

# ISSI Tropical Width Diagnostics Intercomparison Project 2017 Meeting Agenda

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## **Monday March 13<sup>th</sup>**

### ***Introduction***

- 13:00 – 13:15: Introduction and welcome (Maurizio Falanga, Alexandra Lehman, Sean Davis)
- 13:15 – 13:45: Overview of the ISSI Tropical Width Diagnostics Intercomparison Project (Rosenlof)
- 13:45 – 14:15: Introduction to US CLIVAR Working Group on Tropical Width Variability (Grise/Staten)

### ***Recent progress and ongoing work in tropical width research***

- 14:15 – 14:45: Robust changes in the Hadley Circulation extent and strength in PMIP3 and CMIP5 climate simulations (Adam)
- 14:45 – 15:15: Eddy influences on the Hadley Cell (Birner)
- 15:15 – 15:30: Break
- 15:30 – 16:00: Aerosol-induced SH Hadley cell contraction and its uncertainty (Son)
- 16:00 – 16:30: Understanding the timescales of the tropospheric circulation response to abrupt CO<sub>2</sub> forcing in the Southern Hemisphere: Seasonality and the role of the stratosphere (Grise)
- 16:30 – 17:00: Dryland expansion and poleward shift of Hadley cell (Fu)
- 17:00 – 18:00: Reception in cafeteria

## **Tuesday March 14<sup>th</sup>**

### ***Tropical width metrics: definitions, methodological considerations***

- 8:30 – 9:00: Tropical width metrics overview and temporal resolution issues (S. Davis)
- 9:00 – 9:30: Horizontal resolution issues related to tropical width (N. Davis)
- 9:30 – 10:00: Vertical resolution issues related to tropopause-based metrics (Birner)
- 10:00 – 10:30: Break
- 10:30 – 11:00: Validity, reliability, and consistency of regional tropical circulation metrics (Staten)
- 11:00 – 12:00: Discussion of tropical width definitions and methodologies
- 12:00 – 14:00: Lunch and personal work time

### ***Observational-based tropical width metrics***

- 14:00 – 14:30: Observational metrics of stratospheric width changes (Rosenlof)
- 14:30 – 15:00: Determination of the positions of the stratospheric subtropical transport barriers from satellite data (Stiller)
- 15:00 – 15:30: Stratospheric ozone-based measurements of tropical width (Davis)
- 15:30 – 15:45: Break
- 16:00 – 16:30: Stratospheric temperature and OLR-based metrics (Fu)

16:45 – 17:30: Discussion: Are we content with the metrics that have been discussed/used in the literature? What are the pitfalls? How might we inform future studies?

19:30 - : Group dinner at Restaurant Harmonie (<http://www.harmonie.ch/>)

### **Wed March 15:**

#### ***Tropical width metrics: interrelationships***

9:00 – 9:30: Contrasting upper and lower atmospheric metrics of tropical expansion in the Southern Hemisphere (Waugh)

9:30 – 10:00: An Intercomparison of Tropical Belt Metrics (N. Davis)

10:00 – 10:30: How do zonal mean tropical width metrics relate to surface climate quantities? (Maycock)

10:30 – 10:45: Break

10:45 – 12:00: Discussion: Do we fully understand relationships between metrics? Do we agree on a subset of metrics that capture tropical width variability?

12:00 – 14:00: Lunch and personal work time

#### ***Discussion of modeling resources***

14:00 – 14:30: Discussion of the UKCA model and idealized modeling capabilities (Maycock/Ming)

14:30 – 15:00: Discussion of available model simulations with EMAC (Garny)

15:00 – 15:30: Discussion of available GEOSCCM runs (Waugh)

15:30 – 16:00: Break

16:00 – 17:30: Discussion of whether we need to do new model simulations

### **Thurs March 16:**

9:00 – 12:00: Discussion of “best practices” and preliminary recommendations for a subset of metrics, and future work needed to clarify issues brought up at the meeting.

12:00 – 14:00: Lunch and personal work time

14:00 – 17:30: Planning for potential model simulations and analyses of model output.

### **Fri March 17:**

9:00 – 12:00: Continuation of discussion from Thursday, with possible ad hoc analyses and add-on presentations. Planning goals and timeline for future meetings.

12:00 – 13:30: Lunch

13:30 – 17:00: Focused discussion