NAWDEX Workshop

Ludwig-Maximilians-Universität in Munich, 8 to 10 March 2017

Joint workshop of the DFG SFB TRR 165 “Waves to Weather” (W2W)
and DFG SPP 1294 “HALO”

Wednesday, 8 March 2017

Session 1: Airborne observations Part I (13:00 – 18:30)

The instrument session will give an overview on the collected data and the status of the data processing. All instrument-PIs are invited to give an overview on the data set and present some highlights. At the end of each talk the planned instrument-driven studies should be presented.

- *11:45 – 13:00 Lunch*
- 13:00 – 13:30: Introduction (Schäfler, Craig)
- 13:30 – 15:00: Session 1 - Part I (20 + 5 minutes each)
  - 13:30 – 13:55 WALES (Wirth)
  - 13:55 – 14:20 specMACS (Kölling)
  - 14:20 – 14:45 SMART (Wolf)
  - 14:45 – 15:00 Dropsondes (Schäfler)
- *15:00 – 15:45: Coffee and discussion*
- 15:45 – 18:00: Session 1 - Part II (20 + 5 minutes each)
  - 15:45 – 16:35 HAMP – Radiometer & Radar (Konow, Ewald, Jacob)
  - 16:35 – 17:00 ADM (Lux)
  - 17:00 – 17:25 2micron (Witschas)
  - 17:25 – 18:00 In-Situ Falcon and HALO (Mallaun)
- 18:00 – 18:30 Session 1 - Discussion
  - Data bank and policy (Schäfler)
  - Data formats
- *19:30 Dinner*

Thursday, 9 March 2017

Session 2: Airborne observation Part II (08:30 - 10:45)

- 08:30 – 09:30 French SAFIRE Falcon observations
  - 08:30 – 09:00 EPATAN (Delanoë/ Rivière)
  - 09:00 – 09:30 NEAREX (Moore)
- *09:30 – 10:00 Coffee and Discussion*
- 10:00 – 10:30 British FAAM BAE-146 Observations (Methven)
- 10:30 – 10:45 Overview of the SHOUT mission (Doyle)

Session 3: Ground-based Observations (10:30 - 11:45)

- 10:30 – 10:50 UK ground-based observations (Vaughan)
- 10:50 – 11:10 French ground-based observations (Rivière/Arbogast)
- 11:10 – 11:25 DLR radiosonde observations at Iceland (Bramberger)
- 11:25 – 11:30 Canadian radiosonde observations
- 11:30 – 11:45 EUMETNET radiosonde observations
- *11:45 – 13:00 Lunch*

Session 4: Overview Paper (13:00 - 14:00)

- 13:00 – 13:30 Content and structure of the campaign overview article (Schäfler)
- 13:30 – 14:00 Discussion: contributions, list of authors, organization

Session 5: Case Studies (14:00 - 17:30)

The case study session aims at recapitulating interesting cases. Several cases were selected and will be introduced briefly (max. 10 min on scientific rationale, important data sets). After each talk the science, collaborations and possibilities for future publications about these cases will be discussed.

- 14:00 – 15:00 Case Study Session – Part I
  - 14:00 – 14:25 Cylone Vladiana on 23 Sep 2016 (Introducer: Böttcher)
  - 14:25 – 14:50 ExTC Karl on 26/27 Sep 2016 (Craig)
- *14:50 – 15:15 Coffee*
- 15:15 – 17:20 Case Study Session – Part II
  - 15:15 – 15:40 The strong moisture transport on 27 Sep 2016 (Schäfler)
  - 15:40 – 16:05 Cut-Off Sanchez and downstream HIW (Keil)
  - 16:05 – 16:30 TPVs on 6/15 Oct 2016 (Röthlisberger)
  - 16:30 – 16:55 The Saturday storm (Rivière)
  - 16:55 – 17:20 Ridge building on 13 Oct (Methven)
- 17:20 – 18:00 Case Study Session Discussion
- *19:00 Dinner*

Friday, 10 March 2017

Session 6: Scientific Discussions (08:30 - 13:00)

In this open session the scientific interest of the different contributing groups will be discussed. In contrast to the cases discussed on Thursday we want to focus on cross-cutting scientific topics and the connection to the data set described on Wednesday and Thursday. All participants are invited to present their scientific interest in short presentations (~5-10 minutes, time slots will be distributed depending on the input). All speakers are asked to inform about the scientific problem, the data and cases of interest and collaborations.

- 08:30 – 10:00 Science Session – Part I
- *10:00 – 10:30 Coffee and discussion*
- 10:30 – 12:00 Science Session – Part II
- 12:30 – 13:00 Final Discussion
- *13:00 Lunch/ End of the Workshop*
- 14:00 – 15:00 Steering Group Meeting

Scientific topics:

- Predictability aspects
- Data denial experiments
- Divergence from observations
- Comparisons of observations with modelled fields
- WCB structure: Slantwise ascent vs. embedded convection
- Satellite comparisons
- Atmospheric rivers
- PV-Meter
- Turbulence
- Radar-Lidar synergies
- High-resolution simulations with ICON
- Sharpness of the tropopause
- Downstream impact (e.g. Sanchez)
- Blocking and WCB Outflows
- **(This collections of topics can be expanded!**

Planned presentations

- Craig/Schäfler: German Plans for the NAWDEX data analysis
- Wernli/Böttcher: ETH plans for the NAWDEX data analysis
- Methven: UK Plans for the NAWDEX data analysis
- Doyle: preliminary adjoint and predictability work
- Riemer, Wirth, Baumgart, Euler, Ghinassi - Observation impacts across scales (Plans at JGU Mainz for studies on TC Karl)
- Marc Rautenhaus – Analysis option of NAWDEX cases with Met.3D
- Heike Konow - Convective regimes in observations and model integrations
- Bramberger: Analysis of turbulence observations during NAWDEX
- PV-Meter: Presentation on suitable flight legs, first analyses
- Weissmann/Schäfler/Schindler: Data assimilation project
- Groß/Ewald/ Delanoë: Radar-Lidar
- Voigt: Toward ICON-LES Simulations for NAWDEX