



D-PHASE

a WWRP Forecast Demonstration Project

Minutes of the MAP D-PHASE Steering Committee meeting, 22 May 2008, Bologna

Participants: Andrea Buzzi, Manfred Dorninger (part time), Andrea Montani, Roberto Ranzi, Evelyne Richard (part time), Mathias Rotach, Volker Wulfmeyer (part time), and Marco Arpagaus (MD coordinator; minutes)

Excused: Christoph Hegg, Andrea Rossa, Michael Staudinger, Hans Volkert

Agenda

- 1 Opening, agenda, minutes
 - 2 Information
 - 2.1 Status of VP and DA
 - 3 Observational data
 - 3.1 Collection, transformation to NetCDF, and upload to DA of surface station data and radiosonde data
 - 3.2 Data policy, doi
 - 3.3 EUCOS matters
 - 4 COPS / D-PHASE Re-Analysis
 - 5 Ongoing funded projects for data analysis
 - 5.1 SPP PQP
 - 5.2 COST 731
 - 5.3 At MeteoSwiss
 - 5.4 At U of Vienna
 - 5.5 Other opportunities? (e.g. EUROCORES)
 - 6 Project marketing: publicity and publications
 - 6.1 Papers
 - 6.2 Collection of D-PHASE publication list
 - 6.3 Report to WWRP
 - 6.4 MWFR
 - 6.5 HEPEX
 - 7 Open issues from the Working Groups
 - 7.1 WG-DI
 - 7.2 WG-HEU
 - 7.3 WG-VER
 - 7.4 WG-DP
 - 8 Next meetings
 - 8.1 Steering Committee
 - 8.2 Working Group chairs
 - 8.3 D-PHASE session at EGU 2009
 - 8.4 Scientific D-PHASE Meeting
 - 9 Any other business
- Appendix 1: Updated action list
Appendix 2: List of verification activities

1 Opening, agenda, minutes

Mathias Rotach opened the meeting after a very interesting 3-day Joint 2nd MAP D-PHASE Scientific Meeting & COST 731 Mid-term Seminar: big thanks once again to Andrea Buzzi and the entire local organising committee for organising and hosting a very exciting (albeit wet ...) conference!

The agenda was adopted unanimously.

The minutes of the last meeting (7 August 2007, in Baden Airpark) have been approved.

2 Information

2.1 Status of VP and DA

- As the D-PHASE coordinator has informed all VP users by e-mail on 22 Apr 2008, the D-PHASE Visualisation Platform (VP) will continue to run 'as is' until a new operational warning platform for Swiss civil protection agencies will be put into service by approximately mid 2009.
 - Until then, the following rules for the VP apply:
 - The status of the VP is and will remain experimental. – The data made available through the D-PHASE Visualisation Platform continues to be only for scientific research and educational, non-commercial activities (cf. <http://www.d-phase.info/terms.asp>).
 - The Swiss institutions paying for the maintenance of the VP reserve the right to switch off the VP at any time.
 - In general, no new passwords will be issued for the VP.
 - Access to the VP remains free of charge for all current users, except of the commercial users, for whom the admission rights have been restricted as of 21 Apr 2008.
 - The following components of the end-to-end forecasting system are still up and running and are delivering their output to the VP:
 - Atmospheric models: COSMO-LEPS, COSMO-SREPS, ALADIN-LAEF, SRNWP-PEPS, COSMO-2 / COSMO-7, COSMO-I2 / COSMO-I7, ALADIN Austria, MM5_375 / MM5_15 / MM5_60
 - Hydrological models: PREVAH, HBV, FEST
 - Nowcasting tools: MeteoSwiss Nowcasting Tools, ARPA-SIM Radar Products, Cb-TRAM
 - Monitoring tools: VERA, Model minus VERA
- Demo versions of the VP: <http://demo.d-phase.info> features a demo version of the VP depicting the status of the VP as of 8.8.2007 at 12:00 UTC. Note that since the model plots are not saved on the VP (they are permanently stored on the DA), demo versions of the VP (such as demo.d-phase.info) are missing the model products that were valid at the respective date (they instead display the latest real-time products).
 - Anyone interested in another demo version of the VP should please contact the D-PHASE coordinator (Marco Arpagaus), indicating the exact date and time for which the demo version should be set up, and provide the financial resources (€ 595) needed.

- No data is delivered to the data archive (DA) since the end of the DOP. The DA will however continue to be maintained for another 2 years (funding through approved project in the framework of the Priority Project PQP of the German Research Foundation).

3 Observational data

3.1 Collection, transformation to NetCDF, and upload to DA of surface station data and radiosonde data

Manfred Dorninger reported that the collection, transformation to NetCDF, and upload to the DA of surface station (meteorological) data and radiosonde data has well advanced:

- Thanks to everybody who helped to collect the data, especially Stefano Mariani (APAT) for the collection of data from the regional services in Italy.
- It would be nice to also get the data from Tuscany. – Mathias Rotach will send the respective letter.
- The data is currently only available in NetCDF format from the U of Vienna (mail to Manfred Dorninger). As soon as all the data is ready and final (including data from Tuscany and some other data still missing; expected for July 2008), it will be uploaded to the DA country wise (i.e., one file per country).

Concerning *radar data*, the status is as follows:

- The collected radar data is very heterogeneous, since no clear specification of the required data was made. – As was agreed, the U of Vienna gathered the provided radar data “as is” and did not process it in any way.
- A list of the collected radar data can be obtained from Manfred Dorninger.
- Volker Wulfmeyer will collect the necessary radar data from Germany, France, and Switzerland specifically needed for the SPP PQP re-analysis project (see agenda item 4) in the framework of the re-analysis project.

Concerning *hydrological (observational) data*, task WG-VER 13 is still to be done. Responsible are Roberto Ranzi (for Italian data) and Christoph Hegg / Massimiliano Zappa (for Swiss and German data).

3.2 Data policy, doi

WDCC (World Data Center Climate; the operator of our data archive in Hamburg) suggests assigning a Digital Object Identifier (DOI) to every dataset stored on the DA. The main advantage of a DOI is that the respective dataset is citeable, just as any scientific article. This would ensure that the work of the data providers is properly acknowledged. – Implications:

- The data have to undergo a review process (done by data authors together with WDCC) to ensure the completeness and correctness of their description (meta data) and to ensure data quality itself.
- Data which have a DOI assigned are accessible without restrictions and are no longer matter of change – like articles in scientific journals.
Note added in proof (1.8.2008; information by Claudia Wunram): This does not imply that the data are no longer password-protected. It only means that everyone with a justifiable (scientific) interest must be given access (i.e., a password) to the data. Commercial use of the data can still be excluded.

Discussion:

- Rotach: We would probably need to ask all data providers for permission (i.e., through a letter to the directors ...). – *Note added in proof (1.8.2008): This may not be needed, since we can still exclude the commercial use of the data as well as a password-free access.*
- Rotach: What do we do if some of the data providers agree to assign a DOI, but others do not? – This is not optimal (non-uniformity in citing the data), but we would live with that ...

Decision:

No formal decision was taken. – *Note added in proof (1.8.2008): Since the implications of assigning the DOI have become clearer in the meantime, an e-mail to all the data providers concerning this issue may be envisaged. Further decisions will be taken by e-mail.*

3.3 EUCOS matters

Volker Wulfmeyer believes that researchers (e.g., D-PHASE, COPS, etc.) should launch an initiative that would lead to the (centralized?) provision of all observational data throughout Europe, both for data assimilation (as already done to a large extent through EUCOS) as well as process studies and verification. – The situation concerning observational data in Europe today, especially when compared to the situation in the U.S., is very inefficient. – Volker will also try to push this initiative within WWRP and GEOSS.

Discussion:

- Rotach: This is a major task, and endeavours into this direction are ongoing since many years, with very limited success ...

Decision: No special activity foreseen, but we should include the issue in the final report to the WWRP.

4 COPS / D-PHASE Re-Analysis

Volker Wulfmeyer reports on the plans for the re-analysis project in the framework of the SPP PQP (Priority Programme of the German Research Foundation; funding body for COPS and GOP): Two re-analyses will be made, one with the COSMO-DE (Nudging) by the DWD (full COPS period) and one with the MM5 (4D-Var) by the University of Hohenheim (IOPs only).

Discussion:

- All: D-PHASE strongly supports this important activity!
- Rotach: Make sure to not only include German data for the re-analysis, i.e., French and Swiss data!

5 Ongoing funded projects for data analysis

5.1 SPP PQP

Within the Priority Programme of the German Research Foundation, the following projects have been funded:

- “Process chain and predictability studied with D-PHASE and COPS” (Wulfmeyer, Rotach, Dorninger, Lautenschlager, Kottmeier)

- Re-analysis project (Wulfmeyer et al.; see agenda item 4)
- A PhD position for the U of Hamburg (Ament) within the QUEST project.
- A PhD position for the U of Mainz (Wernli) within the VERIPREG project.

5.2 COST 731

In Switzerland, the two funded COST 731 PhD positions are ongoing (Luca Panziera on conceptual nowcasting models) and almost finished (Simon Jaun on hydrological ensemble forecasting), respectively. – Both projects are however not strictly linked to ‘data analysis’.

5.3 At MeteoSwiss

The work of Felix Ament will be continued by Tanja Weusthoff (2 yr 50% Post-Doc position), who will start beginning of August. Within these 50% of her time, she will also be working within the SPP PQP project “Process chain and predictability studied with D-PHASE and COPS” (see above).

5.4 At U of Vienna

VERITAS, the project submitted to the Austrian Science Foundation, has been approved. Theresa Gorgas will, among other things, compare all D-PHASE models.

5.5 Other opportunities?

Volker Wulfmeyer presented a draft for a EUROCORES proposal, which was discussed at some length. – *Note added in proof (1.8.2008): The proposal was not submitted to the ESF (deadline: 2 June 2008), mainly because time was too short to come up with a balanced and well defined proposal. Therefore, the details of the discussions will not be reported here.*

6 Project marketing: publicity and publications

6.1 Papers

- The paper in Atmospheric Science Letters (lead author: Massimiliano Zappa) has been published.
- The BAMS article is almost submitted. – *Note added in proof (1.8.2008): In the meantime, the paper has indeed been submitted to BAMS.*
- Paper in HESS or similar hydrological journal (task WG-Ch 8): Roberto Ranzi and Christoph Hegg take care of the issue.

6.2 Collection of D-PHASE publication list

The list up until the end of 2007 is available for the Swiss and German contributions. Evelyne Richard, Andrea Montani and Manfred Dorninger will provide their input as soon as possible

6.3 Report to WWRP

Mathias Rotach – as chairman of the D-PHASE Steering Committee – will probably soon receive an invitation to report to the WWRP. Additionally, Marco Arpagaus will have to write up a final report for the MeteoSwiss-internal D-PHASE project. Mathias therefore suggests that the MeteoSwiss-report be written in English, such that some (or all) of it can be re-used for the final report to the WWRP.

6.4 MWFR

Mathias Rotach and Volker Wulfmeyer, both members of the newly established WWRP working group on Mesoscale Weather Forecasting Research, inform that D-PHASE has been proposed as data assimilation test-bed.

6.5 HEPEX

As already mentioned earlier, D-PHASE has also become a test-bed within HEPEX, which has no implications for D-PHASE, but improves our visibility among hydrologists.

7 Open issues from the Working Groups

7.1 WG-DI

The initial time of the models may be wrongly coded within the GRIB, at least for some of the models. – Andrea Montani will take care of the issue (needs to be checked and fixed before a DOI can be assigned to the different data sets!).

7.2 WG-HEU

No open issue. – For the open tasks, see appendix 1.

7.3 WG-VER

WG-VER has had a successful side-meeting on 20 May, with some 20 persons attending. Manfred Dorninger will provide a report on this meeting as soon as possible.

No other open issue. – For the open tasks, see appendix 1.

7.4 WG-DP

No open issue.

8 Next meetings

8.1 Steering Committee

The next D-PHASE Steering Committee meeting is planned as a side meeting at the ICAM 2009 in Rastatt, Germany (11-15 May 2009).

8.2 Working Group Chairs

A telephone conference is envisaged for some time in fall 2008.

8.3 D-PHASE session at EGU 2009

Following Roberto Ranzi suggestion (and preparatory discussion with the EGU organisers), the MD-SC decides to organise a D-PHASE *hydrology* session with an atmospheric keynote (by Mathias Rotach?). – Likewise, the ICAM 2009 (which will hopefully have at least a dedicated meteorological D-PHASE session, see agenda item 8.4) will feature a hydrological keynote (by Roberto Ranzi?). – Roberto will inform EGU 2009 accordingly.

8.4 Scientific D-PHASE Meeting

The ICAM 2009 in Rastatt, Germany (11-15 May 2009), is considered the next Scientific D-PHASE Meeting. – Mathias Rotach will contact the organisers of the ICAM 2009 to discuss the role of D-PHASE within ICAM 2009 (joint meeting, extra session, other ...).

9 Any other business

With only 5 participants left, Mathias Rotach closes the meeting at 18.20 and thanks the local organisers once more for the exciting week in Bologna.

Appendix 1: Updated action list

Updated action list (status as of MAP D-PHASE Steering Committee meeting, 22 May 2008)

Identifier	Action	Responsible	Due date	Remarks
WG-DI 15	Check metadata information of hydrological models on the DA for accuracy and completeness (cross-check with the actual file content!).	Ranzi / Hegg	asap	Andrea Montani may help.
WG-HEU 6	Search for specific sites where cost/loss analysis can be carried out.	Hegg	asap	
WG-HEU 22	Remind all hydrological modellers to upload their data to the DA.	Ranzi / Hegg	asap	ongoing
WG-VER 9	Collect all meteorological observational data of interest, i.e., surface station data and radiosonde data, GTS as well as non-GTS data, from the Met Services.	Dorninger	asap	almost done
WG-VER 10	Collect all (Italian / Swiss and German) hydrological observational data of interest.	Ranzi / Hegg	asap	ongoing
WG-VER 11	Transform all collected meteorological observational data (surface station data and radiosonde data) into NetCDF.	Dorninger	asap	almost done
WG-VER 13	Decide whether or not the hydrological observations (mainly run-off and lake level data) should be transferred into NetCDF and uploaded onto the DA, and by whom.	Ranzi / Hegg	asap	
WG-DP 5	Request data from Tuscany.	Rotach	asap	
MD-Ch 3	Prepare WWRP FDP and/or MAP D-PHASE letter of recommendation for possible proposals to national funding bodies.	Rotach	on request	
MD-Ch 5	Publish paper in BAMS. Authors: Rotach (lead), WG chairs, and MD-Co.	Rotach	asap	Submission in July 2008.
MD-Ch 8	Publish paper in HESS or similar hydrological journal (JoH? JoHM?). Authors: Ranzi & Hegg (lead), WG chairs, and MD-Co.	Ranzi / Hegg	asap	Postponed until EGU 2009.
MD-Ch 12	Contact ICAM 2009 to discuss the role of D-PHASE within ICAM 2009.	Rotach	asap	
MD-Co 11	Collect input for and edit MD-IP.	Arpagaus	ongoing	
MD-Co 12	Collect list of published papers, conference talks and proceedings, media articles, etc. – Responsibility: Marco Arpagaus, Andrea Montani, Manfred Dorninger, Michael Denhard, and Evelyne Richard for Switzerland, Italy, Austria, Germany, and France, respectively.	Arpagaus	yearly	Ongoing for publications until 2007.
MD-DA 8				
MD-VP 7				

Appendix 2: List of verification activities (status as of 22 July 2008)

Methods	Models	Parameters	Name (Institution)
Atmospheric models			
Ensemble Verification	COSMO-SREPS INM-SREPS COSMO-LEPS SRNWP-PEPS	Precipitation (first priority) T2m MSLP	Marsigli (ARPA-SIM)
Classical and spatial metrics (PQP)	COSMO	surface observations radiosondes	Keil (DLR) in cooperation with MeteoSwiss
Fuzzy verification	probably all	precipitation	Weusthoff (MeteoSwiss)
CRA Power spectrum Skill scores Multi-model forecast	8 models (7-10km) 6 models (2.2-3km) N-Italy, starting point	precipitation	Mariani (APAT)
CRA	???	precipitation	Ebert (BoM, pending due to strong involvement in B08)
Neighbourhood verification	???	???	Evert (BoM, pending due to strong involvement in B08)
Empirical evaluation of predictability of convection (case studies)	MM5 BOLAM/MOLOCH	precipitation others?	Davolio (ISAC)
SAL	almost all deterministic models (German Danube river catchment)	Precipitation (starting daily, than hourly)	Zimmer/Wernli (Uni Mainz)
Grid-point verification Intercomparison Scale decomposition Error propagation	probably all	several	Dorninger/Gorgas (IMGW)
FC against observation (multivariate verification, PQP)	???	hydrological cycle	Ament (Uni Hamburg)
EPS comparison	EPS systems in D-PHASE	Surface parameters, (possibly also 850 hPa)	Wang (ZAMG)
Toolbox: Verification Toolbox	SRNWP-PEPS	several	Denhard (DWD)

Methods	Models	Parameters	Name (Institution)
Toolbox: MET	probably all	several	Dorninger (IMWG), Brown (NCAR)
Hydrological models			
Radar ensemble	PREVAH other hydrological models in Switzerland	Precipitation, run-off	Zappa (WSL)
Evaluation of hydrological models in Switzerland Verification tool for hydrological models		Precipitation, run-off	