

Minutes of the MAP D-PHASE meeting of the WG chairs, 5 February 2007, Zurich

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

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1 Opening, agenda, minutes

Mathias Rotach opened the meeting and welcomed all participants.

The agenda was adopted unanimously.

The minutes of the last meeting (5-6 July 2006, in Zurich) have been approved with thanks to the author.

2 Information

2.1 Visualisation platform

Next Generation Software (private company also responsible for www.meteoalarm.eu and www.meteorisk.info) has agreed to implement the D-PHASE Visualisation Platform! The contract between Next Generation Software and MeteoSwiss is ready and being signed. The technical work has started and is ongoing. – The platform will be accessible at www.d-phase.info.

Discussion:

- Add some information (text!) concerning the maximal 1h accumulated precipitation amount for deterministic models, if possible (level 3-a).
- Provide some information on the model. – Could be made accessible through a click on the model name (level 3-a).
- Could the text be coloured (green/yellow/orange/red) on level 3-a?
- Add name of region to level 3-a.
- Could some indication be provided in case the model starts earlier (initial time, IT) than visible on the table (level 3-a)?
- For level 3-h it would be nice to show the number of grid-points for the impact area for each model. – May be easier to achieve for level 3-a, though.
- Most end users have only specified one value for an alert. This value will be used as threshold for a “red” alert (level 3-h). – Values for “yellow” and “orange” thresholds will be defined by WG HEU (task 9).
- Add coloured squares to level 1 to have all information (hydrology!) also for the top level.
- Use moderately low thresholds for alerts on level 1 and 2. – WG-HEU (Roberto Ranzi, new task) will work out thresholds based on the precipitation climatology of Frei and Schär (idea: similar return periods for all target areas). They will then be combined/merged with the already existing thresholds for Switzerland.
- What alert thresholds (levels 1 and 2, see last item) should we use for the COSMO-LEPS based EFI (output is an index rather than some precipitation amount)? Can the precipitation-based thresholds be translated into equivalent thresholds for the EFI?
- Put disclaimer on the Visualisation Platform!

2.2 Compilation of ‘who is participating’

The current status of participation will be compiled and an updated version of tables 2 to 4 of the Implementation Plan will be made available on the D-PHASE web-site as soon as possible.

- atmospheric models: The information of Andrea Montani and Marco Arpagaus will be merged into table 2 of the MD-IP.
- hydrological models: Roberto Ranzi and Christoph Hegg provide up-to-date information for table 3 of the MD-IP as soon as possible.
- nowcasting tools:
 - Andrea Montani will contact CNMCA for permission to display Italian radar composite.
 - ARPA-SIM may also provide additional nowcasting tools based on their own radar. Again, Andrea Montani will inquire.
 - Dorninger: Check with COPS for their nowcasting tools. – Marco Arpagaus will contact Andreas Behrendt.
 - Dorninger: Add monitoring tools to table of nowcasting tools.

- forecasters and end users:
 - Roberto Ranzi and Christoph Hegg provide up-to-date information for table 4 of the MD-IP as soon as possible.
 - Mathias Rotach will contact Meteorisk partners through Michael Staudinger to ask for more involvement of some of the forecasters in the Alpine region.
 - Andrea Montani will invite ARPA-SIM forecasters to participate in D-PHASE.

2.3 Information policy

- Several talks have been submitted for ICAM and EGU, more should follow for DACH and ECAM: – Please send all references of past and future conference papers to the D-PHASE coordinator (Marco Arpagaus).
- A draft for a joint peer-review paper by all the WG chairs should be ready by the end of the DOP. – Where should we publish? BAMS? HESS? Other? And/or in other, more specific (end user) journals? – New task on action list ...
- MeteoSwiss is planning to be present in the (national) media. – How about other institutions and/or countries? – Please inform the D-PHASE chairman (Mathias Rotach) about any activities.

3 Dry-run

The dry-run is planned for February 26 to March 2, 2007.

Note added in proof: At the time of writing, the first dry-run is history. It was a success and proved to be very useful, but also showed that a lot of work still lies ahead of us. – In the following, only critical tasks in view of the next dry-runs will be documented, that is, issues discussed at the meeting that have already been solved in-between the WG chairs meeting and the dry-run will be suppressed.

3.1 Status of VP

- The target areas for levels 1 and 2 are defined. A last revision of the areas (shape-files!) will be finalised until 10 March (WG-HEU 3).
- The impact areas will also be fixed until 10 March (WG-HEU 3). This includes provision of shape files (level 3-h) and definition of area names (preferably river-at-station).
- The xml format (alerts) for the hydrological models will be fixed until 10 March. – The respective format for the atmospheric models is already final and has been successfully used during the first dry-run.
- GrADS script to generate atmospheric model products is still far from complete (COPS-Ch 1).
- GrADS script to generate atmospheric model alerts is essentially finished. It however awaits final specifications for target and impact areas (due date 10.3, see above) as well as thresholds for all areas (task WG-HEU 9 and 12, asap)

3.2 Status of DA

- The DA is ready!
- Every data provider needs to provide metadata for his/her data. – A template will be provided by Claudia Wunram.

3.3 Critical tasks (review of the action list)

- WG-DI 2:
 - Finalise specifications for NetCDF format (output of hydrological models): until 10 March.
- WG-DI 4:
 - The only hydrological model that requests such alerts is FERW (BAFU). Christoph Hegg will finalise the specifications until 10 March. Task transferred to WG-HEU (task 13).
- WG-DI 7:
 - **We urgently need the input from COPS! – Mathias Rotach and Marco Arpagaus will contact Volker Wulfmeyer.**
 - GrADS script (COPS-Ch 1) should start with implementing the high-priority products, and add the low-priority products later, if at all.
- WG-HEU 8 and 9:
 - Provide necessary input as soon as possible!
- COPS-Ch 1:
 - **GrADS script to generate atmospheric model products still needs a lot of work (still quite a few products missing; look and feel needs to be worked on; script still far too slow).**

The updated action list resulting from this meeting can be found in the appendix at the end of this document.

3.4 Extension and/or repetition(s) of dry-run

After a short discussion, it was decided to go ahead with the first dry-run, but only involve a limited number of data providers (CLEPS/Montani, MOGREPS/Robertson, COSMOCH2/Ament, LAMI7/Cesari, ISACMOL/Davolio, MM5/Bauer, DIMOSOP/Ranzi, and PREVAH/Jaun/Zappa).

The subsequent dry-runs – open to all D-PHASE participants – have been fixed as follows:

- **March dry-run: Thu 29.03 – Wed 04.04.2007**
- **April dry-run: Tue 24.04 – Mon 30.04.2007**

Note: A possible upgrade of the VP (CPU, bandwidth) should be decided on in the first half of April.

The March and April dry-runs will be followed by the ramp-up (Thu 24.05 – Thu 31.05) and the DOP (1 June – 30 November 2007).

4 Open issues from the Working Groups

4.1 WG-DI

- Vertical velocity: some models will provide the non-hydrostatic vertical velocity (as specified in the Implementation Plan), some others however plan to provide the hydrostatic approximation –wpg. – This is ok. BUT: whatever the models do, they should describe any deviations from the standard in the metadata file!

- The remaining points of tasks WG-DI 6 and WG-DI 11 are transferred to WG-HEU.
- User Guide: Andrea Montani will prepare a User Guide (“What do I need to do when participating in D-PHASE”) for the atmospheric modellers (due date: 10 March 2007).

4.2 WG-HEU

- Target areas: The target areas are considered final. Hence, no further changes will be possible.
- Impact areas: Deadline for input is set to the 10th of March. After that date, the shape files for the VP will be prepared.
- Should we approach the JRC in Ispra for a possible contribution? – No, except for Andrea Montani, who will meet them in a few days anyhow and will discuss the opportunities with them on a non-formal basis.
- Roberto Ranzi requests an updated Implementation Plan until the end of the February dry-run. – Marco Arpagaus will do his best ...
- User guide: Roberto Ranzi will prepare a User Guide (“What do I need to do when participating in D-PHASE”) for the hydrological modellers (due date: 10 March 2007).
- User guide: Christoph Hegg will prepare a User Guide (“What do I need to do when participating in D-PHASE”) for the end users (due date: 10 March 2007).
- Arpagaus: According to the Implementation Plan, all end users are alerted by a well-defined forecaster. Is this concept still valid? – Ranzi/Hegg: Yes, at least for some of the end users.
- Arpagaus: Are there any hydrological models or forecasters that have requested *real-time* (extra) observations (not nowcasting tools!) or alerts based on *real-time* (extra) observations? – All: No.
 - Arpagaus: Can we hence skip the chapter on observational data from the Implementation Plan? – All: Yes.
- Arpagaus: Are there any hydrological models or forecasters that have requested alerts from nowcasting tools? – Hegg: Yes (BAFU and WSL in Switzerland).
 - Arpagaus: Note that alerts from nowcasting tools will not be visualised of the VP, since this is technically not feasible (update frequency of alerts may be as high as every 5 minutes). Is this ok? – All: Yes.

4.3 WG-VER

- WG-VER requests the following (near) real-time data for monitoring purposes:
 - surface data, including precipitation data;
 - gridded precipitation product.
- WG-VER has decided to store verification results at the University of Vienna (Dorninger), rather than on the DA.
- WG-VER has also discussed the issue of quality control of the observational data and has decided to
 - use whatever (raw) observational data is available, irrespective of its quality, and apply individual quality checks;

- quality control the observational data if funding can be made available;
- bring this important issue to the attention of the MD-SC.
- The remaining points of task WG-VER 2 are transferred to WG-HEU.
- Arpagaus: Has anyone shown any interest to verify the nowcasting tools? – Dorninger: No.
 - Arpagaus: Can we therefore refrain from storing the data and the alerts from the nowcasting tools on the DA, except if they are needed as *observations* for verification purposes? – All: Yes.

4.4 WG-DP

No open issues.

5 Meetings

5.1 Swiss end user meeting in May

A first Swiss end user meeting is planned for 20 June 2007 (location to be defined; organizer: Christoph Hegg). Goal: Learn how to access the information on the VP. The workshop is open to all German-speaking end users (Christoph Hegg will inform German and Austrian end users). – A second workshop will be held in November 2007 to collect the end user feedback.

Roberto Ranzi will organize an Italian end user meeting in Brescia, probably on 18 April.

5.2 Next scientific D-PHASE meeting

Andrea Montani has tentatively offered to hold the next scientific D-PHASE meeting in Bologna (date to be fixed; in spring 2008). – Andrea will clarify the possibilities and report at the next MD-SC.

5.3 Next meeting of the WG chairs

The date for the next WG chairs meeting has been fixed for 14 May, 2007, in Zurich (full day meeting).

6 Observational data for verification

D-PHASE and COPS have jointly asked all European Met Services in the Alpine region to provide observational data for verification. About half of the Met Services have already answered positively to the request. – To define the way forward, the following points have been made:

D-PHASE would like to get the following data from the Met Services:

- 1 In real-time:
 - 1.1 Non-GTS data for surface stations (including precipitation) *for monitoring purposes* (GTS data is readily available and does not need to be provided).
 - 1.2 If available: gridded precipitation product *for monitoring purposes*.
 - 1.3 If readily available on a password-protected web-site: nowcasting products based on radar *for nowcasting purposes* (MeteoSwiss provides such products for Switzerland).

- 2 For verification (and hence not necessarily in real-time):
 - 2.1 Data from surface stations (including precipitation; GTS and non-GTS data).
 - 2.2 Radiosonde data (TEMP, PILOT).
 - 2.3 Radar data (quantitative precipitation estimate, QPE).

Non-GTS data for surface stations (1.1) should be sent directly to the University of Vienna (Manfred Dorninger), since the online monitoring will be done there (and only there).

D-PHASE would like to receive the data in the following format, if possible (numbers as above):

- 1 In real-time:
 - 1.1 In GTS format.
 - 1.2 Some graphical format (e.g. png).
 - 1.3 Some graphical format (e.g. png).
- 2 For verification (and hence not necessarily in real-time):
 - 2.1 In GTS format.
 - 2.2 In GTS format.
 - 2.3 Some graphical format (e.g. png). – If possible, a numerical format (e.g. GRIB, NetCDF) should be made available on request (for case studies).

Concerning archiving of the data, D-PHASE envisages the following options:

- For surface station data (1.1, 2.1), gridded precipitation products (1.2), and radiosonde data (2.2):
 - On the DA (does this imply transformation to NetCDF format?).
 - Fallback solution: on some local disk in Vienna.
- For radar data (1.3, 2.3):
 - Archive of data provider (MeteoSwiss will have a local archive on the password-protected web-site (see above), and does therefore not deliver the radar products to the DA).
 - Fallback solution: DA (?).

Note: Any observations provided by hydrological services or end users (e.g. run-off data) will not be stored on the DA but will be available from the data providers on request.

Way forward:

- Manfred Dorninger will compile a list of observational data that will be provided by the Met Services. Marco Arpagaus will send him the already available D-PHASE/COPS Data Agreements signed by the Met Services as soon as possible.
- Mathias Rotach will send a reminder to the Met Services which have not yet replied by 10 March.
- Mathias Rotach and Manfred Dorninger will contact GOP/COPS (Mario Mech/Volker Wulfmeyer) to inquire whether GOP/COPS could take the responsibility for the retrieval of the data from the Met Services (or from the GTS for the GTS data), for the data conversion from GTS format (or whatever other format will be provided) to NetCDF, and/or for the storage of the data on the DA. – The non-GTS data for surface stations (1.1) will in any case be collected by Manfred Dorninger, who would then ship it forward to GOP/COPS for format conversion and storage on the DA.

7 Any other business

None.

Appendix: Updated action list¹

Updated action list (status as of MAP D-PHASE meeting of the WG chairs, 5 February 2007)

Identifier	Action	Responsible	Due date	Remarks
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. <i>Still missing:</i> - information flow for hydrological models (frequency, timing; MD-IP 4.1.2) - final specification of output format for hydrological models (MD-IP 4.1.3)	WG-DI	10.03.2007	See MD-IP sections 3.1.2, 3.1.3, 4.1.2, 4.1.3, 5.1.2, and 5.1.3. – Coordinate with WG-VER 1.
WG-DI 7	Work out detailed specification of atmospheric model / hydrological model / nowcasting products to be visualised. <i>Still missing:</i> - final specification for visualisation of atmospheric data (MD-IP 3.1.4)	WG-DI	asap	See MD-IP sections 3.1.4, 4.1.4, and 5.1.4.
WG-DI 10	Work out detailed specification of common format of alerts. <i>Still missing:</i> - xml format for hydrological models (MD-IP 4.2.4)	WG-DI	10.03.2007	See MD-IP sections 3.2.4, 4.2.4, 5.2.4, and 7.2.4.
WG-DI 13	Check metadata information on DA for accuracy and completeness.	WG-DI	24.05.2007	
WG-DI 14	Prepare a User Guide (“What do I need to do when participating in D-PHASE”) for the atmospheric modellers.	Montani	10.03.2007	
WG-HEU 3	Work out detailed specification of target and impact areas (includes provision of shape files for all levels and definition of area names (river-at-station)).	WG-HEU	10.03.2007	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 / Hegg & Vogt	10.03.2007	See MD-IP sections 3.2.2, 5.2.2.
WG-HEU 6	Search for specific sites where cost/loss analysis can be carried out.	WG-HEU	04.2007	
WG-HEU 8	Work out detailed specification of warning criteria for alerts produced for hydrological forecasters. <i>Still missing:</i> - Specify thresholds for “yellow” and “orange” alert levels in case hydrological forecaster specified only one (“red”) threshold.	WG-HEU	asap	See MD-IP sections 3.2.2, 4.2.2, 5.2.2, and 7.2.2.

¹ For acronyms, check appendix 2.

Updated action list (status as of MAP D-PHASE meeting of the WG chairs, 5 February 2007)

Identifier	Action	Responsible	Due date	Remarks
WG-HEU 9	Collect and document end user specifications concerning alerts (warning criteria). <i>Still missing:</i> - Specify thresholds for “yellow” and “orange” alert levels in case end user specified only one (“red”) threshold. - Identify end users that request alerts from a well-defined forecaster (“push”) as opposed to end users which access the Visualisation Platform individually (“pull”).	WG-HEU	asap	See MD-IP section 7.2.2.
WG-HEU 11	Organise end user meeting in Switzerland, mainly for training/educational purposes. – Input: results / information of end user questionnaire.	Hegg	20.06.2007	Open to everyone; coordinate with Italy (Ranzi, Tibaldi, etc).
WG-HEU 12	Specify thresholds for target areas (VP levels 1 and 2) based on the precipitation climatology of Frei and Schär.	WG-HEU / Ranzi	asap	Coordinate with already specified thresholds for target areas within Switzerland.
WG-HEU 13	Work out detailed specification of warning criteria for alerts by limited area EPSs and the high-resolution EPS for ensemble hydrological models. <i>Only ensemble hydrological model that requests such alerts is FERW (BAFU).</i>	WG-HEU / Hegg & Vogt	10.03.2007	See MD-IP section 3.2.2.
WG-HEU 14	Work out detailed specification of information flow for feedback. <i>Still missing:</i> - feedback strategy for end users (MD-IP 8.3.2; coordinate with WG-VER) - feedback strategy for hydrological forecasters (?)	WG-HEU	04.2007	See MD-IP sections 7.3.2 and 8.3.2. – Coordinate with WG-VER 2.
WG-HEU 15	Work out detailed specification of common format for feedback. <i>Still missing:</i> - format for feedback by end users (MD-IP 8.3.3; feedback will presumably be in a non-electronic form, e.g., by interview or paper questionnaires) - format for feedback by hydrological forecasters (?)	WG-HEU	04.2007	See MD-IP sections 7.3.3 and 8.3.3.
WG-HEU 16	Work out detailed specification of evaluation protocol for feedback. <i>Still missing:</i> - specification of evaluation protocol for end users (MD-IP 8.3.1) - specification of evaluation protocol for hydrological forecasters (?)	WG-HEU	04.2007	See MD-IP sections 7.3.1 and 8.3.1.
WG-HEU 17	Prepare a User Guide (“What do I need to do when participating in D-PHASE”) for the hydrological modellers	Ranzi	10.03.2007	
WG-HEU 18	Prepare a User Guide (“What do I need to do when participating in D-PHASE”) for the end users.	Hegg	10.03.2007	

Updated action list (status as of MAP D-PHASE meeting of the WG chairs, 5 February 2007)

Identifier	Action	Responsible	Due date	Remarks
WG-HEU 19	Organise end user meeting in Italy, mainly for training/educational purposes. – Input: results / information of end user questionnaire.	Ranzi	18.04.2007	
WG-VER 3	Work out detailed specification of offline verification.	WG-VER	04.2007	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	04.2007	See MD-IP section 9.3.
WG-VER 6	Make feedback assessment.	WG-VER		See MD-IP section 9.3.
WG-VER 8				
WG-DP 4	Contact Meteorisk / Michael Staudinger to check whether precipitation and radar data available to Meteorisk could be made available to D-PHASE, too.	WG-DP	03.2007	
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 4	Contact Italian members of the MD-SC for a possible D-PHASE scientific meeting in Italy in late spring 2008.	Rotach	03.2007	
MD-Ch 5	Publish paper in BAMS, HESS, and/or in other, more specific (end user) journal(s). Authors: WG chairs and MD-Co.	Rotach	2008	First draft by the end of the DOP.
MD-Co 8	Work out detailed specification of the technical realisation of common visualisation platform.	Arpagaus	ongoing	In collaboration with MD-VP. – See MD-IP section 10.2.
MD-Co 10	Provide software that generates atmospheric model alerts. <i>Still awaits final definition of target and impact areas as well as all thresholds.</i>	Ament	asap	See MD-IP section 3.2.2.
MD-Co 11	Collect input for and edit MD-IP.	Arpagaus	ongoing	
MD-DA 1	Implement the technical realisation of storage and retrieval of data, alerts, and feedback.	Wunram	ongoing	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	03.2007	In collaboration with MD-VP. – See MD-IP section 10.3.
MD-DA 4	Implement the technical realisation of information flow.	Wunram	ongoing	In collaboration with MD-VP. – See MD-IP section 10.3.
MD-DA 7	Work out detailed specification of the technical realisation of storage and retrieval of	Wunram	asap	In collaboration with MD-Co and

Updated action list (status as of MAP D-PHASE meeting of the WG chairs, 5 February 2007)

Identifier	Action	Responsible	Due date	Remarks
	data, alerts, and feedback.			COPS-Co. – See MD-IP sections 10.1.1 – 10.1.3.
MD-VP 1	Implement the technical realisation of common visualisation platform.	Kittel	ongoing	See MD-IP section 10.2.
MD-VP 2	Implement visualisation of alerts.	Kittel	ongoing	See MD-IP sections 3.2.5, 4.2.5, 5.2.5, and 7.2.5.
MD-VP 3	Implement evaluation protocol for feedback.	Kittel	ongoing	See MD-IP sections 7.3.1 and 8.3.1 (?).
MD-VP 4	Implement information flow for feedback.	Kittel	ongoing	See MD-IP sections 7.3.2 and 8.3.2 (?).
MD-VP 5	Implement common format for feedback.	Kittel	ongoing	See MD-IP sections 7.3.3 and 8.3.3 (?).
MD-VP 7				
COPS-Ch 1	Provide software that generates atmospheric model products.	Wulfmeyer	asap	See MD-IP section 3.1.4.