METCAPPLUS

Meteorological Communication and Application Package

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Outlines

- What is MetcapPlus?
- Data types and source
- Archieving and Data Access
- Preparing Meteorological Maps
- Combination of Meteorological Maps
- Image Viewer
- Weather Monitoring
- SkewT diagram
- Station Database
- Aviational Products
- Warnings
- Documentation
- Misc. Applications
- Survey on MetcapPlus
- What can the managers see if the use MetcapPlus?

METCAPPLUS

METeorological Communication & Aplication Package

- ✓ Development started in 1992.
- ✓ Purpose of the the project was replacing telex with Telephone
- ✓ Map plotting module was added later.
- ✓ Second and third versions developed 1996 and 2005 respectively
- ✓ MetcapPlus Beta version completed 2010
- ✓ Completely developed by TSMS Staffs.
- ✓ It has been donated to : Azerbaycan, Turkish Republic of Northern Cyprus, Bosnia and Hercegovina, Montenegro, Kazakhstan, Georgia, Belarus, Yemen, India, Afghanistan, Ukrain (Odessa University), Togo, Turkmenistan, Qatar
- ✓ The package is in Turkish, English and Russian.

METCAPPLUS Data Sources

The package digest different types of data from different sources.

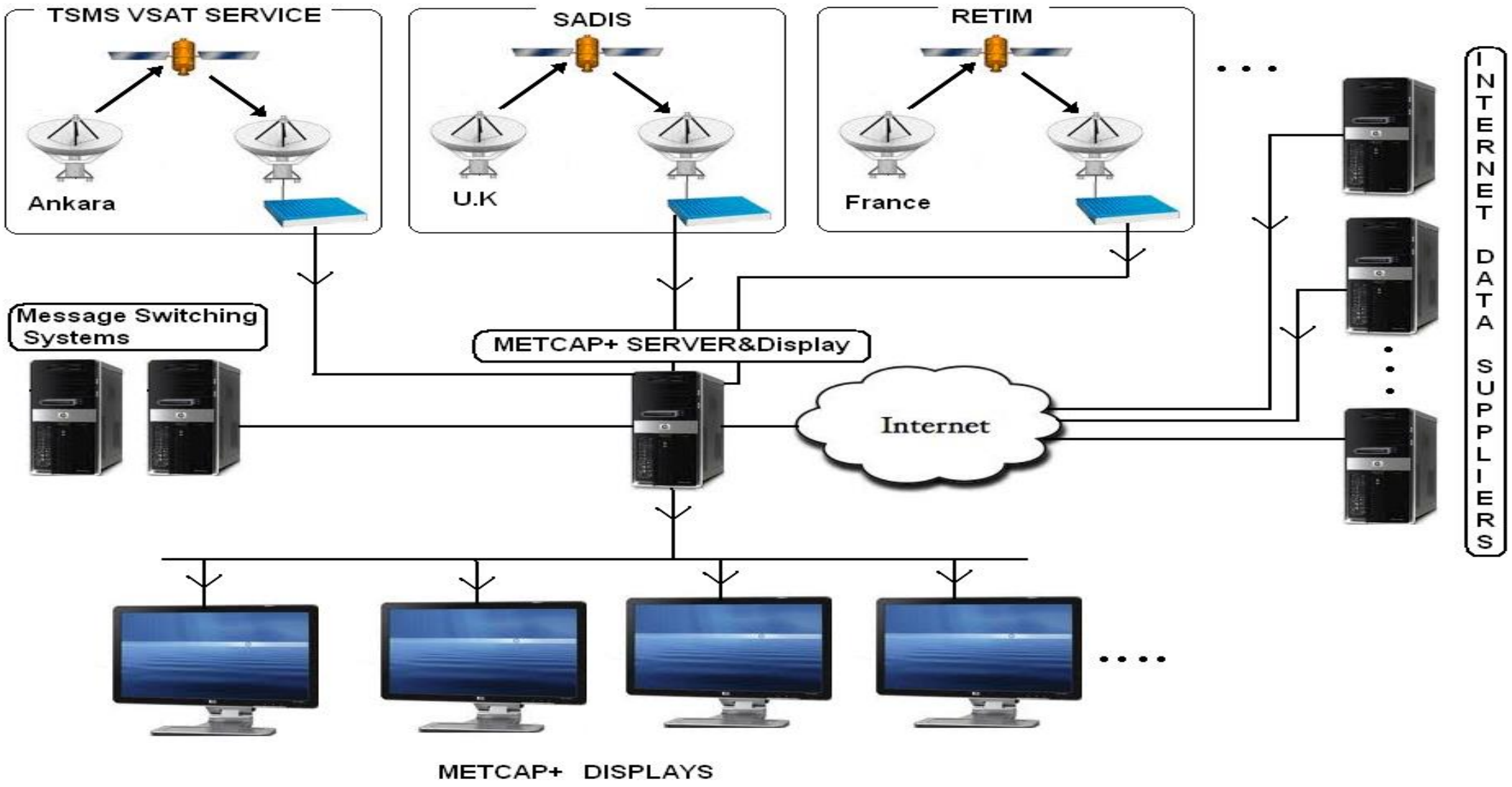
Data Sources

1. Message Switching Systems (MSS)
2. SADIS (Satellite Distribution System – both ftp and satellite)
3. RETIM (Meteo France)
4. NOAA (Public ftp site)
5. Different internet sites

Data Types

1. Traditional Alpha Numerical Codes (TAC)
2. GRIB1 and GRIB2
3. BUFR
4. HDF5 etc

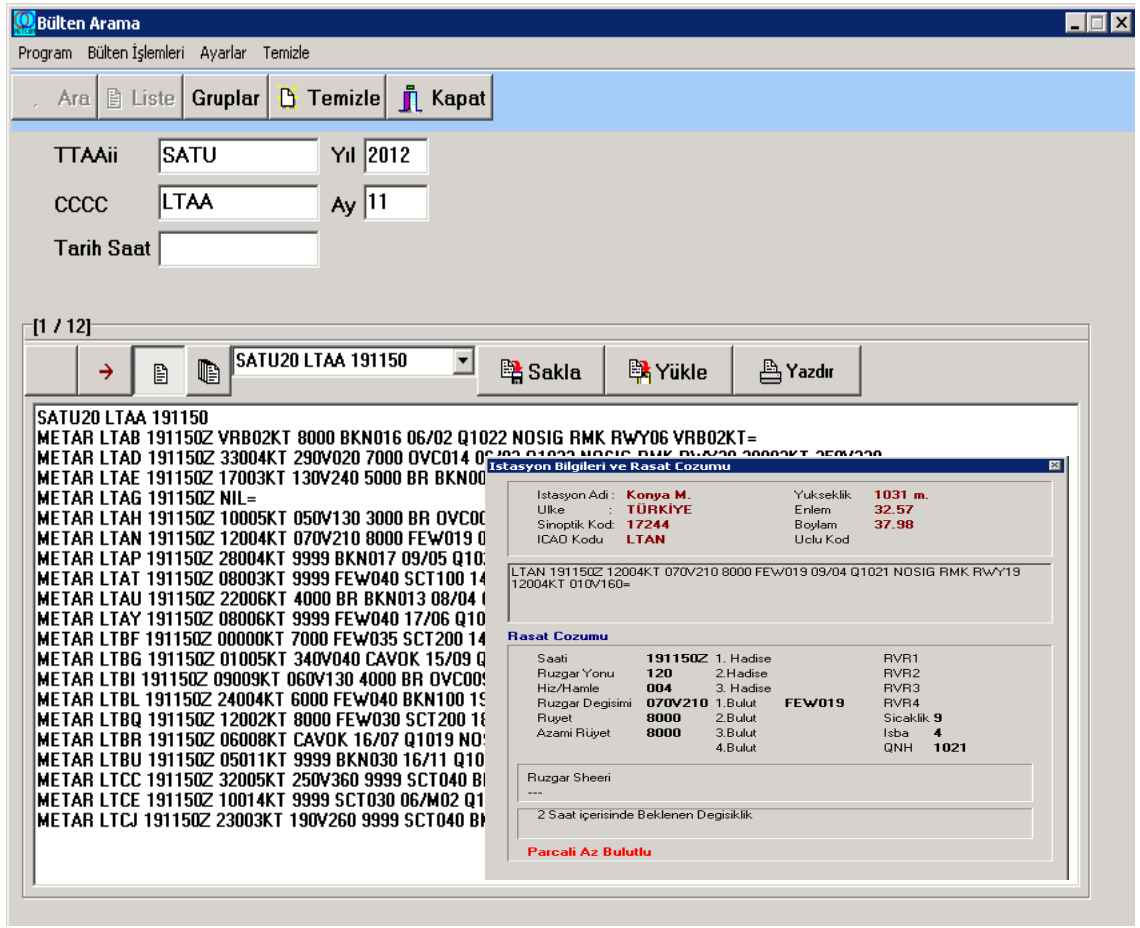
MetcapPlus Data Sources

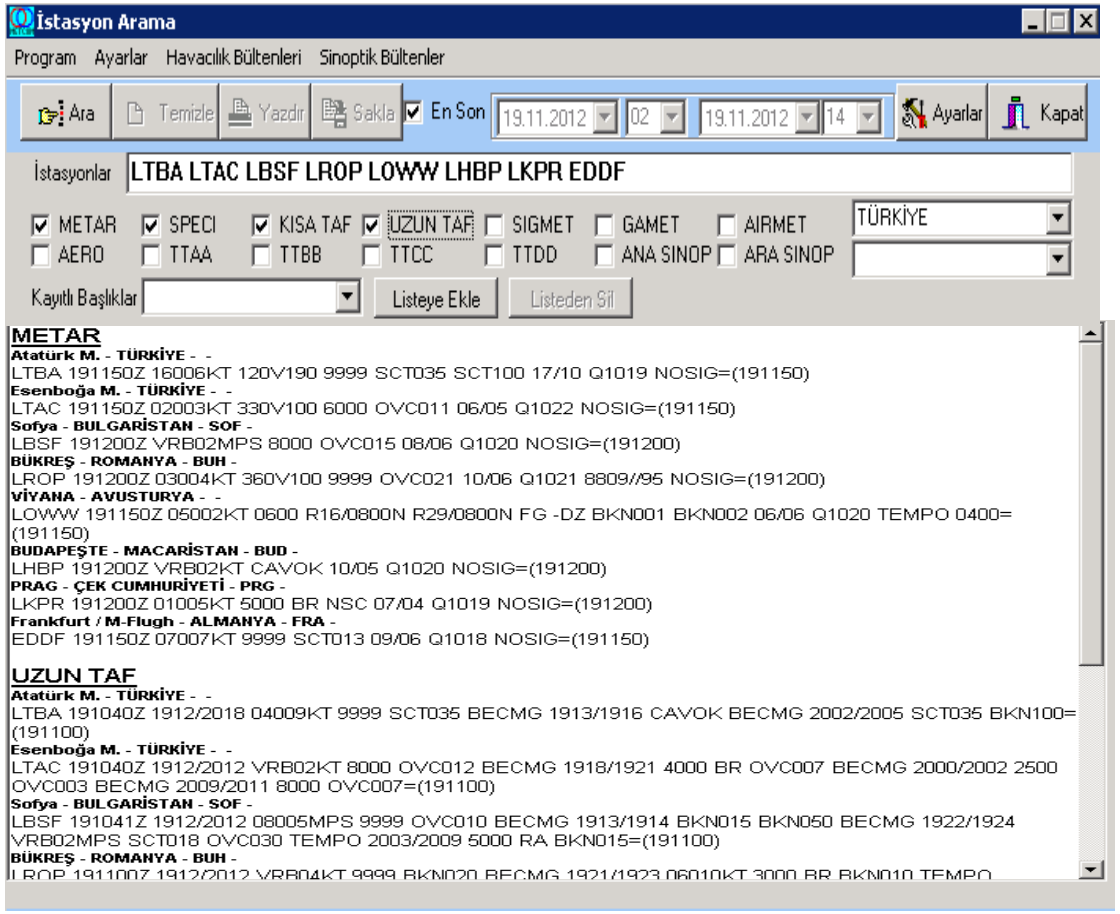


Archieving and Data Access

- All received data are stored on the disk or external media
- Saving Period is set by the users.
- The package can access old data from external media, TSMS database system and some internet sites.
- It is possible to access actual data
  - By using bulletin headers
  - By using station lists
  - By defining flight folders for the flights

Archieving and Data Access

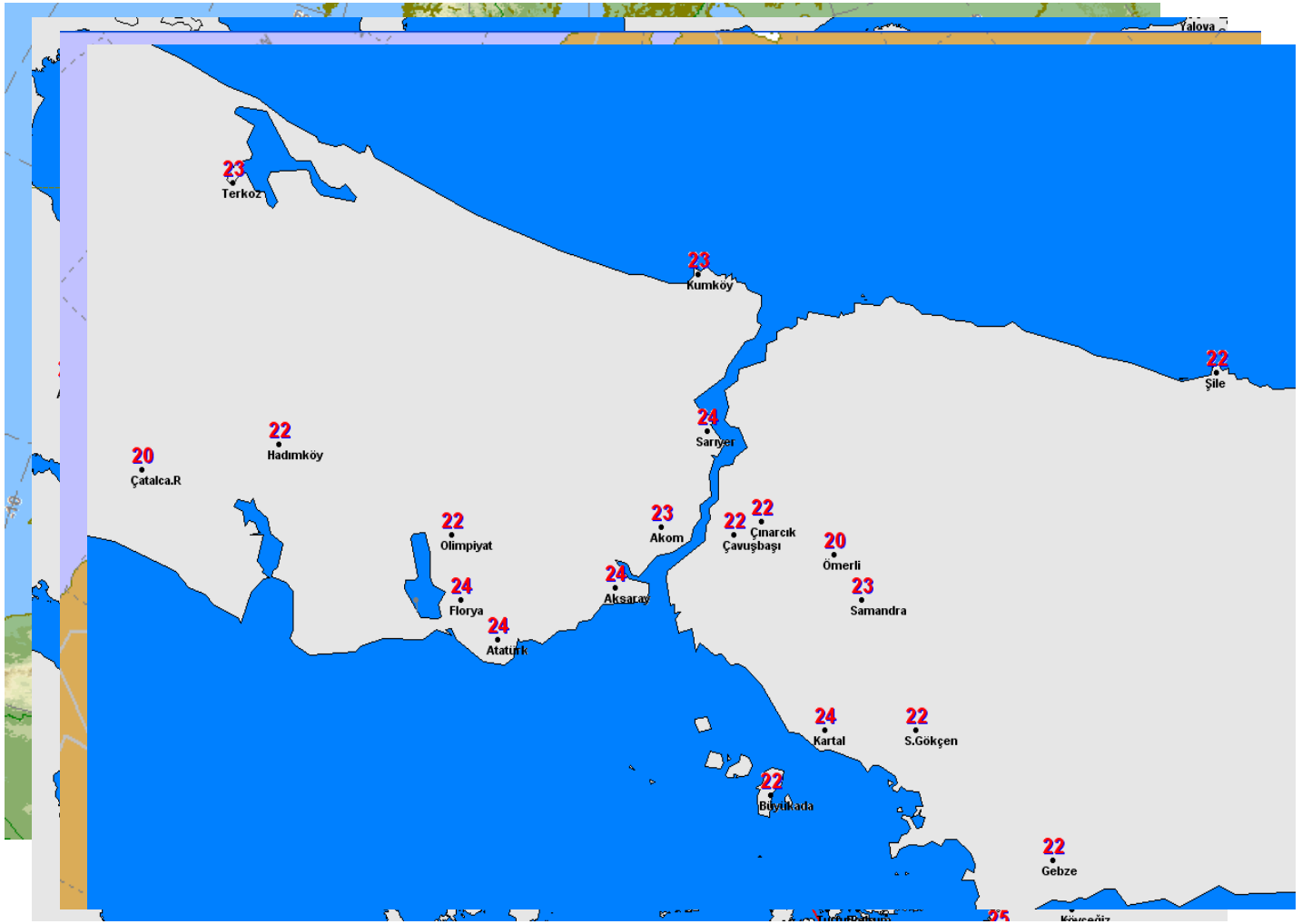




Preparing Meteorological Maps

Map Background Definition

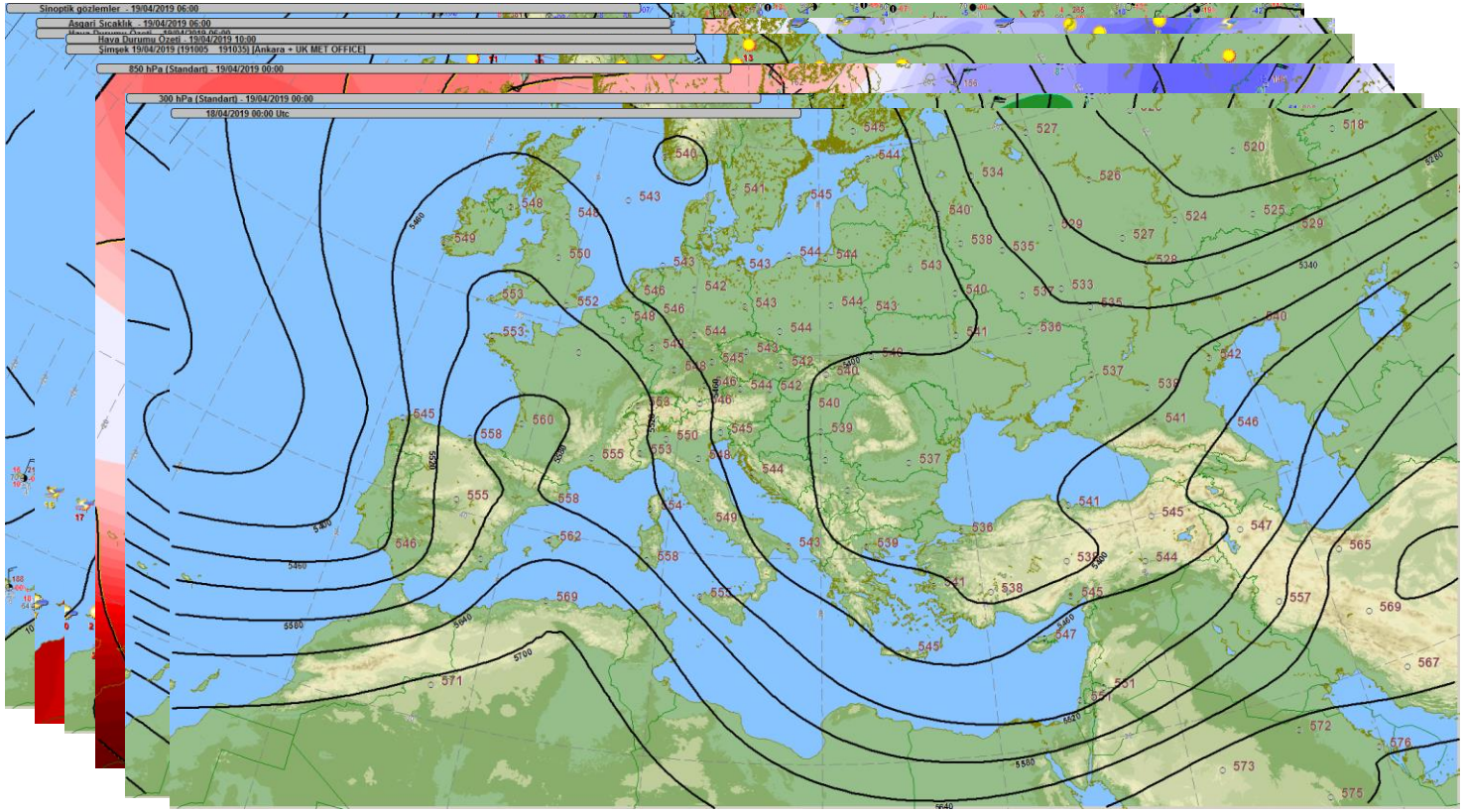
- Different Projections (Mercator, Polar Stereographics etc)
- User defined areas
- User defined map display
- Topography in colors
- Zoom in/out
- Country , province borders



Preparing Meteorological Maps

Actual Maps

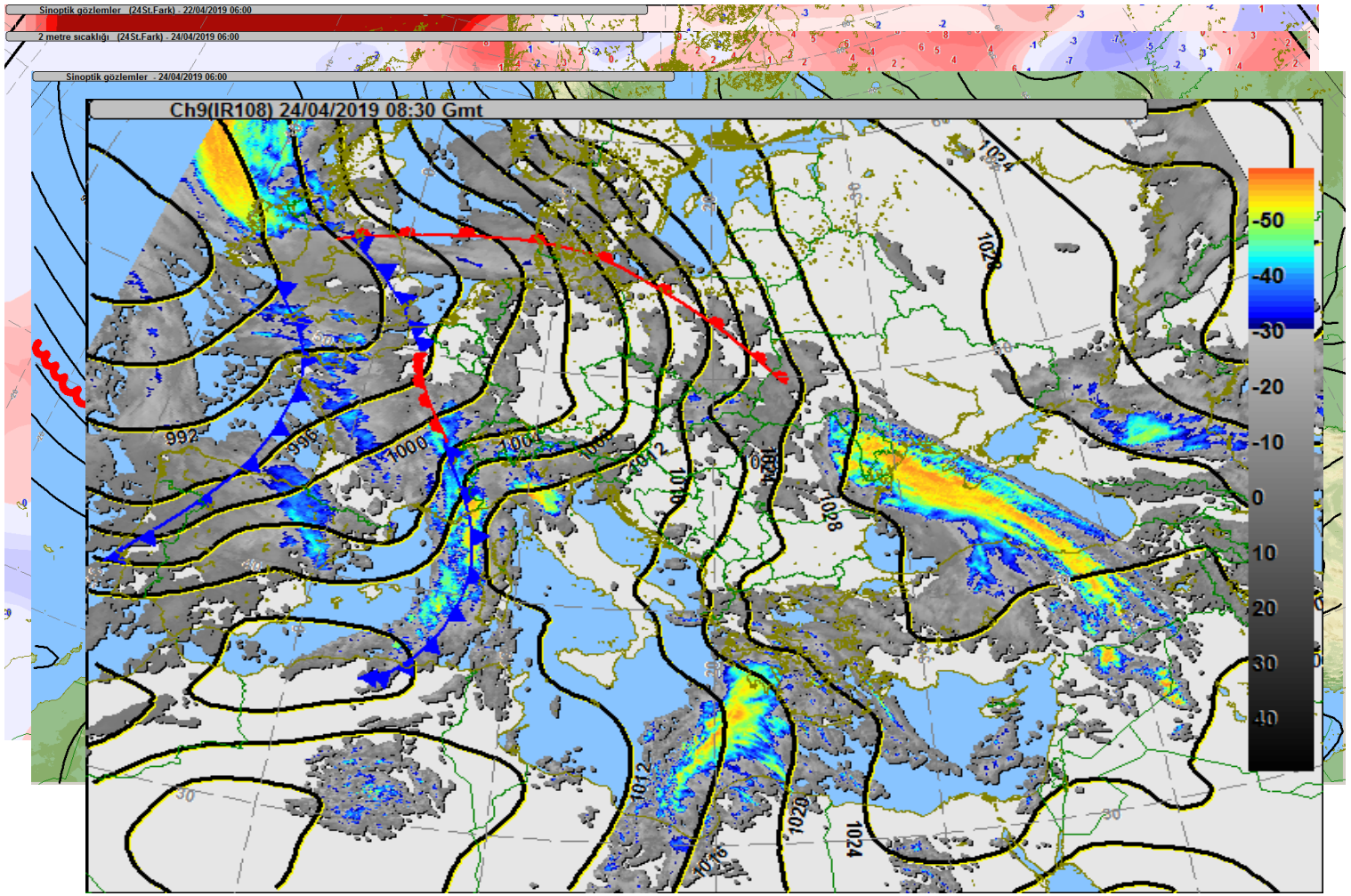
- Synoptic Charts
- METAR Charts
- Lightning observation
- All Upper Level Charts
- Instability Inices
- Thickness Charts
- Etc



Preparing Meteorological Maps

Actual Maps

- Change in any parameter 12/24 hr period for any parameter
- Adding symbols and messages on the map manually
- Created maps may be sent to MSS with an appropriate GTS Header automatically or manually



Preparing Meteorological Maps (NWP)

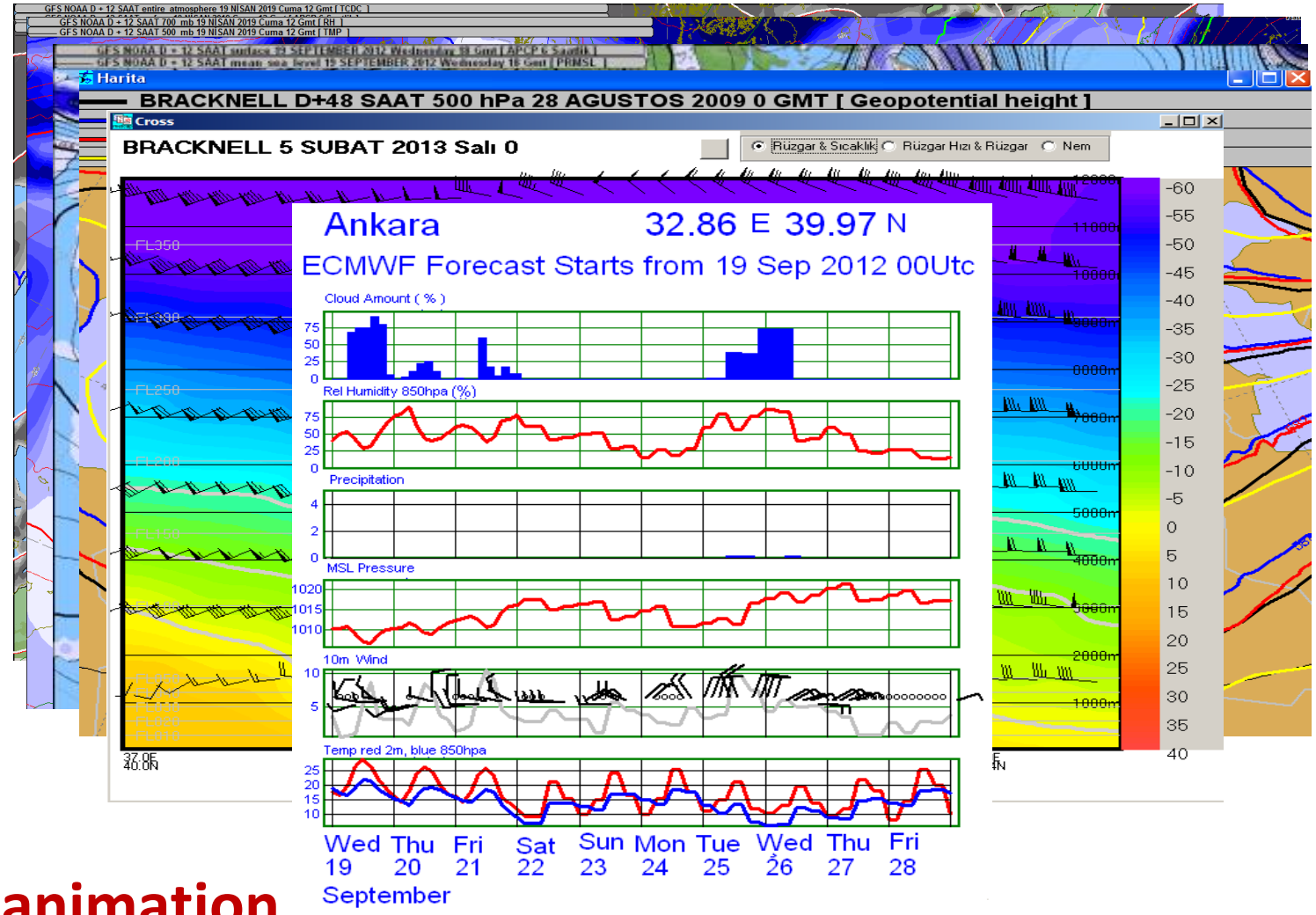
Uses data from Different Centers

- ECMWF
- NOAA + Exeter UK
- NATO Offenbach vs

Various Product Generation

- Contouring
- Meteograms
- Change in Parametres
- Worldwide area selection

Auto product generation and animation



Preparing Meteorological (Satellite)

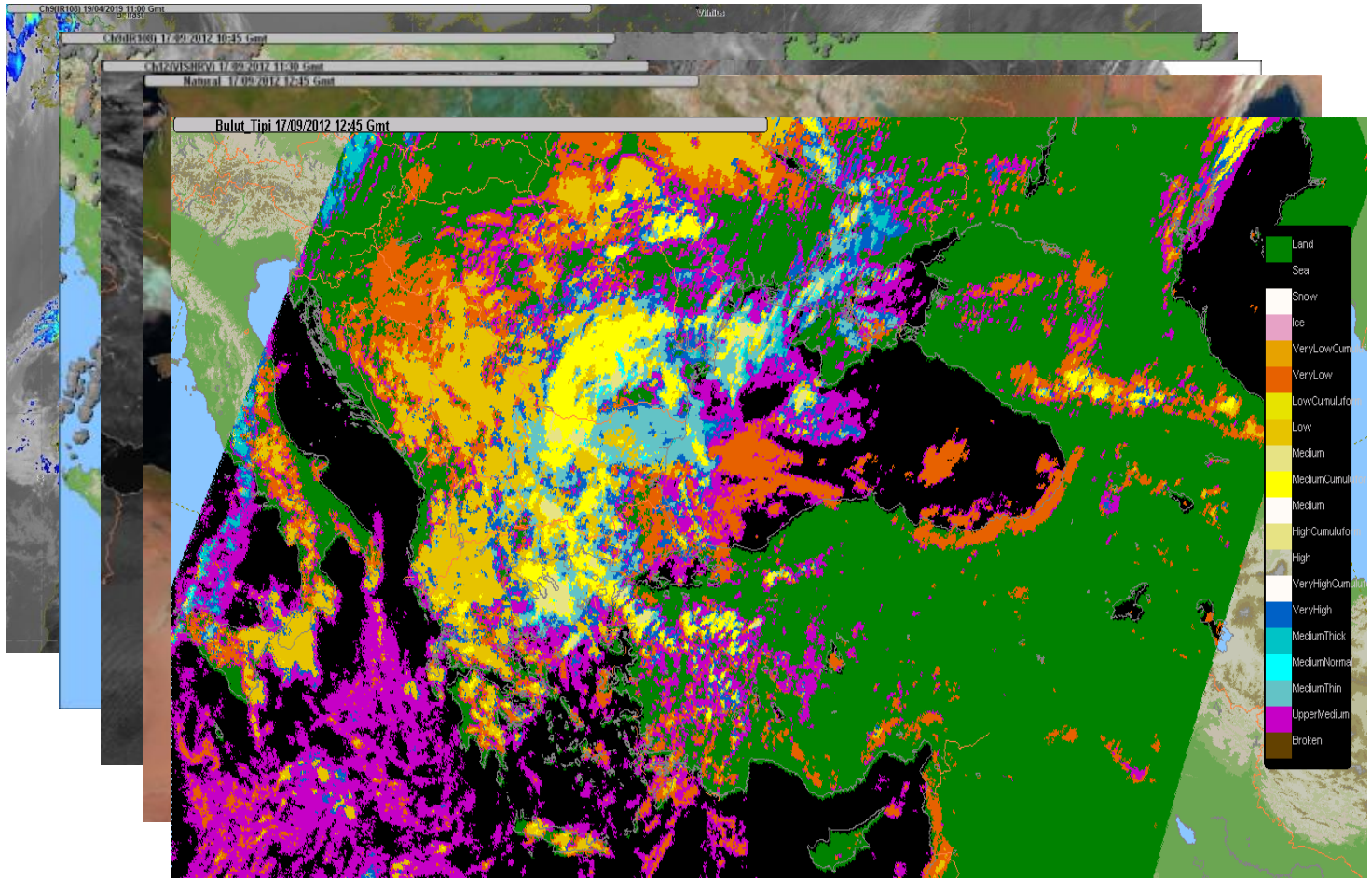
Channel Values

- All IR, Visible and WV Channels
- Different SAF products
- RGB Products

Product Combinations & Overlaying

- Radar
- NWP
- Actual Observations

Auto product generation and animation

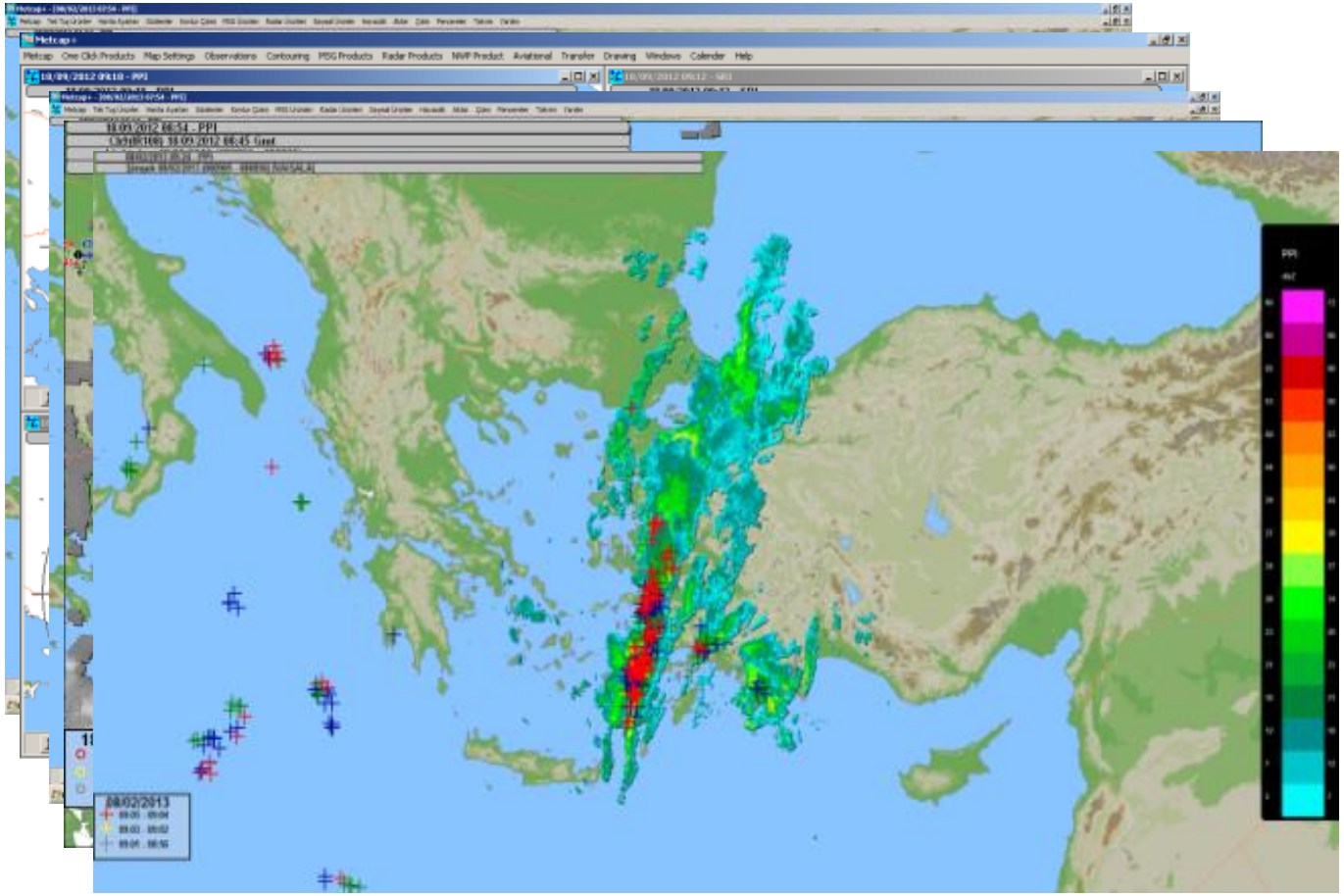


Preparing Meteorological (Radar)

- PPI
- MAX
- SRI CAP etc

Product Combinations & Overlaying

- satellite
- NWP
- Actual Observations



Combination of Meteorological Products

- All actual, Satellite, Radar, NWP, Lightning and Aviational products may be displayed on the same map for the selected regions.

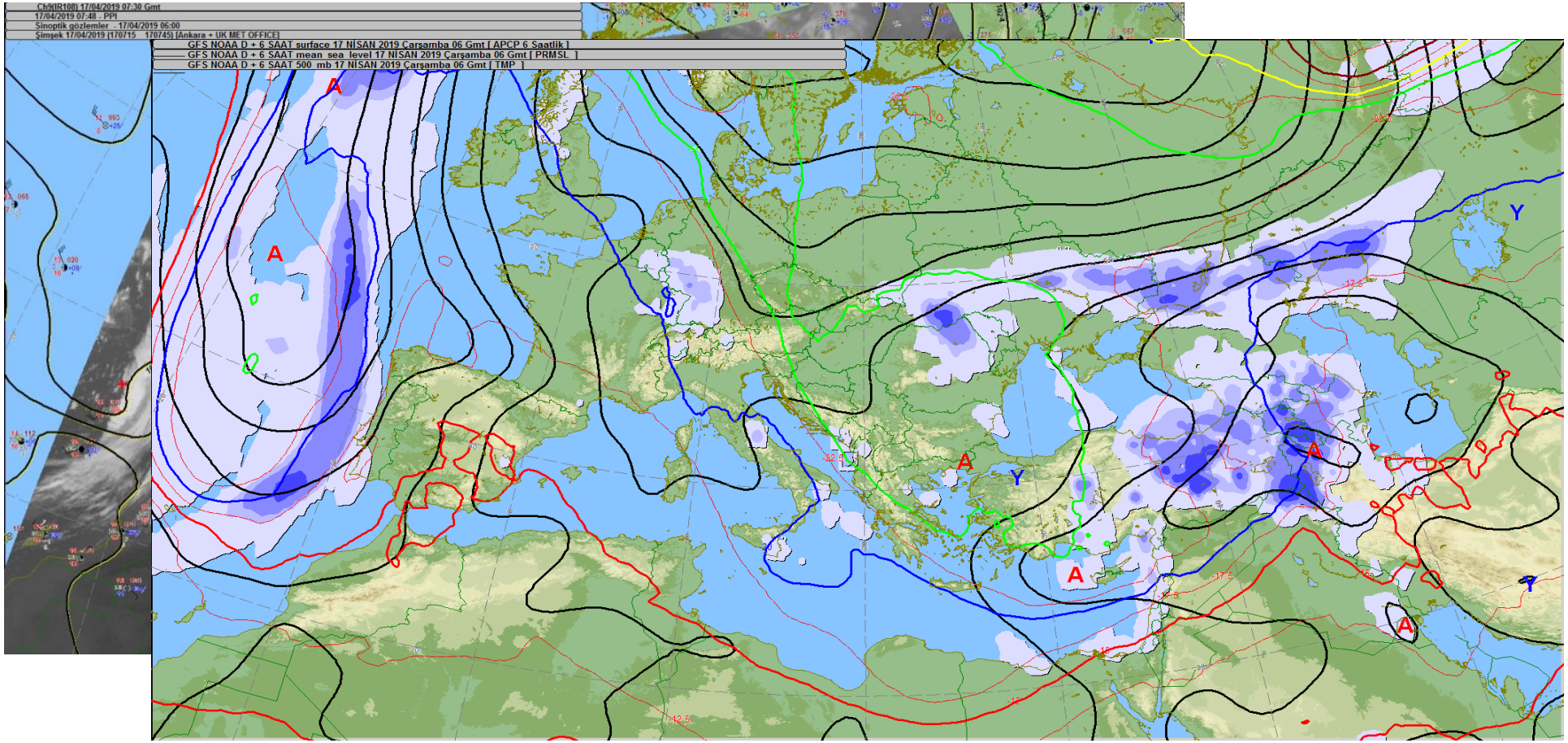
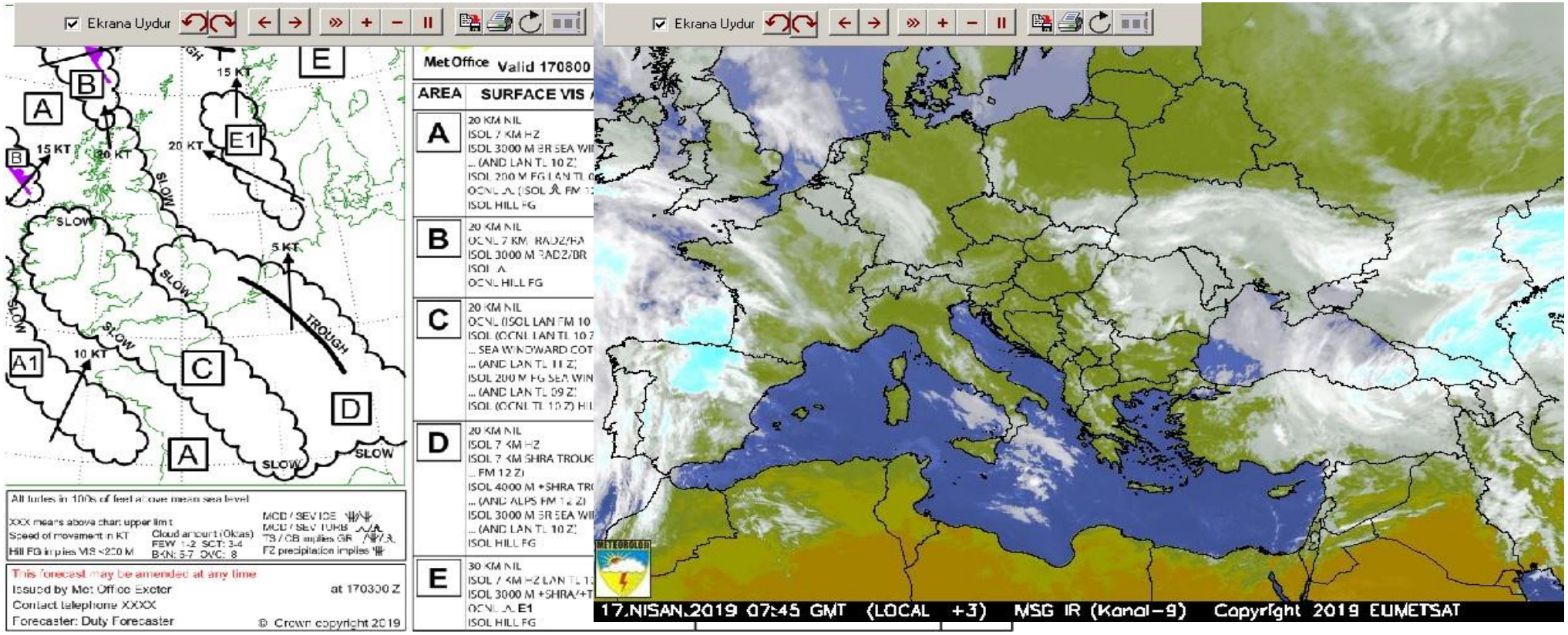


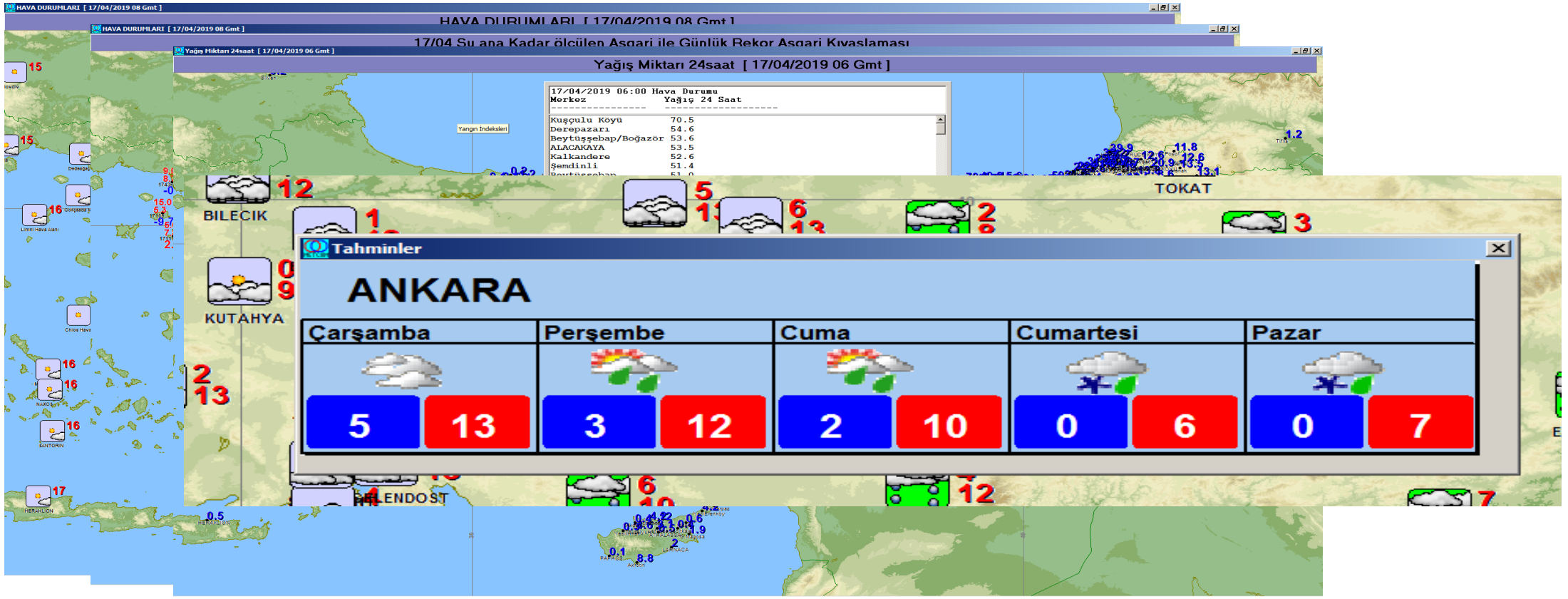
Image Viewer

- The Meteorological products generated by different centers in different Image formts may be displaed and animated.



Weather Monitoring

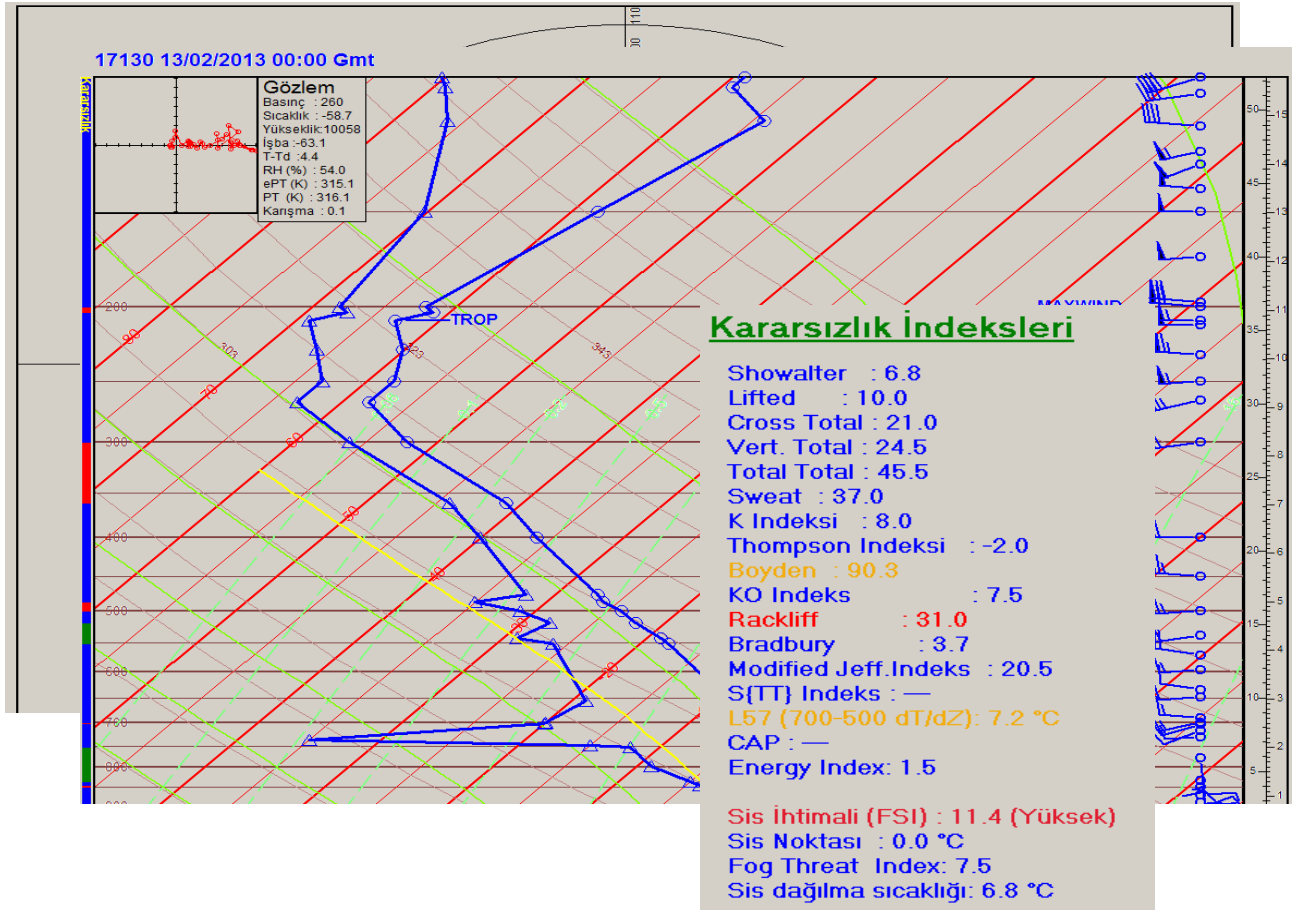
- Latest Weather conditions and measured parameters from Synop and Metars
- Latest Satellite, Radar and Lightning imaes and animation
- Forecast for the cities from both weather reports and TAFs
- Using Climatological Data with actual Data



SkewT LogP

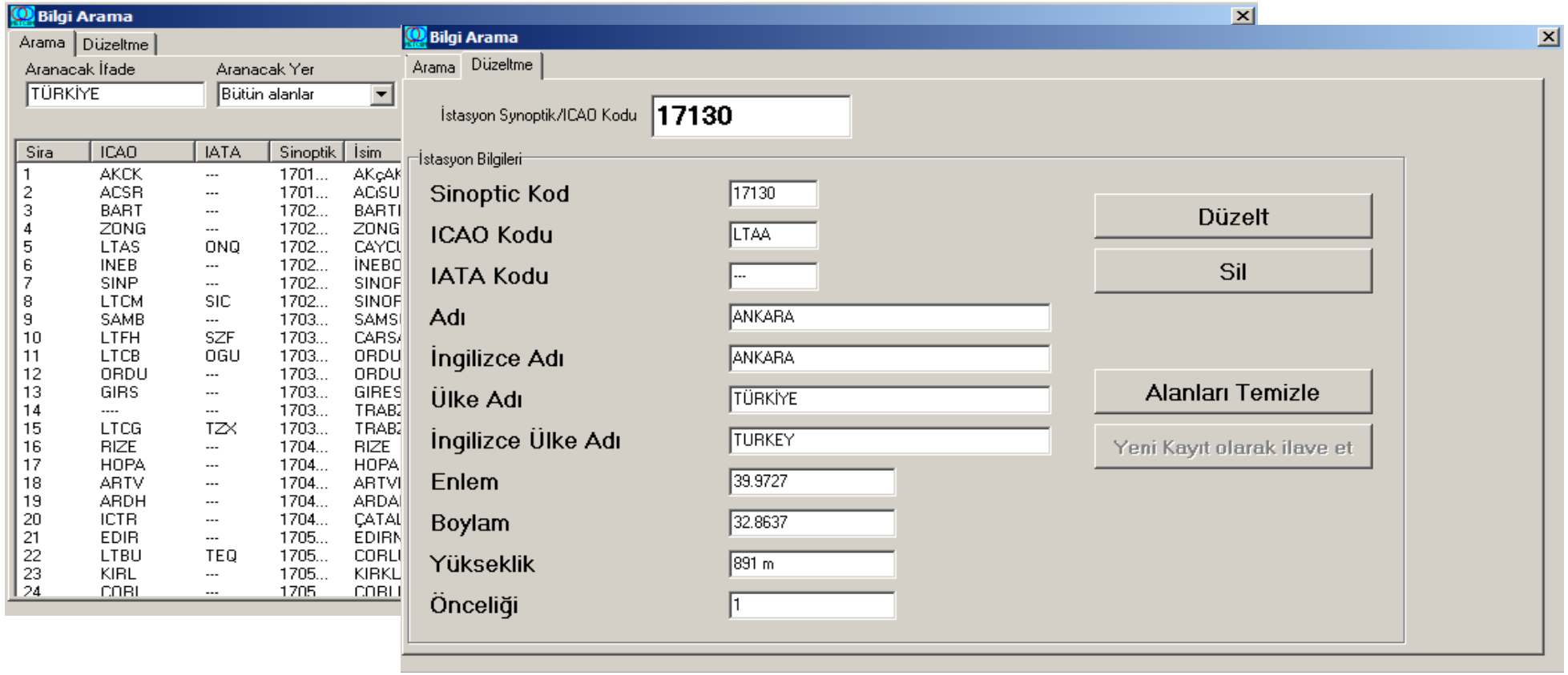
Skewt & Hodogram

- Thermodynamic calculations
- Instability indices
- Important levels and values
- Inversion levels and type
- Using TAC and BUFR data
- User defined display



Station Database

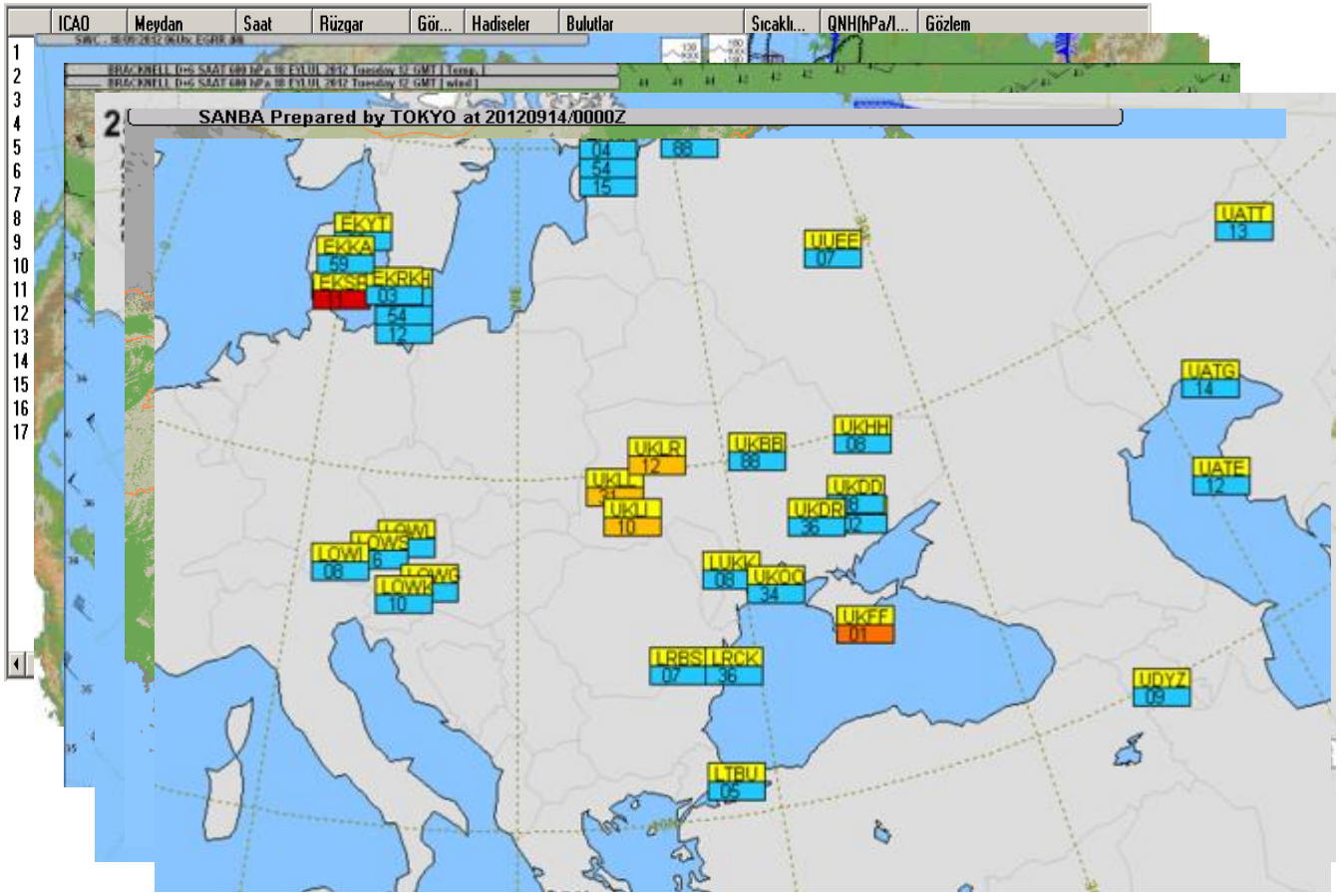
- There are almost 20K station information worldwide
- New records may be added
- Current data may be updated



Aviational Products

Products from TAC, BUFR & GRIB1/2 Data

- SWC, wind, temperature
- SIGMET, Tropical cyclones, Hurricanes and Volcanic ash reports
- SNOWTAM, TAF

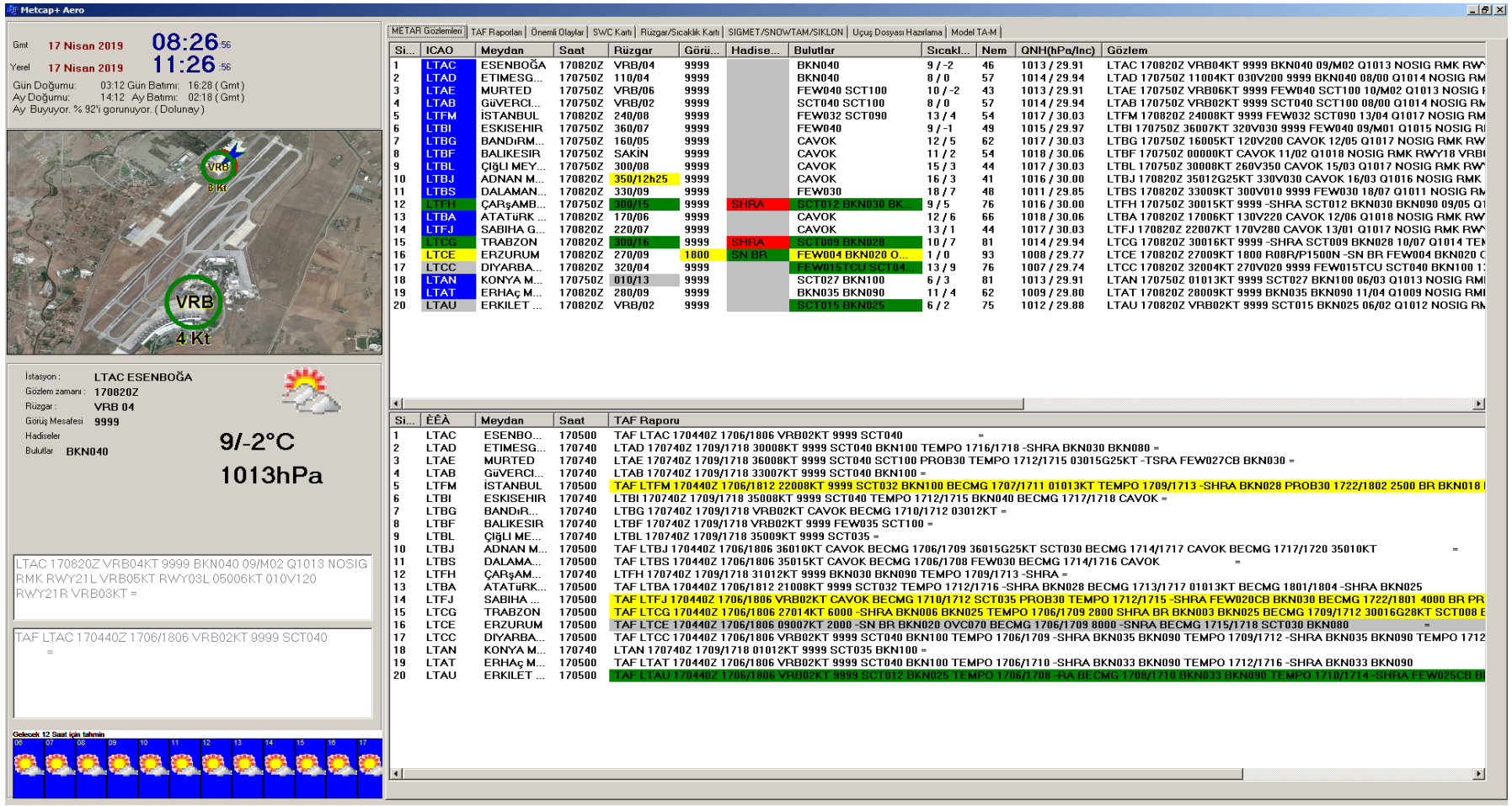


Flight Documentation

- Planned or Instant flight folders
- Cross section for the routes
- Latest METAR, TAF, Sigmet reports

Aviational Products

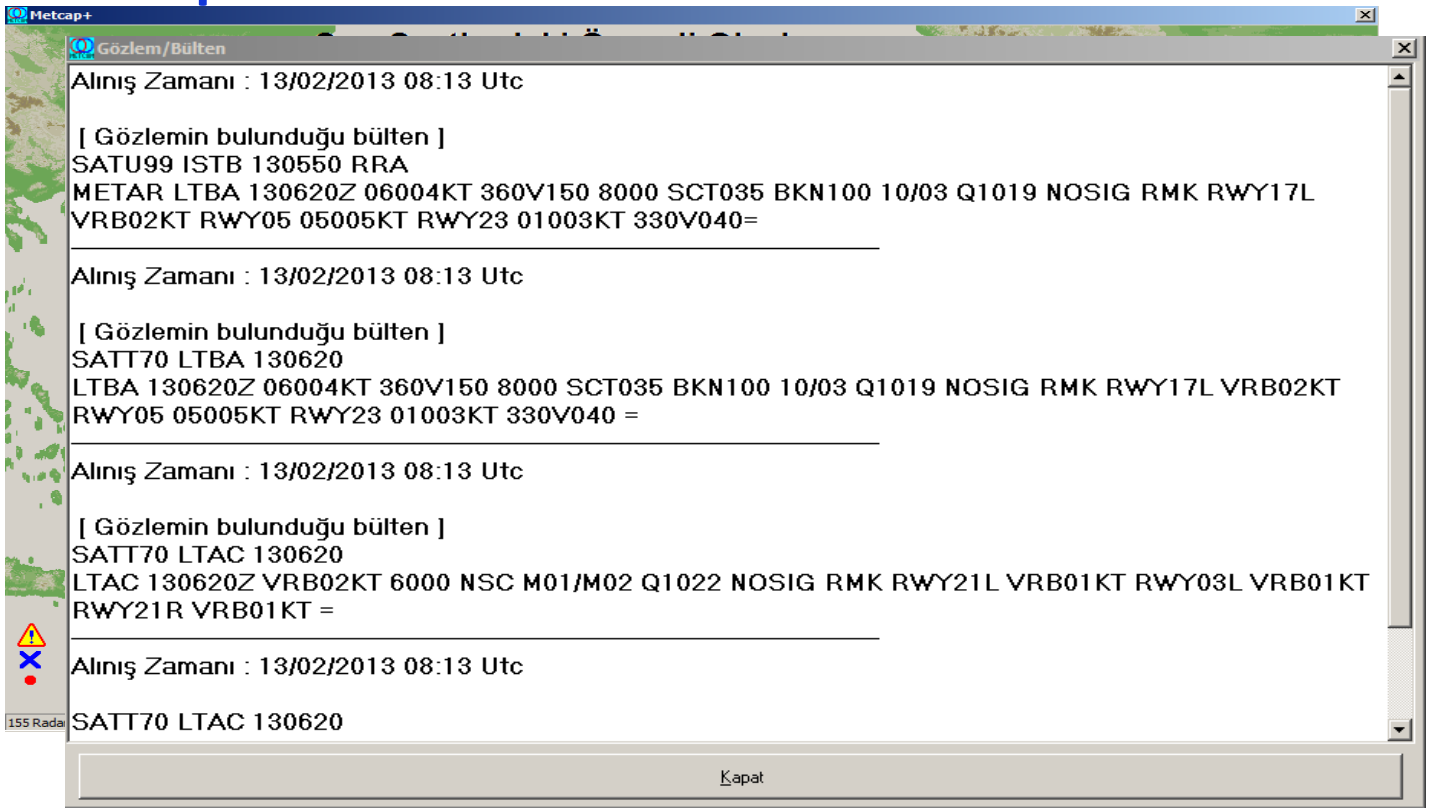
- Selected airports may be monitored with latest reports
- Flight folders may be prepared manually or automatically at defined times.



Warnings

Auto warning for selected regions

- Checking all received Synop, Metar and speci reports
- User defined thresholds
- Radar data control
- Lightning data control
- Auto popup windows
- Warning with Voice

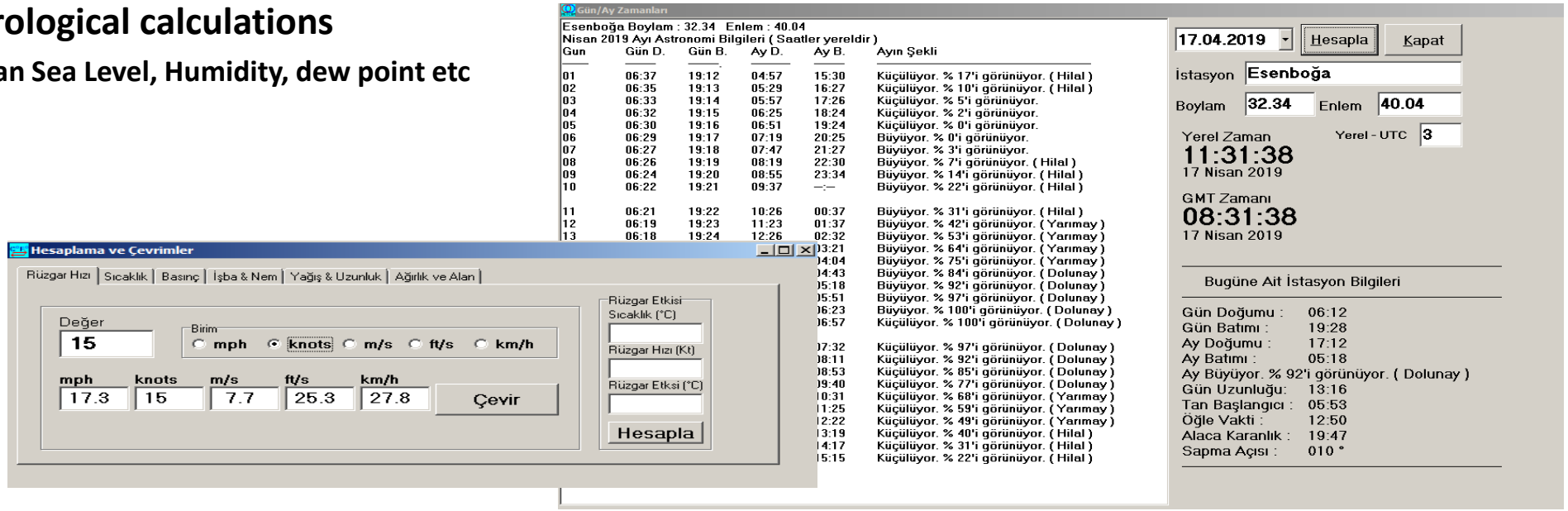


Documentations

- There are two User manuals in Turkish and English Languages (Almost 210 pages)

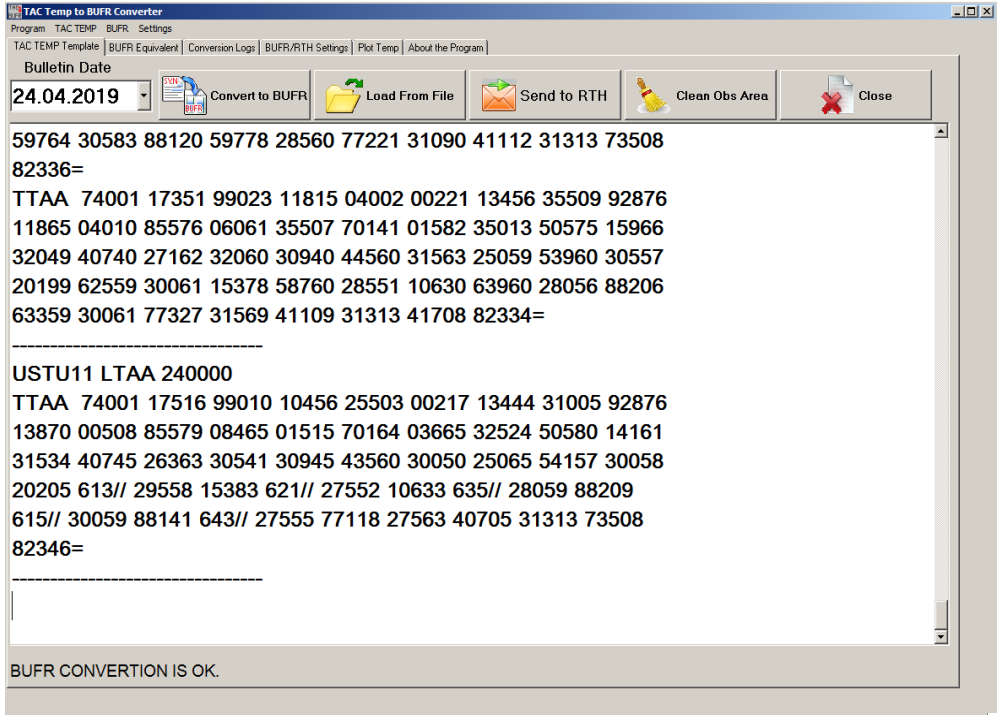
Misc Applications

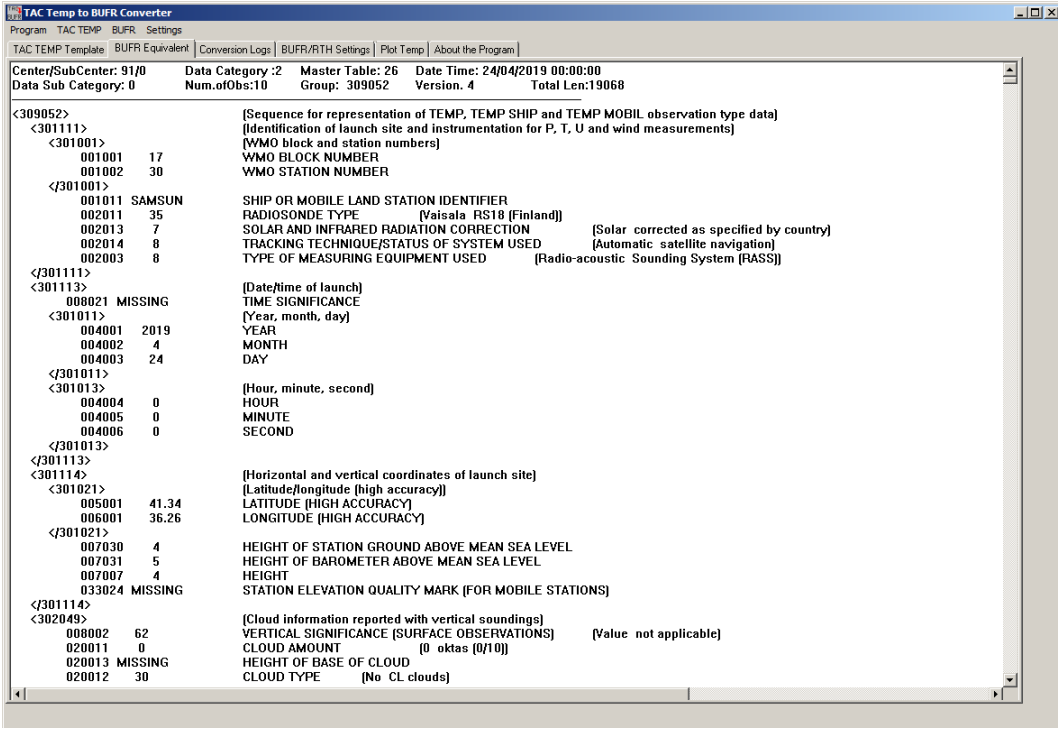
- There are many small appplications
- Meteorological Conversions
- Message sending to MSS and other MetcapPlus users.
- Astrological Data for selected point and dates
  - Time of Sunrise/set, Moon rise/setİstenen
- Meteorological calculations
  - Mean Sea Level, Humidity, dew point etc



Misc Applications

- BUFR Decoder and Encoder for Synoptic, Upper Air and Climat reports
- BUFR encoder converts report manually or automatically
- Upper Air BUFR conversion may use TTAA,TTBB,TTCC and TTDD parts and Sondage data
- All Encoded BUFR reports and TAC reports may be sent to MSS

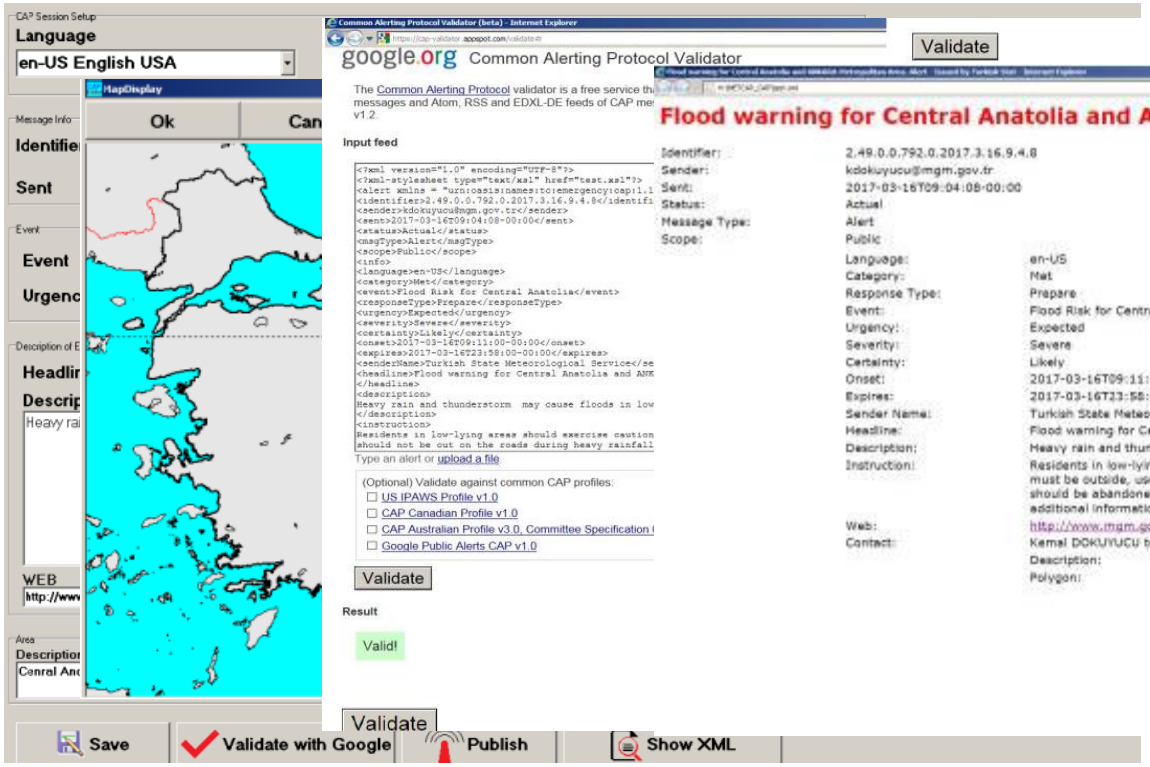




Misc Applications

Metcap CAP Editor

- **Creates Common Alerting Protocol reports as stated in ITU catalog**
- **Creates XML and RSS files**
- **Makes Validations of the reports.**



Thank You