SPARC/GEWEX-GCSS/IGAC Workshop

Modelling of Deep Convection and of Chemistry and their Roles in the Tropical Tropopause Layer

June 12- 15, 2006
Coast Harbourside Hotel, Victoria, BC, Canada

Organizers: N. McFarlane, M. Barth, T. Birner, J. Petch

June 12

8:00 – 9:00: Registration (buffet-style breakfast will be provided)

9:00 – 10:00: Welcome/logistics, short SPARC, GEWEX, IGAC overviews (McFarlane, O'Neill, Jakob, Rasch)

General Overview of the TTL

10:00 – 10:30 Break

10:30 – 11:05: Chemical Characterization of the Deep Outflow Layer (I. Folkins)

11:05 – 11:40: An Overview of Critical Processes in the Tropical Tropopause Layer (A. Gettleman)

11:40 – 12:05: Trajectory-based studies of dehydration in the tropical tropopause region (P. Haynes)

12:05 – 13:35: Lunch (Catered buffet style)

13:35 – 14:00: Clouds and Water Vapor in the Boreal Winter Tropical Tropopause Layer:
Results from a trajectory-based microphysical model and comparison with satellite observations
(L. Pfister)

14:00 – 14:35: Convective processes in the TTL (S. Sherwood)

14:35 – 15:00: Convective Influence on the Heat Balance of the Tropical Tropopause Layer:
A Cloud-Resolving Model Study (C. Bretherton)

15:00 – 15:30: Break

15:30 – 15:55: Ice particles observed in the tropical lower stratosphere: Unambiguous evidence for transport by convective overshooting (T. Corti)

15:55 – 16:30: Satellite Survey of Tropical Deep Convection, Particularly Stratospheric Penetrators
(W. Rossow)

16:30 – 16:55: Tropical tropopause variability observed by GPS radio occultation data (B. Randel)

17:00 – 18:00: Poster session # 1.

18:30: Reception and Dinner

June 13
Modelling deep convection in the tropics

8:30 – 9:00:   Recent work of the GCSS deep WG (J. Petch)

9:00 – 9:30:   Microphysics observations in the tropics and CRM evaluation (E. Zipser)

9:30 – 10:00: Developing Convective Parameterizations (L.Donner)

10:00 – 10:30: Break

10:30 – 10:55: The use of NWP type simulations to test convective parametrizations (D.Williamson)

10:55 – 11:20: Analysis of an AMIP Run with the Super-CAM (D. Randall)

11:20 – 11:45: The use of bin-microphysics in modelling deep convection (E. Jensen)

11:45 – 12:10: Cloud-resolving simulations of the tropics and the TTL (G. Shutts)

12:10 – 13:30 Lunch

13:30 – 13:50 Super-parametrization in a mesoscale model and its potential links to troposphere-stratosphere coupling (W. Grabowski)

13:50 – 14:20: A Numerical Study of A Super Cloud Cluster during TOGA COARE (P. Yau)

14:20 – 14:40: CRM modeling of the TTL (D. Grosvenor)

14:40 – 15:00: The Tropical Warm Pool International Cloud Experiment - Early results and opportunities for modeling (C. Jakob)

15:00 – 15:30: Break

15:30 – 18:00: Main poster session

June 14
Chemistry Aspects of the TTL

8:30 – 9:00: An Overview of Atmospheric Chemistry in the TTL: Recent Measurements
and Modelling Studies (M. Lawrence)

9:00 – 9:30: Modeling deep convection in the oceanic tropical region (C. Mari)

9:30 – 10:00: Modeling deep convection in the continental tropics (E. Riviere)

10:00 – 10:30 Break

10:30 – 11:00: Aerosol effects on deep convection and chemistry in the TTL (C. Wang)

11:00 – 11:30: What we can learn from the midlatitudes – intercomparison studies (M. Barth)

11:30 – 12:00: Recent and upcoming observations of chemistry and convection in the tropics (K. Pickering)

12:00 – 13:30: Lunch

13:30 – 15:00: Breakout Period 1

 (a) GCSS DWG case study discussion
 (b) Chemistry issues in the TTL
 (c) Large-scale processes in the TTL

15:00 – 15:30: Break

15:30 – 17:00: Breakout Period 2

 Gross-cutting discussions on the following topics:

 (a) Multi-scale dynamical /parameterizion issues
 (b) Transport issues
 (c) Microphysics and chemistry in the TTL

June 15
Summary of Breakouts and Discussion

8:30 – 9:30: Summary of Breakouts

9:30 – 10:00: General Discussion

10:00 – 10:30: Break

10:00 – 12:00: General Discussion continued

Workshop ends at 12 PM noon

12:00 – 13:30: Lunch

Note on BREAKOUT SESSIONS:
It is anticipated that 3 concurrent breakout sessions will be held in each period.
Details of breakout sessions are being worked out and will be posted as soon as available.