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Title	S-RIP activities in 2018
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Citation	SPARC Newsletter, 52, 19-20
Issue Date	2019-01
Doc URL	https://hdl.handle.net/2115/74955
Type	article
File Information	SPARCnewsletter_January2019_Fujiwara.pdf



S-RIP activities in 2018

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DATES:

25 - 29 June 2018

&

5 October 2018

ORGANISERS (CHAPTER-LEAD MEETING):

Masatomo Fujiwara (Hokkaido University, Japan), Gloria Manney (NorthWest Research Associates; New Mexico Institute of Mining and Technology, USA), Lesley Gray (University of Oxford; NERC National Centre for Atmospheric Science, UK), Jonathon Wright (Tsinghua University, Beijing, China), Sean Davis (NOAA Earth System Research Laboratory, USA)

HOST INSTITUTION:

NorthWest Research Associates (NWRA), Boulder, CO, USA

&

General Assembly side meeting
at Miyakomesse in Okazaki, Kyoto, Japan

NUMBER OF PARTICIPANTS: ~20 & ~25

SPONSORS:



ACTIVITY WEBSITE:

<http://s-rip.ees.hokudai.ac.jp/>

We have made excellent progress towards completion of the S-RIP report in this past year, and would like to say a big 'thank-you' to all our chapter-leads and contributors for their hard work – we are almost there! As of writing this article, in mid-November 2018, we are finalising the full S-RIP report manuscript ready for review submission, with plans for publication by the end of 2019 following the review process and necessary copy-editing.

In 2018, there were two meetings of the SPARC Reanalysis Intercomparison Project (S-RIP, <https://s-rip.ees.hokudai.ac.jp/>): (1) the S-RIP chapter-lead meeting hosted by and held at the NorthWest Research Associates (NWRA), Boulder, USA during 25-29 June 2018 (organised by the authors of this article); and (2) the side-meeting on 5 October 2018 during the SPARC General Assembly (GA) in Kyoto, Japan. There were several S-RIP related publications in 2018 (see, e.g., the inter-journal special issue on “The SPARC Reanalysis Intercomparison Project (S-RIP)” in Atmospheric Chemistry and Physics (ACP) and Earth System Science Data (ESSD)). One key publication was by Martineau *et al.* (2018), who presented S-RIP zonal mean data sets based on various reanalysis products. The aim of S-RIP had originally been to publish an interim report before the full report in the SPARC report series; it has been decided that, because there are three overview papers already published in ACP (Fujiwara *et al.*, 2017; Long *et al.*, 2017; Davis *et al.*, 2017) that can be regarded as an interim activity report, the interim report would have been needless duplication.

S-RIP Chapter-lead Meeting

There were ~20 participants at the meeting, including 14 chapter co-leads and 2 reanalysis-centre representatives (Figure 6). The first three days consisted of presentations on the status and potential issues for Chapters 1 - 11 (Figure 7), and general discussion on the content of Chapter 12 (Synthesis Summary). The rest of the week was set aside for break-out sessions for individual chapters.



Figure 6: Participants at the S-RIP Chapter-lead Meeting at the NorthWest Research Associates (NWRA), Boulder, USA, 25-29 June 2018.

One of the important decisions during the general discussion was to include a table of recommendations, evaluations, and ratings for selected diagnostics for all reanalysis products at the end of each chapter and in Chapter 12. The following five ratings have been defined: (1) Demonstrated suitable (i.e., the reanalysis product could be directly validated using observational or physical constraints and was found to be in close agreement with expectations); (2) suitable with limitations (i.e., the reanalysis product could be directly validated using observational or physical constraints and exhibited limited agreement; or, suitable constraints were unavailable but reanalysis products were consistent beyond specific limitations as described in the text); (3) use with caution (i.e., the reanalysis system contains all elements necessary to provide a useful representation of this variable or process, but that representation has evident red flags); (4) demonstrated unsuitable (i.e., the reanalysis system is unable to represent processes that are key for this diagnostic); and (5) unevaluated (not examined).

S-RIP Side Meeting at the SPARC General Assembly

The S-RIP side meeting was held during lunchtime on the final day of the SPARC GA. There were ~25 participants including 10 chapter co-leads and 4 reanalysis centre representatives. After an overview of past S-RIP activities including the results from the S-RIP chapter-lead meeting, most of the time was spent on the discussion of potential future activities of the S-RIP after the publication of the S-RIP Report (i.e., in 2020 and beyond).

Several planned new reanalysis products are expected in the coming years: ERA5 (1950-present will be available by the end of 2019), a Chinese reanalysis CRA-40 (probably around 2020), “MERRA-3” (around 2021), JRA-3Q (in 2022), and CFSv3 (around 2020-22). Therefore, it may be reasonable to re-start the full activity around 2022. During 2020-2021, we will keep the S-RIP website up-to-date and maintain a scaled-down formal group to monitor, communicate, and coordinate S-RIP-related activities; it is also noted that Masatomo Fujiwara will continue to be a part of the WCRP Task Team for Intercomparison of ReAnalyses (TIRA, <https://reanalyses.org/atmosphere/wcrp-task-team-intercomparison-reanalyses-tira>) as the liaison of S-RIP and SPARC. We will also seek more direct connections with the modelling (e.g. CCMI, CMIP) and observational (e.g. NDACC) communities by organizing side meetings or sessions with an S-RIP focus. There was also a request to hold capacity-building type regional

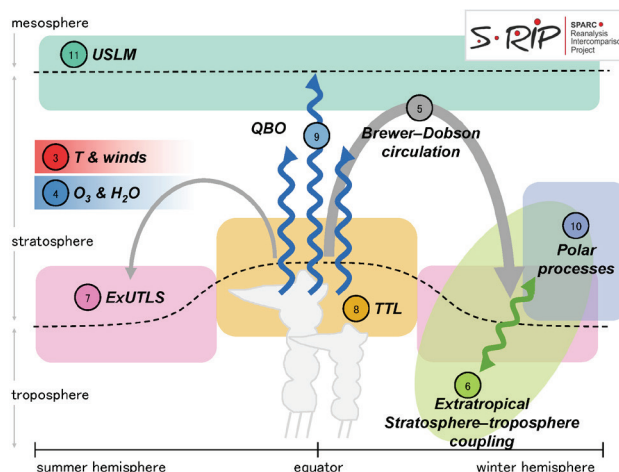


Figure 7: The latest version of the S-RIP schematic illustration showing the processes and regions that will be covered by chapters in the planned S-RIP report. The number indicates the chapter number. Other chapters include the Introduction (Chap. 1), Description of the Reanalysis Systems (Chap. 2), and Synthesis Summary (Chap. 12). Revised from Figure 1 of Fujiwara et al. (2017).

workshops, e.g., in India. During the Scientific Steering Group (SSG) meeting that followed the GA, there were some suggestions for new diagnostics such as the Madden-Julian Oscillation, including its interaction with the stratosphere; tropospheric circulations; and weather systems (e.g., storm track, blocking, extremes, and other near-surface weather features). There is as yet no fixed plan for the period after 2020. We welcome everyone’s comments and suggestions.

Acknowledgments

The S-RIP chapter-lead meeting was supported by SPARC and NWRA. We thank all the contributors to the S-RIP.

References:

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