

METCAP +

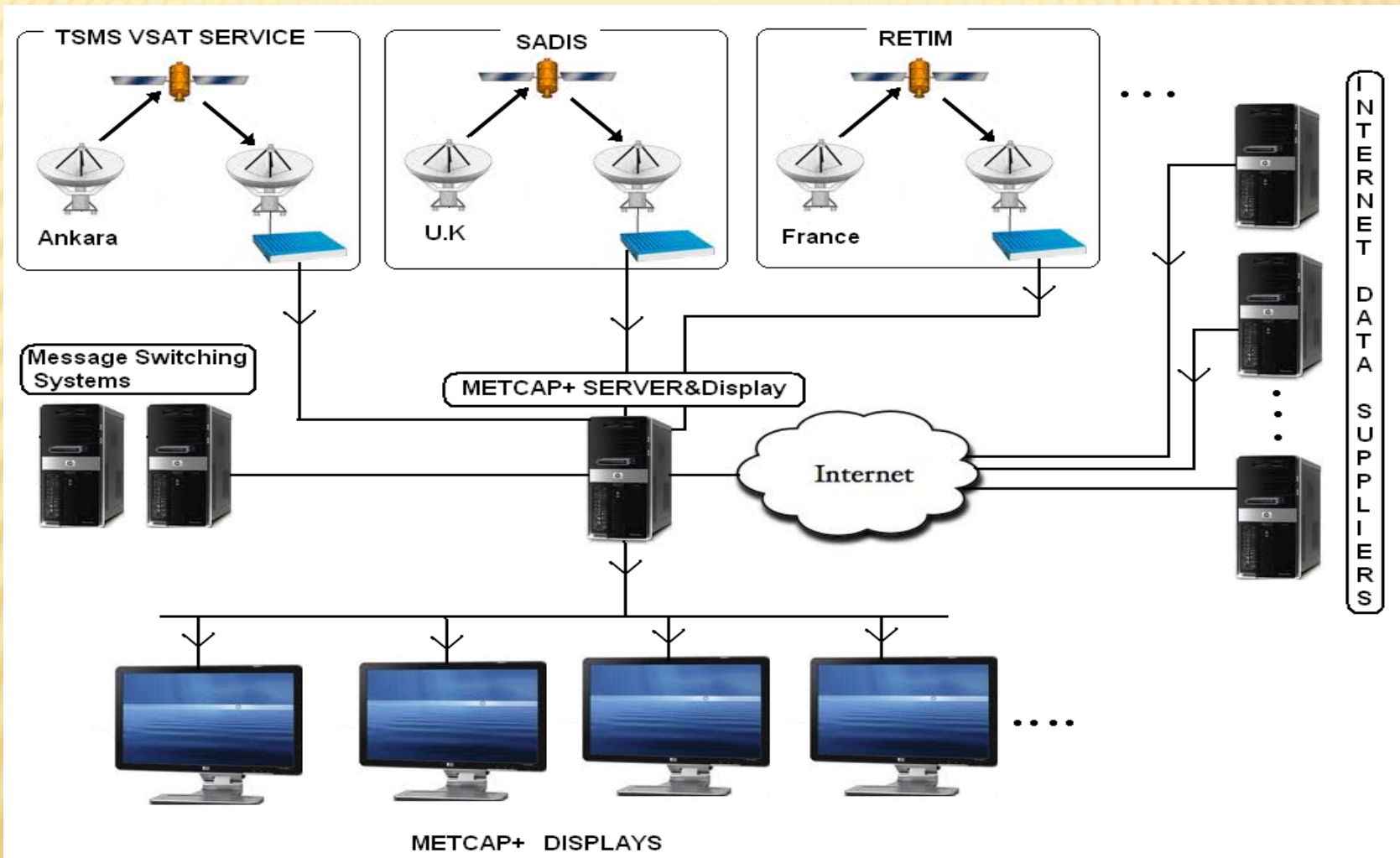
Kemal DOKUYUCU

Turkish Met. Service

WHAT IS METCAP+

- ✘ Developed to display and combine huge amount of meteorological data from observations, Satellite, Radar and NWP on the same screen
- ✘ Main Visualisation Software of TSMS used by regional forecasting centers and airports
- ✘ Development of new version started in 2010 and completed in 2012
- ✘ Programming Language is C++
- ✘ It is a bilingual software (Turkish & English)

METCAP+ DIAGRAM



MAP GENERATOR

- ✘ Projections :Mercator, Orthographic, Polar stereographic, Lambert Conformal Conic
- ✘ Zoom in / out
- ✘ Rough or high quality coastline data
- ✘ Detailed topography
- ✘ User defined appearance
- ✘ Overlaying borders, roads, cities etc

SAMPLE MAPS



ACTUAL CHARTS-SURFACE SYNOPTIC

- × Decodes bulletins received in FM 12 and BUFR format
- × Standard or user defined plottings
- × Changing plot density, observation size
- × Plotting with some limitations
- × Regional plot
- × Climatological actual data comparison
- × Weather summary with icons
- × Contouring different parameters
- × Observing change in any parameter for a selected time interval

ACTUAL CHARTS-SURFACE



ACTUAL CHARTS – UPPER LEVELS

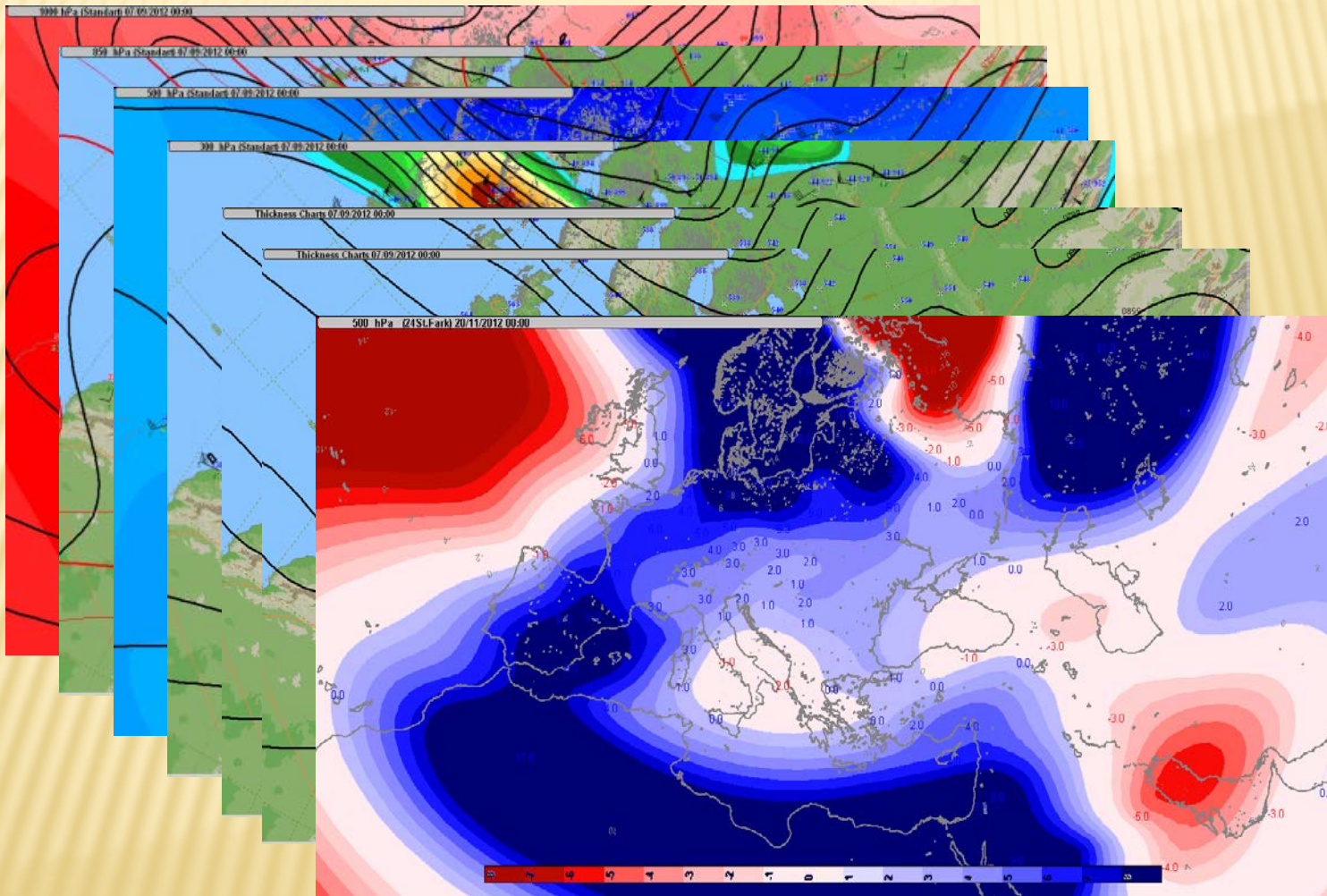
- Standart levels 1000-100hPa
- Tropopose Max Wind
- Thickness for different levels
- Subsidence
- Different Indices

Vertical Total (VT)
K Index
PW
KO Index
O C Height
CAPE (0 – 300m)

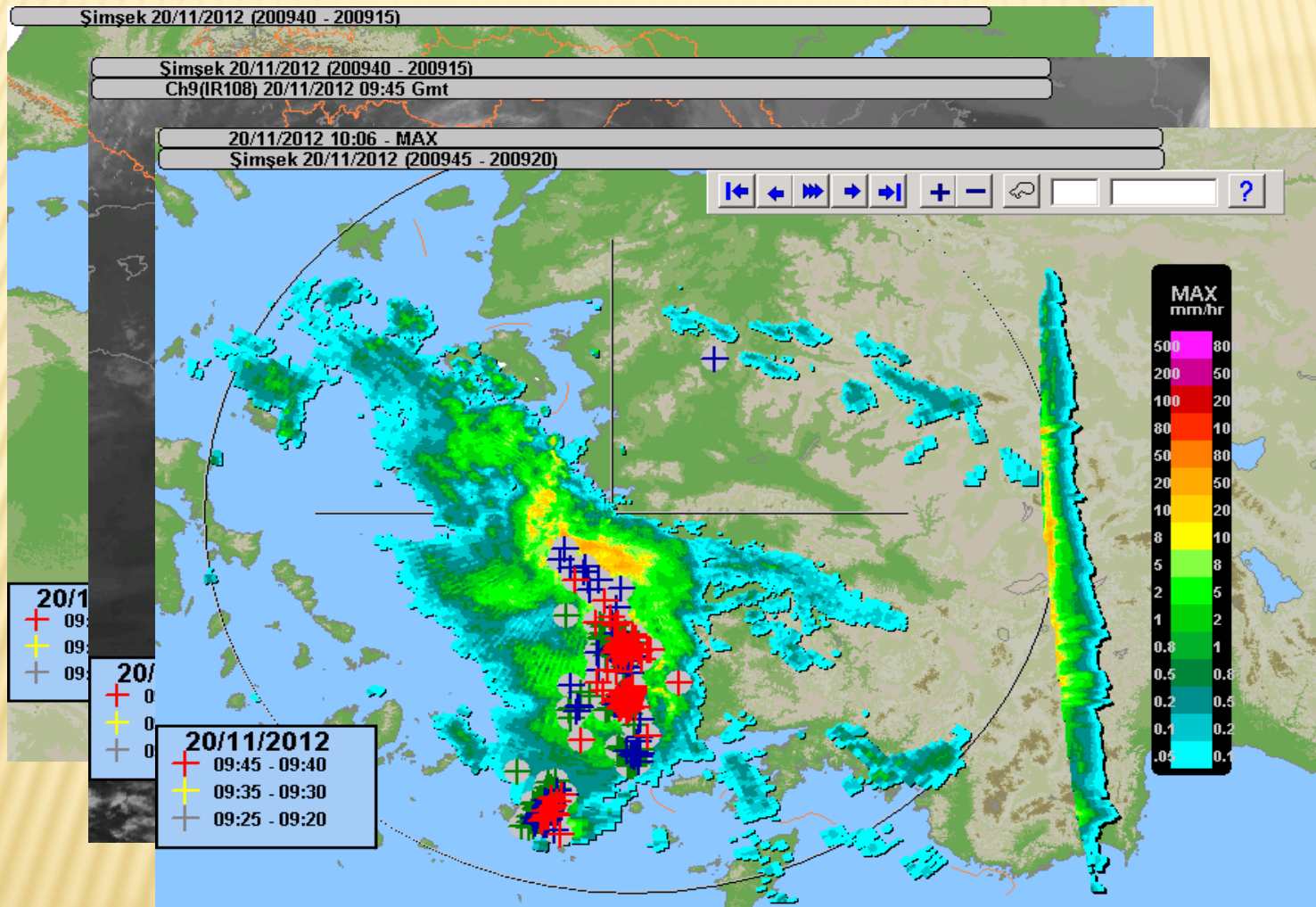
Cross Total (CT)
Sweat Index
Thomson Index
Miller Index
Wet Bulb O C
CAPE (0 C -20 C)

Total Total (TT)
Lifted Index
Boyden Index
S Index
CAPE Total
etc

ACTUAL CHARTS - UPPER LEVELS

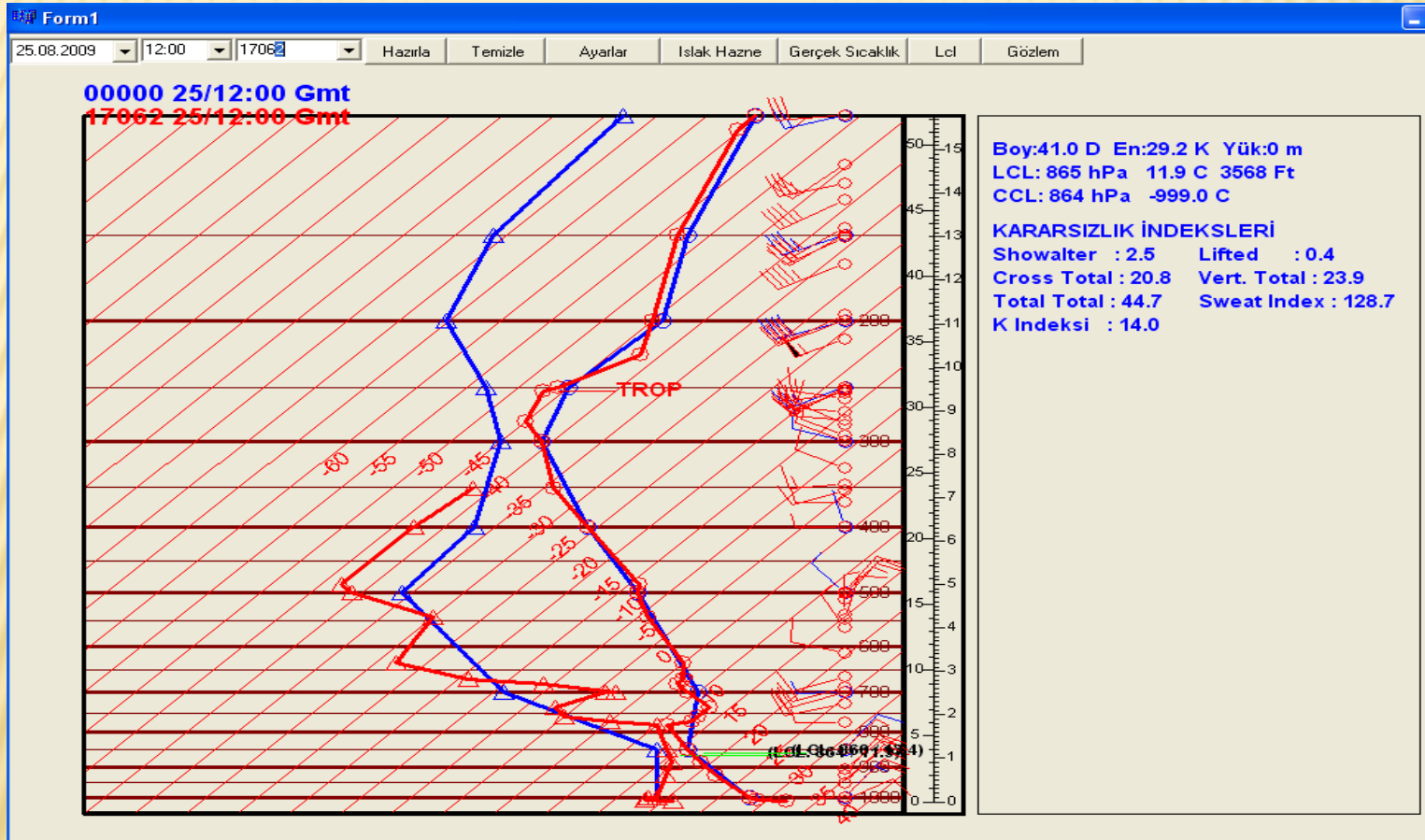


ACTUAL CHARTS - LIGHTNINGS



SKEWT DIAGRAM

- Creating SkewT Diagram for any point



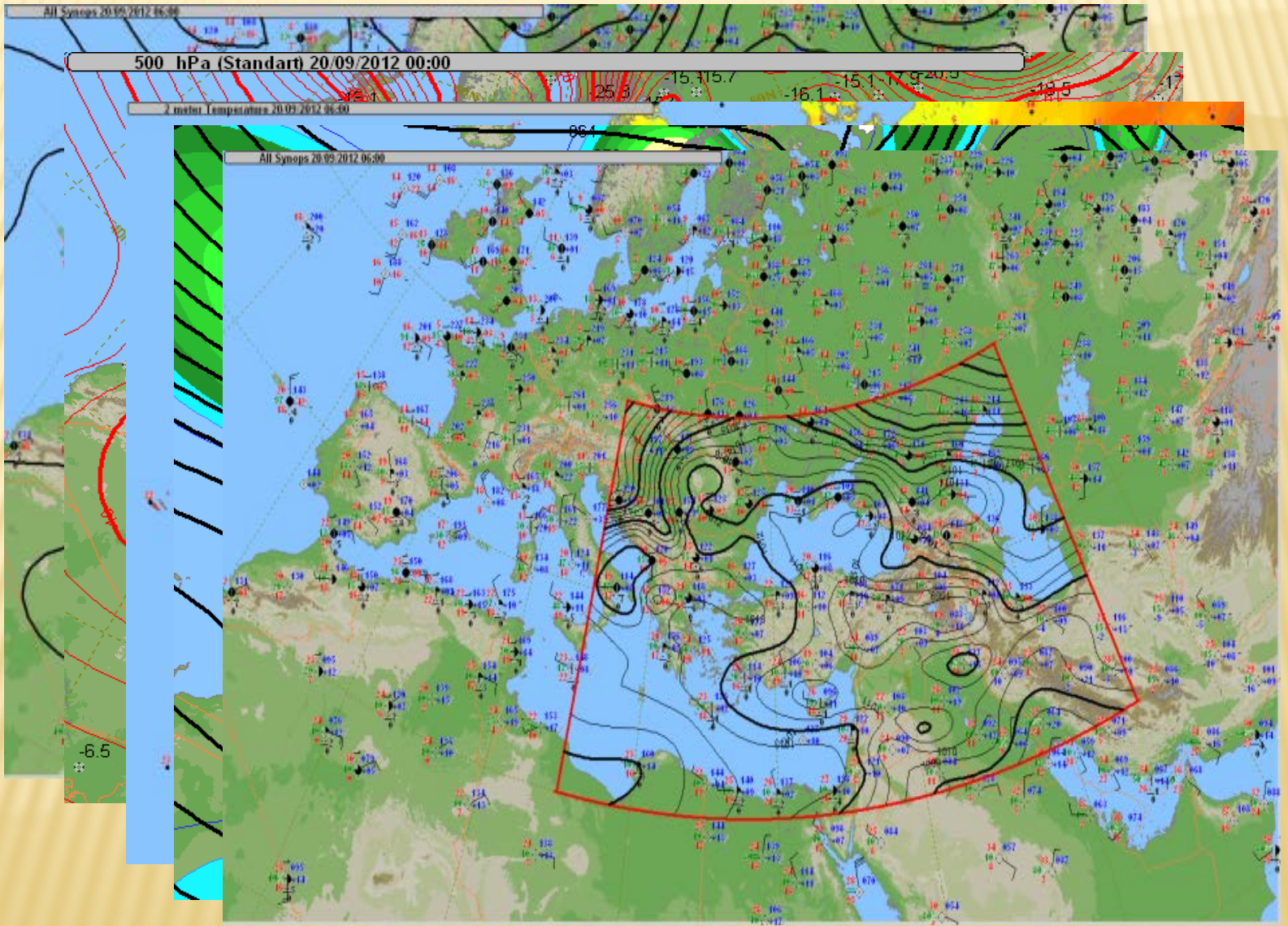
Blue : ECMWF D+12 (25 Aug 2009 12.00 Gmt)

Red : Observation (25 Aug 2009 12.00 Gmt) – 17062 Istanbul

CONTOURING

- Different parameters of the actual charts and NWP data from different centers may be contoured in different styles.
- Contour interval, line thickness, color and type may be defined by the users.
- Auto contouring for selected maps are possible.
- Color palettes may be defined by the users.

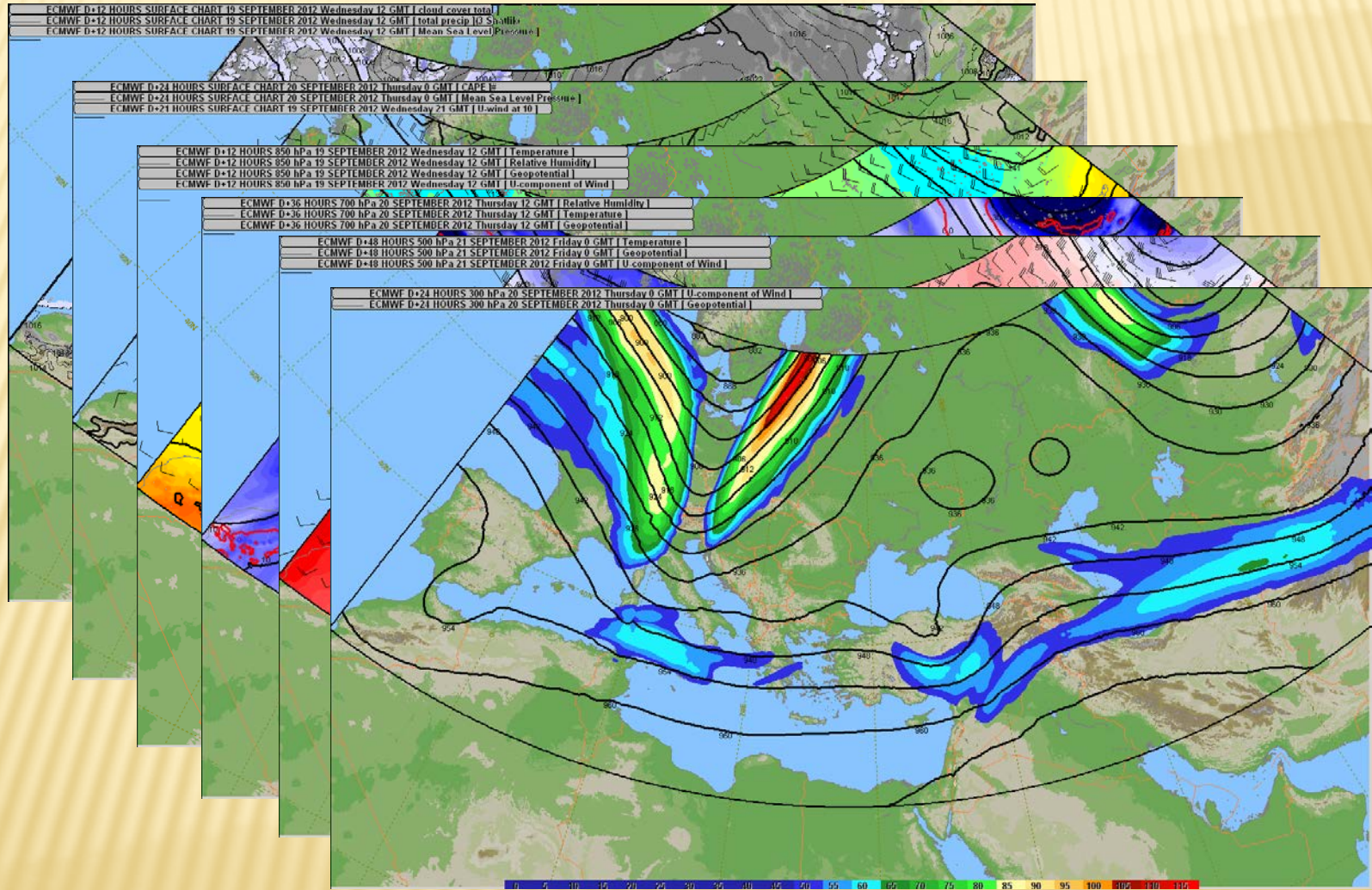
CONTOURING



NWP CHARTS

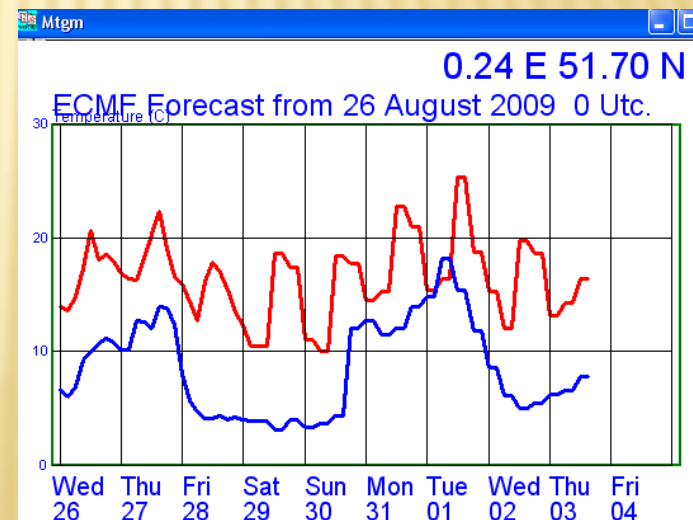
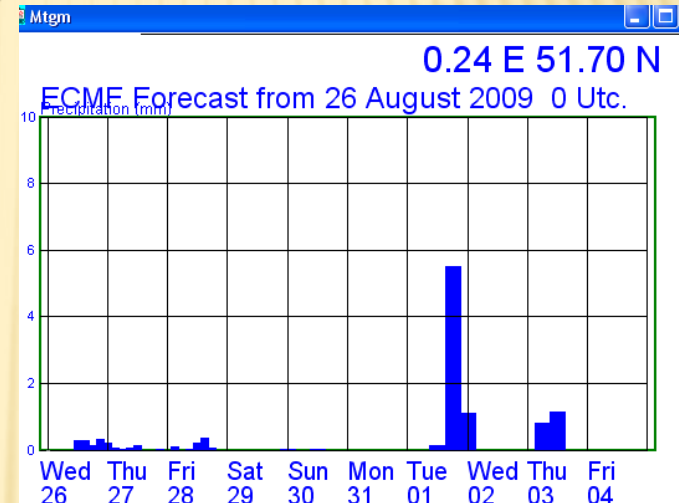
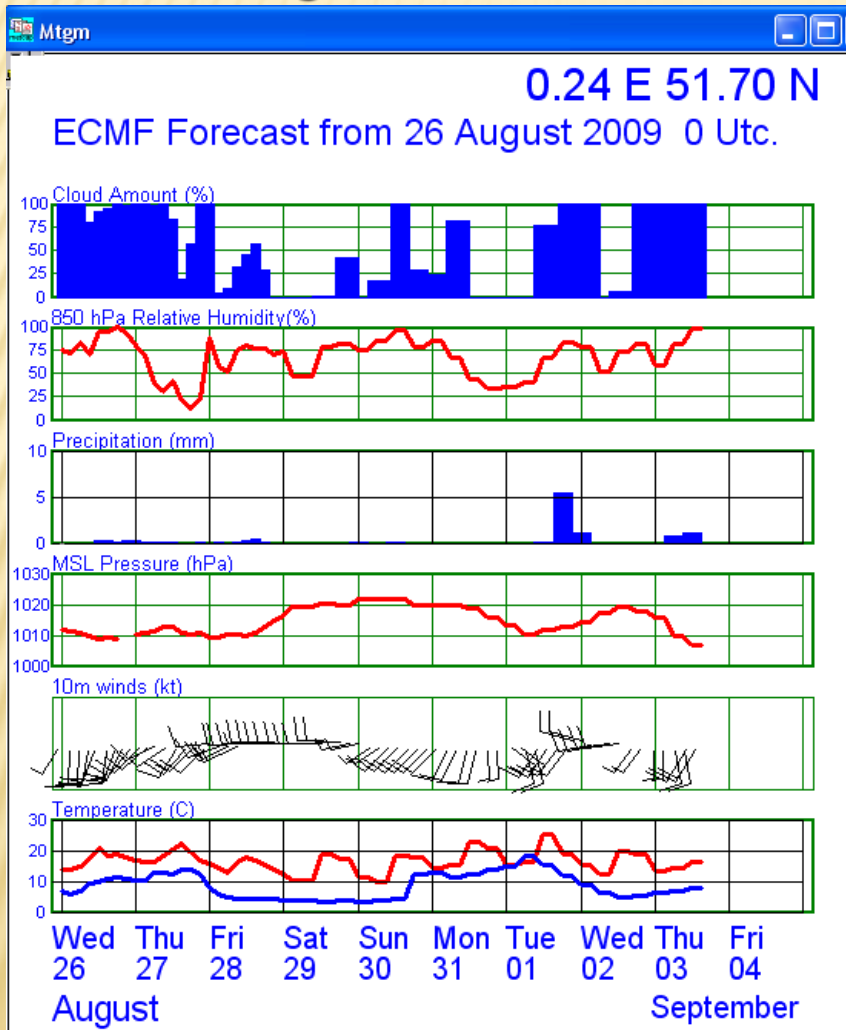
- **NWP data created by different centers are used to generate different products.**
- **ECMWF data is used to generate meteograms for any point.**
- **GFS data from NOAA are automatically downloaded and displayed**
- **Data from different centers may be overlaid on the same chart**

NWP CHARTS - ECMWF



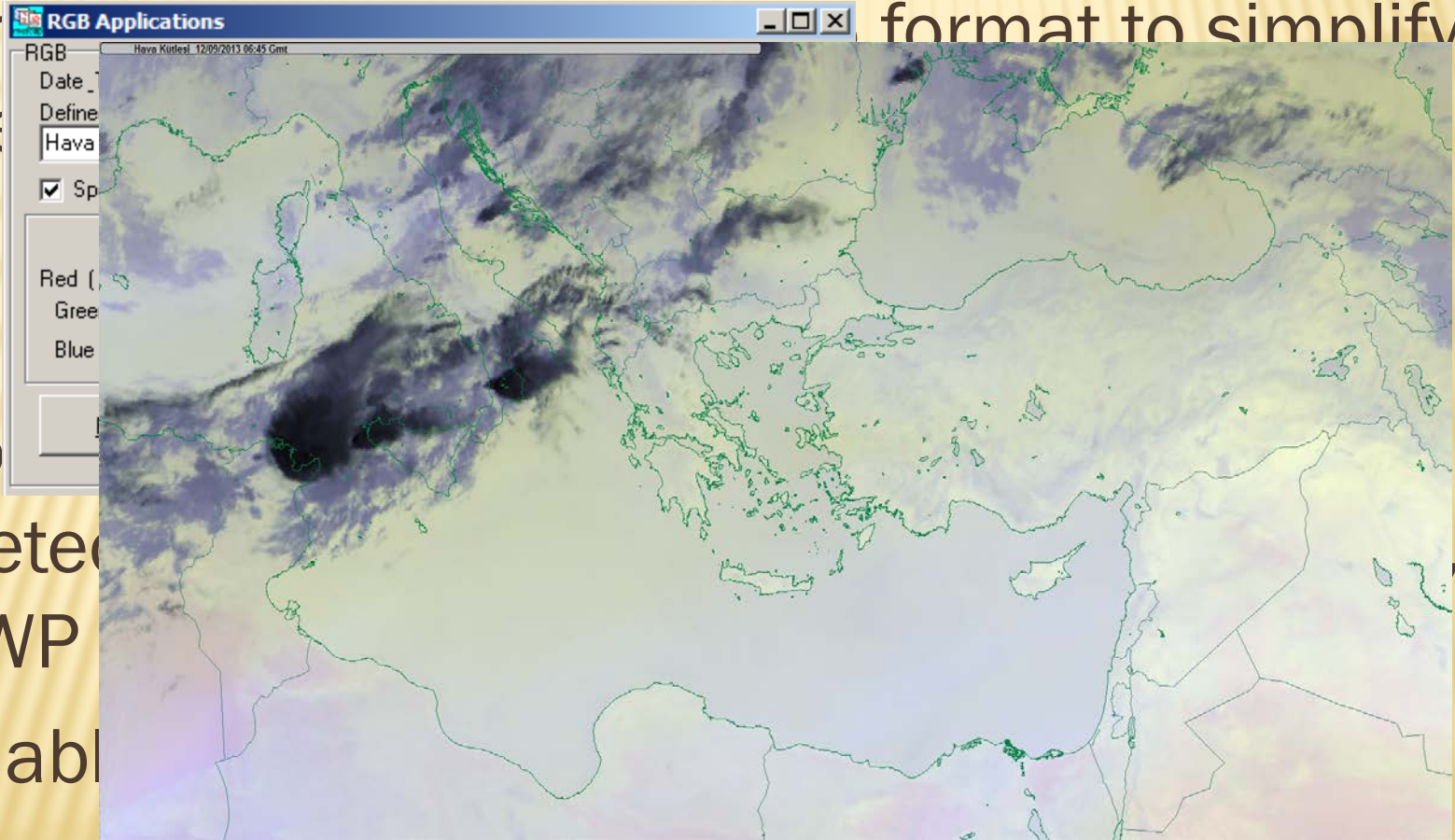
NWP CHARTS

■ Creating METEOGRAM for any point

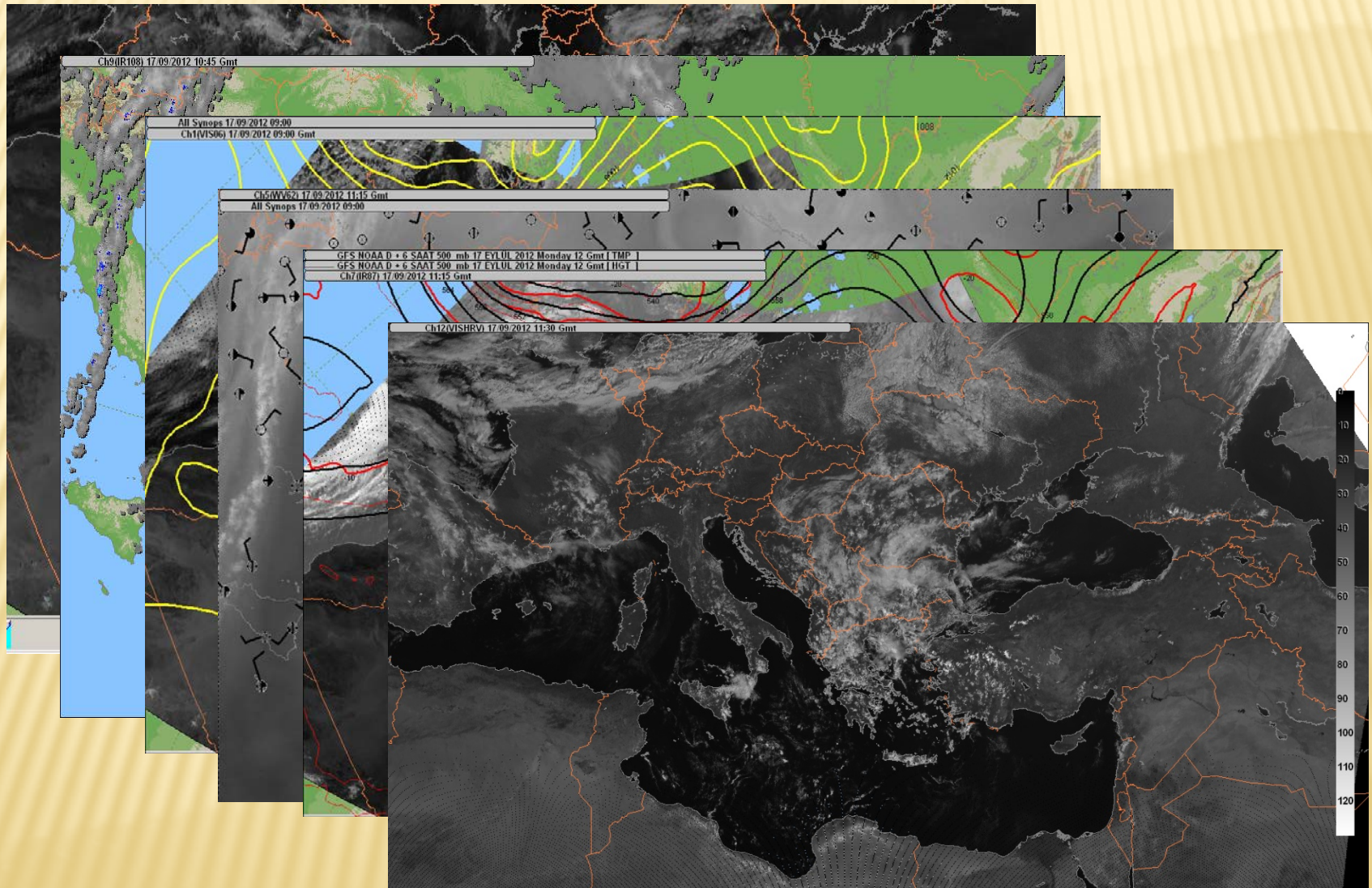


SATELLITE IMAGES

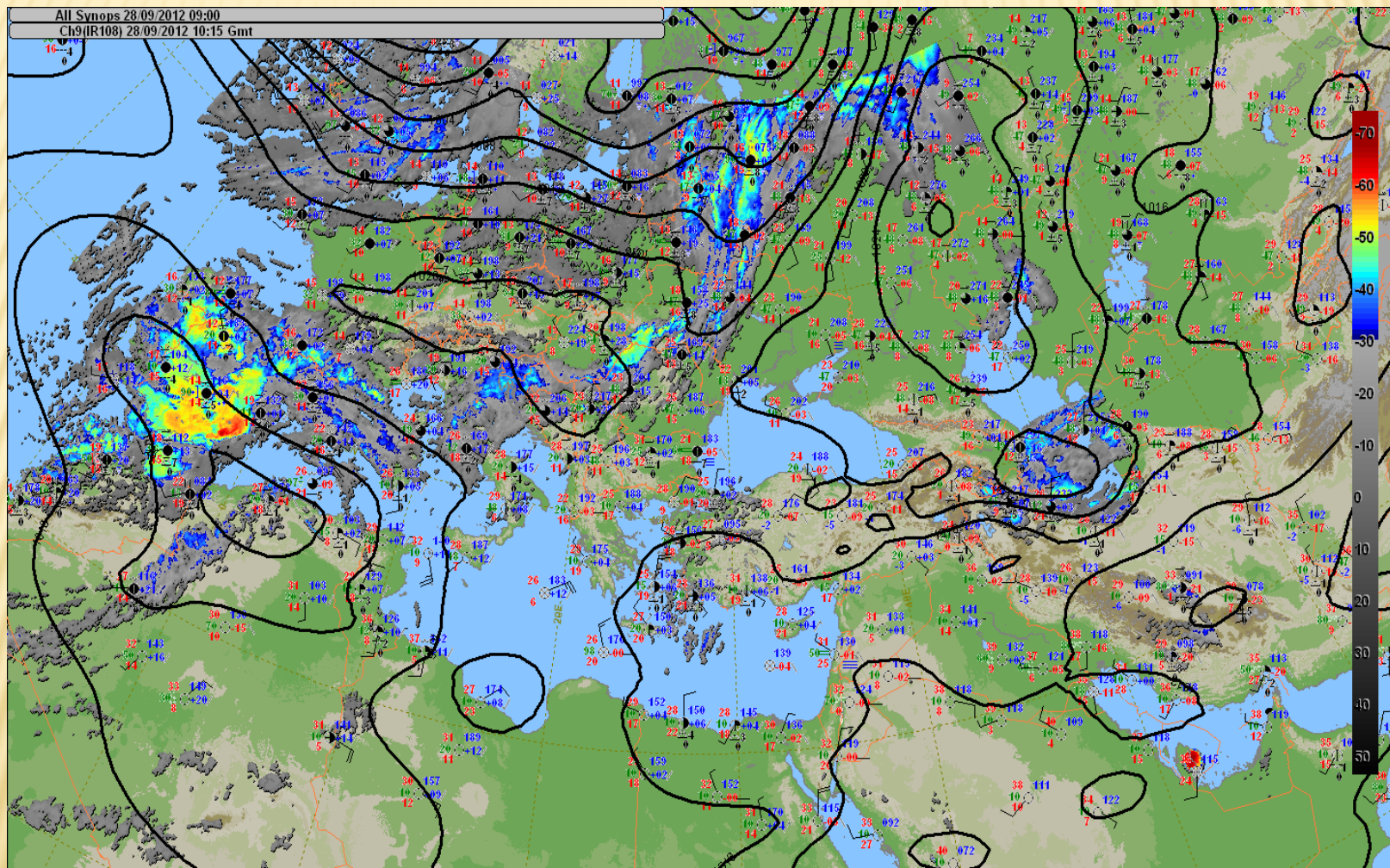
- ✘ Data received from different channels in HRIT format to simplify
- ✘ Au
- ✘ all
- ✘ Co
- ✘ mete
- ✘ NWP
- ✘ Enabl



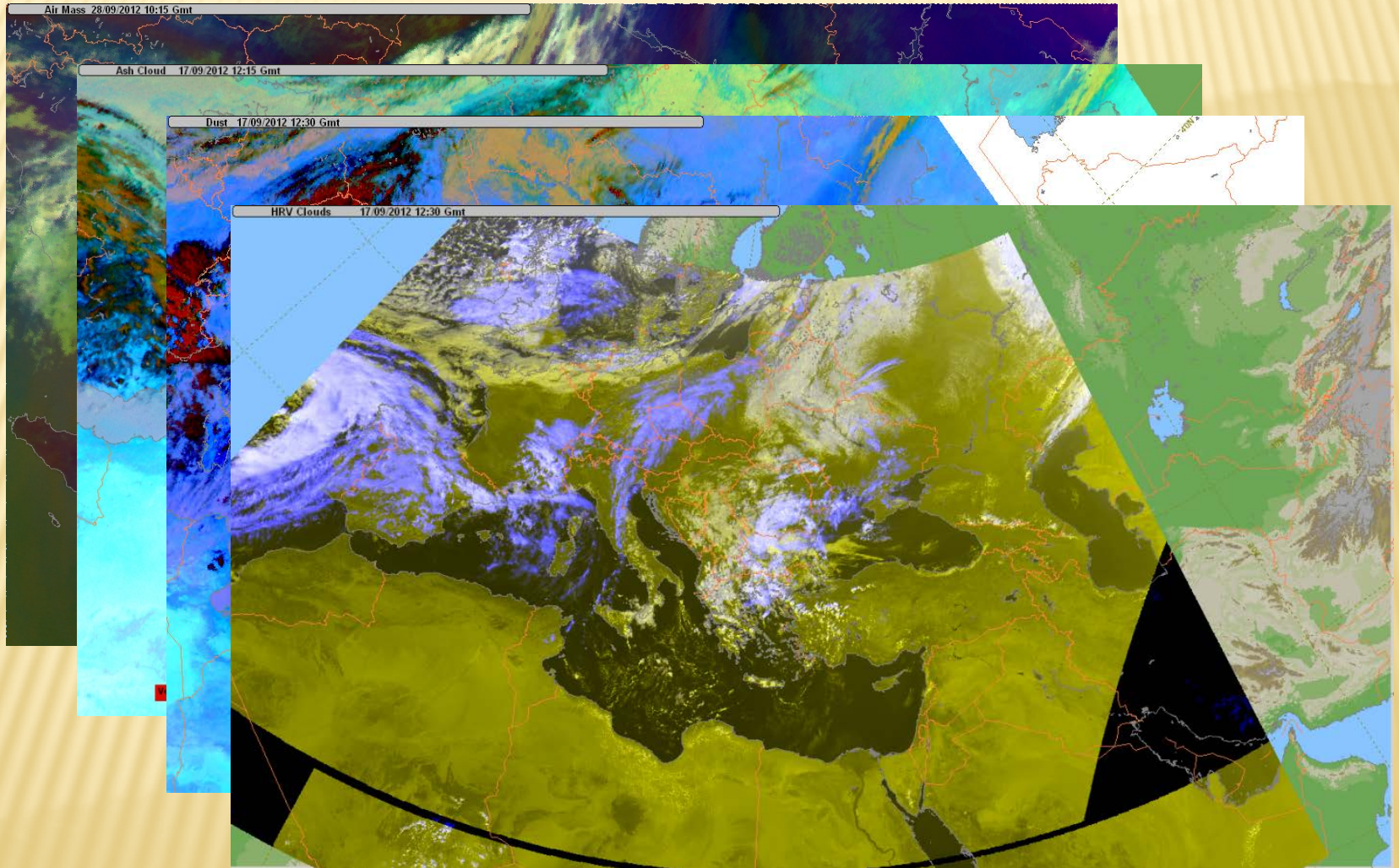
MSG CHANNEL IMAGES



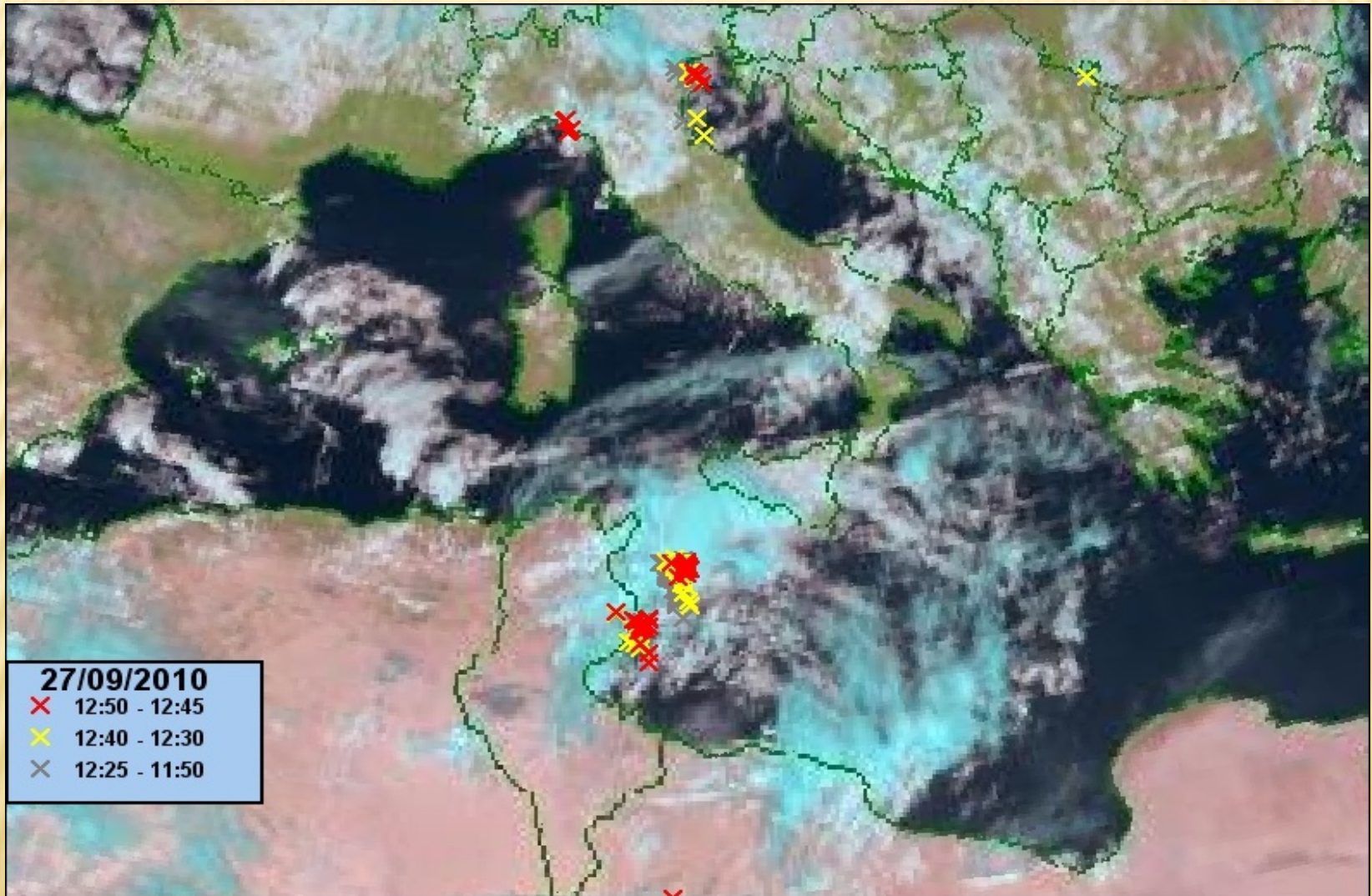
CHANNEL IR10.8 + SYNOP + ISOBARS



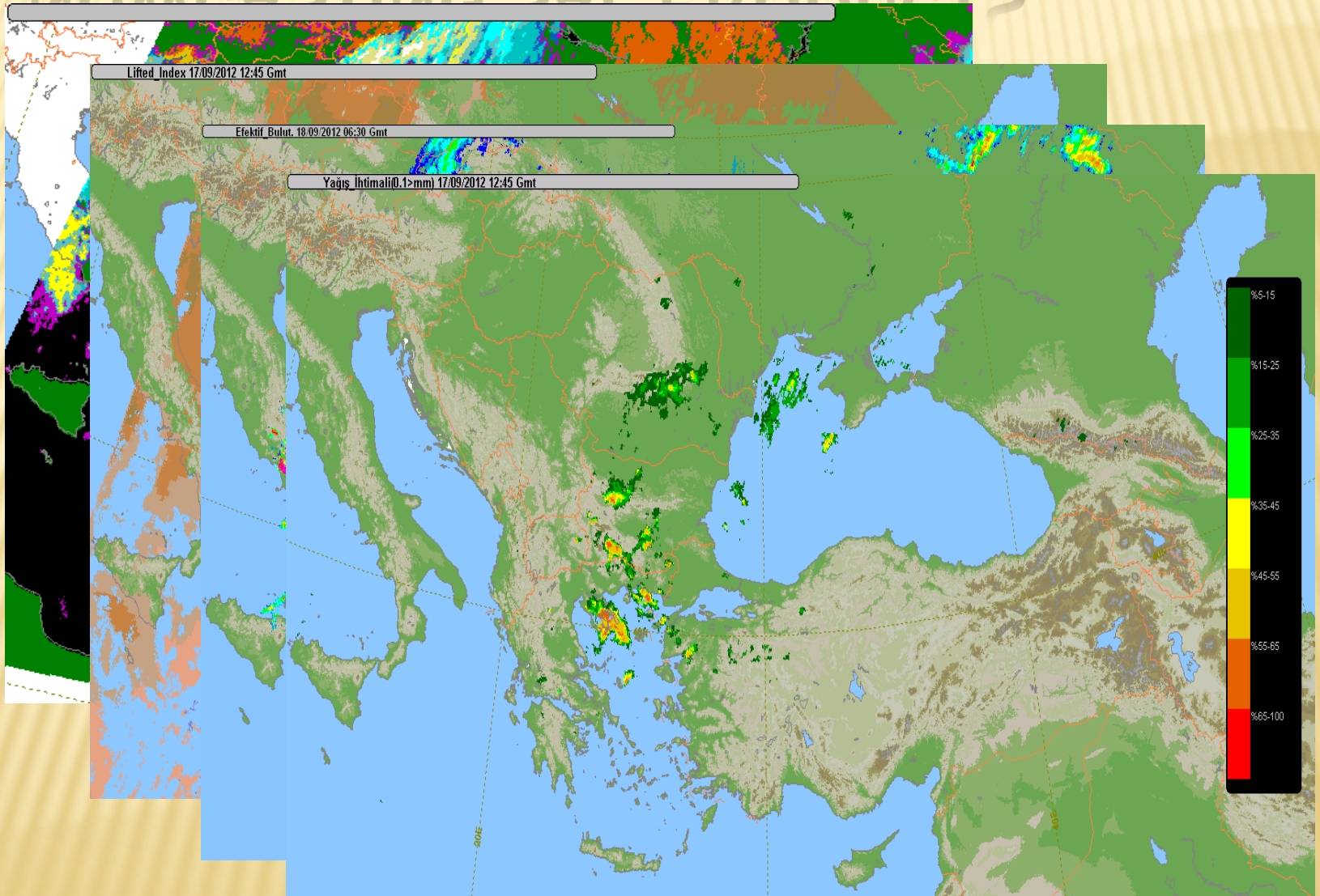
MSG RGB



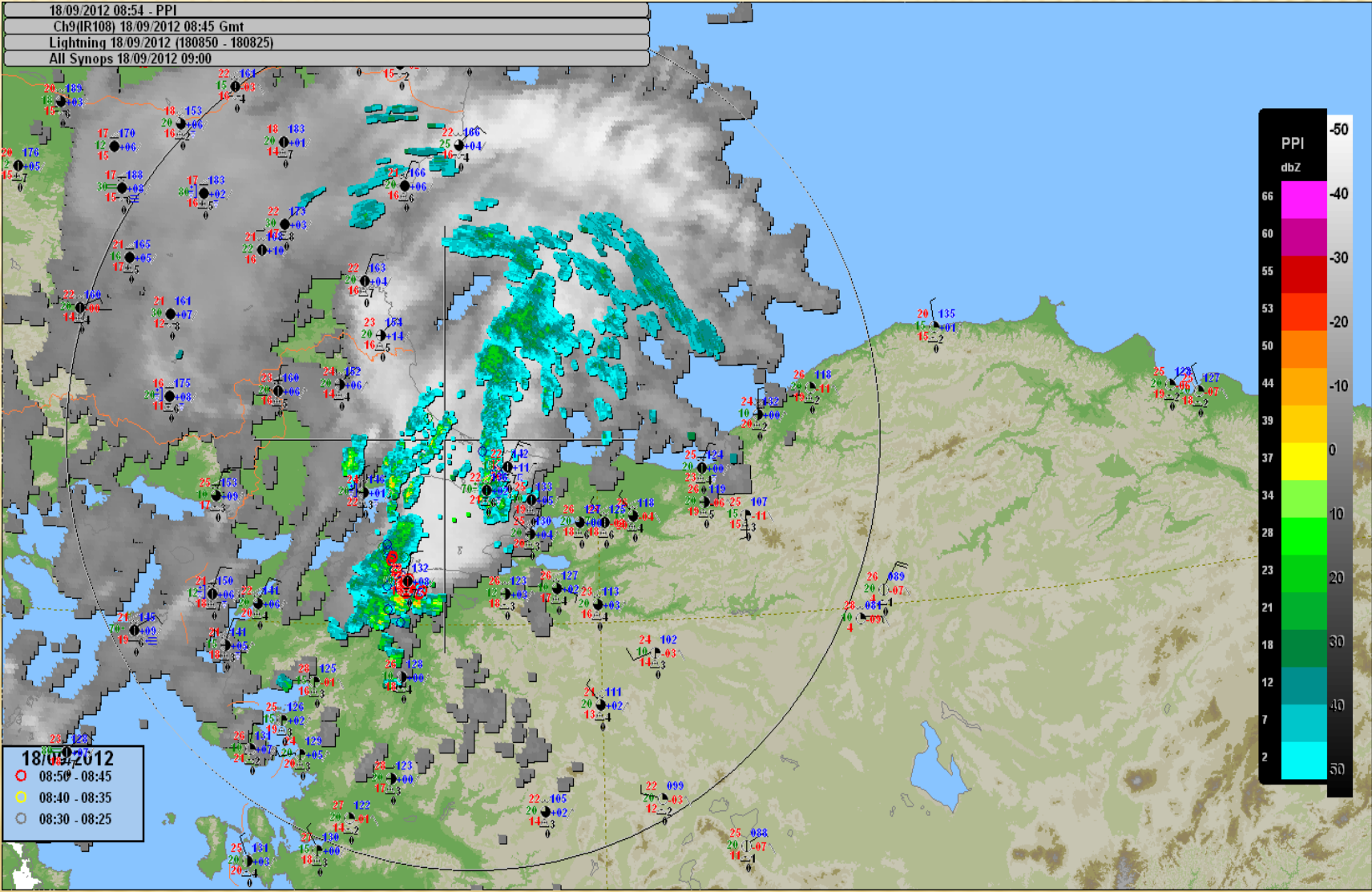
SATELLITE VISIBLE IMAGE + LIGHTNING



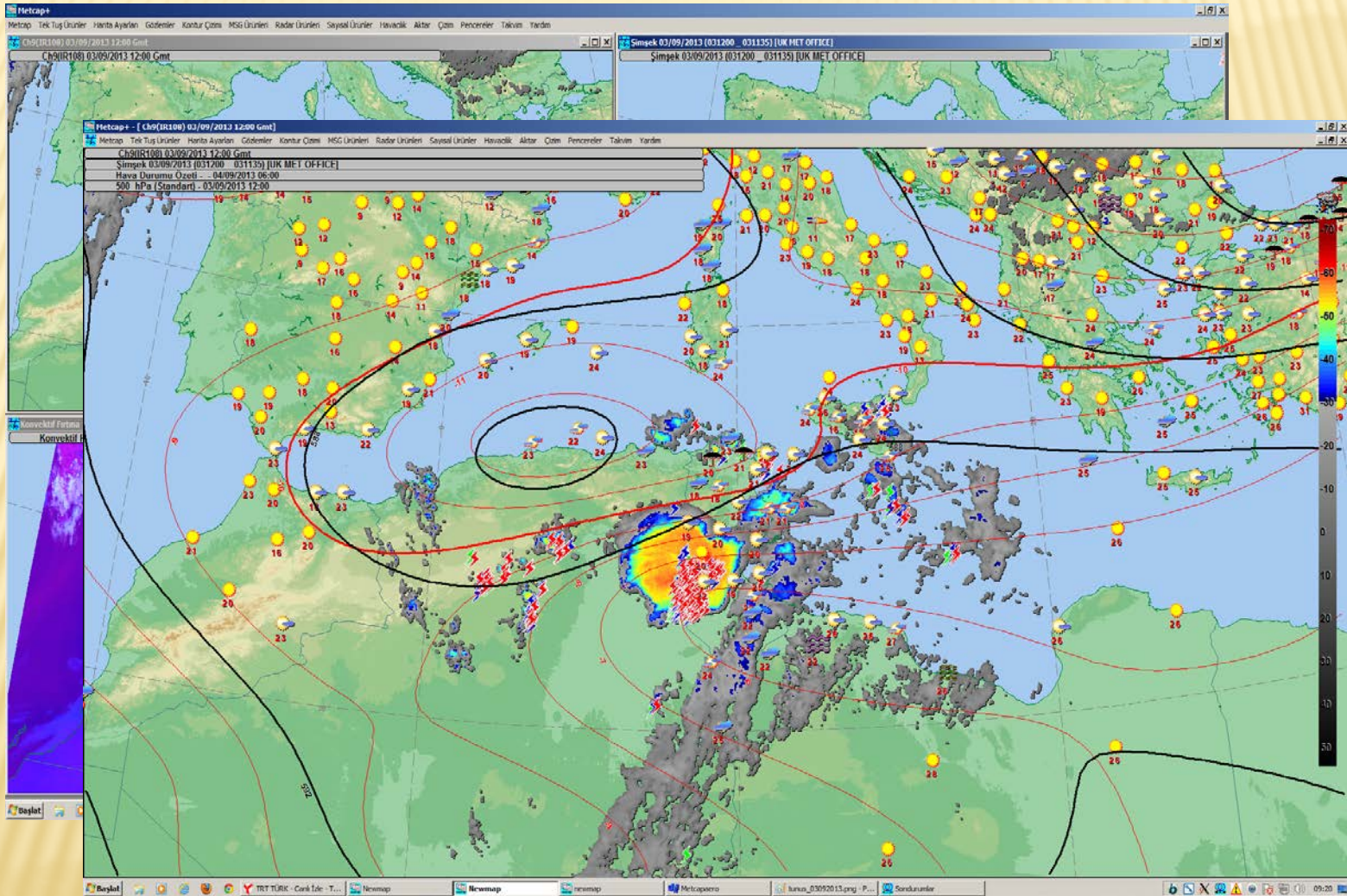
NOWCASTING SAF PRODUCTS



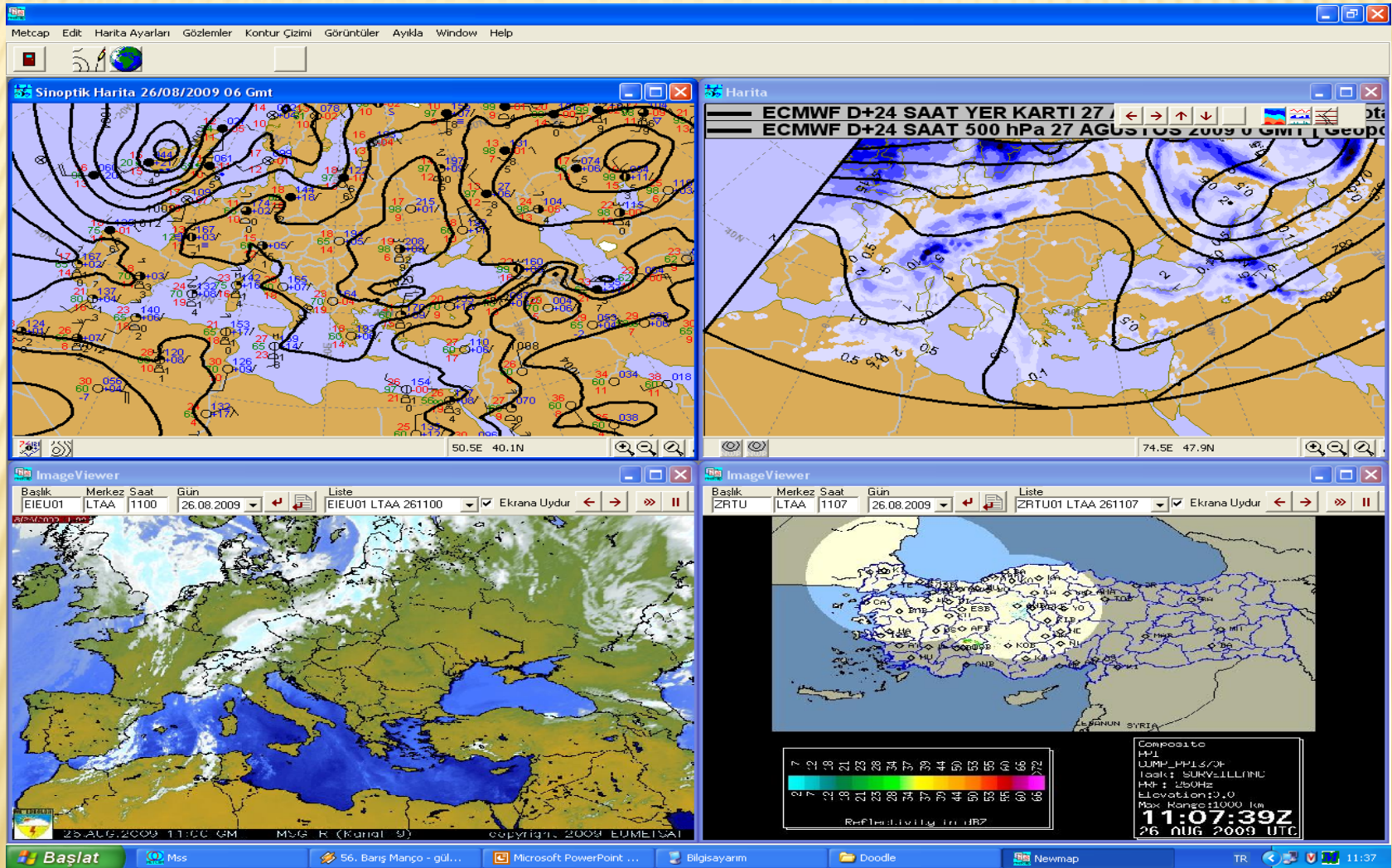
MSG, RADAR, SYNOPTICS, LIGHTNINGS



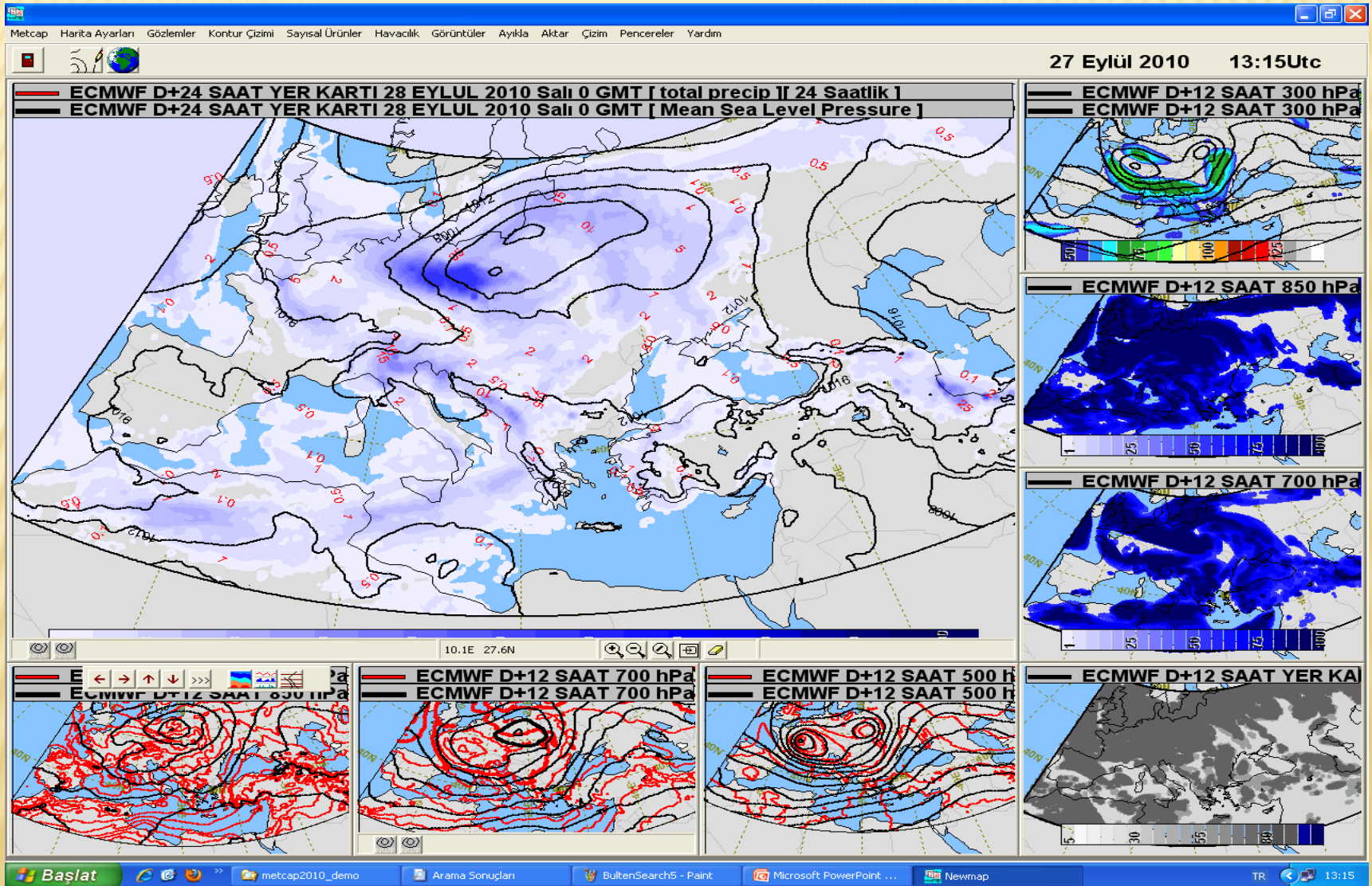
3 SEP 2013 TUNISIA THUNDERSTORM



MULTIWINDOW SAMPLES



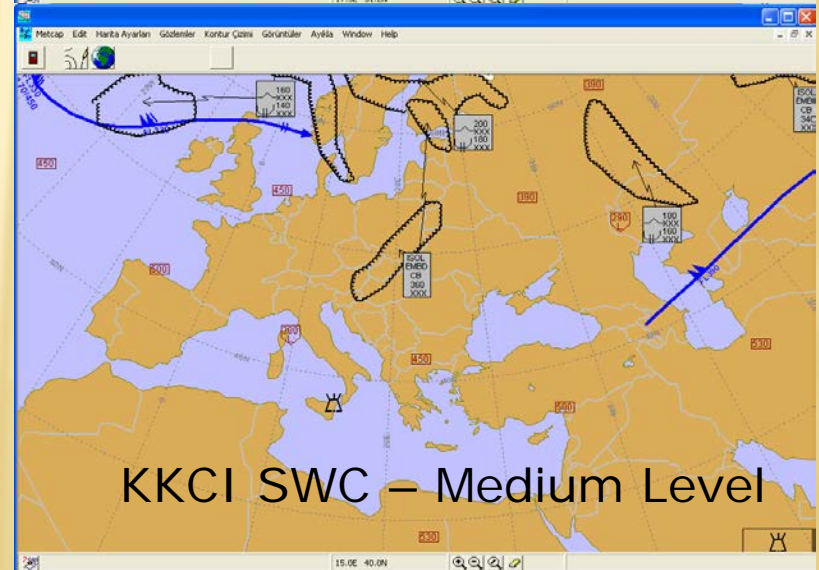
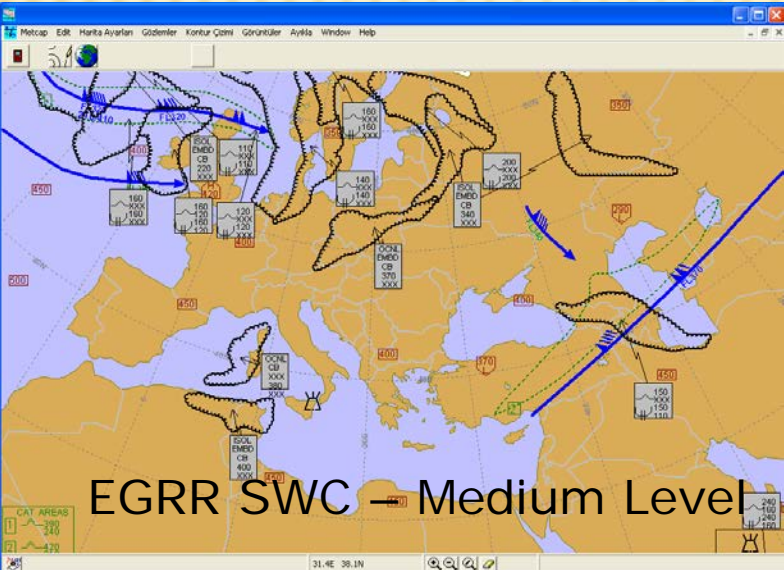
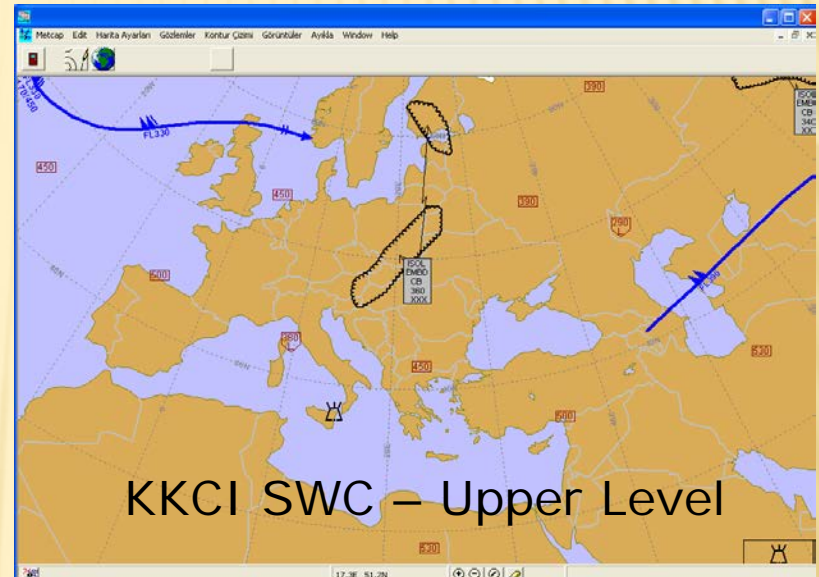
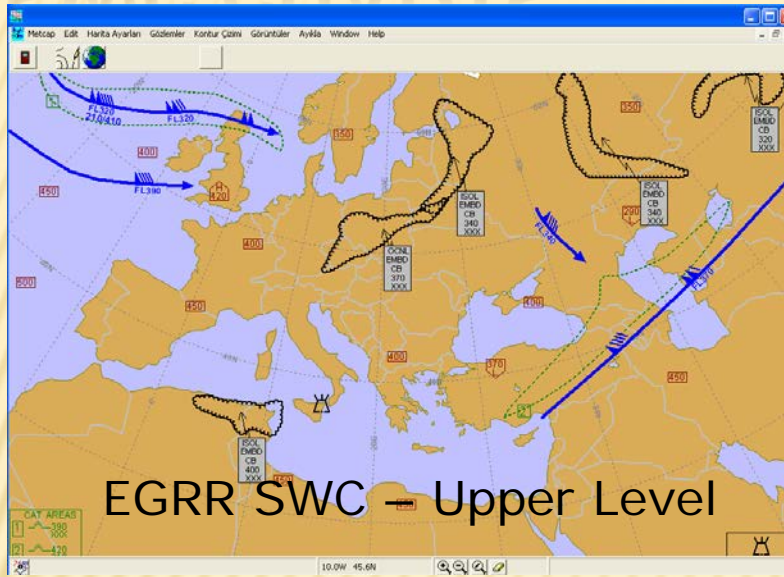
MULTIWINDOW SAMPLES (NWPS)



MONITORING WEATHER



SWC CHARTS



AUTO CREATING

- ✘ All Actuel, NWP charts, Satellite and Radar images may be created at specific times by using a script, and disseminated to the users

```
BEGIN_SCRIPT
AREA=-12 30 55 55
PROJECTION=POLAR
COAST_LINE_THICKNESS=1
COAST_LINE_COLOR=0
DRAW_BORDERS=YES
BORDER_COLOR=255
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  LEVEL=500
  PARAMETER=H
  INTERVAL=6
  PERIOD=12
  FLOODFILL=NO
  WRITE_LABELS=YES
  CONTOUR_COLOR=0
END_MASK
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  LEVEL=500
  PARAMETER=T
  INTERVAL=1
  PERIOD=12
  FLOODFILL=YES
  PALETTE=2
  WRITE_LABELS=YES
  CONTOUR_COLOR=-1
END_MASK
END_SCRIPT
```

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- This presentation gives very limited information on METCAP+ package. You may download user manual from Eumetsat “SUPPORT SOFTWARE & TOOLS” page.

**THANKS FOR YOUR ATTENTION
ANY QUESTION?**

Kemal DOKUYUCU

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