

Minutes of the Sixth Session of the CLIVAR/GEWEX Monsoons Panel held on 11th July 2024 at Sapporo, Japan



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MEETING INFORMATION

Meeting Number	2024-5	Meeting Title	Sixth Session of the CLIVAR/GEWEX Monsoons Panel
Objective/Purpose	To conduct the Sixth Session of the Monsoons Panel (MP) along with the Joint Meeting of MP and Working Group on Asian-Australian Monsoons (WG-AAM)		
Time & Date	11 July 2024 10-12 UTC	Venue	Rose, Keio Plaza Hotel, Sapporo/ Microsoft Teams Meeting

MEETING DETAILS

Chairperson(s)	Suryachandra Rao Anguluri (MP Co-Chair)	Rapporteur(s)	E.N. Rajagopal (IMPO)
Attendees	<p>In-person Attendees: MP (4): Suryachandra Rao Anguluri, Samson Hagos, Hui Su, Hiroshi Takahashi WCRP Secretariat (1): Hindumathi Palanisamy IMPO: E.N. Rajagopal WG-AAM (5): Shiromani Jayawardena, Wei-Ting Chen, Joseph Basconcillo, Lin Wang, Huqiang Zhang Special Invitees (3): Xubin Zeng (Co-chair, GEWEX SSG), Francois Engelbrecht (Co-chair, CLIVAR SSG), Michelle Simões Reboita (Member, WG-AMM)</p> <p>Online Attendees: MP (4): Annalisa Cherchi, Ajaya Mohan Ravindran, Satyaban Bishoyi Ratna, Thea Turkington WG-AAM (7): Gill Martin, Tieh Yong Koh, Parthasarathi Mukhopadhyay, Hatsuki Fujinami, Donaldi Permana, Kieran Hunt, Raghavendra Ashrit, WCRP Secretariat (1): Lian Xue IMPO (1): Susmitha Joseph Special Invitees (1): Sonya Legg (Co-chair, CLIVAR SSG)</p>		
Absentees	<p>MP (6): Leila Carvalho, Ruth Cerezo-Mota, Shabehul Hassan, Salvatore Pascale, Jhan-Carlo Espinoza, Rondrotiana Barimalala IMPO (1): Rupa Kumar Kolli WG-AAM (3): H. Annamalai, Indira Kadel, Usha Tune</p>		

ACTIONS

Deadline	Action	Responsible
As and when required	MP/WG members to contact IMPO for establishing connections for new cross-panel activities.	IMPO, MP & WGs
Ongoing	Continue to build connections with other panels and Light House Activities (LHA) of WCRP and make strong linkages with partner projects.	MP members & Co-Chairs

Deadline	Action	Responsible
Ongoing	MP members to participate in WG meetings of their interest and collaborate on any activity.	MP members & Co-Chairs
31 October 2024	Prepare a concept note on how to integrate all the cross-panel activities and seek support from CLIVAR and GEWEX.	MP Co-chairs
2 September 2024	Send doodle poll for the next online meeting of MP, preferably in the second half of September 2024	IMPO
As and when required	To involve actively in the MP coordinated Monsoon Sessions in the IWM-8 in 2025 at New Delhi, India.	MP and WGs

AGENDA AND KEY OUTCOMES

Sl. No.	Description
1	<p>Opening Remarks (Surya):</p> <ul style="list-style-type: none"> Surya (Co-Chair, MP) welcomed all MP members (in-person and online) to the Sixth Session of the CLIVAR/GEWEX Monsoon Panel (MP 2023-5). He also welcomed all WG-AAM members (in-person and online) to the Joint meeting of MP and WG-AFM. He also welcomed the special invitees, Xubin Zeng (Co-chair, GEWEX SSG), Francois Engelbrecht (Co-chair, CLIVAR SSG), Sonya Legg (Co-chair, CLIVAR SSG) and Michelle Simões Reboita (Member, WG-AMM) to the session. He also thanked both CLIVAR and GEWEX for providing travel support to members to participate in this 6th Session of MP and the Joint Meeting of MP and WG-AAM. He then requested all participants to introduce themselves.
G	<p>Introductions of physical and online participants</p> <ul style="list-style-type: none"> Members of the Monsoons Panel (MP) and WG-AAM, participating in the meeting in physical/online mode, introduced themselves briefly. Xubin Zeng (Co-chair, GEWEX SSG), Francois Engelbrecht (Co-chair, CLIVAR SSG), Sonya Legg (Co-chair, CLIVAR SSG) and Michelle Simões Reboita (Member, WG-AMM), Rajagopal (IMPO) and Susmita Joseph (IMPO) also introduced themselves.
3	<p>Joint Meeting of the MP and the WG-AAM:</p> <ul style="list-style-type: none"> Detailed discussions on WG-AAM Activities (Lead: Gill Martin) <p>The working group, organizes itself in three subgroups, namely:</p> <ul style="list-style-type: none"> SG1: Monsoon Processes and Teleconnections: SG1 is Developing a paper to document operational models' performance of Asian monsoons. And once that is done, there will be a discussion on what the next focus area for this subgroup. SG2: R2O for monsoon seasons in SE Asia: SG2 is developing a journal paper on a monsoon index for Southeast Asia. They have been working on defining what this index should be for monsoon seasons in Southeast Asia, which are obviously complicated because of the equator crossing. They are working currently on refining the index, submitting a paper on it and having more detailed discussions such as what is a monsoon in Southeast Asia. This active subgroup has been working, particularly with stakeholders as well and presenting their work at the Asian SASCOF meetings. SG3: High impact weather events: SG3 is looking at extreme cases, focusing on what makes a good forecast for an extreme event, a useful forecast, not necessarily a skillful forecast, but a useful one. The subgroup is currently putting together a short paper to document particular extreme cases, how good was the forecasts for the events, what the impacts were, and they want to try and collect

that kind of information and try to make that available in the working group web pages, which are hosted by the IMPO on a periodic basis. This is a nice way of looking at how useful forecasting is in different events and why sometimes it's either more useful or less useful. The subgroup will also have ongoing scientific discussions, particularly monitoring the current monsoon conditions in the Asian Australian region and also the weather events and really using the wide range of people that are in the subgroup from various different parts of the of the wide region to see what has been experienced on the ground in the different regions and how that might link to the larger scale activities and to in between each of the regions.

- The working group recently submitted a short article on comparison of the monsoon conditions of 2022 and 2023 to the GEWEX quarterly. This is a part of the WG-AAM's ongoing discussion on these monsoons and really the point of this is to motivate research on this. The WG has done some contrasting and looking at the large scale and local impacts, large scale conditions, with that in mind, will consider writing short summaries of features as we go into different monsoon seasons, which again potentially could be hosted on the working group web pages.
- The working group members have tried to take part in, in conferences and present the work and coordinate things across the monitoring community. Some of our working group members are joining the International Scientific Committee of the WMO International Workshop on Monsoons (IWM-8), which is happening in March 2025 in
- We have regular participation in the climate outlook forums, so most recently the SASCOF-28. There are also members that regularly attend ASEAN COF, Thea particularly is leading that. So, those are also the working group's way of being part of talking to stakeholders and looking at forecasts on an ongoing basis.
- WG-AAM has also been trying to engage in some of the cross-panel activities proposed by MP with available volunteers.

WG-AAM's future plans:

- WG had a whole bunch of new members joining a couple of years ago and the WG is now looking at refreshing the membership, with some of the members who would continue from the end of this year. WG may have to rotate off some members and will look at suggestions for new members.
- WG-AAM has been encouraging MP members to attend the WG meetings, with Annalisa, Hiroshi, Hui Su, Ajaya Mohan, Satyaban joining the meetings and taking active part.
- WG-AAM has been encouraged to invite some of the scientific exchange group representatives from other CLIVAR/GEWEX panels to come to some of the future meetings, so the WG is looking at how to achieve this.
- WG-AAM has been involved with Annalisa in trying to contribute to a special issue on global monsoons and regional monsoons in Advances of Atmospheric Sciences, both as editors and authors.
- So, the ongoing work of the WG really is monitoring and discussing the boreal and Austral Asian Australian monsoon conditions, the extreme events, the large-scale drivers and how things link across and between the different regions in terms of what the impacts are seen. And as in the GEWEX quarterly article the WG wants to try and summarize and make information on what's happening available to the community, hopefully trying to motivate future research.
- **Comments and Suggestions from Members on WG-AAM Activities:**

Hindumathi: Is WG-AAM aware of the Global Extremes Platform (GEP)? The support unit of GEP was established in late 2022, but they've just started getting active. Their plan is very coherent to what WG-AAM is doing. So, it may be good to connect with them. As the

	<p>GEP's support unit is based in China, which is within WG-AAM's domain, it might be interesting if there is something that could be done together with them.</p> <p><i>Surya:</i> Nice presentation. Lots of good work going in the working group</p>
4	<p>Updates from the other Regional Working Groups:</p> <p>WG on African Monsoons [WG-AFM]: - (Lead: Samson)</p> <ul style="list-style-type: none"> • A review article has been submitted on Modelling on climate to “Advances in Atmospheric Sciences”. • A short paper on discussing the challenges of doing climate research in Africa based in Africa is under draft stage. • Some of the African Monsoon working Group members are involved in the proposal for a field experiment over the Highlands of East Africa titled “Highlands of East Africa Water Cycle Experiment (HIAFRICA) that I lead, and the proposal is pending with DoE and I would like to thank the Monsoons Panel & IMPO, CLIVAR and GEWEX for the letters of support. If we get funded, it will be a good opportunity for all of us to get together and work on something concrete. <p>WG on American Monsoons [WG-AMM]: - (Lead: Michelle)</p> <ul style="list-style-type: none"> ❖ WG-AMM is working on the papers for the special issue of Advances in Atmospheric Sciences.
5	<p>Updates from IMPO (Rajagopal):</p> <p>1) Activity Highlights:</p> <ul style="list-style-type: none"> • IMPO actively supported in the successful organization of the International Workshop on Stratosphere-Troposphere Interactions and Prediction of Monsoon weather EXtremes (STIPMEX) held at IITM, Pune during 02-07 June 2024: <ul style="list-style-type: none"> ○ IMPO Executive Head delivered welcome address to participants of the Training Sessions of STIPMEX on 2nd June 2024 ○ IMPO Executive Head chaired session XII on AI/ML in Weather Prediction on 7th June 2024. • Activities related with GEWEX OSC-2024 (8-12 July 2024, Sapporo, Japan): <ul style="list-style-type: none"> ○ The Sixth Session of CLIVAR/GEWEX Monsoons Panel and the Joint Meeting between MP and WG-AAM will be held in hybrid mode on 11th July 2024 during 7-9 PM (Japan Time). 10 members from MP and WG-AAM will be attending the session in-person. The agenda for the session was drafted and circulated along with the MS Teams meeting link. ○ IMPO Executive Head is participating in the GEWEX OSC with IITM travel support • IMPO is playing a key role in the organization of the Eighth WMO International Workshop on Monsoons (IWM-8) at IITM Pune, India by actively involving in the identification of members for the international Scientific Committee (ISC) of IWM-8, broad scientific themes of the workshop, inviting members to be part of ISC and in drafting the first announcement circular of IWM-8. <ul style="list-style-type: none"> ○ Invitation letters were drafted and sent to all identified members of ISC. ○ Google doc was created for the first announcement circular of IWM-8 and circulated to all ISC members for comments/suggestions. ○ Initiated the development of IWM-8 website (https://wmo-iwm8.tropmet.res.in) with the help of the identified IITM IT support team. • IMPO played a key role in the organization of the CLIVAR/GEWEX Monsoons Panel 's (MP) meeting held on 10th June 2024.

	<ul style="list-style-type: none"> ○ Organized the MS teams meeting. Video recording was shared with all members. ○ Minutes of the Meeting (MoM) were drafted and circulated. <p>2) Future Activities:</p> <ul style="list-style-type: none"> ● Active in-person involvement in GEWEX OSC-2024 as member of LOC and through the sessions on Monsoons. ● Organization of the Sixth Session of CLIVAR/GEWEX Monsoons Panel and the Joint meeting between MP and WG-AAM in hybrid mode on 11th July 2024 at Sapporo. ● IMPO will continue to provide support in the organization of IWM-8 at IITM, Pune.
6	<p>Discussions on Cross-Panel Activities and Opportunities with GEWEX Panels (Lead: Surya)</p> <ul style="list-style-type: none"> ❖ Surya began by mentioning that one of the major agenda of this meeting was to develop cross panel activities with GEWEX Panels and although, we have invited Co-chairs of GEWEX Panels, they could not join for various reasons. ❖ Surya then went on to highlight the Present Cross-Panel Activities that have been initiated by MP as indicated below: <ul style="list-style-type: none"> ○ <i>GPEX</i>: Contributed to science Plan and Annalisa Cherchi is now in on interim-SSG of GPEX. ○ <i>OS-Eval TT</i>: Impact of different ocean observing systems on Monsoon Predictions (Elisbeth Remy/Arya Paul and Ajaya Mohan/Surya). The present status is that OS-Eval TT is expected to make available the datasets to MP for analysis and model experiments. ○ <i>Indian Ocean Regional Panel (IORP)</i>: There is meeting on 19th July to discuss about the declined ocean observations in the Indian Ocean and its impact on Monsoon prediction. ○ <i>OMDP/PATAC</i>: Investigating and identifying the factors responsible for overestimation of ENSO-Monsoon relation from Ocean model point of view. Yet to start. ○ <i>GEWEX/GLASS</i>: Impact of irrigation on Monsoon simulation and Prediction in coupled operational models (collaborators: Vimal Mishra and MP members including Surya). This activity will be started soon. ○ <i>APARAC/ACAM</i>: Wei Ting Chen and Lin Wang of WG-AAM are involved. ○ <i>CliC</i>: Hui Su and Hiroshi Takahashi of MP are collaborating with CliC on understanding the connections between the Himalayan cryosphere and Asian monsoons & Impacts of reduced Arctic sea-ice on Asian monsoons. A meeting with interesting parties from CLiC and MP is being organized in August 2024 (CliC Members interested in collaborative activities are Thamban M. and A.P. Dimri). ○ <i>APARC</i>: WG-AFM is in discussion with APARC about co-organizing a workshop to foster more partnership between the global South and North regarding climate change and mitigation. ○ <i>My Climate Risk LHA</i>: Masilin Gudoshava (WG-AFM) is involved. ○ <i>Safe Landing Climates LHA</i>: Izidine Pinto of WG_AFM is involved. ○ Caio Coelho (WG-AMM) is a member of the Expert team on Climate Services Information System Operations, co-chair of the Expert team on Operational Climate Prediction System, and co-chair of the Joint Working Group of Forecast Verification Research. Some of his activities will be converted to cross-panel soon. ○ <i>GEWEX/GHP's ANDEX</i>: MP Member Jhan-Carlo is actively involved in this project as he is also the Co-chair of ANDEX. American based members of MP and WG-AMM are interested to collaborate in ANDEX project.

- ❖ He added by mentioning that as most of the MP & WG members have expertise in modelling/prediction, MP wants to develop a project to work with different panels to see how good the current monsoon simulations/predictions are.
- ❖ *MP's focus on observations*: MP is keen to have observational campaign under JPEX for global monsoons and with GEWEX/Asia-PEX. Zubin has agreed to arrange a meeting between MP and GPEX/Asia-PEX teams.
- ❖ *MONEX-2029*: MONEX-1979 will be completing 50 years in 2029. MoES is contemplating to celebrate it by having a similar observational experiment involving international partners in 2029. MP and other relevant panels of WCRP will be a part of this activity.
- ❖ Asia-PEX is keen to collaborate on predictability of S2S and decadal variability of monsoon with MP and this cross-panel activity will be initiated very soon.
- ❖ Lot of work is going on in GEWEX panels. MP will have to start looking into the available model outputs they have created. This could be one of the starting points that MP can work with GLASS and GASS.
- ❖ There are also some very good projects under GASS like DYAMOND and LS4P-II projects, in which WG-AFM are involved to see how the simulations are capturing the African monsoon.

These are many cross-panel activities in which MP is involved and we look forward to putting all these activities together into a single project. We will prepare a concept note on how to integrate all these cross-panel activities and seek support of CLIVAR and GEWEX.

**Comments from members on Cross-Panel Activities and Other Challenges:
PI. refer Appendix-I**

The meeting ended with the Chair thanking all participants for their active participation in the session.

NEXT MEETING

Meeting Number	2024-6	Meeting Time & Date	Second half of September 2024. IMPO to send out doodle poll
Location	Video conference, details of the meeting will be sent out by IMPO		

Comments from members on Cross-Panel Activities and Other Challenges

Hindumathi: WCRP JSC's response to the MP activity has been very positive. Both CLIVAR and GEWEX have very positive responses to the MP activities and that helped a lot to the JSC as well because they wanted to have a specific discussion on monsoons panel and the interactions with the two core activities. One of the recommendations from the JSC would be to enhance the collaboration with APARC. APARC would also like to reach out more to the Monsoon activity through ACAM and MP

Francois: CLIVAR supports the MP, as it works on monsoons which is a critical part of the climate system which affects the life of billions of people across several continents. There are of course major unanswered questions, including impact of climate change on the monsoons. So, CLIVAR is very much keen to further coordinate and strengthen MP's work on monsoons, including how the joint CLIVAR/GEWEX funding can support panel's work.

Xubin: It is great to note that MP and WG are organizing workshops, writing joint papers and other activities involving panel or working group members. However, there are additional ways to do science by involving the broader community, rather than just recommending what needs to be done. For example, the Tibetan plateau (very near to India and not far away from Japan) –some sensitivity tests conducted have found new/substantial findings. Another could be on Monsoon rainfall which affects more than half the population of the world.

Members should feel even more excited about doing some science together, not just among the panel/working group members, but involve the broader community. In most of the key projects, work is not being done by panel or working group members themselves, instead, by having one or two panel members, working group members, getting the broader community together, truly an international way of doing science together, in either modelling or assessment, whatever you do. If you want to learn how to do projects involving broader community, then talk with other people who have done this or reach out directly to CLIVAR or GEWEX for help. We are not pushing you one way or another, this is just our perspective for your consideration.

Sonya: The panel and WGs are all doing a lot of exciting work, and it is great to have so many people across the world involved. One suggestion on more coordinated science experiments is that MP needs to keep in mind that there are some other CLIVAR panels that do the same thing too. Example, the Southern Ocean Regional Panel (SORP) is doing a coordinated modelling experiment right now. It looks like MP have been really good in communicating amongst all their members. MP needs to keep up the communication with the rest of the CLIVAR and GEWEX panels.

Hiroshi: We should have some meetings on specific topics and such kind of the activity should be shared openly with wider monsoon community. For cross-cutting activities we should set up small working groups to discuss and initiate some science activities, other members can join later if the topic is interesting to them.

Hui Su: A coordinated research project is a grand idea. Suggest calling for some coordinated research beyond our Panel or WGs, by working with other organizations or working groups or panels. This would have a broader impact. In the case of the Tibet Plateau project, GEWEX reached out to many other organizations. MP/WGs would need some guidance from GEWEX or CLIVAR on how to reach out to other organizations. MP should expand our activities and organize more people to do work on some bigger program.

Tieh Yong: There are two kinds of work that WGs are involved in. The first is a coordinating kind of work among a larger scientific community, which is very valuable. There the WG could play the role of facilitators and just be the catalyst to the work so that it achieves something. There is another kind of work that WG does. It is where we see certain areas not addressed, some niche areas that has largely been overlooked by the international scientific community for various reasons like lack of funding or that simply those regions of the world do not have so many scientists. So, that is where

our WGs can come in and seed research, and in that case, WG will have to do the work ourselves and put the results out. Hopefully, it may stimulate more interest and then get the ball rolling. So, there are merits to both, doing work ourselves and being the catalyst or facilitator in wider community. Frequently one type of work that is overlooked in the scientific community are those on more applied research, which feeds directly to the operational centre's work.

Surya: As mentioned by Tieh Yong, we have a strong R2O component in MP for both South Asia and Southeast Asia, WG-AAM really contributes to the climate outlook forums of WMO.

Huqiang: WG-AAM can propose some science to really address what is terribly missing now operationally. The WG can come up with what specifics of monsoons need to be addressed from a research perspective by GPEX. From supporting operational service perspective, monsoon onset is important and so are the extremes in the monsoon season, which could also be a topic for GPEX. WG-AAM has been working on a regional monsoon index with a purpose really to support some of the operational applications.

Annalisa: I started Google doc on GPEX for the monsoon panel to provide some ideas and perspective on what the activities within JPEX can be. The point was that the monsoons are perfect test cases for the JPEX's objective "improvement and better understanding of the precipitation in every respect". Let us use the coming months to add more ideas into the Google Doc and then see how to find the good balance within the JPEX. The next year we will be able to start something in practice as a joint activity.

Wei-Ting: I was thinking more about the observational aspects, especially as GPEX has plans to develop some anchor observational projects. There may be in our own country or at an institute, some very small observational campaigns that are ongoing or being planned and these observational plans can somehow be related or expanded to achieve some cross-country activities. As the international campaigns, takes a longer time to develop and plan, if we know who the active members are, who have better knowledge of their own regional field campaigns, and we can document some of these activities. Then through CLIVAR/GEWEX we can have a better idea on where the opportunities for us are to link together.

Gill Martin: It is important to remember that we are all volunteers, and we are also doing science ourselves and writing papers as a part of our paid jobs. By galvanizing people into projects and raising funds, we could be contributing to putting people together in the community. We could be contributing to providing expert input into some of these plans for bigger projects and there are lots of things we could be doing. We cannot do all of them. So, I do think that that it is quite important really to decide what we want these panels and working groups to be doing. Organising other people to do our work, that would be lovely, but that would take more time than doing it ourselves.

WG-AAM has got a mix of research and operational people for a good reason, and we want to try and broaden these to get that breadth of their experience. There have been some good successes in all the working groups and the monsoons panel over the years. The thing is that we have had more success at are the ones where we have not made the scope too big. However, if we try to do something very big, it would be great and rewarding, but the danger is that some of us just will not do anything, because it is just too difficult. I also would say it does not have to be the same for each of the working groups necessarily, or each of the panels, it would partly depend on who you have got and what you want your focus to be at the time.

Tieh Yong mentioned about identifying gaps and trying to initiate and stimulate interest by producing something small, that was what WG-AAM was trying to do in the GEWEX Newsletter article about looking at what is happening in the monsoons, in our currently changing climate. So, we should be writing something short which would galvanize other people to do that research. Similarly with the observations as Wei-Ting mentioned, we need to identify where the gaps are in observations, then try to bring things together and by putting information to whoever can generate observations – then expect the observational people to take care of the campaign.

Samson: In the African observational work, a lot of the funding comes from international organizations, from European agencies. Is there a way for us to reach out to these agencies and

inform that here are some interesting research ideas or even notifying the scientific community when a proposal call is out it could be a small service. I think looking at both ends of this challenge, that is the Scientific Committee on the other end, the funding agencies on the one hand could be an opportunity for us to be able to do more with less burden on ourselves. Can CLIVAR/GEWEX connect to funding agencies it would be helpful.

Francois: CLIVAR gets its funding from essentially WCRP every year around 80000 CHF. CLIVAR makes a very difficult decision how to divide that funding across its various panels and the working groups. Every year, SSG meets to look at the requests and as there is usually not sufficient funding to fund all the requests and very hard decisions are made. CLIVAR also try to rotate the funding as fairly as possible across the panels. The bigger question is how we can increase the available funding pool to satisfy all.

Xubin: There are multiple aspects on funding. First, we do interact with the funding agencies representing international program to help them understand what the future directions are where they can invest more suggestions, they make their own decision, for the community.

CLIVAR and GEWEX together can essentially provide some small travel support only. And then how can you do new things when we are all volunteers? "Do not do things you can do but do the things you love to do". In other words, you want to do it, do it yourself for your own reason rather than because you need to do it for monsoon panel or CLIVAR or GEWEX. For doing something you love to do, monsoons is a wonderful topic.

The international program provides a platform for you to do something you cannot do yourself. I know GEWEX very well. Example, the Tibet Plateau project that got zero money from GEWEX. Another example field campaign, you talk with the China and talk with India, Japan, South Korea, Philippines and Singapore - as all want to do some field campaigns. You have the monsoon panel; you can reach out to anybody. And who knows, even with the initiative from JPEX, you could become the anchor project just by putting what you want to do.

It's really the way to think. It's the angle, then suddenly you see new paradigm to do your science at the same time. Remember, don't get burned out. Just do what you love to do.

Lin Wang: I think we should start from what we are doing. We can expand from our original research so that we can attract more talented people and more people with enthusiasm. In this way, our original idea can expand into a bigger one. I think this is very important and for our subgroup in the WG-AAM and we had the discussion several days ago and we agreed on this point.

We should establish the gap between the research and operational, identify some potential points and then have a brainstorming to find some way to move forward. I think that Monsoons Panel is a good platform, and we should make the best use of this platform.

Shiromani: As I am working with a lot of stakeholders, how to go beyond operations to the end users? How to make them confident about the forecasts? If we provide the past model skills in predicting high impact events to stakeholders, it will be useful.

Hindumathi: Regarding funding possibilities, I don't have anything more to add to what Francois and Xubin have mentioned, as they both mentioned what WCRP provides is just kind of seed money to establish some meetings, working group meetings or workshops to discuss something.

Now we are in a trial period within WCRP with a kind of a new funding budget process where the WCRP has identified something called as strategic funding. So, what we wish to do is every year if one activity comes up with a high priority or high impact project, it doesn't necessarily have to be a high impact journal publication, it could be anything that is going to serve something directly to the societal need. And if this activity is promising to interact with various other WCRP activities, just for example, MP has this project in mind in which they will be interacting with several other core activities and LHAs, then the JSC will be ready to provide strategic funding for this project. There could be a certain criterion that at the end of this timeline there is a deliverable result coming out from the project. 2025 will be the trial and after this if all the other activities within WCRP like this idea, moving forward this would be more standard.

Even the annual budget allocation of 80000 CHF that Francois and Xubin mentioned per core activity might fluctuate based on this strategic funding, which may not make the core activities happy.

But the idea is to instead of having something going on for years and years together, if we can have one concrete project or activity with a concrete result, within next few years is what the WCRP would like to kind of encourage and see if it works.

Surya: Thank you for this information and MP will try to come up with some proposal for this strategic funding.

Samson: The question is there a way to align what we do as a part of our activities in the MP/working groups? Therefore, is there a way to inform the funding process and the funding agencies, what interests us in MP is aligned with what interests them and hence what they are willing to fund. All this opportunity to collaborate, but actual research funding that would advance the science.

Rajagopal: MP and IMPO did provide a letter of support to Samson for the project on East African observations. In the support letter we endorsed that the project to be useful for the WG-AFM monsoons.

Surya: Whatever work we are doing, we must make sure that it is translated. CLIVAR, GEWEX and WCRP are endorsing whatever we are doing. So, with this message we should conclude this session.