



NinJo – Recent developments

Sibylle Haucke, EGOWS 2010
Deutscher Wetterdienst

NinJo – recent developments

Deutscher Wetterdienst
Wetter und Klima aus einer Hand



- Deployment - updates
- Agile project management in NinJo
- New Features
- OGC



NinJo Deployment at DWD

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- 350 Clients, 90 Servers
- WAN 1 GBit/s and 155 MBit/s
- LAN 1 GBit/s
- Operational at all sites since 2007
- Current version: NinJo 1.3.5



NinJo usage at German Armed Forces

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- 56 stationary versions (1 server, 2 clients)
- 16 single-user versions (1 server, 1 client)
- 10 mobile versions (1 server, 1 client)
e.g. Afghanistan, Kosovo, Uzbekistan, ...
- WAN 2,5 MBit/s (SAT)
- LAN 100 MBit/s and 1GBit/s
- Operational at all sites since 2007

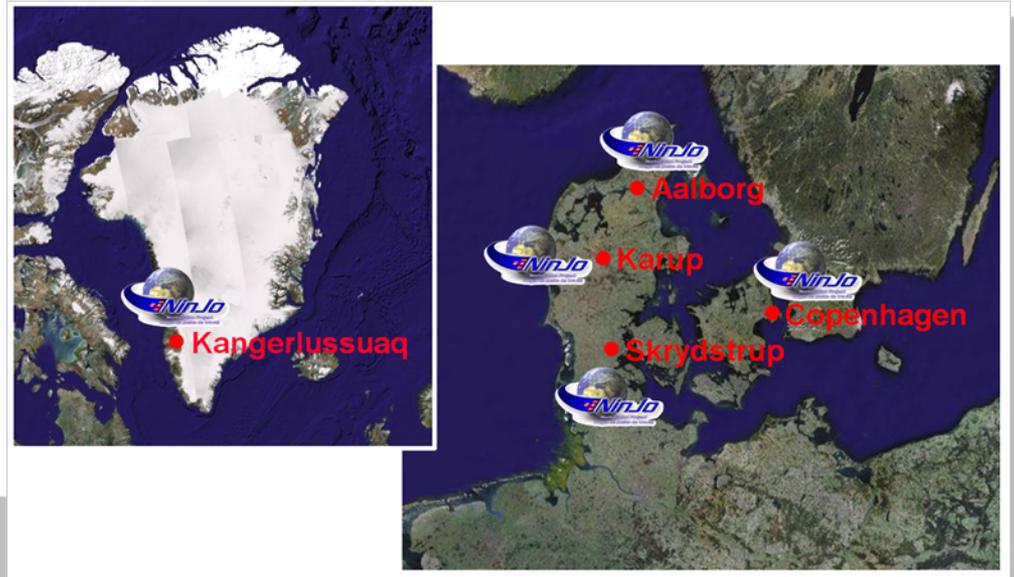


NinJo Deployment at DMI

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- 20 Clients, 10 Servers
- WAN 10 MBit/s
- LAN 1 GBit/s
- Operational usage since 2007
- Current version: NinJo 1.3.4

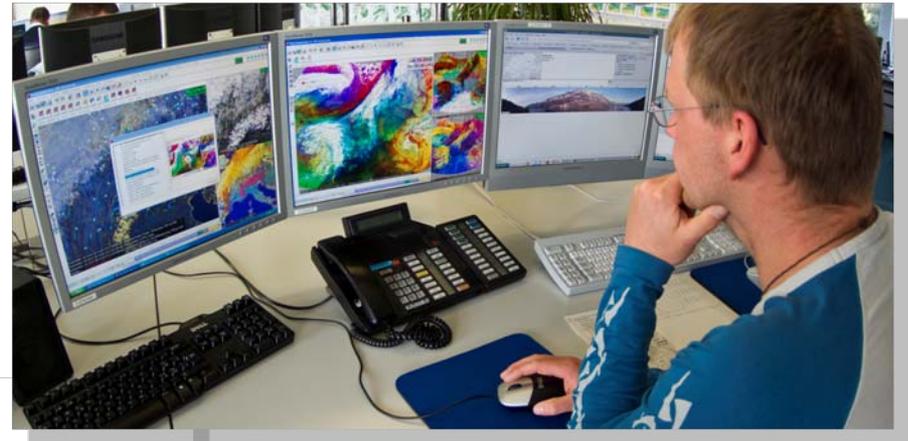


NinJo Deployment at MeteoSwiss

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- 25 Clients, 5 Servers
- WAN 10-30 MBit/s
- LAN 1 GBit/s
- Operational usage since 2007
- Current version 1.3.4



NinJo Deployment at MSC

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Wetter und Klima aus einer Hand



- ➔ 134 Clients, 65 Servers
- ➔ 10 MBit/s WAN, 1 GBit/s LAN
- ➔ Operational version 1.3.4
- ➔ 1.3.5 goes operational June 2010
- ➔ Government of Canada commitment to support Haiti
 - NinJo is going to be used there too
- ➔ NinJo 1.3.4 used for Olympic Games



NinJo – recent developments

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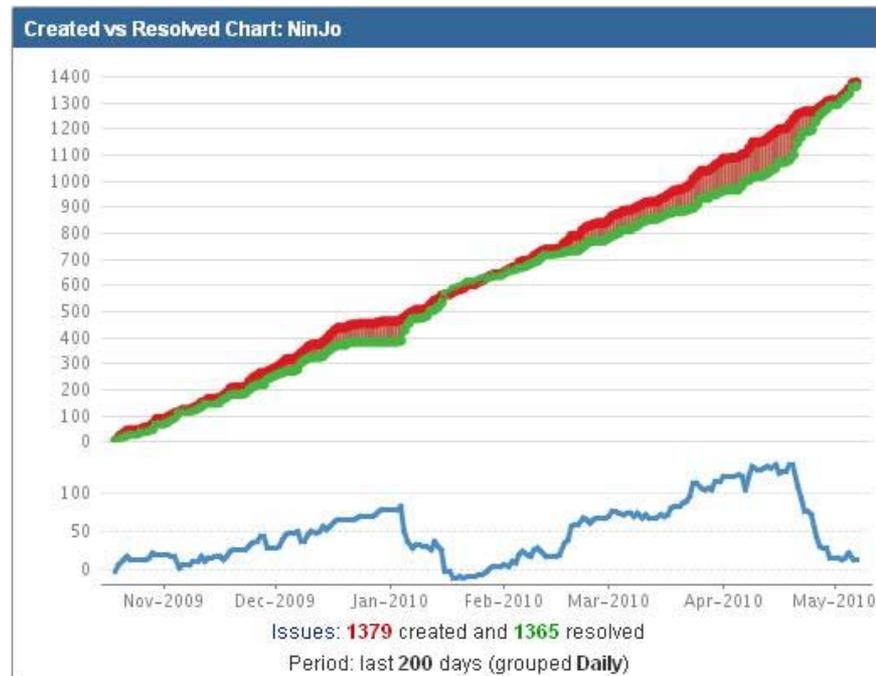
- Deployment
- Agile project management in NinJo
- New Features
- OGC



Agile project management in NinJo



- 2-3 releases per year
- 1379 new issues versus 1365 resolved issues in 200 days
 - Up to 200 new features for each release
 - + fixing of up to 800 bugs, improvements
- coordinating with 60+ involved developers and evaluators
- On 12+ locations
- How to?



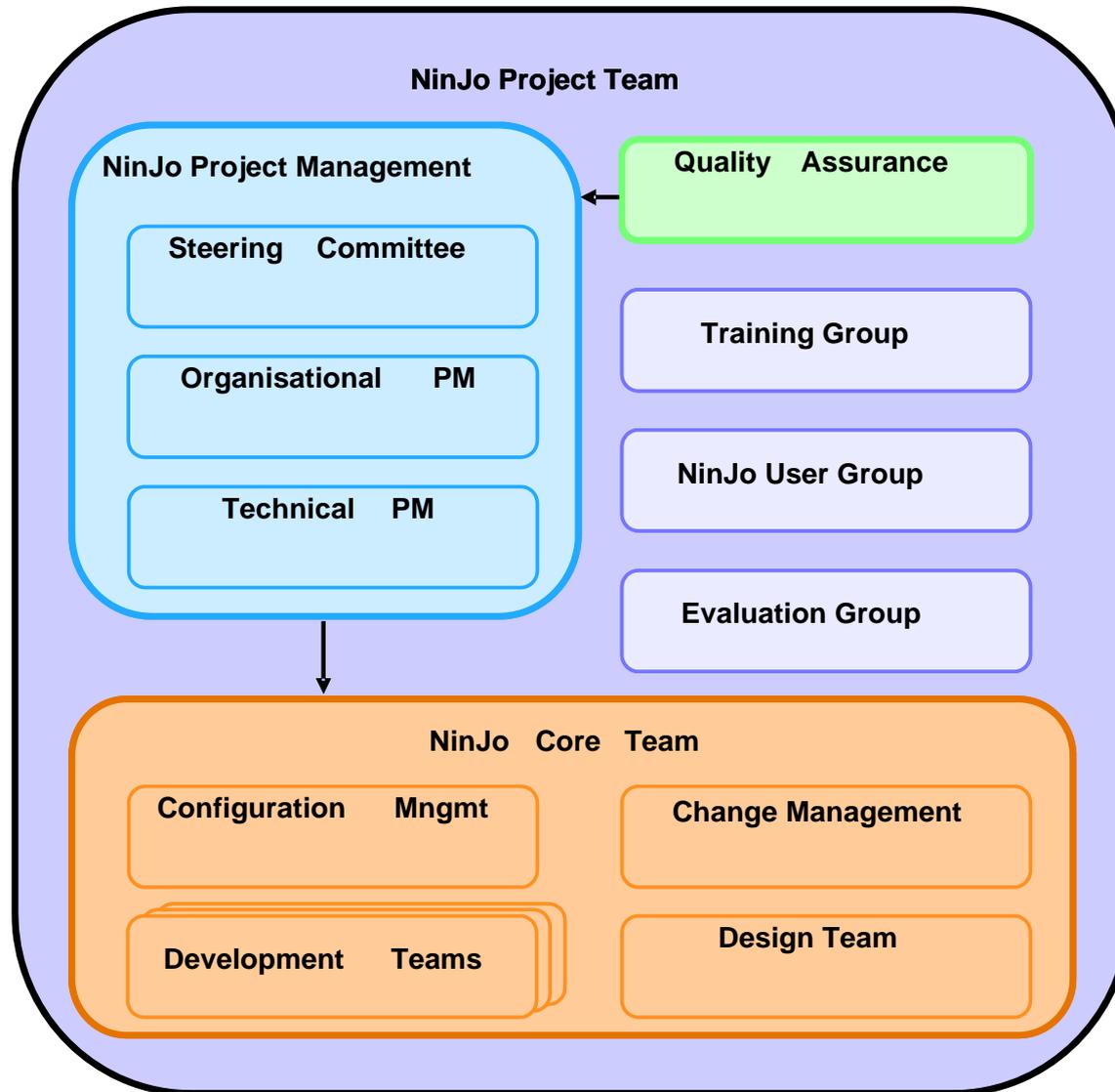


→ Agile project management in NinJo

- **User groups**
- workflows and change request management
- development cycles



NinJo Project Organisation





Members:

- Representatives from each Consortium member
- At least one member of each licensee

Tasks:

- Collaboration of Consortium members and licensees on user level
- Sharing information about
 - “How to use NinJo”, “How to create individual configurations”
 - “How to improve forecasting and warning process using NinJo”
- 1. NUG Workshop November 2007, Offenbach (25 participants)
- 2. NUG Workshop May 2008, Copenhagen (30 participants)
- 3. NUG Workshop June 2009, Montreal (63 participants)
- 4. NUG Workshop June 2010, Zurich



NinJo Evaluation Group 2010

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Wetter und Klima aus einer Hand



Members:

- Representatives from each Consortium member
- Project management, technical project lead

Tasks:

- Evaluate NinJo versions
- Define priorities for new features for next versions
- Discuss and agree new requirements, discuss ideas and concepts

Workshop 2010

- April 2010, Offenbach, some participants from DMI and MSC missing due to flight cancellations
- Online discussion and prioritization in JIRA
- >90 issues discussed and agreed



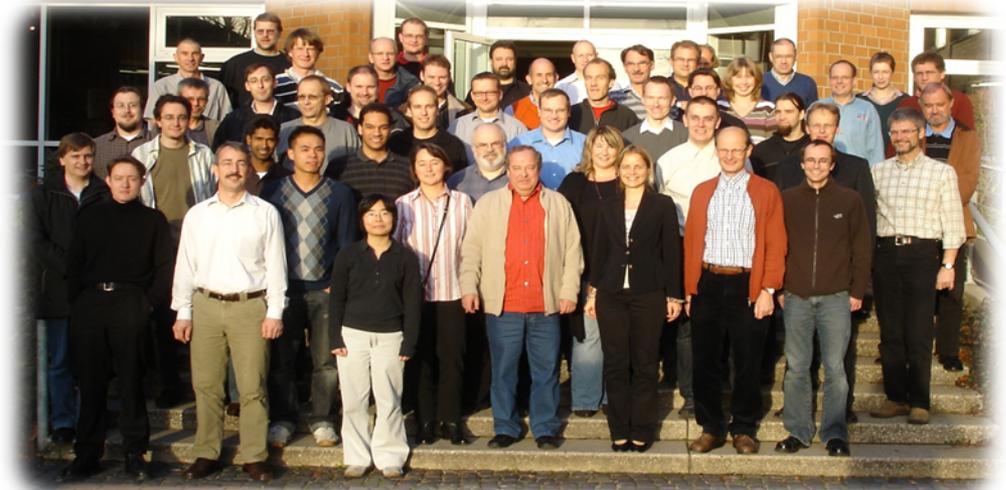
NinJo Development Teams 2010

Deutscher Wetterdienst
Wetter und Klima aus einer Hand



Locations:

- Germany: Offenbach, Potsdam, Hamburg, Euskirchen, Darmstadt
- Switzerland: Zürich
- Denmark: Kopenhagen
- Canada: Toronto, Montreal, Vancouver, Edmonton, Winnipeg, Calgary
- Consultants: Capgemini and Eumetsys
 - Developers also work in Poland and Pakistan



- Develop Frameworks, IDE and Tools for all teams
- Coordinate teams work
- Release and Quality management
- Discuss and agree technical concepts
- Implement NinJo Components
- Ensure backward compatibility of frameworks
- Ensure backward compatibility of configurations
- Organize rollout of releases in all organizations
- Support daily operations





→ Agile project management in NinJo

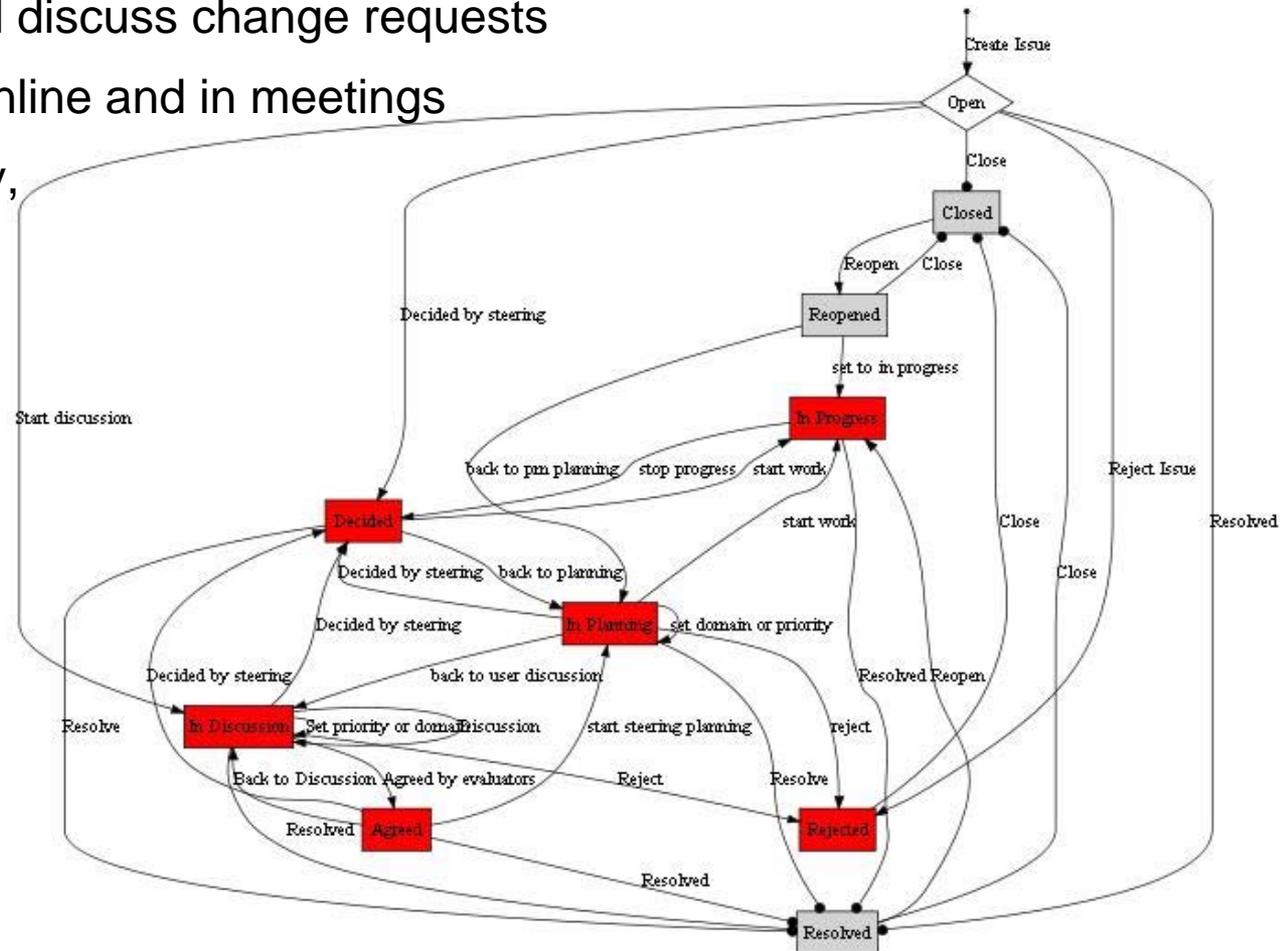
- User groups
- workflows and change request management
- development cycles



Agile project management in NinJo



- Workflows for different issue types and involved groups are well defined
- Users can create and discuss change requests
- CRs are discussed online and in meetings
- CR's get type, priority, detailed information



Create new issue (for evaluation group)



Create Issue

Enter the details of the issue...

Project: NinJo

Issue Type: Change Request

Overview **Priorities** **Discussion** **Responsible**

Group: Steering Evaluation group User group CD group
the group, which needs to agree upon that issue

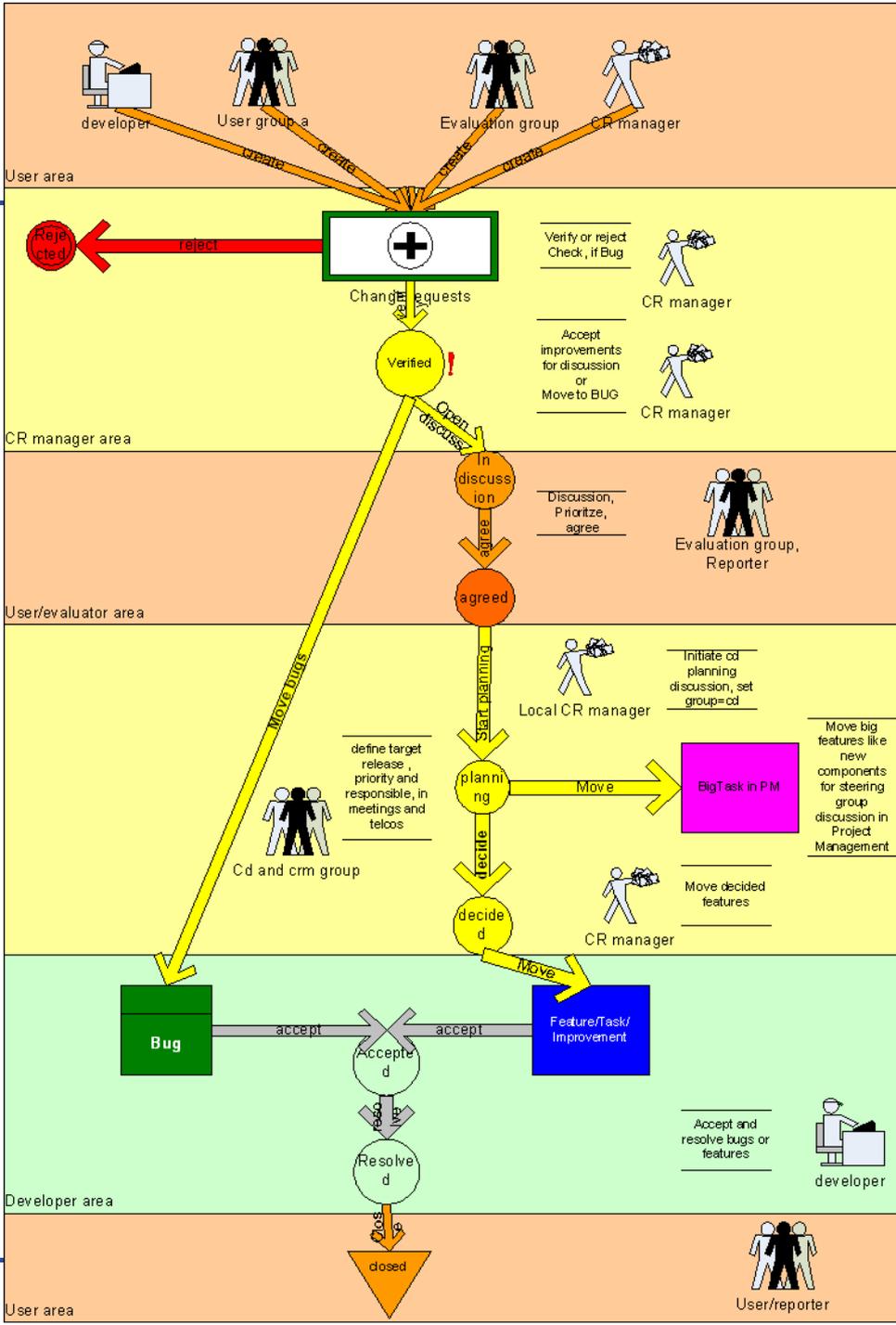
Discussion meeting: Evaluation group
the meeting, where that issue shall be discussed, e.g. evaluation 2010, steering 2010, March, NUG 2010

MeetingDate:
Date of meeting

Select evaluation group!

Set discussion meeting





CRM Workflow

- ➔ User/evaluators create issues
- ➔ CRM verifies issue type and component and may reject an issue,
- ➔ bugs are directly moved on
- ➔ Evaluators discuss issues->agree priorities
- ➔ CRM-group defines target release
- ➔ CRM moves to feature/improvement
- ➔ Developers accept issues
- ➔ Developers resolve issues
- ➔ Users close resolved issues



→ Steering group discusses „BigIssues“ for planning

[JIRA] Subscription: 0-PM-Steering-ToBeDiscussed - Nachricht (Nur-Text)

Antworten | Allen antworten | Weiterleiten | [Icons]

Datei | Bearbeiten | Ansicht | Einfügen | Format | Extras | Aktionen | ?

Die unnötigen Zeilenumbrüche des Nachrichtentextes wurden automatisch entfernt.

Von: CRM@mailhub.dwd.de Gesendet: Fr 12.03.2010 19:01
An: Sibylle.Haucke@dwd.de
Cc:
Betreff: [JIRA] Subscription: 0-PM-Steering-ToBeDiscussed

Issue Subscription
Filter: 0-PM-Steering-ToBeDiscussed (37 issues) tasks, to be discussed, prioritized etc. in steering group base for resource commitments
Subscriber: adminshaucke

Key	Components	Status	Summary
PM-135		In Planning	Create SigWX-Visualisation Layer https://ninjoservices.dwd.de/jira/browse/PM-135
PM-129 needed.		In Planning	A convenient Editor for Editing the NinJo-Config-Files is https://ninjoservices.dwd.de/jira/browse/PM-129
PM-128		In Planning	Development of a Test-Suite for NinJo-Batch-Products to ensure an unchanged Batch production with newer NinJo-Releases https://ninjoservices.dwd.de/jira/browse/PM-128
PM-124		In Planning	test for a PM issue from eval group2 https://ninjoservices.dwd.de/jira/browse/PM-124
PM-123		In Planning	test for a PM issue from eval group https://ninjoservices.dwd.de/jira/browse/PM-123





→ Agile project management in NinJo

- User groups
- workflows and change request management
- **development cycles**





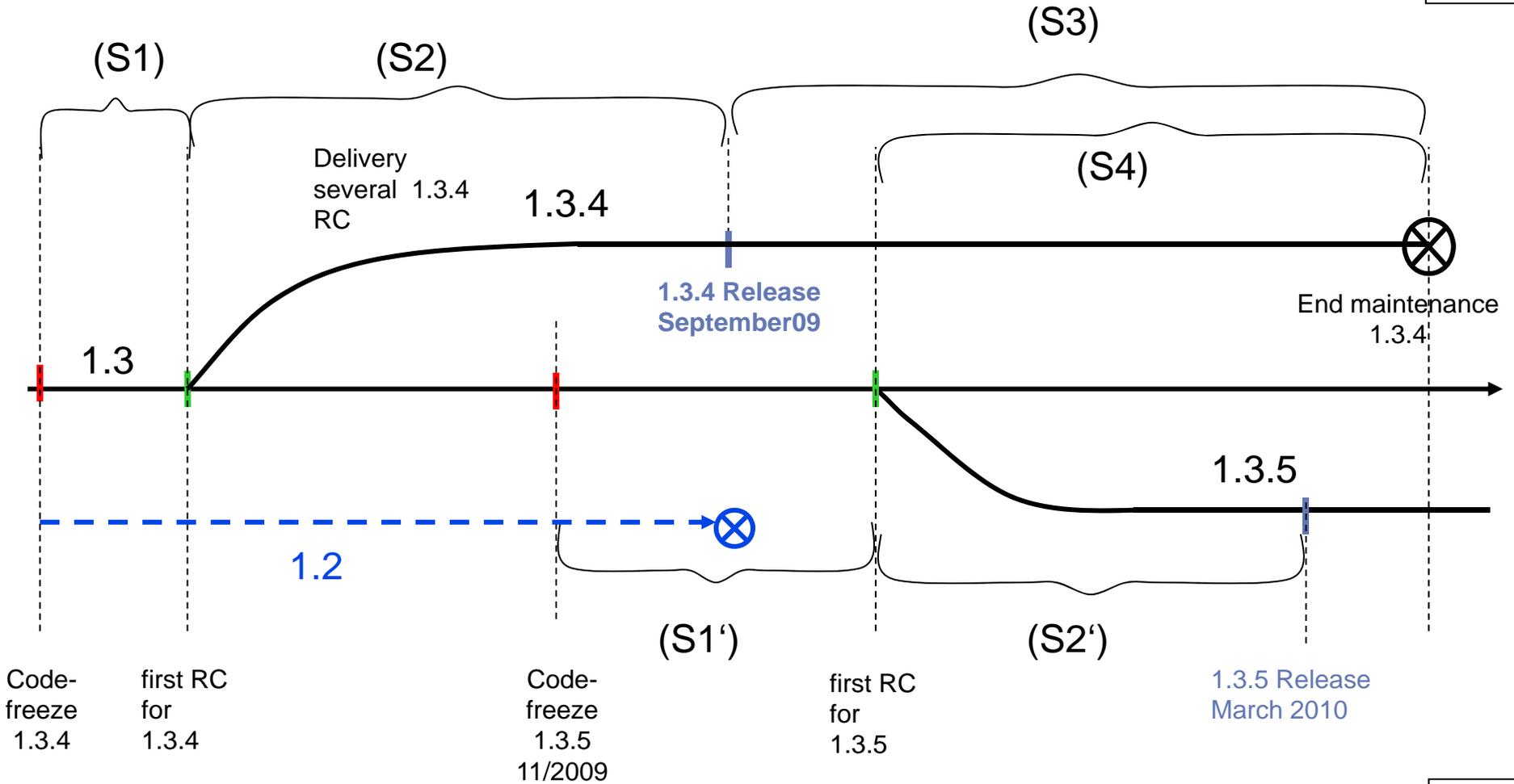
- After users defined priorities:
- Development teams and steering committee discuss effort and resources
- Team leads of locations make detailed planning
- Now the CRs get a target release
- Now the developers start working
- Teams work on parallel code branches
 - 1 branch (next release) for final release preparation
 - 1 main line (next but one release) : development
 - Old release branches (maintenance)
- Branches get color codes for different SW process phases on different releases
 - Code **green** = “free” development
 - Code **red** = “final” release preparation, only confirmed bug fixing
 - 1 release may have code red, while another one still is on code green



Working in parallel branches



1.3.4



1.3.5





- ➔ Developers work only on JIRA confirmed issues
- ➔ Jira banner and Wiki inform about current SW process phase (e.g. “code red” on 1.3.5)
- ➔ According to color code, developers know, which changes are allowed on what branch
 - Example:
 - With code **Orange**: fix only bugs with priority major or higher
 - With code **Red**: ask CD, if you are allowed to fix a certain blocker bug
 - With Code Black: Do not touch the code at all. Any bugfix will lead to a patch delivery, so every single bugfix needs agreement by CD



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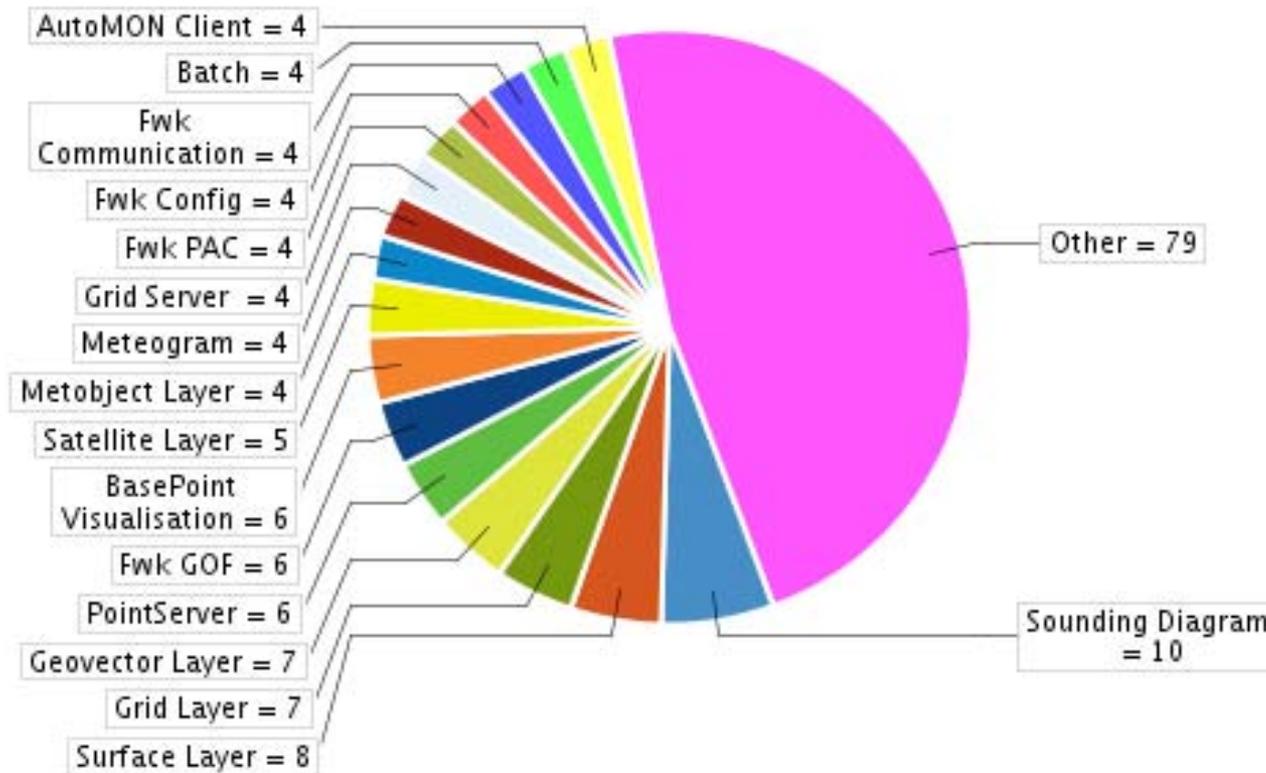
- Deployment
- Agile project management in NinJo
- **New Features**
- OGC



New features in NinJo



→ 166 features delivered for 1.3.5



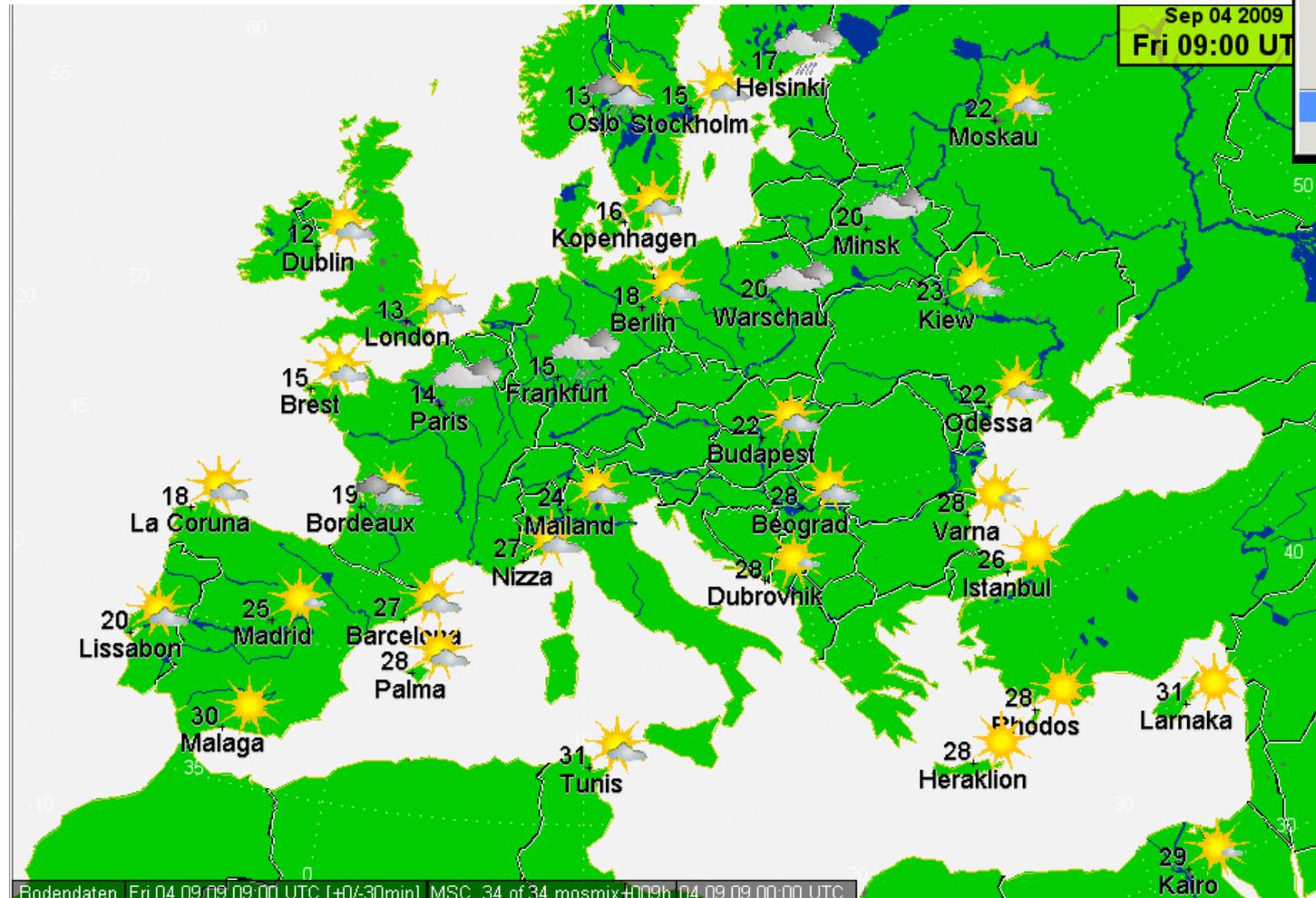
Total Issues: **166** Statistic Type: **Components**



Surface layer: media display



→ plot icons for significant weather (ww/N) + station white list

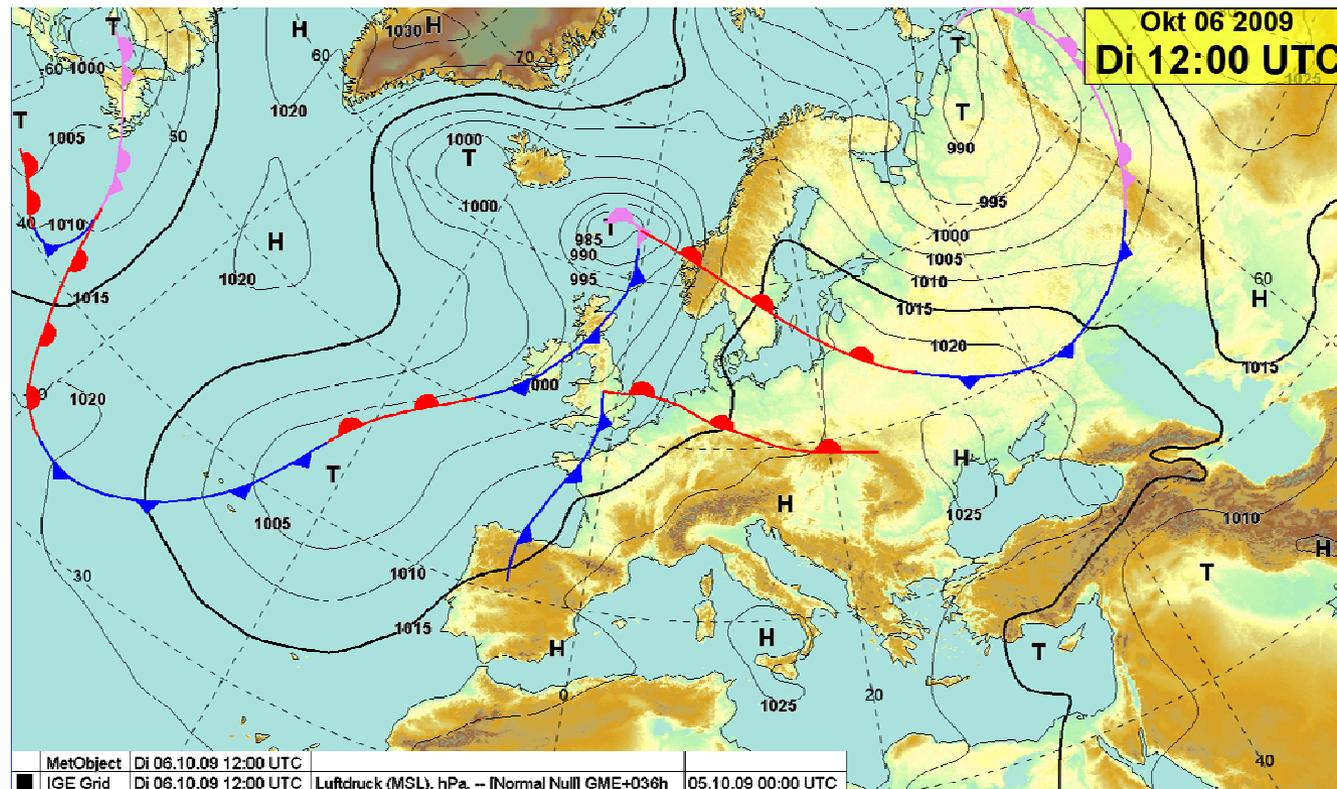


Production Tools operational

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- ➔ DWD- TKB (surface forecast chart) from NinJo, operational since May 4th 2010
- ➔ Field modification surface pressure
- ➔ Isoline and fronts: graphical objects editing

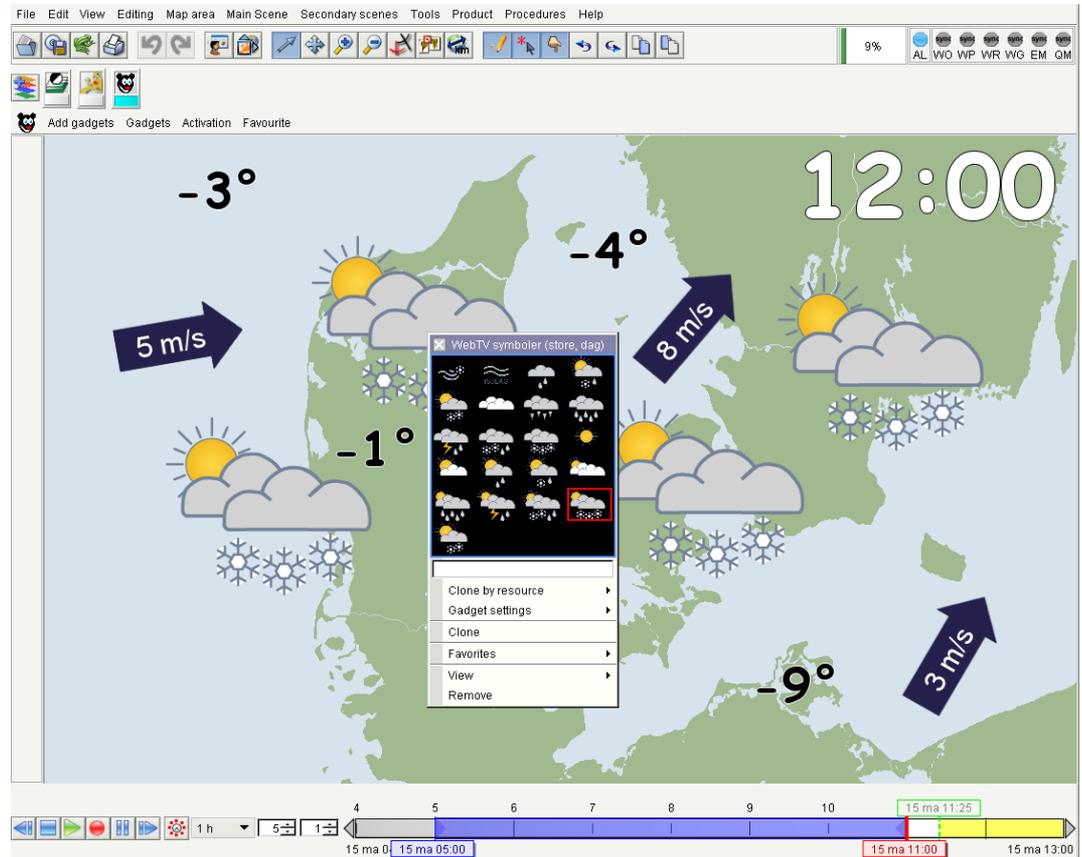


NinJo TV- production

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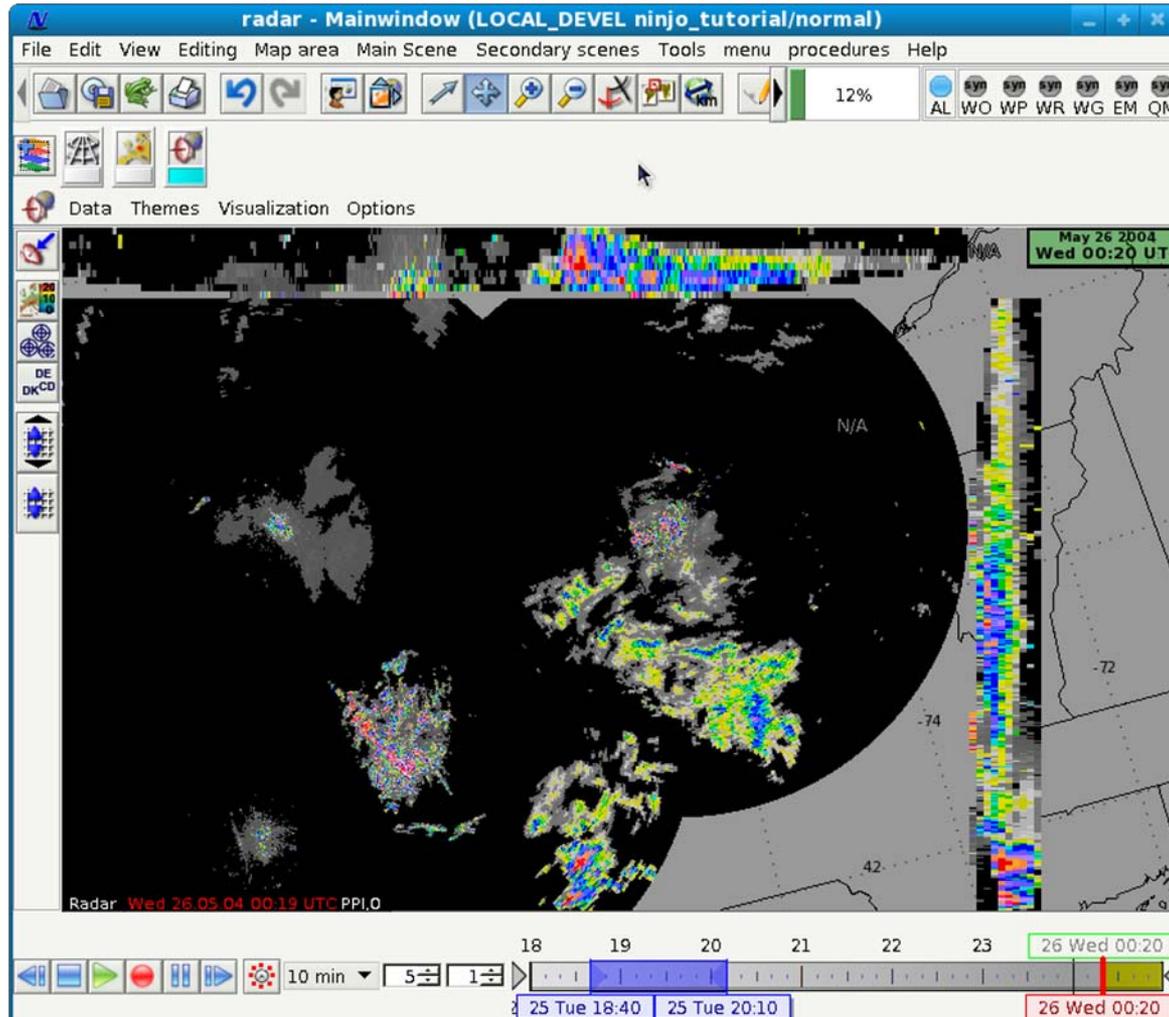


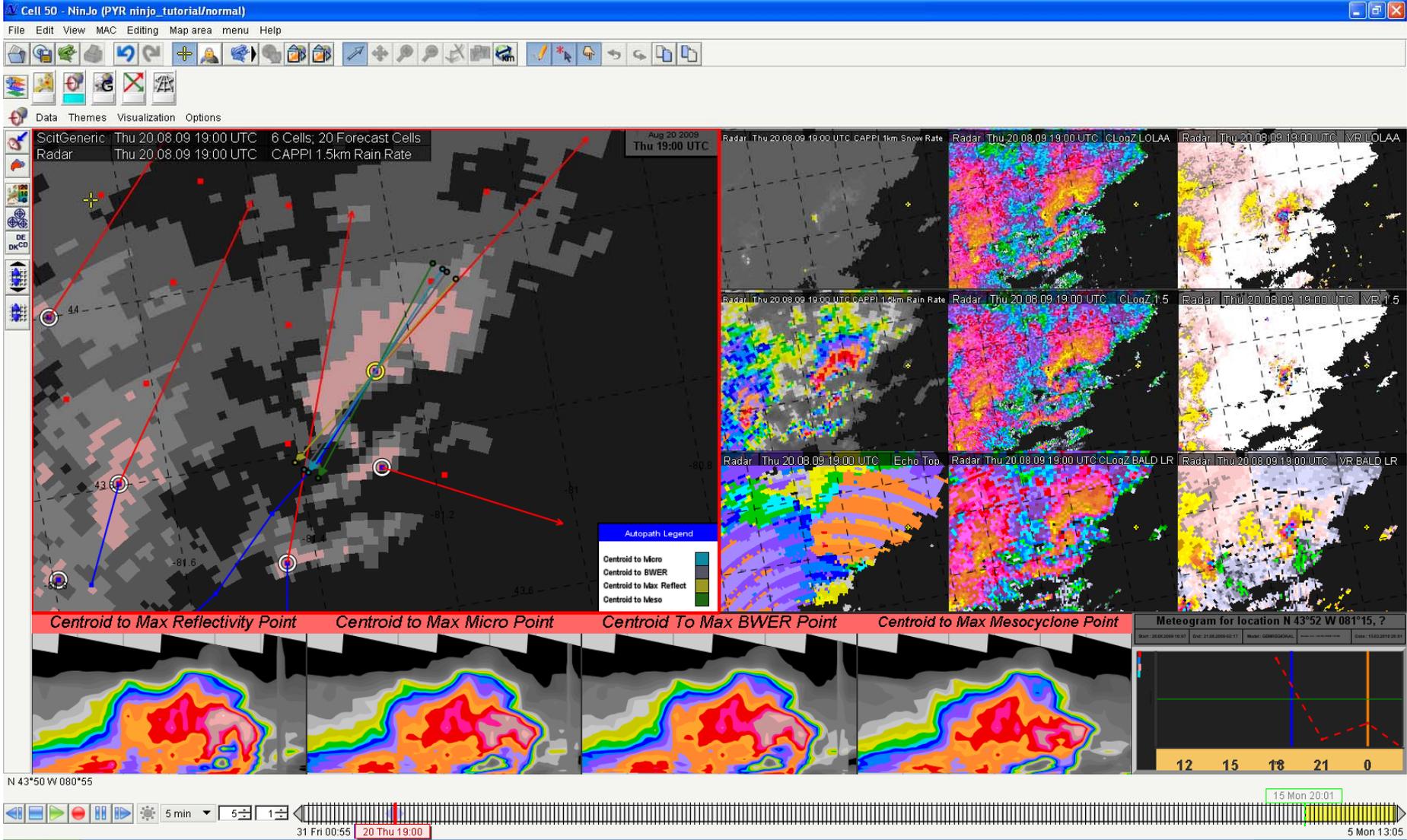
- Free object adding
- Image “gadgets”
- Combine with batch graphics
- Include internet resources
- Live TV-weather-show using NinJo in DK





→ Dynamic Lateral Views





Editable Soundings



→ edit mode has to be activated.

→ The reported values (temperature, dewpoints, wind directions and wind speeds) can then be altered.

→ Derived and calculated values are recalculated

→ Next step will be graphically editing the curve

Lindenberg
Tue 19 Jan 2010 12:00

Pressure [hPa]	Height [ft]	Height [m]	Temper... [°C]	Dewpoint tempera... [°C]	Relative humidity [%]	Pseudo... temperat... [°C]	Mixing ratio [g/kg]	Wind direction [°]	Wind speed [kt]
300	29,101	8,870	-55.7	-65.7	28	33.6	0.0	165	6
309	28,463	8,676	-	-	-	-	-	140	10
320	27,730	8,452	-54.5	-58.5	61	29.7	0.0	-	-
343	26,263	8,005	-51.5	-55.4	63	27.9	0.1	-	-
350	25,832	7,873	-50.7	-55.2	59	27.3	0.1	-	-
383	23,886	7,280	-45.9	-49.4	68	26.1	0.1	-	-
397	23,099	7,041	-43.9	-52.9	36	25.5	0.1	-	-
400	22,933	6,990	-43.5	-52.5	36	25.4	0.1	35	10
435	21,061	6,419	-	-	-	-	-	40	12
455	20,046	6,110	-	-	-	-	-	0	0
473	19,161	5,840	-34.7	-45.7	32	22.6	0.1	-	-
500	17,881	5,450	-31.3	-37.3	55	22.7	0.3	55	8
518	17,059	5,200	-29.5	-31.0	87	22.6	0.6	-	-
522	16,879	5,145	-	-	-	-	-	50	10
564	15,047	4,586	-24.5	-27.0	80	22.0	0.7	-	-
594	13,804	4,207	-22.5	-24.1	87	20.5	0.9	-	-
600	13,561	4,133	-	-	-	-	-	310	8
653	11,498	3,505	-17.1	-23.1	60	18.8	0.9	-	-
676	10,843	3,244	-	-	-	-	-	315	10
690	10,133	3,089	-13.7	-15.4	87	20.3	1.7	-	-
700	9,774	2,979	-12.9	-13.8	93	20.6	1.9	320	8
704	9,626	2,934	-12.7	-13.1	97	20.6	2.0	-	-
788	6,774	2,065	-	-	-	-	-	0	0
800	6,388	1,947	-	-	-	-	-	285	2
816	5,879	1,792	-5.9	-6.0	99	18.5	3.0	-	-
850	4,826	1,471	-4.1	-4.5	97	17.7	3.2	240	4
852	4,766	1,453	-4.1	-4.5	97	17.4	3.2	-	-
889	3,663	1,116	-	-	-	-	-	205	8
925	2,628	801	-1.7	-1.8	99	14.3	3.6	210	8
983	1,030	314	-	-	-	-	-	170	10
1,000	581	177	-0.5	-0.5	100	9.3	3.7	150	8
1,008	372	113	0.4	-0.6	93	9.4	3.6	120	4

Vertical sounding from land station (fm35)

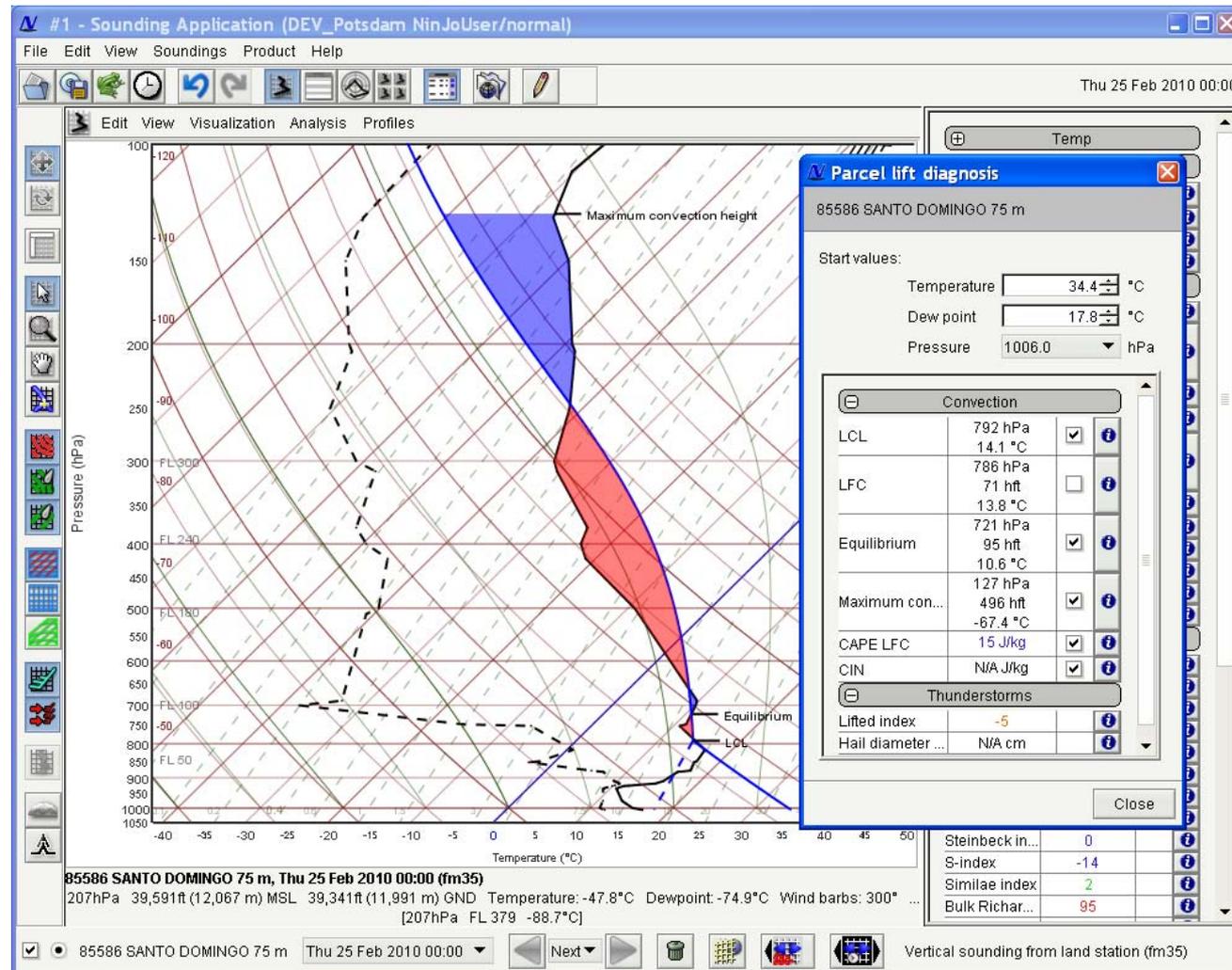


Parcel lift diagnosis tool



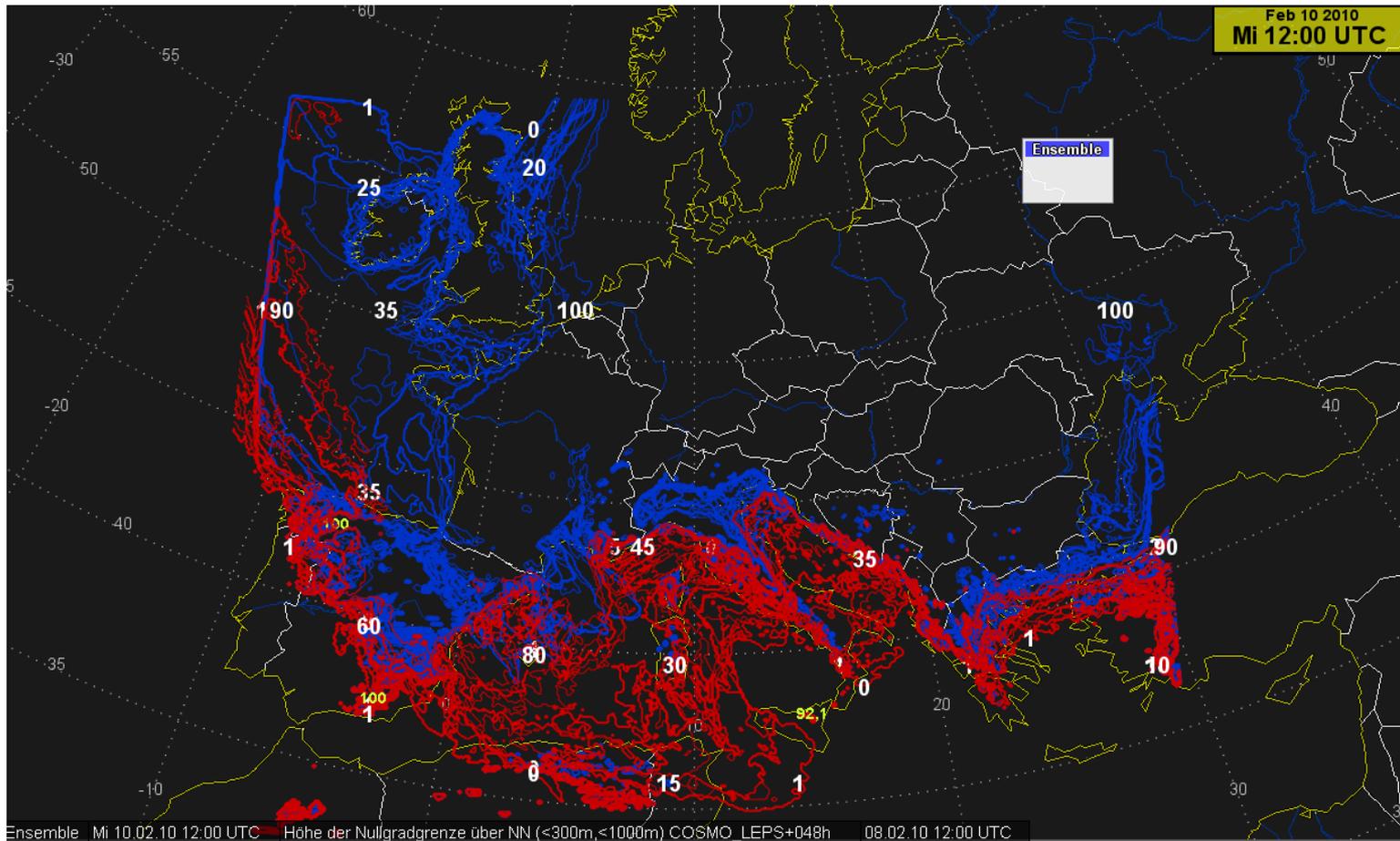
→ The calculated results are visualized in the sounding diagram if the checkbox in the table is selected

→ The visualization updates also **instantaneously** as soon as a start value changes



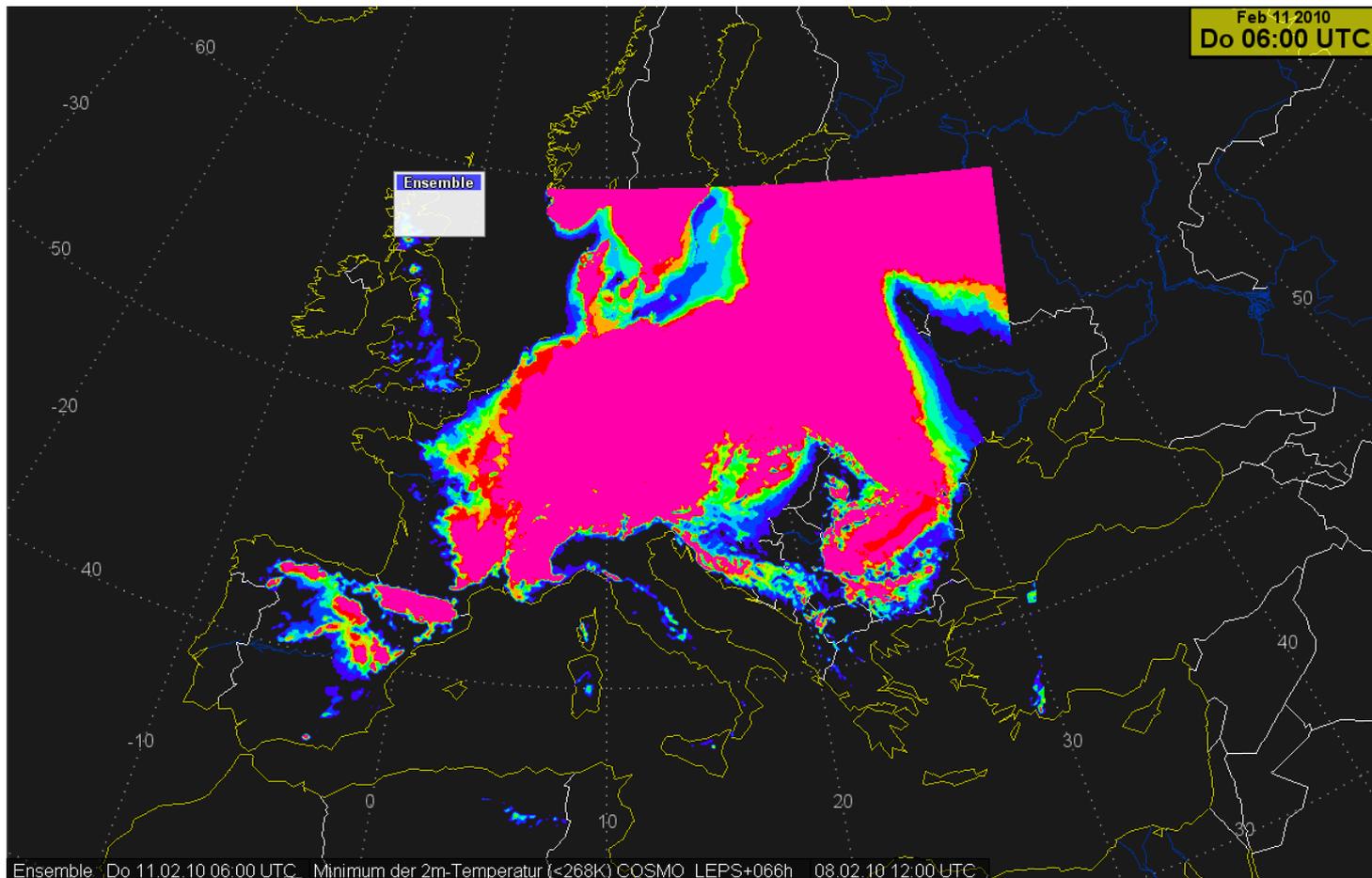
Visualization of ensemble fields

- ECMWF, COSMO-DE, COSMO_LEPS, PEPS
- Visualization of 1-n products of an element in a single layer



Visualization of ensemble fields

→ Or visualization of e.g a single probability

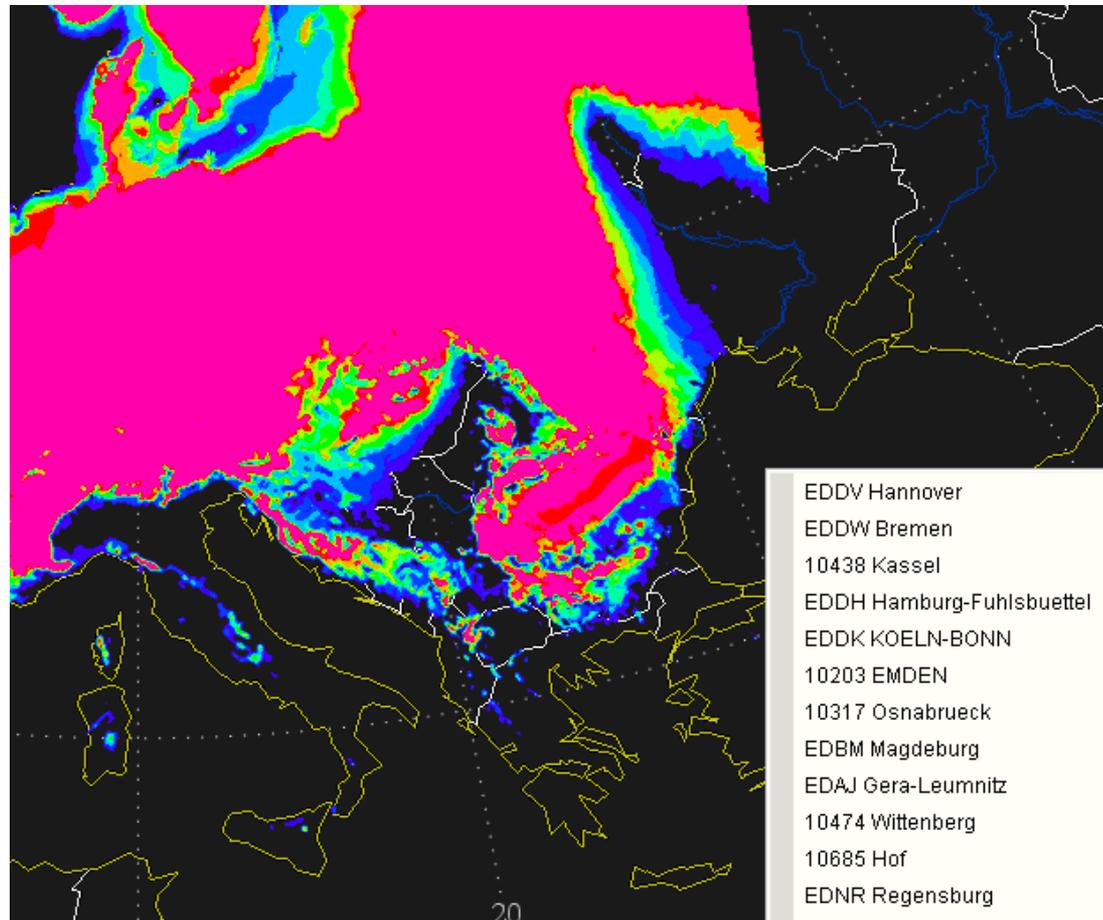


Visualization of EPS meteograms

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Wetter und Klima aus einer Hand



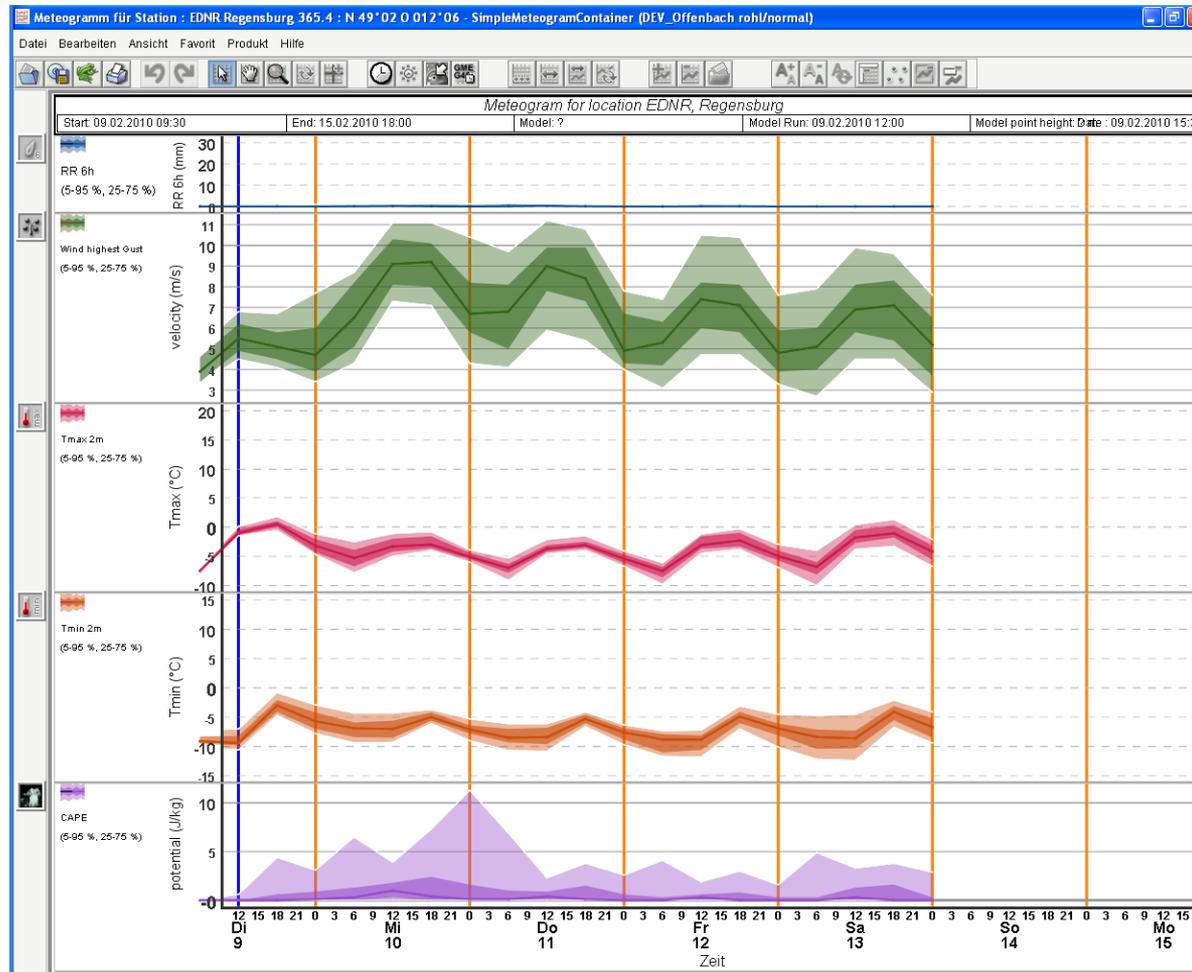
→ Selection of a station from a given list



Visualization of EPS meteograms



→ Visualization of EPS plumes in a meteogram



Aviation-EPM

- Syntax safe generating of aviation warning reports, e.g. SigMET, Airmet, Gafor area warnings, aerodrome warnings
- Comfortable selection lists etc, no typo errors possible
- Display the same warnings in NinJo aviation layer for monitoring
- Example: template for editing SIGMET/AIRMET

Warnformular (FIR)

Warntyp	Nummer	Region	Phänomen	von	bis	ausgegeben	Status
AIRMET	1	BREMEN FIR	TS	09 10:00	09 14:00	09 09:57	SUBMITTED

Warntyp: SIGMET

Gültig von: 09.02.2010 10:00 UTC in 1 min
bis: 09.02.2010 14:00 UTC Dauer 240 min

Phänomen: TURB

SEV TURB
 FCST OBS vor 0 min um: 09.02.2010 09:57 UTC

keine Angabe W OF LINE
POINT von
HALF-PLANE Latitude N 50 --
QUADRANT Longitude E 003 --
NEAR LINE nach
NEAR LOCATION Latitude N 50 --
WITHIN Longitude E 003 --

keine Angabe FL Flight level:
BTW FL/FL lower: 090
TOP FL upper:
TOP ABV FL 130
ABV FL
BLW FL
BLW HEIGHT

Verlagerung: STNR MOV nach N Geschwindigkeit 10 KT

Intensitätsänderung: INTSF WKN NC

```
WSDL31 EDZH 090957  
EDWW SIGMET -1 VALID 091000/091400 EDZH-  
EDWW BREMEN FIR SEV TURB OBS AT 0957Z W OF LINE N50 E003 - N50 E002 FL090/130 MOV N 10KT NC=
```

Neu Editieren Senden Aktualisieren



Aviation-EPM

→ template for editing
GAFOR area warnings
and aerodrome
warnings

Warnformular (GAFOR)

Warntyp	Nummer	Region	Phänomen	von	bis	ausgegeben	Status
ICAO AERODR...	1	BORKUM	TS	09 10:10	09 14:10	09 10:02	SUBMITTED
ICAO AERODR...	1	LANGEOOG	TS	09 10:10	09 14:10	09 10:02	SUBMITTED
ICAO AERODR...	1	HARLE	TS	09 10:10	09 14:10	09 10:02	SUBMITTED
DWD AERODR...	1	LANGEOOG	TS	09 10:10	09 14:10	09 10:00	SUBMITTED
DWD AERODR...	1	NORDEN-NORD...	TS	09 10:10	09 14:10	09 10:00	SUBMITTED
ICAO AERODR...	1	JUIST	TS	09 10:10	09 14:10	09 10:02	SUBMITTED
DWD AERODR...	1	HARLE	TS	09 10:10	09 14:10	09 10:00	SUBMITTED
GAFOR	1	Ostfriesland	TS	09 10:10	09 14:10	09 10:00	SUBMITTED
ICAO AERODR...	1	WANGEROOGE	TS	09 10:10	09 14:10	09 10:02	SUBMITTED
DWD AFRODR	1	WANGFROOGE	TS	09 10:10	09 14:10	09 10:00	SUBMITTED

Warntyp: GAFOR and Aerodrome

01 Ostfriesland
02 Nordfriesland-...
03 Schleswig-Hol...
04 Schleswig-Hol...
05 Nordwestliches...

EDWE (01)
EDWG (01)
EDWJ (01)
EDWL (01)
EDWR (01)

Gültig von: 09.02.2010 10:10 UTC in 7 min
bis: 09.02.2010 14:10 UTC Dauer 240 min
Berater NN

TS
 GR
 SFC WSPD
 FZDZ
 FZRA
 SNOWCOVER
 SNOWFALL
 SLIPPERINESS
 FROST
 RIME
 DU
 DS
 SA
 SS
 VA
 TOX CHEM

ICAO DWD GAFOR
 Wind Sturm Schwerer Sturm Orkan

SFC WSPD 25 MAX 30 FROM N
 FCST OBS VOF 0 min um: 09.02.2010 10:02 UTC
Intensitätsänderung: INTSF WKW NC

deutscher Text
WINDWARNUNG: WIND AUS N MIT 25 KT, BOEEN 30 KT

englischer Text
WIND WARNING: WIND FROM N AT 25 KT, GUSTS 30 KT

* AD WRNG -1 VALID 091010/091410 EDZH-
SFC WSPD 25KT MAX 30 FROM N OBS AT 1002Z NC=

Neu Editieren Senden Aktualisieren



SCIT Layer : RDT data



empty - Mainwindow (DEV_Local.stm/normal)

File Edit View Editing Map area Main Scene Secondary scenes Tools Product Procedures Help

9% WO WP WR WG EM GM

Data Themes Visualization Table Data availability Legends ?

SCIT RDT Cell

ID: 200901160745_-35_+49.56_+4.80
 Timestamp: 16.01.2009 07:56
 Cloud system type: other cloud system
 Phase: growing
 Longitude: 4.79 °
 Latitude: 49.56 °
 Major axis: 69.0 km
 Minor axis: 19.0 km
 Orientation: 9.0 °
 Speed: 76.0 km/h
 Direction: 48.0 °
 Expansion rate: 1.19
 T min: -42.75 °C
 T average: -38.85 °C
 Delta T: -3.6 K/h
 Q (Spatial): nominal
 Q (Temporal): nominal
 Confidence: 100.0 %
 Cell age: 57.0 min

Cell 200901160745_-35_+49.56_+4.80

Brightness...	Area [km²]
232.1	131
234.1	301
236.1	451
238.1	658
240.1	1,467
242.1	1,727
244.1	677,534
246.1	730,109
248.1	774,798
250.1	823,853
252.1	863,730
254.1	911,852
256.1	966,123
258.1	1,014,702
260.1	1,311,001.875
262.1	1,459,075.875
264.1	1,734,916
266.1	2,371,438
268.1	2,788,569
270.1	2,975,886
272.1	3,084,053
274.1	3,106,069

Jan 16 2009
Fri 08:00 UTC

Generic SCIT - Fri 16.01.09 08:00 UTC
N 49°51' E 004°54'

SCIT Table

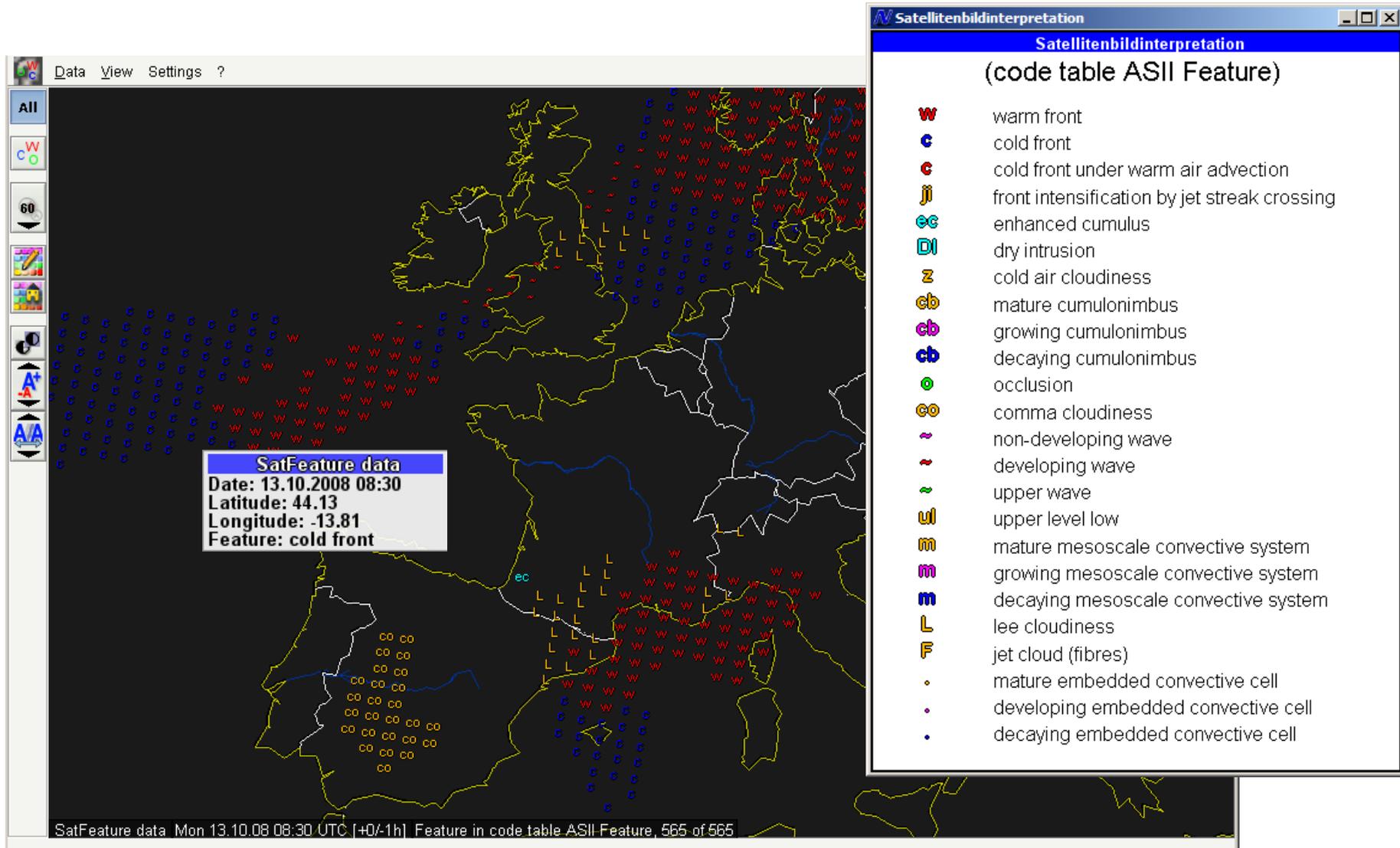
RDT Cells	Timestamp	Phase	Cloud syst...	Expansion...	Delta T [K/h]	T min [K]	T average ...	Q (Spatial)	Q (Tempor...	Confidenc...	table.colu...	CC lig
	Jan 16, 2009 7:56:37 AM	growing	other clou...	-1.73	-5.04	-46.25	-40.35	nominal	precursor ...	100	N/A	N/A
	Jan 16, 2009 7:56:30 AM	triggering	other clou...	N/A	-20.52	-17.25	-12.55	nominal	nominal	100	N/A	N/A
	Jan 16, 2009 7:56:21 AM	decaying	other clou...	-1.51	2.16	-17.25	-11.55	nominal	precursor ...	100	N/A	N/A
	Jan 16, 2009 7:56:31 AM	growing	other clou...	1.19	-3.6	-42.75	-38.85	nominal	nominal	100	N/A	N/A
	Jan 16, 2009 7:56:28 AM	decaying	other clou...	0	1.8	-42.55	-38.55	nominal	precursor ...	100	N/A	N/A
	Jan 16, 2009 7:56:24 AM	mature	other clou...	0.29	-10.08	-18.85	-14.15	nominal	nominal	100	N/A	N/A
	Jan 16, 2009 7:56:26 AM	growing	other clou...	1.51	-1.8	-22.85	-16.65	nominal	nominal	100	N/A	N/A
	Jan 16, 2009 7:56:33 AM	triggering f...	other clou...	N/A	-13.32	-42.25	-37.65	nominal	nominal	0	N/A	N/A
	Jan 16, 2009 7:56:31 AM	triggering	other clou...	N/A	-3.24	-15.35	-11.75	nominal	nominal	100	N/A	N/A
	Jan 16, 2009 7:56:29 AM	triggering	other clou...	N/A	-17.64	-20.85	-14.95	nominal	nominal	100	N/A	N/A
	Jan 16, 2009 7:56:29 AM	growing	other clou...	2.3	-0.72	-16.35	-11.55	nominal	nominal	100	N/A	N/A
	Jan 16, 2009 7:56:26 AM	growing	other clou...	0.68	-29.16	-34.85	-18.35	nominal	nominal	100	N/A	N/A
	Jan 16, 2009 7:56:24 AM	growing	other clou...	-0.65	-0.72	-19.45	-9.85	nominal	nominal	100	N/A	N/A
	Jan 16, 2009 7:56:20 AM	growing	other clou...	2.22	6.48	-19.65	-14.65	nominal	nominal	100	N/A	N/A
	Jan 16, 2009 7:56:31 AM	growing	other clou...	1.19	-3.6	-42.75	-38.85	nominal	nominal	100	N/A	N/A

Ok Apply Cancel Help

16 Fri 05:00 16 Fri 06:00 16 Fri 08:00 16 Fri 13:00 16 Fri 14:00

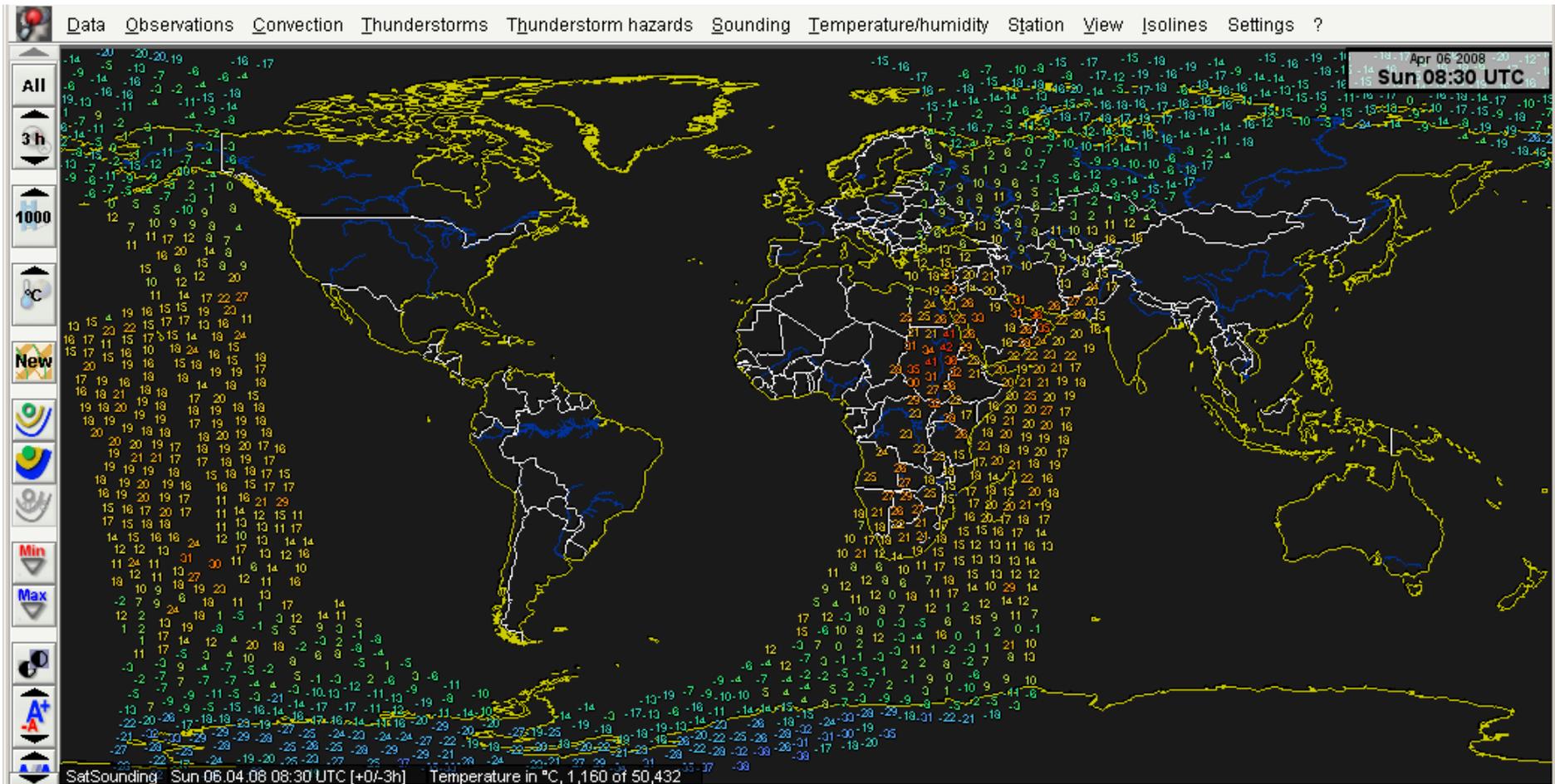


SatFeature Layer



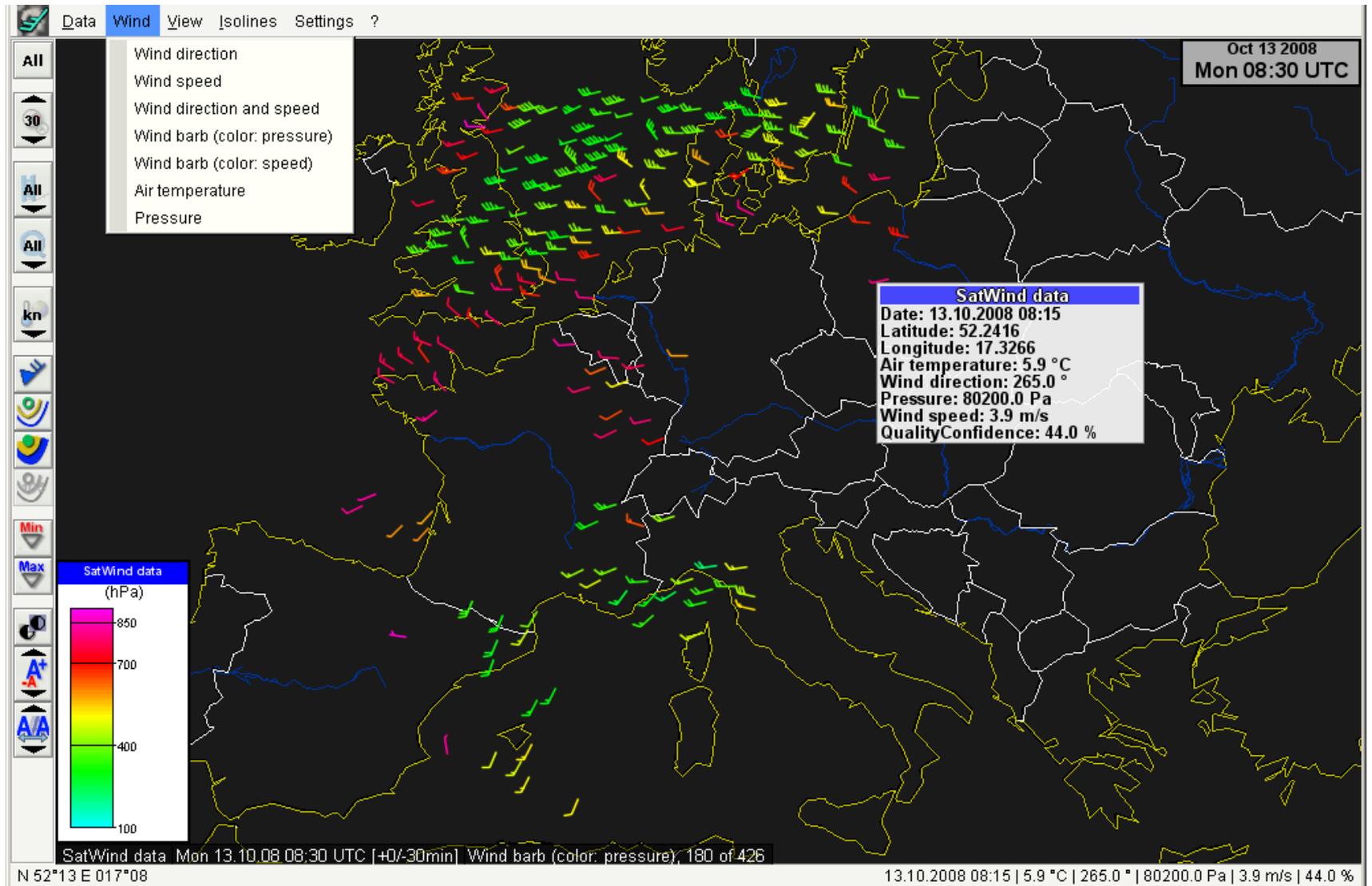
SatSounding Layer

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Wetter und Klima aus einer Hand



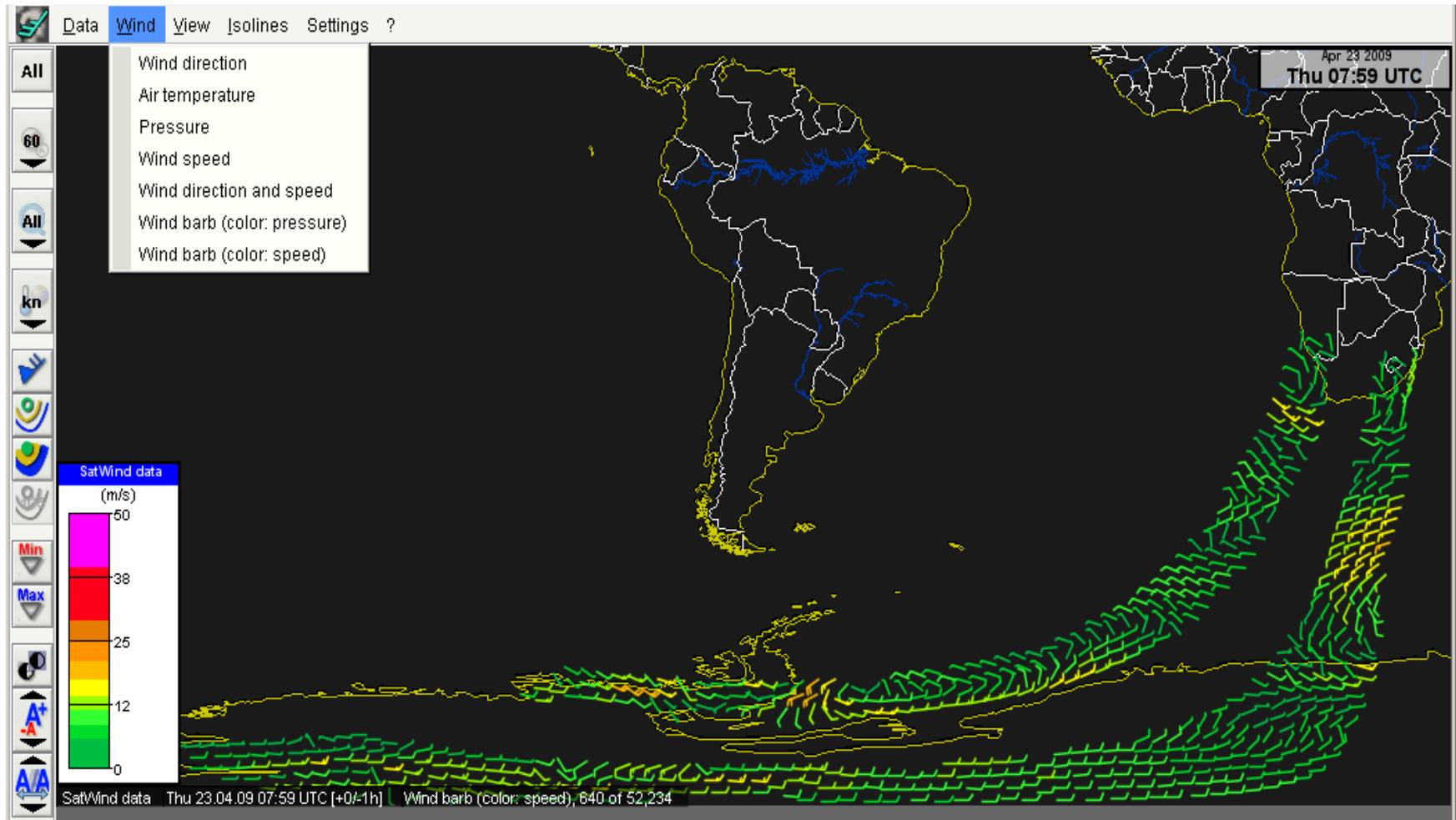
SatWind Layer - HRW

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SatWind Layer - Scatterometer

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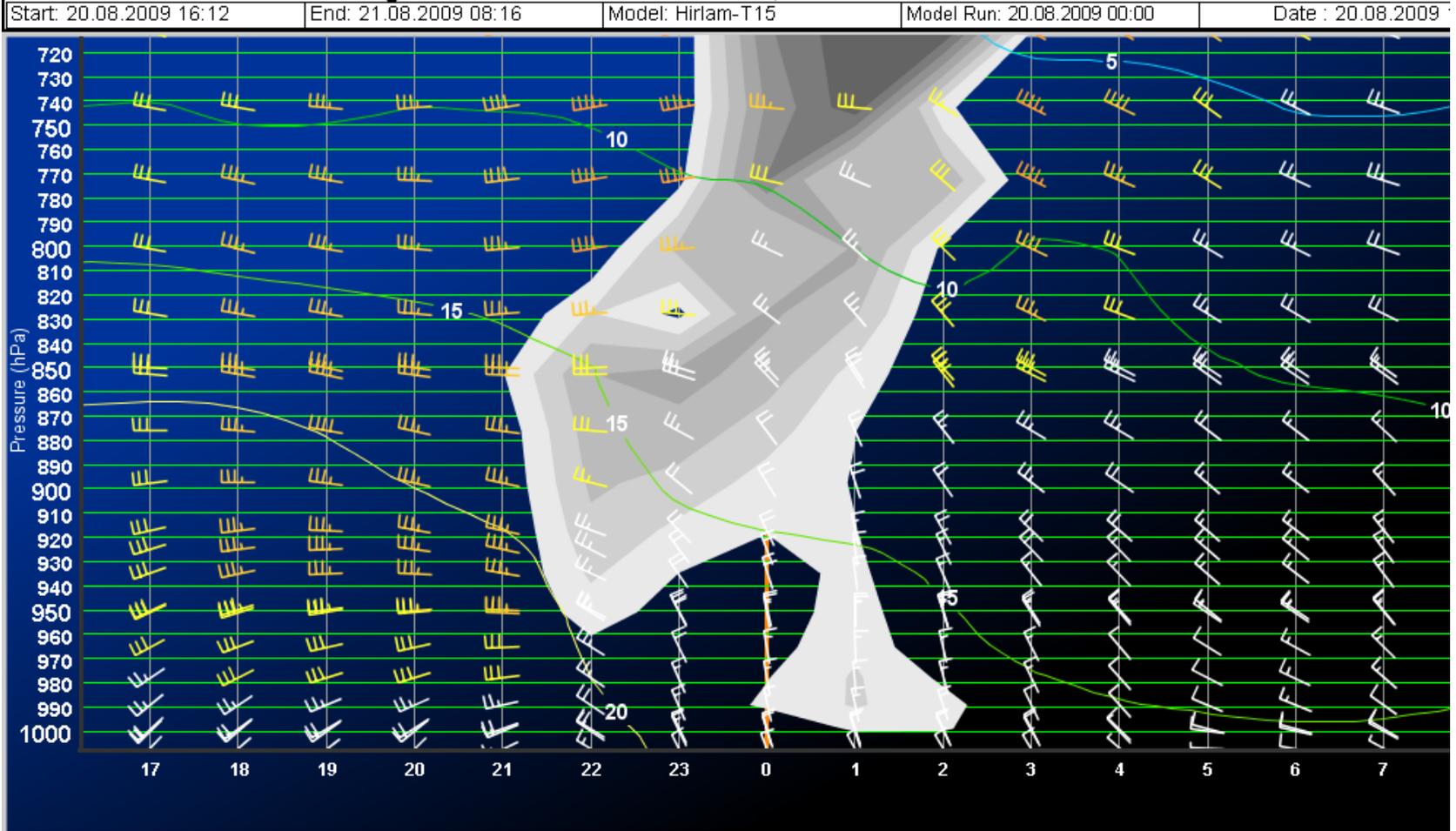


Meteograms– New time/height profile data series

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Meteogram for location 06060, FLYVESTATION KARUP

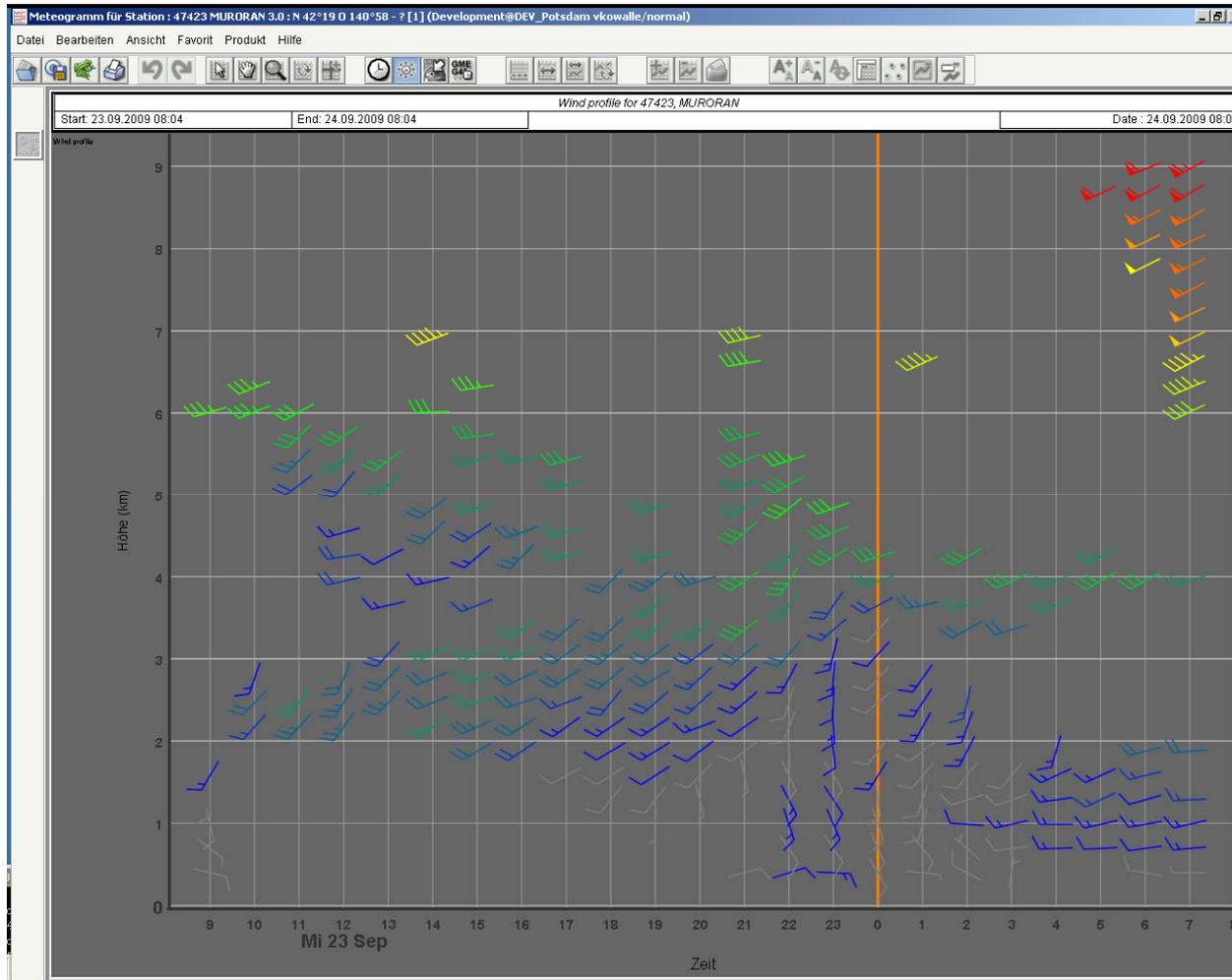


An example of a forecast time/height profile with wind barbs, temperature and total cloud cover data series

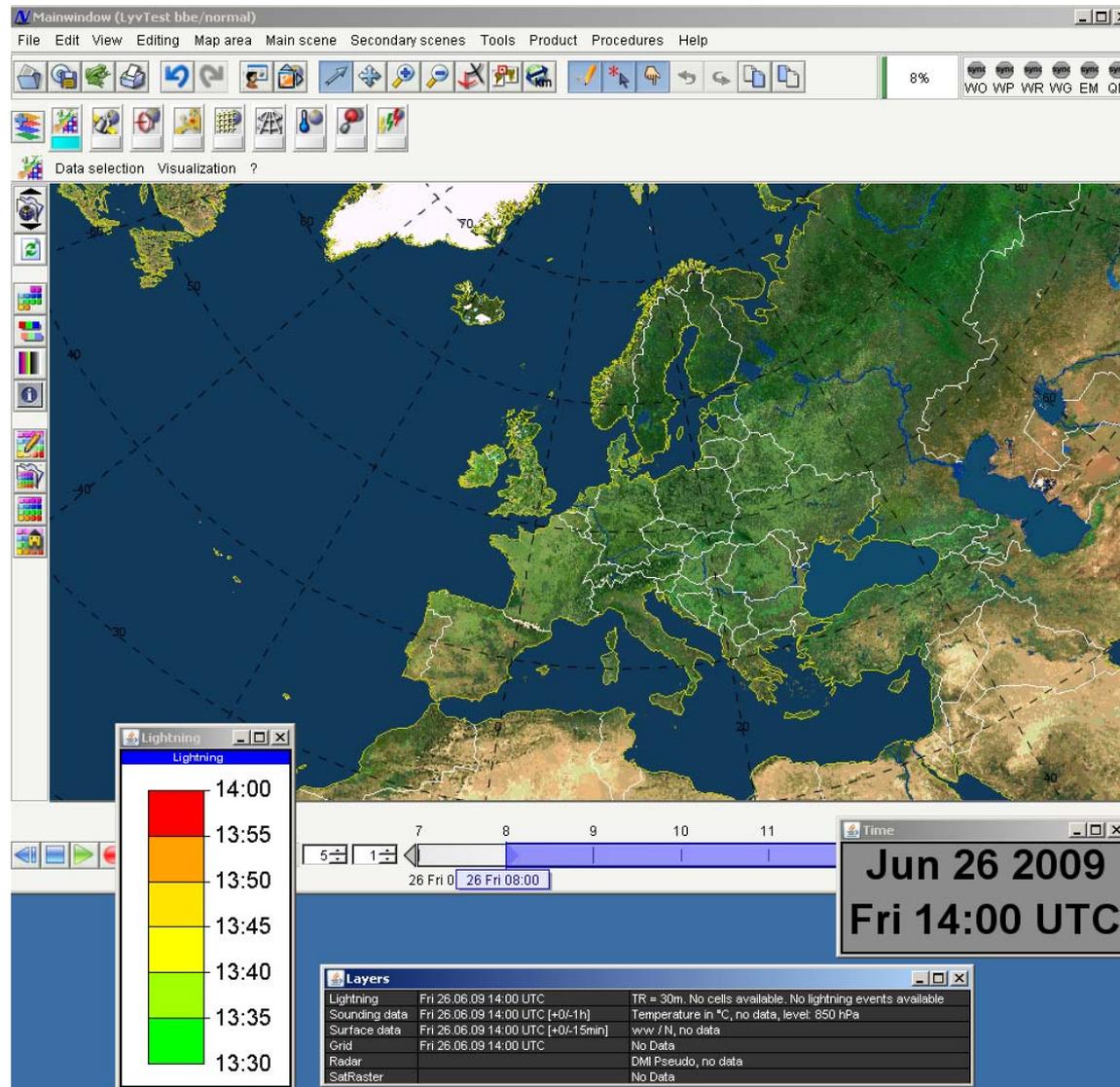




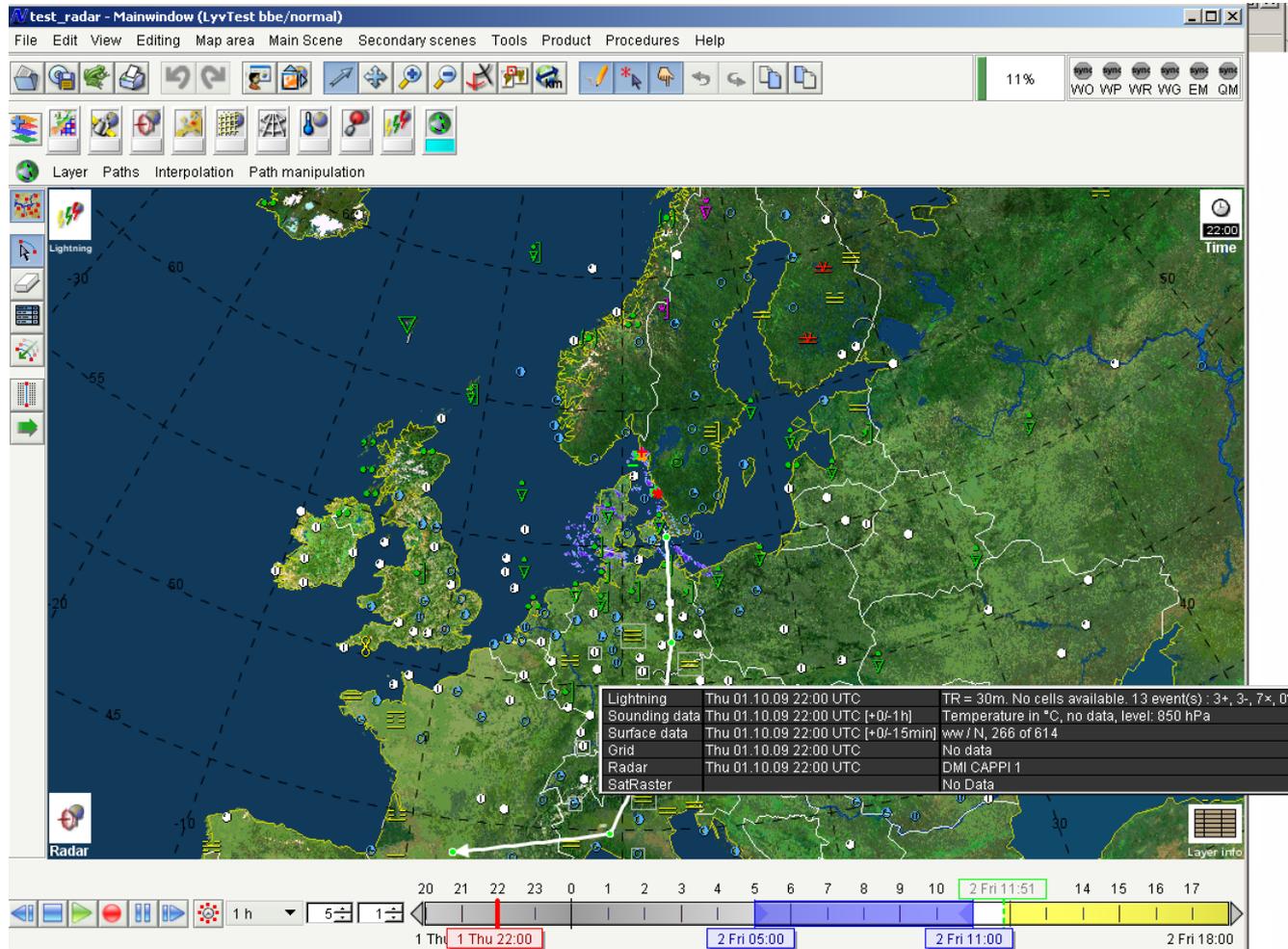
→ Decoding and Display of international Windprofilers



Legends – Legend tear off



Legends – iconified legends



Example of a layer container with all legends iconified and the layer legend icon has been touched so the legend popup appears



NinJo Batch

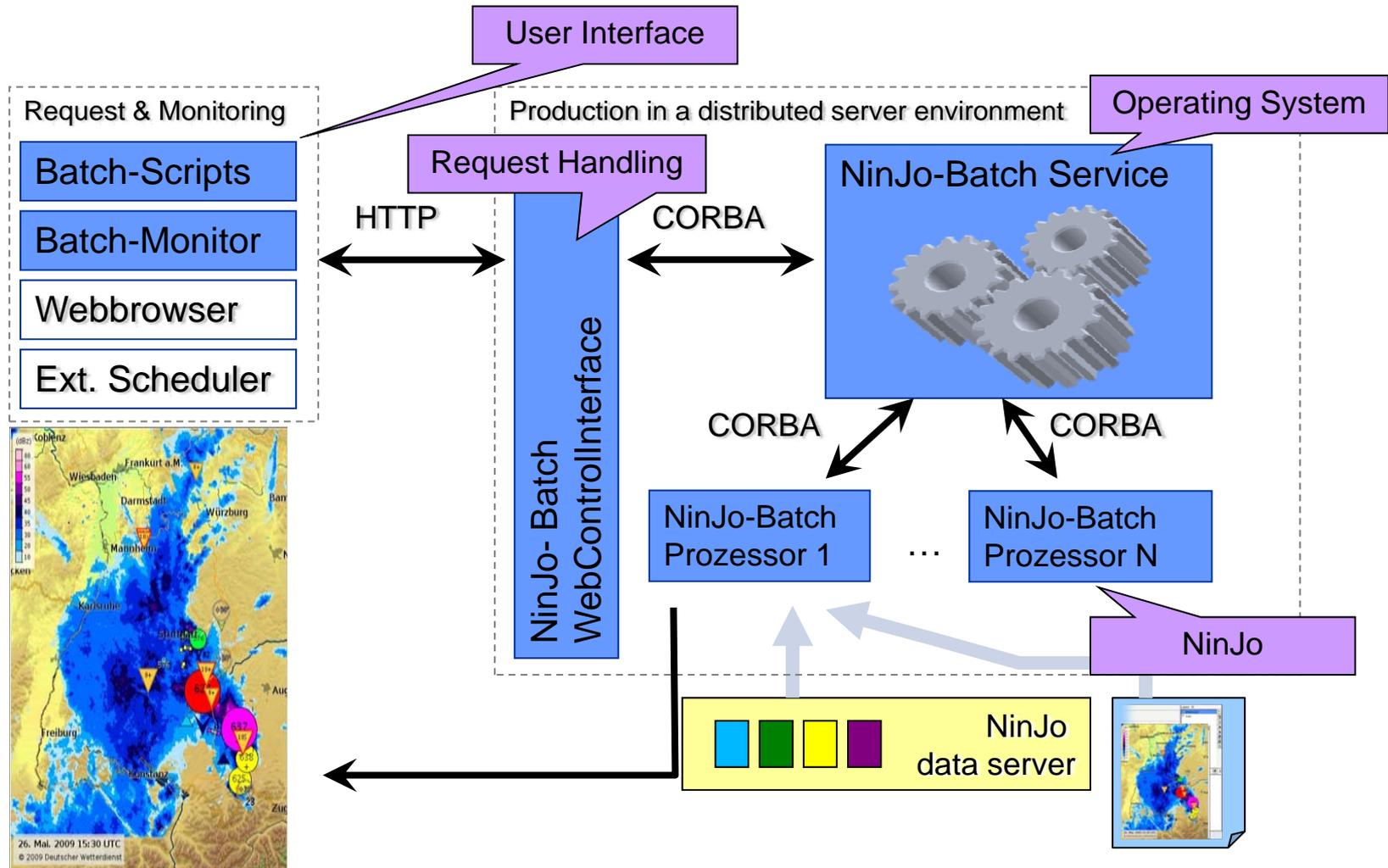
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- Operational in DWD since fall 2009
- Produces many thousand products daily
- All customer products are being migrated to NinJo batch
- Legacy applications are replaced by NinJo batch (Radar products first, model products follow)
- Production results (SWC, TKB maps, produced by NinJo) are combined with other data in NinJo batch

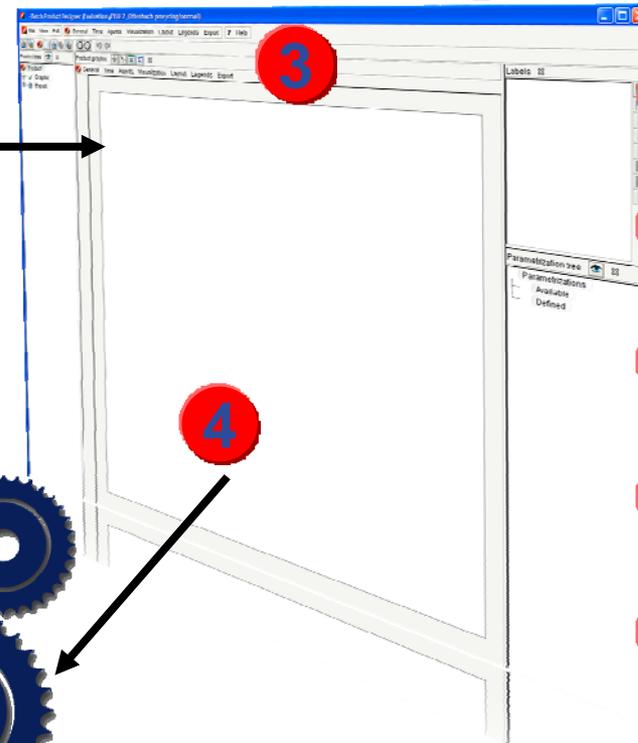
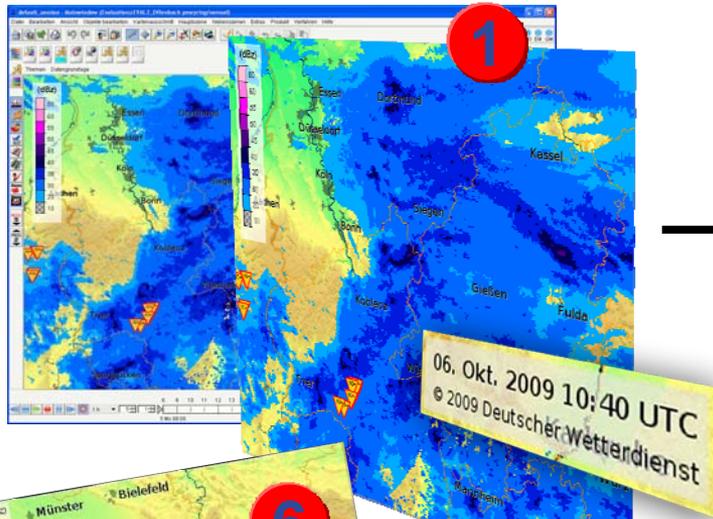


Batch – Architectural Overview

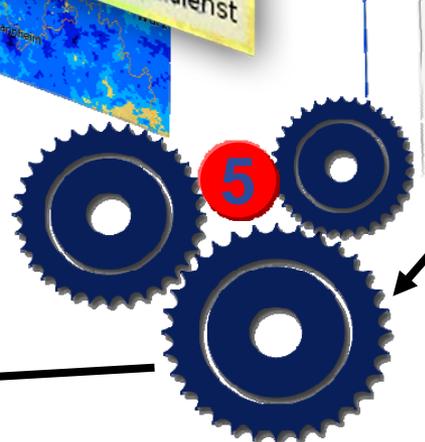
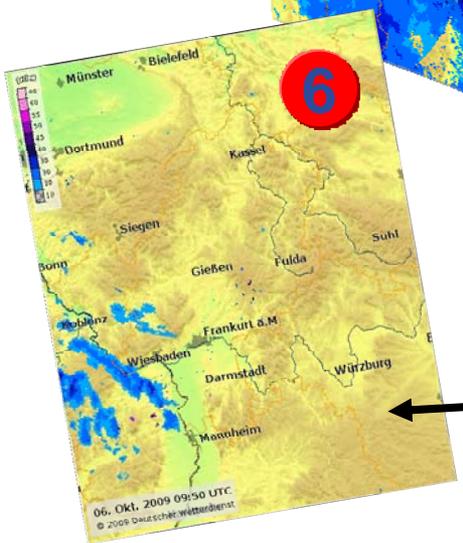


How to Create Batch Products

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- 1** Create a NinJo scene
- 2** Start Batch Designer
- 3** Create Batch favourite including the scene
- 4** Add Batch legend(s)
- 5** Schedule Batch favourite
- 6** Enjoy the results

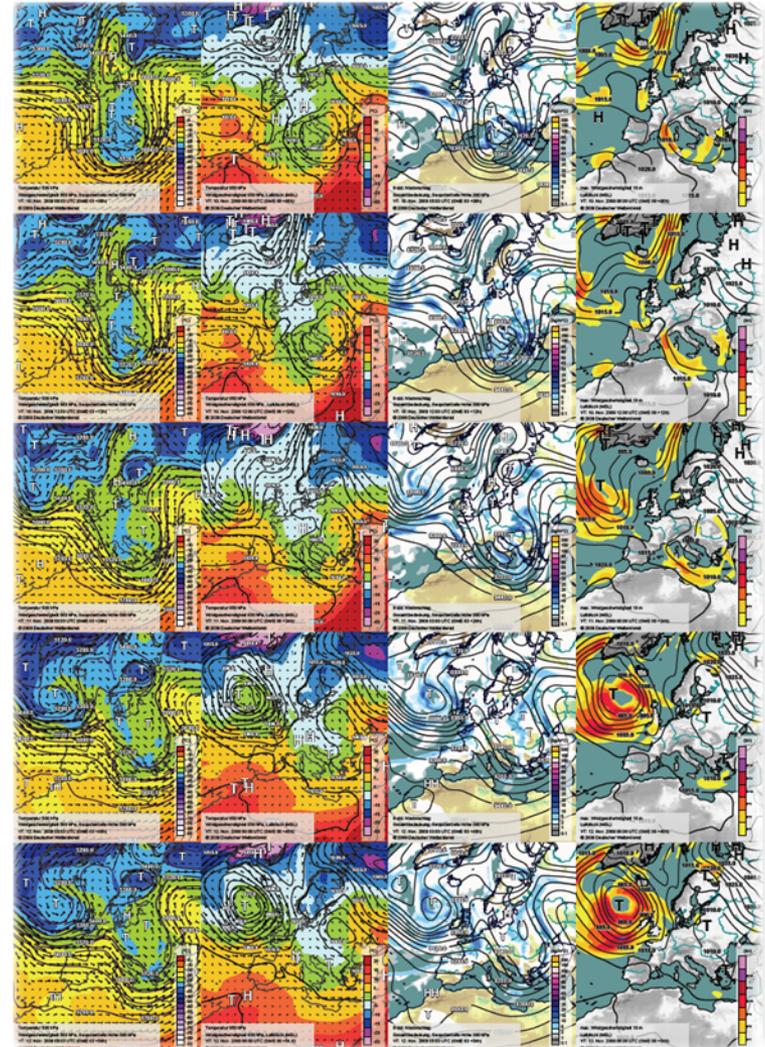
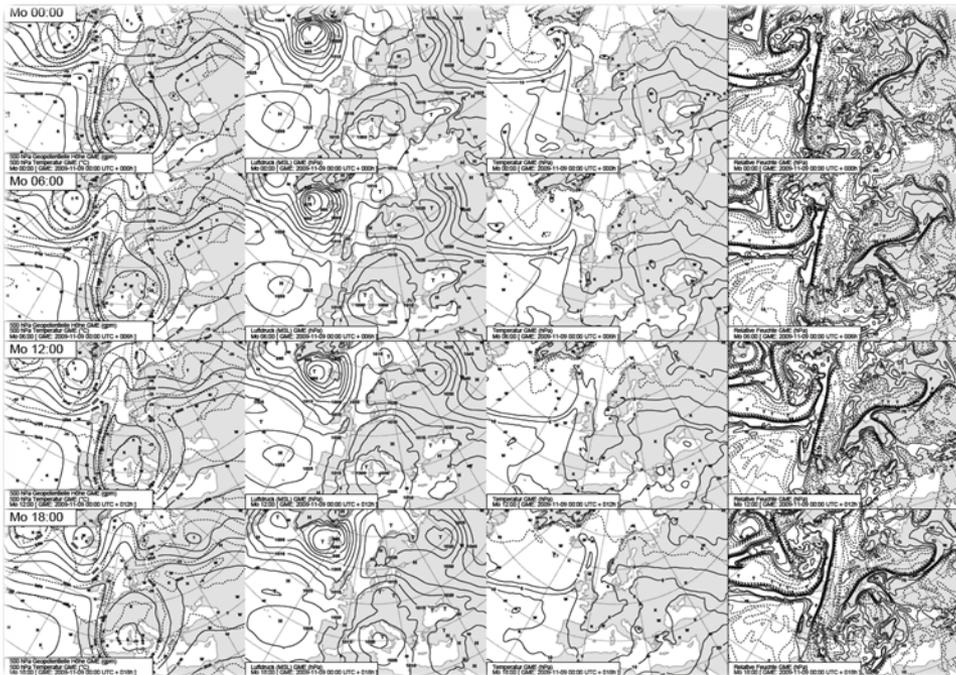


Multi Map Plot Products



➔ Allows variation of parameters

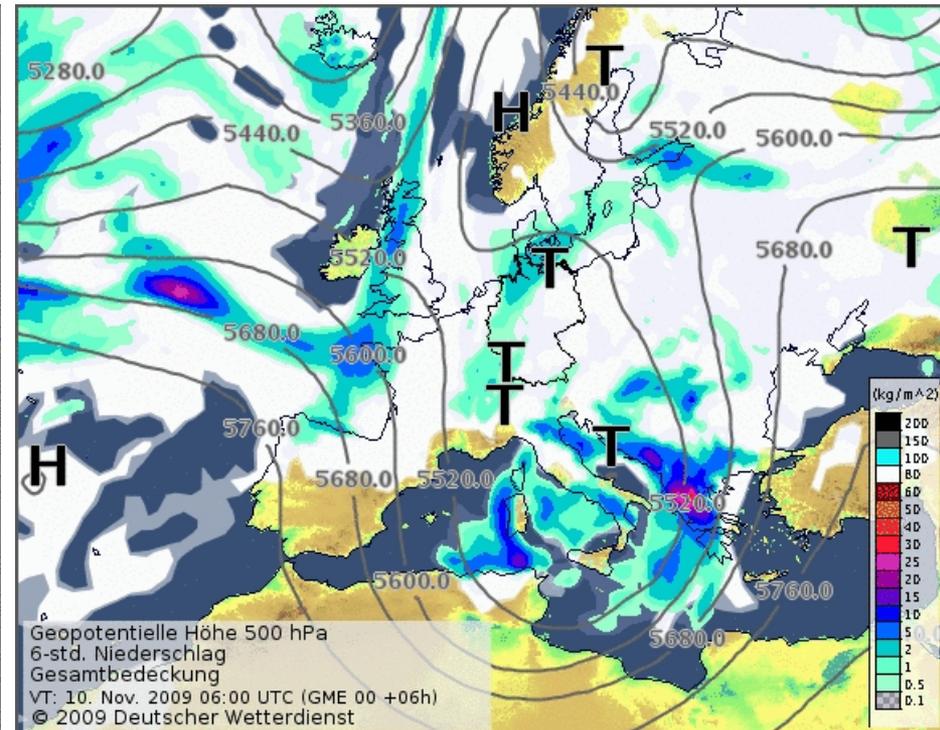
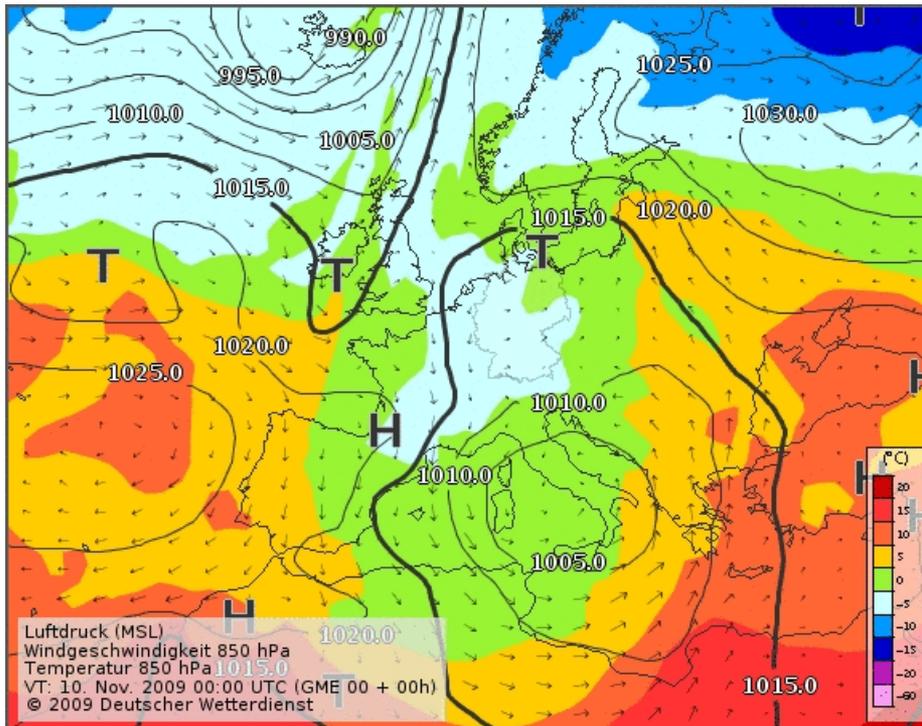
- time, map, element, height level, station (for meteograms), ...



Animations



➔ Animation as post production

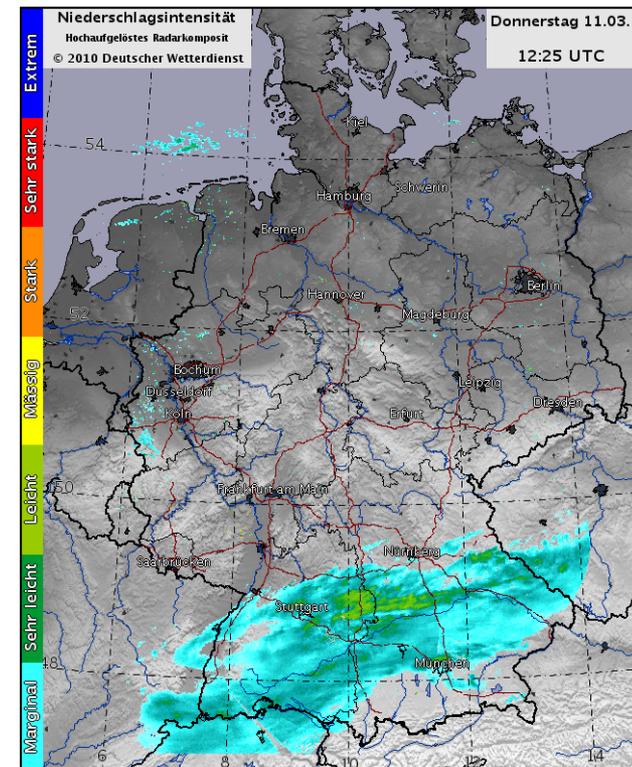
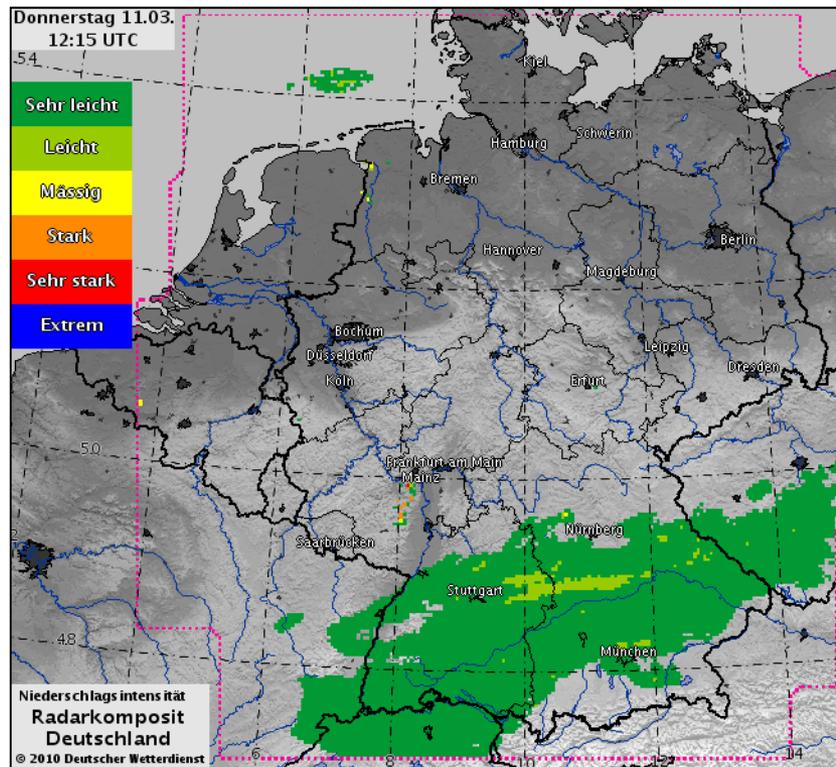


Batch: Operational Products

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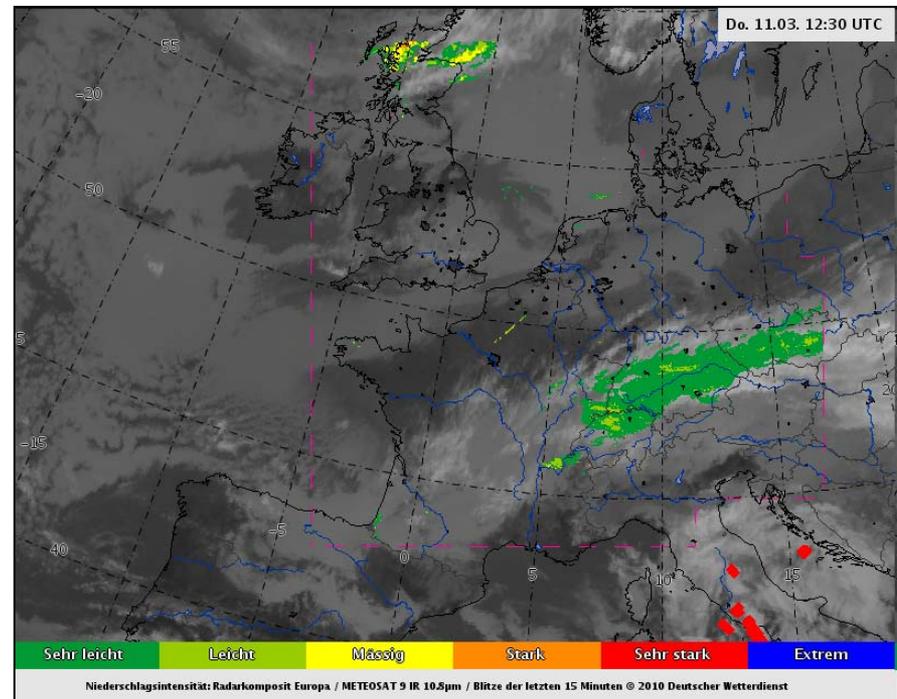
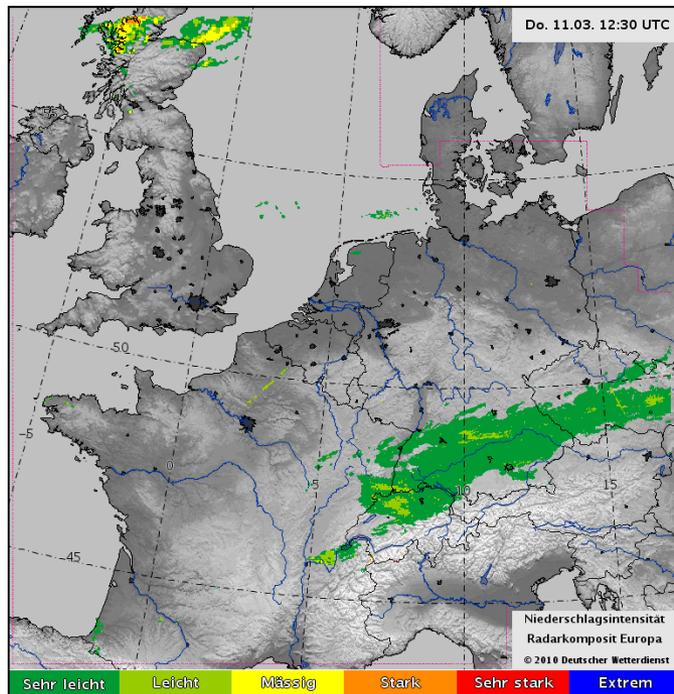
- ➔ Radar composite Germany (PC): every 15 minutes
- ➔ Radar composite Germany (RX): every 5 minutes (two resolutions)



Batch: Operational Products (II)



- Radar composite Europe (PM): every 15 minutes (two resolutions)
- Radar / lightning / satellite composite Europe: every 15 minutes (two resolutions)

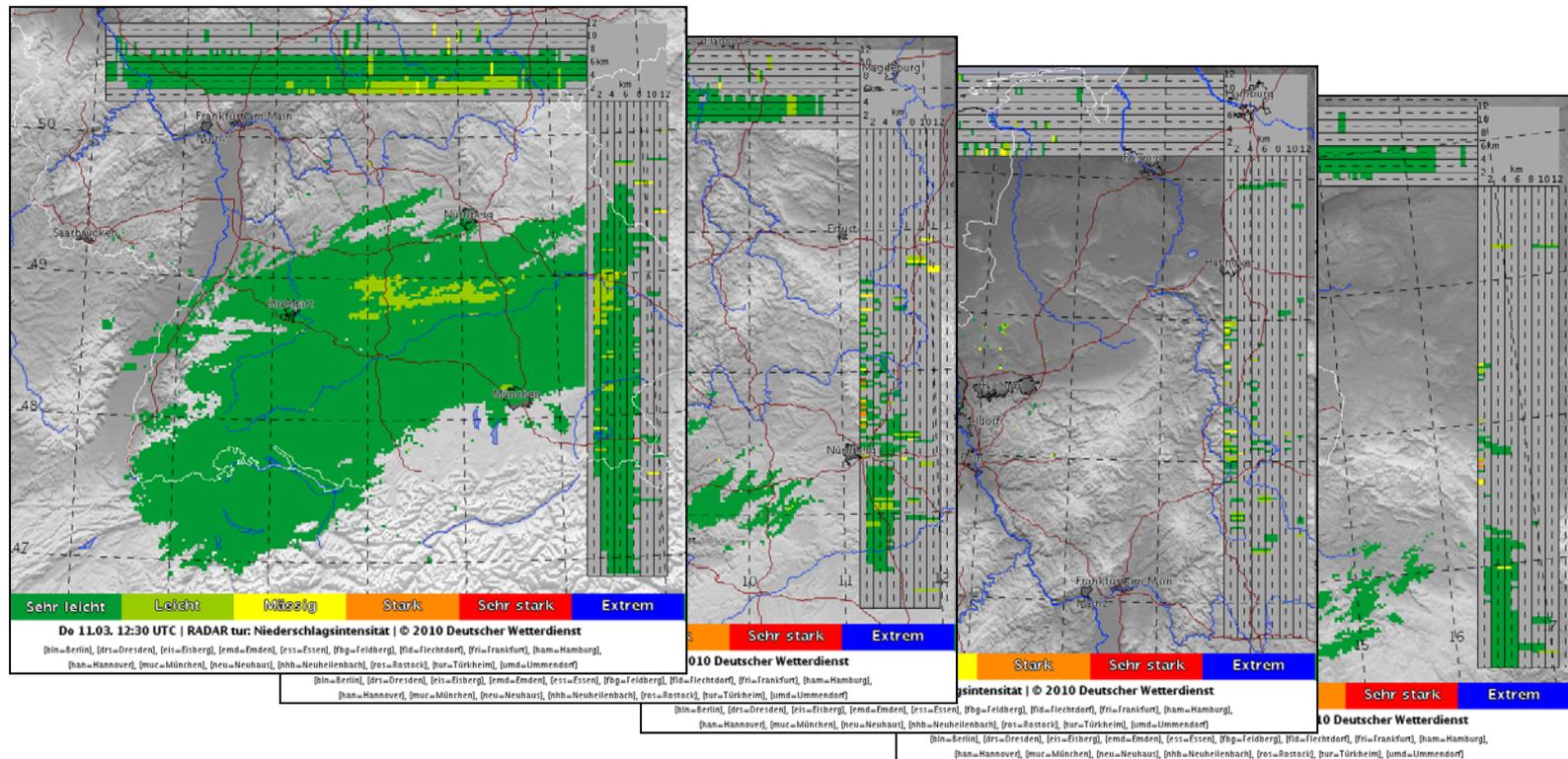


Batch: Operational Products (III)

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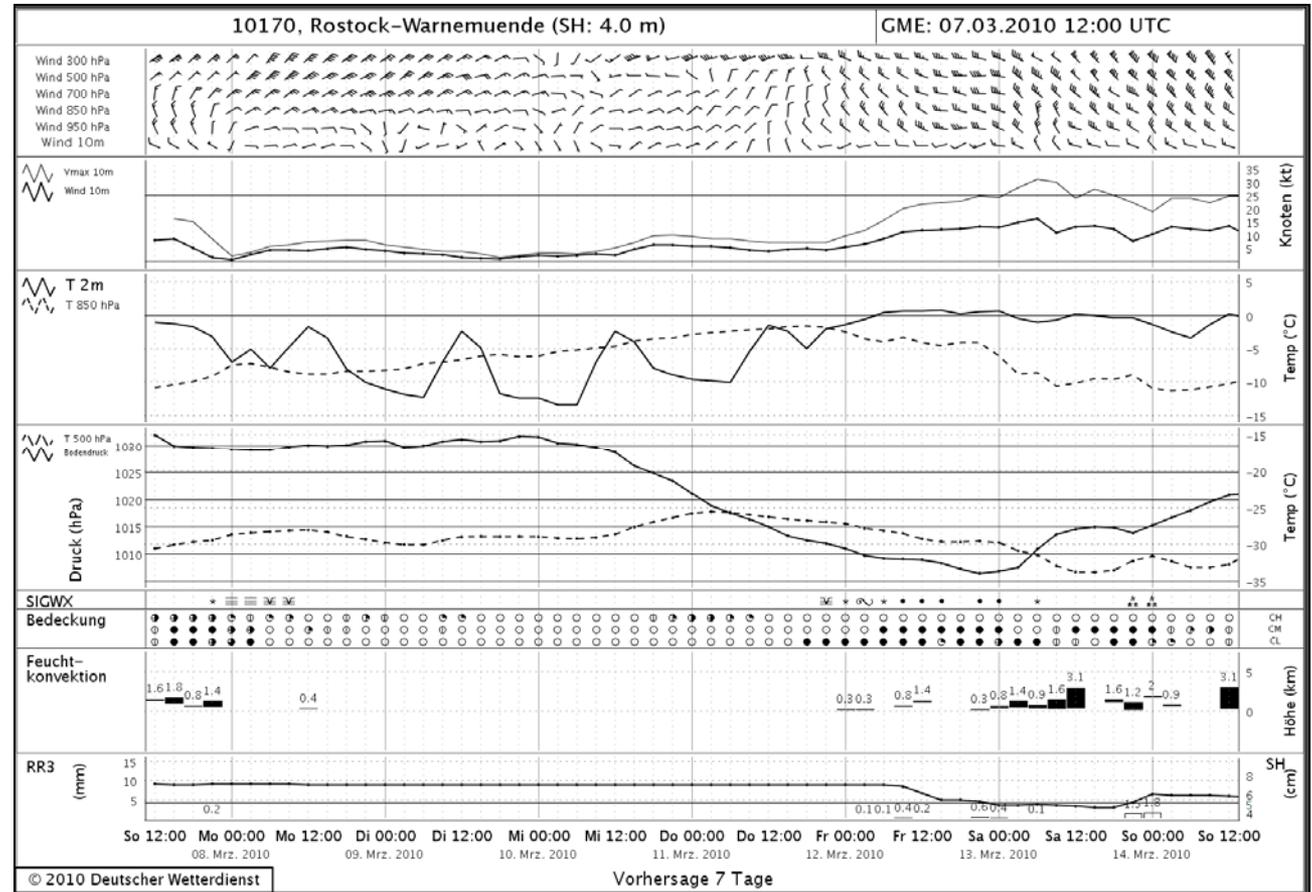
➔ Single radar drilldowns for 16 locations (PL): every 15 minutes



Batch: Operational Products (IV)



➔ Last but not least: meteograms (GME), every 12 hours for 250 locations



➔ In total: ~3100 images/day.



GOF Batch – GeoTIFF export

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The screenshot shows a GIS application interface with a map of Europe. A weather overlay is visible, with a label indicating "Sep 18 2008 Fri 16:00 UTC". The map is overlaid with a grid. Several windows are open, including a "Layers" panel on the left and two "Properties" windows at the bottom. The "Layers" panel shows three layers: "D:\shp\world_borders.shp", "D:\nin3.tiff", and "D:\Europe_2_02.2008364.terra.7". The "D:\nin3.tiff Properties" window shows the following details:

- Filename: D:\nin3.tiff
- Size: 762P x 871L x 4Bands
- Driver: GeoTIFF
- Origin: -4.50797605515 52.7587509155
- Pixel Size: 0.0155722325242 x -0.0155704073463
- Projection:
- Band 1: Type=Byte

The "D:\Europe_2_02.2008364.terra.721.2km.tif Properties" window shows the following details:

- Filename: D:\Europe_2_02.2008364.terra.721.2km.tif
- Size: 575P x 650L x 3Bands
- Driver: GeoTIFF
- Origin: 1.7154 56.7258
- Pixel Size: 0.0254365217391 x -0.0179864615385
- Projection:
- GEOGCS["WGS 84", DATUM["WGS 1984", SPHEROID["WGS 84",6378137,298.2572235630016]], PRIME["Greenwich",0], UNIT["degree",0.0174532925199433]]
- Metadata:
- TIFFTAG_SOFTWARE: ppm2geotiff v0.0.6
- AREA_OR_POINT: Area
- Band 1: Type=Byte
- Band 2: Type=Byte
- Band 3: Type=Byte

The bottom left of the screenshot shows a console window with the following output:

```
nEvent.java:209)
:597)
rs(EventDispatchThread.java:273
EventDispatchThread.java:183)
hy(EventDispatchThread.java:173
atchThread.java:168)
atchThread.java:160)
ead.java:121)
>> imgw/h 761*871
>> imgw/h 761*871
```



NinJo – recent developments

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- Deployment
- User groups, international discussion
- Project management ,workflows development cycles
- New Features
- NinJo Batch
- OGC



OGC <-> NinJo Prototyping

