**LS4P Asian Team Meeting Minutes for Discussion**

***Date:*** 14-15th August, 2023

***Venue****:* Nanjing, China

***Moderator:*** Yongkang Xue

***Record by:*** Yalan Fan

**Part I. RCM Protocol**

***Discussion Topics:***

* **TOPIC: Discussion and finalization of the LS4P-II RCM protocol & Discussions of the LS4P-II activity and plan**
* Main contents:

1.

*Yongkang*: **Two inspiring things about RCM**: Firstly, **RCM can produce some regional responses**. For example, Tang’s report shows that it is wet in the south of Yangtze River in the warm case, which is consistent with GCM. Secondly, even the temperature anomaly over TP keeps just a short time (15days in the surface soil), it still **can produce perturbation**.

*Xin-Zhong Liang*: Use CWRF we can simulate quit reasonable response over eastern China in delayed time (such as from spring to summer), including precipitation and temperature. The response can sustain for a long time, not just 15 days. The difference of the lasting time is probably related to **the setting regarding how to change consistently water vapor phase**. Changing 10 degrees will change the water from ice to liquid with a huge latent heating. You should double check the settings whether the ice phase changes accordingly with the temperature differences.

2.

*Sugimoto, Shiori*: I am interested about the influence of the difference parametrization schemes

*Xin-Zhong Liang*: There are many sensitivity experiments you can do with numerous different physic parameterization including in the model. **The key point is whether the control version can actual produce the interannual viability of the TP and the remote teleconnection linked with it.** Only in this way, the mechanisms regarding how the sensitivity experimentseffect the precipitation in eastern China may be realistic.

3.

*Yongkang Xue*: Do professor Yu have some preliminary results about interannual viability?

*Miao Yu*:To some extent, RegCM4.7 can reproduce the T2m and precipitation anomalies, but there are certain biases in the simulation of intensity and anomaly center location; Changing the phase of the water while imposing the temperature mask can make the imposed mask last longer; Changing the phase of water has a greater effect than not changing it.

4.

*Haoran Xu*: **Some questions about the initial condition.** In regional model, we usually have warm/cold start. If we do the experiments later, do we need to spin up for 3 months or longer time?What should we do? Maybe after spin up for 3 months, the start of the model can be very different from the observation. How to solve this problem about the initial condition?

*Xin-Zhong Liang*: Do a perturbation after the Stand-alone land surface run. That will reduce some of the inconsistency between the lander surface forcing and a regional climate model.

5.

*Kun Yang*: Is there any plan for **the impact of snow pack investigation in PhaseⅡ?** Snow pack may have significant influence in monsoon regions.

*Yongkang Xue*: If anyone has good plan, we want to investigate the influence of snow pack. But we don’t have support.

**Part II. ESM experimental design**

**See** <https://ucla.zoom.us/rec/share/t1N98hDeDXfgB6tCb9JZ3psG2y6DTFueg-OGeeOHuPhQldTbTya94Nz6VF5zMVbp.ZSvO1ijw9Y76nxjj>

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for explanation of experimental design and discussion