ALADIN in TURKEY

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METEOROLOJI

ALADIN-TURKEY

➢ Current operational suite:

Model version: cy38T1bf3

Model geometry:

• 4.5 km horizontal resolution

• 450 X 720 grid points

• 60 vertical model levels

• Quadratic spectral truncation

• Lambert projection

ALADIN Post-Processing Domain

Forecast settings

• Digital filter initialization

• 180 sec time-step

• Hourly post-processing

• 4 runs per day at 00, 06, 12 UTC

• (up to t+72) and 18 UTC (up to t+60).

• LBC coupling at every 3 hours

• Transfer ARPEGE LBC files from

• Meteo France (Toulouse) via Internet

Post processing

Magic++ with python and ncl

User interface: Mostly Javascript, PHP and AJAX.

Browser support: Firefox 3.x, IE 7+, Google Chrome

| HPC SYSTEM	
SGI Altix 4700 •512 core based Intel Itanium2 Montvale each at 1.67 GHz. • Total Peak performance 3.4 TFlops • Total memory 1 TB	SGI UV 2000 •256 core based Intel Xeon E5 each at 2.4 GHz. • Total Peak performance 2.5 TFlops • Total memory 1 TB

AROME –TURKEY PRE-OPERATIONAL SETUP

Arome-Turkey (CY39T1) has been running in pre-operational mode since January 2013. Arome-Turkey runs one time per day on 00 UTC up to 48 hours and coupled with ARPEGE.

Model Geometry:
• 2.5 km horizontal resolution
• 512 X 1000 grid points
• 60 vertical model levels
• Linear spectral truncation
• Lambert projection

A new dynamic SKEW-T log P diagram

• Developed for ALADIN models

• Fully interactive interface can be used for updating model fields.

• Forecasters are able to add/remove layers. (Such as T/Td)

• Various stability indices are re-calculated after every modification.
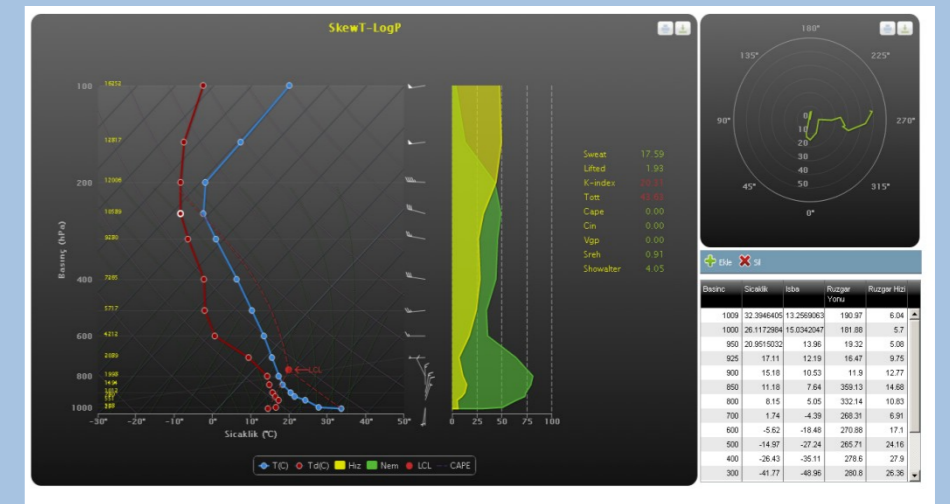
*A snapshot view of SKEW-T log P diagram on Interactive Web Page.*

ALARO status on TSMS

CY38T1 bf3 export version was installed on our system and ALARO-0 baseline version with the namelist prepared by R. Brozkova was validated for Turkish operational ALARO domain.

Regarding the results of verification, CY38T1_bf3, activated VFE (blue lines) has been in operational use since 1 January 2014. The results were obtained by using Harmonie verification tool.

Our studies on linear spectral truncation and mean orography are in progress as planned and further assessment will be made considering the results.

OPER: Previous operational version (CY36T1)
CY38T1env: CY38T1bf3 version, no VFE
ALR: current operational version (CY38T1bf3, activating VFE)
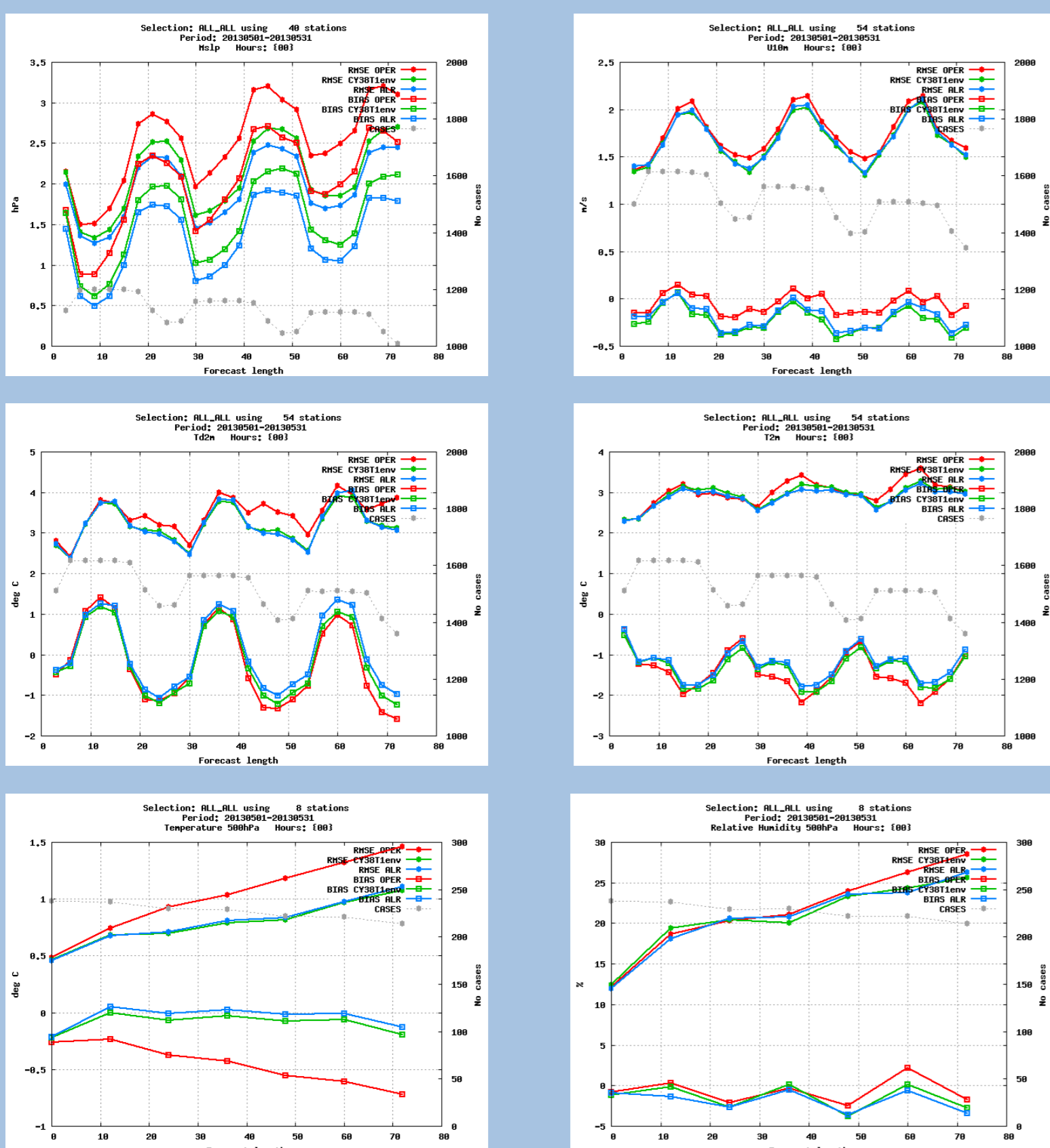
ALARO-0 forecast verification results *from 1st May 2013 to 31st May 2013.*

HARMONIE in TURKEY

Harmonie Forecast Systems had installed in Turkey during the Harmonie WW in October 2013. The model was compiled with gmkpack as traditional way for ALADINers. We have tested different options such as, ECMWF / ARPEGE LBC and 3D-VAR & surface assimilation with observations from ECMWF and OPLACE.

Thanks to HIRLAM's colleagues for their kindly assist.

Harmonie (Arome, 2.5 km) experimental run with ECMWF LBC and 3D-VAR+surf analysis results are given below.

Defined Domain: Turkey_2.5
• 2.5 km horizontal resolution
• 512 X 1000 grid points
• 60 vertical model levels
• Lambert projection

HARMONIE and operation version of ALARO forecasts T2m, 10 metre wind speed, 500 hPa temperature, 500 hPA dew point temperature, upper air geopotential height and RH verification results from 1st May 2013 to 31st May 2013. Harmonie is red and ALARO is green.