ALARO-0
Experience in
TURKISH STATE
METEOROLOGICAL SERVICE

Tayfun DALKILIÇ

Content

- **Operational use of ALARO at TSMS**
- **Verification results from ALARO-4.5km**
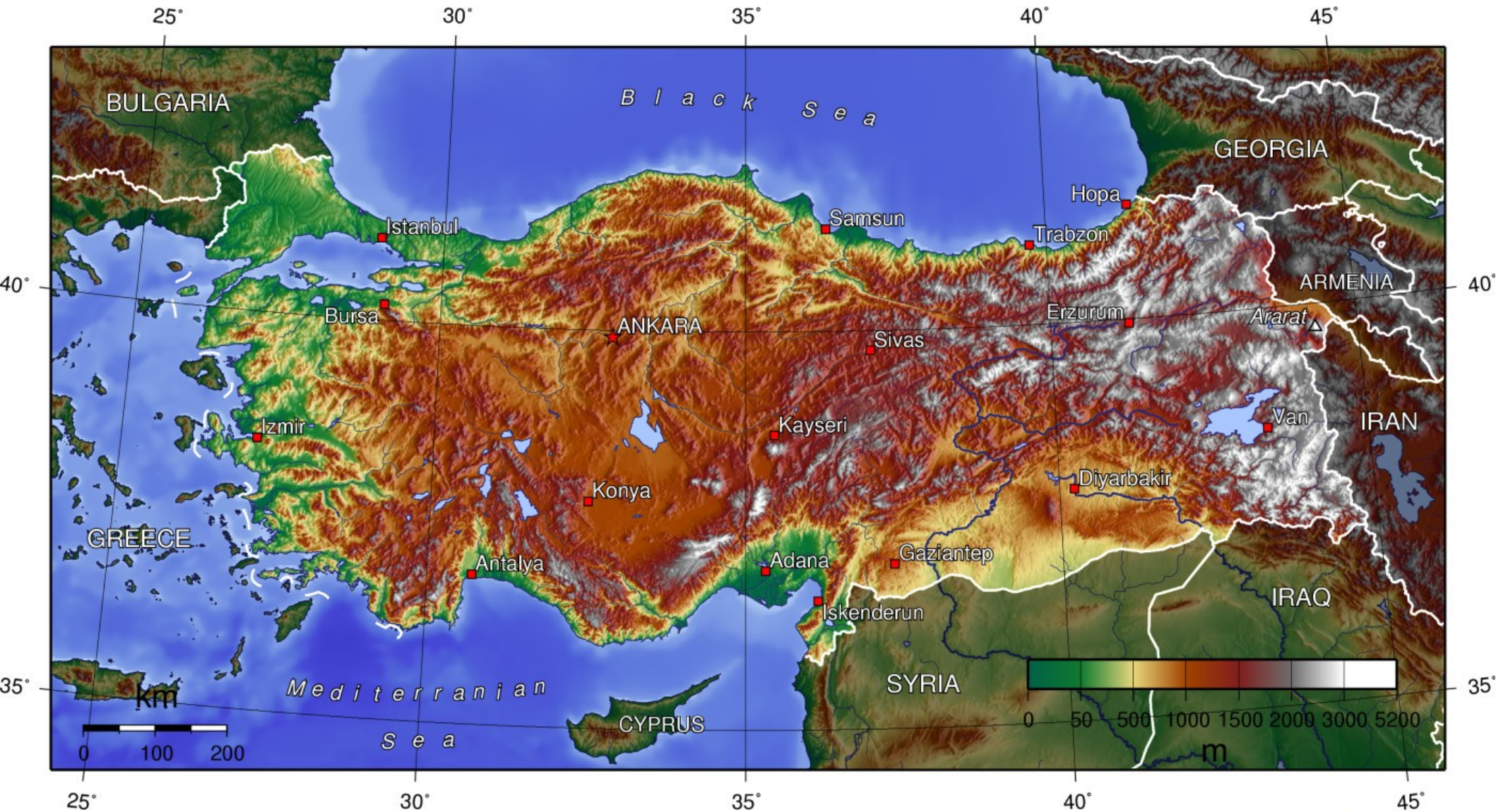- **SST**
- **Case study (dust storm)**
- **Summary**

Operational use of Alaro-0 at TSMS

Operational model (AL36T1):

- Resolution: 4.5km / 60L (355x655)
- Runs   : 00/06/12 +72h, 18 +60h
- Orography: envelope
- Grid   : quadratic
- Time step : 300s
- Coupling   : ARPEGE
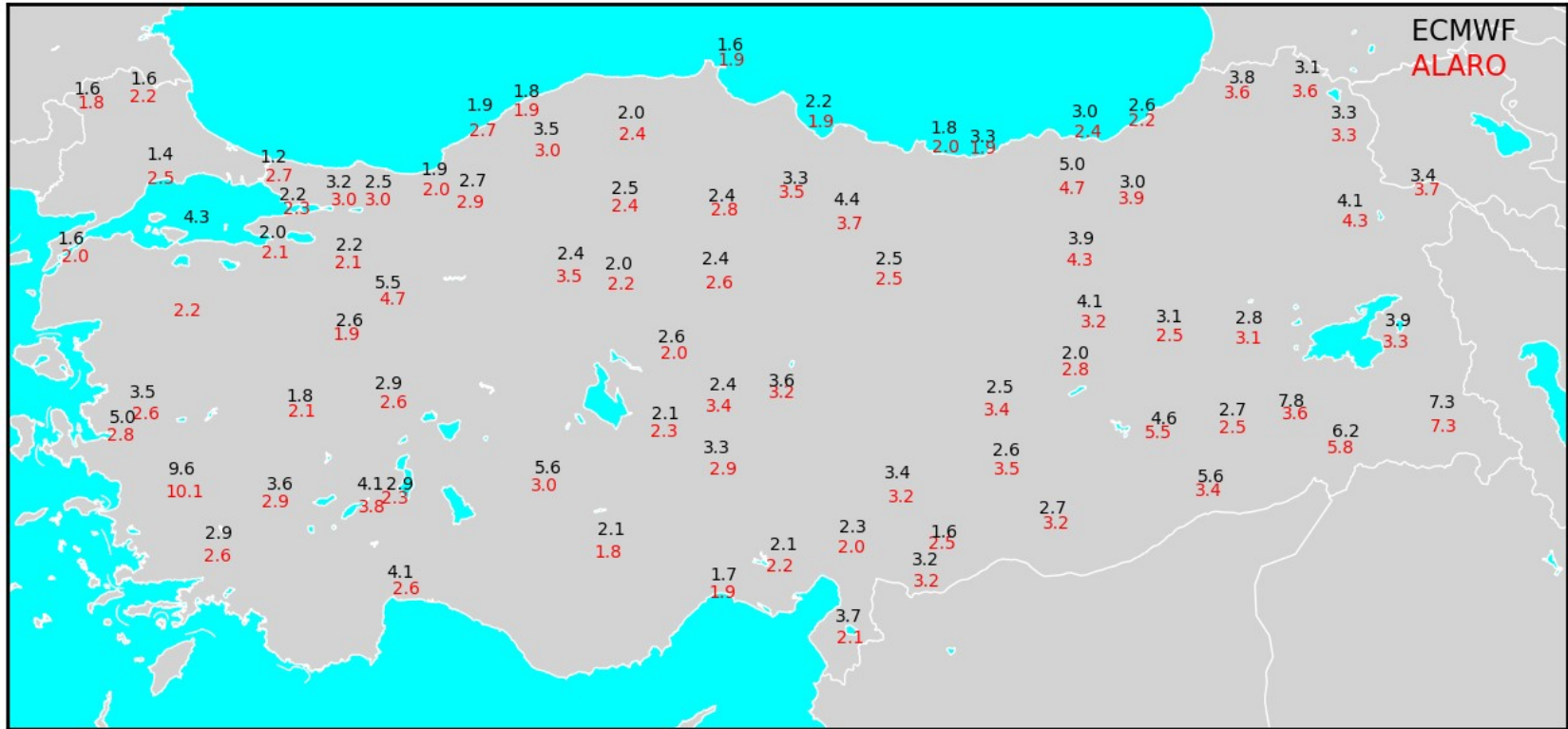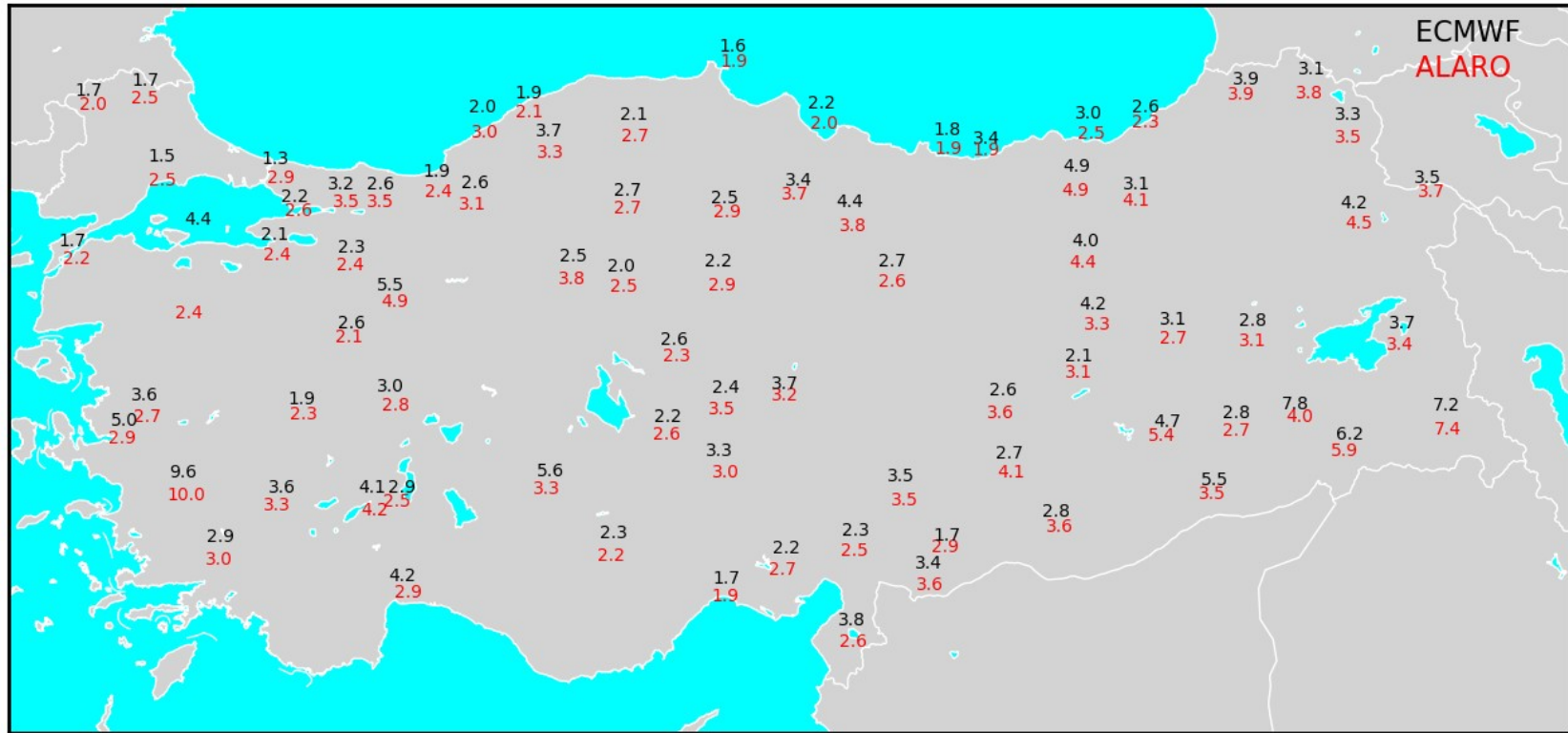- Physics   : ALARO-0

Steep Orography

T+24 - T2M (RMS)

ECMWF
ALARO

T+48 - T2M (RMS)

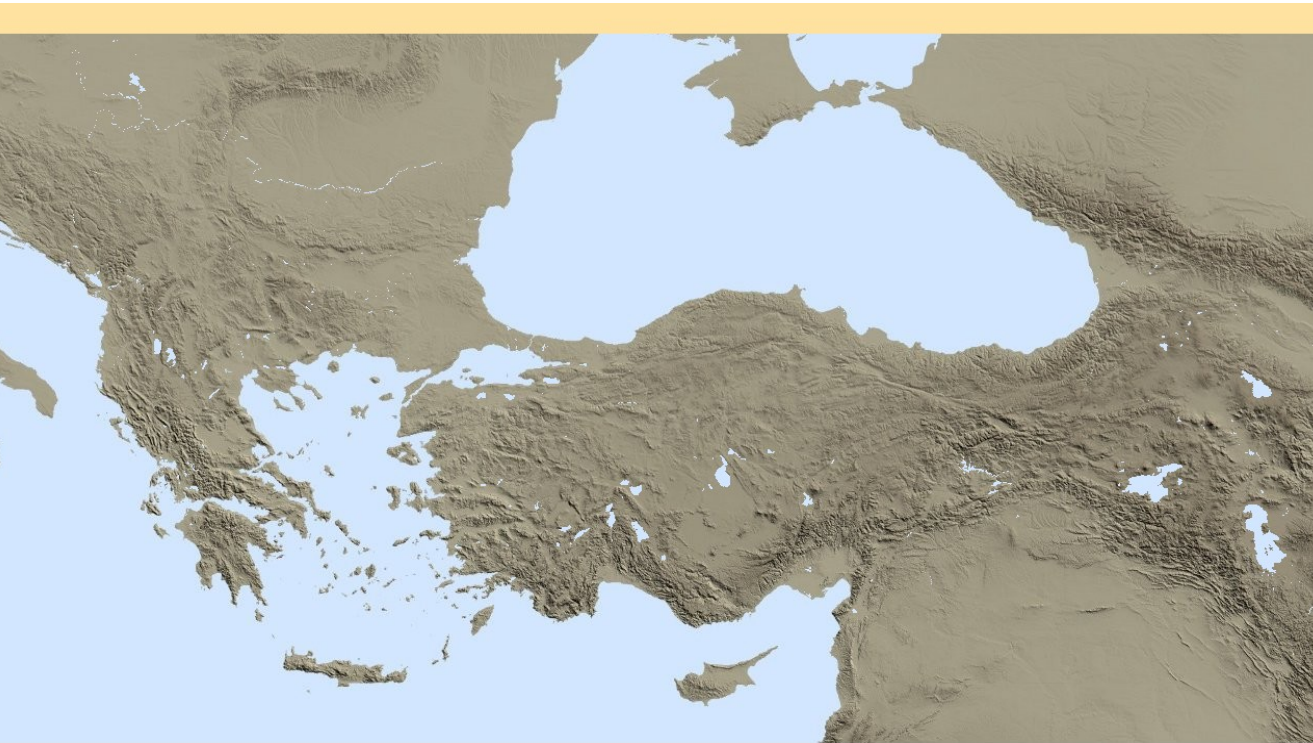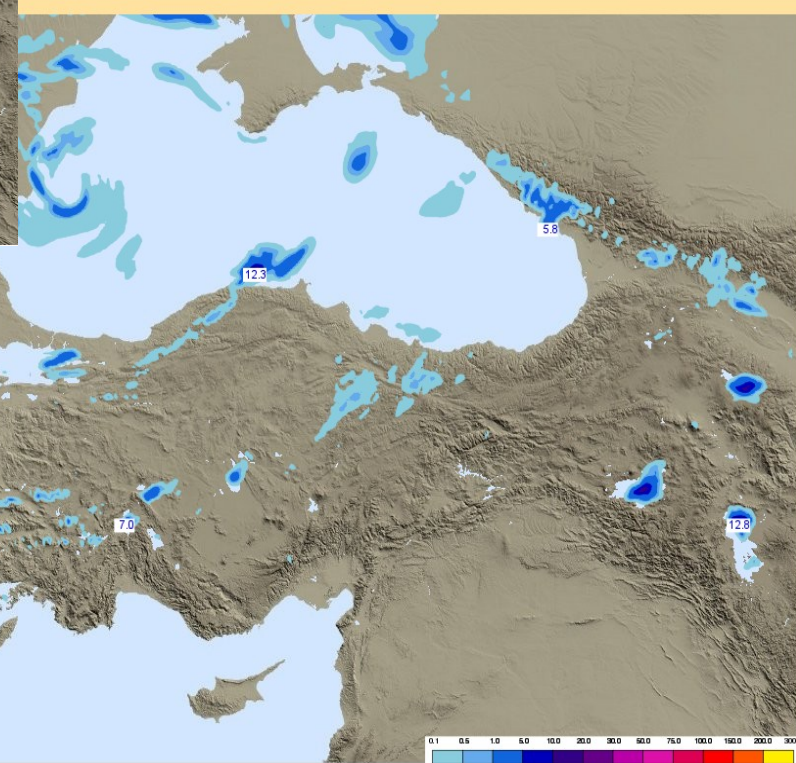# T+72 - T2M (RMS)

ECMWF
ALARO

T+24 - MSLP (RMS)

T+24 - WSPD (RMS)

ECMWF
ALARO
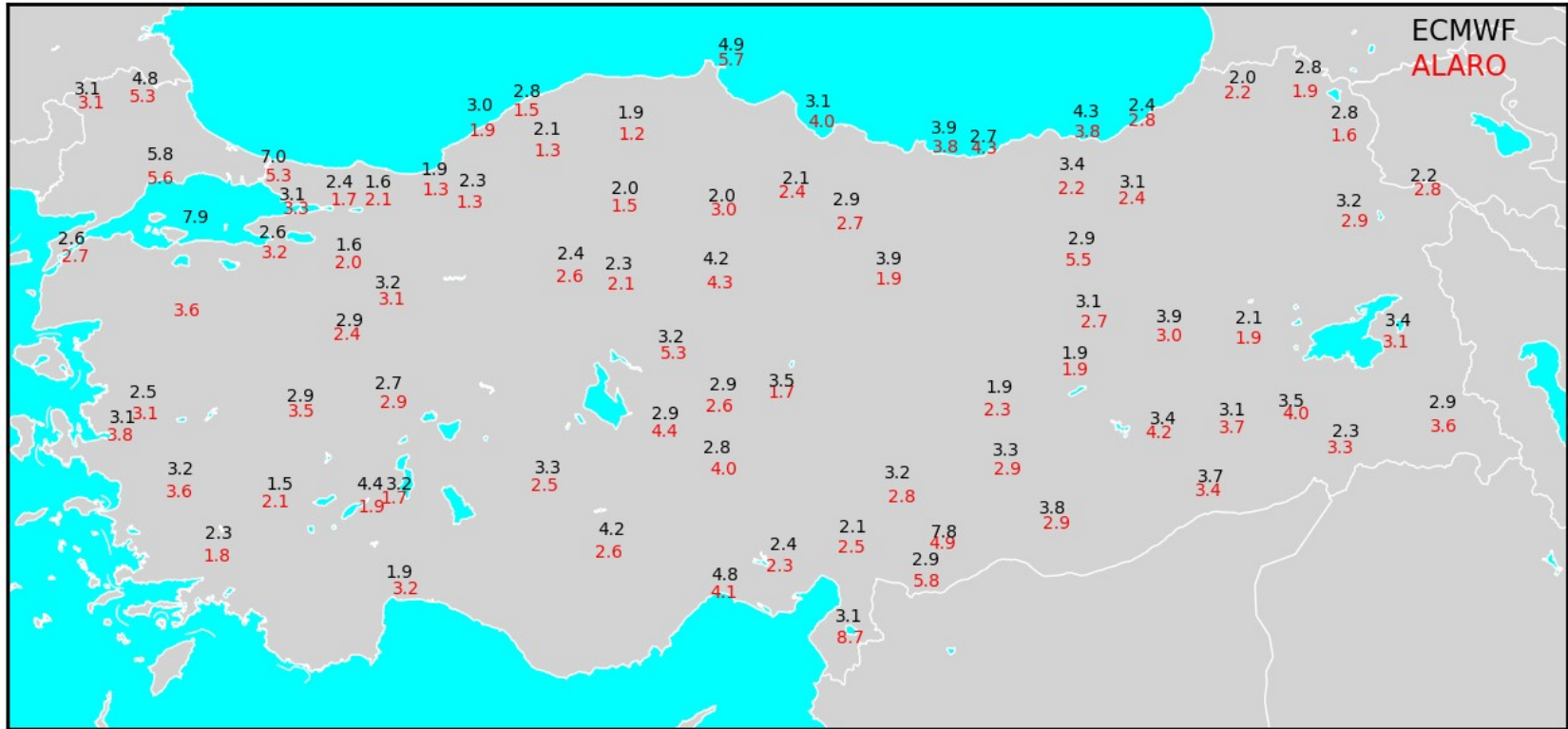
Unrealistic Precipitation Over the Lakes noted as early as t+1

SST

- Optimal Interpolation analysis assimilating SHIP and BUOY

- relaxation towards external SST dataset.

Before November 2010

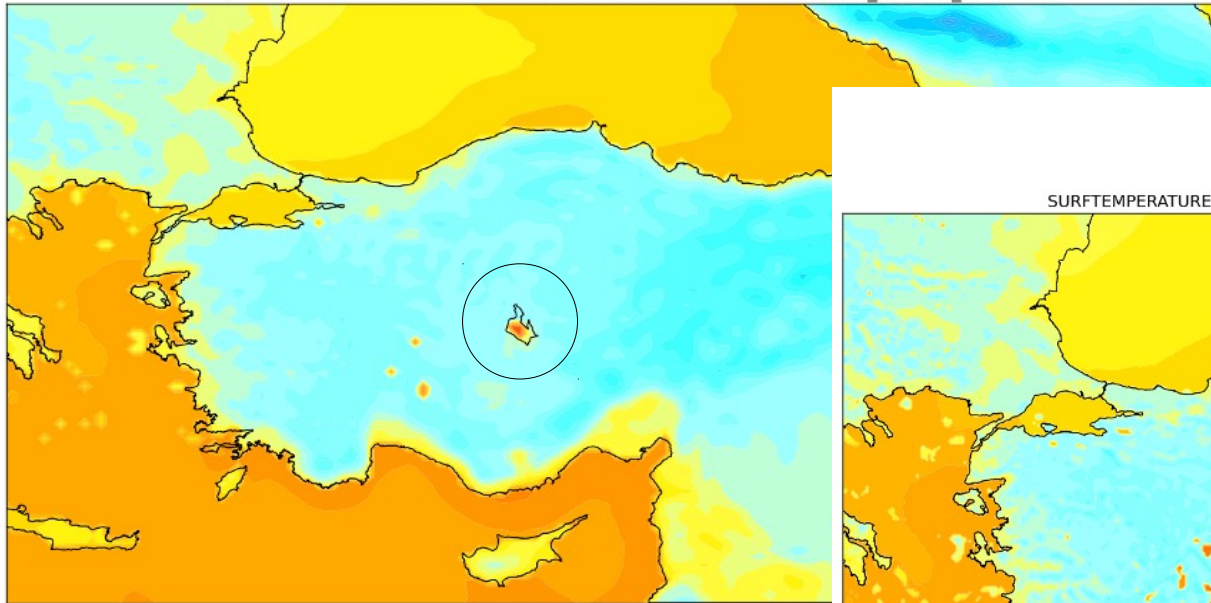- `SST_NCEP_1/2`
- `complemented with "Reynolds SST clim"`

```
ECMWF
SST_OSTIA_1/20"
complemented with "SST_NCEP_1/2"
complementedwith "T2m monthly climatology
```
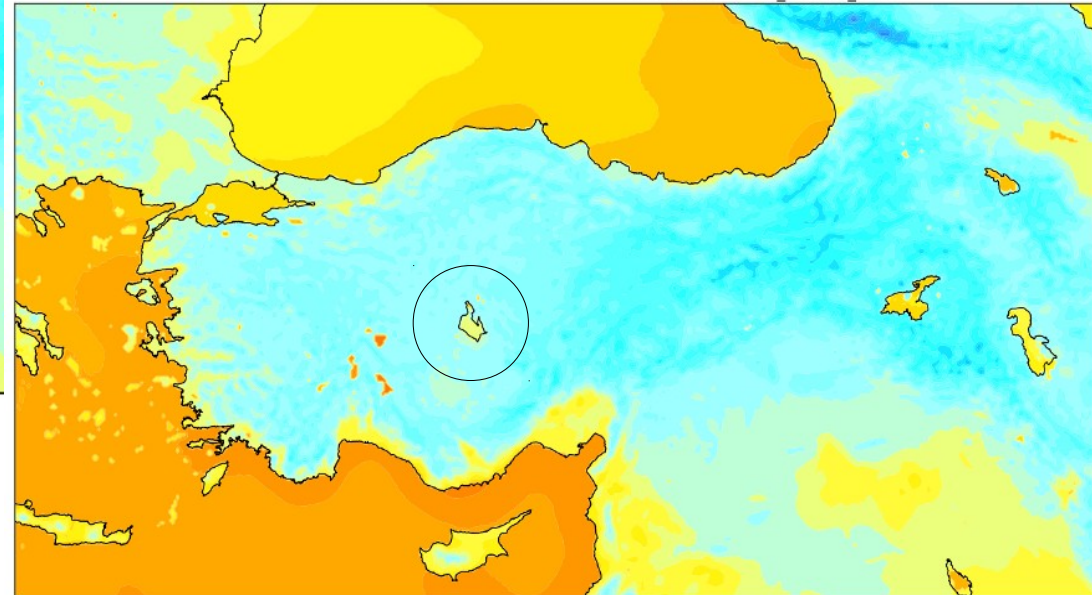
SST

- OSTIA SST analysis at 1/20°
- NESDIS SST analysis at 1/12° and 1/2°
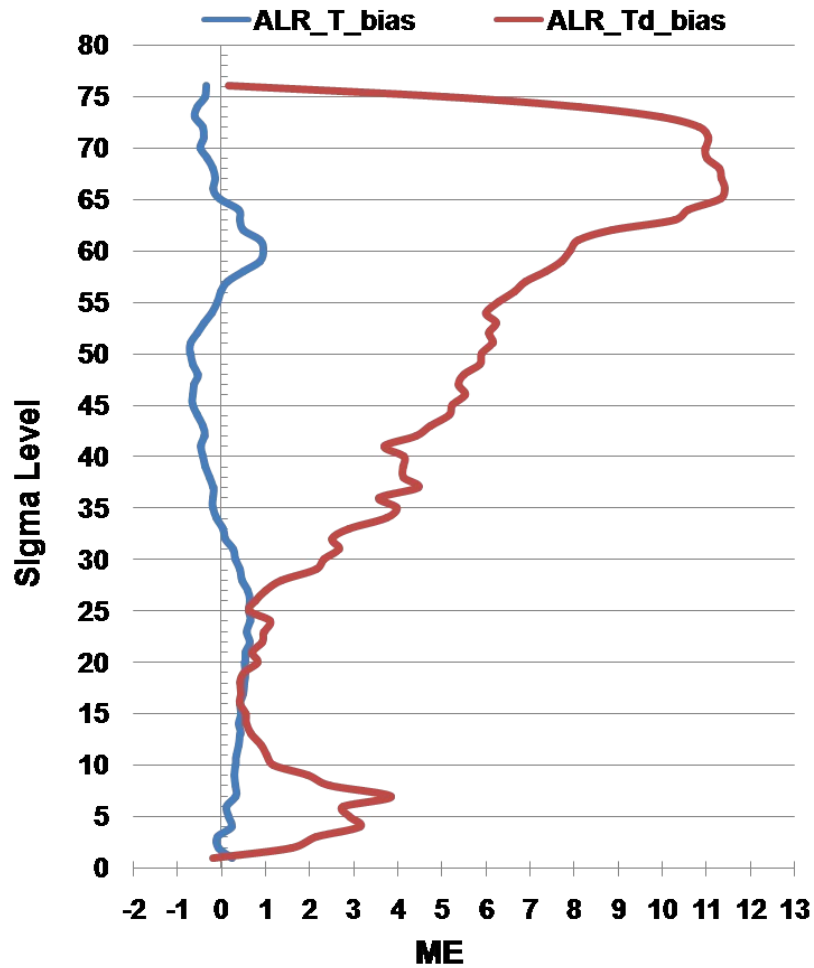- Undefined SST values are filled with an interpolation of the Reynolds SST climatology

Turkey T&Td

ALR_T_bias — ALR_Td_bias

Turkey T&Td

ALR_T_rmse — ALR_Td_rmse

Turkey Z

ALR_Z_bias

Turkey Z

ALR_Z_rmse

Turkey WS

ALR_WS_bias

Turkey WS

ALR_WS_rmse
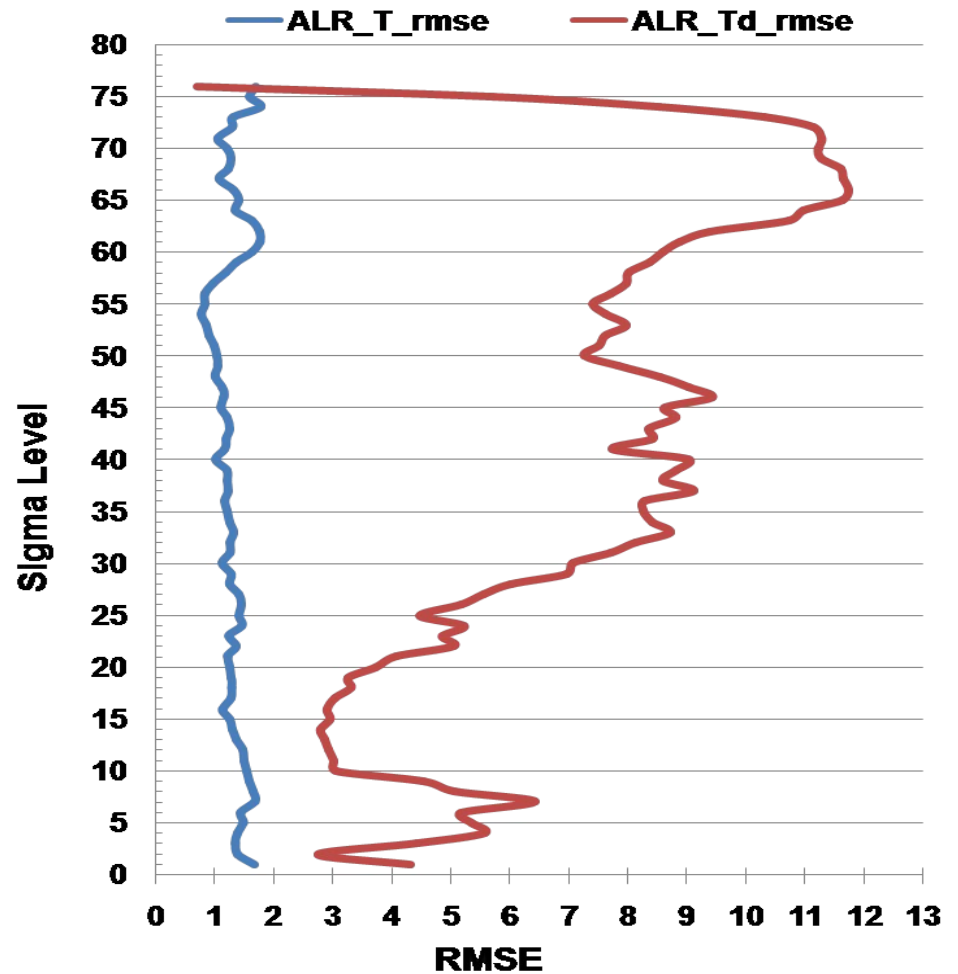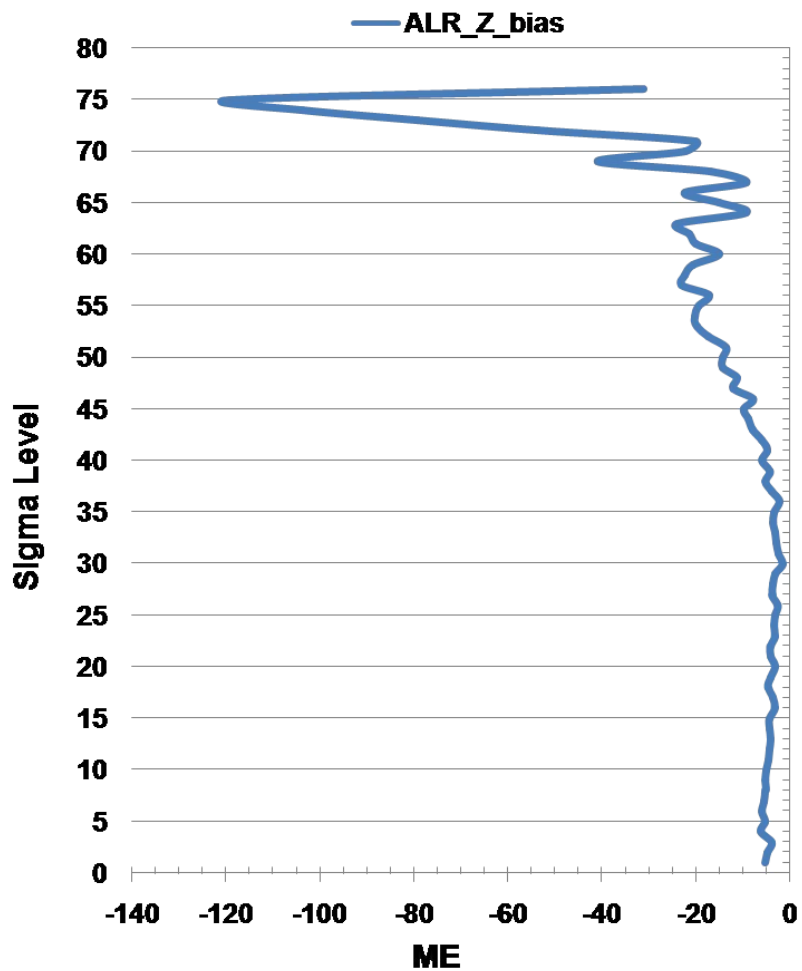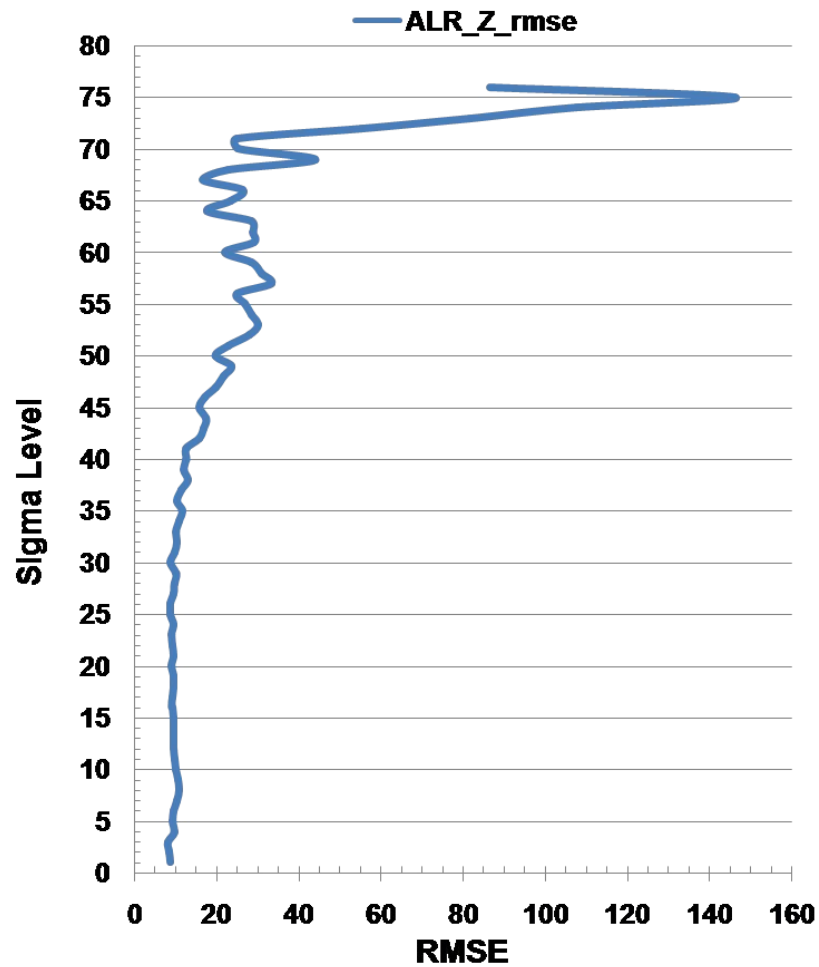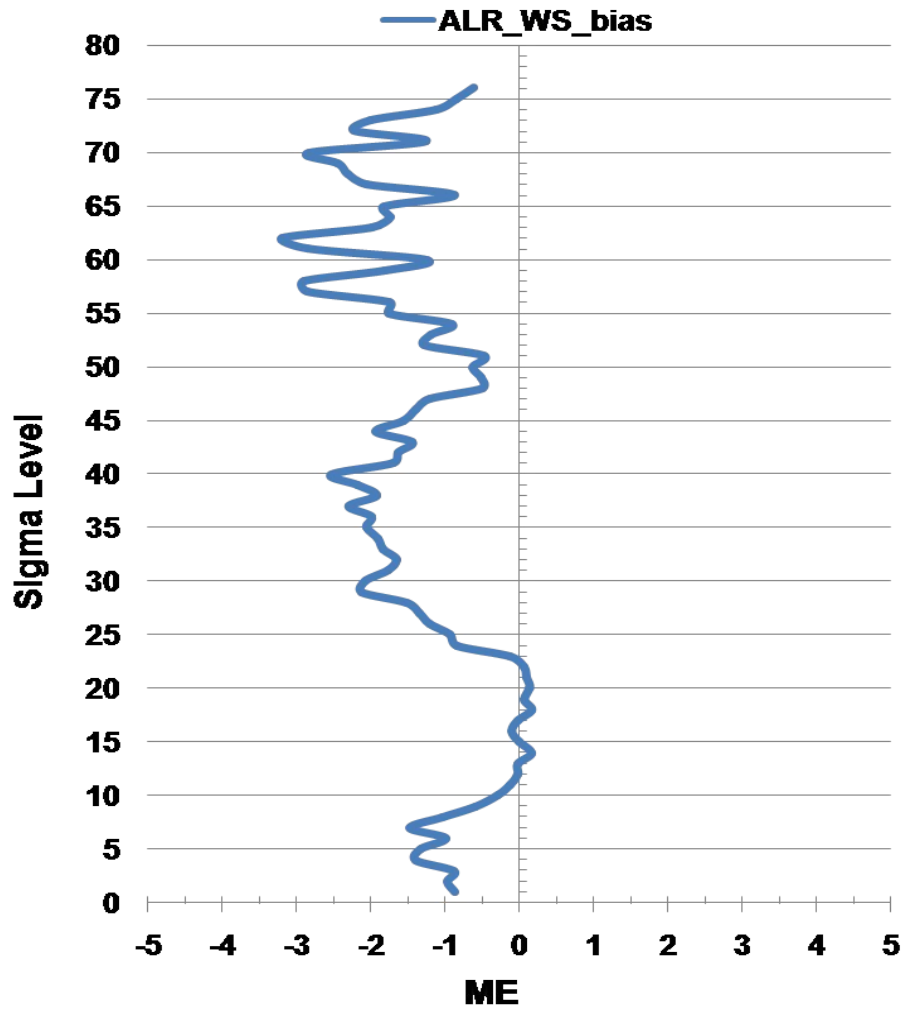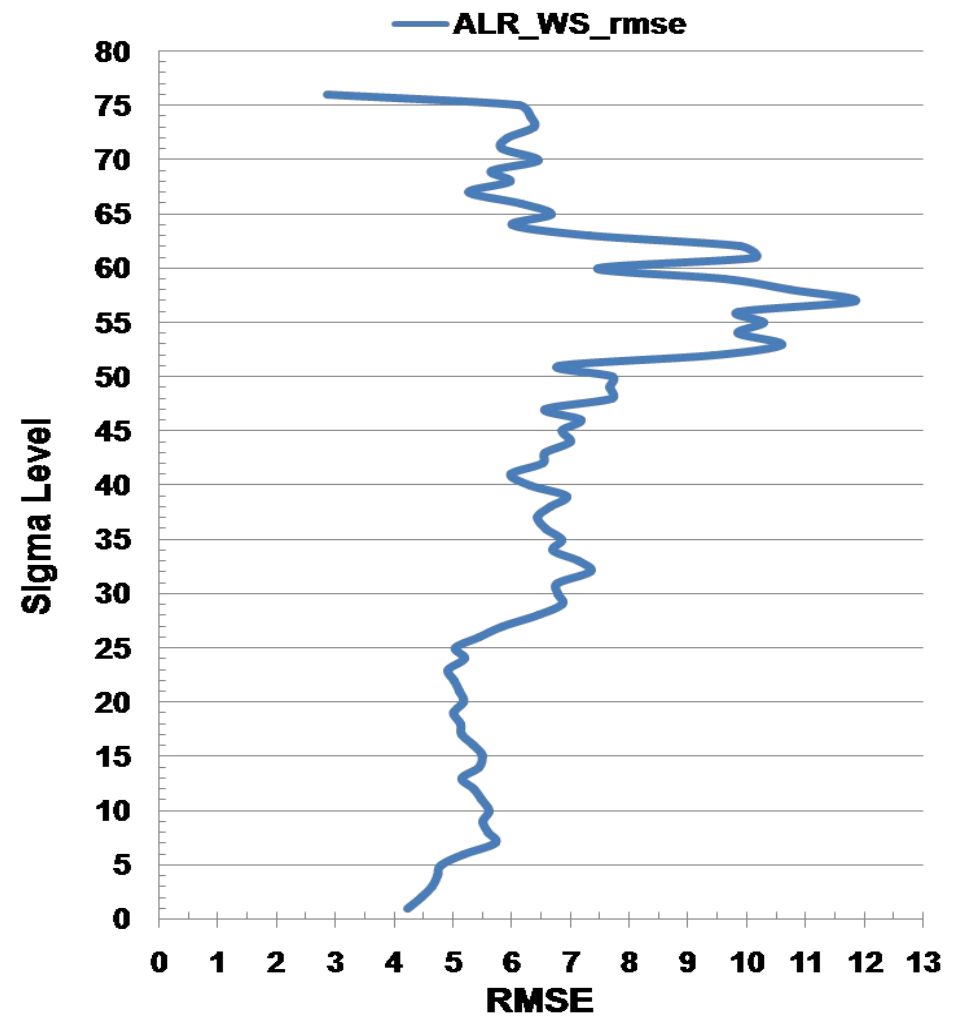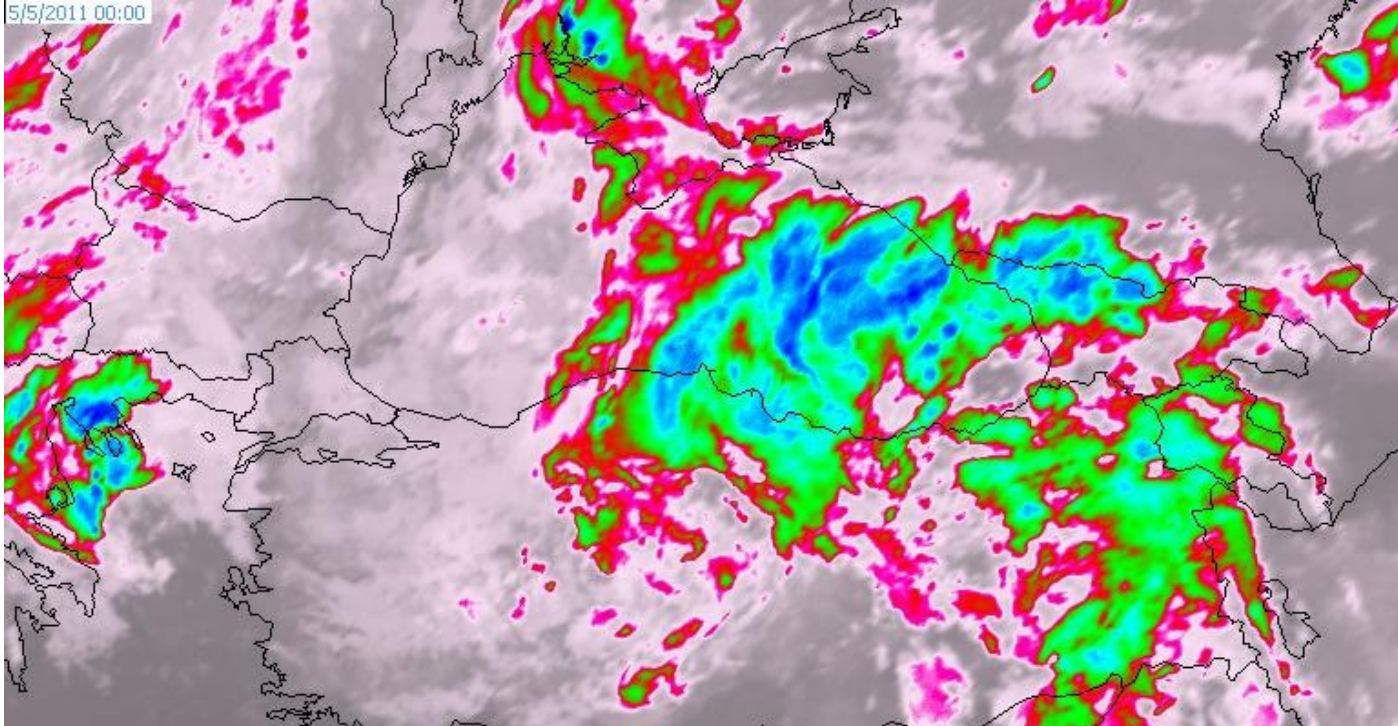
05.May.2011 00Z
MSG & ALARO-TCC

ALARO-TCC

MSG

5/5/2011 00:00

05.MAY.2011 00:00 GMT (LOCAL +3)   MSG IR (K

ALADIN
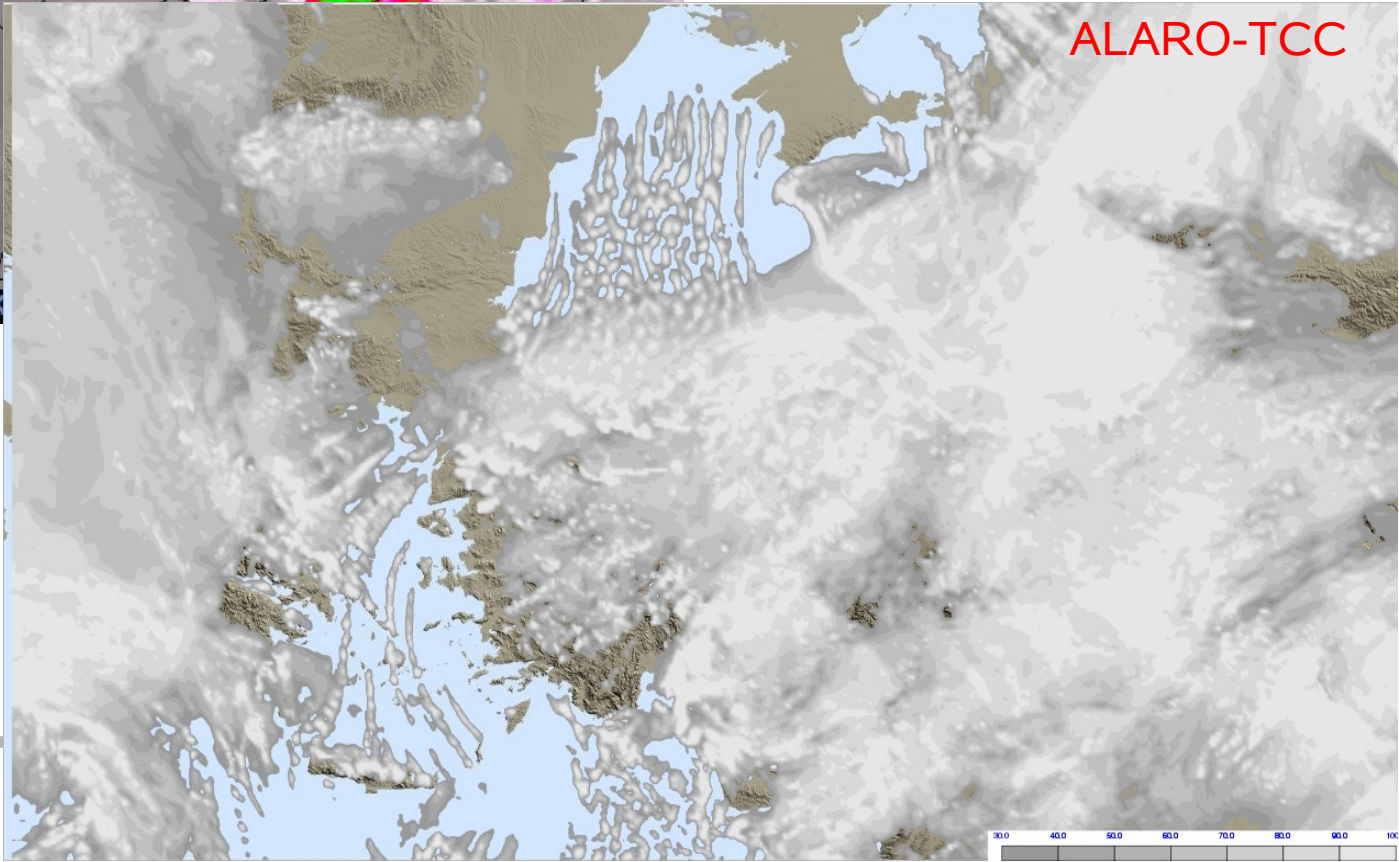
Quadratic Truncation

LSPSMORO=.F. (LNEWORO, LNEWORO2 = .F.,.F.)

Linear Truncation

LSPSMORO=.T. (LNEWORO, LNEWORO2 = .F.,.F.)

Vertical Finite-Element (VFE)

Recent Case

18-NIS-2012 06:00
IR_108

MSG 06Z

**18.04.2012
Dust Strom**

Run : 18-04-2012 00:00GMT   (T+006)   Valid : 18-04-2012 06:00GMT   (CARSAMBA) Model : ALR
Parametre : YER-Toplam Bulut Kapaliligi /

ALARO 06Z
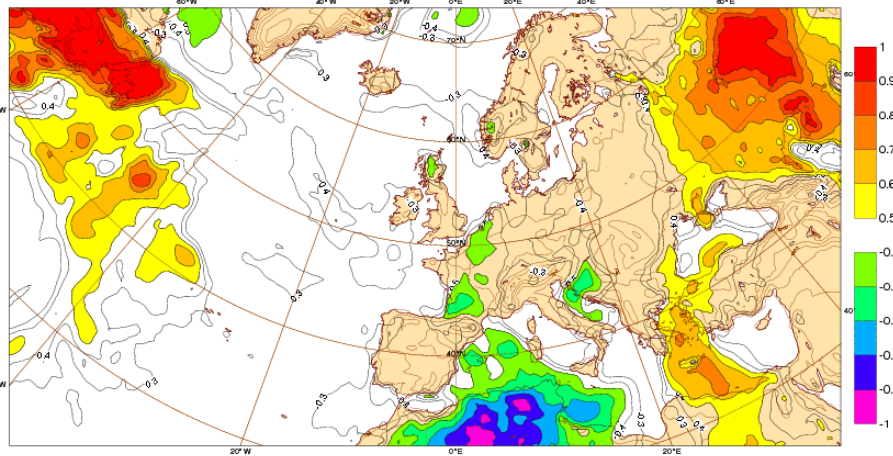
EFI 17-18.04 2012 T2M

Tuesday 17 April 2012 00UTC ©ECMWF Extreme forecast index t+000-024 VT: Tuesday 17 April 2012 00UTC - Wednesday 18 April 2012 00UTC
Surface: 2 metre temperature index

EFI 17-18.04 2012 Wind Gust

Tuesday 17 April 2012 00UTC ©ECMWF Extreme forecast index t+000-024 VT: Tuesday 17 April 2012 00UTC - Wednesday 18 April 2012 00UTC
Surface: 10 metre wind gust index
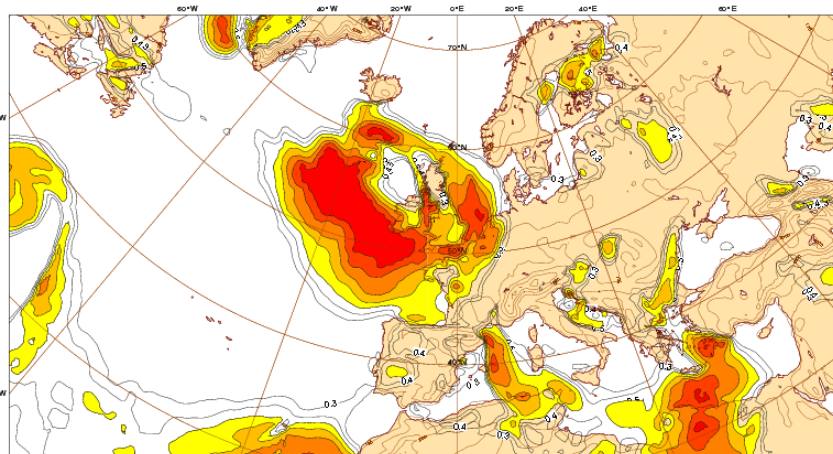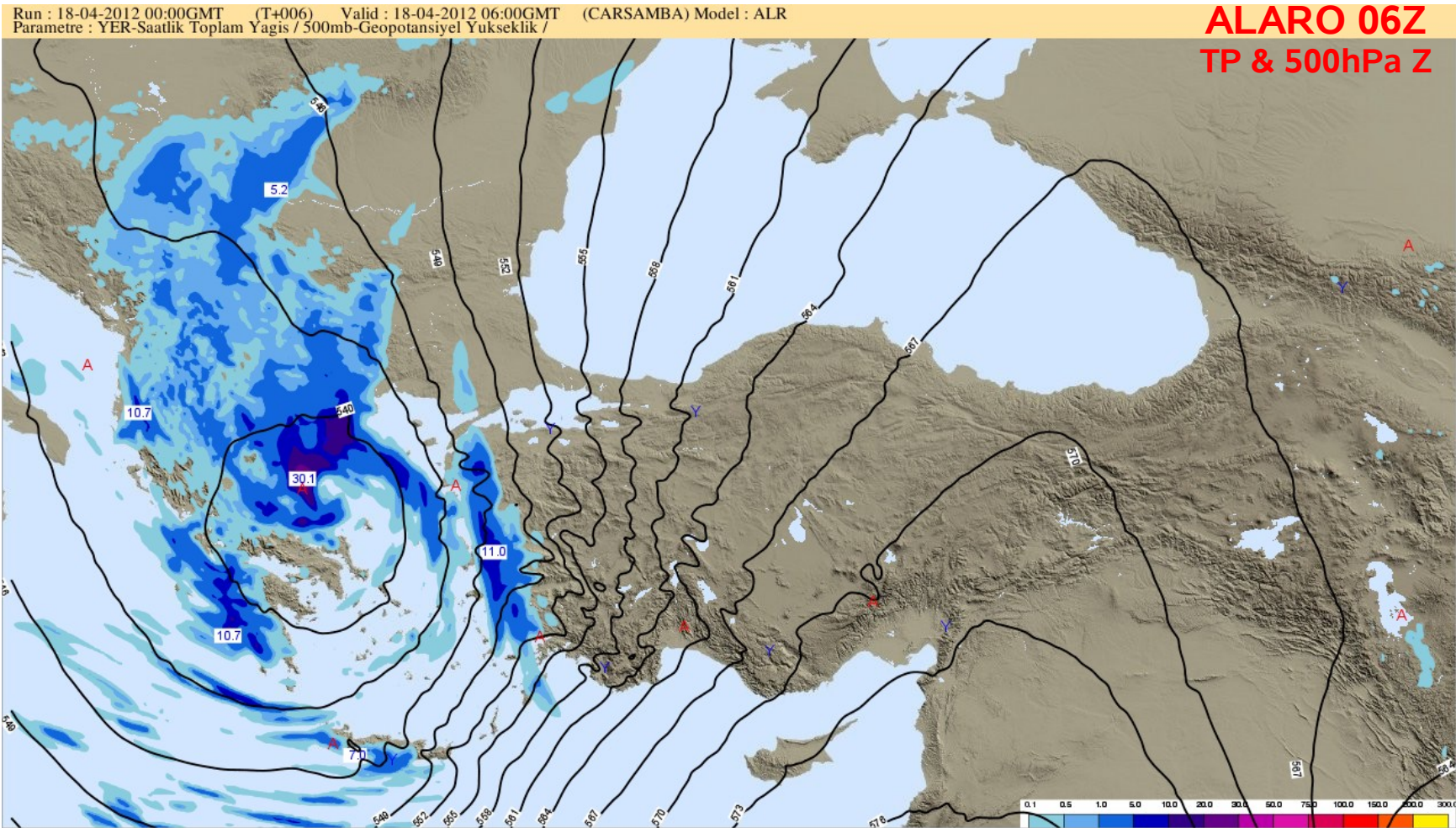

EPS 18.04 2012 00GMT 10m Wind>10m/s

April 2012 12UTC ©ECMWF Forecast probability t+012 VT: Wednesday 18 April 2012 00UTC
metre Wind speed of at least 10 m/s
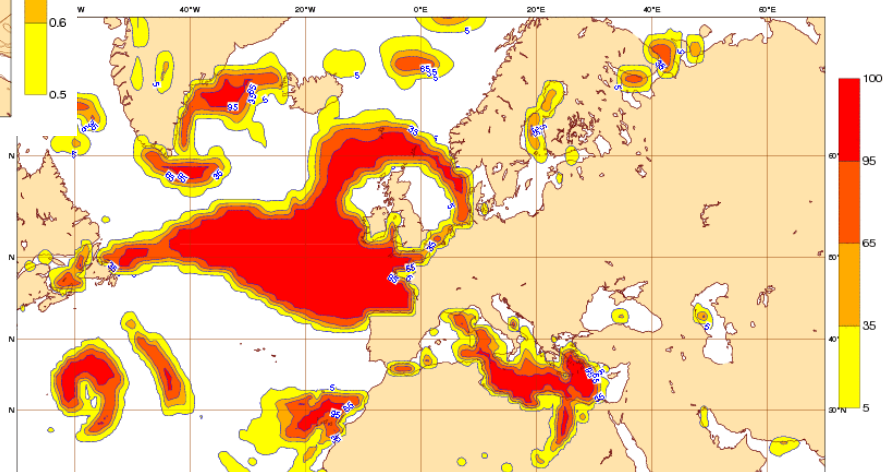
ALARO Working Da

13 - 15 June 2012, Ljubljana

Recent Case