established scientists in the Asia-Pacific region and fostering scientific exchange and collaboration internationally. Event highlights included scientific sessions on ongoing paleoclimatic and paleoenvironmental research; strategic debates on future research requirements and discussions about research implementation; dissemination and outreach through scientific publications and reports, videos, and downloadable materials; networking via extensive poster sessions, breakout discussions, social events, and post-meeting projects; and knowledge transfer through scientific sessions, professional skill development sessions, and presentation feedback

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- 1.0 Introduction
- 2.0 Methodology
- 3.0 Results & Discussion
- 4.0 Conclusions
- 5.0 Future Directions
- References
- Appendix

1.0 Introduction

This section should include background information, scientific significance, objectives, and other relevant information leading to the development and justification of the current project.

The APN grant was request to ensure strong and truly international participation from APN countries, particularly Asia, in the PAGES Young Scientists Meeting (YSM) and Open Science Meeting (OSM). These two coupled meetings are the premier scientific events of Past Global Changes (PAGES), a core project of the International-Geosphere-Biosphere Programme (www.pages-osm.org). They are designed towards providing the best young and established scientists with opportunities to advance their scientific skills and to build international networks with their peers and with program representatives. The YSM was intended to support the career development of early-stage scientists and raise a group of future leaders accustomed to working in international networks. The subsequent OSM was designed to discuss global change research and coordination strategies at the highest level. Attendance of the OSM was obligatory for all YSM participants. Publication, networking, and working group activities were supposed to ensure that collaborations extend beyond the YSM/OSM meetings themselves.

The YSM/OSM event takes place once every four years, each time in a different country. The penultimate YSM/OSM in 2009 in Corvallis, US, was extremely successful, in particular in raising a

group of excellent and active early-career scientists. However, the meeting location in the US was less favourable for Asian participants. Therefore, the YSM/OSM 2013 was held in Goa, India. Following a competitive bidding process, the meetings were intentionally given to Asia and the scientific program tailored towards Asia-relevant topics. The overarching objective was to maximize opportunities for Asian scientists to interact with the international community and to strengthen international involvement and leadership of Asian Global Change scientists. This will continue to be an important task over the next decade for which we sought meeting support from APN and would welcome a longer-term collaborative partnership.

Several scientific, strategic, and educational products and activities were envisioned to follow from the meetings. As far as possible young scientists were involved in creating the products. This concept had already been very successful during the previous YSM/OSM where, supervised by senior scientists, young scientists authored papers and meeting reports, co-guest edited a special journal issue, took lead of working groups or workshops, and finally build the core group of the Scientific Programme Committee of this second YSM. For the 2nd YSM the publication partnership has already been successfully established and resulted in research papers and reports published by the YSM participants.

The meetings and follow-up activities have a strong component of capacity building. In particular the YSM is intended to equip the best young scientists with the abilities required to take on future leadership in sustainability science and the associated programs. Based on the experience from the previous YSM, this strategy seems to work out remarkably well. The mid-term idea in developing countries is furthermore, that these future leaders will initiate a snow-ball effect, i.e. seed future scientific communities. The decision to hold the YSM/OSM in India was specifically motivated by the large intellectual and economic potential for this form of capacity building in the region.

On a more immediate level, the YSM and OSM provided excellent opportunities for Asian researchers to network with international colleagues and to present themselves as potential contributors in collaborative research projects, scientific community efforts and for committee work.

The top-ten objectives of the project were:

1. To support the career development of early-stage scientists and raise a group of future leaders who are accustomed to working in international networks.
2. To discuss global change research and coordination strategies at the highest level.
3. To launch publication and working group activities that will extend collaboration beyond the meetings.
4. To facilitate networking between scientists from different countries, disciplines, career stages, and programmes.
5. To foster scientific exchange about past global change research and encourage international collaborations.
6. To advance science and promoting regional cooperation on Asia-relevant topics such as monsoon, sea-level rise and the coastal zone, regional climate variability, river systems and estuaries, land-cover change, biodiversity, ecosystem processes, and ocean circulation.
7. To facilitate science-policy-public interaction in Asia. Government representatives and senior scientists advising governments attended to ensure policy input. Rajendra Pachauri, Chair of the IPCC, delivered a public lecture, contributing to public awareness of global change and its impacts on South Asia.
8. To encourage Asian scientists to be involved in the international global change community and assume leadership roles.
9. To broadly involve the APN community in the PAGES debate about future research requirements and directions.

10. To cooperate with global change networks and organizations, including defining the future role of past global change science, particularly in the context of “Future Earth.”

2.0 Methodology

Explain how you carried out the project, which should follow logically from the aims. Depending on the kind of data, this section may contain subsections on experimental details, materials used, data collection/sources, analytical or statistical techniques employed, study field areas, etc. Provide sufficient detail for a technical/scientific audience to appreciate what you did. Include flowcharts, maps or tables if they aid clarity or brevity.

The YSM and OSM were both extensively and openly announced around the globe, mostly through email lists, social networks and websites far beyond the PAGES communities. Attendance at the OSM was open to the entire community interested in global change science with a pre-instrumental time dimension. The YSM was reserved for 80 competitively selected early-career scientists and some 20 established scientists and program representatives.

Participants were selected among a total of 167 international applicants based on the quality of their application and abstract. Each application was reviewed independently by at least 3 members of the Scientific Program Committee, judging their suitability, motivation and scientific excellence. A ranking was produced which served as an orientation for selection. Final selection also considered geographical and gender balance and made sure to have good representation from developing countries.

India was the host country for the meeting and is responsible for the organization along with PAGES. The National Centre for Antarctic and Ocean Research (NCAOR), an autonomous institution under the Ministry of Earth Sciences (MoES, Government of India), is the local host. The program committee includes members from APN countries India, China, Australia and the USA. Participants came from a variety of APN countries. A total of 84 applications for the YSM had been received from 12 different APN countries. Ranked by numbers of applications these were India, USA, Australia, Russia, China, Nepal, New Zealand, Singapore, Republic of Korea, Malaysia, Sri Lanka, and Viet Nam. Seventeen of the applications were from Asian countries outside of India.

The YSM program committee included four alumni of the 1st YSM back in 2009 in Corvallis, Oregon, USA, to build on the success and first-hand experience of that inaugural meeting. The Committee further included the PAGES Executive Director and two SSC members who met approximately monthly via skype to discuss preparations.

The Young Scientists Meeting was held at the International Centre Goa, Dona Paula and offered an enclosed oasis for the YSM activities. The YSM participants were also be accommodated on site for the entire duration of the YSM and OSM, to facilitate interaction and networking. Moreover, where possible, participants were teamed up in international groups to share a room.

The YSM and the OSM have dedicated websites. These constitute the central point of information and the portal for accessing all products coming out of the YSM (<http://www.pages-osm.org/ysm>) and OSM (www.pages-osm.org):

3.0 Results & Discussion

Explain your actual findings, including figures, illustrations and tables. Make comments on the results as they are presented, but save broader generalizations and conclusions for later. Discuss the

importance of your findings, in light of the overall study aims. Synthesize what has (and has not) been learned about the problem and identify existing gaps. Recommend areas for further work.

The meetings were international with participation from all over the world, but they provided greatest opportunities for benefit to scientists from Asia by facilitating their attendance and then building capacity for the researchers from the region. With the support of APN, we ensured strong and truly international participation of early-career scientists from APN countries to the PAGES Young Scientists Meeting (YSM) and Open Science Meeting (OSM).

The YSM had the goals to support the career development of early-stage scientists and to raise the best young scientists to future leaders accustomed to working in international networks. The OSM was more directed towards discussing global change science at the highest level.

The 2nd YSM took place on the 11 and 12 February 2013 at the International Centre Goa in India. It brought together graduate students, post-doctoral fellows and early career scientists from around the globe to share their research, network, present and attend workshops and panel discussions designed to address the specific challenges and opportunities facing early career paleoscientists. A total of 79 participants from over 27 countries attended the meeting.



Fig 1.: The delegates of the 2nd Young Scientists Meeting.

Participants were welcomed by S. Rajan, Director of the National Center for Antarctic and Ocean Research, the Goan host institution. Thorsten Kiefer, PAGES Executive Director, then outlined the rationale behind the meeting and expressed the hope that the YSM would foster multi-disciplinary, international interaction and collaboration amongst the next generation of paleoscientists.

The meeting was structured around seven themes: Climate Forcings; Regional Climate Dynamics; Global Earth-System Dynamics; Human-Climate-Ecosystem Interactions; Chronology; Proxy Development, Calibration and Validation; and Modeling. Twenty participants gave oral presentations and many others presented posters around each of these themes. The best presentations received an award, including one year of free online access to the Nature Geoscience journal: Ilham Bouimetarhan (Bremen, Germany) and Vladimir Matskovsky (Moscow, Russia) received prizes for the best oral presentations, and Jesper Björklund (Göteborg, Sweden), Gayatri Kathayat (Xi'an, China), and Timothée Ourbak (Niamey, Niger), for the best poster presentations.

A written peer-feedback activity provided presenters with valuable feedback on their presentation and ways to improve. Each presentation was assigned two YSM participants for dedicated written feedback. The purpose of this feedback exercise was to (1) provide YSM presenters with information



Fig. 2: The two prize winners from APN.

on what specific aspects of their presentations are most/least effective, and (2) to encourage critical thinking about their own presentations by considering the work of their peers. Questions were:

- Was the research objective clear?
- Did the sections of the talk or poster flow smoothly?
- Is the level of methodological detail appropriate?
- Did the presenter speak clearly?
- Did the presenter seem engaged by the material?
- Were the visuals compelling and clear?
- By the end of the talk/poster, did you have a clear idea what was accomplished?
- What was/were the most effective aspect(s) of the presentation?
- What was/were the least effective aspect(s) of the presentation?

YSM Steering Committee member Alberto Reyes summarized the peer-feedback. The respective PPT slides can be downloaded from the YSM website.

In a stage-setting keynote talk, PAGES co-chair Alan Mix of Oregon State University reflected back upon his career as a climate scientist, which began during a time of discovery defined by a paucity of data - a stark contrast to the present, with its wealth of data and the commensurate need for new approaches to interpreting it. He emphasized the need for more interaction among paleoscientists and the increased need for more quantitative climate data, which can be better utilized by the modeling community.

Three “The Art of” sessions were a newly framed item in the YSM program and aimed to provide young scientists with practical information about data sharing, reviewing and communicating science. Detailed summaries of each of these skills development sessions were written up by participants and published in the PAGES newsletter.

In “The Art of Sharing Data”, David Anderson head of the paleoclimate division of the National Climatic Data Center in Boulder, USA, highlighted the importance of sharing data, and in particular, making data publicly available through archiving. He discussed the data-rich world we live in where the sharing and archiving of data can increase the visibility of an individual’s research tremendously, and how easy accessibility to datasets will encourage the community to develop new and novel quantitative approaches to interpreting them.

In “The Art of Communicating Science” Gavin Schmidt from the NASA Goddard Institute for Space Studies in New York, USA, suggested ways to convey science to different audiences and how to tackle controversies and criticism. He recommended the use of simple language with common examples and as many pictures and graphs as possible, instead of tables and technical jargon.

“The Art of Reviewing” panel included Alicia Newton, Editor of Nature Geoscience; Denis-Didier Rousseau, Co-Editor-in-Chief of Climate of the Past; Chris Turney, Asian and Australasian Regional Editor for the Journal of Quaternary Science; and moderator Alberto Reyes, of Queen’s University, Ireland. They fielded many questions from the audience, addressing various topics such as signing reviews vs. double-blind reviews and what editors expect in a good review. It became clear during this session that many YSM participants did not feel their training had prepared them adequately for the peer-review process.

During breakout sessions, participants divided into eight groups and deliberated on one of four different challenges facing young paleoscientists. Subsequently representatives of the groups reported back to the plenum and summarized the discussions for later publication in the PAGES newsletter. A key theme emerged across all groups: Many of the big important issues and problems facing early-career paleoscientists are similar all over the world and may be dealt with through international efforts. However, just as many are specifically local, and therefore will require local solutions.

The program offered plenty of opportunity for social interaction among the young delegates, as well as with the organizers and guests. Communal meals, an icebreaker, and a dinner on a boat gave participants an opportunity to bond with each other while enjoying Indian culture and food.

At the end of the two YSM days, participants thanked PAGES for taking the initiative to hold the YSM, and requested that such meetings be convened more often. They also expressed their gratefulness to the generosity of the sponsors, whose contributions enabled many young scientists to travel to and attend the meeting.

For the subsequent four days, all YSM participants attended the OSM, which was centered around 9 plenary lectures and 16 parallel sessions (with two sessions in parallel at any time). The YSM participants presented their work once again. This extended the opportunities for scientific discussion and professional networking to this larger and more established OSM audience of 400 scientists.

The overall OSM/YSM meeting activity addressed all four goals stated in APN’s Third Strategic Plan:

Goal 1. Supporting regional cooperation in global change research on issues particularly relevant to the region: The programme highlighted scientific issues particularly relevant to the Asia-Pacific region and sub-regions, including monsoon, sea-level rise and coastal vulnerability, regional climate variability, climate modes such as El Niño-Southern Oscillation, abrupt changes, ocean circulation, river systems and estuaries, land cover and land use change, climate impact on civilizations, ecosystem processes, and biodiversity. These and others were all addressed in specific oral and poster sessions.

Goal 2. Interactions among scientists and policy-makers; scientific input to policy decision-making and public: Indian government representatives and senior scientists advising governments were present at the conference ensuring policy input. The Indian Ministry of Earth Sciences was a major funder and opened the conference. Dr. Shailesh Nayak, Secretary of the Ministry of Earth Sciences of the Government of India opened the OSM and attended the first two days of the event. A public

lecture was given as part of the OSM by Dr. Rajendra Pachauri, chair of the Intergovernmental Panel on Climate Change. It was followed by an expert panel addressing questions from the audience. The event was attended by several hundred listeners.



Fig. 3: Dr. Rajendra Pachauri at the public lecture thanked by Dr. S. Rajan, Director of NCAOR.



Fig. 4: Shailesh Nayak, Secretary, Ministry of Earth Sciences, Government of India giving the opening speech of the PAGES OSM.

Goal 3. Improving scientific/technical capabilities of nations in the region; transfer of know-how and technology: The conferences attracted the best paleoscientists in the world to India, which may have boosted capacity building for developing country scientists from the APN region. The YSM may have supported the career development of young scientists, provided access to international research networks and prepared them for leadership roles. Data sharing issues were also featured prominently. David Anderson, head of the NOAA World Data Center for paleoclimatology spoke at the YSM and discussed with participants the virtues of data sharing and encourage them to make it a pillar of their research. Research papers from the YSM are currently being published in the open access journal *Climate of the Past*.

Goal 4. Cooperating with other global change networks and organisations: One objective of this project was to define the role of past global change science for the next decade, particularly in the context of 'Future Earth'. This mandate included promoting cross-disciplinarity and better integration of human and ecosystem aspects, i.e. closer collaboration with organizations representing these communities. Discussions about the planned Future Earth initiative were featured prominently throughout, at talks and panel discussions, most specifically in the opening talks at the YSM, during YSM breakout discussions, during the OSM opening talk of PAGES co-chair

Hubertus Fischer and at an extensive plenary discussion wrapping up the OSM. The attendance of Martin Visbeck from the Future Earth Transition Team and WCRP-CLIVAR chair, and of the chair of IGBP James Syvitski ensured that ideas will be carried on into the relevant decision-making bodies. Ideas discussed during the meetings found their way into proposals of PAGES to the National Science Foundations of Switzerland and the US and into the PAGES input to the Future Earth process.

YSM participants were offered the opportunity to publish their work in a special issue as research papers in the internationally established peer-reviewed open access journal *Climate of the Past*. In addition, six YSM participants were invited to be co-guest editors under the supervision of experienced guest editors. The APN beneficiaries Rajeev Saraswat and Guanshen Chen were among these junior guest editors. The special issue is almost finished. Thirteen papers will be published, three of them first-authored by APN beneficiaries (Chen, Matskovsky, Gaire). We plan to highlight each of the articles in the form of brief features in one of the next PAGES magazine issues. At present, two papers are still in the review process, and a preface is in preparation. (http://www.clim-past.net/special_issue65.html)

A report in the AGU's *Eos*, authored by three of the early-career scientists. Reports of the YSM as a whole, and of each of the "The Art of" skills development sessions were written by participants for the PAGES newsletter. The breakout discussions were summarized into brief articles for the PAGES newsletter. Slides were prepared summarizing the peer-feedback on posters and talks and can be downloaded.

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The keynote events of the YSM and OSM were recorded and short impression videos of both meetings were put together. They can be viewed on PAGES' YouTube channel.

4.0 Conclusions

Restate the study aims or key questions and summarize your findings

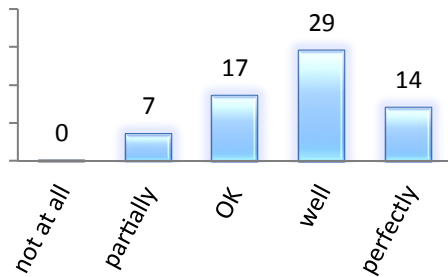
Basic results were that XX selected young scientists participated in the YSM and OSM and certainly learned a lot about their scientific discipline improved some skills required for a successful researcher, and broadened and their international network. How this will have changed their career and how the participants make use of their network and take up leadership roles will only turn out over the years. For the time being, an email list has been created to circulate post-YSM information.

Assessment of the top-ten objectives of the project is attempted in the following:

1. *To support the career development of early-stage scientists and raise a group of future leaders who are accustomed to working in international networks.*

Participants were exposed intensively to information about professional skills and the idea of community self-organization via science programs science-policy platforms and research coordination projects. Some already benefitted from the PAGES network by feeling encouraged to attend other training opportunities and workshops or even by hosting events themselves. Experience from the 1st YSM, however, showed that the real effect of the YSM will only reveal itself after some years.

Post-meeting survey: To what extent did the 2013 YSM provide career-supporting knowledge



Comments:

“Very adequate career-supporting knowledge was provided.”

“Oral and mostly poster sessions were very useful for that.”

“400 expert delegates around the world, a magnificent opportunity providing a better understanding about what is ongoing around the world in the field of Climate.”

“Provided info on other international conferences/workshops”

2. *To discuss global change research and coordination strategies at the highest level.*

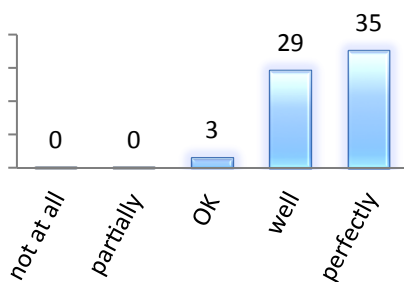
This happened extensively at the YSM and the OSM. The OSM also had a community consultation where participants were asked to write down their expectations to PAGES and to other coordination bodies. Results of these consultations and discussions built the backbone of the new PAGES proposals, PAGES feedback to Future Earth, and will shape the upcoming revision of the PAGES Science Plan.

3. *To launch publication and working group activities that will extend collaboration beyond the meetings.*

A special issue in an international open access journal has been produced. Reports were written, mostly for the PAGES newsletter. All writing activities were mentored intensively by PAGES staff or YSM steering committee members.

4. *To facilitate networking between scientists from different countries, disciplines, career stages, and programmes.*

Post-meeting survey: To what extent did the 2013 YSM provide networking opportunities?



Comments:

“Excellent”

“The OSM was more useful networking wise.”

“Both YSM and OSM were excellent networking opportunities.”

“We were exposed to different networking fora in paleoscience and the interaction with fellow YSM colleagues and the meeting organizers provided an adequate platform for networking.”

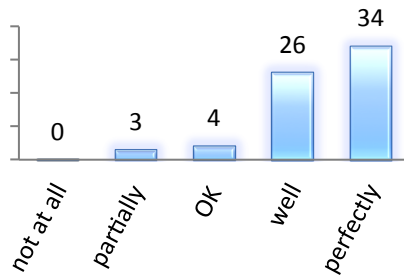
“The relatively small scale of the YSM made it very easy to get to know new people, which made the networking process on the following OSM easier as well. Also, having all the YSM participants staying at the same location helped a lot as well.”

“Only a few people from my field.”

“Living in the same hotel for the full week makes a big difference.”

5. *To foster scientific exchange about past global change research and encourage international collaborations.*

Post-meeting survey: To what extent did the YSM provide a platform for scientific exchange?



Comments:

“Great to meet so many young scientists in similar fields.”

“Experts in the various fields exchanged their scientific ideas with us but i would have expected to hear of student exchange programs because we lack laboratory facilities for analysis of samples for palaeoscience research.”

“During the poster session got some time for discussion.”

“Pages truly provided an outstanding successful platform to me. There was really more ideas, addition for my work and I will shortly come out with all the positive improvement in my work.”

“Depends on own topic representation”

6. *To advance science and promoting regional cooperation on Asia-relevant topics such as monsoon, sea-level rise and the coastal zone, regional climate variability, river systems and estuaries, land-cover change, biodiversity, ecosystem processes, and ocean circulation.*

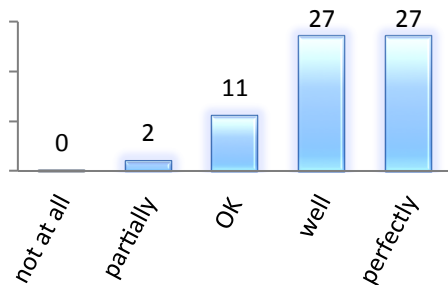
The respective sessions were held and all or most of them turned out to be of highest quality at an international level. Many plenary lectures were specifically tailored towards Asian topics or even given by Asian scientists. The networking opportunities were plentiful and the opportunities provided by PAGES and associated organizations were communicated repeatedly. Whether all this encouragement will bear fruit in the form of scientific collaborations on Asia-relevant topics will also depend on how Asian scientists grab the opportunities and become initiative.

7. *To facilitate science-policy-public interaction in Asia.*

Government representatives and senior scientists advising governments attended to ensure policy input. Rajendra Pachauri, Chair of the IPCC, delivered a public lecture, contributing to public awareness of global change and its impacts on South Asia.

8. *To encourage Asian scientists to be involved in the international global change community and assume leadership roles.*

Post-meeting survey: To what extent did the YSM provide information about PAGES and international organizations?



Comments:

About PAGES yes, but less about other organizations

"Very adequate information was provided on PAGES but not so much on other international organizations"

"Less about other organizations"

"It was good to learn more about the activities of PAGES and other organizations."

"Useful in understanding other paleo organizations"

"I very much liked that senior scientists and PAGES officers attended the whole meeting"

"At times this seemed a little disjunct but overall the message was delivered."

"Not so much, but is that necessary?"

The comment that less was learned about other organizations than PAGES reflects that most other organizations such as APN were unfortunately not able to send a representative.

9. *To broadly involve the APN community in the PAGES debate about future research requirements and directions.*

This happened throughout the meetings but most obviously at the Plenary discussion "Future Earth" towards the end of the OSM, which also included a survey where all participants were asked to write down their priority expectation to PAGES and the larger program network.

10. *To cooperate with global change networks and organizations, including defining the future role of past global change science, particularly in the context of "Future Earth."*

See answer to item 9.

The overall value of the overall project is impossible to quantify. However, the PAGES office had conducted a survey anonymously among the YSM participants several weeks after the meeting. Four items of that survey were already cited above to assess the success towards some of the specific goals. In addition, the following lists the experiences that YSM participants shared. They give a sense of how hugely valuable the event was and how well the money and effort is spent.

Post-meeting survey: Did you have any specific experiences at the YSM and OSM you'd like to share, e.g. did you gain new knowledge, develop new contacts, make new plans for collaborations or get job offers?

"It was a life long experience, had new friends and got to know some new things."

"I want you and the YSM organizing committee to know how gratefull I am for the funding I receive.

The full experience was a great opportunity for young scientist like me and other south american scientists to make interesting exchanges with other worldwide scientists."

"Loads of new contacts which is great. Coming from a geographically isolated scientific community like Australia means the chance to meet my peers at a conference like this is hugely beneficial. I also got a job offer for a post-doc."

"Great new contacts, peers to work with in the future and had a great experience. Would be really keen to help plan the next YSM."

"The discussion of my poster either in the YSM or the OSM provided me several ideas I have not consider."

"I really like the feedbacks of YSM presentations. It is like outside point of view, I think it will help me in future. Thank you very much for it!"

"Between the YSM and OSM I really managed to clarify and develop my future research ideas. In terms of networking I did meet several people and was asked to apply for a post doc. I wouldn't have been able to come without the funding so thank you once again."

"I forged some potential collaborations."

"For me it was a really good experience to meet other young scientists working on similar issues and to exchange with them. I really like the fact that there was first the YSM and then the OSM, because it let us the opportunity to give us time to know each other before the OSM, in special cases when students went on their own to OSM without any supervisor or other colleagues."

"Some of the conferences and posters gave me an opportunity to discuss with other researchers some topics related to genetics and climate change. In this regard, it has been very useful to discuss aspects of population genetics with some specialists. The YSM is a very nice opportunity to discuss various aspects related to climate change in a deepest form. It is a particular instance to see the problems of global climate change with people to the entire world."

"I got the opportunity to meet eminent scientists from different countries and got very good feedback about my work. We are in touch and may be in future, will try to do my post doc with some of these institutes. Thanks to PAGES."

"Really great experience, appreciated the feedback on my work during YSM and OSM, got a job offer, had lots of interaction and collaboration ideas with the Indian colleagues. One of the best conference I've been to."

"I gained an immense knowledge from all the presentations during the YSM and OSM. In addition, I gained an extra knowledge on OxCal age model calibration from Prof. Ingmar Unkel from Kiel university who devoted an additional time to teach me in our room since we shared room with him and I have developed very good contact with him. I am grateful to Prof. Ingmar Unkel for that knowledge. I also developed contacts with other OSM and YSM participants which has been helpful. I wish to say that the e-mail list for YSM and OSM be maintained and any new information such as calls for trainings, conferences, meetings, study opportunities etc be posted via it. I recently received information on POGO training from the mailing list and I will be very grateful if such good information and many more are all posted to us through the list because I have a challenge of lack of access to such information which sometimes limits my participation."

"YSM and OSM provided an opportunity to meet the persons working in the same research field as mine and helped me to develop collaborations with them."

"I am collaborating with someone I met at the YSM on a paper. We are applying the technique she presented at YSM/OSM to my data, and it has been fantastic. I would never have made that connection without YSM. Also, the funding for YSM enabled me to attend OSM. Without the funding I would not have been able to attend. My talk at the OSM was very well received, and I was later invited to submit a review paper to QSR based on my talk. This is a fantastic opportunity for a graduate student that I never would have had otherwise. Thank you!!"

"I developed a huge number of international contacts and for that I am EXTREMELY grateful! I met people that I never would have met otherwise, and reconnected with colleagues whom I hadn't seen in many years. Thank you!"

"Yes, anything 1st time we never forget. It was my first YSM and OSM participation, such a nice experience. Here I got few comments and suggestion which were valuable. I am a beginner in this profession and these events gave me an opportunity to judge myself. Of course I learned a lot and made few contacts."

"I got a lot of new valuable contacts and ideas from a lot to very fruitful discussions, but as I just got a new job I was not trying to find a job there... THANKS again for this great workshop!!"

"I learnt a lot about PAGES and its aims. Great way to meet other young scientists and interact with more established researchers too."

"I developed many new contacts and I am collaborating now with some modellers from MARUM, which already led to a paper contribution. Therefore, the YSM and OSM were very successful."

"Postdoc offer, interest to co-write a proposal, potential collaboration with proxy people (I'm a modeller)"

"I participated in the soccer game. Aside from the fun of it, I was nicely surprised about how many people talked to me when hanging around the posters with the team-clothes on. The conversations started with sport but derived to science soon in an easier way and at least one of them open room for a potential future collaboration for a model-proxy comparison."

"Made many new contacts and developed collaborations. Got constructive feedback on my research."

"Developed new contacts with a colleague from Sweden and made some plans for collaborations with him."

"Yes I met so many people and discussed my work, let see in future what will come out."

"The YSM allowed me to meet several people who are at the same career stage as myself, and opened up general opportunities to network with one another and use our collective knowledge to help each other out. These communications certainly have exposed opportunities for future collaborations- but it is the opportunity to talk to a wide number of people in various early stages of their career which makes the YSM special. Unfortunately, many young scientists don't necessarily have the guidance when it comes to more practical aspects of their career (funding applications, CVs, reviewing papers, supervision etc.) - and this conference has made it easier to communicate with our peers to help us wade through these issues."

"During the conference I got an opportunity to interact with scientists of international forum, also had collaborations."

"Was asked to write a section for the PAGES newsletter."

"I developed new contacts, met specialists in palynology and had important discussions about my research."

"I developed new contacts that could potentially be transformed into collaborations."

"I get opportunity to compare the level and quality of our research to that of other different countries. Ways how can we improve our research quality. Learnt about various proxy sources as well as modeling techniques. Yes, developed some new contacts."

"I would like to thank Pages for making me a part of YSM. Before YSM I was anxious about my work and future, but YSM gave me a new enthusiasm towards my effort, it made me realize world is open, just I need to work more hard."

"Hopefully I got at least one new contact for a collaboration, which is good!"

"Especially at OSM, I was benefitted by a few Indian collaborations, already underway. I got tips from an American worker, on how I was sitting on a gold mine and how I could quantify my qualitative data. Plus, few workers working around my study area, were very keen in my data set. OSM gave me a different perspective on my own dataset."

"I developed new contacts with possibility for collaborations in the future. I also met a lot of people that I did not have the chance to meet before. Thanks PAGES YSM and OSM. Also thanks to the fund support, without it I could not go."

"I made some new contacts, and obtained additional data from someone I met at the conference."

"In my experience the YSM was mostly useful to make new contacts, it was a good networking opportunity."

"One of the best conferences I ever attended. I obtained interesting feedbacks on my work and developed new contacts."

"YSM was especially useful for the new contacts it provided with other YSM-ers around the world."

"Overall understood newer developments in the field. Provided opportunities for the interaction with eminent in the field of paleoclimate."

"The high number of bright young people with diverse, yet similar backgrounds made the whole experience very helpful. I both developed new contacts and re-established old ones, plus now I collaborate with a scientist whom I met there."

"I definitely got an international platform to show my work, which in turn got me closer to the experts of my field. Thanks once again to PAGES for making it possible for me."

5.0 Future Directions

The PAGES YSM is a much appreciated, well-established format that has been copied by other organizations in the meantime and could be hopefully inspire more organizations. The PAGES SSC has decided to hold another YSM in association with the next OSM, to be held presumably in 2017. Participants requested to hold YSMs or similar early-career meetings more frequently. The demand would certainly be there, but currently can't be met by PAGES with its limited resources.

The special issue publication project might be a good model for publication training of young scientists. Especially those advanced young scientists who joined the guest-editor team may have learned a lot. This format could be applied more regularly.

The YSM network can be used to encourage people to participate in disciplinary activities offered in PAGES and beyond. This is happening and ongoing.

References

Special YSM issue, 9 papers already published, 2 more expected to come through:

The Past: A Compass for Future Earth – PAGES Young Scientists Meeting 2013; Eds: G. Chen, A.-L. Daniau, M. E. de Porras, A. Elmore, K. Mills, R. Saraswat, S. Phipps, A. Reyes, and T. Kiefer; *Climate of the Past*, 65, 2014.

http://www.clim-past.net/special_issue65.html

and "Open Discussion Phase": http://www.clim-past-discuss.net/special_issue74.html

Bogus, K., Bouimetarhan, I., Richey, J., 2013. Early-Career Scientists Discuss Research and Future Directions for the Paleoclimate Field. *Eos, Transactions American Geophysical Union* 94, 233-233. <http://onlinelibrary.wiley.com/doi/10.1002/2013EO260007/abstract>

Articles in PAGES news (2013) vol. 21.2

<http://www.pages-igbp.org/products/pages-news/1749-21-2-el-nino-southern-oscillation>

R. Saraswat and B. Jensen, A brief report on the 2nd PAGES Young Scientists Meeting in Goa, India
H. Roop, G. Martínez-Méndez and K. Mills, The Art of Communicating Science: traps, tips and tasks for the modern-day scientist

R. Panchang, A. Govin and C. Omuombo, The Art of Reviewing: Holding up quality in the scientific quality control system

A. Elmore, F. Lehner and J. Franke, The Art of Data Sharing: key in future climate science

S. Dee, F. Muschitiello, Breakout Group A: What should the research questions and priorities in paleoscience be for the next 10 years?

I. Bouimetarhan, H-C. Steen-Larsen, Breakout Group B: Advocating the relevance of paleo- research to a funding agency or policy maker

H.Roop, E. Dietze, Breakout Group C: Challenges and solutions for enhanced paleoscience communication

R. Panchang, J. Richey, Breakout Group D: Key educational ingredients to ensure the success of future paleoscientists

The Past: A Compass for Future Earth – PAGES Young Scientists Meeting 2013, Goa, India

Abstract Book http://www.pages-igbp.org/download/docs/meeting-products/abstracts/osm4ysm2/YSM2013abstract_book.pdf

The Past: A Compass for Future Earth – PAGES Open Science Meeting 2013, Goa, India
Abstract Book http://pages-igbp.org/download/docs/meeting-products/abstracts/osm4ysm2/OSM2013abstract_book.pdf

Appendix

Conferences/Symposia/Workshops

Agenda/Programme (including title, date and venue)

YSM:

http://www.pages-igbp.org/download/docs/meeting-products/abstracts/osm4ysm2/YSM2013abstract_book.pdf

OSM:

http://pages-igbp.org/download/docs/meeting-products/abstracts/osm4ysm2/OSM2013abstract_book.pdf

Participants list (comprising contact details of each participant, including organisation, address, phone number, fax number, and email address)

Early career delegates at the PAGES 2nd Young Scientists Meeting (YSM) Goa, 11-12 February 2013, excluding senior mentors, lecturers, organizers and guests

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Funding sources outside the APN

A list of agencies, institutions, organisations (governmental, inter-governmental and/or non-governmental), that provided any in-kind support and co-funding for the project and the amount(s) awarded. If possible, please provide an estimate amount.

Activity	Organisation	In-Kind (US\$)	Cash (US\$)
Invited OSM and YSM speakers	Indian Ministry of Earth Sciences		31,000
Additional OSM and YSM participants from India, from developing countries and early-career scientists	Indian Ministry of Earth Sciences		60,000
Logistics, promotion, online tools, committees and staff, organizational infrastructure, publication/dissemination	PAGES (through its grant from the US and Swiss NSFs)		80,000
African YSM participants	START		10,000
S. American YSM participants	Regional IGBP office in Brazil		ca. 10,000
Swiss and developing country YSM participants	Oeschger Centre for Climate Research		13,350
Sedimentologist YSM participation	International Association of Sedimentologists		2,540
Icebreaker YSM, congress dinner OSM, local organization	LOC	In kind	
Scientific program, congress website, layout abstract book, public relations, website, financial administration	PAGES	In kind	
General contribution PAGES to cover the remaining costs	PAGES IPO and committee members		209,500
Total			416,390

List of Young Scientists

Include brief detail (full name, involvement in the project activity) and contact detail (name of institution/country and email address) of your scientists involved in the project. Also include short message from the young scientists about his/her involvement in the project and how it helps develop/build his capacity and the knowledge he gained.

1. A.V., Sijinkumar, Kannur University, Kasaragod, Kerala, INDIA, sjingeo@gmail.com
YSM/OSM participant; presentation: Abrupt changes in the strength of the Indian Summer Monsoon during late glacial to Holocene evidenced by episodic increases in Ayeyarwady outflow to the Andaman Sea. He applied to participate in an upcoming PAGES-Holocene workshop.
2. Alappat, Linto, Physical Research Lab., Ahmedabad, Gujarat, INDIA, lintoalappat@yahoo.co.uk
YSM/OSM participant; presentation: Palaeoclimatic implications of Luminescence chronology of Red Dune sands (teri sands) of South India.
3. Ali, Sheikh Nawaz, Physical Research Laboratory, Ahmedabad, INDIA, snawazali@gmail.com
YSM/OSM participant; presentation: Glacier expansion during the Late Quaternary in the monsoon dominated Goriganga valley, Central Himalaya, India.
4. Bajo, Petra, Univ. Melbourne, Carlton, Melbourne, AUSTRALIA, pbajo@student.unimelb.edu.au
YSM/OSM participant; presentation: U-Pb age model for an Early Pleistocene stalagmite from Corchia Cave (Italy). Later in 2013 she attended PAGES co-sponsored Speleothem summer school in Germany.
5. Berkelhammer, Max, University of Colorado, Boulder, USA, max.berkelhammer@colorado.edu
YSM/OSM participant; presentation: The Indian Monsoon anomaly at 4k; dynamical analogs and cultural implications.
6. Bushueva, Irina, Russian Academy of Sciences, Moscow, RUSSIA, irinasbushueva@gmail.com
YSM/OSM participant; presentation: Detailed reconstructions of fluctuations of seven glaciers during the Little Ice Age in the Northern Caucasus Russian Federation.
7. Chen, Guangshan, University of Wisconsin-Madison, Madison, USA, gchen9@gmail.com
YSM/OSM participant; presentation: What is the influence of Tibetan Plateau on the Asian summer monsoon? Barrier versus heating effect. He became a co-guest editor of the YSM special issue and contributed a research paper.
8. Dee, Sylvia, University of Southern California, Los Angeles, USA, sdee@usc.edu
YSM/OSM participant; presentation: Integrated climate-proxy modeling using the isotope-enabled SPEEDY-IER with a focus on tropical climate. She co-authored a report in the PAGES newsletter, started to engage in the PAGES 2k network via the North America 2k working group, and applied to participate in an upcoming PAGES-Holocene workshop.
9. Dixit, Swati, Birbal Sahni Institute of Palaeobotany, Lucknow, INDIA, swatidixit26@gmail.com
YSM/OSM participant; presentation: Late Holocene vegetation vis á vis climate dynamics from Hasila wetland, western Assam, Northeast India: Pollen and diatom record.
10. Gaire, Narayan Prasad, Nepal Acad. of Sci. & Technol., Lalitpur, NEPAL, npgaire2007@gmail.com
YSM/OSM participant; presentation: Dendrochronological studies in Nepal- Current status and future prospects. He contributed a research paper to the YSM special issue. He also attended the PAGES Asia2k workshop in Beijing in May 2014.
11. K, Sandeep, Government College of Engineering, Kannur, INDIA, sandeepk01@gmail.com
YSM/OSM participant; presentation: Paleorainfall variations in Southern India during the past 3154 years: Evidence from Pookot Lake record.
12. Kathayat, Gayatri, Xian Jiaotong University, Xi'an, CHINA, kathayatgayatrintl@gmail.com
YSM/OSM participant; presentation: High resolution characterization of the Indian monsoon over the last glacial period from Bitoo Cave, northern India. She won a poster prize at the YSM.
13. Konecky, Bronwen, Brown University, Providence, USA, bronwen_konecky@brown.edu
YSM/OSM participant; presentation: Data and model perspectives on the Indian Ocean Zonal Mode over the past millennium.

14. Matskovsky, Vladimir, Russian Academy of Sciences, Moscow, RUSSIA, matskovsky@gmail.com
YSM/OSM participant; presentation: Climatic signal in tree-ring width chronologies of European Russia: spatial change and perspectives for paleoclimatic reconstructions. He won a prize at the YSM for his talk and contributed a research paper to the YSM special issue.
15. McKay, Nicholas, Northern Arizona University, Flagstaff, USA, nmckay@email.arizona.edu
YSM/OSM participant; presentation: A 12,000-Year-Long, Annually-Resolved Varve Record Spanning the Last Interglacial from Lake Bosumtwi, Southern Ghana. He is heavily engaged in the PAGES 2k network and is organizing an upcoming North America 2k workshop.
16. Mills, Keely, University of Ballarat, Ballarat, AUSTRALIA, K.Mills2@lboro.ac.uk
YSM/OSM participant; presentation: Developing and validating diatom-based water chemistry models for Ugandan crater lakes - assessing the advantages and disadvantages of regional vs pan-African calibration datasets. She contributed a research paper to the YSM special issue.
17. Panchang, Rajani, Agharkar Research Institute, Pune, INDIA, rajanipanchang@gmail.com
YSM/OSM participant; presentation: High-resolution multi-proxy climatic reconstruction off Myanmar suggestive of climatic modulations due to solar forcing during the past ~489 years. She co-authored two reports for the PAGES newsletter and contributed a research paper to the YSM special issue.
18. Rawat, Suman Lata, Wadia Inst. of Himalayan Geology, Dehradun, INDIA, rsuman26@gmail.com
YSM/OSM participant; presentation: Reconstruction of late Pliocene climate change as derived from a pollen record from Lahaul Himalaya, Himachal Pradesh, India.
19. Richey, Julie, University of Washington, Seattle, USA, jnrichey@uw.edu
YSM/OSM participant; presentation: Reconstructing the past millennium of hydrologic variability in the Western Tropical Pacific using the hydrogen isotopes of lipid biomarkers. She co-authored a report about the YSM for Eos and a breakout group report for the PAGES newsletter.
20. Roop, Heidi, GNS Science, Avalon, Lower Hutt, NEW ZEALAND, h.roop@gns.cri.nz
YSM/OSM participant; presentation: Late-Holocene climate variability in southern New Zealand: A multi-proxy study of laminated lake sediments from Lake Ohau to reconstruct regional climate. She co-authored a breakout group report for the PAGES newsletter and set up a survey among the YSM participants and others about attitudes towards outreach.
<http://www.pages.unibe.ch/news/all-news-items/9-latest-news/84-outreach-survey>
21. Salacup, Jeff, Brown University, Providence, USA, jeff.salacup@gmail.com
YSM/OSM participant; presentation: The missing ocean - Generation of high resolution records of sea surface temperature for the Common Era.
22. Scroxton, Nick, The Australian National Univ., Lyneham, AUSTRALIA, nick.scroxton@anu.edu.au
YSM/OSM participant; presentation: Fluctuations in the Indonesian-Australian Monsoon: New insights from the Flores stalagmite record.
23. Singh, Shilpa, Birbal Sahni Institute of Palaeobotany, Lucknow, INDIA, spsp2226@yahoo.co.in
YSM/OSM participant; presentation: Mangrove and coastal environment changes during the Holocene in the Mahanadi Delta, India.
24. Steen-Larsen, Hans Christian, University of Colorado - Boulder, Boulder, USA, hanschr@gfy.ku.dk
YSM/OSM participant; presentation: Triple water vapor isotopic measurements above the Greenland Ice Sheet and importance for interpretation of ice core records. He co-authored a breakout group report for the PAGES newsletter.
25. Woo, Sumin, Pukyong National University, Busan, REP OF KOREA, sumin81s@gmail.com
YSM/OSM participant; presentation: Evaluation of historical climate simulation with High-resolution global atmospheric model.

Glossary of Terms

Include list of acronyms and abbreviations

Abbreviations and acronyms are explained in the text where they occur for the first time.
No scientific technical jargon was used.

In the Appendix section, the report may also include:

Actual data or access to data used in the study

Abstracts, Power Point Slides of conference/symposia/workshop presentations

Conference/symposium/workshop reports

As this was not a research project, no data were produced.

The abstract books containing all abstracts, some PPTs and videos of presentations, and the reports of the events are all available for download here:

YSM: <http://www.pages-osm.org/ysm/post-meeting-material/>

OSM: <http://www.pages-osm.org/osm/post-meeting-material/>

The final project report must follow the template outlined in this document. Use Calibri font size 12 for all the headings and font size 11 for the text.

The report is to be submitted **one month before the end the Contract Period** in the following formats:

1. By airmail to the address below:
 - a. **Soft Copy – 2 CD-ROMS**, appropriately labeled and covered using the design and information on the cover page of the Report Template
 - b. **Hard Copy – 2 bound copies** appropriately labeled and covered using the design and information on the cover page of the Report Template

Dr. Linda Stevenson
Head, Communication and Scientific Affairs Division
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Chuo-Ku, Kobe 651-0073 JAPAN

2. By e-mail and addressed to Dr. Stevenson (l Stevenson@apn-gcr.org) with carbon copy to Ms Dyota Condorini (dcondorini@apn-gcr.org) and Ms Christmas DeGuzman (cdeguzman@apn-gcr.org).

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 - <http://www.filefactory.com/>
 - <http://www.mediafire.com/>
 - <http://www.yousendit.com/>

3. A separate **CD** containing other project outputs (i.e. publications, photos, etc)