ALARO-1 workshop

Introduction

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Vienna

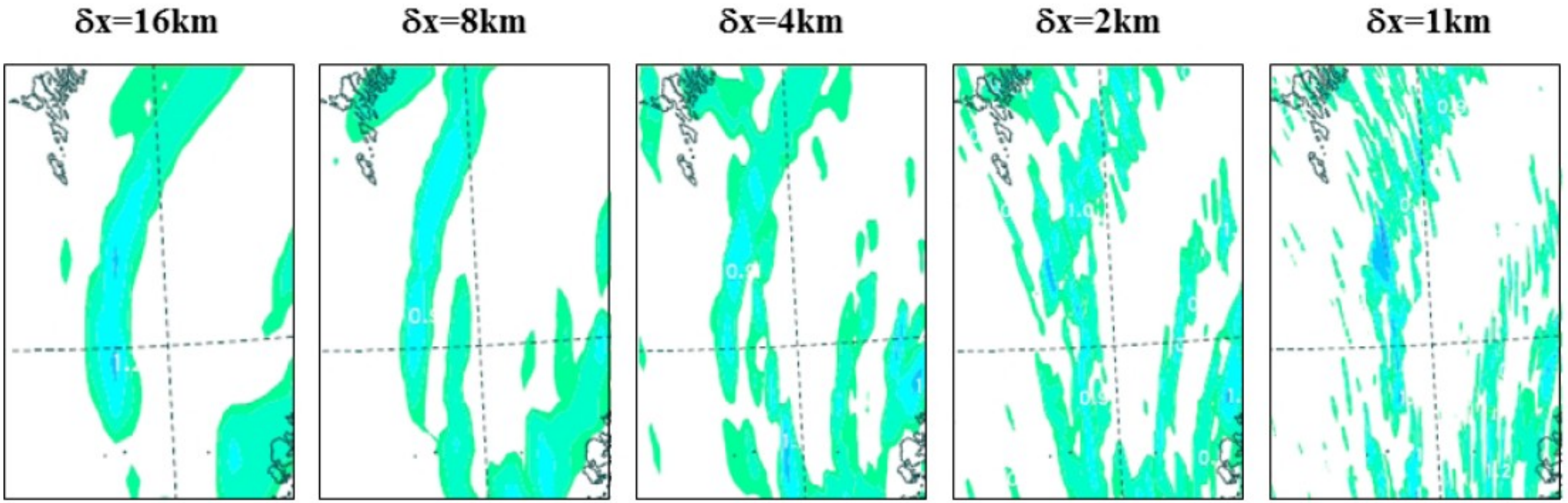
Scope of the meeting

- Every two years
- Review of the status of ALARO-0
- Putting together ALARO-1

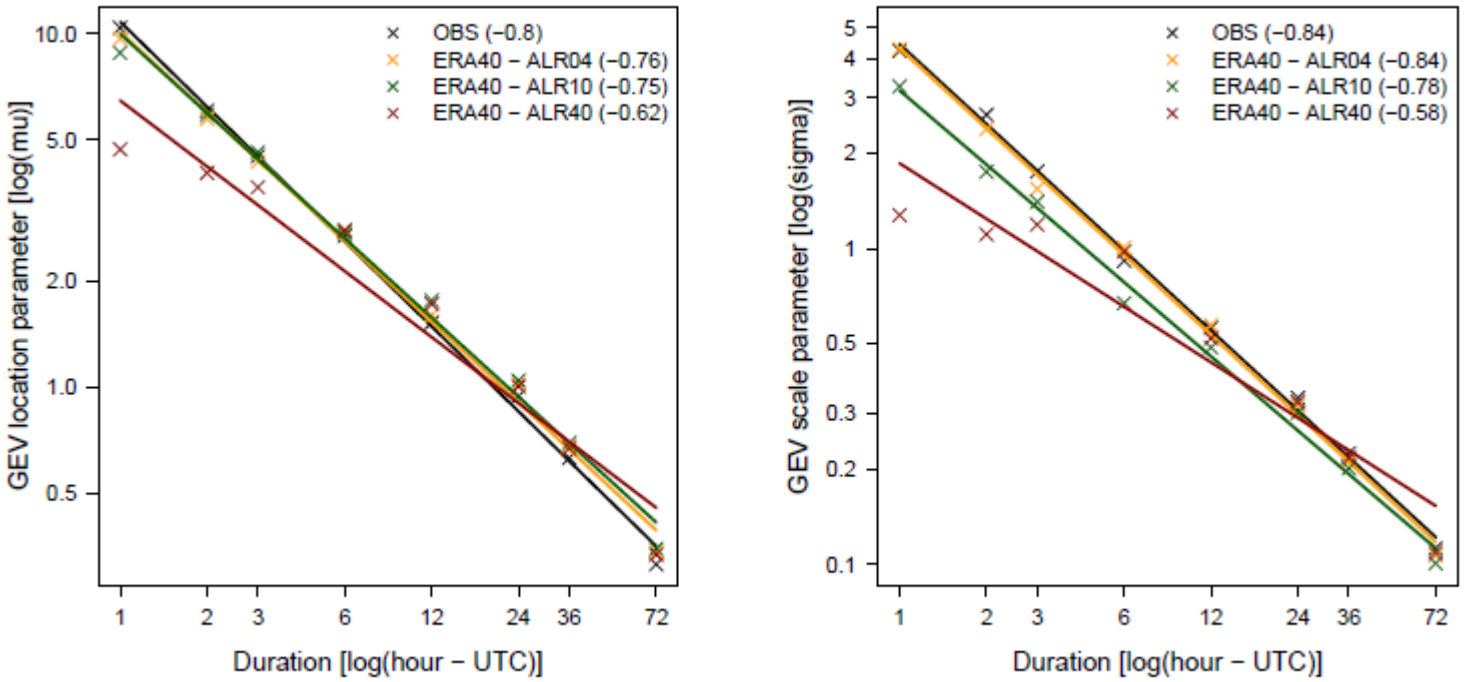
Highlights and milestones

- Some demonstrations of the multiscale (“seamless”) character
- Recognition (specifically 3MT) within the frame of the ES COST0905 project.
- Built up of expertise by J. Mašek on radiation due to ACRANEB2 developments
- The physics-dynamics interface exists for both APLPAR and APL_AROME
- Publication of the paper on TOUCANS. Congratulations!

The ALARO part in the WMO WGNE Experiment



Multiscale performance of the RMI version of ALARO, further results at higher temporal resolution



De Troch et al. EGU, see also talk of Pieter

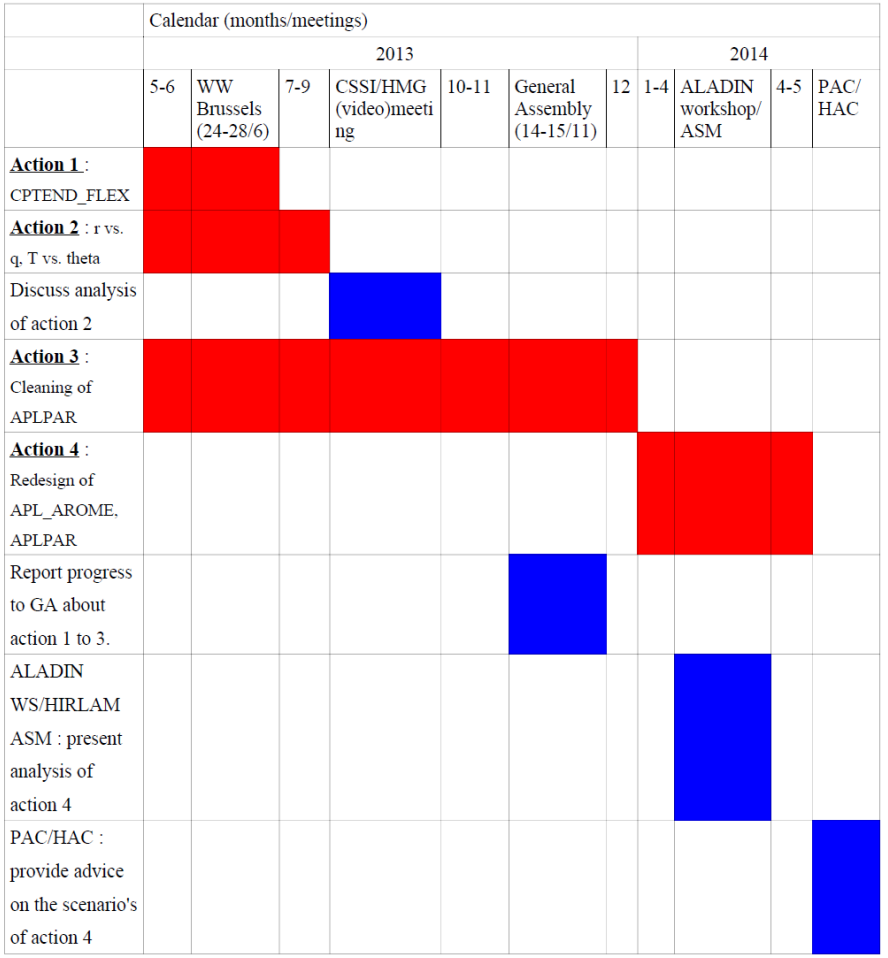
Challenges

- The coupling with SURFEX
- Using ALARO for climate (multiscale character is a distinct plus here)
- Can we move to a HARMONIE system? This would increase the biodiversity with more cross-us, cfr. The physics-dynamics actions and its sequel.
- Good results have been shown for ALARO at km resolution. Move to these scales?
- Valorize the **M**odularity in a “convection-permitting” EPS background (alternative for SPPT-like perturbations)?

The physics-dynamics interface action

- Last year in Reykjavik there was a question: *what model are we running?* AROME, ALARO …
- This led to a dedicated action.
- First “deliverable”: ACRANEB2 is phased to the AROME configuration (as requested by HMG last year in Reykjavik) by Jan Masek. The exercise for radiation is relatively easy compared to the “moist” part, BUT the “methodology” (stepwise approach, follow-up meetings with webconfs, meeting in Toulouse, care of cycles) works so far. Next step: turbulence
- Evolve towards a “WRF-ish” **H**ARMONIE **F**orecast **S**ystem (**HFS**)?
- This is also a **scientific testbed!**

Synthetic time table:



IFS/ARPEGE/ALADIN/ALARO/AROME code

<table>
<tr><th></th><th>Reanalysis</th><th colspan="2">Numerical Weather Prediction</th><th>Climate</th></tr>
<tr><td>Global</td><td>ERA-40
ERA-Int, ...</td><td>IFS</td><td>ARPEGE</td><td>ARPEGE-clim,

CNRM CMIP runs</td></tr>
<tr><td>Meso scale</td><td rowspan="2">Downscaling</td><td rowspan="2"></td><td>ALADIN</td><td>ALADIN-climate

ENSEMBLES, CORDEX, ...</td></tr>
<tr><td>Convection permitting</td><td>HARMONIE
ALARO
AROME</td><td>ALARO-climate

AROME-climate</td></tr>
</table>

The importance of the baseline version (practicalities)

- We are currently installing cy38t1
- The existence of Radmila's baseline version (and the description) turned out to be primordial.
- Also there is the question/discussion on maintenance/quality control. i.e. how far should validation reach: sanity check (mitraillette to meteorological performance). Limiting ourselves to one baseline version simplifies life!
- Question: these efforts were mostly done by Radmila (as far as I know). Should we broaden it?

Outlook for the next days, questions to address

- Baseline for ALARO-1? What will be included? Namelists.
- Testbeds (validation, MUSC, climate, extreme cases)
- Next step for the interface: turbulence. Help for Daan?
- Valorizing the “Modularity” in convection-permitting EPS
- ALARO and SURFEX
- Further 3MT in ARPEGE
- Increasing the resolution
- Planning (workplan, manpower, …)
- … ?