2nd COPS Workshop Report

Date: 27 and 28 June 2005

Place: University of Hohenheim

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List of Participants: Attached

Agenda: Attached

1. Introduction

On June 27 and 28, 2005, the 2nd Workshop of COPS (Convective and Orographically-induced Precipitation Study) took place at the University of Hohenheim, Stuttgart, Germany. COPS is embedded as Intensive Observations Period (IOP) in the Priority Program (PP) 1167 QPF of the German Research Foundation (DFG).

The agenda and the list of participants are attached. 68 people participated in the workshop.

The workshop started with a summary of the status of COPS. Afterwards, in Session 1, the latest results on major model deficits in complex terrain were discussed. Session 2 was dealing with the international cooperation, which is highly beneficial to address several key science questions of COPS and to provide the required tools. The presentations gave short introductions of these programs and described their links to COPS. In Session 3, short summaries of the status of the COPS Working Groups (WGs) were given.

The workshop continued on Tuesday discussing further research components of COPS related to hydrology and surface flux measurements. A new component of COPS was discussed, its combination with education at schools and universities. This educational

component was highly appreciated and will be a special addition to COPS in comparison with previous field campaigns.

After the presentations it was confirmed that 4 WGs will provide the basic components of the upcoming DFG proposal. These are entitled

1. Initiation of convection (IC), chair: Christoph Kottmeier

2. Aerosol and cloud microphysics (ACM), chair: Jost Heintzenberg

3. Precipitation processes and life cycle (PPL), chair: Martin Hagen

4. Data assimilation and predictability (DAP), chair: George Craig

On Tuesday morning and in the afternoon, these WGs discussed separately:

1) Key science hypotheses in connection with QPF

2) What is required to address these hypotheses within COPS (instrumentation, design of their synergy, suggested mission set up, etc.)? In this connection, a short survey of the potential participants was performed concerning their intentions to participate in the DFG proposal.

The development of first draft proposals was started including links between the research components, key instrumentation, and budget estimates. Copies of the presentations will be available soon via the COPS web site www.uni-hohenheim.de/spp-iop/.

2. Set up and timeline for the DFG proposals

a) Proposal design

All workshop participants unanimously decided to construct the COPS DFG proposal as follows (see Fig.1):

1) An overarching Science Overview Document (SOD) will be prepared by the COPS ISSC.

2) One single package proposal will be submitted referring to the SOD and subdivided in 4 science components derived by each WG, respectively. These

components will include the key science questions, the approach to resolve these questions, instrumentation, mission design, and budget. A structure for the set up of these proposals will be provided soon.

3) A coordination component was considered essential to ensure the provision of logistics, infrastructure, mission planning, and data management. Furthermore, this part will be responsible for the coordination of COPS with other international activities (e.g. ETReC07, MAP FDP/D-PHASE, TRACKS, and GOP), and coordination of COPS missions and measurements. Furthermore, it is important to point out the various links of COPS to the goals of the PQP program as well as to the ongoing PQP projects.

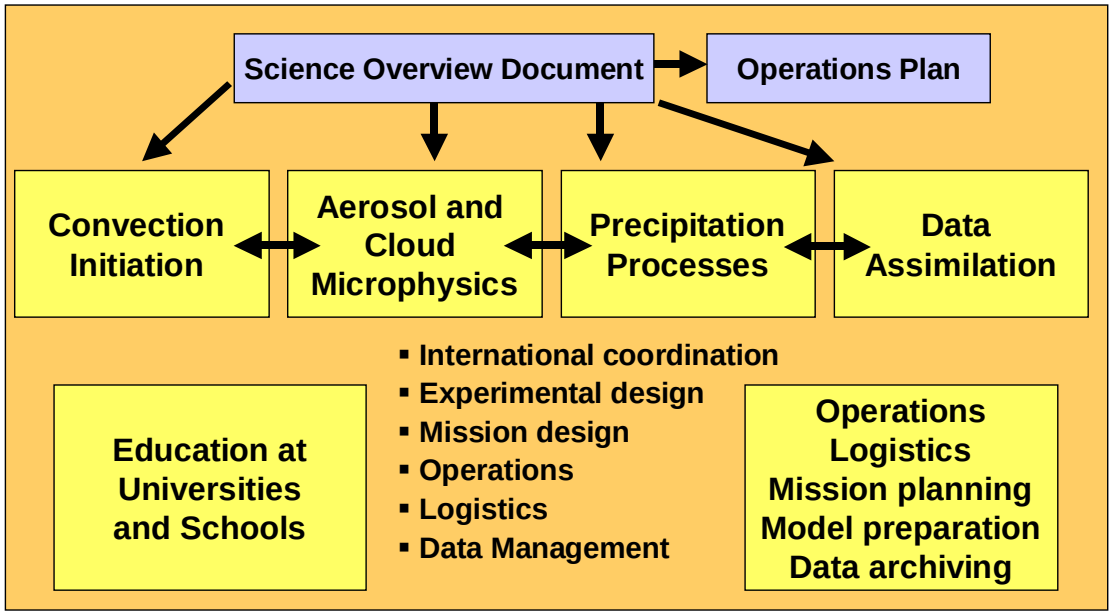

Fig.1: Suggested structure of COPS proposal to be submitted to DFG

b) Funding

The maximum amount of funding requested from DFG for COPS and for the GOP shall be 2M€. As this funding is allocated separately from the PQP budget, competition with other components of PQP will be minimized. The proposals will ask for funding for performing the COPS campaign only, which includes preparation, transportation,

operation, staff for operation, data archiving (additional staff cannot be supported). Additional funding for the educational component will also be requested from other funding agencies.

Internal contributions from German participants of COPS not funded by DFG will be summarized in the SOD and in the COPS proposal. This will be a strong part of the SOD, as a substantial amount of funding will be provided by other sources.

c) Time schedule

The following schedule for the preparation of proposals must be fulfilled:

1) Structure of proposal for each component, as confirmed by DFG: July 10 (done)
2) Draft of the Science Overview Document (SOD) distributed to WGs: July 15
3) First draft proposals from all WGs: wk 38, 2005
4) Discussion of proposals at COPS Workshop in Langen from September 29-30, 2005
5) Refinement of proposal at COPS ISSC Meeting: wk 40
6) Final iteration in October 2005
7) Submission: October 31, 2005

3. Action items

For proposal preparation, the following action items and responsibilities have been compiled:

1) Extension of high-resolution model runs in COPS region, four cases: UHOH, IMK
2) Comparison with corresponding radar and satellite data: UHOH, IMK, DLR
3) Extension of skill analyses and PQP verification document, update continuously the SOD with results of the verification group: LMU and coauthors

4) Based on the output of 1, 2, and 3, the main deficits of mesoscale models will be derived and included in the SOD. This is an essential part for motivating the science questions of the WGs.

5) Working group chairs coordinate the preparation of draft proposals and delegate the work, define links to other WGs, deadline wk 38

6) Proposal component focusing on

   - operations,

   - logistics,

   - mission design,

   and data archiving

   developed at IPM project office, deadline: wk 38