Minutes of Thursday 18th Working group on Modelling
(Claude Fischer)

information from Aladin CSSI: LTM will have to send some initial input to PM, as a preparation of the detailed Aladin workplan (to be valid from September 2006 until end of 2007). However, the input will be processed by PM, in liaison with the strategic plan (task force) and the short term priorities. PM is responsible for the working plan, to be presented to General Assembly (via PAC). PM coordinates the tasks and topics, as well as the proposed persons. LTM do not have to coordinate among themselves on this issue (just send to PM). PM will initialize this procedure, to be completed between mid-June and end of July.

dynamics:
collaboration with Hirlam has started on map factor variation for very large domains (Isabel Martinez) => should later be coded (option LSIDG).

Jozef Vivoda will go to Copenhagen to start the collaboration with DMI on Vertical Finite Elements and NH. Also , common work on the discretization of the horizontal pressure gradient term needs to start.

Big problem: coupling ! Davies relaxation reaches its limits, but the topic is a tough one. Fabrice Voitus (GMAP phd) will travel to Brussels to try a last idea around transparent LBC with Piet Termonia. Should this not work, then no other solution with transparent BC is visible. Fabrice also works on perfectly matching boundaries, which is an alternative approach. Aidan McDonald still works on transparent BC.

Other questions around coupling:
- use digital filtering for other fields than surface pressure in coupling data ?
- devote more manpower to this topic ? what is the priority of coupling issue with respect to time step organization for instance ?
- coupling frequency and size of C-zone: recommendations ?

VFE problem (and other NH issues): MF have indicated at last MF/EC coordination meeting that more transversal contacts on these topics between “global model specialists” at EC and MF and “LAM specialists” from Aladin world are encouraged. MF have helped EC for the practical implementation of NH P/C scheme within the IFS framework. First NH PC of IFS should be ready in CY31.

SLHD gives good results and is encouraged to be switched on. Should SLHD be switched on in Arome for the GP microphysics fields ?

Also of importance: chose the highest order SL interpolators. More work is ongoing on spline interpolators.

Physics:
From HMG/CSSI: Hirlam have recently achieved progress on microphysics, surface parametrization and plans on 3D turbulence. For the latter, contacts should be established with Valéry Masson at MF/GMME (Benjamin Perov for Hirlam group). Algorithmic constraints are recalled (surface flux/vertical diffusion implicit coupling must be guaranteed).

Workshop on surface processes and assimilation, plus SURFEX training: 2nd week of December in Toulouse.

Other topics addressed: simplified physics (beginning of September: meeting in Reading), verification and validation (data formats, products, tools)
Review of the Hirlam workplan.
No discussions on the “Interface" issue, which is presently postponed.
Hirlam countries run different physics at home, different from reference system: Kain-Fritsch versus STRACO.

Surface:
Problems mentioned by Bent for initializing surface fields for Hirlam with Surfex (Sylvie will talk with him in Toulouse).
Surfex developments: what about surface analysis, switch on Surfex at the same time in Arpège and Aladin ? (MF: no => first tests in Aladin production only)

Problem of T2m and frozen soil: to be evaluated by MF for next winter, but a valuable input and discussions with partners is encouraged/requested. In general , operational problems must be sent back to MF, via Toulouse LTM (C. Fischer) and Aladin transversal coordinator (ATC: M. Derkova). However, a documentation about the encountered problems is needed (date of appearance, diagnostics, pictures or scores, comments). The documentation of an operational flaw may be prepared also in collaboration with persons in Toulouse (GMAP or COMPAS) , through bilateral contacts (simply put Toulouse LTM and ATC in copy). MF will process the document, according to their other local load of work and priorities, and check for solutions with the partners.

What about an implementation plan of Surfex in Toulouse ?: no precise plans so far; still too many technical questions to be solved. MF hope that Surfex will be technically ready in CY32. An implementation plan with the partners is even further away, and should probably be discussed at the time of the Toulouse surface workshop (should contain strategy for tests at partner centers, then progressive operational implementation). For the workshop, useful information, documentation and training material will be prepared. Already identified participants: LACE/data manager (Sandor Kertesz).

Moist physics:
Problem (historical) of strategy and communication on the microphysics development. For the time being, despite identical prognostic variables (Ql, Qi, Qr, Qs), the Arpège/Aladin-France prognostic cloud scheme (PCS) is different from the Alaro-0 one (simpler version of microphysics to start with). The group feels that an opportunity for closer collaboration has been missed.
How to converge ? on the short term: no chance since both developments are well advanced and validated in their respective frame of development. In the long term, convergence of the Alaro-0 one with the Arome scheme (Aladin-2 target).

Shallow convection:
Plans to start testing ED-MF in the frame of Arome (Sylvie Malardel[1]). For Alaro-0, the developments concern first only the pseudo-TKE scheme, which implicitly includes the current ARPEGE/ALADIN 'old' diagnostic treatment of shallow convection. The actual implementation in Arome and Alaro might remain separate, if algorithmic convergence awaits for long-term actions (equations, interface).
Cross-communications between the two approaches have been encouraged.

[1] a « Aladin-2 flat rate budget » stay in Toulouse has been proposed on this topic to Joao Manuel Lopes