

## **S-RIP Planning Meeting**

(Version 1.0. 22 April 2013)

Venue: Met Office, Exeter, UK

Dates: April 29, 30, and May 1, 2013

Sponsors: WCRP/SPARC, Met Office

### **Purposes**

- To finalize the report outline/chapters including chapter lead names and initial list of contributors
- To define the diagnostics list and observational data for validation
- To define the general guidelines and protocols
- To define the timetable of the project
- Outcomes of the meeting include (1) a 2-page S-RIP Implementation Plan (to be submitted to SPARC SSG), and (2) a SPARC Newsletter article about the meeting.

### **Key points for discussion**

(Co-leads of each chapter, please put up as bullet points at the start and end of the chapter discussion to focus the discussion and to check that the goals have been achieved)

- Diagnostics list
- Observational data for validation
- Your answer to the question, “What will be the scientific approach to reanalysis intercomparison?”
  - Is it descriptive, e.g. "On diagnostic X, reanalysis Y is far from the others"?
  - Is comparison with observations essential or optional?
    - ✓ Working assumption: comparison with observations is desirable (and should take into account the observational uncertainties); if omitted then reasons should be given.
  - How much can different chapters vary in their approach?
  - How will the approach evolve over the S-RIP lifetime?
  - Are there approaches that are too ambitious for the initial steps, but should be flagged/planned/developed for later use?
- Ideas on the guidelines (e.g., choice of data sets, choice of periods, peer-reviewed publications only?, etc.)
- Schedule (current idea is ~2 years for Chapters 1-4 and 4~5 years for Chapters 5-11)
- Other issues (e.g., data gathering/downloading/archiving issues, organization issues, website, etc.)
- Open issues and next steps

## **Role of chapter co-leads, rapporteurs, and session chairs**

- Chapter co-leads lead the discussion for each chapter session.
- After the session, chapter co-leads, together with the rapporteurs, produce one-page summary slide for each chapter, which will be used at the wrap-up discussion at the end of 3<sup>rd</sup> day.
  - Please give it to Masatomo Fujiwara by the end of Tuesday for Chapters 2-6 and by the lunchtime on Wednesday for Chapters 7-11 (as MF will prepare a single ppt for the wrap up)
- Chapter co-leads, please provide the presentation material(s) to MF (and Prep. Team) at the end of the meeting; this will be used for writing the S-RIP Implementation Plan & SPARC Newsletter article
- Session chairs will keep the time

## **April 29 (Monday)**

### **Session 1. Introduction (Chair: David Jackson)**

**08:30 - 08:40 David Jackson**

Welcome and Logistics

**08:40 - 09:00 Masatomo Fujiwara**

Introduction (Chapter 1) and Goals of the Meeting

### **Session 2. Reanalyses (1) (Chair: Masatomo Fujiwara)**

**09:00 - 09:15 David Tan**

Introductory comments on Reanalysis

**09:15 - 09:30 Yayoi Harada, presented by David Tan**

Reanalyses at JMA (JRA-25/JCDAS, JRA-55)

**09:30 - 10:00 Craig Long**

Reanalyses at NCEP (CFSR etc)

**10:00 - 10:30 Coffee Break**

**10:30 - 10:45 David Tan**

Reanalyses at ECMWF (ERA-\*)

**10:45 - 11:00 Paul Berrisford**

NCAS-Climate cooperation with ECMWF Reanalysis

**Session 3. Poster (1) & Group Photo**  
**(Chair: Masatomo Fujiwara)**

**11:00-11:30 Poster Introduction**

(Masatomo Fujiwara will show the title and abstract, and the presentator will talk for less than 1 min)

**11:30-11:35 Group Photo**

**11:35-12:30 Poster Session (1)**

**12:30 - 14:00 Lunch**

**Session 4. Reanalyses (2)**  
**(Chair: Thomas Birner)**

**14:00 - 14:15 Steven Pawson from remote**

Reanalyses at NASA (GEOS including MERRA etc)

**14:15 - 14:30 Adrian Simmons**

Intercomparison of MERRA and ERA temperatures and assimilated observations

**Session 5. Description of the Reanalysis/analysis Systems (Chapter 2)**  
**(Chair: Thomas Birner, Rapporteurs: Nedjeljka Zagar and Michaela Hegglin)**

**14:30 - 15:30 Masatomo Fujiwara, David Tan, Craig Long**

Description of the Reanalysis/analysis Systems (Chapter 2) & Discussion

**15:30 - 16:00 Coffee Break**

**Session 5. Climatology and Interannual Variability of Dynamical Variables  
(Chapter 3)**

**(Chair: David Jackson, Rapporteurs: Diane Pendlebury and Edwin Gerber)**

**16:00 - 17:00 Craig Long, Masatomo Fujiwara**

(Contributors: Sean Davis, all other WG members)

Climatology and Interannual Variability of Dynamical Variables (Chapter 3) &  
Discussion

**17:00 End of the Day**

## **April 30 (Tuesday)**

### **Session 6. Climatology and Interannual Variability of Ozone and Water Vapor (Chapter 4)**

**(Chair: Johannes Flemming, Rapporteurs: David Tan and Gabriele Stiller)**

#### **09:30 - 10:30: Sean Davis, Michaela Hegglin**

(Contributors: Susann Tegtmeier, Masatomo Fujiwara, all other WG members)

Climatology and Interannual Variability of Ozone and Water Vapor (Chapter 4) & Discussion

#### **10:30 - 11:00 Coffee Break**

### **Session 7. Brewer-Dobson Circulation (Chapter 5)**

**(Chair: David Tan, Rapporteurs: Daniel Mitchell and James Anstey)**

#### **11:00 - 12:00 Thomas Birner, Beatriz Monge-Sanz**

(Contributors: Sean Davis, Simon Chabrillat, Edith Botek, Hella Garny, Harald Boenisch, Gabriele Stiller, Bernard Legras, Howard Roscoe, Darryn Waugh, Thomas Reddmann, Peter Haynes)

Brewer-Dobson Circulation (Chapter 5) & Discussion

**(Includes ~10 min short invited talks by Hella Garny, Gabriele Stiller, Bernard Legras, and Howard Roscoe)**

### **Session 8. Stratosphere-Troposphere Coupling (Chapter 6)**

**(Chair: David Tan, Rapporteurs: Peter Hitchcock and Jonathon Wright)**

#### **12:00 - 13:00 Edwin Gerber, Yulia Zyulyaeva**

(Contributors: Kirstin Krueger, Thomas Birner, Simon Chabrillat, Edith Botek, Mark Baldwin, Alexey Karpechko)

Stratosphere-Troposphere Coupling (Chapter 6) & Discussion

#### **13:00 - 14:00 Lunch**

## **Session 9. Poster (2)**

**14:00 - 16:00: Poster Session (2) with coffee from 15:30**

## **Session 10. Upper Troposphere and Lower Stratosphere (Chapter 7) (Chair: Craig Long, Rapporteurs: Hella Garny and Howard Roscoe)**

**16:00 - 17:00 Cameron Homeyer, Gloria Manney (remote), Susann Tegtmeier,  
Kirstin Krueger**

(Contributors: Michaela Hegglin, Sean Davis, Thomas Birner, Simon Chabrillat, Edith Botek, Masatomo Fujiwara)

Upper Troposphere and Lower Stratosphere (whether TTL is included or goes to a separate chapter will also be discussed) (Chapter 7) & Discussion

## **Session 11. Polar Processes (Chapter 8)**

**(Chair: Craig Long, Rapporteurs: Yulia Zyulyaeva and Harald Boenisch)**

**17:00 - 18:00 Michelle Santee, Alyn Lambert**

(Contributors: Gloria Manney, Simon Chabrillat, Edith Botek)

Polar Processes (Chapter 8) & Discussion

**19:00 - Workshop Dinner at the Cote Brasserie**

## **May 1 (Wednesday)**

### **Session 12. Quasi-Biennial Oscillation (Chapter 9)**

**(Chair: Simon Chabrillat, Rapporteurs: Axel Gabriel and Cameron Homeyer)**

#### **9:00 - 10:00 James Anstey**

(Contributors: Yoshio Kawatani, Lesley Gray)

Quasi-Biennial Oscillation (Chapter 9) & Discussion

### **Session 13. Upper Stratosphere and Lower Mesosphere (Chapter 10)**

**(Chair: Simon Chabrillat, Rapporteurs: Erich Becker and Craig Long)**

#### **10:00 - 11:00 Diane Pendlebury, Lynn Harvey**

(Contributors: Gloria Manney, Peter Hitchcock)

Upper Stratosphere and Lower Mesosphere (Chapter 10) & Discussion

#### **11:00 - 11:30 Coffee Break**

### **Session 14. Transport**

**(Chair: Sean Davis)**

#### **11:30 - 12:00 Simon Chabrillat**

“Evaluation of different analyses with a single CTM: challenges and benefits” & Discussion on Transport Issues

### **Session 15. Gravity Waves (Chapter 11)**

**(Chair: Sean Davis, Rapporteurs: Susann Tegtmeier and Edith Botek)**

#### **12:00 - 13:00 Nedjeljka Zagar**

(Contributors: Joan Alexander, Manuel Pulido, Ji-Eun Kim)

Gravity Waves (Chapter 11) & Discussion



### **13:00-14:15 Lunch**

(plus Chapter rapporteurs/co-leads discussions, Preparation Team discussion)

### **Session 16. Wrap up**

**(Chair and Lead: Masatomo Fujiwara, David Jackson)**

14:15-15:45: Wrap-up Discussion (Update/Summary from Chapter Co-leads, with one page slide, max 2-3 min) & Website & Next Conference etc.

### **15:45 Adjourn**

## **Poster Presentations**

**P01. C. Long:**

**Comparison of Stratospheric Variables in the Recent Reanalyses**

**P02. C. Long:**

**Stratospheric Temperature Trends in Reanalyses**

**P03. A. Gabriel:**

**Validation of global wind fields and circulation patterns in the upper stratosphere and lower mesosphere based on Aura/MLS satellite data**

**P04. T. Hibino, and M. Fujiwara (presenting):**

**Global temperature response to the large-scale volcanic eruptions in 9 reanalysis data sets**

**P05. S. G. Basha, M. V. Ratnam, D. N. Rao, and M. Fujiwara (presenting):**

**The proposed "S-RIP activities over Indian Region"**

**P06. S. Davis, K. Rosenlof, and P. Young:**

**Tropical widening in reanalyses**

**P07. S. Davis, E. Ray, K. Rosenlof:**

**Variability and trends in effective diffusivity in reanalyses**

**P08. S. M. Davis, and K. H. Rosenlof:**

**The Stratospheric Water and Ozone Satellite Homogenized (SWOOSH) database: A long-term database for climate studies and assessment of reanalyses**

**P09. J. Flemming:**

**The MACC re-analysis of Atmospheric Composition 2003-2012**

**P10. B. Legras:**

**The Brewer-Dobson circulation in the ERA-Interim**

**P11. H. Garny, T. Birner, and H. Boenisch:**

**The impact of mixing on Age of Air**

- P12. T. Reddmann, R. Ruhnke, W. Kouker and S. Versick:**  
**Evaluating transport in the middle atmosphere using ERA-Interim analyses**
- P13. E. Botek:**  
**Driving a single CTM with different analyses: impact on solar heating, photolysis rates and chemical lifetimes**
- P14. E. Becker, M. Schlutow, H. Koernich, and B. Wolf:**  
**Representation of transport and orographic gravity waves in a mechanistic climate model**
- P15. Y. Zyulyaeva, and S. K. Gulev:**  
**Diagnostics of the Major Sudden Stratospheric Warming events in different modern era reanalyses**
- P16. A. Butler, S. Hardiman (presenting), N. Butchart, and D. Seidel:**  
**Representation of Stratospheric Sudden Warmings in Reanalyses and Comparisons with Stratospheric Sounding Unit Temperature Observations**
- P17. D. Mitchell:**  
**The Influence of Stratospheric Vortex Displacements and Splits on Surface Climate**
- P18. J. Wright, and S. Fueglistaler:**  
**Reanalysis estimates of the diabatic heat budget in the tropical UTLS**
- P19. M. Fujiwara, J. Suzuki, A. Gettelman, M. I. Hegglin, H. Akiyoshi, and K. Shibata:**  
**Wave activity in the tropical tropopause layer in 9 reanalysis data sets**
- P20. P. Hitchcock:**  
**Visualizing Polar Stratospheric Variability**
- P21. J. Anstey:**  
**Modelling the quasi-biennial oscillation in atmospheric general circulation models**
- P22. D. Pendlebury:**  
**Processes of the upper stratosphere and lower mesosphere in reanalyses**

**P23. T. Sakazaki, M. Fujiwara (presenting), X. Zhang, M. Hagan, and J. Forbes:  
Diurnal tides from the troposphere to the lower mesosphere as deduced from TIMED/SABER  
satellite data and six global reanalysis data sets**

**[Transport Talk] S. Chabrillat:  
Evaluation of different analyses with a single CTM: challenges and benefits**

**[BDC Talk 1] G. Stiller, T. von Clarmann, F. Haenel, E. Eckert, B. Funke, N. Glatthor, U.  
Grabowski, S. Kellmann, M. Kiefer, A. Linden, S. Lossow, and M. Lopez-Puertas:  
Global stratospheric mean age of air and its temporal variation from MIPAS SF6 observations**

**[BDC Talk 2] H. K. Roscoe:  
Lack of trend in Brewer-Dobson circulation, inferred from measurements of stratospheric NO<sub>2</sub>  
in polar summer**

**[BDC Talk 3] B. Legras:  
The Brewer-Dobson circulation in the ERA-Interim**

**[BDC Talk 4] H. Garny, T. Birner, H. Boenisch:  
Residual circulation transit times as diagnostic of the structure of mean meridional transport**