

Minutes of the MAP D-PHASE meeting of the WG chairs, 5-6 July, Zurich

Participants: Manfred Dorninger, Christoph Hegg, Andrea Montani, Mathias Rotach, and Marco Arpagaus (MD coordinator; minutes)

Excused: Roberto Ranzi

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1. Opening, adoption of the agenda

Mathias Rotach welcomed the participants to the meeting of the WG chairs in Zurich. – No changes or additions to the agenda were made.

2. Information

Note added in proof (30.10.2006): The following is the documentation of the information provided at the meeting and of the discussion that followed the presentation of the information, respectively. As such, it reflects the status as of July 6, 2006. – The contents of both the information and the discussion are meanwhile outdated. For a short description of the status today, [refer to the notes at the end of this section](#).

Data Interface (DI) and Data Visualisation Platform (DVP)

Following various meetings and discussions with COPS representatives, the current planning status for the data interface (DI) and the data visualisation platform (DVP) is as follows ('NEW' indicates changes from the planning status as documented in version 1.0 of the MAP D-PHASE Implementation Plan):

The **DI** will be set up in cooperation with COPS at the MPI in Hamburg (group 'Modelle und Daten', contact person is claudia.wunram@zmaw.de).

- The DI will store all data, alerts, and feedbacks.
- **NEW: No 24h service can be guaranteed at MPI, and no major CPU capabilities are available.** Therefore, no *vital* real-time applications (e.g., retrieval of atmospheric model data to drive a hydrological model, generation of alerts) can be run on the DI.

Consequences:

- **NEW:** Any input (data or alerts) needed by the components of the end-to-end forecasting system (e.g., output of an atmospheric model needed as input to drive a hydrological model) has to be organised individually, rather than being retrieved from the DI (i.e., real-time bilateral exchange).
- **NEW:** Alerts need to be generated individually (by atmospheric models, hydrological models, nowcasting tools, and observational data) – *MeteoSwiss will provide software to generate basic alerts for atmospheric models.*
- **NEW:** Alerts need to be sent to all 'customers' individually, as well as to the DI (for storage).
- A **common format** is still needed for visualisation (atmospheric models), generation of alerts (atmospheric models), and verification (atmospheric and hydrological models) purposes.
- All providers of data, alerts, and feedback are responsible for the successful delivery of the information to the DI, also in case the data interface is unavailable for some time (i.e., the providers are responsible to deliver the information to the DI at some later time in case the real-time delivery fails).

The main task of the **DVP** (to present the graphical products) can be divided into 2 parts, namely

- generating the predefined set of products (i.e., production of e.g. png files);
- displaying the predefined set of products (i.e., making them available on the internet by means of a web browser).

The DVP will be set up in cooperation with COPS, either at the COPS Operations Centre in Karlsruhe (?) or at the MPI in Hamburg. COPS has agreed to be responsible

- **NEW:** for **generating** the predefined set of products of all the **atmospheric model data, only**;
- for **displaying** all available products (atmospheric models, hydrological models, nowcasting tools, and online monitoring).
- **NEW: The generation of atmospheric model products as well as the web browser to access all the products can not be guaranteed on a 24h basis.**

Consequences:

- **NEW:** Generation of products derived from hydrological models needs to be done by the hydrological models, individually (same as for the nowcasting tools and the online monitoring), and pushed to the DVP as well as to the DI (for storage).
- **NEW:** The atmospheric models are responsible for the delivery of the data (in common format!) to the DVP, individually.
- A **common format** is still needed for visualisation (atmospheric models), generation of alerts (atmospheric models), and verification (atmospheric and hydrological models) purposes.

Decision concerning the DVP: The WG chairs prefer a DVP solution at the MPI in Hamburg as compared to the COPS Operations Centre to guarantee the necessary support also beyond the COPS period of June to August 2007.

Warning and Feedback Platform (WFP)

The WFP is planned to be realised in collaboration with Meteorisk (<http://www.meteorisk.info>). After D-PHASE has defined its needs, the private company that runs the Meteorisk platform will be commissioned with the implementation. The funding for the realisation of the WFP within the Meteorisk framework will hopefully be secured through the Meteorisk II proposal (Interreg call expected for November 2006). **D-PHASE will however need to make an advance payment available.**

Discussion on DVP and WFP

Following the latest information concerning the DVP and the WFP, the question was raised whether two independent platforms to *display* the graphical products (DVP and WFP for data and alerts, respectively) are needed, or whether we should concentrate on one single platform. – Note that this does not concern the *generation* of the graphical products, i.e., generation and display of products and alerts do not need to be done at the same place.

Decision: Combine the displaying ('web browser') part of the DVP and the WFP.

Some remarks:

- There are two main options for the visualisation platform: within the Meteorisk framework or a joint solution with COPS (COPS needs some tool to visualise model products for mission planning).
- Finances: There are fair chances that Meteorisk II will be funded, which would finance our visualisation platform. On the other hand, a joint visualisation platform with COPS will need to be entirely financed by COPS and D-PHASE.
- A Meteorisk based solution profits from a 24h service, whereas the COPS solution will suffer from limited 24h reliability (cf. information item on DI and DVP above). – However note that the atmospheric model products will not benefit from a 24h reliability, since they are generated on a platform that can not guarantee a 24h reliability (cf. information item on DI and DVP above).
- A Meteorisk based solution would have a larger impact on atmospheric forecasters (and will make it easier to get more of them involved into the project since they are using Meteorisk anyhow).
- In case of a joint visualisation platform with COPS, D-PHASE strongly favours a solution based at MPI rather than at the COPS Operations Centre to guarantee support for the full 6 month of D-PHASE (rather than only the 3 month of COPS, only).

Decision: For the reasons given above, D-PHASE favours a Meteorisk solution as compared to a joint visualisation platform with COPS.

The way forward:

- WGs DI and HEU discuss, how the internet interface (web browser) should look like (combined for data and alerts; tasks WG-DI 7 and WG-HEU 7 as input for tasks WG-Co 7 and WG-Co 8).
- The MAP D-PHASE Coordinator contacts Meteorisk to discuss the necessary steps towards the visualisation platform for D-PHASE.
- The costs to develop and run the visualisation platform are planned to be covered
 - by the joint Meteorisk / D-PHASE proposal (Meteorisk II) – or, if this fails

- jointly by D-PHASE and COPS – or, if this fails
- by D-PHASE alone.

Notes added in proof (30.10.2006):

- The COPS visualisation platform ('data management system') will be established at the COPS Operations Centre (in Baden Airpark or Karlsruhe). – Considering the above decisions, a common visualisation platform with Meteorisk is the only viable solution for D-PHASE. Therefore, a visualisation platform (VP), realised in collaboration with Meteorisk, will replace the former DVP and WFP and will have the joint capabilities of both former platforms.
- Some money will most probably be available to D-PHASE from MAP (surplus money after the formal termination of MAP). It will be used to cover (some) of the costs of the Meteorisk based visualisation platform (VP).
- COPS will most likely not be able to *generate* the atmospheric model products on the DI at the MPI. COPS has however agreed to provide a common public domain software package that generates all necessary products. This software can then be used to generate the predefined set of model products by the atmospheric model providers, individually and locally. – Atmospheric model data therefore no longer need to be delivered to a centralised platform where the products are generated.
- To reflect the changes in the technical setup of D-PHASE, the data interface (DI) will henceforth be called the data archive (DA), since it really only archives all data, alerts, and feedbacks (i.e., it no longer serves as interface to exchange data; data archive is also the term used for the database at the MPI in Hamburg within the COPS project). The data visualisation platform (DVP) and the warning and feedback platform (WFP) will be merged into one, the visualisation platform (VP, see above). The Implementation Plan has been updated accordingly (version 2.0).

3. Reports from the working groups and discussion of open issues

Decisions or necessary actions are printed in **bold**.

WG-DI (Montani)

Atmospheric models:

- Some modellers seem to have problems to provide GRIB1 output. – **D-PHASE will nevertheless stick to GRIB1 as the common format, and WG-DI will try to help all modelling groups in supplying their output in GRIB1.**
- Some modelling groups can not supply all variables requested (either because some of the variables are not part of the standard model output or due to computational or operational restrictions). – **Every group is encouraged to provide as many of the requested variables as possible, and is asked to provide all requested variables it has readily available. It is however up to the providers of the atmospheric model data to decide what data they want to make available to D-PHASE.**

- The output of the atmospheric models should be limited to a predefined domain (WG-DI will define this domain as soon as possible). – **If possible, modelling groups should provide their output for this domain, only.**
- WG-DI will provide a GRIB table with the standard WMO GRIB coding parameters for all the variables, with a suggestion for the parameters used for the variables not covered by the WMO standard. – **This GRIB table will constitute the common format for the atmospheric models, and all providers of atmospheric model data are required to deliver their data in this common format.**
- What information of the driving models do we need (both for re-running and verification purposes)? – **WGs DI and VER need to decide as soon as possible (cf. item on TIGGE below (WG-VER))**

No news concerning hydrological models and nowcasting tools.

WG-HEU (Hegg)

- Feedback to first questionnaire:
 - From Italy: excellent!
 - From Switzerland: ok, more end-users are expected to sign up soon.
 - From Austria: only one end user so far.
 - From Germany: only one end user so far.
 - From France: none so far; need to find a contact person (with hydrological background) for France.

In general, feedback is very good, i.e., we already have quite a few end users involved in the project.

- A draft for the second questionnaire is available. Main issues:
 - Definition of impact areas, cf. task WG-HEU 3.
 - Type of input need. – **Data format: Gridded information will be available in the common format, i.e. GRIB1 for the atmospheric models; for single points, some standard output (e.g. precipitation sum averaged over entire target area) may also be available in ASCII format. – WG HEU will coordinate the details with WGs DI and VER (task WG-DI 2) as soon as possible.**
 - Alerts requested, cf. tasks WG-HEU 4, WG-HEU 8, and WG-HEU 9.
 - **To be added:** data policy.
- Concerning the questionnaire for the collection of cost-loss specifications (cf. task WG-HEU 6), the WG chairs decided to look for single end users that would be willing to provide this information rather than mailing a questionnaire to all the users involved.

WG-VER (Dorninger)

- The working group has been subdivided into sub-tasks as follows (coordinators in brackets):
 - EPS verification (Chiara Marsigli)
 - High-resolution grid point verification (Manfred Dorninger)

- Object oriented verification (Christian Keil)
- Verification of hydrological models (**still NN ...**)
- Measure of overall success (with WG-HEU)

The task of the coordinators is

- to identify who is working in this field;
- to centralize and unify the verification calculation and output;
- to collect and combine the results;
- to estimate the man power needed.

The actual verification work for all the different systems (e.g., all atmospheric ensemble systems) will be done by a group of people or an individual, who still need(s) to be defined:

- EPS verification: Currently, only Chiara Marsigli is interested to do (some part of) the verification of all the ensemble systems. – **More people are needed ...**
- High resolution grid point verification: Currently, only Manfred Dorninger is interested to do a verification of all the high-resolution models. – **Again, more people are needed ...**
- Object oriented verification: **Nobody has so far committed to do a verification of all the ensemble systems or all the high resolution models.**
- Measure of overall success: **No persons have yet been identified to assess the overall success for the atmospheric forecasters, the hydrological forecasters, and the end users, respectively. – These key persons have to be identified as soon as possible** (Paolo Ambrosetti may be a candidate to assess the overall success for the atmospheric forecasters).
- The list of variables to be verified (cf. task WG-VER 1) is not yet final. It will be based on the list of variables proposed for archiving by TIGGE (cf. <http://tigge.ecmwf.int>) and will be completed by the variables needed as input for the hydrological models (task WG-DI 2). Thereafter, the list will be coordinated with the COPS requirements. – **The list needs to be finalised as soon as possible.**
- Beth Ebert has accepted the invitation to the MAP D-PHASE Meeting in Vienna.

WG-DP (Rotach)

The strategy is to join the MAP and COPS data policies for all the D-PHASE data. Specifically, the D-PHASE data policy will also divide the data into 'Required' and 'Supplemental'.

The implementation of the data policy is foreseen to be done as follows:

- Observations, including nowcasting tools (this concerns the involved NMSs, plus the regional services in Italy to be addressed through COSMO): Contact all data providers and ask them to define the status of their data (required or supplemental), sign the data policy, and return the form.
- Model data (atmospheric and hydrological): Just inform all providers; they accept by supplying the data.

WG-VER will provide a list of all observations (variables) that are needed from the Met Services, and that should be stored on the data interface.

4. Review of the action list

Due to lack of time, the review of the action list from the Steering Committee meeting (13-14 March 2006, in Zurich) had to be skipped. Instead, all participants provided short comments to the status of the different tasks in correspondence after the meeting, which is documented below.

The updated action list is available as appendix 1.

Review of action list of MAP D-PHASE Steering Committee meeting, 13-14 March 2006

#	Action	Responsible	Due date	Status, remarks	Done
WG-DI 2	Work out detailed specification of information flow for and common format of output data. Define variables and lead times needed as input for the hydrological models	WG-DI	06.2006	See MD-IP sections 3.1.2, 3.1.3, 4.1.2, 4.1.3, 5.1.2, 5.1.3, 6.1.2, and 6.1.3. – Coordinate with WG-VER 1.	
<i>Almost finished for atmospheric models. No recent input from hydrological models.</i>					
WG-DI 4	Work out detailed specification of warning criteria for alerts by limited area EPSs and the high-resolution EPS for ensemble hydrological models	WG-DI	06.2006	See MD-IP section 3.2.2.	
<i>Wait for input during MAP D-PHASE meeting in Vienna.</i>					
WG-DI 6	Work out detailed specification of information flow for feedback.	WG-DI	06.2006	See MD-IP sections 7.3.2 and 8.3.2. – Coordinate with WG-VER 2.	
<i>Wait for input during MAP D-PHASE meeting in Vienna.</i>					
WG-DI 7	Work out detailed specification of atmospheric model / hydrological model / nowcasting products to be visualised.	WG-DI	06.2006	See MD-IP sections 3.1.4, 4.1.4, 5.1.4, and 6.1.4.	
<i>Wait for input during MAP D-PHASE meeting in Vienna.</i>					
WG-DI 8	Work out detailed specification of warning criteria for alerts by limited-area EPSs for atmospheric models.	WG-DI	06.2006	See MD-IP section 3.2.2.	
<i>Wait for input during MAP D-PHASE meeting in Vienna.</i>					
WG-DI 9	Work out detailed specification of information flow for alerts.	WG-DI	06.2006	See MD-IP sections 3.2.3, 4.2.3, 5.2.3, 6.2.3, and 7.2.3.	
<i>Wait for input during MAP D-PHASE meeting in Vienna.</i>					
WG-DI 10	Work out detailed specification of common format of alerts.	WG-DI	06.2006	See MD-IP sections 3.2.4, 4.2.4, 5.2.4, 6.2.4, and 7.2.4.	
<i>Wait for input during MAP D-PHASE meeting in Vienna.</i>					
WG-DI 11	Work out detailed specification of common format for feedback.	WG-DI	06.2006	See MD-IP sections 7.3.3 and 8.3.3.	

Review of action list of MAP D-PHASE Steering Committee meeting, 13-14 March 2006

#	Action	Responsible	Due date	Status, remarks	Done
WG-DI 12	Work out detailed specification of online monitoring products to be visualised.	WG-DI	06.2006	See MD-IP section 9.1.4.	
WG-HEU 2	Contact Landesamt für Umweltschutz Baden-Württemberg (Werner Schulz, Karlsruhe) to coordinate hydrological forecasts for the COPS area.	WG-HEU	06.2006		09.08.2006
<i>Contact with Manfred Bremicker is established, HVZ Baden-Württemberg will participate.</i>					
WG-HEU 3	Work out detailed specification of impact areas.	WG-HEU	06.2006	See MD-IP section 2.4.	
<i>Part of questionnaire 2 that will be issued in September 06. May change with new end users.</i>					
WG-HEU 4	Work out detailed specification of warning criteria for alerts produced for (deterministic) hydrological models	WG-HEU	06.2006	See MD-IP sections 3.2.2, 5.2.2, and 6.2.2.	
<i>Collection of (actual) criteria is part of questionnaire 2 (see task WG-HEU 3).</i>					
WG-HEU 5	Organize end user workshops, mainly for training/educational purposes (tentatively planned for spring 2007).	WG-HEU	as needed	Input: results / information of end user questionnaire.	
WG-HEU 6	Prepare questionnaire for collection of cost/loss specifications of the end users.	WG-HEU	07.2006		
<i>Rephrased: Search for specific sites where cost/loss analysis can be carried out.</i>					
WG-HEU 7	Work out detailed specification of visualisation of alerts.	WG-HEU	06.2006	See MD-IP sections 3.2.5, 4.2.5, 5.2.5, 6.2.5, and 7.2.5.	
WG-HEU 8	Work out detailed specification of warning criteria for alerts produced for hydrological forecasters.	WG-HEU	06.2006	See MD-IP sections 3.2.2, 4.2.2, 5.2.2, 6.2.2, and 7.2.2.	
<i>Has to take place individually between meteorological modellers and hydrological forecasters. Collection of information still has to be organised.</i>					

Review of action list of MAP D-PHASE Steering Committee meeting, 13-14 March 2006

#	Action	Responsible	Due date	Status, remarks	Done
WG-HEU 9	Collect and document end user specifications concerning alerts (warning criteria).	WG-HEU	06.2006	See MD-IP section 7.2.2.	
<i>Part of questionnaire 2 (see task WG-HEU 3).</i>					
WG-VER 1	Define variables and lead times to be verified.	WG-VER	06.2006	See MD-IP sections 3.1.3, 4.1.3, 5.1.3, and 6.1.3. – Coordinate with WG-DI 2.	
<i>Wait for feedback during MAP D-PHASE meeting in Vienna.</i>					
WG-VER 2	Work out detailed specification of evaluation protocol for feedback.	WG-VER	06.2006	See MD-IP sections 7.3.1 and 8.3.1. – Coordinate with WG-HEU.	
<i>In progress (Ambrosetti. Input from HEU necessary).</i>					
WG-VER 3	Work out detailed specification of offline verification.	WG-VER	06.2006	See MD-IP section 9.2.	
<i>Wait for input during MAP D-PHASE meeting in Vienna.</i>					
WG-VER 4	Make offline verification.	WG-VER		See MD-IP section 9.2.	
<i>Identification of people doing the work during and after the MAP D-PHASE meeting in Vienna.</i>					
WG-VER 5	Work out detailed specification of feedback evaluation.	WG-VER	06.2006	See MD-IP section 9.3.	
<i>Wait for input during MAP D-PHASE meeting in Vienna.</i>					
WG-VER 6	Make feedback evaluation.	WG-VER		See MD-IP section 9.3.	
<i>Identification of people doing the work during and after the MAP D-PHASE meeting in Vienna.</i>					
WG-DP 1	Ensure that all necessary observational data will be provided (Met Services should be the main data providers).	WG-DP	06.2006	Observational data should be available n month (to be defined by WG-VER) after measurement time. – Coordinate with COPS.	
<i>Letter written, coordination among the data policies needs to be awaited until letter can be sent out.</i>					
WG-DP 2	Investigate possibility to obtain non-GTS data from COSMO.	WG-DP	06.2006	E.g., precipitation data. – Possibility exists; formalisation pending.	

Review of action list of MAP D-PHASE Steering Committee meeting, 13-14 March 2006

#	Action	Responsible	Due date	Status, remarks	Done
<i>Will be sought in the COSMO STC meeting of September.</i>					
WG-DP 3	Work out detailed specification of coordination required to initiate extra observations.	WG-DP	06.2006	See MD-IP section 2.3.	
<i>Nothing done so far. No request for extra observations received ...</i>					
MD-Ch 2	Clarify status of additional observations by EUCOS.	Rotach	06.2006	Coordinate with MEDEX efforts.	
<i>Inquiry sent out to EUCOS chair, but no response. Needs to be repeated.</i>					
MD-Ch 3	Prepare WWRP FDP and/or MAP D-PHASE letter of recommendation for possible proposals to national funding bodies.	Rotach	on request		
<i>On request.</i>					
MD-Co 6	Work out detailed specification of the technical realisation of storage and retrieval of data, alerts, and feedback.	Arpagaus	06.2006	In collaboration with COPS-Co and MD-DC. – See MD-IP sections 10.1.1 – 10.1.3.	
<i>Ongoing. – Claudia Wunram will present the data storage and retrieval mechanisms at the MAP D-PHASE meeting in Vienna.</i>					
MD-Co 7	Work out detailed specification of the technical realisation of common data visualisation platform.	Arpagaus	06.2006	In collaboration with COPS-Co and MD-DC. – See MD-IP section 10.2.	
<i>Merged with MD-Co 8.</i>					
MD-Co 8	Work out detailed specification of the technical realisation of common warning and feedback platform.	Arpagaus	06.2006	In collaboration with MD-WP. – See MD-IP section 10.3.	
<i>Nothing done so far. – Needs input from tasks WG-DI 7, WG-DI 12, and WG-HEU 7. New due date: asap.</i>					
MD-Co 9	Work out detailed specification of warning criteria for alerts for meteorological forecasters.	Arpagaus	06.2006	See MD-IP sections 3.2.2, 5.2.2, and 6.2.2.	
<i>Within a MeteoSwiss-internal project, forecasters are (among other things) currently discussing their needs concerning alerts. The detailed specifications will be available until the MAP D-PHASE meeting in Vienna. New due date: 11.2006.</i>					
MD-DC 1	Implement the technical realisation of storage and retrieval of data, alerts, and feedback.	NN	10.2006	See MD-IP sections 10.1.1 – 10.1.3.	
<i>Renamed: MD-DA 1.</i>					

Review of action list of MAP D-PHASE Steering Committee meeting, 13-14 March 2006

#	Action	Responsible	Due date	Status, remarks	Done
MD-DC 2	Implement the technical realisation of common data visualisation platform.	NN	02.2007	See MD-IP section 10.2.	
<i>Merged with MD-WP 1. Now MD-VP 1.</i>					
MD-DC 3	Work out detailed specification of the technical realisation of information flow.	NN	06.2006	In collaboration with MD-WP. – See MD-IP section 10.4.	
<i>Renamed: MD-DA 3.</i>					
MD-DC 4	Implement the technical realisation of information flow.	NN	02.2007	In collaboration with MD-WP. – See MD-IP section 10.4.	
<i>Renamed: MD-DA 4.</i>					
MD-DC 5	Implement the visualisation of atmospheric and hydrological model products.	NN	02.2007	See MD-IP sections 3.1.4 and 4.1.4.	
<i>Cancelled in favour of COPS-Co 1.</i>					
MD-DC 6	Implement alerts produced by atmospheric and hydrological models, including implementation of information flow and common data format for alerts.	NN	02.2007	See MD-IP sections 3.2.2 – 3.2.4 and 4.2.2 – 4.2.4.	
<i>No longer needed (to be done by model providers individually).</i>					
MD-WP 1	Implement the technical realisation of common warning and feedback platform.	NN	02.2007	See MD-IP section 10.3.	
<i>Renamed: MD-VP 1.</i>					
MD-WP 2	Implement visualisation of alerts.	NN	02.2007	See MD-IP sections 3.2.5, 4.2.5, 5.2.5, 6.2.5, and 7.2.5.	
<i>Renamed: MD-VP 2.</i>					
MD-WP 3	Implement evaluation protocol for feedback.	NN	02.2007	See MD-IP sections 7.3.1 and 8.3.1.	
<i>Renamed: MD-VP 3.</i>					
MD-WP 4	Implement information flow for feedback.	NN	02.2007	See MD-IP sections 7.3.2 and 8.3.2.	

Review of action list of MAP D-PHASE Steering Committee meeting, 13-14 March 2006

#	Action	Responsible	Due date	Status, remarks	Done
<i>Renamed: MD-VP 4.</i>					
MD-WP 5	Implement common format for feedback.	NN	02.2007	See MD-IP sections 7.3.3 and 8.3.3.	
<i>Renamed: MD-VP 5.</i>					
MD-WP 6	Work out detailed specification of target areas.	NN	06.2006	See MD-IP section 2.4.	
<i>Renamed: MD-VP 6.</i>					

The updated action list, resulting from this meeting, as well as a list of acronyms can be found in appendix 1 and 2, respectively, at the end of this document.

5. MAP D-PHASE Meeting

- Manfred gave a nice overview on the status of planning for the MAP D-PHASE meeting (cf. http://www.meteorologie.at/dphase_info_sa.htm).
- Programme:
 - Invited lectures: Beth Ebert (Verification) – The WG chairs think about other people they would like to invite (for invited or introductory lectures).
 - The meeting is planned to start with a key-note on the subject, followed by a presentation of D-PHASE and its status by Mathias Rotach.
 - Based on the submitted abstracts, Manfred will make a first attribution of the abstracts to topics/sessions (tentative: atmospheric modelling, hydrological modelling, end users, verification, etc.), and the programme committee will review the proposal, divide the abstracts into oral and poster presentations and finalize the programme within 2 weeks.
 - If needed, the deadline for abstracts (as well as the related deadlines) may be extended by 2 weeks at most.
- Social events:
 - Ice breaker on Monday evening in the Springer Schlössl.
 - Possibility for an excursion to Schloss Schönbrunn on Wednesday afternoon.
- There is a possibility for parallel WG (and/or topical, e.g. 'atmospheric models') side-meetings on Tuesday evening (Nov 7).
- The MD-SC meeting is taking place on Wednesday afternoon (Nov 8).

6. Next meeting and any other business

The next meeting of the WG chairs may be organised as a side-meeting during the COPS data implementation workshop in Hohenheim on 25-26 September 2006 (to be decided).

The next (joint) meeting of the MAP D-PHASE Steering Committee with the WG chairs will take place on 8.11.2006, in Vienna.

Appendix 1: Updated action list¹

Action list of MAP D-PHASE meeting of the WG chairs, 5-6 July 2006

#	Action	Responsible	Due date	Status, remarks	Done
WG-DI 2	Work out detailed specification of information flow for and common format of output data. Define variables and lead times needed as input for the hydrological models. – Concerning the data format for the atmospheric models, WG-DI will provide a GRIB table with the standard WMO GRIB coding parameters for all the variables, with a suggestion for the parameters used for the variables not covered by the WMO standard.	WG-DI	11.2006	See MD-IP sections 3.1.2, 3.1.3, 4.1.2, 4.1.3, 5.1.2, 5.1.3, 6.1.2, and 6.1.3. – Coordinate with WG-VER 1.	
WG-DI 4	Work out detailed specification of warning criteria for alerts by limited area EPSs and the high-resolution EPS for ensemble hydrological models.	WG-DI	12.2006	See MD-IP section 3.2.2.	
WG-DI 6	Work out detailed specification of information flow for feedback.	WG-DI	01.2007	See MD-IP sections 7.3.2 and 8.3.2. – Coordinate with WG-VER 2.	
WG-DI 7	Work out detailed specification of atmospheric model / hydrological model / nowcasting products to be visualised.	WG-DI	11.2006	See MD-IP sections 3.1.4, 4.1.4, 5.1.4, and 6.1.4.	
WG-DI 8	Work out detailed specification of warning criteria for alerts by limited-area EPSs for atmospheric models.	WG-DI	12.2006	See MD-IP section 3.2.2.	
WG-DI 9	Work out detailed specification of information flow for alerts.	WG-DI	12.2006	See MD-IP sections 3.2.3, 4.2.3, 5.2.3, 6.2.3, and 7.2.3.	
WG-DI 10	Work out detailed specification of common format of alerts.	WG-DI	11.2006	See MD-IP sections 3.2.4, 4.2.4, 5.2.4, 6.2.4, and 7.2.4.	
WG-DI 11	Work out detailed specification of common format for feedback.	WG-DI	12.2006	See MD-IP sections 7.3.3 and 8.3.3.	
WG-DI 12	Work out detailed specification of online monitoring products to be visualised.	WG-DI	11.2006	See MD-IP section 9.1.4.	

¹ For acronyms, check appendix 2.

Action list of MAP D-PHASE meeting of the WG chairs, 5-6 July 2006

#	Action	Responsible	Due date	Status, remarks	Done
WG-HEU 3	Work out detailed specification of impact areas.	WG-HEU	12.2006	See MD-IP section 2.4.	
WG-HEU 4	Work out detailed specification of warning criteria for alerts produced for (deterministic) hydrological models.	WG-HEU	12.2006	See MD-IP sections 3.2.2, 5.2.2, and 6.2.2.	
WG-HEU 5	Organize end user workshops, mainly for training/educational purposes (tentatively planned for spring 2007).	WG-HEU	as needed	Input: results / information of end user questionnaire.	
WG-HEU 6	Search for specific sites where cost/loss analysis can be carried out.	WG-HEU	12.2006		
WG-HEU 7	Work out detailed specification of visualisation of alerts.	WG-HEU	11.2006	See MD-IP sections 3.2.5, 4.2.5, 5.2.5, 6.2.5, and 7.2.5.	
WG-HEU 8	Work out detailed specification of warning criteria for alerts produced for hydrological forecasters.	WG-HEU	12.2006	See MD-IP sections 3.2.2, 4.2.2, 5.2.2, 6.2.2, and 7.2.2.	
WG-HEU 9	Collect and document end user specifications concerning alerts (warning criteria).	WG-HEU	12.2006	See MD-IP section 7.2.2.	
WG-HEU 10	Appoint new person with a hydrological background as focal point for France to replace Evelyne Richard.	WG-HEU	11.2006		
WG-VER 1	Define variables and lead times to be verified.	WG-VER	11.2006	See MD-IP sections 3.1.3, 4.1.3, 5.1.3, and 6.1.3. – Coordinate with WG-DI 2.	
WG-VER 2	Work out detailed specification of evaluation protocol for feedback.	WG-VER	12.2006	See MD-IP sections 7.3.1 and 8.3.1. – Coordinate with WG-HEU.	
WG-VER 3	Work out detailed specification of offline verification.	WG-VER	12.2006	See MD-IP section 9.2.	
WG-VER 4	Make offline verification.	WG-VER		See MD-IP section 9.2.	
WG-VER 5	Work out detailed specification of feedback assessment.	WG-VER	02.2007	See MD-IP section 9.3.	
WG-VER 6	Make feedback assessment.	WG-VER		See MD-IP section 9.3.	
WG-VER 7	Provide a list of all observations (variables) that are needed from the Met Services, and that should be stored on the data archive.	WG-VER	12.2006		
WG-DP 1	Ensure that all necessary observational data will be provided (Met Services should be the main data providers).	WG-DP	12.2006	Observational data should be available n month (to be defined by	

Action list of MAP D-PHASE meeting of the WG chairs, 5-6 July 2006

#	Action	Responsible	Due date	Status, remarks	Done
				WG-VER) after measurement time. – Coordinate with COPS.	
WG-DP 2	Investigate possibility to obtain non-GTS data from COSMO.	WG-DP	12.2006	E.g., precipitation data. – Possibility exists; formalisation pending.	
WG-DP 3	Work out detailed specification of coordination required to initiate extra observations.	WG-DP	02.2007	See MD-IP section 2.3. – Really needed (no request for extra observations received so far)?	
MD-Ch 2	Clarify status of additional observations by EUCOS.	Rotach	12.2006	Coordinate with MEDEX efforts.	
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-Co 6	Work out detailed specification of the technical realisation of storage and retrieval of data, alerts, and feedback.	Arpagaus	11.2006	In collaboration with COPS-Co and MD-DA. – See MD-IP sections 10.1.1 – 10.1.3.	
MD-Co 8	Work out detailed specification of the technical realisation of common visualisation platform.	Arpagaus	11.2006	In collaboration with MD-VP. – See MD-IP section 10.2.	
MD-Co 9	Work out detailed specification of warning criteria for alerts for meteorological forecasters.	Arpagaus	11.2006	See MD-IP sections 3.2.2, 5.2.2, and 6.2.2.	
MD-Co 10	Provide software that generates atmospheric model alerts.	Arpagaus	12.2006	See MD-IP section 3.2.2.	
MD-DA 1	Implement the technical realisation of storage and retrieval of data, alerts, and feedback.	Wunram	12.2006	See MD-IP sections 10.1.1 – 10.1.3.	
MD-DA 3	Work out detailed specification of the technical realisation of information flow.	Wunram	12.2006	In collaboration with MD-VP. – See MD-IP section 10.3.	
MD-DA 4	Implement the technical realisation of information flow.	Wunram	12.2006	In collaboration with MD-VP. – See MD-IP section 10.3.	
MD-DA 7					
MD-VP 1	Implement the technical realisation of common visualisation platform.	NN	01.2007	See MD-IP section 10.2.	
MD-VP 2	Implement visualisation of alerts.	NN	01.2007	See MD-IP sections 3.2.5, 4.2.5, 5.2.5, 6.2.5, and 7.2.5.	

Action list of MAP D-PHASE meeting of the WG chairs, 5-6 July 2006

#	Action	Responsible	Due date	Status, remarks	Done
MD-VP 3	Implement evaluation protocol for feedback.	NN	01.2007	See MD-IP sections 7.3.1 and 8.3.1.	
MD-VP 4	Implement information flow for feedback.	NN	01.2007	See MD-IP sections 7.3.2 and 8.3.2.	
MD-VP 5	Implement common format for feedback.	NN	01.2007	See MD-IP sections 7.3.3 and 8.3.3.	
MD-VP 6	Work out detailed specification of target areas.	NN	11.2006	See MD-IP section 2.4.	
COPS-Co 1	Provide software that generates atmospheric model products.	Behrendt	12.2006	See MD-IP section 3.1.4.	

Appendix 2: List of acronyms

APAT	Agenzia della Protezione dell'Ambiente e per i Servizi Tecnici (Agency for Environmental Protection and Technical Services), Italy
ARPA-SIM	Agenzia Regionale per la Prevenzione e l'Ambiente dell'Emilia-Romagna – Servizio IdroMeteo, Italy
ARPAL-CFMI-PC	Agenzia Regionale per la Protezione dell'Ambiente Ligure – Centro Funzionale Meteo Idrologico di Protezione Civile, Italy
CIMA	Centro di Ricerca Interuniversitario in Monitoraggio Ambientale, Italy
COPS	Convective and Orographically-induced Precipitation Study; Intensive Observation Period of the Priority Program 1167 "Quantitative Precipitation Forecast" of the German Research Foundation, June – August 2007, south-western Germany and north-eastern France; http://www.uni-hohenheim.de/spp-iop
COPS-Co	COPS Coordinator (Andreas Behrendt; behrendt [at] uni-hohenheim.de)
D-PHASE	D emonstration of P robabilistic H ydrological and A tmospheric S imulation of flood E vents in the Alpine region; a WWRP Forecast Demonstration Project in the framework of MAP (and hence also referred to as MAP D-PHASE)
DA	Data Archive
DFG	Deutsche Forschungsgemeinschaft
DLR	Deutsches Zentrum für Luft- und Raumfahrt, Germany
DWD	Deutscher Wetterdienst, Germany
FZK IMK-IFU	Forschungszentrum Karlsruhe, Institute for Meteorology and Climate Research, Germany
INM	Instituto Nacional de Meteorología, Spain
IP	Implementation Plan
ISAC-CNR	Institute of Atmospheric Sciences and Climate - National Research Council, Italy
MAP	Mesoscale Alpine Programme; a WWRP Research and Development Project
MAP D-PHASE	WWRP Forecast Demonstration Project in the framework of MAP; see also 'D-PHASE'
MD	MAP D-PHASE; only for internal use
MD-	MD, (optional) prefix for MD specific acronyms
MD-Ch	Chairman of the MD-SC (Mathias Rotach; mathias.rotach [at] meteoswiss.ch)
MD-Co	MD Coordinator (Marco Arpagaus; marco.arpagaus [at] meteoswiss.ch)
MD-DA	Person responsible for the MD Data Archive (claudia.wunram [at] zmaw.de)
MD-SC	MD Steering Committee
MD-VP	Person responsible for the MD Visualisation Platform (NN)
Meteorisk	EU (INTERREG IIIB Alpine Space) funded project; http://www.meteorisk.info
MeteoSwiss	Federal Office of Meteorology and Climatology MeteoSwiss, Switzerland
MPI	Max Planck Institute for Meteorology, Germany
QBOLAM	Quadrics BOlogna Limited Area Model
SRNWP	Short Range Numerical Weather Prediction, EUMETNET Programme
VP	Visualisation Platform
WMO	World Meteorological Organization; http://www.wmo.int
WG	Working Group
WG-DI	WG Data Interface

WG-DP	WG Data Policy
WG-HEU	WG Hydrology and End Users
WG-VER	WG Verification
WWRP	World Weather Research Programme; http://www.wmo.int/web/arep/wwrp