



## MONDAY, 8 February 2016

12:30-13:00	Registration (ISSI, 1st floor)	All participants
13:00-13:15	Welcome and Introduction to ISSI	Anny Cazenave (ISSI)
13:15-13:30	Objectives of the Workshop (overview, objectives, outcomes)	Dave Winker
<b>Session 1</b>	<b>Introduction</b>	<b>Chairman:</b>
13:30-13:50	The role of aggregation of clouds/water vapor in controlling climate	Kerry Emanuel
13:50-14:10	Mechanism of aggregation	Allison Wing
14:10-14:30	Physical processes affecting the self-aggregation of convection	Caroline Muller
14:30-14:50	Two regimes of convective self-aggregation in radiative convective equilibrium experiments using the MIROC GCM	Masahiro Watanabe
14:50-15:10	how low level radiative cooling in non-convective areas induces a secondary circulation that helps to initiate organization	Ann Kristin Naumann
15:10-15:30	Shallow cloud effects on the Arctic	Ray Pierrehumbert
15:30-16:00	<i>Coffee Break</i>	
16:00-16:20	Large-scale shallow overturning circulations and their possible role in climate	Steve Sherwood
16:20-16:40	The coupling between lower tropospheric convective mixing and low-level clouds : physical mechanisms and dependence on convection scheme	Jessica Vial
16:40-17:00	Free tropospheric water vapor and shallow clouds	Bjorn Stevens
17:00-17:20	How to test observationally the physical processes underlying low-cloud feedback and convective aggregation in GCMs?	Sandrine Bony
18:00	<i>Welcome Reception (Cafeteria, 1st floor)</i>	

**TUESDAY, 9 February 2016**

**Session 2                      Exploiting existing observations and highlighting gaps                      Chairman:**

9:00-9:20                      Connecting shallow convection to the momentum budget                      Louise Nuijens

9:20-9:40                      Exploring large-scale influences on the character of shallow clouds with A-Train observations                      Tristan L'Ecuyer

9:40-10:00                      Influence of Shallow Clouds on Earth's Radiation Budget using CERES Satellite Observation                      Norman Loeb

10:00-10:20                      Low cloud cover versus aggregation state: CloudSat-CALIPSO analysis                      Chris Holloway

10:20-10:40                      Lagrangian water budget perspective                      Brian Mapes

*10:40-11:00                      Coffee break*

11:00-11:20                      Pushing the limits of satellite observations for further understanding of tropical convective dynamics                      Hiro Masunaga

11:20-11:40                      Diabatic heating: observational uncertainties and consequences for models                      Gilles Bellon

11:40-12:00                      Observed Natural Cloud-controlling Factors for Low Clouds Over Ocean and Land: What Do We Need to Measure and How Well Do We Need to Measure It?                      Steve Klein

12:00-12:20                      Shallow cloud feedbacks and the tropical environment                      Robert Pincus

*12:30-14:00                      Lunch*

**Session 2                      Follow-up                      Chairman:**

14:00-17:20                      General discussion: what questions do we seek to answer with observations?                      All participants

**WEDNESDAY, 10 February 2016**

<b>Session 2</b>	<b>Highlighting gaps in existing observations – Follow-up</b>	<b>Chairman:</b>
9:00-9:20	How boundary clouds mediate vertical transport of water vapor	Paquita Zuidema
9:20-9:40	Vertical motion, boundary layer heat and moisture budgets in re-analysis	Anton Beljaars
9:40-10:00	Current state of surface flux estimates (CK)	Carol Anne Clayson
10:00-10:20	Combining satellite, airborne and surface-based remote sensing for enhancing our view of the cloudy atmosphere - an underexplored potential	Uli Löhnert
10:20-10:50	<i>Coffee break</i>	
10:50-11:10	Observational strategy at ARM supersites and the observational strategy	Dave Turner
11:10-11:30	Opportunities offered by Megha-Tropiques; SAPHIR measurements of lower-tropospheric humidity in the trades	Helene Brogniez
11:30-11:50	Water vapor profiles from hyperspectral microwave	Stefan Buehler
11:50-12:10	Total Column Water Vapor above land surfaces using MERIS and GPS observations	Jürgen Fischer
12:10-12:30	GNSS-based and LEO-based active sounding techniques: accurate profiling of tropospheric water vapor, water clouds, and thermodynamic structure	Gottfried Kirchengast
19:00	<i>Dinner at Kornhauskeller Restaurant, Bern</i>	

## THURSDAY, 11 February 2016

Session 3	Opportunities: new approaches and new technologies	Chairman:
9:00-9:20	Which cloud trends (and cloud feedback constrain) would be detectable with a long term lidar in space record?	Helene Chepfer
9:20-9:40	Retrievals of shallow water cloud microphysical properties using Calipso and airborne HSRL lidar measurements	Yongxiang Hu
9:40-10:00	Potential for next generation spaceborne radar to characterize boundary layer cloud and water vapor	Matt Lebsock
10:00-10:20	Observations of clouds and atmospheric circulation - What can we expect from airborne wind lidars and the future ADM-Aeolus mission?	Olivier Reitebuch
10:20-10:40	Wind measurements in the tropics from an NWP perspective and the Aeolus mission	Erland Kallen
10:40-11:00	<i>Coffee break</i>	
11:00-11:20	Low-tropospheric water vapor measurement	Cyrille Crevoisier
11:20-11:40	Water vapor DIAL (i)	Amin Nehrir
11:40-12:00	Water vapor DIAL (ii)	Christoph Kiemle
12:00-14:00	<i>Lunch</i>	
14:00-17:30	General discussion: How can we answer our questions? All participants Observations and strategies	

## FRIDAY, 12 February 2016

Morning Session (9:00-12:00)

Discussion on publication in the "Surveys in Geophysics" journal; articles (authors, review process & schedule); preparation of the "Space Sciences Series of ISSI/Springer" Book ( gathering the "Surveys in Geophysics" articles)