*NinJo*

System Overview and Usage for Aviation Meteorology at DWD

Stephan Schmidt, Michael Rohn, Dirk Heizenreder

12th Workshop on Meteorological Operational Systems
ECMWF, 2-6 November 2009

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Outline

1. **Overview, latest features, and status**

2. **Usage for aviation forecast at DWD**

➔ *Live-Demo during this week !*

where we are ➔

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NinJo - joint development of meteorological workstation

(1) Improve forecasting processes within the Consortium

- ➢ Visualization of met Data (OBS, Radar, SAT, NWP,…)
- ➢ Production and Warning processes (IGE, EPM, Batch, OSA, MMO)
- ➢ Delivery of services to the customer

(2) Share resources for development and maintenance

- ➢ Each partner provides resources for development and maintainance
- ➢ Personal and financial resources

(3) Licensing of the NinJo-Software

- ➢ User licensing income for maintenance and further development
- ➢ Licensees profit also from that way of working
- ➢ Licensing information: **[www.ninjo-workstation.com]**

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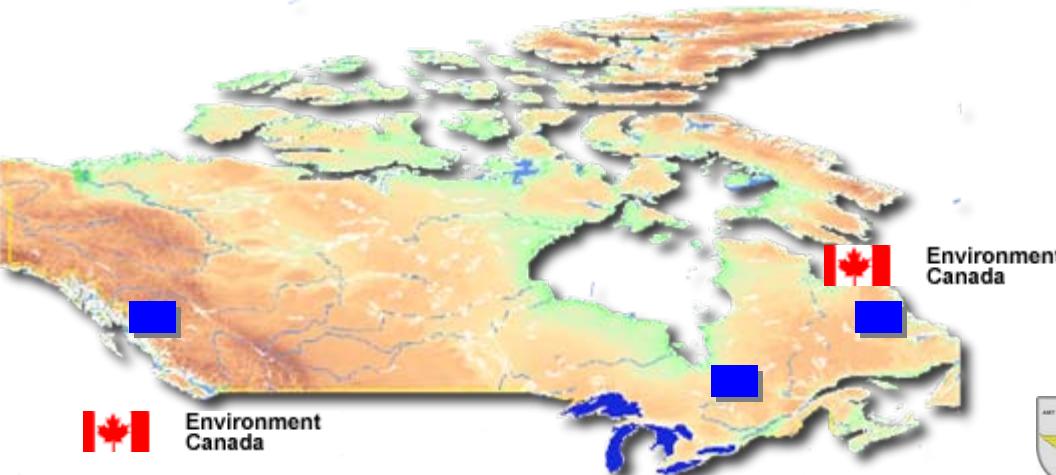
## *NinJo* Consortium

- ❑ International collaboration
- ❑ Contract of the consortium signed 2006
- ❑ Contract committed 2009
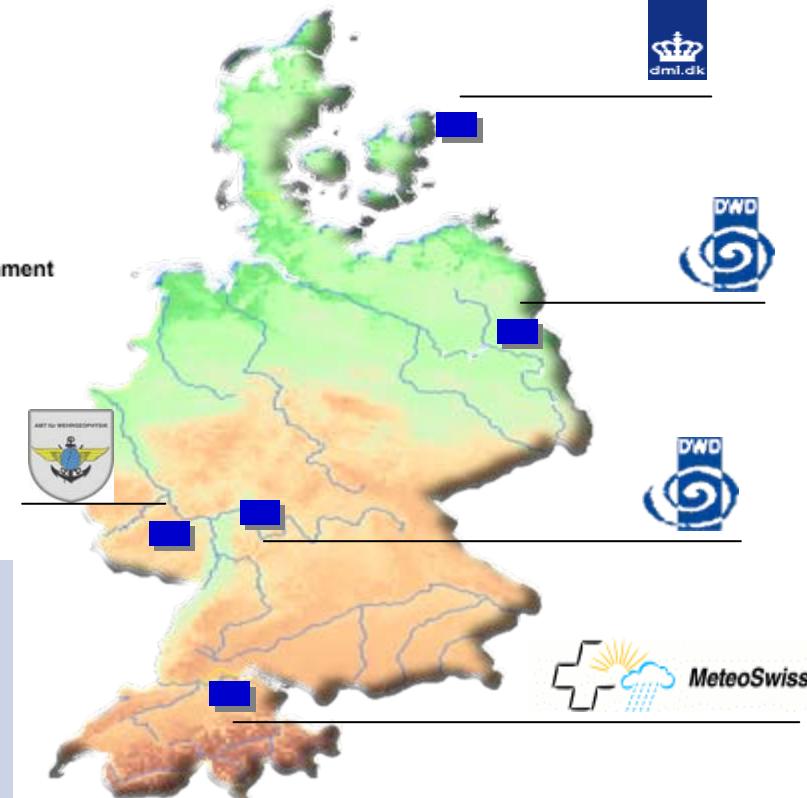
NinJo - modular technical design


Modular structure
eg.GRIB data
↓
GridLayer
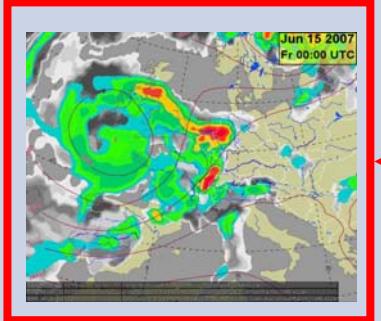
Many data types
GRID, BUFR, Radar, Satellite, warnings, cells, points, areas, …

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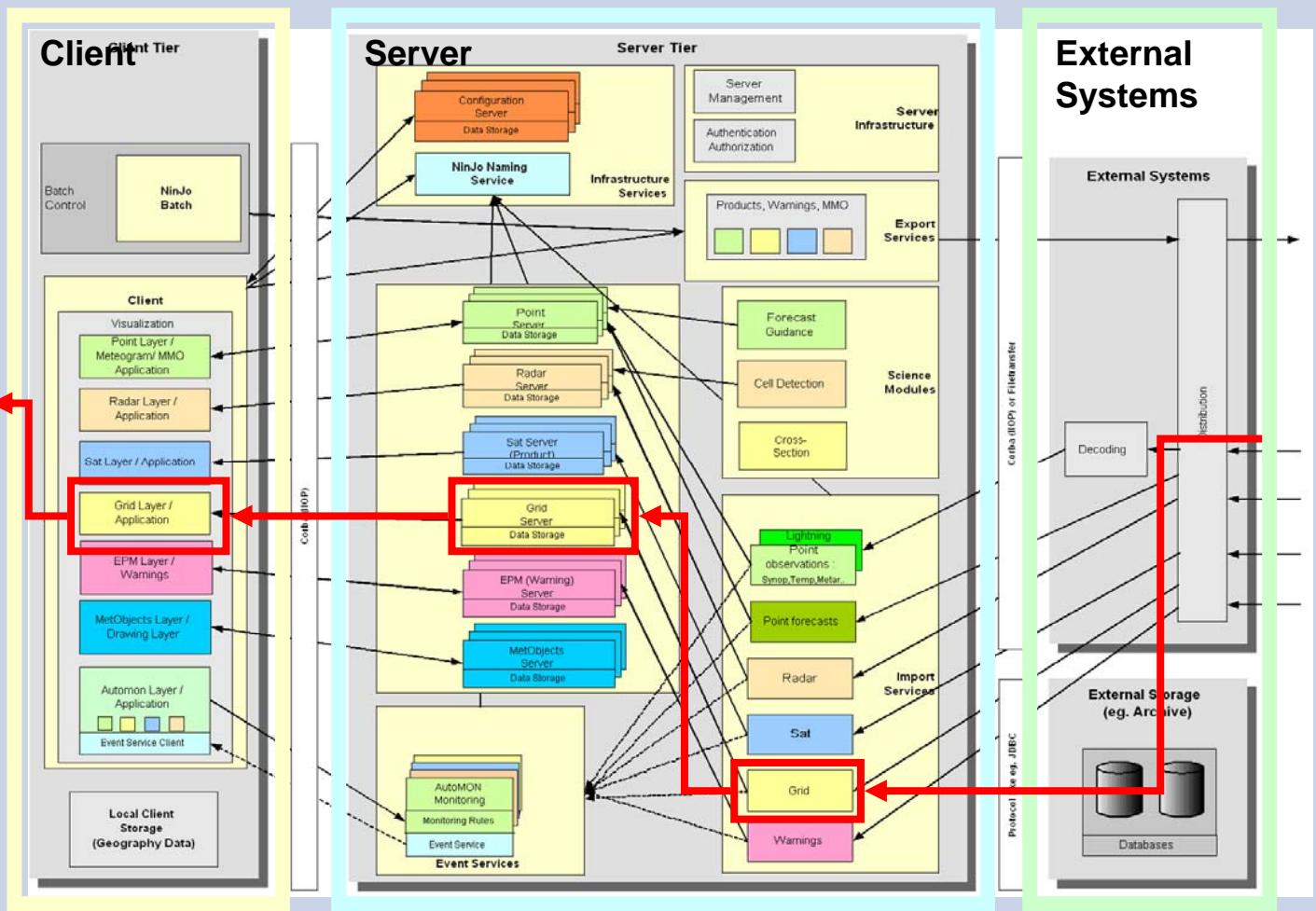
NinJo - new features : „AutoWARN"

Project **AutoWarn** finished at DWD

➔ automatic generation of warning status from various data sources (observation, model, MOS-postprocessing)

➔ support to warning process
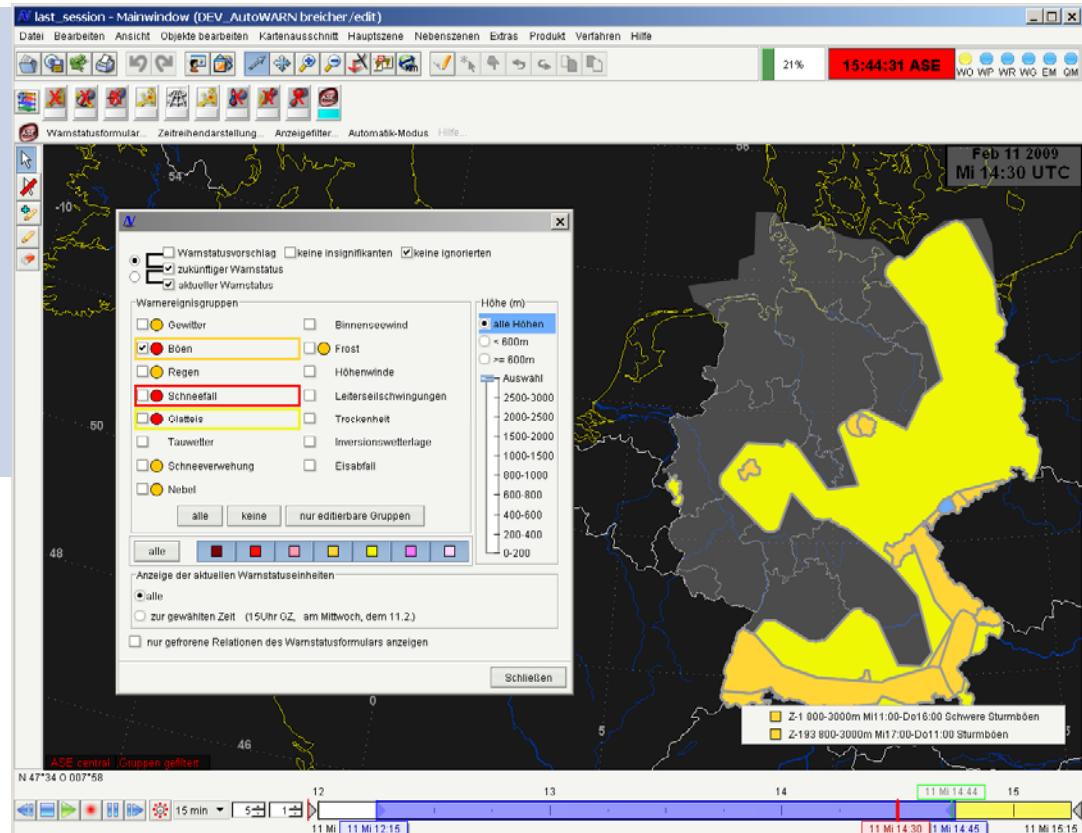
➔ **Bernhard.Reichert@dwd.de**

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NinJo - **new features : „WMS Layer"**
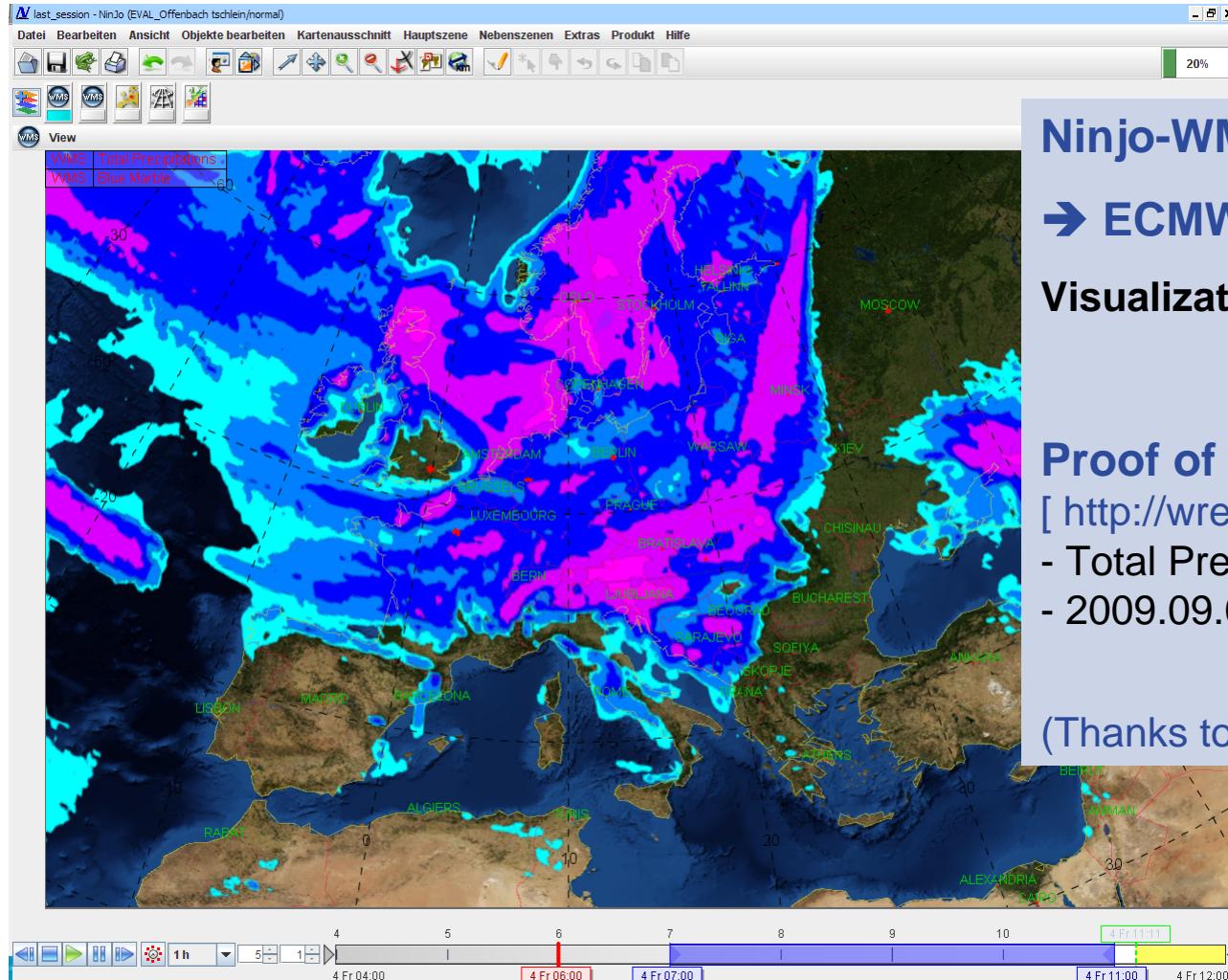
Ninjo-WMS-Layer

➔ **ECMWF-WMS-Server**

Visualization of existing WMS-data

Proof of Concept with
[http://wrep.ecmwf.int/wms/]
- Total Precipitation
- 2009.09.04 – 06:00 UTC

(Thanks to ECMWF)

NinJo - Scheduled Meteorological Product Creation

**interactive**
ProductWorkbench
➔ *interactive editing*
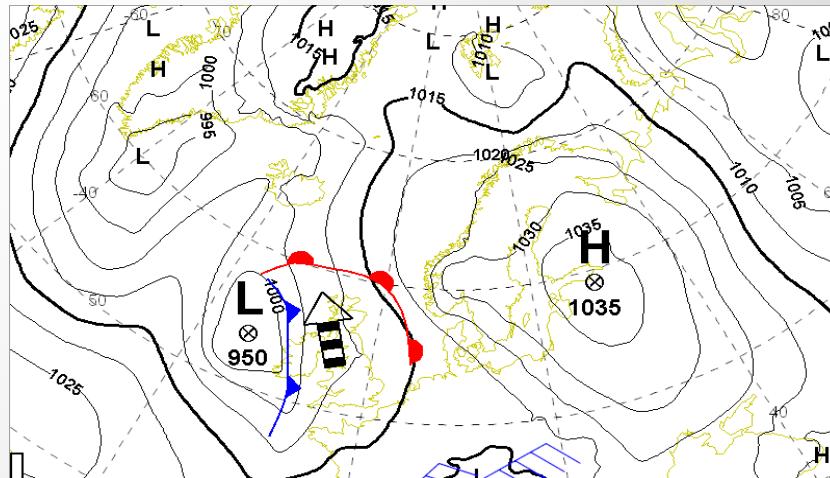
since October 2009: operational Significant Weather Chart (SWC)

non-interactive
NinJo Batch
➔ *parametrization*
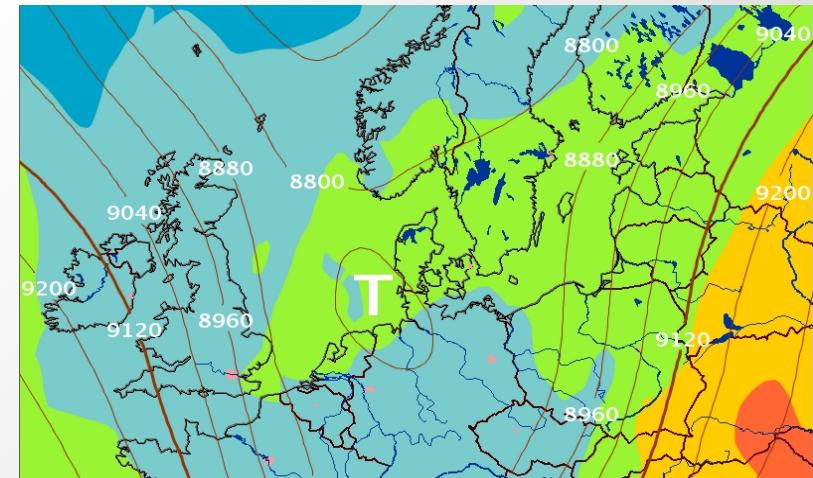
Prototype and testing

Geopotential 300 hPa (gpm)
Temperatur 850 hPa (°C)
VT: Sat 04 Oct 2008 06 UTC (00+126h)
(c) 2008 Deutscher Wetterdienst

NinJo – Operational usage within consortium

… at MSC

- ❑ **2009: operational parallel with legacy system**
- ❑ replacement of legacy system with NinJo-1.3.4
- ❑ 134 Clients, 65 Servers

… at DMI

- ❑ **operational at all sites since 2007**
- ❑ 14 Clients, 8 Servers

… at DWD

- ❑ **operational at all sites since 2007**
- ❑ 350 Clients, 90 Servers

MET-Office Frankfurt

application example for aviation meteorology

… at MeteoSuisse

- ❑ **operational at all sites since 2007**
- ❑ 25 Clients, 5 Server

Using NinJo at Frankfurt Advisory Centre for Aviation

Michael Rohn, Stephan Schmidt
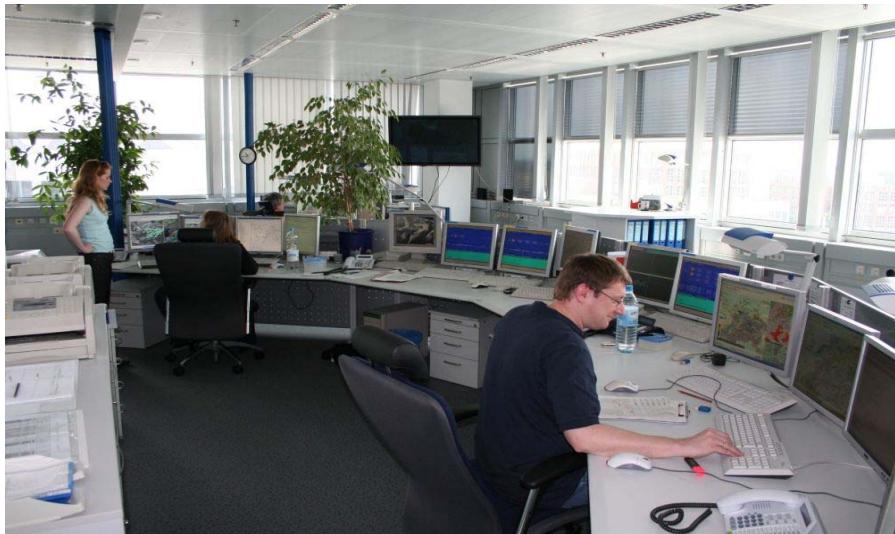
MET-Office Frankfurt Advisory Centre for Aviation

with a view over the airfield and the runways

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Forecasters are working in 24/7 shift work

20 employees

5 workplaces, each with:

• **1 PC / 2 screens**

• **1 NinJo PC / 2 screens**

• **The SWC workplace with 1 additional NinJo PC / 2 screens**

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Duties and responsibilities of Advisory Centre Frankfurt

- **MET-Office Frankfurt is a Meteorological Watch Office (MWO)**

- **TAF for EDDF, EDDR, EDFH, EDFM, EDVK, EDRZ**

- **TAF (4 pm – 6 am) for EDDS, EDSB, EDTL, EDTD**

- **TREND for EDDF, EDDR and EDDS (4 pm – 6 am)**

- **Airport warnings and GAFOR area warnings**

- **Weather reports for ballooning and soaring flight**

- **Advice and reports for Frankfurt Airport Air Traffic Management**

- **Briefing of SAR and General Aviation by phone**

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Duties and responsibilities of Advisory Centre Frankfurt

Airspace:

- **SIGMET Langen FIR**

- **SIGMET Rhein UIR**

- **Significant Weather Chart (SWC)**

- **GAMET/AIRMET Langen FIR**

- **GAFOR for SW GERMANY**

- **Weather reports for Rhein control (Rhein UIR) and German Air Traffic Control**

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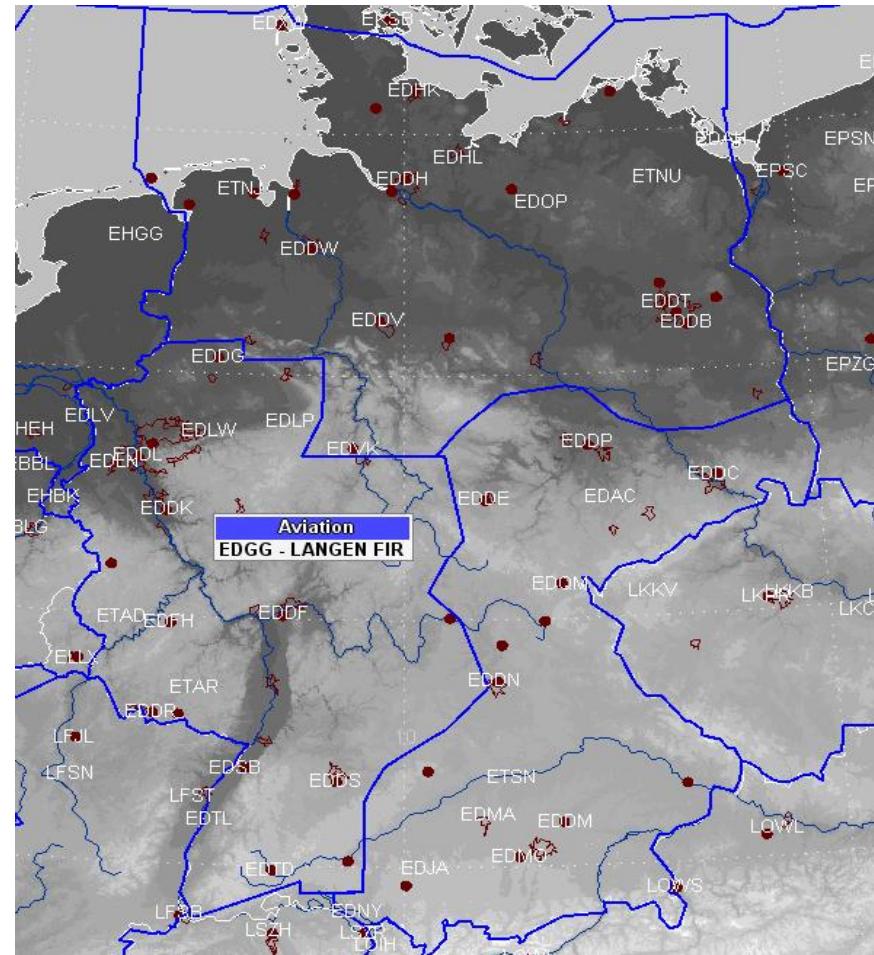
Using NinJo for weather monitoring and weather consultation

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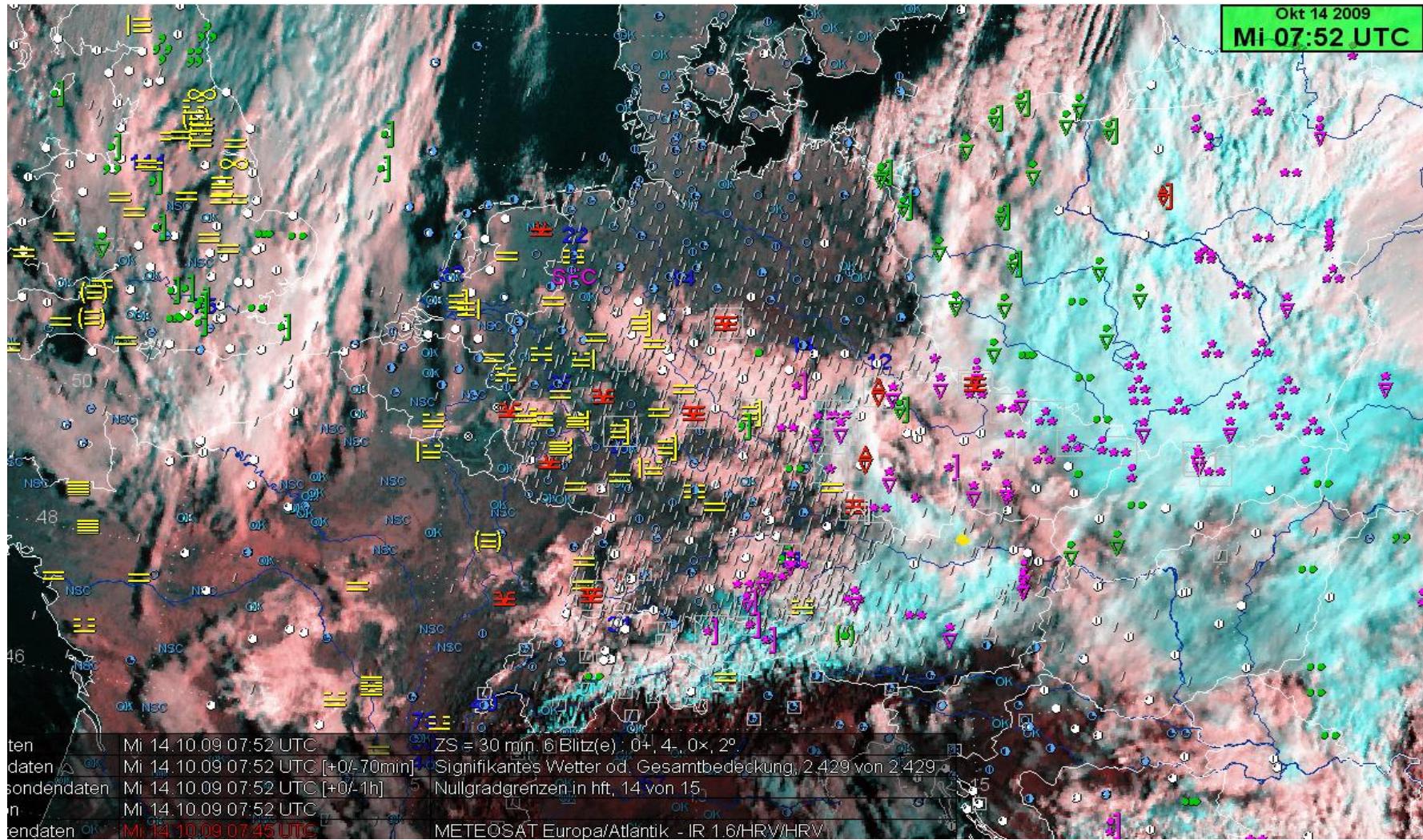
Information about cloud tops at the Satellite Layer

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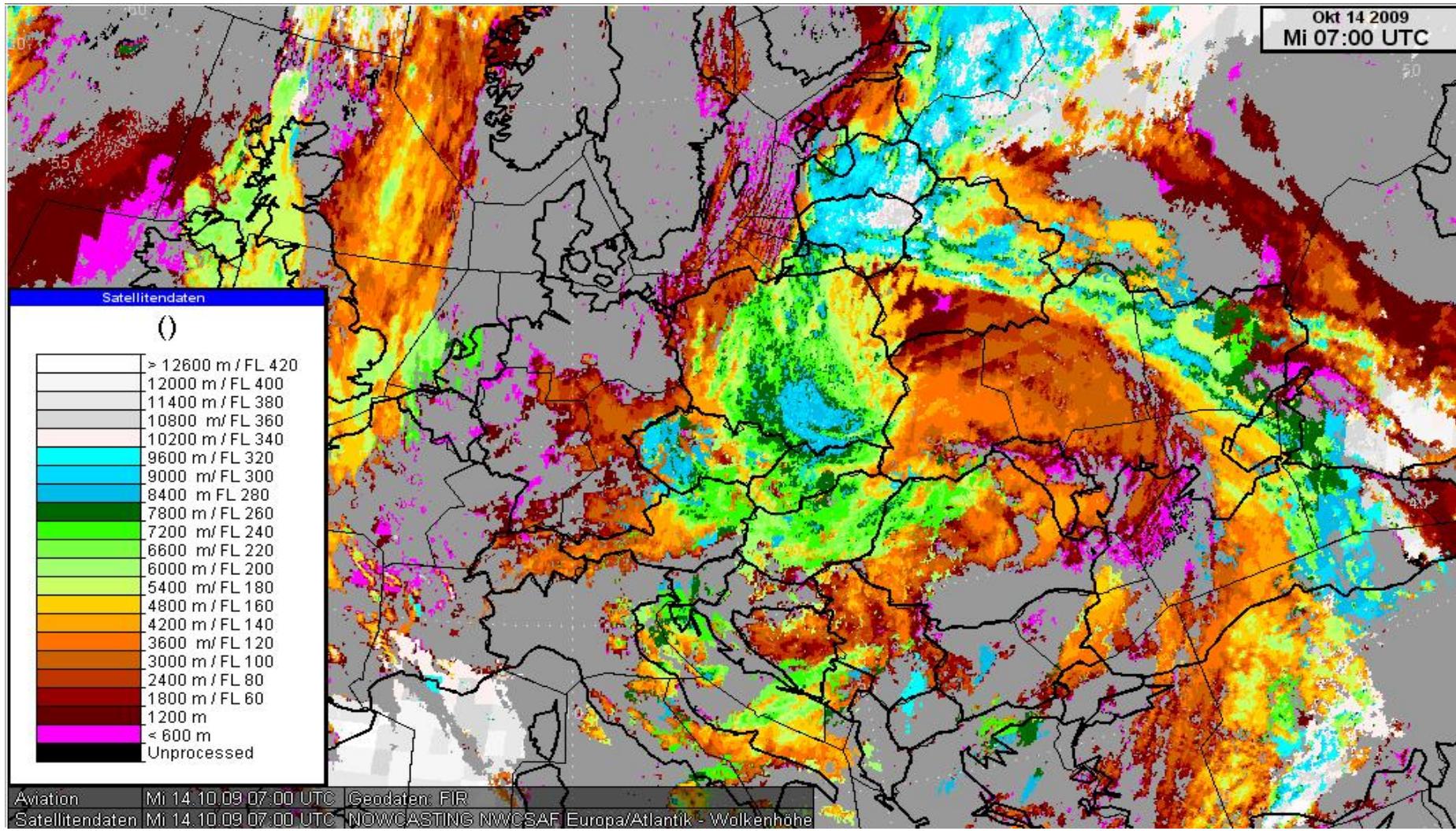
Icing forecast ADWICE available in NinJo

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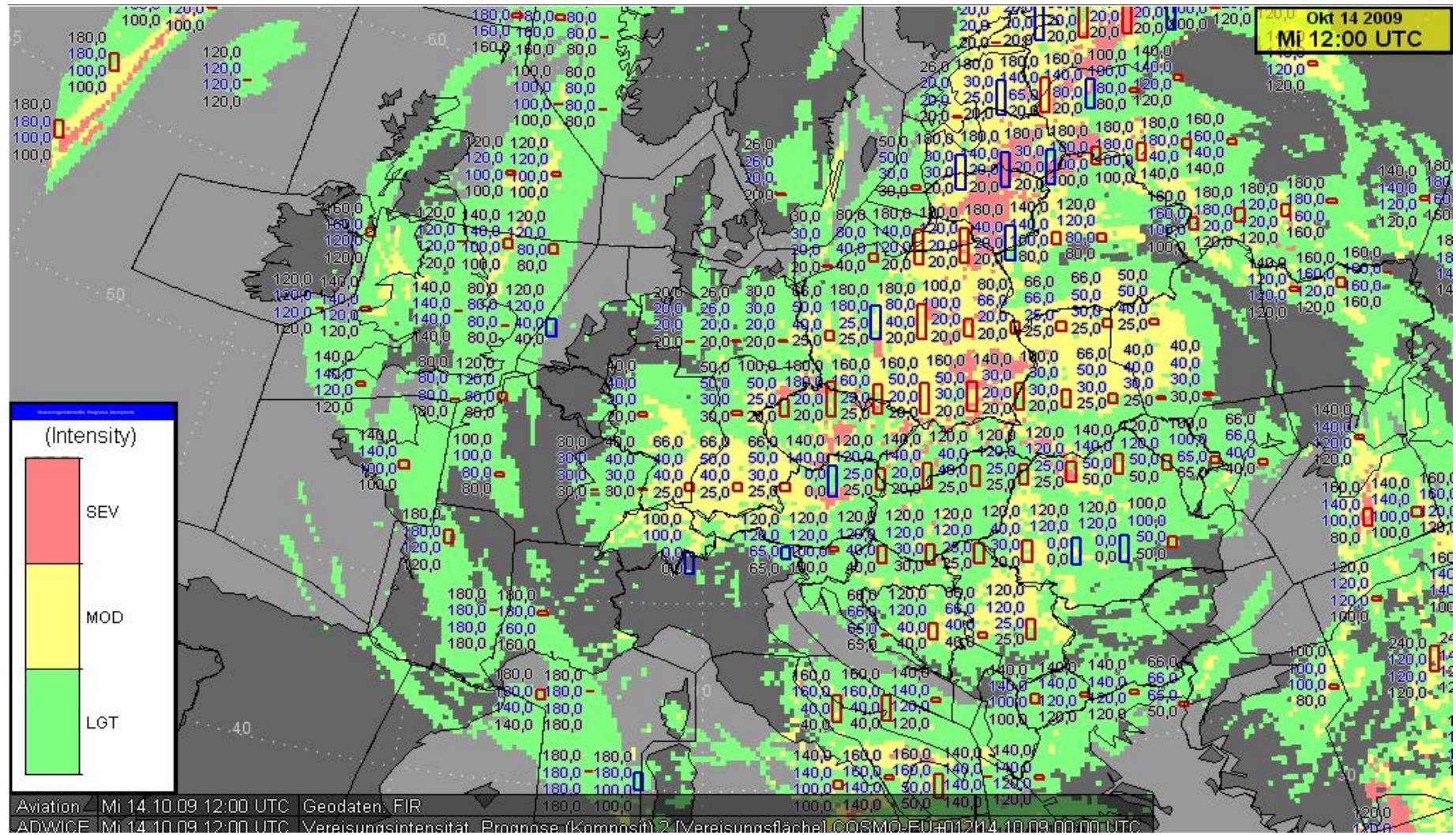
Radar Monitoring via display of FIR and GAFOR borderlines

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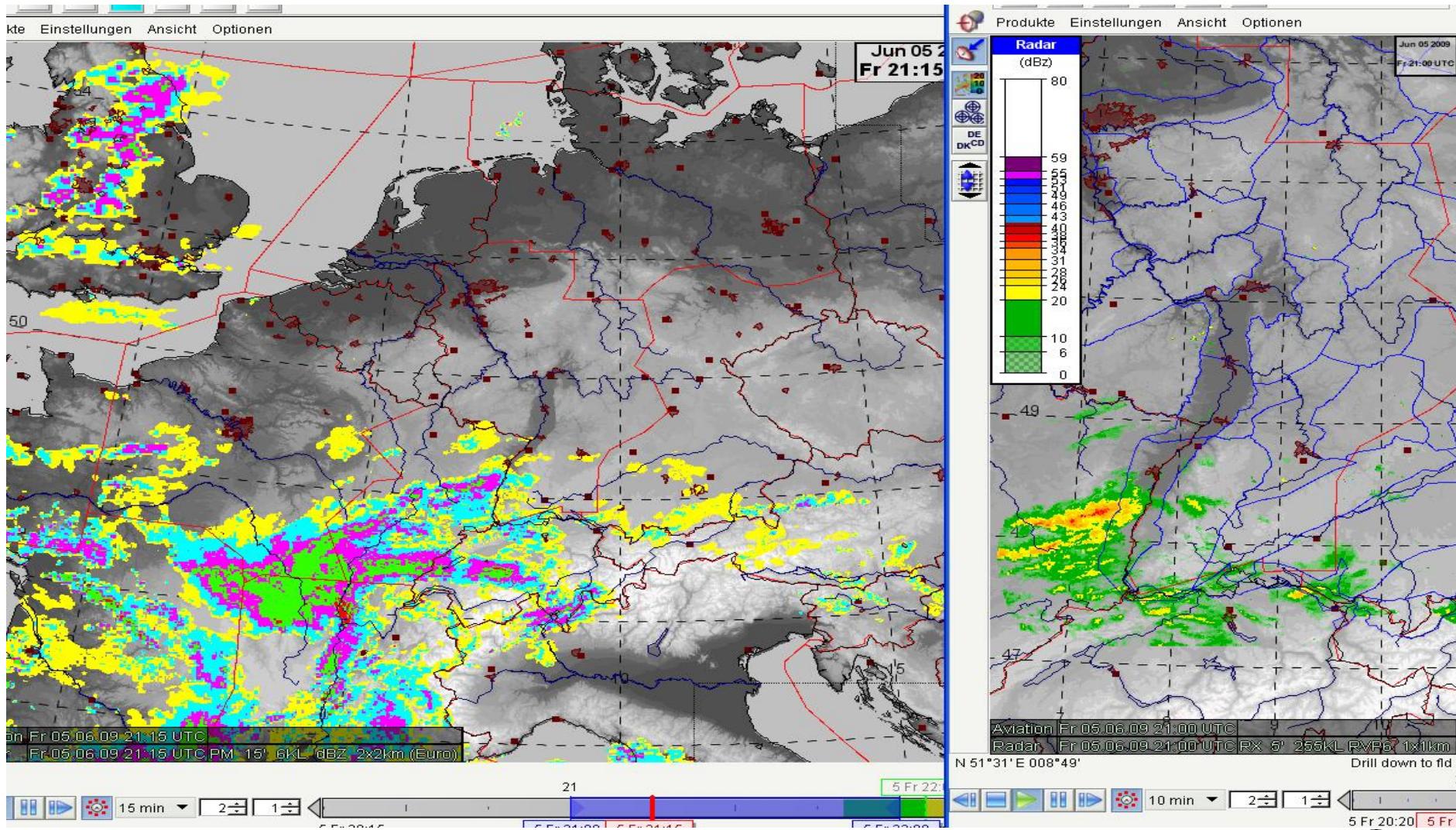
Current Sounding data as well as prognosis Sounding data
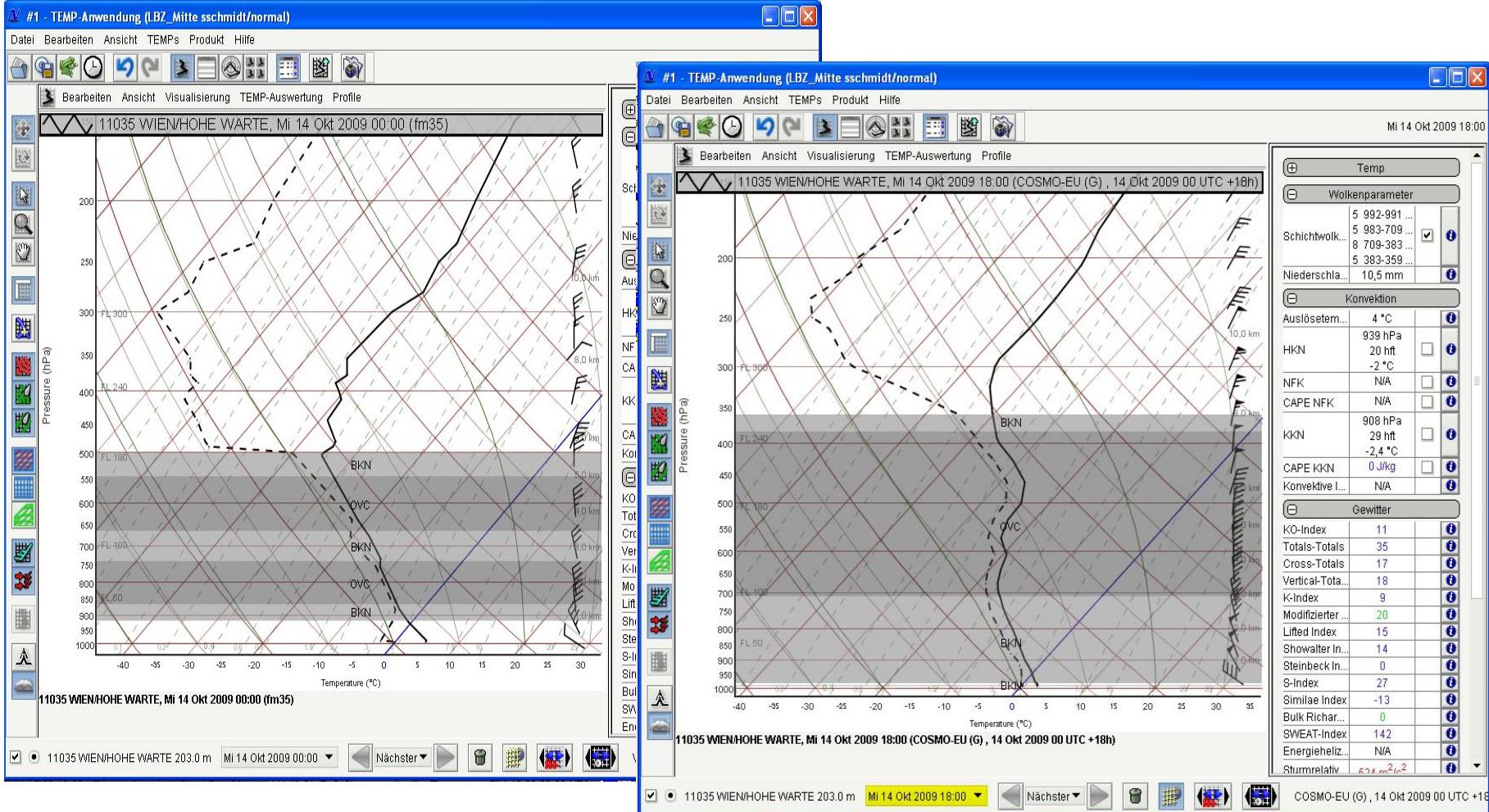
Model data at NinJo Mainscene and Secondary Scenes

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Display of SIGMET:

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Display of METAR and TAF
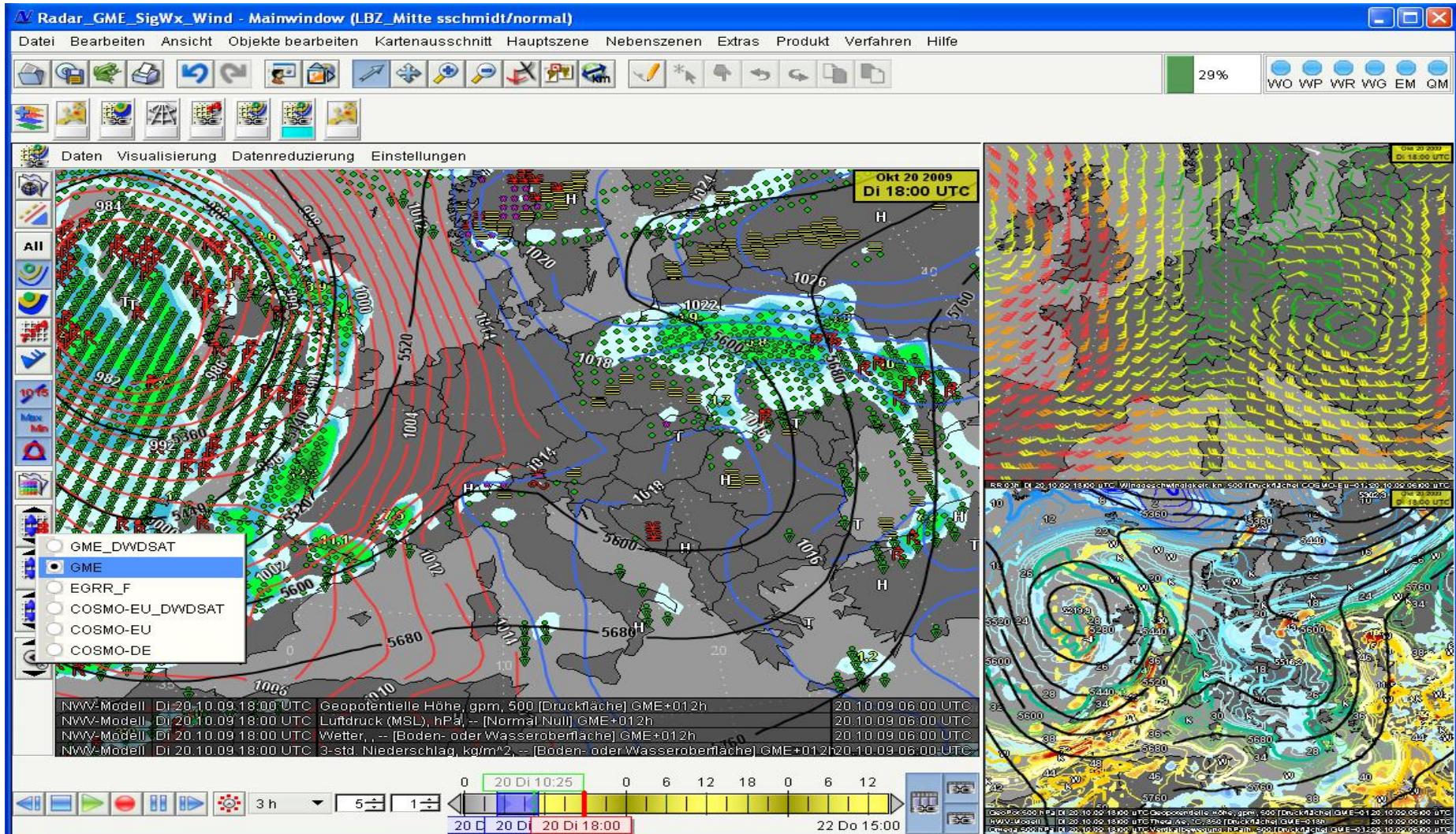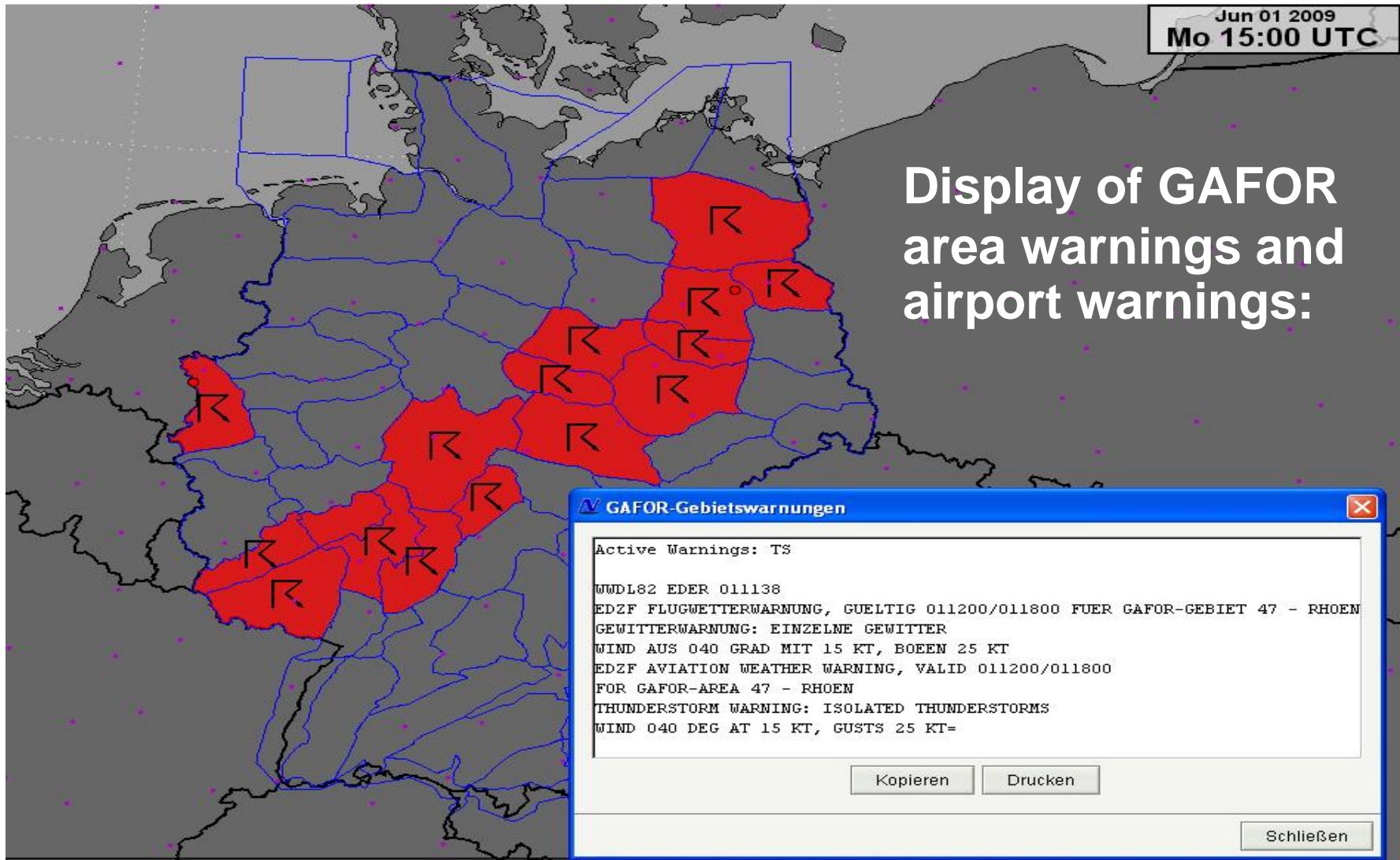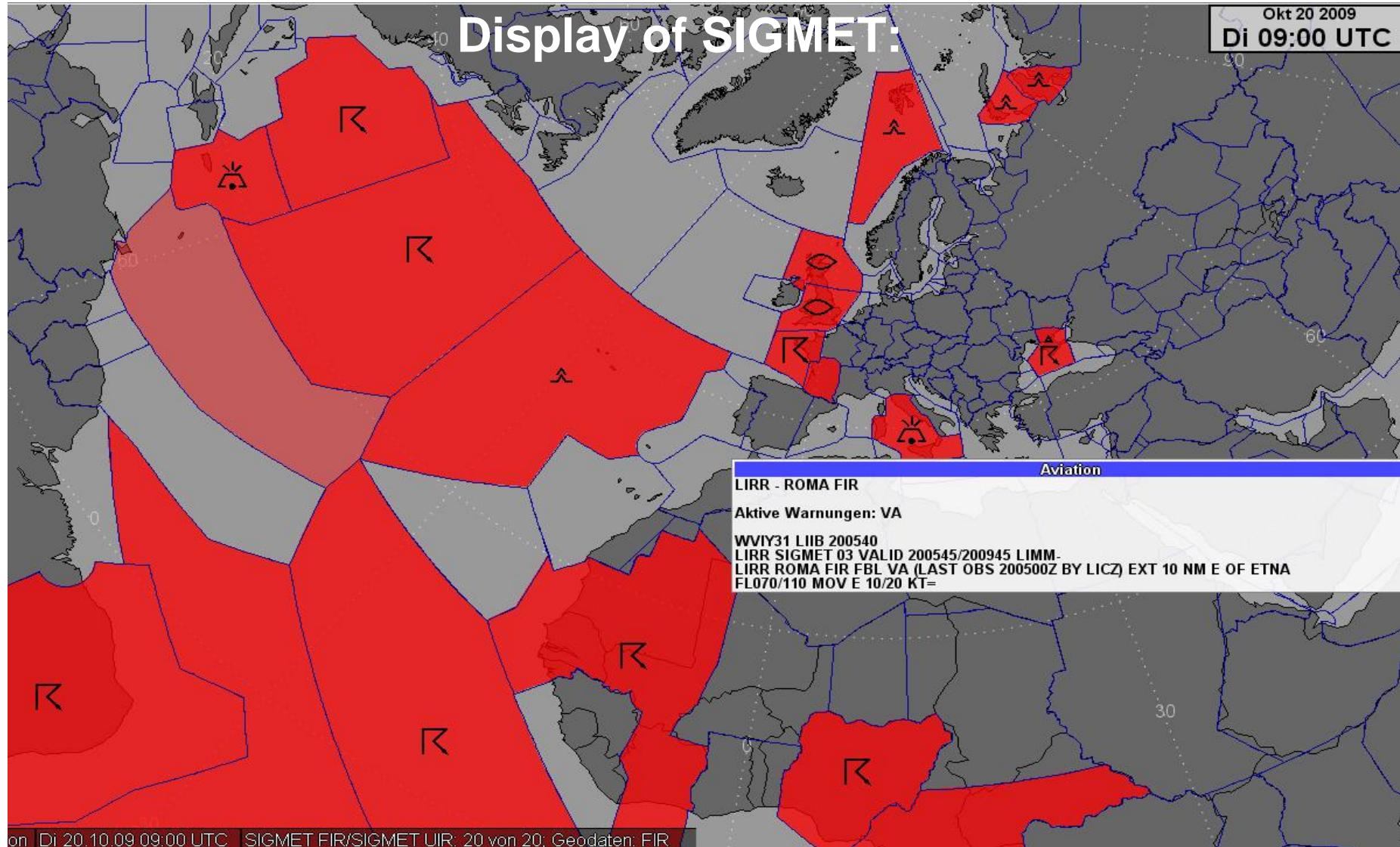
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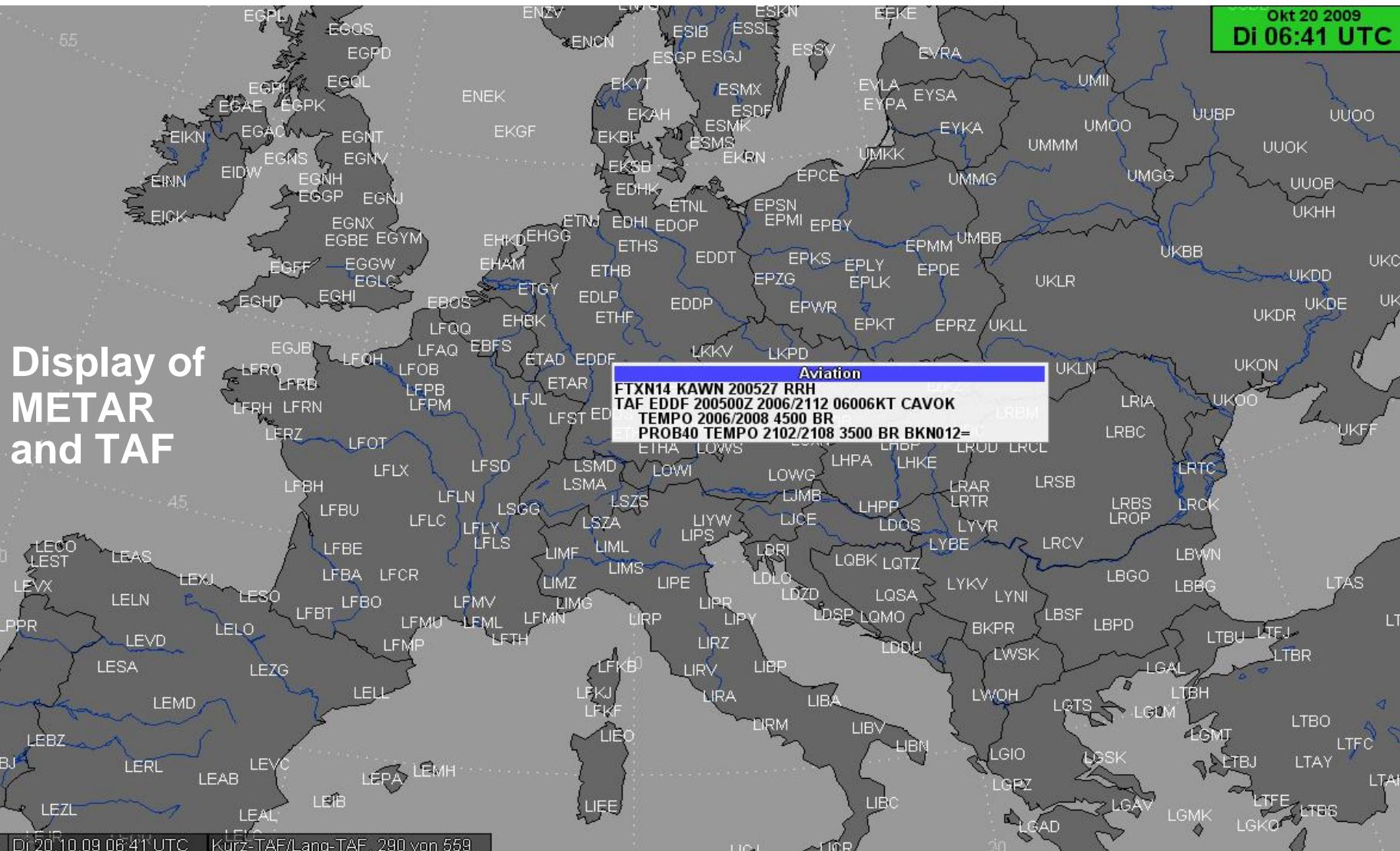
Editing of Significant Weather Chart below FL245 with NinJo PWB Client:
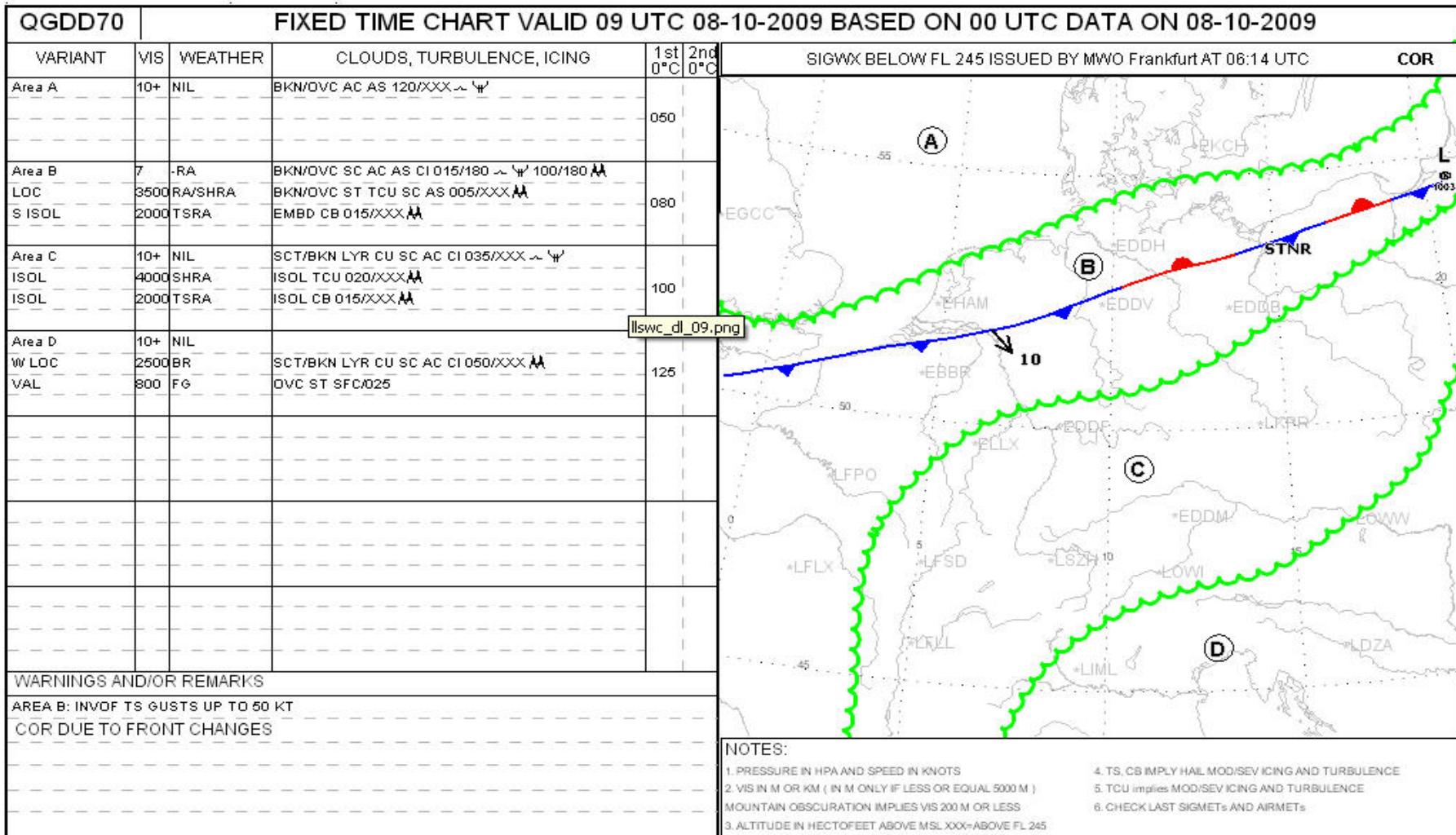
MET-Office Frankfurt Advisory Centre for Aviation

Frankfurt Airport Terminal B

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