

# ALADIN 09/10: achievements, problems & outlook

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# Main 'achievements' since Utrecht

- The ALADIN 4-year plan was updated (and approved by PAC and General Assembly) but only on two aspects (upper air physics and system, this reflecting the most advanced discussions with HIRLAM). The first declination in a yearly workplan was produced but very late.
- In order to avoid repetition of this bottle-neck, a new 'continuous planning' procedure was approved by GA. In 2010 one shall try to also harmonise it with HIRLAM in order to get closer to a common transversal workplan.
- Our central problem in ALADIN is still the difficulty to move manpower from over-staffed to under-staffed activities. PM will poll LTMs opinions for reporting to PAC (alike for research => operations in 2006).
- The mid-term evaluation of the 4-year plan will be tried in self-evaluation mode. In parallel a brainstorming => streamlining procedure (for the 'model' part of our strategies) starts next May (Brac-HR workshop).

# Main 'achievements' since Utrecht

- The 'F-R' financial mechanism is showing alarming signs:
  - The backlog in payments is close to be wiped out but we restarted having defaults of execution;
  - In the 2006 kick-off year, **31** k€ of 'flat rate money' helped financing **14** missions and **6** scientific stays;
  - In 2007, on the same basis, **55** k€ helped financing **13** missions and **12** scientific stays;
  - In 2008, on the same basis, **80** k€ helped financing **11** missions and **21** scientific stays;
  - In 2009, on the same basis, **57** k€ helped financing **17** missions and **19** scientific stays;
  - For 2010, the plans are of **66** k€ for **22** missions and **21** (shorter) stays (the match of 'offer' to 'demand' continues to decrease, the mission demand grows again [prospective workshop] and we hope to finish the year with a zero balance over five years [no savings]);
  - All this is beside RC-LACE activities (research, training) and Météo-France's supports (maintenance, networking) as well as Partners' other 'voluntary' and 'in-kind' efforts.

# Main 'achievements' since Utrecht

- Survey of the progress on the common part of the HIRLAM and ALADIN plans is getting more harmonious, but in a 'restart' way. In fact:
  - In Bratislava we envisaged the working practices;
  - In Sofia we went to the methodology;
  - In Oslo we look at the details for difficult issues;
  - In Brussels we started assessing the outcomes, but careful inspection showed case to case discrepancies;
  - In Utrecht we became selective in order to give a new (sometimes structural) kick-off to topics in need of it, while letting the rest in free wheeling.
  - Here in Krakow we witness that a kind of new cycle restarts (little recent outcomes but a lot of new investments, mostly in common). **Is not that step too early? Up to this meeting to start telling us!**

## About AROME-France

### One year of operational evaluation:

- objective scores are a bit better than the older ALADIN-10km system
- forecaster feedback is positive, AROME brings added value on convective events (esp. orography-related), low clouds, sea breezes, etc, plus many new useful products (e.g. 3D hydrometeor maps, simulated reflectivities)
- still some weaknesses: overactive convection, absence of fog/Sc analysis, some low-level biases
- 1-km system brings relevant detail in mountain areas (esp. wind)

### Main experimental results:

- large-scale coupling at model top is beneficial
- having an intermediate model (ALADIN) between global ARPEGE and AROME may do more harm than good to the LBC coupling
- overactive "fireworks" convection problems are partly shared with other models; conservativity problems in AROME Semi-Lagrangian scheme are suspected to be partly responsible.

# About AROME-France

## New version:

- increase vertical resolution in lower troposphere (from 41 to 60 levels)
- direct LBC coupling to ARPEGE (upgraded to 10km resolution)
- improved diagnostics: gusts, clouds (linked to timestep organization)
- use AIRS and IASI radiances
- use radar reflectivities (Bayesian 1D humidity retrievals)

## Possibly for the coming year:

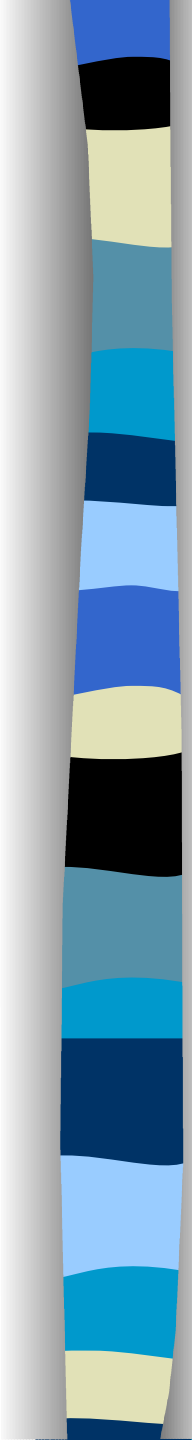
- SURFEX data assimilation
- revised physical processes
- treatment (if possible) of overactive convection
- +50% extension of AROME-France geographical domain
- variational 3DVar "Jk" coupling to large-scale model
- high frequency observations data assimilation (3D-FGAT algorithm)
- spatially heterogeneous  $J_b$  covariances for rainy areas



# Yet unseen investment (arbitrary list)

- Joint proposal for Boyd's coupling and avoidance of g.p. computations in the E-zone.
- Restart of the work on NH-VFE 'compatibility issues'.
- Complete proposal for the 'CPTEND'-type of interfacing problems (leaving the APLxxx ones for a second step).
- Various investments in the parameterisation trade and especially in its links with theoretical issues (COST ES0905 action).
- GLAMEPS towards operational use. LAEF also in progress.
- Less and less gaps in the realisation of the 2006 data assimilation common plan.

# Outlook

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- Shall we correctly manage the start of a new cycle for HARMONIE before the first one is fully completed ?
  - Are not all the planning and introspective measures (at all time scales) coming together in too short a lapse of time ?
  - Will the evolution of the ALADIN MoU correctly reflect the 'governance' part of these two big challenges ?



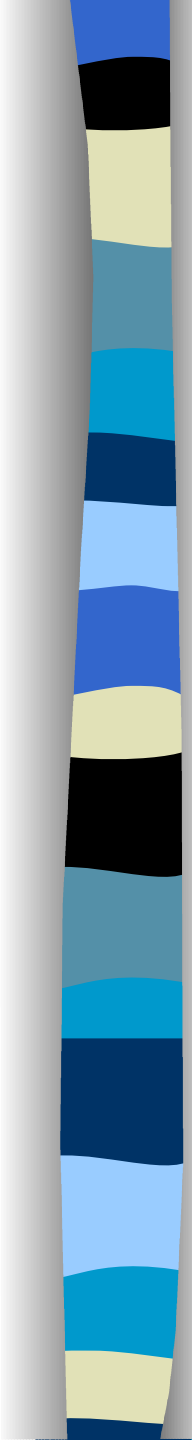


# Conclusion

This was my last talk of this kind.

Additionally, I'll stand today by someone else's poster for the first time in ~20 years!

So I'll allow myself to finish by making some self-oriented 'advertisement'.



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If you did not appreciate  
‘3MT’, ‘*TOUCANS*’ is  
probably not your cup of  
tea either ...

