# ALADIN in TURKEY

Alper GÜSER
(with contributions from Tayfun DALKILIC, Meral SEZER, Canberk KARADAVUT, Fatih KOCAMAN, Yelis CENGIZ, Unal TOKA, Ersin KÜÇÜKKARACA)
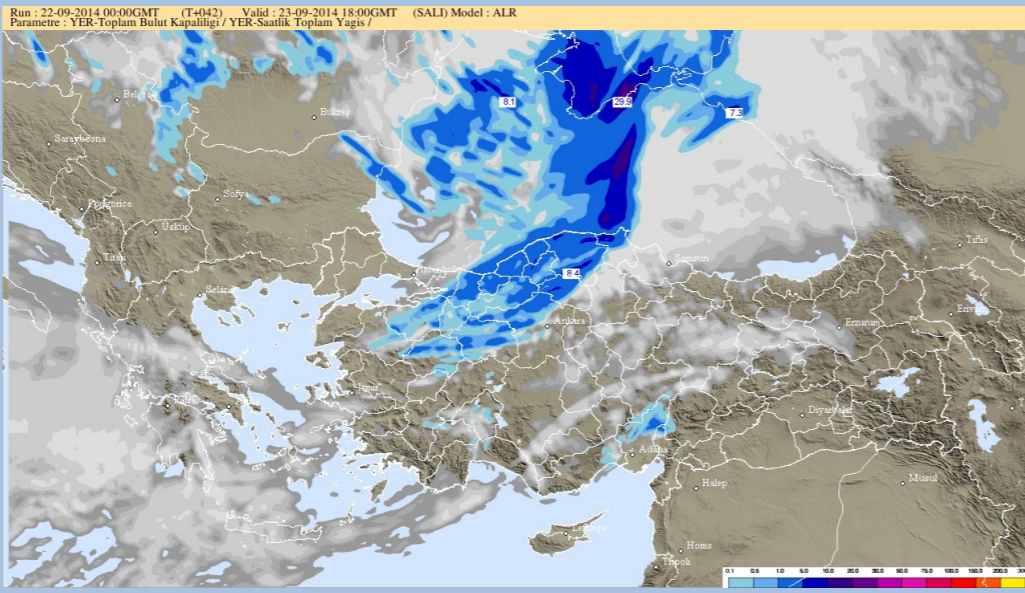
METEOROLOJI

## ALARO-0 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

*ALARO-0 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

## AROME –TURKEY (PRE-OPERATIONAL SETUP)

Pre-operational suite:
Model version: cy39T1

Pre-operational since January 2014

**Model Geometry:**

- 2.5 km horizontal resolution
- 512 X 1000 grid points
- 60 vertical model levels
- Linear spectral truncation
- Lambert projection

*AROME Post-Processing Domain*

**Forecast settings**

- Digital filter initialization
- 60 sec time-step
- Hourly post-processing
- 1 run per day at 00 UTC
- up to 48 hourly forecast
- LBC coupling at every 3 hours
- Transfer ARPEGE LBC files from

Meteo-France (Toulouse) via Internet

### POST PROCESSING OF MODELS

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** | **SGI UV 2000** |
| • 512 core based Intel Itanium2 each at 1.67 GHz. <br> • Total Peak performance 3.4 TFlops <br> • Total memory 1 TB | • 256 core based Intel Xeon E5 each at 2.4 GHz. <br> • Total Peak performance 2.5 TFlops <br> • Total memory 1 TB |

## ALARO status at 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.

CY36T1: Hydrostatic (Previous Operational)
CY38T1bf3: Non-Hydrostatic
CY38T1bf3: Hydrostatic, activating VFE ( Current Operational)
CY38T1bf3: Hydrostatic, activating VFE ( Coupled with IFS )
Observations
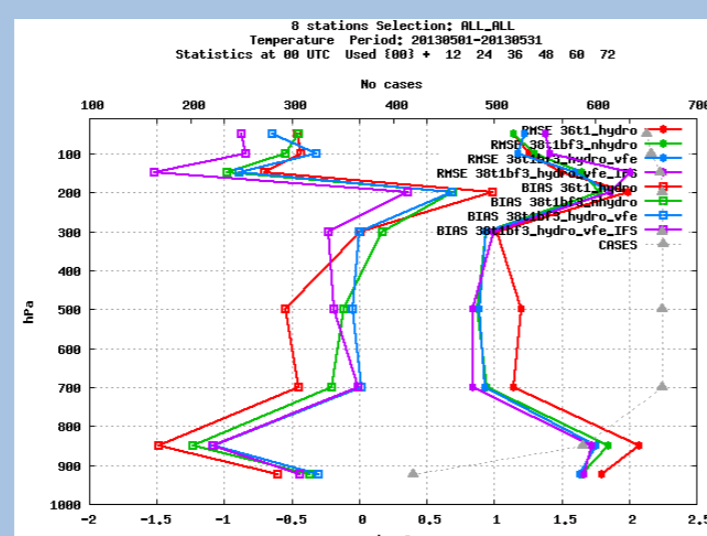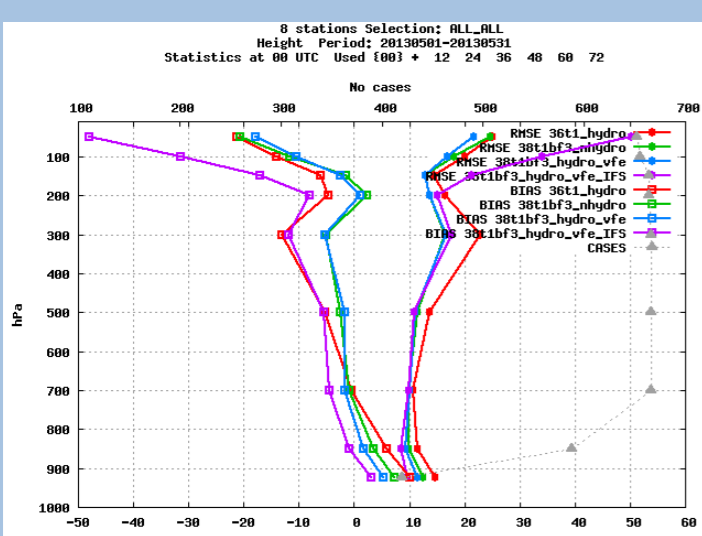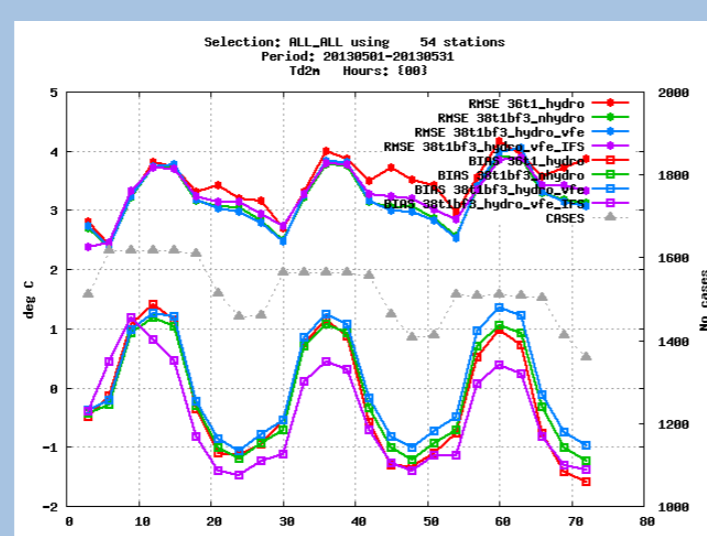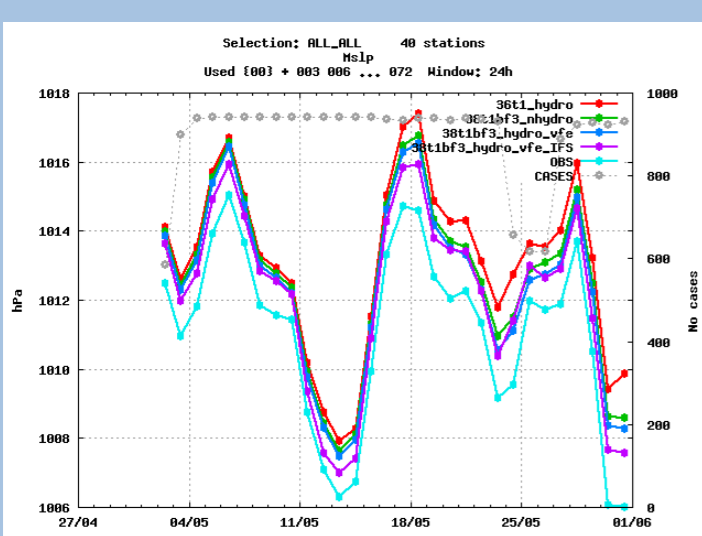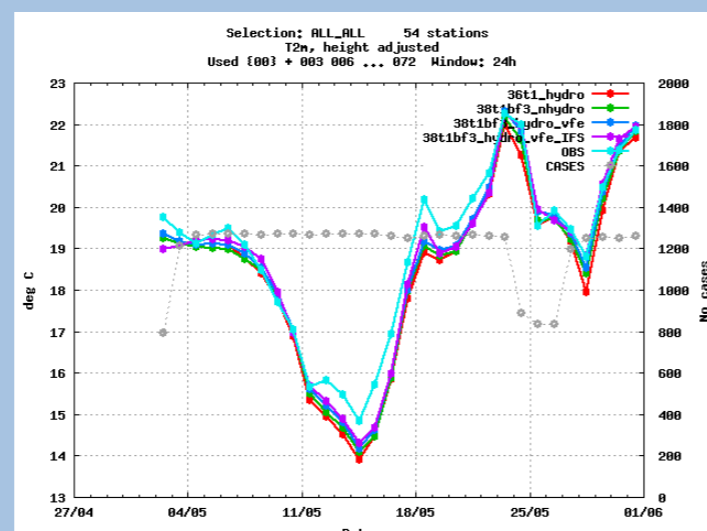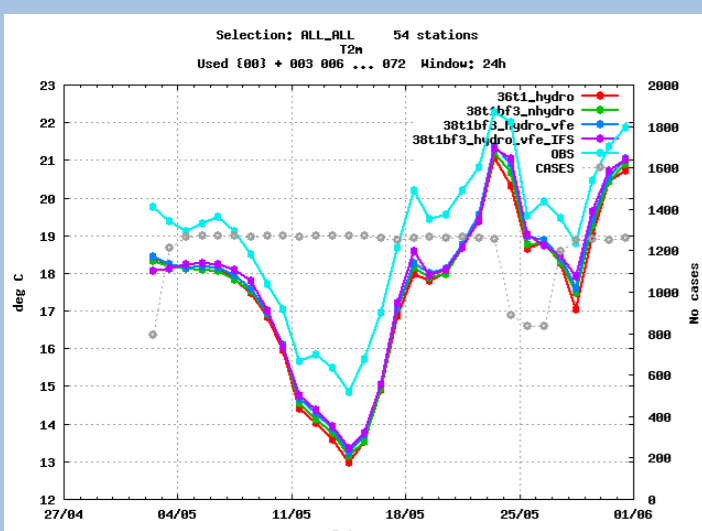
*ALARO-0 forecast verification results from 1st May 2013 to 31st May 2013.*

## Verification Results

- Harmonie Verification Tools used for obtaining monthly results since Jan 2014.
- IFS and WRF outputs added to Harmonie Verification Tools for comparisons

ALR : ALARO Hyd+VFE / 4.5 km / 60L (Operational)
WRF: WRF    Non-Hyd  / 4.5 km / 46L ( Coupled with IFS )
IFS
Observations

January        August
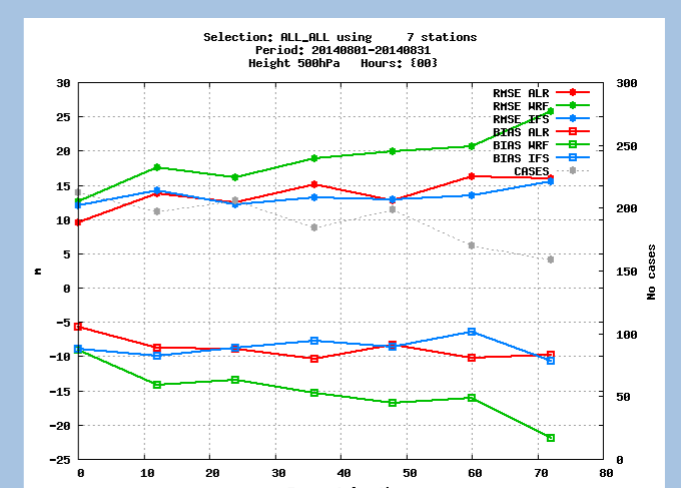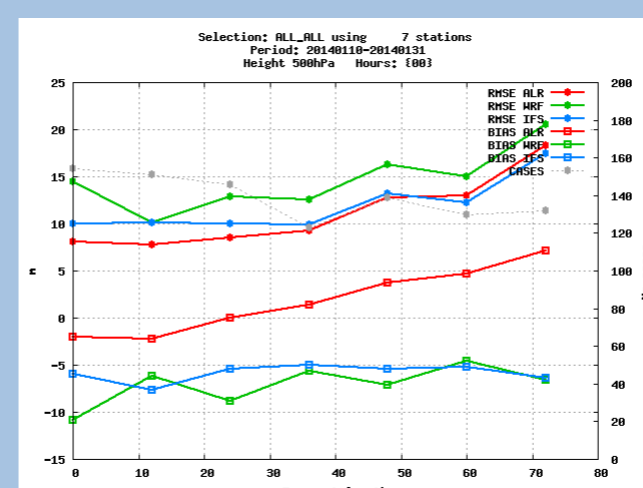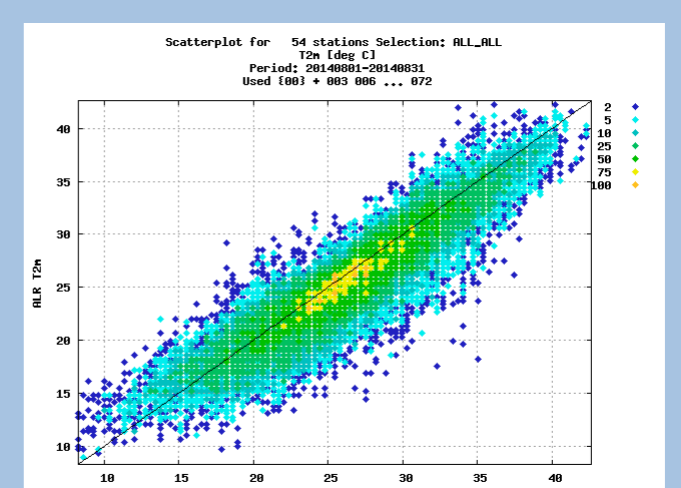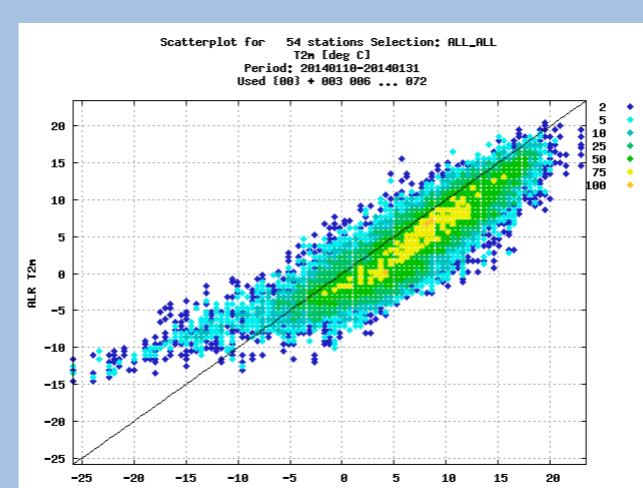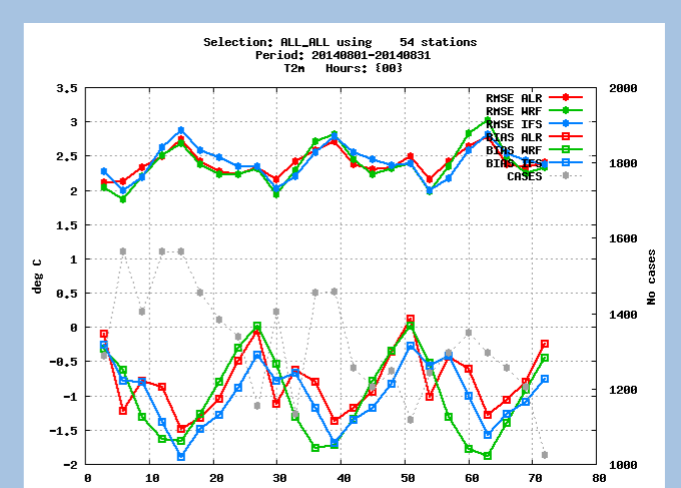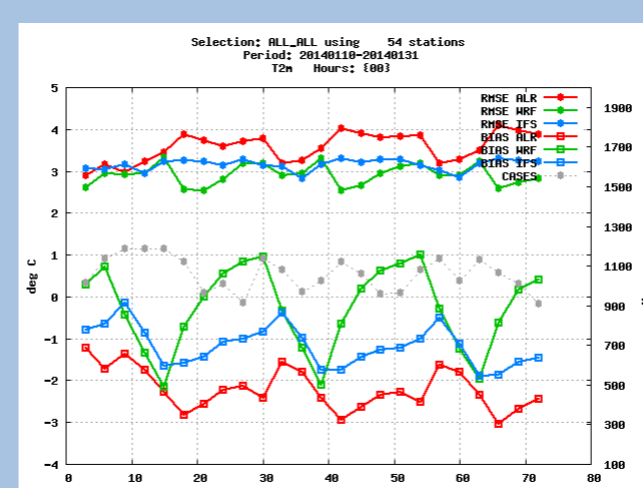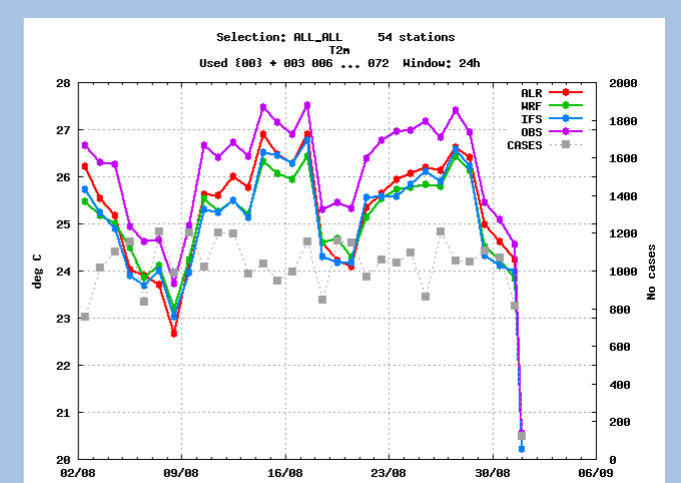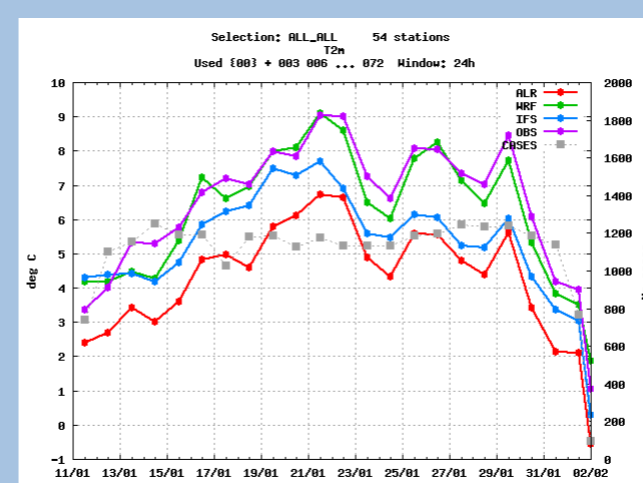
*Comparison of the ALARO-0 with other models using by TSMS*