



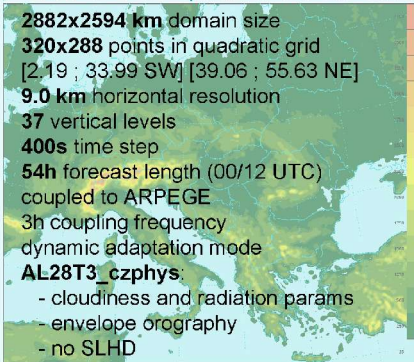
ALADIN related activities at SHMI

15th ALADIN workshop, 6-10/6/2005, Bratislava, Slovakia

NWP GROUP

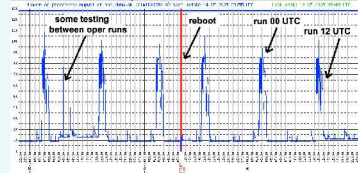
- Martin Belluš
- Mária Derková
- Richard Habrovský
- Marián Jurašek
- Jana Krajčovičová
- Michal Máješ
- Ján Mašek
- André Simon
- Oldřich Španiel
- Jozef Vivoda

ALADIN/SHMU: domain, model and computer characteristics



tools for the operational suite monitoring:

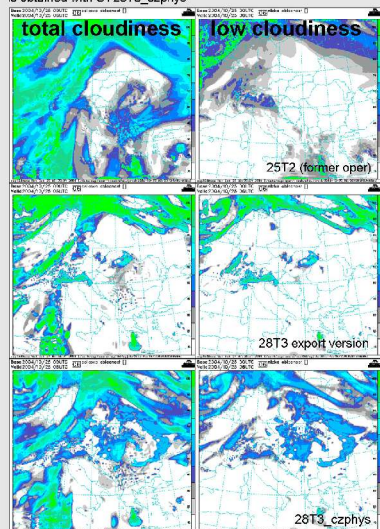
- qmon: data distribution
- number of the processes of the operational user,
- PDA communicator



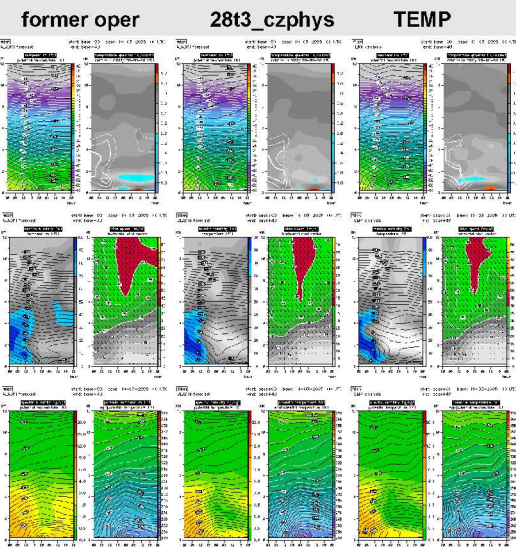
OPERATIONAL SUITE HIGHLIGHTS

- 01/07/2004: full operational status
- 01/01/2005: 24/7 human monitoring
- 12/01/2005: switch to +54h integration
- 31/03/2005: 28t3_czphys operational

case study of the 25/10/2004 06UTC: missing low inversion cloudiness in the oper forecast. With the expert version of CY28T3 there is some low cloudiness, but the total cloudiness is too low. More realistic pattern is obtained with CY28T3_czphys



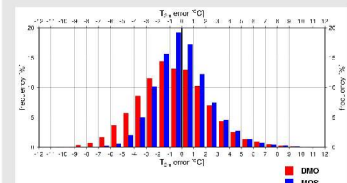
case study of the 19/03/2005, station Vienna; with CY28T3_czphys the temperature inversion better captured & vertical structure more realistic



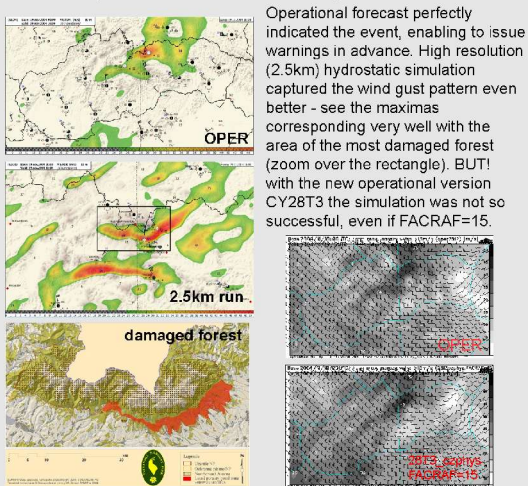
Model output statistics (MOS)

T2m error distribution for DMO (Direct Model Output) and MOS (Model Output Statistics) based on ALADIN pseudoTEMP.

model : ALADIN/LACE
integration : 00 UTC
forecast lead time: +36 h
evaluation period : 2000-2003
evaluation region : 9 slovak synoptic stations
MOS configuration : 3 month window, no time predictors
evaluation mode : cross validation (3 + 1 year)

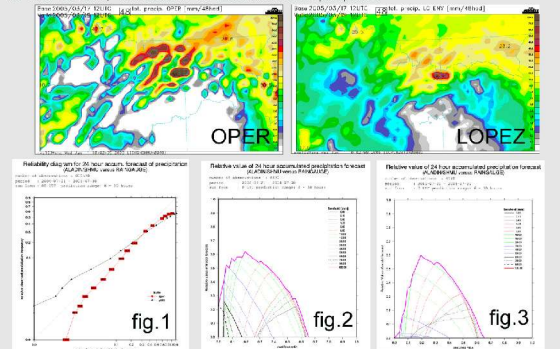


case study of the 19/11/2004: the High Tatras wind storm



Tests with the LOPEZ scheme

case study of 17/03/2005 operational forecast highly overestimated precipitation, with Lopez scheme patterns were more realistic. BUT! other diagnostics showed problems of the Lopez scheme. Comparison of 24h accumulated precipitation (6-30h) against rain gauge observations, period 21/07/2004-30/07/2004 (floods). Relative frequencies of observed precipitation for various thresholds compared to relative frequencies computed from the model output are on figure 1. The perfect prediction coincides with the diagonal. The data above the line denotes frequency underestimation and below line overestimation. Operational model overestimated the frequency of occurrence of precipitation for all thresholds. The tested Lopez scheme underestimated frequency of precipitation larger than 10mm/24h. On the figure 2 and 3 the relative economical value of 24h accum. precipitation of operational resp. tested suite is shown. It is based on the simple cost/loss economical model. The perfect prediction would have value 1 and the climatological prediction 0. For higher thresholds the operational model prediction is more valuable for those and users, which decisions are based on the model precipitation



METEOGRAM

new automatically generated product (note the well captured cold front passage)

