

SPARC Activity Report 2018

Assessing Predictability (SNAP)

I. Achievements and Plans

* *What has your activity achieved over the past year? Have you completed any major deliverables e.g. reports or reviews or reached any major milestones? (This material will be incorporated into the Annual Report).*

There have been two main achievements this year

- Completed the chapter for the forthcoming S2S book (Eds: Robertson and Vitart) on the status of our understanding of stratospheric predictability
 - Enhanced our links with the S2S project by becoming a full sub-project of this larger activity
- *What does your activity plan to do over the coming year? What deliverables (e.g. reports, review papers) do you plan to complete? (This material may also be incorporated into the Annual Report).*

Our main ongoing activity has been the team working on analysis of predictability in the S2S hindcast set led by Daniela Domeisen. We now have a large amount of interesting analysis which we are working on bringing together in a review paper. This work has been facilitated by the sharing of data from the S2S project in an easily accessible form for SPARC users.

The increased focus on this timescale has led to a number of additional publications and studies from the SPARC community on the sub-seasonal prediction timescale.

Some examples are:

Garfinkel, C. I., and C. Schwartz. "MJO-Related Tropical Convection Anomalies Lead to More Accurate Stratospheric Vortex Variability in Subseasonal Forecast Models." *Geophysical research letters* 44.19 (2017).

Taguchi, M. "Comparison of Subseasonal-to-Seasonal Model Forecasts for Major Stratospheric Sudden Warmings." *Journal of Geophysical Research – Atmospheres* (2018).

We will also make presentations to the SPARC SSG and S2S SSG about our future plans. One area which we plan to target is providing improved dynamical data for the stratosphere from the S2S and other experiments, using the DynVar dynamical recipes paper as an example/template.

II. Resources

* *What workshops have you planned for the coming year and what level of WCRP/SPARC funding do you require to support those workshops? For what do you intend to use any allocated funding? (This information will guide the allocation of SPARC travel support over the coming year).*

We don't have any plans for specific project workshops, but there will be meetings and discussion at the forthcoming SPARC GA and at the S2S workshop. One issue to address for is the relationship between the dynamics activities, including SNAP and DynVAR, and how we might work together in the future.

No funding is requested from SPARC for the coming year.

- *What funding proposals does your activity have in the works? What resource issues is your activity facing? Is there anything that the SSG can do to help? What funding opportunities could SPARC be pursuing? (The information you provide here will guide the discussion at the SPARC SSG meeting).*

None. Currently all analysis is provided by individuals who obtain their own funding or are doing related funded work and offer to contribute.

III. WCRP Communications[†]

** What are the data issues/needs for your activity? (This information will be communicated to the WCRP Data Advisory Council).*

At the moment we are primarily making use of the S2S database, but it has been useful/necessary to define and extract a sub-set of data for SNAP usage to facilitate easy access and collaboration. We have been sharing this data through Dropbox but a simple and easy means to do this in the future would be helpful.

** What are the modelling issues/needs for your activity? (This information will be communicated to the WCRP Modelling Advisory Council).*

Continue to support the S2S project and widening access to operational sub-seasonal prediction data

. On the medium-term, increased access to stratospheric data from these models would be very helpful for the developing SNAP community. On the longer-term, we hope to be able to propose and support targeted experiments examining aspects of stratosphere-troposphere predictability.

IV. SPARC Programmatic Issues

** To which other SPARC or WCRP activities does your activity connect? Should you be thinking about joint workshops? Can the SSG do anything to help foster better connections between your activity and other SPARC/WCRP activities? (This will also guide the discussion at the SPARC SSG meeting).*

We would like to contribute to and/or interact with the forthcoming DynVar meeting in October 2019.

** Has your activity contributed in any way to SPARC's capacity development effort? Is there any way the SSG capacity development group can help you to do more?*

No

** Is there anything else that the SSG can do to assist your activity in any way? (This will also guide the discussion at the SPARC SSG meeting).*

Nothing at this stage

** Please also take this opportunity to revisit the material published for your activity on the SPARC web page. (Please communicate any required changes to the SPARC Project Office).*

[†] Issues/needs in this context refers especially to those that may require WCRP engagement beyond SPARC.