

***Minutes of the***  
**Fourth ALADIN PAC Meeting**  
**Casablanca, May the 19<sup>th</sup> and 20<sup>th</sup> 2007**

1. Welcome and opening of the meeting.

The meeting was opened at 10.30 am by Fritz Neuwirth who gave the floor to Abdalah Mokssit, deputy to Mustapha Geanah, Director of Maroc-Meteo, unable to open the PAC meeting due to last moment commitments.

He then welcomed Vincent Cassé, who replaced Emmanuel Legrand as Météo-France representative.

As observers the chairman welcomed especially Mikko Alestalo, HIRLAM representative as chairman of the HIRLAM Advisory Committee (HAC), and Piet Termonia as chair of the CSSI.

AM welcomed all the participants (annex 1) and wished them an efficient PAC meeting and an enjoyable stay in Casablanca.

The chairman thanked AM on behalf of the attendees and ensured that everyone will do his/her best to contribute to the success of this fourth ALADIN PAC meeting.

2. Adoption of the draft agenda.

JFG (as PM) apologized for not having being able to produce doc 9.a in time. The corresponding discussion will be done later by correspondence and cancelled from the agenda.

FN commented item 13 about the changes of the PAC composition. He mentioned his intention to step back from chairman of the PAC. Formally, the Chairman and Vice-chairman are to be designated by the GA. So the PAC will have to make proposals.

The PM introduced a poster prepared by Patricia Pottier from Météo-France summarizing membership and previous meetings. By chance, this PAC is the 100th meeting related to ALADIN and HARMONIE (event 0 being the venue of AM in Météo-France for working on Peridot with JFG and CB).

**The (slightly revised) agenda was adopted.** The chairman left room for changes if needed during the course of the meeting.

3. Final approval of the Minutes from the third PAC meeting.

**The final version of the Minutes from the third ALADIN PAC meeting is approved, after two minor typing mistakes being corrected.**

4. PAC matters:

- a. Matter arising from the Ljubljana General Assembly (budget item definitions' update);

The PM stressed the absence of recommendations concerning the human resource budget, after the PM and the PAC analysed the pros and cons of various solutions. DK recalled the link with ECMWF. The PM answered that this problem had been discussed with Erik Anderson of ECMWF. ECMWF people were invited to attend several meetings (e.g. ACNA one for instance).

**FN was of the opinion that without explicit advice of the GA, JFG will prepare the budget under his previous PAC proposals.**

- b. PAC advices/recommendations about the priorities to which the Ljubljana GA drew specific attention:

- i. Manpower progressive reorientation (mainly towards dynamics) and associated progress;

JFG commented doc 4.b.i, listing in particular the understaffed topics.

Some discussions will be taken under other items of the agenda. However he commented on LAMEPS. Due to the conflict with the Beijing exercise, the point is delayed until this autumn.

Regarding the Dynamics, a lot of improvement is to be recognized in many respects.

PT will have a important role in writing a common HARMONIE plan on dynamics.

But there are still some problems remaining in various areas.

PT underlined that there is a lack of competent and skilled people in some very specific (and academic-type) areas.

EB questioned how the human resources had been allocated to various areas of work. JFG and FN confirmed that this was done following GA recommendations. However, EB insisted on the importance of data assimilation, a domain still unmanned sufficiently, and proposed a better coordination and priority given to this domain.

MA commented that in HIRLAM, the records showed more human resources provided by participating members that they committed to. So he strongly agreed with PT that this is a general problem of lack of competence on dynamics. JFG also reminded that the directors might have a tendency to use the few competent people on dynamics for various other important tasks, owing to the 'flexibility' conferred by their domain of privileged expertise. In ECMWF, the solution is easier to find due to the concentration of staff. But in the ALADIN world, it is an intrinsic difficulty.

DK was happy with the arrival of new promising scientists in the frame of the stays organised within the scope of the flat-rate budget..

AM explained that the balance of skills (e.g. between generalists and experts in specific domains) is important to keep at national level. So some countries might have to be advised on how best to use their human resources. **This could lead to a suggestion/discussion in the next GA.** PM concurred on this point: reorientation of priorities should never lead to a loss of transversality for small- and medium-size teams, all being a matter of compromises and persuasion.

DK asked herself whether the management might be too "democratic", by allowing many people to do what they want. In this respect, LACE is going to focus on specific deliverables, based on firm requirements from members.

The PM agreed with the unavoidable difficulty arising from the fact that, focussing on satisfying "user(-oriented) requirements" might jeopardize the need for new ideas coming from "uncontrolled" research.

Coming back to EB remarks on data assimilation, the PM explained that, when the 4-year plan is adopted, the question will be to better analyze when building concretely the work programme (PM and CSSI work in forth-and-back exchanges with LTMs).

#### ii. AROME and ALARO-0 progress towards operational status;

Doc 4.b.ii was done for PAC information, providing a general panorama of the implementation of AROME in Météo-France, and ALARO-0. It has to be looked as an update of last year's paper.

At PT's request, EB explained the high (surprising) sensitivity of AROME and ALADIN to horizontal diffusion in very convective situations (generation of too strong winds near convective clouds). JFG commented that he has a different opinion about the 'singled-out' role of the dynamics in this problem, considering that this might reflect a complex interaction problem between dynamics and physics.

RT asked about Météo-France implementation of AROME, "a new tool, not a replacement of a model by another". EB commented that the use of AROME in replacement or complement of ALADIN will be done on a case to case basis for each application.

JFG illustrated the ALARO-0 progress by showing compared simulations of convective rainy events with and without 3MT and at 9km vs. 4.7km mesh-sizes with a zoom over the Northern Alps. He insisted on the fact that running the physics without 3MT at the "grey-zone" resolution produced a scattered precipitation pattern as feared and expected, while running with 3MT (coupling of convection activity with large scale condensation in a single micro physics package) gave a much more satisfactory simulation (and better with respect to scores at the 9km scale).

#### iii. 'Convergence' related actions;

The PM recalled the results of various discussions, especially with Météo-France and HIRLAM. At the time of the PAC meeting, the CNRM (and ALARO) experts have in hands 3 actions agreed for (re)converge in the physics development. He insisted on the complexity of the problem, and the fact he as PM might not always be the best person to report on different actions and in all directions.

EB reminded about the so-called 'Lisbon plan', and about the invitation of JFG to the Météo-France CPPN (instance steering NWP development at Météo-France). EB commented that the time of documents' exchange chosen at CPPN in order to explore the 'convergence' actions, 18 months earlier than planned by PAC in Lisbon, was not the best one for CNRM (4-year review by the National Research Council). However CNRM did its best to come up with the documents required by both CPPN and the PM. Some of the exchanged documents are still under examination, especially to evaluate the cost/benefit aspects. EB argued that, sometimes, JFG's position reflects more the ALARO 'project leader' than the one of the ALADIN PM. FN insisted on the positive aspects: better climate in the discussion, better understanding, etc. However there is still some divergence of interpretation on key issues. EB regretted that the documents too often opposed M-F and the other ALADIN partners. VC wanted not to concentrate on the chronology, but on the true problems of convergence, one being the way to treat the convection.

FN asked the audience to provide an-easy-to-understand explanation of the convergence issues. As a scientist, JFG supports the idea that the different truly scientific options should be harmonised at a very high level in the code structure. As PM, he sees partners wanting to be able to run the model at the grey-zone resolution (except M-F which can avoid this by going directly to the kilometric resolution). To do so, the development of ALARO is a promising solution, but that cannot easily accommodate some AROME meso-NH-inherited paradigms. As a member of CPPN, he has no strong argument to prevent M-F to go solely along its agenda to implement AROME in operation. EB repeated that M-F is undoubtedly interested by running in the future a 5-km resolution model.

GR expected that the problem might however be solved top-down.

PT stressed also that going to 5 km or less comes from the expectation that a better resolution provides more realistic results.

EB argued that a lot of the problems came from human resources and other constraints. The M-F understanding was that at the initial stage of ALARO development, JFG committed to develop the model on a basis allowing the compatibility with the AROME/Meso-NH physics routines. But in practice, it is felt from M-F side that the situation is biased since ALARO has developed a new physics package which makes difficult the integration of the AROME/Meso-NH pieces of physics and reached a stage where convergence has become much more difficult. JFG disagreed with this last stand-point. Nothing in ALARO-0 prevents to use previously existing solutions as alternatives. Furthermore, their harmonisation with 3MT, when necessary, is always more a matter of adapting small pieces of code to a different algorithmic superstructure than of giving-up scientific ideas.

Answering FN, EB explained that the problem is both a political (e.g. related to optimal use of resource at national and consortium level) and scientific problem (e.g. there is a lot of debate on how best to proceed). VC stressed that when speaking of ALARO and AROME, it is important to distinguish the science from the code issues and also from ALADIN implementation at a given resolution. The code issues and how to accommodate different physical options should be driven not only by science considerations but also by political considerations related to cooperative matters and to maintenance aspects. This is why this is not only an internal M-F problem.

AM recalled the basis of the consortium, and argued that in a discussion/compromise, it is a key issue to separate the common interest and the specific stakes. We should first agree on the common assets and objectives. In this respect, he argued that a common objective could be a tandem ALARO /AROME with a good balance of resource allocation for the two. He insisted that the implementation aspects are likely to influence member choices, especially for the "smaller" members, in relation in particular to end-user satisfaction.

MA supports AM views, noting that the main end-users are the SMN themselves. He argued that the end-users requirements are to be the drivers for the choice at national and consortium level.

DK argues that the number of physics package may not be a political problem if the resulting structure is a fruitful asset for the scientific debate about future orientations.

PT insists that scientists work better in an environment they appreciate and understand.

EB pleaded that M-F is doing its best efforts to participate in the consortium as a trustable partner. He insists on the large number of aspects on which the consortium is working and cooperating well. He

compared the situation with the one existing between M-F and ECMWF in the IFS/ARPEGE environment. He personally regrets that there are two different physical packages between M-F and ECMWF, but this is no more a source of conflict. He noticed that HIRLAM had no difficulty to include its physics in both ALARO and ARPEGE/ALADIN in a way similar to the one used to introduce Meso-NH physics. So it is likely that the consortium can live with the situation.

JFG summarized that the only problem is mainly that 3MT is a convective scheme that cannot be taken out from ALARO and plugged in ARPEGE/ALADIN, hence the reluctance of M-F to adopt 3MT as developed by partners. VC wanted to have a true scientific discussion on 3MT, but not in the PAC. He insisted again that the issue is for each NMS to go to 5 km resolution, and that in this respect 3MT in ALARO might not be the only solution.

JFG saw unbalanced points of view between the ALARO team who developed the code whilst taking care to allow the ARPEGE/ALADIN physics to be imported in the ALARO context and the ARPEGE/ALADIN team which seems to refuse to profit from this opportunity just because this would change the way they use to code. EB rejected this fact, saying that several M-F scientists are already working on the possible introduction and experimentation of 3MT in ARPEGE.

GR pleads that if all options are available, there should not be a problem (despite that it is an under optimal use of resources at the consortium level). It should be a question of coordinating the input from both communities.

VC indicated that, in his opinion, calling the ‘physical elements’ of AROME/Meso-NH from ALARO-0 or alternatively incorporating 3MT in AROME would lead to two very close ‘model solutions’, with differences mostly determined by ‘taste issues’. In any case the most important difference would be purely semantic, but alas with a heavy political charge. All this would plead for eliminating as soon as possible the ‘semantic’ hurdles on the path for ‘convergence’, even if the present situation is not so favourable for such a step.

For JFG, the original problem came from the fact that the M-F team refused the paradigm defined by Luc Gérard to solve the multi-scale convection problem. From EB point of view, the problem came from the fact that JFG has not fulfilled the top level requirements he committed to, namely to build the ALARO physics on routines compatible with Meso-NH ones in order to avoid a strong divergence.

FN summarized by stressing that most of this is a scientific discussion that should take place somewhere else, i.e. been instructed by CSSI for the benefits of PAC and GA. The PAC should only discuss how to go in the most efficient way to get better results, if possible by running model configurations at 5 km or less. Some further part of the PAC meeting would indeed be used to tackle such an issue.

EB thinks that a lot of specific problems are already under investigation and some of them will be solved in a near future,, with goodwill of everybody. If this fails, the project could live with it. On the other hand, it is difficult to tell now what are the chances that this ‘convergence’ on the physics will succeed.

The chairman proposed to bring back to the GA the spirit of the discussion, the assessment that there is still some difficulty, but of scientific and technical nature with a key issue about the way to “call” the physical package, which, in the PM view, could jeopardize the existence of 3MT in the whole project. He will report that there will be attempts to solve the problems. MM insisted on the need to speak positively to the GA, and especially that the project is not globally at risks if this “convergence” process is not fully completed.

- iv. Important common aspects with HIRLAM (SURFEX, 4D-Var specific issues, GLAMEPS, ...).

The doc 4.b.iv provided a review of various actions undertaken with HIRLAM commonly for information. For ‘regularised physics’, HIRLAM and ALADIN have different priorities and approaches (with respect to 4D-Var), implying also different timescales and methodologies for the ‘regularised physics’ work. In the PM’s opinion, ALADIN is understaffed in this respect.

Considering SURFEX, several compatibility aspects are not progressing as quickly as one could wish, despite an excellent coordination and motivation work of Jean-François Mahfouf, but the situation is likely to improve thanks to the sound underlying basis of most parts of the effort.

GLAMEPS will be also a matter of discussion.

MA reported on discussion with ECMWF, stating that GLAMEPS cannot be considered as a ECMWF project. HIRLAM council will study how to find the appropriate computing resources.

AM insisted that, in view of the increasing interest in limited area ensemble forecasting, ALADIN should be more ambitious and courageous on this issue. Other NMSs are already on the way to use EPS to provide bench forecasters with information on the uncertainty of numerical forecast in high impact weather conditions.

MA argued that the need for an EPS approach means the maintenance of a (sub) synoptic-scale version of ALADIN. JFG commented that this important question is under study via the links between ARPEGE and ALARO, and that first indications can be expected in a few months, in principle.

FN will report that the cooperation with HIRLAM is working well, and that the PAC is happy with that. The PM stressed however that the simplified physics is a domain of potential tension between partners.

## 5. Four year ALADIN planning:

### a. First discussion about the draft Four-year plan;

The PM indicated first what is (yet) missing:

- Harmonisation with the LACE plan
- Transversal issues like links with academia
- Cleaning of redundancies/duplication in the document
- Harmonisation of the different parts (some complete, other rather general)
- Compliance with GA decisions/orientations and checking of phrasing (no big risk with respect to the strategy)

The PM asked some guidance on the writing and on the process to produce a document in time for the next GA (in particular, way and time to involve the LTMs).

PT and JFG agreed that there is no need to commit on producing a detailed updated plan for the dynamics part, since in this gliding 4-year plan, the idea is that each part will be amended each year as required and feasible.

AM asked about the alignment with the HIRLAM 4-year plan. The PM indicated that some areas like data assimilation are already aligned but some other parts are still on different footings.

Following MA remark, the chairman will confirm to the GA the common willingness to achieve more and more merged plans between the two consortia with an objective to come with a common plan, but without imposing common timetables if this would put one project at risk and with separate work plans to allow each management to keep control on resource use. Furthermore this could be extended to the strategy itself.

AM suggested that the observation part should be improved to accommodate new ideas or possibilities like Data Targeting.

MA also underlined the current HIRLAM weakness in the field of links with academia, shared with ALADIN. He also mentioned that HIRLAM is willing to pursue a similar approach that Météo-France had had with ECMWF when building the IFS/ARPEGE project, in order to have a single interface with ECMWF.

DK noticed that each NMS has its own approach to users, and expressed her view that the consortium should look to more harmonisation in this domain. The PM recognized that this is an important issue, but argued that this was considered just outside the perimeter of cooperation. However there is some margin of manoeuvre to accommodate some actions related with bridges with users. that M-F has not enough resources to check on-line AROME- Chemistry code at fine scale which is already developed, and would be happy to see M-F code tested and improved by others. He came back to the data assimilation problem, which is understaffed. Referring to MM5/WRF which has been able to gather a large community of users, he thought that testing new instruments, cooperating on nowcasting based on NWP with a better use of radar data are domains where works with academia could be rewarding, especially since NMS are the best (only) institutes able to offer an operational environment (e.g. collection of all available observation data for

instance) for them to test their ideas. This could be very attractive to make HIRLAM/ALADIN model much more known and reputed.

In summary, FN proposed that the PM should include the results of this discussion in a revised version of the 4-year plan.

JFG indicated that so far, the 4-year plan follow the same structure than the SRNWP, documenting the 8 areas identified as themes with dedicated expert teams. FN recommended putting all transversal issues in the “application” section.

DK informed that LACE will continue to maintain a database to allow verification at synoptic scale. For verification at higher resolutions, there is still matter for research on methods. JFG asked her to partner with a Polish colleague to elaborate on verification. However what is needed by the directors is not still very clear. One aspect is to better exploit past data, which enable to show progress (DK asked for a strong involvement of Météo-France which has longer records than anyone else). The ‘conservation idea’ should also apply to the LACE-Maintained ALADIN data base, before someone might decide to delete some part of the archives of this database.

EB proposed that this question of verification be really promoted in the SRNWP context, since it is a common issue for all consortia.

MA commented that HIRLAM is not in a good position, but that FMI having taking responsibility to run the reference version is constructing a long term record to monitor progress.

AM supported the idea of showing better the added value of running a NWP suite (rather than using MM5/WRF). Moreover, AM proposed that the introduction mentioned that the 8 areas are not here by chance but are based on a deep rationale. JFG agreed. MA insisted also that some explanation should be given on what data are used for verification.

JFG asked permission to ask an expert to shorten the paragraph dedicated to the now-casting. .

FN will tell the GA that based on a good strategy, many steps have been accomplished and that the PAC acknowledged the good start and progress of the 4-year plan.

- b. Listing the issues needing further discussions and/or PAC guidance (for a revisit on Agenda Item N° 8).

No comments.

## 6. ALADIN programme definition:

- a. Update on important recent events:

- i. HMG/CSSI joint Meetings (Brussels, April 6<sup>th</sup> & 10<sup>th</sup>) report;

For information. Very valuable meeting from the PM point of view, ending with a list of 15 items needing more in depth analysis/work (cf. part 3 of the doc 9.a.i).

PAC took note of the maturity of this type of meeting, which complements at a much detailed level the main streams of actions of the 4-year plan. The PAC is looking forward to hear from the next events, which must provide a nice opportunity to review ALADIN/HIRLAM work.

MA wondered about the best frequency for such a meeting. The PM answered that once a year is good, bearing in mind that smaller meetings could be organized in parallel to other meetings, and that a higher frequency can put too heavy a burden on the HIRLAM side. However it is important to maintain an efficient link between the two consortia. JFG will contact Jeanette Onvlee to study a pragmatic way to come up with an optimal proposal.

- ii. LTM meeting (Brussels, April 9<sup>th</sup>) report;

PT highlighted the main conclusions of the meeting, the redistribution of manpower, with a note that LTMs complained about the lack of information from PAC and GA.

AM insisted that communication within the ALADIN community is important. LTMs have to understand the whole context, so that there is a continuum between the DGs attending the GA, the responsible people sitting at PAC and the LTMs who are very much involved in the implementation. The PM proposed a timetable for diffusion of documents (minutes of PAC and selected preparatory documents few weeks after the PAC meeting).

This will be a move to better recognize the role of the LTM, which the PAC reiterated its attachment to. PAC approved to distribute PAC meeting minutes and a selection of the preparatory papers, sometimes revised, to CSSI members and LTMs.

iii. CSSI-ST meeting (Brussels, April 9<sup>th</sup>) report;

PT just highlighted the request towards ALADIN ECMWF members who don't use all of their computing resources to credit them to LAMEPS project, a proposal that the PAC supported.

iv. AROME training course (Lisbon, March 3<sup>rd</sup>-7<sup>th</sup>) debriefing;

For PAC information, cf. MM presentation. This training course has been organized by the Portuguese Met Service with Météo-France assistance, to attract both NMS scientists and colleagues from academia. 19 countries were represented, amounting to about 50 participants.

PAC acknowledged the value of this training course and thanked the organizers, especially for having being able to set up practical sessions.

v. First C-SRNWP AC meeting (Budapest, May 15<sup>th</sup>-16<sup>th</sup>) oral report by ALADIN and RC-LACE representatives.

JFG and DK reported on this Advisory committee (four days earlier only, in Budapest), which was a novelty under the new chairmanship of Andras Horanyi. Unfortunately, UKMO was not present, a pity since it is responsible for the Interoperability consolidated proposal. Three ALADIN members are not financially participating (Czech Republic, Poland and Romania) in C-SRNWP. The PM will try to convince them to join (all HIRLAM Members participate directly via EUMETNET).

Experts teams have been advised to select information they send around (10 published papers at most).

Weaknesses noted in dynamics and physics plans, and too high ambitions in other areas, but an overall good appreciation of the expert teams' work.

Idea: create a database on high weather impact situations (looking for gathering as much relevant as possible information in advance) based on EMMA (meteoalarm website) to have a quick snapshot/evaluation rapidly.

Link with applications: be cautious with too ambitious plans (e.g. integration of codes for application as native ALADIN –or HIRLAM, or COSMO, or UM- software).

Surface and soil processes: a rapid evolution of the tools and methods does not encourage solving the problems detected by users.

Dynamics and LBC: the reference document has to be improved (Pierre Bénard is tasked for that)

Physics : (mini)meetings should concentrate on left-over topics from big meetings.

Recommendation for a every second year meeting for each expert teams.

Advice to the expert team to take a closer account and look at ECMWF work and documentation.

In EWGLAM/SRNWP meeting, each expert team should give a review talk, along with ECMWF's and Consortia ones.

It is the intention to build joint projects with academia.

Link with other EUMETNET programmes: They are links with OPERA and WINPROF. On the other hand, there exists some surprising behaviour in the EUCOS programmes (use of MM5 for OSE ...). The EUMETNET Council attention should be drawn on this point.

EUMETNET strategy formulation seems to be lacking reference to the work of Consortia, SRNWP appears a very minor programme, so that there is a risk that EUCOS could be identified as the only coordinated activity within the NMS of interest for EC.

The 'vision for NWP in Europe' leading to the new C-SRNWP orientation will be revised by the AC in three years.

The chairman acknowledged the progress that this meeting is representing, and the PAC welcomes this initiative.

b. PAC advices/recommendations on matters linked with these meetings or of special independent importance:

i. CSSI and ST Membership; particular status concerning LAM-Climate and Nowcasting;

- Observation and monitoring position in CSSI : the PAC agreed with the twinned topics and the candidacy of A. Trojakova.
- Predictability and LAM-EPS: PT has already been named for replacing Andras Horanyi as CSSI Chairman, but the latter has to be replaced as Predictability and LAM-EPS. PAC agreed with Edit Hagel candidacy.
- Toma Kral has support of the PAC to replace Martin Janousek as coordinator for networking and interoperability.
- The candidacy of Marek Jerczynski for Verification is supported.
- Nowcasting and LAM climate: Yong Wang and Ales Farda candidacies are supported, with a clarification of their roles since these are “border” topics in the CCSI.
- Candidacy for documentation officer (Patricia Pottier is doing it on the top of too many other things) : The Chairman is in favour in recognizing the need for a scientific secretary/assistant, with list of tasks (not ToR) to be written down before asking the GA support (a letter to the directors on this topics might be written before GA meets).

ii. LTM coordination (ACNA position);

ACNA ( ALADIN Co-ordinator for Networking Aspects) position has been approved by GA, PAC and CSSI. Due the recruitment of Martin Janousek by ECMWF, the PM was happy that Tomas Kral be a candidate. This gave the opportunity to define the list of tasks for ACNA.

DK suggested that the list of tasks of the “scientific secretariat” (= documentation officer, but a new name would be better) should be also defined, in order to avoid duplication between the two positions.

PAC approved the choice of Tomas Kral.

iii. HARMONIE maintenance issues;

The PM reported much progress to better coordinate the maintenance of the code between the ALADIN and HIRLAM communities.

However, there appears a lack of attention to maintain the “code derivatives”, linked to post-phasing applications.

Because the upgrading of IFS/ARPEGE/ALADIN is a two step procedure (global library first, ALADIN as a second), Claude Fischer has created a document describing what to do to enable an optimum maintenance for the whole code, including “code derivatives”.

In HIRLAM there is a different philosophy, since the Management team is responsible for the phasing of HIRLAM with IFS/ARPEGE, while FMI (as now responsible member for the reference version) operationally runs this reference version. This is done after extensive local semi-operational testing of the version delivered by the Management team, but each other NMS is responsible for maintaining its own operational code.

So the ALADIN team would like HIRLAM to keep this question of derivative maintenance within the HIRLAM world, rather than mixing it in the phasing exercise.

PAC took note that HIRLAM will discuss this paper (doc 6.b.iii) within its management team, and liaise with JFG to see what to do next.

iv. EUMETNET/SRNWP Advisory Committee, Expert Teams, Interoperability and Verification issues;



Andras Horanyi provided a document gathering a lot of information relevant to the C-SRNWP implementation. The PM put as appendix also the last version of SRNWP ‘interoperability’ and ‘verification’ MO proposals, to be discussed at the next EUMETNET Council.

DK noted that the project might be too directed to European countries, leaving other countries from the Barcelona initiative on the side, whilst they cooperate with EUMETNET or ECMWF. AM suggested that the project is managed in such a way that there is room for supporting (even financially) those countries. In particular, it would ease to have few names of scientists of those countries in the table reflecting the SRNWP expert teams.

FN, as EUMETNET council chairman, is in favour of opening SRNWP, an optional programme of EUMETNET, to not EUMETNET members, taking into account for Maroc-Météo that they have been ALADIN member since 1994. He suggested that Morocco write to Henri Malcorps to state their cooperation proposal.

- v. Update on the Météo-France proposed action concerning ALARO-0 tests / implementation at ~5km resolution (cf. 2<sup>nd</sup> PAC Session and ensuing GA Session in Budapest); associated scientific maintenance issues.

JFG recalled that, on an initiative from M-F, he asked VC a paper describing/explaining Météo-France proposed action regarding ALARO-0, following the Lisbon proposal.

JFG withdraw some (A, C, G) of his comments/questions resulting from some misunderstandings when he worked on the preparatory document, misunderstandings for which he apologised.

EB expressed his regrets regarding the provocative spirit of PM’s questions. EB claimed that VC paper is not a position paper or a new paper, but the description of how Météo-France will progressively incorporate ALARO-0 in M-F operational environment, according to the Lisbon agreement..

EB and VC provided answers to questions B, D, E and F (explanation thereafter).

‘B’ (i.e. who decides what about the proposed experimental comparison-oriented set-up at M-F for a 5km mesh version of ALARO-0?): The choice of the namelist switches has to rely on ALARO-0 advices, but some choices like domain size and location, data assimilation procedures, etc .. should remain of M-F responsibility. JFG will have to liaise through VC to set up a protocol between the ALARO-0 team and the Forecast Department of M-F to monitor the respective aspects of the ALARO-0 implementation.

‘D’ (i.e. what is the link with the M-F work on implementing 3MT in ARPEGE at ‘minimum perimeter’? & what do the differing global vs. LAM approaches of M-F with respect to 3MT really mean?): (N-B : the word “want” has to be read as “plan” within the text of the question, with renewed apologies by the PM) 3MT is maintained by the ALARO-0 team. EB said that M-F will nominate a contact point for ALARO physics. GR pleads that this is an optimal way to work. PT reminded also that some choices made in ALARO imposed some adaptation to the ARPEGE/ALADIN physics to be run with the ALARO code. M-F wants to avoid difficulties to diagnose the sources of any operational problems due to the fact that ALARO physics is too different from ARPEGE and AROME physics. JFG argued that the modularity of 3MT would allow isolating the source of the problems in nearly all cases.

EB reiterated that because M-F will not have resources to maintain ALARO-0 within the ARPEGE environment, despite that the grey zone is of interest and importance, putting 3MT in ARPEGE remains CNRM’s priority in this issue. The question for M-F is only a matter of human resources to be sure that if there is a problem, M-F can rely on ALARO experts outside of Météo-France to cope with the problems. So the question of adapting 3MT in ARPEGE vs. mastering ALARO-0 is eventually only a matter of timetable, not of principle. EB stressed that the question related to the use of 3MT in ARPEGE is not concerned by the VC paper, which only deals with ALARO-0 implementation by M-F.

AM put forward the original idea of Philippe Courtier in terms of a ‘tool box’. He proposed that there should be some commitment of each member to contribute to the tool box concept’s rebuilding.

Despite the fact that M-F fulfils the Lisbon protocol, JFG pleaded that, after more than one year of experience, he has a clearer view on how 3MT can be used, and this requires some limited work from M-F size, since the ALARO team cannot maintain alone 3MT with imported parts of the ARPEGE code in the ALARO environment plus an ALARO-0 configuration. For him the problem comes from the fact that M-F

experts have persistent difficulties to understand why running ALARO should not be equivalent to plug 3MT in ARPEGE/ALADIN in replacement of the 'static' convection code. He believes enough scientific information was given to avoid this misunderstanding and regrets that the resulting problem may prevent a more 'homogeneous' view of the 'Lisbon protocol'.

In summary, 'D' is an issue, more of calendar than of option. M-F wished to separate ALARO-0 implementation from the testing of 3MT into ARPEGE,, even if in the PM opinion, it is an under optimal use of resources on each side.

With this clarification, 'E' is the only important question remaining, except the fact that 'F' still raises the issue of the interpretation of the exact place of 3MT within ALARO-0 and/or other possible configurations.

'E' (i.e. what is the interest left for the partners if the tests at M-F do come after some of them will have already (pre-) operational implementations of ALARO-0 at 5km mesh-sizes?) : EB insisted that the test of 3MT in ARPEGE environment has not to be seen as a competition with ALARO-0, but an evaluation of 3MT capacity to improve deep convection at different scales., as well as an addition of expertise and that the main aim of the 'Lisbon proposal' was and still is to show to the partners the interest of M-F for an operational application at the 'grey-zone' scales. From the ALARO team point of view, it is understandably regretful that M-F had not been in a position to test it at 5 km before the other partners, since this would have eased them to push ALARO-0 from 9 km to 5 km. EB repeated that this is not due to M-F which is still waiting for a delivery of an appropriate version ALARO-0 by its expert team.

In the PM's opinion, the strange persistent confusion at M-F around the respective scopes of 3MT (multiscale) and ALARO-0 (grey-zone targeted but built around 3MT) is however not helping partners to clearly see the trust of M-F in the solutions they developed.

After these M-F answers, RT commented on his position paper distributed a few days before the meeting, prepared with the CHMI NWP team: (This document states that CHMI plans to explore operationally ALARO at the grey zone resolution, thanks to the 3MT scheme. On the other hand CHMI cannot promise to ensure an ALARO hot line for M-F, given that the scientific maintenance was up-to-now not fulfilled in the expected extent by the Consortium. CHMI proposes to build on the 3MT developments as a way to alleviate the menacing burden and that PAC accordingly reconsiders a new position with respect to the practical application of the 'Lisbon agreement').

PT concurred also that the scientific maintenance of ALARO-0 in an operational context could be a problem, for IRM alike for CHMI. The PM remarked that there is an important risk here for the partners having brought maximum commitment to the 'operationally reoriented' evolution of ALARO-0 despite initial misgivings and being now left alone for the future scientific maintenance by those non-M-F partners which pushed most for the said reorientation and did not commit manpower afterwards.

AM is thus in favour to go to the next GA with a strong signal on commitment needed for the scientific maintenance. The PM replies that he would not make a fool of himself by asking the same question again (with likely the same unmanageable set of answers).

EB recognized that the M-F decision to implement AROME was an extra burden on the overall NWP maintenance. Therefore, M-F allocated resources and committed to maintain AROME for its own operational use and for the one by the Consortium. On the other hand, the amount of human resources to maintain ALARO as it has been designed seems to have been under-evaluated. However, M-F is willing to use ALARO-0 not as a black box, but as a component of the whole NWP suite.

PT stressed that to run a model in the grey zone implies to use the cascade of ALARO, which for JFG does not prevent to use all the science of Meso-NH (or ARPEGE, depending on the case).

VC noted that M-F is used to run codes which they have no direct expertise on, this is the case with some parts of ARPEGE or ALADIN developed by ECMWF, and this needs only to entrust the ECMWF contact point to take care of the problem.

In summary, FN recognized that M-F is following the Lisbon protocol. However the lack of human resources to maintain ALARO-0 when in operation is seen from the PM point of view as a risk to jeopardize the potential for scientific development in the ALADIN partners' active teams. The use of ALARO-0 in a region where the current ALARO team has no experience (i.e. VC's list with the exception of the Mediterranean area) contains a risk if M-F relies on this team to solve their problems, Following a

proposal from EB, JFG recognised that it will be easier if the first operational use of ALADIN at 5km (with 3MT) was in the Mediterranean area and as a first step taking the ALARO code as it is. EB responded that PM's position will be taken into account when M-F will identify the ALARO-based application.

DK stressed that the consortium is at risk if not enough manpower is dedicated, especially in the biggest members, to the scientific maintenance.

EB expressed his disappointment since he felt it was clear from the start that M-F will dedicate human resources to AROME for the benefit of the whole consortium, while M-F has contributed through money streams, including paying for JFG, to allow the develop of ALARO. So it is a disappointment for M-F that at the time when many partners, including M-F, want to use ALARO, it is expressed that there is not enough human resources to maintain the ALARO code. JFG answered that far more manpower had been promised under the pressure to 'concretise' the 'Lisbon protocol' than what was afterwards really freed, that a small number of partners had thus supported up to now the R&D plus scientific maintenance efforts and could not realistically still add operational aspects without any help from outside, help obviously needed on the scientific maintenance side.

FN is of the opinion to sensitise the GA about this problem. The PM sees an alternative way to proceed, implying some relaxation in the calendar of implementing ALARO in operation. DK suggested that every partner revisits its position and balance/commitment in maintenance, or look for extra resources (HIRLAM for instance). The PM is sceptical, alike when he answered AM on a similar suggestion.

GR proposed that the GA should be approached in a different way, by stressing that if IRM and CHMI (plus others already involved and likely to follow for operations) want to run ALARO-0 they could not be considered responsible for the whole maintenance of ALARO for other members. The latter should then express nominative and verifiable commitments for work on ALARO-0 scientific maintenance, in the terms already detailed one year ago.

VC argued that we should separate the three aspects: resolution, algorithmic, and science when trying to set distinctions between what are after all only distinct applications of a unique code.

The PAC tasked the PM, with everybody's assistance, to remobilise the teams to have strong commitments from the members on scientific maintenance on ALARO-0, and to prepare a paper for the GA on this topic, taking GR approach. Meanwhile nothing practical should be modified in the march towards an implementation of the 'Lisbon protocol', the aspects related to issue 'B' above receiving immediate attention.

EB asked a clarification about the CHMI position paper, that can be interpreted as a denial of the MoU and Strategy objectives to use AROME at the kilometric scale (and not an ALARO version at that scale). RT and JFG argued that what is written should be read differently: since we don't know yet where the lower mesh-size limit of the grey-zone is, it is a reasonable assumption to believe that it could be a safer option to experiment and may-be use ALARO around 3 km mesh-size.

At the strategic level, the '2011 and later' objective is indeed to have a capacity to run models at the kilometric scale. But, unlike implied by EB's question, it is targeted in the strategic document that, at that time, the naming ALADIN/ALARO/AROME would be just a blurred notion because the consortium will have a general structure to accommodate all options of the physics at scales between 1 and 10km.

AM wanted to focus on what the PAC can and should do, that is to analyse how members can satisfy their objectives. For instance, if Morocco wants in 2010 to run a 4 km model, Maroc-Meteo should be able to find in the "ALADIN" libraries what it needs. If the approach is built in this way, it will be of common interest to contribute to a set of modules unified in a common package.

The Chairman concluded this part of the discussion by saying that he understood the risk taken by the few partners having invested in ALARO-0 along the lines of the Lisbon protocol and had sympathy with the position of the PM trying to protect them from bad consequences possibly ensuing from this choice and from other evolutions.

7. Cooperation and licensing agreements (presentation of 'draft master documents' and discussion about their content).

JFG noted that there were two situations where contracts/licenses had to be signed with third parties, one on use of ALADIN products, one on collaboration for code use.

PAC accepted the principles of the two texts presented, as a kind of reference texts on which ALADIN members can base their own drafting of contract/license. The PM will finalize and "anonymize" the text for presentation to the GA.

8. Revisit of the Four year plan issue. Road map for a consolidation of the version to be later used for the 2009 work-plan declination (details of this Item will be précised during the treatment of Agenda Item N° 5).

The PM asked PAC advice on the order of consulting the various actors, to monitor the iteration.

PAC recommended sending to HIRLAM, LACE for discovery and CSSI for cross-checking, then to LTMs and CSSI-Chair for iteration and PAC finally. The work for the 2009 work plan should start in parallel in iteration with LTMs.

9. Resource matters:

- a. Manpower status; issues about manpower registration and accounting;

The method of evaluating the used resources is still not fully reliable, but the figures are realistic enough to assess whether the commitments have been met.

JFG explained that there is some uncertainty coming from the methods used by Météo-France to account for the used resources. In practice, it deals with the fact that M-F people working on ARPEGE/ALADIN-France were previously accounted for 50% of their time to ALADIN, and now for 100%, which has boosted the figures, among other more concrete aspects (arrival of AROME, operational data assimilation in ALADIN-France).

JFG was in favour to warranty continuity, whilst M-F accounting system requires the new rule.

With approval of M-F representatives, PAC recommended that continuity is maintained (use of previous rules, including the same 50% rate for those ALADIN partners working for HIRLAM in the pre-HARMONIE status). A footnote will enable M-F (and others) to state the figures referring to these clarified rules.

PAC noted that few members have not fulfilled the MoU obligations. The PM will check the figures, but the GA will have to be made aware of the situation.

- b. Budget matters:

- i. Accounting of the 2007 budget;

Cancelled

- ii. Report about the ongoing execution of the 2008 budget;

The action plan should be considered by member as a commitment. So it is disappointing to see that the number of not realized actions is increasing.

PAC noted that it is will be possible to deal with the Turkish entry fee money already in 2008.

PAC is happy of this action plan, and thanked all the contributors.

- iii. PAC's first guidance for the elaboration of the 2009 budget.

In 2009, half of he TSMS entry fee will be used, making the 2009 budget feasible with the current ceiling of the flat rate.

PAC approved the general assumptions made in document 9.b.iii by the PM.

10. Progress assessment on the question of a simplified HARMONIE model setup available for research at e.g. Universities.

PT summarized the content of the meeting held in Brussels.

The idea is to develop a code easy to use for university.

AM insisted this possibility of cooperation would imply offering a well-structured assistance. JFG answered that this means that only collaboration with universities under some protocol, containing a commitment for a contact point, should be allowed.

EB recalled the collaboration which has led to Meso-NH and the fact that OLIVE could be open to third parties (3 from ALADIN, 3 from Laboratoire d'Aérodynamique). One strength of OLIVE is that even if not run on M-F computers, the user benefits from M-F operational environment. This has to be highlighted when promoting this type of collaboration. In a revised version of doc10, PT will refer to the existing cooperation between CNRM and the University Paul Sabatier around the development and the use of Meso-NH.

PAC is supportive of this initiative, with the understanding that PT will hire someone (who will start the 1<sup>st</sup> of July) to make a first version, working in close contact with HIRLAM. PAC agreed that a paper will be presented to the GA, making explicit the various constraints to be fulfilled.

11. ALADIN Membership issues.

JFG summarized the contacts with Ukrainian Met Service, which has already an agreement with the Slovak Met Service to use ALADIN products. Those are rather dispersed and look purposeless for those people contacted.

There is also a Danish computer company asking for installing ALADIN thinking they can do it on behalf of the Ukrainian Met Service.

The PM would like the GA Chair to take a strong action, in writing, sending a letter to the DG of Ukraine, and a circular letter to ALADIN Members to advise them if contacted. PAC supported this proposal.

12. A.O.B.

None

13. Changes in the PAC composition and Chairmanship.

FN will step back. The next GA has to decide, but the PAC can recommend names to the GA.

PAC is supporting that Cornel Soci, the current Vice-Chairman, be the candidate proposed by the PAC.

FN recalled that the MoU stated that the Chair and/or the Vice-Chair be Member of the GA. PAC will recommend Aderito Serrao, the Portuguese DG, as a vice-chair to GA.

14. Date and place of the next PAC meeting (two scenarii must be envisaged for 2008: an autumn PAC session or a 'bureau-type' meeting [in preparation for the Lisbon General Assembly]).

PAC is in favour of a bureau meeting before the GA with the attendance of CS, preferably in Brussels.

Next meeting could be in the week 11-15 May 2009.

PAC decided for Thursday-Friday 14-15 May, in Paris (NDLR : due to the ALADIN workshop to be held on 11-15 May, next PAC will take place on 28-29 May, in Paris).

15. Closing of the meeting.

The Chair thanked Maroc-Meteo for having hosting the meeting with such nice facilities and in such a good atmosphere.

## **Annex 1**

### ***List of participants to the fourth ALADIN PAC session, Casablanca, 19-20 May 2008***

Chairman: Fritz Neuwirth (FN)  
Vice Chairman: Cornel Soci (CS)  
PAC Members: Eric Brun (EB)  
                  Vincent Cassé (VC)  
                  Abdalah Mokssit (AM)  
                  Maria Monteiro (MM)  
                  Radim Tolasz (RT)  
                  Gabor Radnoti (GR)

Programme Manager: Jean-François Geleyn (JFG)

Observers: Christian Blondin (CB)  
                  Dijana Klaric (DK)  
                  Mikko Alestalo (MA)  
                  Piet Termonia (PT)