

Meeting Minutes of CLIVAR/GEWEX Monsoons Panel

MEETING INFORMATION

Meeting Number	2023-2	Meeting Title	CLIVAR/GEWEX MP Teleconference
Objective/Purpose	Discuss on the Agenda Items below and progress on action items		
Time & Date	31 March 2023 06:00-07:00 UTC	Venue	Microsoft Teams Video Tele-Conference

MEETING DETAILS

Chairperson(s)	Leila Carvalho (MP Co-Chair)	Rapporteur(s)	E.N. Rajagopal & Somnath Mahapatra
Attendees	MP: Leila Carvalho, Gill Martin, Ajay Mohan Ravindran, Rondrotiana Barimalala, Mary Kilavi, Pankaj Kumar, Thea Turkington, Ruth Cerezo-Mota, Hiroshi Takahashi, Hui Su IMPO: E.N. Rajagopal, Rupakumar Kolli, Somnath Mahapatra		
Apologies	MP: Suryachandra Rao Anguluri, Annalisa Cherchi, Shabehul Hassan, Salvatore Pascale IMPO: Sushmitha Joseph		

ACTIONS

Deadline	Action	Responsible
As and when required	Updating of contents of webpages and websites of Monsoons Panel, populating the IMPO webpage with more information on the activities of panel and WGs.	MP & IMPO
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
October 2023	Active participation in OSC-2023 through active participation in the monsoon session, poster clusters and in drafting WCRP OSC's Concept Note on Monsoons	MP members & IMPO
Ongoing	MP members to participate in WG meetings of their interest and collaborate on any activity.	MP members & Co-Chairs
15 May 2023	Send doodle poll for the next meeting by teleconference, preferably in the fourth week of May 2023	IMPO
15 May 2023	To explore the possibility of creation of a separate section for MP in IITM YouTube channel for storing MP webinar recordings	IMPO

AGENDA AND KEY OUTCOMES

Sl. No.	Description
1	<p>Opening Remarks (Leila):</p> <ul style="list-style-type: none"> Leila (Co-Chair) welcomed all the MP members and IMPO members present in the second meeting of the Monsoons Panel in 2023 (MP 2023-2). Leila welcomed the 3 new members, namely, Hui Su, Ruth Cerezo-Mota and Hiroshi Takahashi to the Monsoons Panel and requested them to briefly introduce themselves.
2	<p>Introductory Remarks of New MP members:</p> <ul style="list-style-type: none"> Hui Su mentioned that she was earlier (for 17 years) at JPL, Caltech in Pasadena, CA. Her research interests are in Tropical deep convection, TC, Monsoon, Precipitation, Cloud Microphysics, climate impact of clouds. She is setting up an observatory in HKUST to study tropical convection, precipitation, especially cloud microphysics. There will be Cloud RADAR, Aerosol Lidar and Micrometer Radiometers to measure the convective processes, which will also be useful in monsoon related studies. She added that the HKUST observational datasets will be available to MP members. Plans are to mostly analyse the collected data, also make simulations with models like WRF and CSM to study convection, cloud and precipitation processes. <ul style="list-style-type: none"> Leila appreciated the Sui's proposed observational setup, which will also be useful to MP & WG members Ruth Cerezo-Mota mentioned that she has been working on American Monsoons for many years since her Ph.D. She has been using RCMs for extreme precipitation and droughts, currently focusing on the extreme events in the Mexican peninsula and North American monsoons. <ul style="list-style-type: none"> Leila added that Ruth is also a Co-chair of WG-AMM Hiroshi Takahashi mentioned that he is working on Asian Monsoon for the last 15 years, focussing on the impact on air-sea and land-atmosphere interactions. Using TRIMM and GPM data for analysing precipitation characteristics, land and ocean differences, using high resolution climate model to understand the precipitation characteristics. <ul style="list-style-type: none"> Leila added that it is very exciting to have the three new members in panel, who are working on very interesting research topics.
3	<p>Updates from the Regional Working Groups:</p> <p>(A) WG on Asian-Australian Monsoons [WG-AAM]: - (Gill Martin)</p> <ol style="list-style-type: none"> 1) Activity Highlights of the Monsoon Processes & Teleconnections (MPT) sub-group: <ul style="list-style-type: none"> Draft paper being written on ongoing work. Lots going on mostly by email. Looked at skill of S2S and bottlenecks, and why teleconnections to Nino SSTs are poor. Aiming for paper submission soon. Surya is leading on this. 2) Activity Highlights of the R2O for monsoon seasons in SE Asia (R2O) sub-group: <ul style="list-style-type: none"> Index based on wind (from McBride, 2016) being tested using NCEP/NCAR and ECMWF reanalyses. Results looking good so far. Have found different regimes of winds which the index distinguishes based on change in flow direction between winter and summer. Aiming for first draft manuscript by end of this year, with collaboration between WG-AAM and other operational researchers. Potentially test on Monsoon 2022 as and when data are available. 3) Activity Highlights of the High impact weather events (HIW) sub-group: <ul style="list-style-type: none"> Aiming for white paper soon on operational centres' forecasts for extreme events, using case studies already identified. Also relevant to monsoon 2022 overview work. Monsoon 2022: Work continues on this, Raghu Ashrit is coordinating. He has drafted and circulated a storyline which will ultimately be submitted as paper. Winter monsoon 2022/23: Some unusual weather - connected to summer monsoon 2022? Probably related to ongoing La Nina. Plan to talk about this in next meeting. Developing El Nino will be interesting for summer outlook. 4) Future Activities: <ul style="list-style-type: none"> Several members have submitted abstracts to WCRP Conference in Kigali. Some members attending AOGS in Singapore, EGU in April and SASCOF-25 in April 2023.

Comments from members:

- Leila remarked that the coordination for this WG is quite **in** a framework, on how things should be. It is very nice to see all this progress and results.
- Hui and Hiroshi expressed their interest to participate in the future meetings of the WG-AAM.

(B) WG on African Monsoons [WG-AFM]: - (Rondro)

1) Activity Highlights:

- WG-AFM submitted a review paper on African Rainfall for the different sub-regions, West Africa and Central & East Africa. The paper was rejected, with very constructive comments from the reviewer for improving the paper. Working on revising the paper to resubmit it.
- In the West Africa sub-group, there is an ongoing discussion on training to be done online mainly focused on West Africa Monsoons and also on capacity building in terms of data analysis for ECR. Discussion **is continuing**.
- West Africa sub-group is also currently exploring the DYMOND simulations to assess the representation of extreme events in their area.
- It has been decided to have presentations from the group members during the WG meetings every 2 months. There is also a suggestion to change the presentations to webinars which can be open to public to have a kind of outreach on African monsoons. This will help in the African public to know more about their monsoons (their current knowledge is low) and help the community to understand what kind of research is ongoing in terms of African monsoons.
- Discussion on linking the work done by the members and the activities that are in the WG, because most of the members are ECRs with teaching career, there was a discussion on making more educational videos available on YouTube. These are only ongoing discussions among the members.

2) Future Activities:

- Central Africa is planning for having a review paper on the roles of Central Africa in modulating the West African and SE African monsoons because Central Africa is the mid region in the area. However, now that they have decided to do a research paper, instead of a review paper as there is not much to search down in the area.
- Southern Africa sub-group has plans to look at the intra-seasonal variability of monsoons in their area and look at S2S forecasts, which has a big interest in the region, as there are members from regional climate centres from south and east Africa.

Comments from members:

- Leila mentioned it is very nice to see the WG-AFM is invigorating, having periodic meetings. All the ideas are great and certainly MP & IMPO **are** ready **to** extend their support, if any required.

(C) WG on American Monsoons [WG-AMM]: - (Ruth)

1) Activity Highlights:

- The Co-chairs of WG-AMM (Alice and Ruth), Leila and Rajagopal had a meeting recently which was just to see how this WG can foster some activities within the region and also making some sort of outreach activities.
- The WG has a difference with some other WGs, as it doesn't have many people from the operational centers and would like to start some sort of connection with the operational centers and try to get to know what they need and how much WG can provide or to create some products for them.
- There were some discussions about probably having some webinars as a part of this activities to get engaged with the people in the region.

2) Future Activities:

- Alice proposed to the start the preparation of White paper or a paper on the skills on predictions of the monsoons over the region.

	<ul style="list-style-type: none"> The group has plans to organize a workshop for next year in Mexico, but still need to secure some grants and funding for the activities <p>Comments from members:</p> <ul style="list-style-type: none"> Rajagopal added that there is an urgent need to fill up the vacancy created with the resignation of Mary Kayano with someone from an operational agency. Leila requested to Ruth to take up this vacancy matter with Alice on an urgent basis. Rajagopal mentioned that as a follow up of the request to MP members to attend WG meetings of their interest, Ajay attended the last meeting of WG-AAM and Annalisa attended partially the last meeting of WG-AFM.
4	<p>Updates from IMPO (Rajagopal):</p> <p>1) Activity Highlights:</p> <ul style="list-style-type: none"> GEWEX funding (5K USD) for the in-person meeting of MP & WG-AFM at OSC-2023 for this has been approved. Subsequent to the approval of the SSGs of and CLIVAR and GEWEX of the 2023 MP membership changes, IMPO completed the formalities of inviting the new members and thanking the departing members. Pursued with WWRP for use WWRP's IMPO funds for the participation of IMPO (1 person) & WGTMR (2 persons) in WWRP/WCRP S2S Summit, in Reading, UK. WWRP has agreed to the proposal. Received GEWEX invitation for SSG-35 meeting in Santiago, Chile during 1-4 May 2023. Surya will be attending with GEWEX Travel Support. Received Invitation letter to attend WCRP JSC-44 session in Brussels during 8-11 May 2023. Rajagopal will be attending with IITM & WCRP travel support. Participation in the Annual Monsoon (2022) Workshop on 28th March 2023 organized by IMS Pune Chapter, IMD & IITM Participation in the National Symposium on Challenges in Climate Services for Health Sector in the warming environment during 29-30 March 2023 organized by IMS Pune Chapter, IMD & IITM IMPO has been coordinating and organizing online meetings (4 meetings) session convenors (Andy, Surya, Tereza Cavazos & Paola Arias) of "Global & Regional Monsoons" of OSC-2023. Created OSC Monsoon Session Convenors Notebook using OneNote over SharePoint. Drafted and send the invitation letters (after approval from the Convenors) to the identified Keynote Speakers (Alice, Rondro & Roxy) of "Global & Regional Monsoons" session of OSC-2023. 4 papers for the oral presentations from 59 Abstracts has been shortlisted by the Session Convenors. <p>2) Future Activities:</p> <ul style="list-style-type: none"> Participation in the SASCOF-25 Session (27-29 April 2023) of MP & WG-AAM members. Organization of a 2-hour online meeting with Stakeholders, WGTMR & IMPO to identify the needs and gaps in S2S monsoon prediction for agricultural management during the last week of April 2023 Surya will attend the GEWEX SSG-35 meeting in Santiago, Chile during 1-4 May 2023 Rajagopal will attend the WCRP JSC-44 session in Brussels during 8-12 May 2023 IMPO looks forward to its active involvement in WCRP OSC-2023 through the session on Global & Regional Monsoons and the two accepted Poster Clusters. Looks forward to IMPO's active involvement in the proposed In-person meeting of MP and WG-AFM during OSC-2023 at Kigali.
	<p>Open Discussion on MP & WG Activities: (All)</p> <ul style="list-style-type: none"> Rupakumar added that the idea of webinars is a great one from WG-AFM, same can be adopted by other WGs. The webinars can be opened up not only to the WG members, but also for the other monsoon research communities within the region and outside which can be very helpful for us to focus more on the scientific aspects rather than discussing typical WG and MP routine activities.

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- Leila added that the webinars can be in non-English (Spanish, Portuguese), as we would like to have more participation of the Community or even end users.
- Ruth mentioned that she liked the idea of webinar, so would be helpful if we actually have just a monsoon webinar series in which the monsoons of the different regions can be presented.
- Rupakumar added that the different time zones may be an issue for real-time attendance and hence the recordings can be made available through IITM's YouTube channel (an option). Probably IMPO can try to create a separate section for MP in IITM YouTube channel. Rajagopal responded that he will check with IITM IT support for the same.
- For interactions after webinars there are also things like slack board, things like that, other online tools where people can pose questions and then speaker respond at a later date.
- Rupakumar also suggested that it will be good to formally invite the WWRP's WGTMR-members who are interested in Monsoons to the MP meetings, which can be a good way to interact with weather scale activities of that group.
- Rajagopal mentioned that IMPO to have a big event "Global Monsoon Research Summit", during 2024 last or maybe 2024 beginning, which could be jointly funded by WWRP and WCRP.
- Rajagopal added that, if possible, he will raise the issue of low funding (10K USD) for MP from WCRP at JSC-44, which is substantially less for having in-person meetings.
- Rupakumar intervened to inform that WCRP is limited by its overall funding, which they try to distribute among the various core projects and typically their resources are very modest and limited. So that is the reason why we don't get much **fund** percolating to the panel activities.
- In addition to that, as Rajagopal is attending JSC, there is another aspect that probably he can discuss, at least informally with the WCRP.
 - This monsoon panel is a CLIVAR/GEWEX monsoons panel, but I still don't see in what way these core projects are getting involved in MP activities apart from reviewing MP reports.
 - Once in a while and then giving taking decisions on membership, etc., I think there should be a more thematic engagement of CLIVAR and GEWEX in the activities of the MP and in addition, there is also an interest by the SPARC Core project. So, like that, there may be many WCRP core projects which have monsoon related interest.
 - It is high time that monsoon is elevated into something that the JSC itself can lead and guide the process to make sure that all the core projects effectively contribute to the MP activities. Given that the IMPO which is kind of a global hub for supporting and coordinating Monsoon research, so this can be done in a more comprehensive way if Monsoons is elevated in the way WCRP is organizing itself.
 - Responding to Leila on how this can be done, Rupakumar mentioned that the first step is probably for Rajagopal to highlight the common interests of many of the core projects in monsoon research and related activities and request JSC to find ways for the core projects to work together, otherwise the core projects are working in silos. There is very little cross project activities apart from supporting panels like this MP.
- Leila intervened to add that CLIVAR SSG have been asking MP to invite othe panels to attend MP panel and the working group meetings.
- Rupakumar added that there should be a more high-level involvement in supporting the cross-core project activities, because there are monsoon interests in CLIVAR, GEWEX and even CORDEX and many other even the RifS (Regional information for Society). For example, there is a Core project CliC, which is focused only on cryosphere, so there could be a Core project on Monsoons which can be coordinated by JSC. This will not come immediately, but we should at least start some discussion on those lines.
- Hui Su added that she heard from GEWEX Co-Chair (Xubin Zeng) about the long-term GPEX that is being planned, which is quite relevant to MP as it is deals with precipitation. So, I wonder, may be the MP could do some kind of specific integrated project on monsoon precipitation.
 - For example, MP can take up a model inter-comparison project focussed on monsoon precipitation as our contribution to the GPEX.

	<ul style="list-style-type: none"> ○ So would serve the purpose of looking at a specific process like clouds, convection or physical process representation in monsoon and how that impacts the simulation of precipitation. ○ We may collect and keep data in a common repository, maybe also used for the calibration of precipitation or comparison of different products. ○ It can be either model or data focused project on monsoon precipitation. ● Rupakumar added that the Hui's suggestion is excellent and the same should be pursued as precipitation is the highest priority in the monsoon regions. ● Rajagopal informed that Annalisa was working on the white paper on GPEX as a member of Tiger team. The white paper was circulated for comments & suggestions to International-community. Need to check the white paper to ascertain if model inter-comparison of precipitation is already a part of GPEX.
6	<p>SASCOF-25 Discussion: (Lead: Rupakumar)</p> <ul style="list-style-type: none"> ● South Asian Climate Outlook Forum covers about 8 to 9 countries in South Asia, mainly the Indian subcontinent, extending from Afghanistan up to Myanmar and going South up to Maldives. ● The forum typically organizes their sessions, twice in a year, one for the summer monsoon, covering June to September and the other for the winter monsoon or NE monsoon for the period October to December. ● The MP and also the WG-AAM has been engaged earlier with SASCOF, but I think we need to find ways to have a more substantive involvement in understanding their research needs and also providing some suggestions for improvement in the way they prepare the seasonal forecast based on the various global inputs and on also downscaling/calibrating to the regional scale. ● IMPO can work with the organizers, typically led by the India Meteorological Department (IMD) as the lead agency for SASCOF, which is luckily located in Pune itself and IMPO & IMD Pune are closely associated. Already Rajagopal and I have discussed with the local organizers and there is a possibility for getting involved in the coming session, which is, as Gill and Rajagopal had mentioned earlier, during 24-26 April 2023, which is fully online. So, in that sense, the logistics for participation should be, relatively easy. One way is to have someone from the WG-AAM to make a science presentation on the current status of seasonal prediction for the region, that's one part that is mainly to raise awareness about recent research highlights. ● In addition to that, I think the working group may consider having a kind of science audit science audit of the procedures being followed by the SASCOF and provide some feedback, mainly from a research perspective and see if there are any potential ways in which the for the whole process can be improved. ● As we know, the regional Climate Outlook forums are there in many parts of the world and also covering the other working groups as well, so these are very important platforms for the research community to engage with the operational community. The most important part in this is that many of these subregions, the countries have common regional climate drivers, and it is very important that they use mutually consistent regional inputs to work out their national level products. ● The MP's support is for not only seasonal prediction, but also covering all the time scales from sub seasonal to climate change timescales, so that will be very helpful. As in the present context, task of Climate Forums is mainly focused on the seasonal forecast, so we can start with that and then see how we can broaden that to cover other timescales. ● Few of the members intervened to add that they are attending the SASCOF-25 online. ● Rajagopal added that the Concept Note is available in the MP Notebook for members for viewing/downloading. ● Rupakumar added that as SASCOF-25 participation is by invitation only, IMPO can contact the organizers and arrange invitations for the people who are interested in attending. ● Leila mentioned that, it would be quite nice in some ways if there was someone who goes to one of the other COFs, to understand the kind of working practice are followed by the COF and to look at what the different regional ones are doing, because presumably the

	<p>communities that go to each of those are not necessary the same. So, for instance, anyone who goes to Asian COF might consider going to SASCOF or at least for a bit of it, just to see whether there are overlaps in the way the practices work. The point is that it would be useful to possibly have some overlap and discussion between those different groups.</p> <ul style="list-style-type: none"> • Mary added that it is a great idea to be able to learn from the other COFs and that she personally would be interested in SASCOF, as there is quite some connection between some of African seasonal outlook with that of the Asian. • Hiroshi mentioned about ASIAPEX in which people from Japan and India are involved, which is a part of GPEX of GEWEX's Hydroclimate Panel. Some of the MP members could join the ASIAPEX meetings.
7	<p>Discussions on Monsoons Session at OSC-2023: (Lead: Rajagopal)</p> <ul style="list-style-type: none"> • An update on the monsoon session, there are about 59 papers which have been received, 4 have been shortlisted for oral presentation. • Keynote speakers have been identified, three of them. • The session convenors are supposed to come up with a concept note on global & regional monsoons, for which they will have further discussions with the keynote speakers and others very soon. • On the funding for in-person presenters, WCRP/OSC is yet to take a final decision. Decision expected in May 2023 • Rupakumar intervened to add the following: <ul style="list-style-type: none"> ○ As OSC is a once in a decade type of event, the MP should think of preparing a position statement on the monsoon research covering all the monsoons and also the global aspects that can actually be integrated into the report that can come out of the OSC. ○ Suggest that the MP can start preparing some kind of position statement and also outstanding questions and challenges that can be taken up as part of the WCRP overall strategy. ○ This is an important activity and a very useful opportunity to highlight importance of the monsoon research. Particularly keeping in view that the global population, of which a large proportion of the global population is dependent on monsoons and given WCRP's recent focus on delivering science to the society, this is very important. MP should try to actually bring greater priority in the way WCRP plans its work for the coming years. ○ Some involvement in the preparation of the report that comes out of the monsoon session that can be integrated into the overall report. So, it will be good to have MP's own statement ready for giving it to OSC Convenors at the appropriate time. This will need some preparation within the MP, which can actually be used for that purpose and at a later stage MP can make it as its own report that can be also published separately. • Rajagopal added that he will discuss with the 4 monsoon session convenors when they meet next time as they also require inputs from various people. Suggested on that MP and the WGs together can give some sort of write up which can be incorporated into the Concept Note being prepared by the session convenors. An input directly from the MP to WCRP, will have more importance and weight.
8	<p>Discussions on the In-person MP meeting at OSC-2023 (Lead: Rajagopal)</p> <ul style="list-style-type: none"> • Already discussed in detail by Rajagopal - With 7 MP & 12 WG-AFM being available for the meeting out of which 11 people requiring travel funding. • As the available funding is limited, encouraged all to avail funding from OSC or other sources. Hope that some of the abstracts from Global South would be funded by OSC • Financial support notifications will be made by WCRP/OSC in May 2023. Things may be more-clear during the WCRP JSC-44 session in Brussels. • There is no clarity on the availability of a meeting room with hybrid facility as all the on-site rooms are already booked for the Side Events as per WCRP (Nico).

	Hope to have some more clarity on this in the next IPOs & WCRP Group meeting next month or during WCRP JSC-44 session in early May.
9	<p>Date/time of next meeting (Lead: Leila)</p> <ul style="list-style-type: none"> The next meeting can be in the last week of May 2023, if everyone agrees.
10	<p>Any other business</p> <ul style="list-style-type: none"> Can the working groups watch at least the monsoon session online at OSC? Reply: Need to be explored with WCRP/OSC Can Gill share the manuscript on the Asian Australia monsoon once ready? Reply: We will, when we get to that stage, I think so we're not quite at that stage, but yes, I don't see any reason when these things are ready for submission, why they can't be circulated round. Gill her thoughts on webinars - webinars is perhaps slightly less of an overhead and potentially has more reach and so quite like that idea actually. So, I would go back to the working group and say, you know if producing a paper from this effort is going to be really difficult, it would also be good to do a webinar. So, I quite like that idea as an outreach activity as well. Leila thanked everybody for attending the meeting.

NEXT MEETING

Meeting Number	2023-3	Meeting Time & Date	Last week of May 2023. IMPO to send out doodle poll
Location	Video conference, details of the meeting will be sent out by IMPO		