Operational ALADIN forecast in

Meteorological and Hydrological Service of Croatia

The 14th ALADIN Workshop

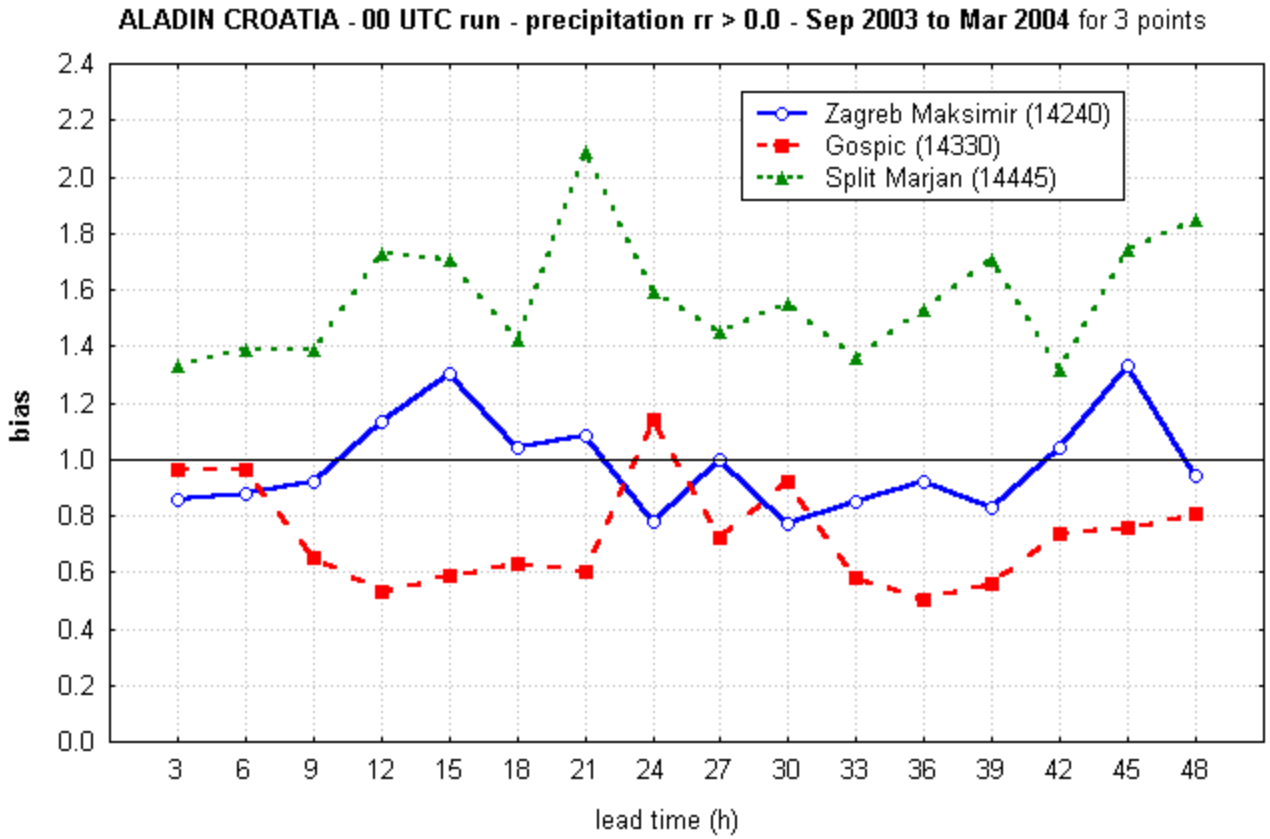
Innsbruck, 1-4 June 2004

Zoran Vakula, Lovro Kalin, Martina Tudor and Stjepan Ivatek-Šahdan

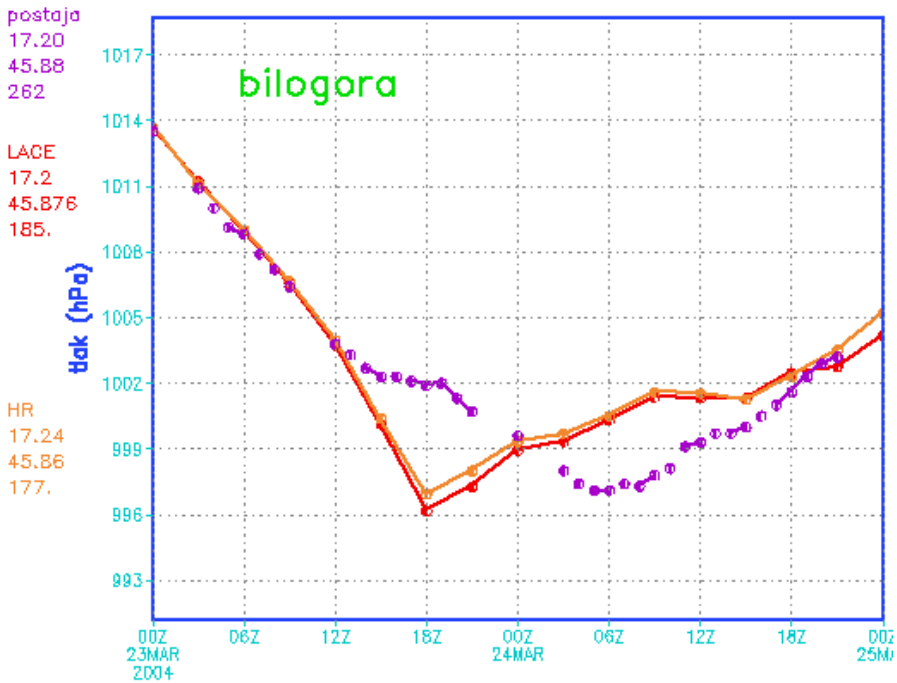
Met. and Hydr. Service Grič 3, HR-10000 Zagreb, Croatia

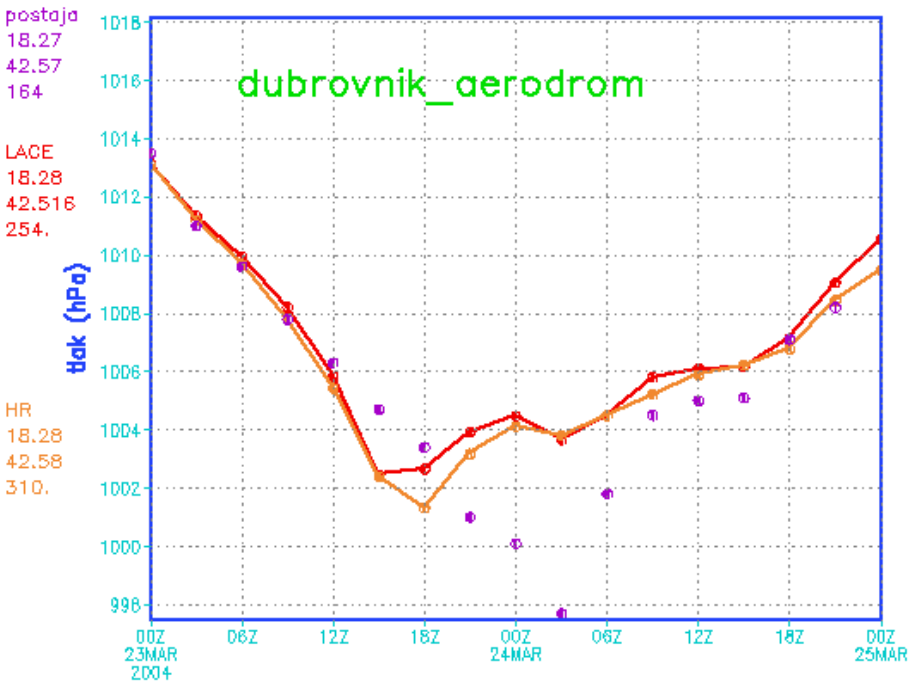
vakula@cirus.dhz.hr, kalin@cirus.dhz.hr tudor@cirus.dhz.hr & ivateks@cirus.dhz.hr

Verification results



Case studies



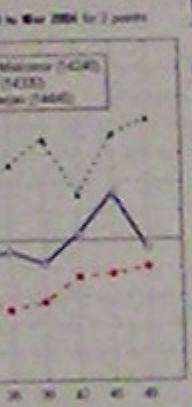


For more ….

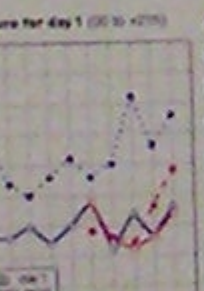
Look for the poster

Skill scores for probability of precipitation made from ranked probability scores of quantitative ECMWF and ALADIN CROATIA precipitation forecasts for "1st" and "2nd" day for Zagreb Maksimir (14240), from summer 1997 to winter 2003/04.

Probability precipitation forecasts are made from quantitative precipitation forecasts. The sum of 6-hourly (ECMWF) and 3-hourly (ALADIN) accumulations during the 24-hour period from 06 till 06 UTC (for 12UTC model run: from t+18 to t+42; for 00UTC model run: from t+06 to t+30) and "2nd day" (t+42 to t+66 and t+30 to t+48) is compared with the corresponding 24-hour accumulated precipitation for Zagreb Maksimir (14240) for the period summer 1997 to winter 2003/04. The contingency tables are made by 4 classes (no precipitation, trace to 1.0 mm, 1.1 to 5.0 mm and more than 5.0 mm).

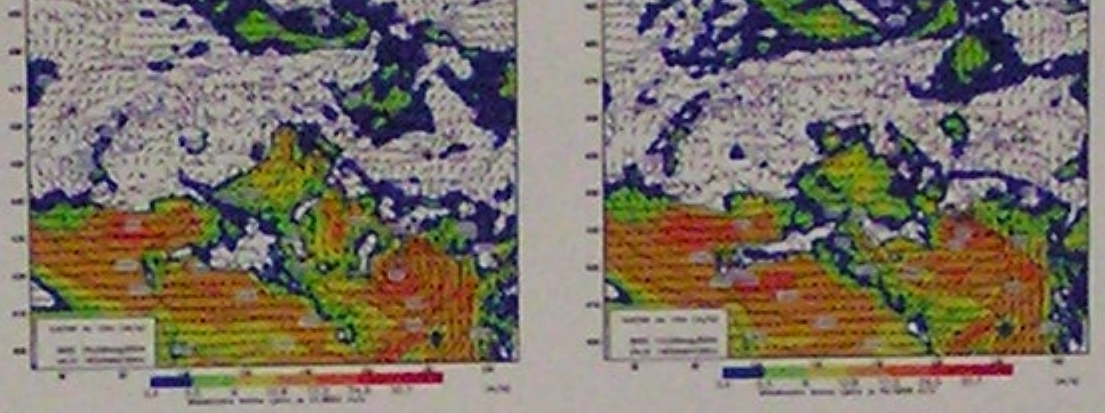


Bias for precipitation forecast (rain vers no rain) of ALADIN CROATIA for Zagreb Maksimir (14240), Gospic (14330) and Split Marjan (14445) for year 2003. Hilly point has underestimation. Sea point has overestimation. Heidke and Kuipers skill scores (not shown) are also relatively good (between 0.45 and 0.65 in the majority of cases).

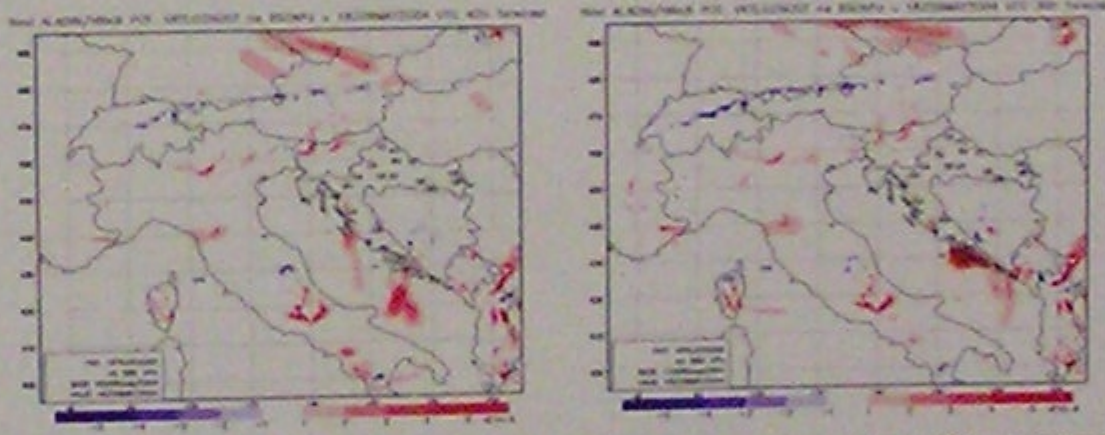


Root-mean-square errors of maximum temperature for day 1 forecast of ALADIN LACE and CROATIA for direct model output (DMO) and model output statistics (MOS), for Zagreb Maksimir (14240), from summer 1997 to winter 2003/04.

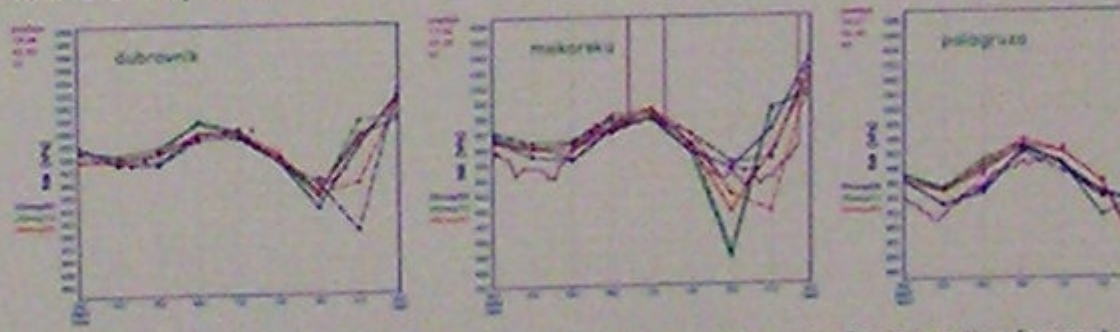
MOS are made by regression equations (y=ax+b) which were calculated from historic data for warm (April to September) and cold



• **10 m wind and mean sea level pressure** 42 hour forecast (left), 30 hour forecast (ce
consecutive forecast runs for 18 UTC 6th May 2004.



• **850 potential vorticity** 42 hour forecast (left), 30 hour forecast (center) and 18 hour forecast
18 UTC 6th May 2004.



• **Comparison of the forecasted mean sea level pressure** from the 3 consecutive forecast