

5th Assembly of ALADIN Partners

Vienna, Austria

November 24, 2000

1. Opening

The vice-director of the Central Institute for Meteorology and Geodynamics (ZAMG), Fritz Neuwirth, opened the 5th General Assembly of ALADIN Partners. He welcomed the participants (Annex 1) on behalf of ZAMG and informed the Assembly that the countries Bulgaria, Moldavia, Morocco, and ECMWF apologize for their absence.

2. Adoption of the agenda

The agenda was adopted with a slight reordering of the first 3 items (2a, 2b, 3, 4 was changed to 2a, 4, 2b, 3).

3. Assessment of the 2000 scientific program

A presentation of ALADIN scientific activities in 2000 was given by Jean-Francois Geleyn. He noted that due to changing procedures, the 'normal' statistics were not available yet. ALATNET had a good start and includes the participation of scientists from countries outside ALADIN, such as UK and Italy. The ALATNET training seminar which was organized in Radostovice (CZ) from 15 to 26 May 2000 had 57 participants from 15 countries, including 5 people from COSMO, and one from HIRLAM. It was regarded as successful, with one possible problem of too little overview given by the arrangement of the lectures.

Scientific progress was achieved in nonhydrostatic modeling, semi-lagrangian dynamics, 3D-var, the method of blending in model initialization, diagpack (for analysis), the problem of coupling, among other things. Apart from problems with the smaller subjects, it was a good year for the scientific project. The maintenance situation has improved due to the efforts of the Partners, who mostly fulfilled their commitments. Difficulties were encountered in the coordination of IFS and ARPEGE maintenance.

Tunisia has started work on the ALADIN project, with 3 people at Meteo France, Toulouse. The Research & Development (R&D) decentralization, fostered by ALATNET, is continuing but still inhomogeneous. Jean-Francois Geleyn noted that the local applications are used too little for R&D. Communication and documentation has improved, but there is a problem with the low quality of technical notes. Common verification, a longstanding problem within ALADIN, has not been solved. In addition to the use of classical verification procedures, increased effort should be spent on the development of new verification strategies, specifically aiming at the meso-scale.

4. Maintenance and training

This part was presented by Dominique Giard. Training within ALADIN is more and more realized 'at home'. In coming years, the responsibility of training increases for the 5 ALATNET centers. In 2001, there will be an ALATNET Seminar on Data Assimilation at Meteo France, Toulouse. There are two new Ph.D.'s (Mark Zagar, Ilian Gospodinov) and 7 people starting their Ph.D. studies (Casablanca 2, Ljubljana 1, Prague 1, Toulouse 3).

Regarding maintenance, there was good fulfillment of commitments. Documentation of the work, however, needs to be improved. Dominique Giard stressed that the departed part of maintenance must increase because Meteo France fundings for maintenance will decrease. In research, large amounts of manpower went into developments in post-processing and data assimilation. Two high-priority topics are currently emerging: coupling (problem of winter storms), and observations. It was also reported that the structure of the teams at Meteo France has changed, such that each team is now dealing with both ALADIN and ARPEGE.

| <u>prior</u> | <u>now</u> |
|---------------------|--------------|
| ARPEGE - model | Algorithms |
| ARPEGE - data assim | Processes |
| ALADIN Cooperations | Observations |
| | Cooperations |

An outlook was given by Jean-Francois Geleyn with emphasis on the following issues. In maintenance, increased long term efforts will be necessary because of new computer architectures (need to migrate to MPI+Open-MP) and following the increase of used ALADIN configurations; the next Cycle, with externalisation of the transforms and a new organisation of the time step, will be a particularly crucial one. The Partners were asked to 'send their best people' for the next phasing. The ALATNET centers are responsible for specialized training. For improved communication, the ALADIN Newsletter should be used more strongly.

Radmila Bubnova noted that ALADIN should not lose contact to post-docs who have obtained their Ph.D. with work on ALADIN.

Fritz Neuwirth asked why verification is missing. Jean-Francois Geleyn replied that the problem lies in the coordination of the special interests and priorities of individual countries. Olivier Moch underlined the importance of verification both for political and scientific reasons. As an example, Jean-Francois Geleyn showed an ALADIN/ARPEGE verification comparison. Ivan Obrusnik proposed a standardized presentation of verification results.

Conclusion of the Assembly: The scientific report is appreciated. It is important that the verification problem be solved. It should therefore receive high priority.

5. RC-LACE activities

Radmila Brozkova gave a brief overview about both R&D and operational aspects within LACE. It was reported that quadratic coupling slightly increased the scores of the operational application, and that the Scheduler-Monitor-Supervisor from ECMWF was successfully installed on the SX4. In R&D, the method of blending reduces the bias of the initial state and keeps this reduction for some time in the integration. Physical fluxes are better balanced if blending is used. A problem is that improvements are difficult to verify by classical methods.

Based on a series of tests with higher vertical resolution, ALADIN-LACE will go from 31 to 37 levels in the near future. In the SCANIA test ALADIN was compared with an anelastic model. Within the ALATNET framework, studies on the nonhydrostatic predictor-corrector scheme, and the top and bottom boundary conditions are carried out. A fine-mesh ALADIN is run on MAP cases. PBL diagnostics are investigated.

Areas where improvement is needed are, according to Radmila Brozkova, the efficiency of R&D (little scientific output from short stays, lack of continuation at DRUs), and the completion of new developments including their implementation in the operational application.

Jean-Francois Geleyn stressed the need to introduce new scientific developments into the operational

application even if they produce neutral scores. Dusan Hrcek reported that the LACEMoU will be continued for 2 years.

6. Technical overview

The technical overview of the project was given by Jean-Francois Geleyn (for Emanuel Legrand). For the first time, tables showing the financial overview of the whole project were given. It was noted that such financial statistics could be refined if members would like to do so. A discussion followed on whether more detailed financial statistics for each member are necessary.

Decision of the Assembly: The existing form of the financial overview is sufficient.

Further technical issues reported by Jean-Francois Geleyn included the ratio of resolutions, telecoms (RMDCN has been set up), the planned increase from 31 to 41 levels in ARPEGE, work on the physical package CYCORA-BIS, and the increase of horizontal resolution of ARPEGE by 20% which is planned for 2001.

Regarding verification it was reported that the possibility of exchange of scores (verifala) is not being used by anyone except METEO FRANCE. The operational RC-LACE backup solution for ARPEGE has been tested. It is able to run at CHMI, however in a slightly modified setup because of limited computer power. Coming back to the nominal situation, if members are interested, additional LBCs for 06 and 18 UTC could be provided (=4 runs/day). For blending it is necessary because it requires 06 h time intervals.

Radmila Brozkova noted that it is important to build up an observation database within LACE. Alfred Quinet asked when blending will be put operational. Jean-Francois Geleyn replied that the implementation is basically not difficult but requires a large amount of work, and that it is an important first step to a more sophisticated data assimilation. Olivier Moch mentioned that the backup would have worked at the time of the last strike at METEO FRANCE. Ivan Obrusnik pointed out the need for a documentation of ALADIN forecast skill for customers. Olivier Moch said the signing of the MoU in 2001 could happen in the form of a celebration (10 years of ALADIN) where the project could be presented to the wider public, also in the direction of EU officials. Fritz Neuwirth stressed that better marketing of ALADIN is necessary.

7. Discussion about the new ALADIN MoU

Dusan Hrcek gave an overview about the report of the MoU working group (Jean-Francois Geleyn, Dusan Hrcek, Vladimir Ivanovici). Olivier Moch pointed out that the existing MoU could be prolonged for 6 months, but in any case not for more than 1 year.

Decision of the Assembly: The existing MoU will be prolonged for 6 months.

Alfred Quinet inquired about the meaning of several formulations in the membership part of the working group report. Jean-Francois Geleyn replied that it should be regarded as provisional wording. Olivier Moch noted that the French delegation is very satisfied with the project and would like a continuation, and that there are new contacts with the UK MetOffice on global modelling. He also said that important conditions for cooperation should be shared goals and actual R&D contributions. After a short discussion between Miroslav Ondras, Andras Horanyi, and Jean-Francois Geleyn about the formal structure of the MoU it was decided to discuss the content first, and then talk about the structure. The Assembly was then asked if there is agreement on the part of the current MoU that could be reused without modification (item B in the report).

Decision of the Assembly: The parts of the current MoU listed under B) in the working group report will be left unchanged, except for some necessary technical adaptations.

(a) Membership question

Olivier Moch explained the issue of membership from Meteo France side. There are questions regarding possible new members and questions regarding countries that want to buy products, or the model, such as for example Vietnam. Moch also said that the French delegation agrees with the general logic of the working group proposal. Jean-Francois Geleyn said that Luxembourg would like to associate but they would not be able to participate with development manpower, and hence should have a financial contribution, even if the latter would have to remain small. He also pointed out that if the spirit of the project is to be maintained, the membership cannot be fully opened, a transition phase would be needed, and there would have to be a geographical restriction to the mediterranean/european area.

Andras Horanyi, Fritz Neuwirth, and Ivan Obrusnik thought the system proposed by the working group which includes 6 membership categories is too complicated and should be simplified. Stefan Reichhart noted that with regard to the strong competition between private companies and weather services, products should be restricted by passwords. Dusan Hrcek reported about requests for products from Friuli (Italy) but the absence of official tariffs in the MoU. Jean-Francois Geleyn thought that a distinction between user/private user was necessary because of the model domain. Andras Horanyi said this could be clarified by a catalogue. Jean-Francois Geleyn proposed a simplified system consisting of 3 categories (Member, Associated Member, User).

Decision of the Assembly: In the new MoU, three different types of membership, i.e. 'Member', 'Associated Member', and 'User', shall be defined.

Fritz Neuwirth noted that the Assembly should gather opinions, and then give the task of formulation of the MoU text back to the working group. Olivier Moch noted that as a bottom line the rules 'common goal' and 'R&D contribution not just profits' should be kept for membership questions. Alfred Quinet remarked that ALADINers are scientists, therefore a full membership should entail R&D input. Marketing issues should not be discussed by the Assembly but solved by the marketing groups at the individual weather services. Fritz Neuwirth said that at least guidelines are needed for the selling of ALADIN products. Ivan Obrusnik agreed and added that it should be clarified what to do in case of emergencies, e.g. an internet dissemination? Dusan Hrcek asked how to answer approaches by less wealthy countries like e.g. Bosnia. Radmila Brozkova proposed a 'softer' membership approach for those countries. Fritz Neuwirth noted that the example of ECMWF could be followed, where the decision is made case-by-case. Olivier Moch raised the question of membership for national services only, or opening up to universities as well.

Decision of the Assembly: Membership remains restricted to national services and linked to the condition of priority operational application of ALADIN.

Olivier Moch noted that agreement from ECMWF is required for remote countries. Jean-Francois Geleyn said a map with potential ALADIN members will be created. Alfred Quinet said that the decision should be based on ARPEGE resolution. Jean-Francois Geleyn asked whether Tunisia (for which a decision is needed) could join as the last member under the conditions of the existing MoU.

Decision of the Assembly: Tunisia is invited to join ALADIN under the conditions of the existing MoU, as requested.

(b) Commercialization issues

Jure Jerman presented a scheme of NWP product pricings based on the one of ECMWF but adapted for limited area modelling. He pointed out that the existence of a common catalogue could prevent competition for 3rd parties between ALADIN partners. Olivier Moch questioned whether competition should be completely avoided in the first place. Ivan Obrusnik thought that the catalogue prices could be regarded as lower limit. Jean-Francois Geleyn agreed that catalogue prices should be guideline but not compulsory. Fritz Neuwirth noted that the MoU does not need to contain details of prices. Ivan Obrusnik proposed a group to be set up to deal with pricing issues. Olivier Moch mentioned that a higher rate of royalties would ease the situation with respect to competition between ALADIN members outside the ALADIN world. He then noted that the problem is therefore mostly competition within ALADIN countries. Dusan Hrcek

reported that Croatia, Slovenia, Austria have been approached by Friuli. Jean-Francois Geleyn said it is questionable whether the commercialization aspects can be solved within 6 months, and that the working group would have a large amount of work with a price catalogue. Olivier Moch thought that the basic question is: is ALADIN a scientific & commercial community or just scientific & operational.

Decision of the Assembly: The commercialization issue is a very important point but will not be solved in detail during the Assembly. The MoU part about commercialization should have some reference to the Internet context.

(c) Research and development

Jean-Francois Geleyn pointed out the problem that MF is not 'protected' against partners asking for a lot of technical support because it is not coded in the current MoU. MF cannot do work for partners which is in contradiction with its other missions. The problem especially arises in data assimilation where 4DVAR needs large amounts of computer power and associated manpower. Andras Horanyi said that this seems to somewhat contradict the ALADIN spirit of mutual exchange of software, etc. Radmila Brozkova stressed that one should be aware of the amount of work required for data assimilation and carefully check whether it can be afforded locally. Jean-Francois Geleyn said that data assimilation is most important at the beginning of the model chain, and that local efforts should concentrate more on diagnostic aspects. Responding to Alfred Quinet's question of how urgent it is to implement 4DVAR, Jean-Francois Geleyn replies that the evolution of the whole system should be top-down and, as a general policy, conditions should not be imposed by the weakest part of the system.

Decision of the Assembly: There should be a text about the issue of the link between operational and R&D structures in the new MoU's preamble of the kind suggested by the MoU working group. Jean-Francois Geleyn should correspond with all Partners on the exact wording.

Fritz Neuwirth asked the plenum if anybody else would like to take part in the MoU working group. Due to a lack of response, the current team (Jean-Francois Geleyn, Dusan Hrcek, Vladimir Ivanovici) will continue; Poland is considering.

Olivier Moch informed about plans of Meteo France to have a more formal signing of the new MoU, probably in Paris. There are ideas also to invite politicians and ambassadors to the ceremony. The tentative date for the signing of the new MoU is 31 May 2001.

Conclusion of the Assembly: The Assembly welcomes the idea of a festive framework for the signing of the new MoU in 2001.

8. Commitments for 2001

The following numbers were given by the delegates (units are person.months).

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|----------------|-----|
| Austria | 26 |
| Belgium | 48 |
| Croatia | 31 |
| Czech Republic | 70 |
| France | 110 |
| Hungary | 40 |

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|----------|---|
| Morocco | 45 |
| Poland | 40 |
| Portugal | 47 |
| Romania | 40 |
| Slovakia | 37 |
| Slovenia | 30 |
| Bulgaria | 25 (estimated in absence of a Bulgarian delegation) |

9. Next Assembly

The next regular ALADIN General Assembly will be held in Casablanca, probably in the second half of December.

10. A.O.B.

Jean-Francois Geleyn once again stressed the importance of the next phasing cycle and the need for the best people available. There is also a need for harmonization of reporting procedures.

Conclusion of the Assembly: A working group is set up for the issue of reporting, consisting of Doina Banciu, Andras Horanyi, Jure Jerman and Patricia Pottier.

Ivan Obrusnik said that the celebration should show what ALADIN has achieved and will achieve, and proposed to set up a committee for the organization of the event.

Conclusion of the Assembly: An organizing committee is set up for the ALADIN MoU festivity in 2001, consisting of Olivier Moch, Fritz Neuwirth, Ivan Obrusnik, Alfred Quinet.

Jean-Francois Geleyn gave a reminder for the next ALATNET Training Seminar which will be about data assimilation. It will take place in Toulouse in spring 2001. Maria Monteiro said that the 11th ALADIN Workshop will take place in Lisbon.

11. Closing

The 5th General Assembly of ALADIN Partners was closed at 15:30, 24 Nov 2000.

Annex 1 - List of Participants

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| Austria | Thomas Haiden |
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| | Fritz Neuwirth |
| Belgium | Alfred Quinet |
| Croatia | Branko Gelo Branka Ivancam Alica Bajic |
| Czech Republic | Ivan Obrusnik Marian Wolek |
| France | Olivier Moch Dominique Giard Jean-Francois Geleyn |
| Hungary | Andras Horanyi |
| Poland | Jan Zielinski Jan Sadon Stefan Reichart |
| Portugal | Maria Monteiro |
| Romania | Ion Sandu |
| Slovakia | Miroslav Ondras |
| Slovenia | Dusan Hreck Jure Jerman |
| RC LACE | Radmila Brozkova |