HIRLAM MANAGEMENT GROUP (HMG) - ALADIN COMMITTEE for SCIENTIFIC AND SYSTEM /MAINTENANCE ISSUES (CSSI) MEETING

Sofia (Bulgaria), Vitosha Park Hotel, 14th of May, 2006

Minutes prepared by Maria Derkova

Participants:

HIRLAM: Jeanette Onvlee, Bent Hansen Sass, Nils Gustafsson, Xiaohua Yang, Sander Tijm

ALADIN: Mark Zagar, Doina Banciu, Claude Fischer, Martina Tudor, Maria Derkova, Ryad El Khatib, Gwenaelle Hello, Piet Termonia, Jean-Francois Geleyn, Dijana Klaric, Patricia Pottier, Jean Maziejewski, András Horányi

1) Introduction

J. Onvlee informed that Dale Barker, HIRLAM Project Leader for Data assimilation and use of observations, will not participate at the All Staff Meeting, so neither at the HMG-CSSI meeting. Moreover, he will not take his HIRLAM Project Leader position at all. This information caused non-negligible troubles to HIRLAM. As a consequence, some areas (DA) not receiving enough attention in last half year will now need some improvisation.

J.-F. Geleyn informed on missing CSSI member Bart Catry, preparing his PhD defense next Monday.

The question on imbalanced participation from HIRLAM and ALADIN sides (compared to last meeting in Bratislava, 2005) was asked. The common position was to accept this, see how it evolves and evaluate later.

A. Horanyi explained how the meeting agenda was prepared. It was agreed that Andras chairs the morning part of the meeting, Jeanette the afternoon one.

2) Brief historical overview of the common work

A. Horanyi gave brief historical overview of the common actions and work, mainly because many people present at the meeting were new. J. Onvlee commented that so far lot of preparation work was done, but mostly “separate and in parallel”; now the real common work shall start. J.-F. Geleyn answered that people have been probably too optimistic, and ~2 years of formal preparation work is normal.

3) Particular ongoing actions

a) Data assimilation

I. Code convergence, observation operators, physics for 4d-var, radar and satellite assimilation

At the ALADIN-HIRLAM workshop on the code maintenance and data assimilation in Budapest, 2005, some proposal/decisions for common work were taken, e.g. observation operators inter-comparison, physics for 4DVAR, remote sensing observations.

Observation operator inter-comparison shall be seen as an informal process between people, and a technical exercise with high priority (part of the code convergence). Draft document was prepared by C.Fischer listing existing obs-operators and identifying ALADIN contact points for each of them. Now their HIRLAM counterparts are to be found till September (this action was postponed due to missing PL for DA in HIRLAM). Till December the work shall start (with concrete proposals). People from ECMWF (Erik Andersson) should be informed as well.

The work on the coding of TL/AD for semi-lagrangian scheme will start next week (by F.Vana) in Toulouse (important for the code convergence).

Concerning the physics for 4DVAR (important for ~km scales), it is not clear whether it shall be driven/constrained by physics or by data assimilation (i.e. transversal or separated?). In HIRLAM the simplified physics of M. Janiskova is tested, usage of the ECMWF simplified physics is considered; as it is not clear which approach is needed for mesoscale. In Meteo-France the same people work on physics at all scales. It was proposed to separate the issues on "physics for 4DVAR" and "strategy for mesoscale data assimilation". The meeting on physics for 4DVAR can be organized along with the ECMWF seminar in September 2006. Another meeting on strategy for mesoscale data assimilation is proposed after EWGLAM/SRNWP, Zurich, 13/10/2006, with possible participation of J.-F.Geleyn, C.Fischer, F.Bouttier, A.Horanyi, (F.Vana?), J.Onvlee, X.Yang, N.Gustafsson, M.Lindskog.

Radar observations: there is ongoing common work in Toulouse, including G. Haase (on quality control) and M. Jurasek, with e-mail exchange in between. The work will continue this year.

Satellite observations: work did not start yet. HIRLAM informed that some EUMETSAT fellowships just started, and altogether three new people are to be involved on HIRLAM side this year. 3DVAR/ODB training is a prerequisite to start the work on the source code. In Meteo-France the work did not start yet (Nadia & Florence are supposed to take part). Contacts with ECMWF are needed as well.

II. 3d-var/odb training (practical issues before the workshop)

3DVAR/ODB practical training will be held in Budapest, 6-10/06/2006, with teachers from HMS, Météo France and ECMWF. About 10 participants are expected, mainly from

HIRLAM group (nominations delayed due to missing DA PL). Thus the training was not advertised for ALADIN people yet (it will be done during the ALADIN workshop).

III. Surface assimilation (and modelling)

Again it is not clear whether it should be driven/constrained by physics or data assimilation (especially vertical diffusion might be an issue). Nothing was done yet together on surface but some work is ongoing separately. Short comparative documents/status reports from both sides are needed. Some people shall meet during the week for further discussions. The SURFEX workshop is proposed for late autumn 2006 (tentative dates are 11-13 December) in Toulouse; with F. Bouyssel, P. Termonia, M. Tudor, E. Martin, G. Hello, L. Kraljevic, N. Gustafsson, S. Gollvik, S. Tijm.

IV. EURRA (how to prepare a common proposal, what are the main scientific questions, how to share the work)

EURRA is a request from EEA (European Environmental Agency) for 30 years reanalyses over whole Euro-Mediterranean area down to 1km. Several projects are to be proposed to reflect the cascading approach from global to 10km to 1km scale. 1km resolution over Europe is out of current capabilities with "3D" software => 2D approach is to be used (surface assimilation). Therefore two complementing projects shall be proposed and the work distributed accordingly. Original request was triggered by EURRA, but for project(s) proposal our own local requirements and needs are to be considered as well. ECMWF shall be contacted (by HIRLAM) to provide more information on the original EURRA request and about the final minutes of the EURRA meeting held at ECMWF. The ECMWF position is to provide boundary data and observations. Observation people shall be involved to collect local data and to help with their quality control. Coordinator is missing so the documents shall be forwarded to heads of research in HIRLAM and LTMs in ALADIN. Interests and resources (human and computer) shall be collected, in ALADIN by call of PM to LTMs. Special EURRA meeting might be needed to distribute and coordinate the work, this is proposed for 27-28/09/2006 Zagreb (along with LSC).

b) Predictability

I. Common visualization and verification tools?

First contacts and discussions already started, however the unification of tools seems to be not so easy. It is proposed to make available and use all existing tools. HIRLAM plans a working week in Sweden (mid June) to build HIRLAM EPS system/environment (scripts, verification & visualization tools). There is a possibility that ALADIN participants will join.

II. GLAMEPS

It is a proposal for the HIRLAM-ALADIN Grand Ensemble (c.f. talk of N. Gustafsson on Wednesday), with following ingredients: a common domain and common processing; about 200 ensemble members. A special project was submitted to ECMWF (feasibility study in 2007). A call for interest from countries will be made this week (as the proposal

shall be ready by August, 2006). The contributions are currently limited to HIRLAM&ALADIN, but extension to other SRNWP consortia possible (@EWGLAM) in the "NWP vision spirit".

c) System (physics)

I. ARPEGE/ALADIN phasing

A training for the code and maintenance was organized for HIRLAM (Budapest, November, 2005), the work on plugging HIRLAM physics into ARPEGE/ALADIN source code is ongoing. Two HIRLAM people have participated in the phasing in Toulouse (more on the validation part), two more will come for CY31-32 (to include HIRLAM physics into the code). It was felt that HIRLAM people gained some experiences with the handling of the technical issues, but they still tend to use HIRLAM working practices. This may change in the future depending on how much they wish to be involved in the code work, i.e. becoming experts not only in HIRLAM components. Concerning the HIRLAM strategy with respect to ALADIN in the reference system, ALADIN shall be taken as it is, and used only for comparisons. All new developments (e.g. EDMF) will be based on AROME.

II–IV. Operational control and monitoring; Common verification and visualization tools and Validation and verification have been treated as one item.

For operational control and monitoring, a questionnaire prepared by O. Spaniel is a basic document. In ALADIN Consortium, the need of coordination of tools and operational support has been recognized and some activities are starting.

For common verification and visualization it was felt necessary to unify formats before common tools could be applied. R. El Khatib and X. Yang shall communicate on the possibility of using common and preferably standard format and report on the next meeting (currently in ALADIN FA files and gribs, in HIRLAM assimov gribs are used). This could solve the need of the new tools and tricks applied in HIRLAM to visualize ALADIN outputs; and help to GLAMEPS project as well.

For verification and validation, some activities started in Oslo (the H-A mini-workshop on mesoscale physics and diagnostic tools, December, 2005). For 1D model, S. Malardel finished coding (shall be available in the next cycle), it currently works with AROME and ARPEGE/ALADIN physics. For 3d cases, a working group has been established, led by S. Tijm. The group has prepared the working plan and established a web-page with the description of proposed cases. Currently they are in the stage of collecting the data. However, the process (response from some working group members) is rather slow.

d) "Political" issues

I. NWP vision from 2008 onwards

Outcome of the NWP vision meetings states that stronger SRNWP is needed. A proposal shall be prepared for EWGLAM/SRNWP meetings (Zurich, October, 2006). The harmonization of three existing documents/reactions (HIRLAM, ALADIN, MF) is to be done. It is recommended that SRNWP follows practices of other EUMETNET programs, i.e. the subprojects in interesting areas (GLAMEPS, verification and validation) shall be identified. Also, SRNWP is not much visible/involved in other EUMETNET programs. Other recommendation is that at EUMETNET sessions directors of both Consortia speak "with single voice". Proposal to prepare discussions at EWGLAM/SRNWP: M. Alestalo, M. Derkova, C. Fischer, J.-F. Geleyn, D. Klaric, J. Onvlee, P. Unden, A. Horanyi are in charge to prepare the discussion paper for the HIRLAM and ALADIN communities. J.-F. Geleyn to propose a skeleton of the document this week. A cross-check is needed with Jean Quiby and with local organizers. If this goes on, EWGLAM part of the meeting might not be so important.

4) <u>2006 workplan: common issues</u>

a) Realization of the plans produced at the end of 2005

The workplan prepared in autumn, 2005 was briefly checked for the actual realization. It was again restated that up till now the work was progressing more in parallel than together. One of the reasons could be that just gathering people is not enough if there are different priorities in the teams. The Tartu workshop was better stimulation than the Oslo, because it started from strategic challenges instead of day-to-day problems. Vertical Finite Elements is the top most priority topic.

Mid-term perspectives are also needed. A discussion between J.-F.Geleyn, G.Hello, S.Tijm, B.Sass shall start. For predictability, an action shall start after Wednesday/Thursday.

5) <u>Scientific planning (strategic, mid-term, annual): how to create common plans?</u>

Concerning the planning process, it was agreed that two separate working plans will exist (HIRLAM and ALADIN), with mutual cross-references and common progress report (after 1 - 1.5 year, available by the end of the year). For 2007, ALADIN plans should be prepared after workshop for discussions at PAC.

6) <u>Future management meetings</u>

It was again commented that this time imbalances in participation exists, and too big group might be counterproductive and not efficient. Question is whether every participant could find its counterpart? We will see in the future. J.-F.Geleyn proposed to held HMG-CSSI meetings along the common workshops: one before with bigger audience, then two

workshops (ALADIN workshop and HIRLAM All Staff meeting) in parallel and common sessions (no SRNWP in between!), and then finalizing decisions according the discussions during the week will be made only in small group.

Other informal HMG-CSSI meeting along EWGLAM/SRNWP is possible in case of needs, and small mutual contacts are of course welcome in between.

7) AOB

D. Klaric asked about the possible access of ALADIN people to HIRLAM web pages (restricted parts). This can be given upon request.