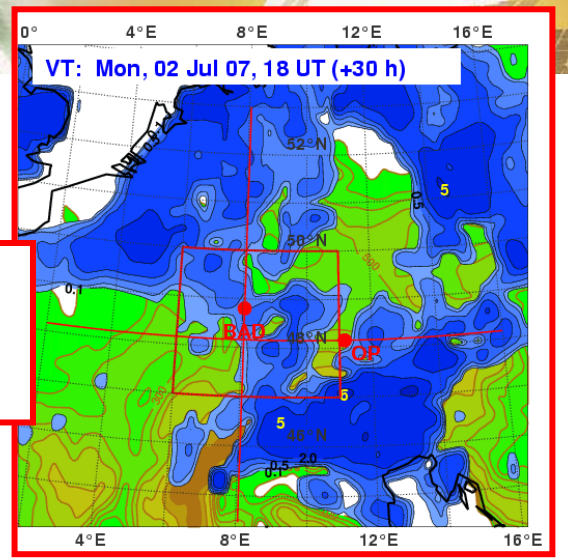
Rain amounts in nature and models:
Observations from the COPS field phase in summer 2007

Hans Volkert

Institut für Physik der Atmosphäre
DLR-Oberpfaffenhofen
G e r m a n y

Eye, camera

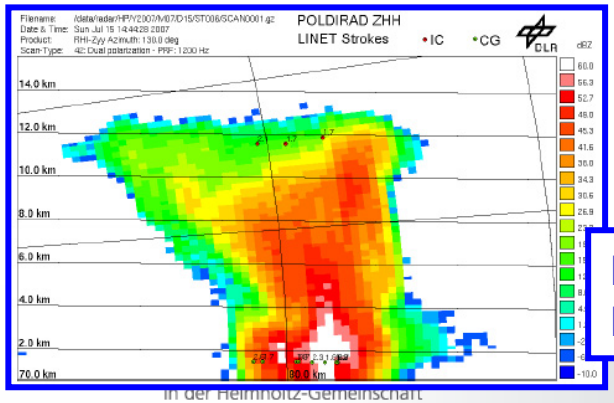


ECWMF 3h ConPrec.

IOP-5b, 02 July 2007

C onvective and
O rographically-induced
P recipitation
S tudy: 1 Jul.- 31 Aug.07

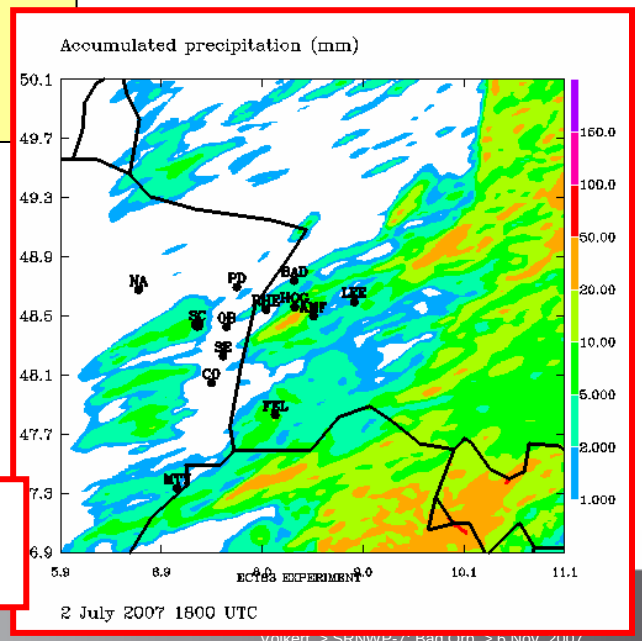
IOP-8b, 15 July 2007



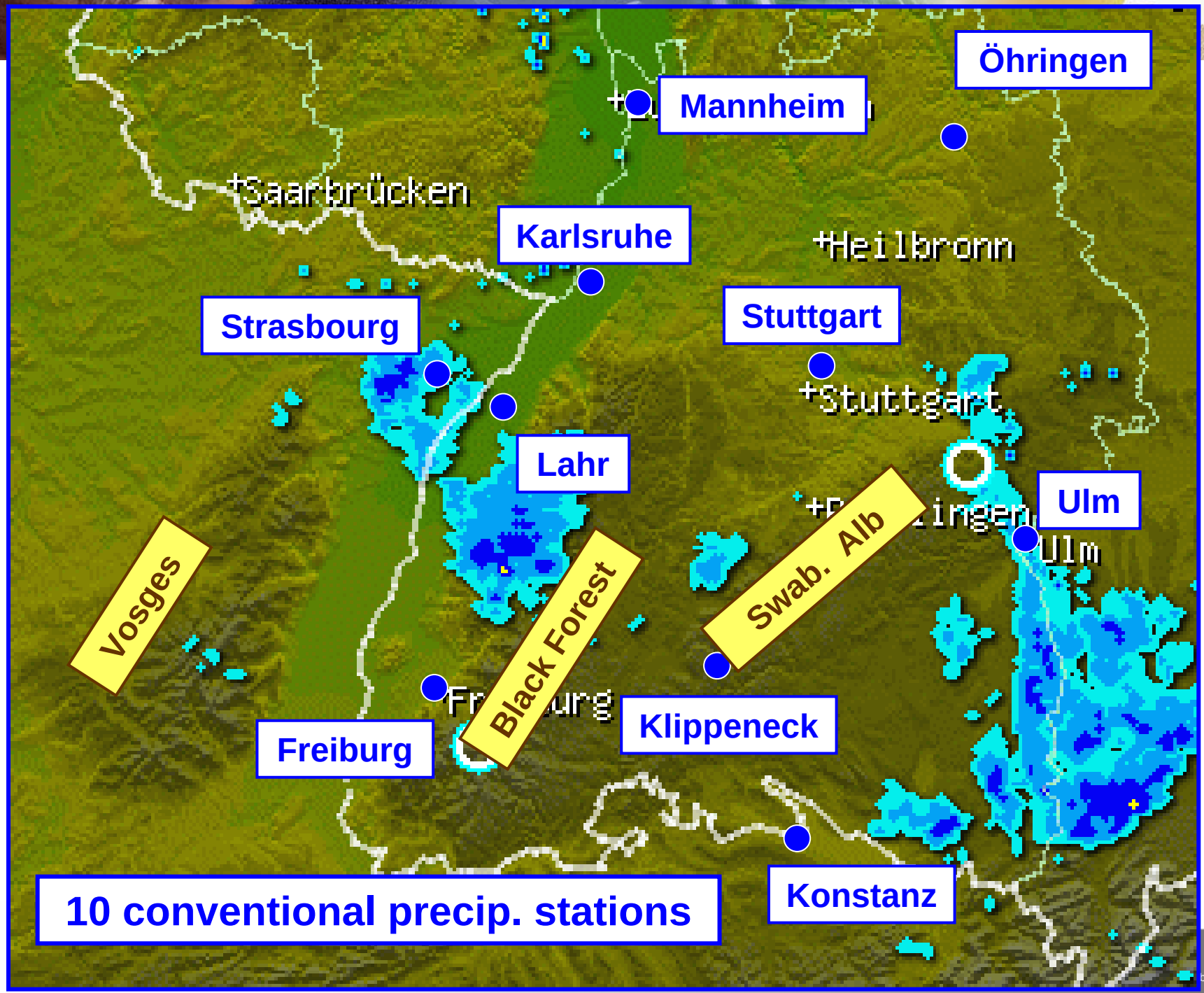
Radar RHI

natural numerical

laboratories

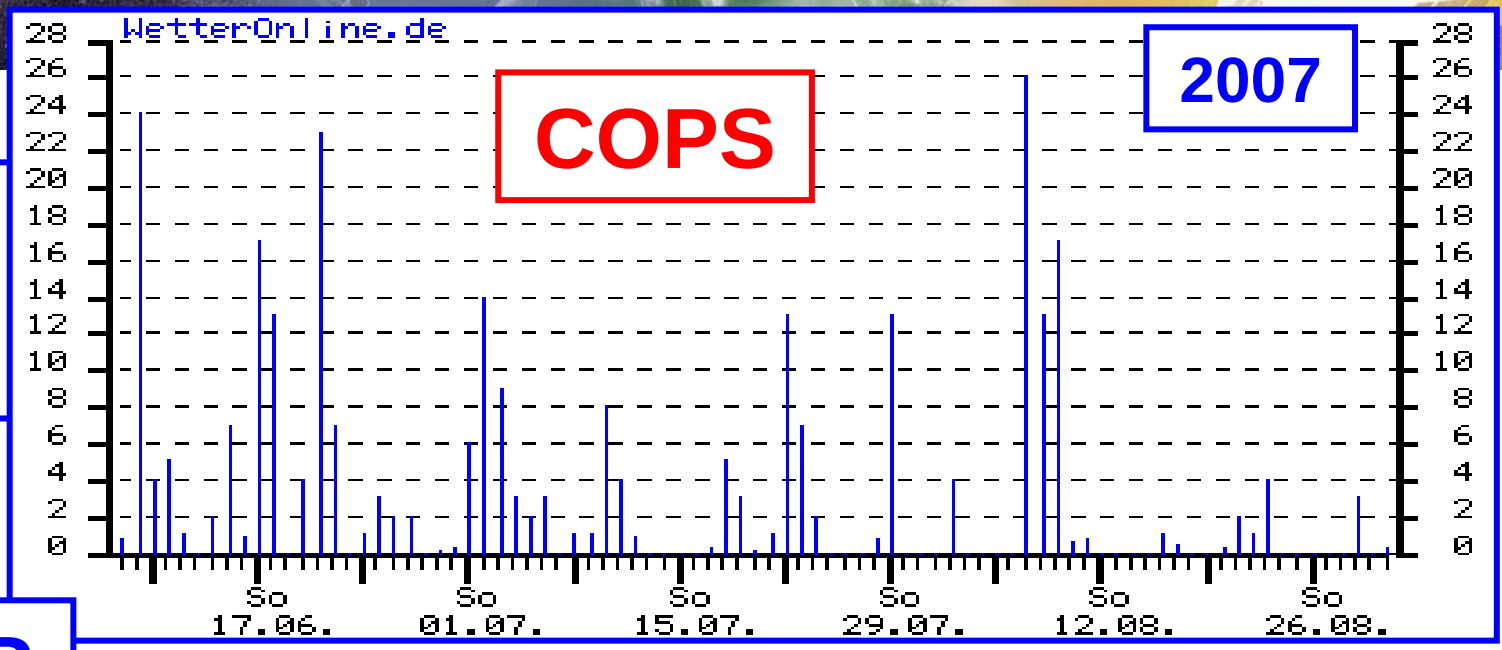


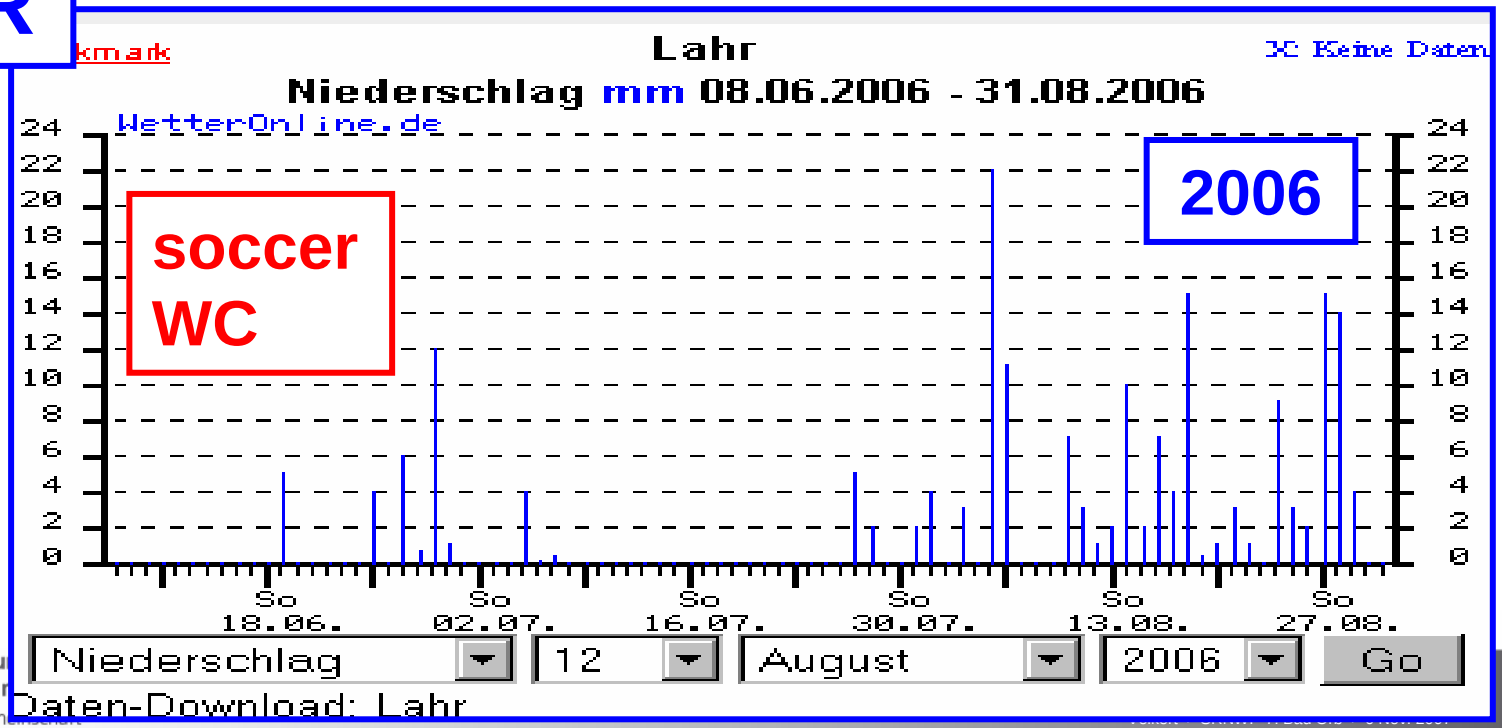
Meso-NH Dx = 2km

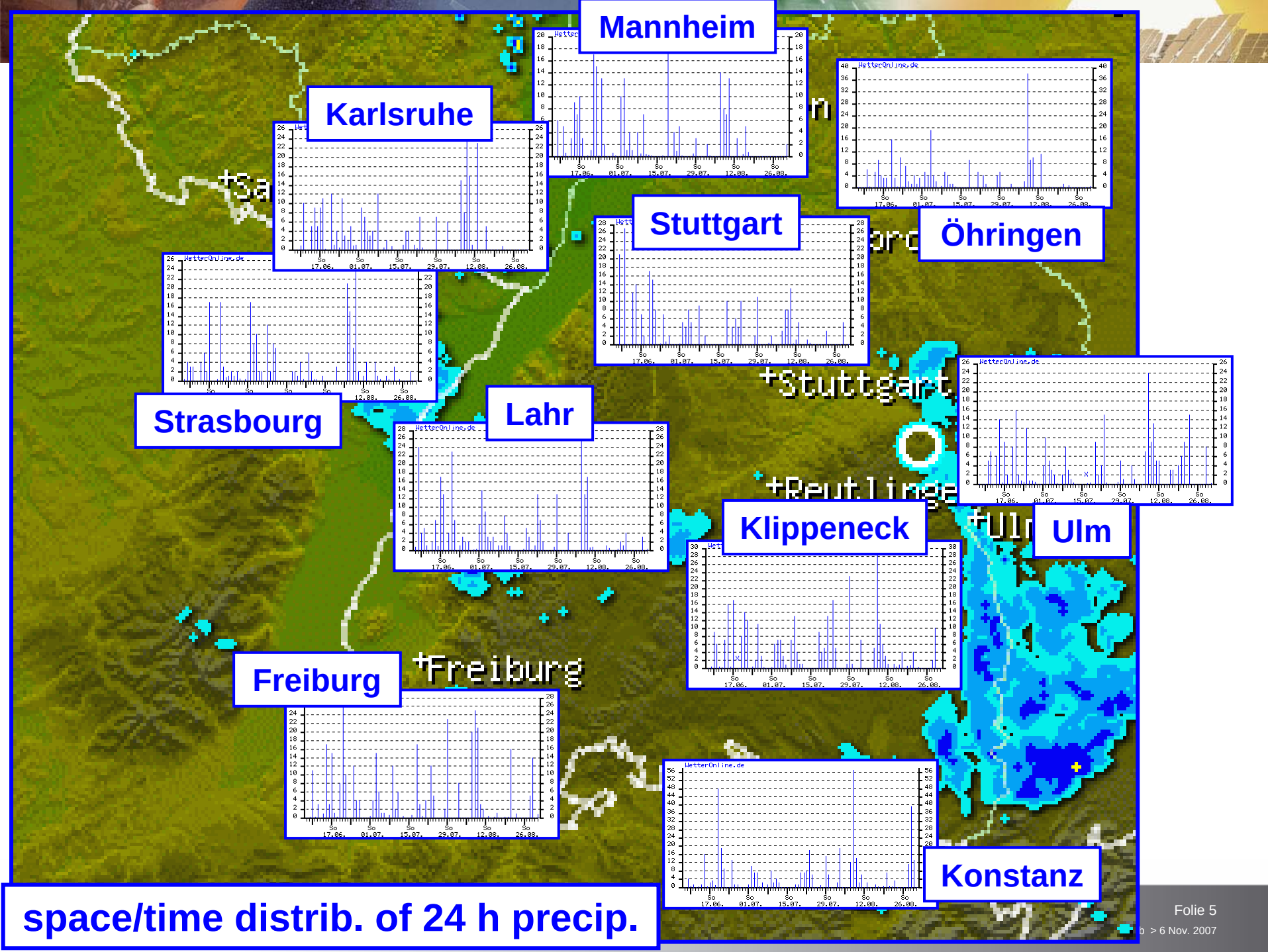

Öhringen
Mannheim
Saarbrücken
Karlsruhe
Heilbronn
Strasbourg
Stuttgart
Stuttgart
Lahr
Ulm
Ulm
Vosges
Black Forest
Swab. Alb
Freiburg
Klippeneck
Konstanz
10 conventional precip. stations

precip. JJA

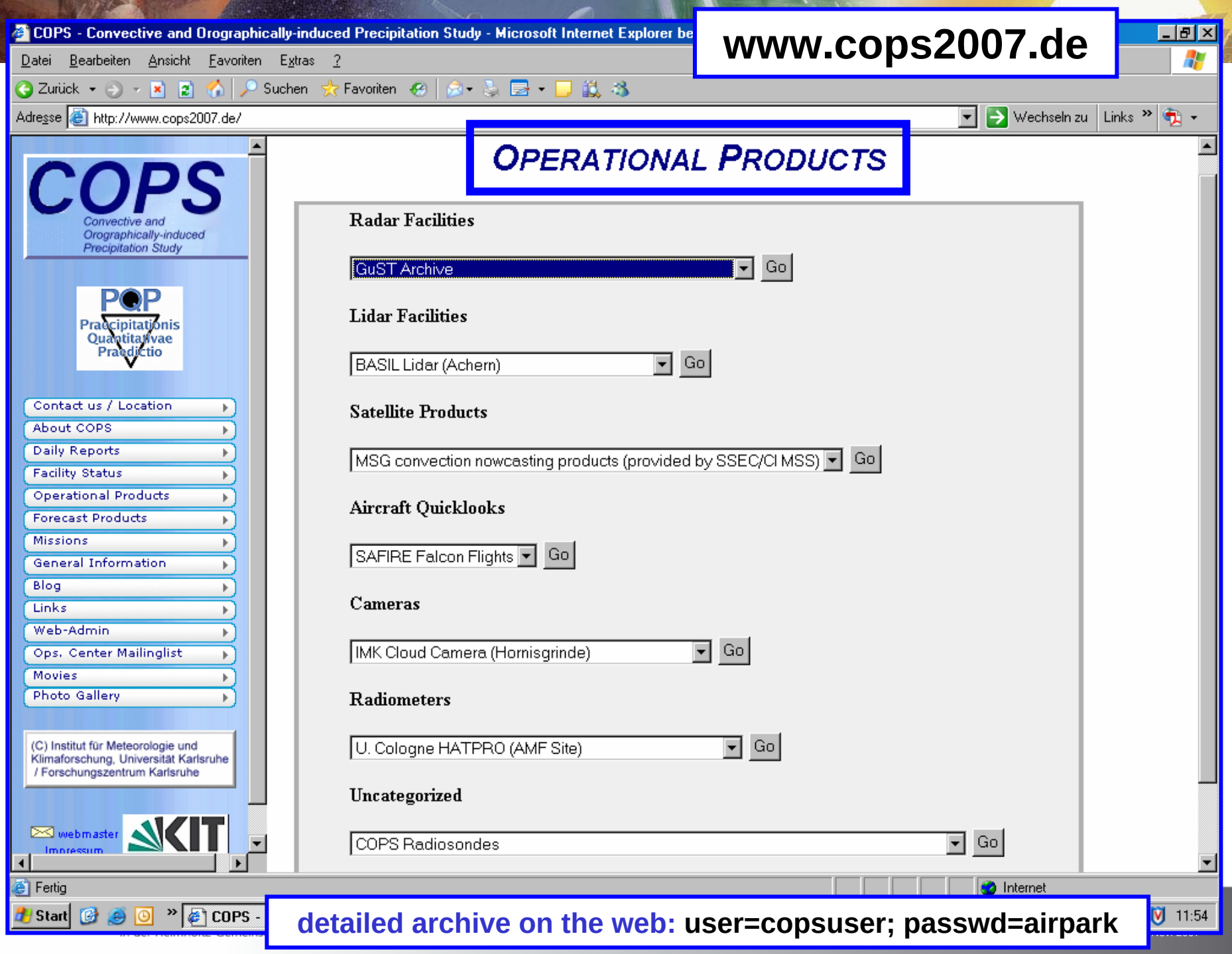
LAHR

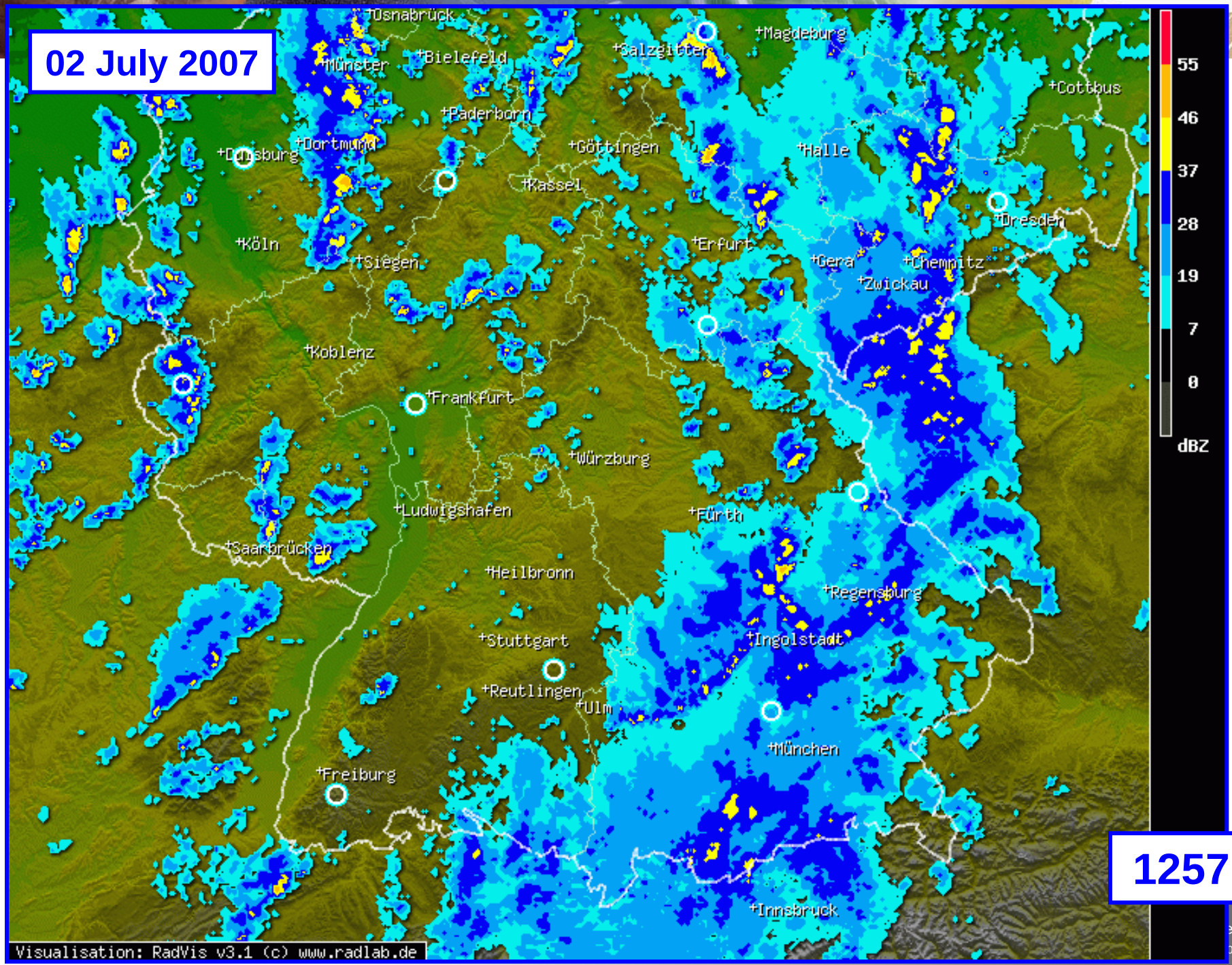


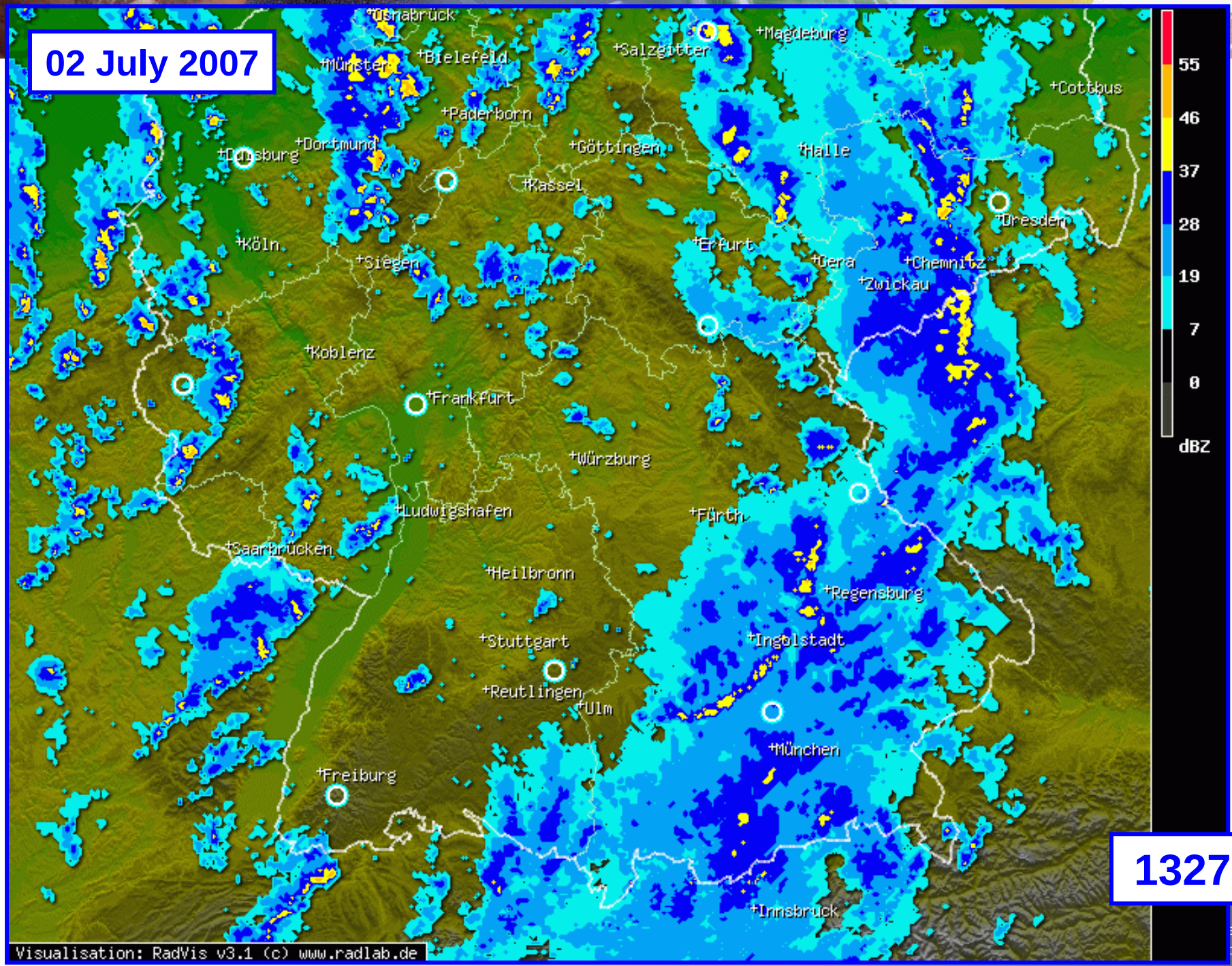


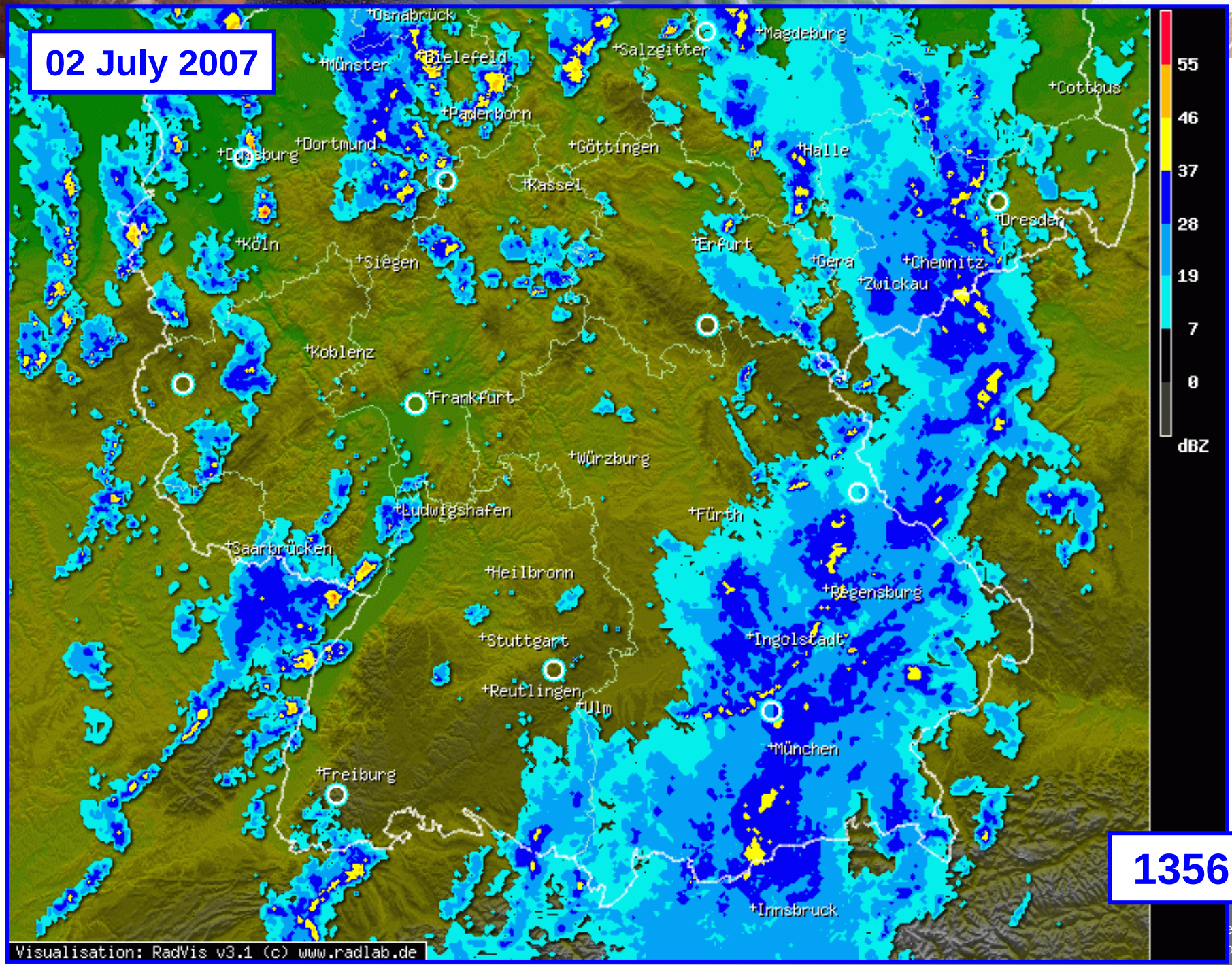


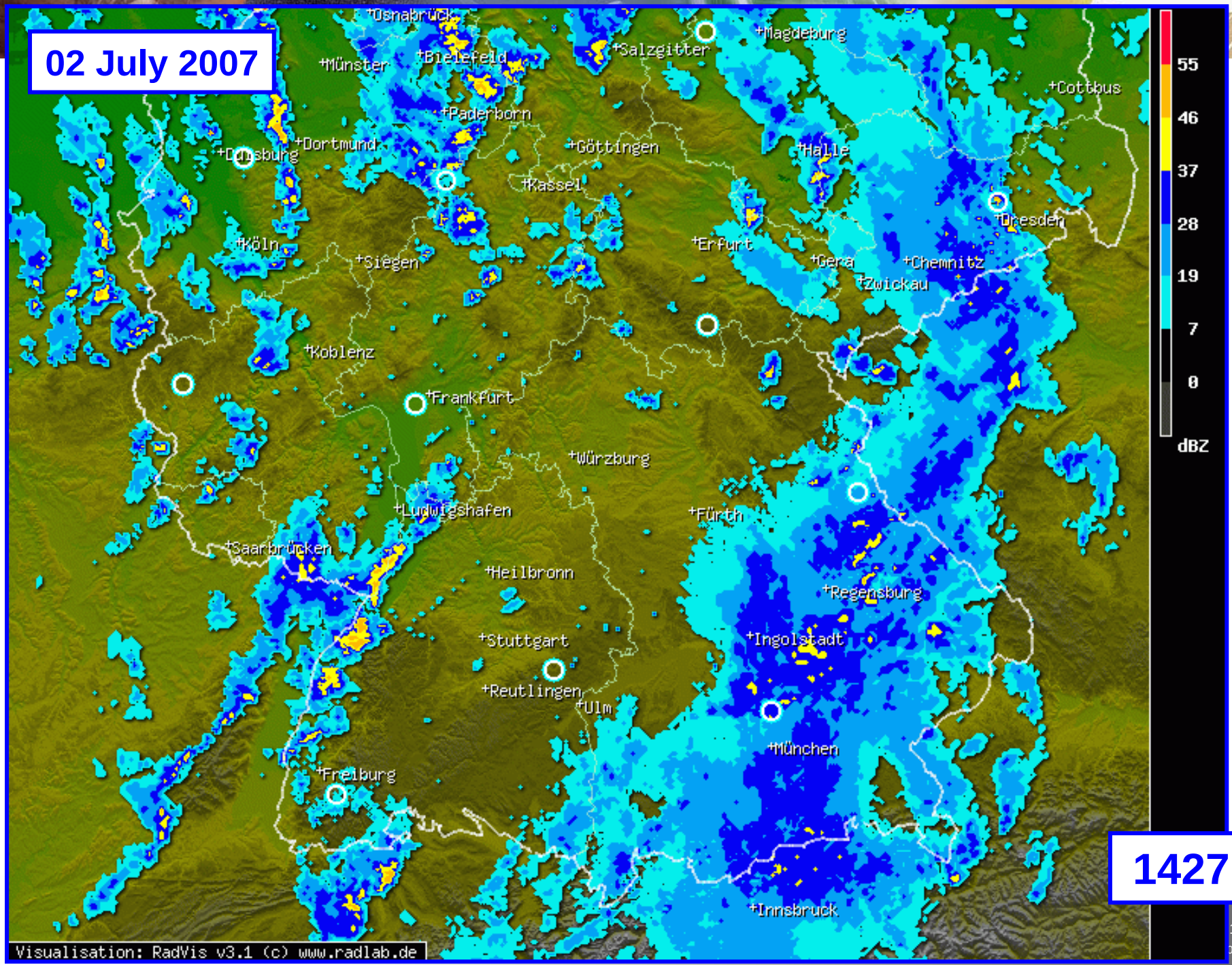
space/time distrib. of 24 h precip.

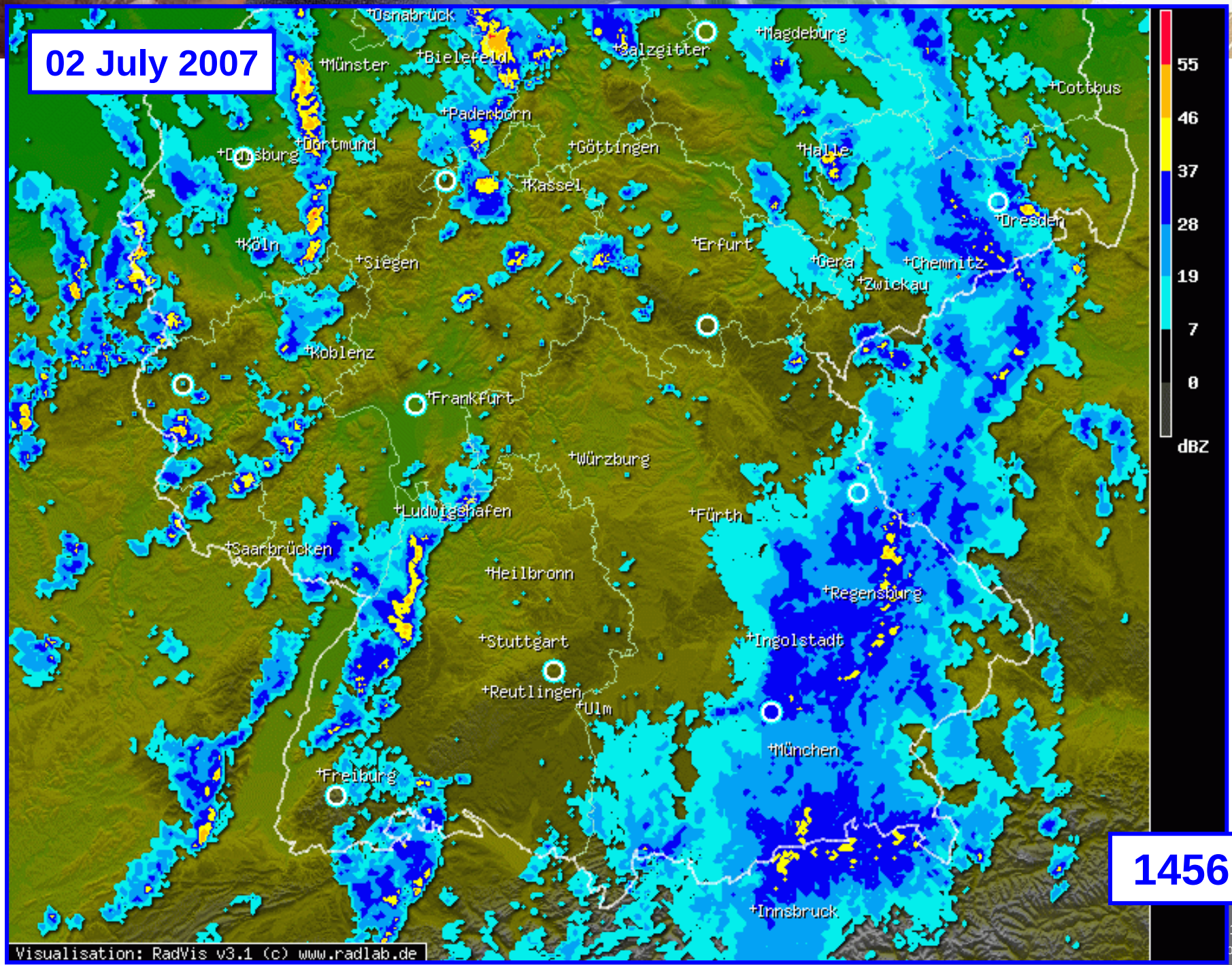

COPS - Convective and Orographically-induced Precipitation Study - Microsoft Internet Explorer be
www.cops2007.de
Datei Bearbeiten Ansicht Favoriten Extras ?
Zurück Suchen Favoriten
Adresse http://www.cops2007.de/
Wechseln zu Links
COPS
Convective and Orographically-induced Precipitation Study
PQP
Praecipitationis Quantitativae Praedictio
Contact us / Location
About COPS
Daily Reports
Facility Status
Operational Products
Forecast Products
Missions
General Information
Blog
Links
Web-Admin
Ops. Center Mailinglist
Movies
Photo Gallery
(C) Institut für Meteorologie und Klimaforschung, Universität Karlsruhe / Forschungszentrum Karlsruhe
webmaster
Impressum
KIT
OPERATIONAL PRODUCTS
Radar Facilities
GuST Archive
Go
Lidar Facilities
BASIL Lidar (Achern)
Go
Satellite Products
MSG convection nowcasting products (provided by SSEC/CI MSS)
Go
Aircraft Quicklooks
SAFIRE Falcon Flights
Go
Cameras
IMK Cloud Camera (Hornisgrinde)
Go
Radiometers
U. Cologne HATPRO (AMF Site)
Go
Uncategorized
COPS Radiosondes
Go
Fertig
Internet
Start
COPS -
11:54
detailed archive on the web: user=copsuser; passwd=airpark

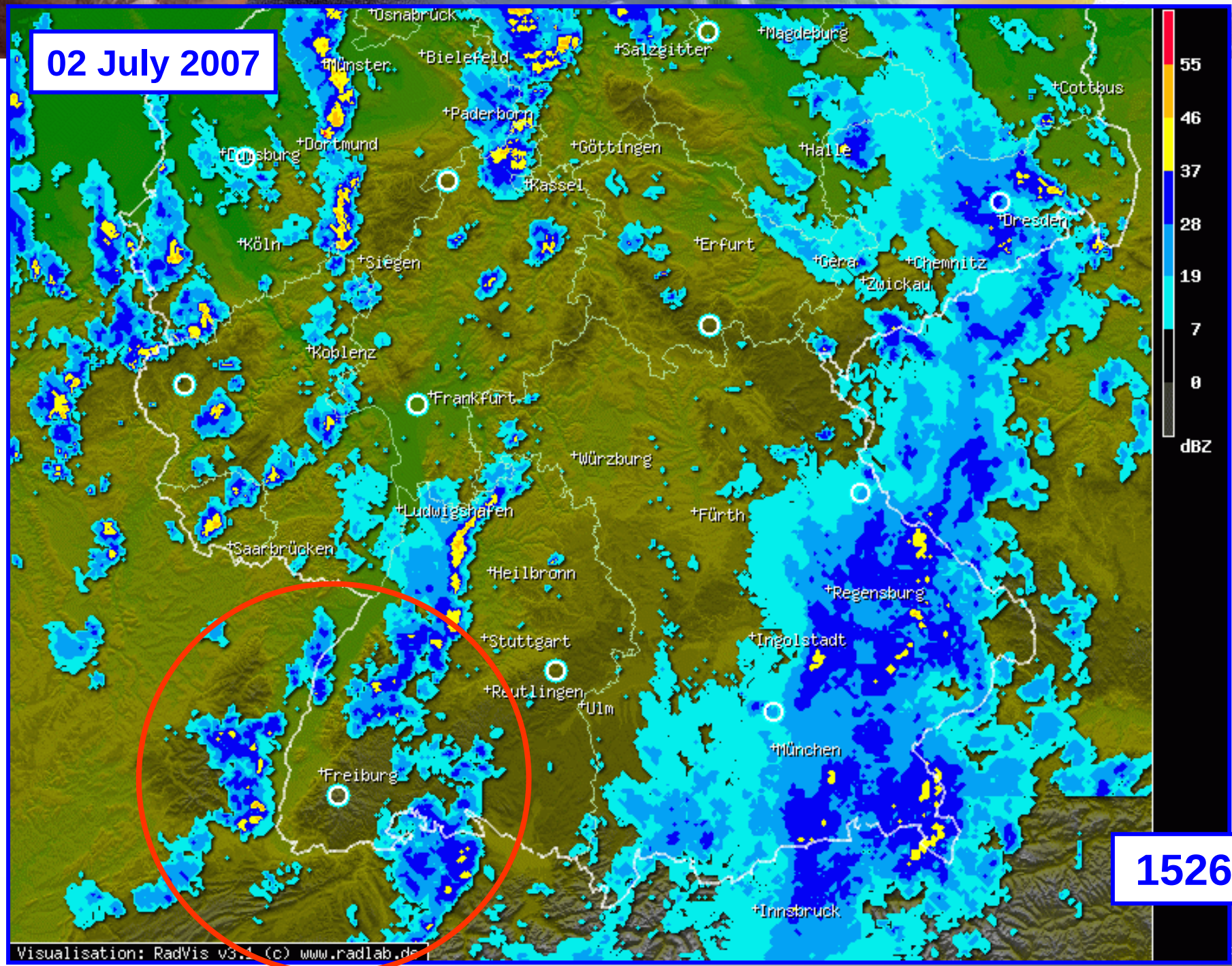

02 July 2007
Osnabrück
Münster
Bielefeld
Salzgitter
Magdeburg
Cottbus
Paderborn
Dortmund
Duisburg
Göttingen
Halle
Kassel
Dresden
Köln
Siegen
Erfurt
Gera
Chemnitz
Zwickau
Koblenz
Frankfurt
Würzburg
Ludwigshafen
Fürth
Saarbrücken
Heilbronn
Regensburg
Stuttgart
Ingolstadt
Reutlingen
Ulm
München
Freiburg
Innsbruck
55
46
37
28
19
7
0
dBZ
1257
Visualisation: RadVis v3.1 (c) www.radlab.de

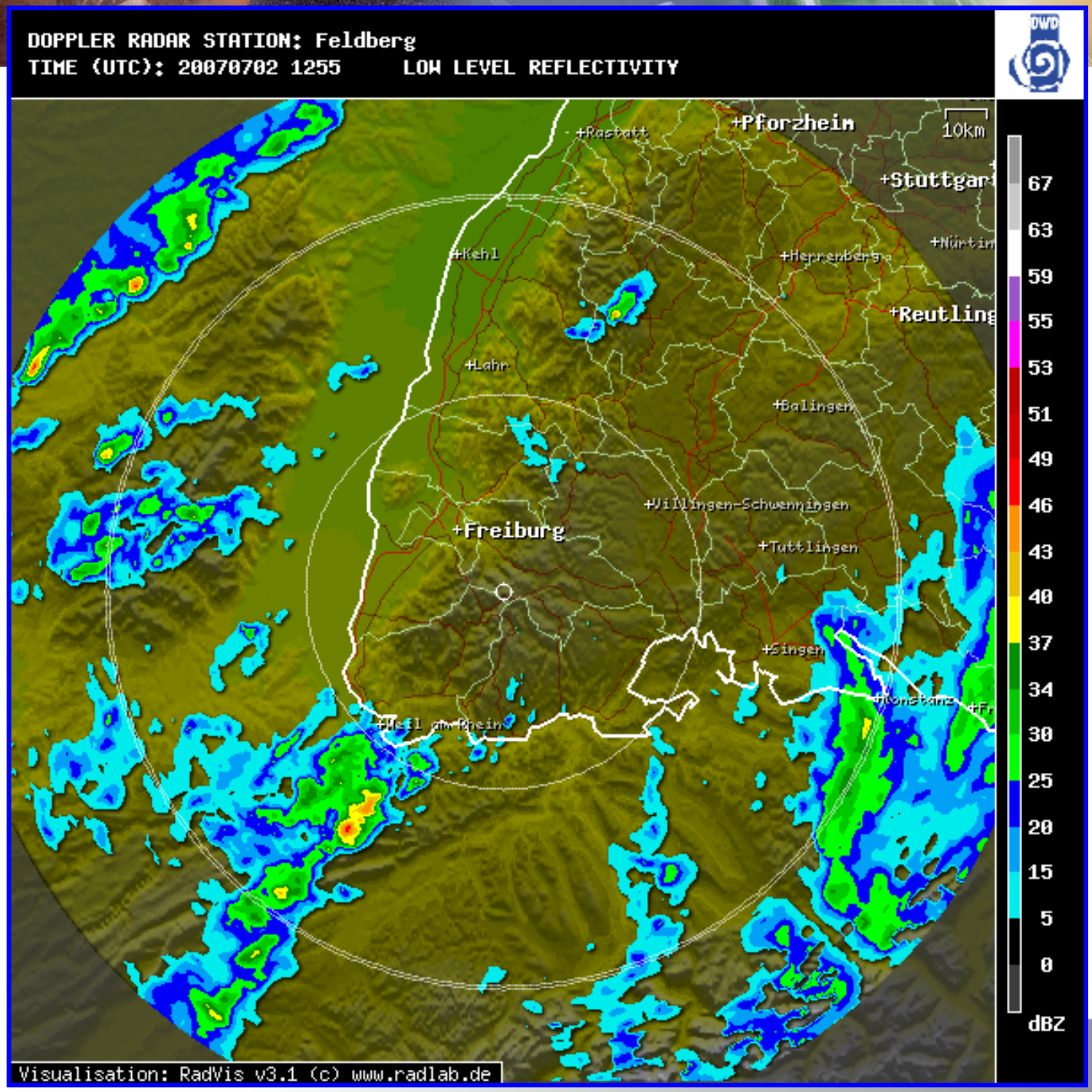

02 July 2007
Osnabrück
Münster
Bielefeld
Salzgitter
Magdeburg
Cottbus
Paderborn
Dortmund
Duisburg
Göttingen
Halle
Kassel
Dresden
Köln
Siegen
Erfurt
Gera
Chemnitz
Zwickau
Koblenz
Frankfurt
Würzburg
Ludwigshafen
Fürth
Saarbrücken
Heilbronn
Regensburg
Stuttgart
Ingolstadt
Reutlingen
Ulm
München
Freiburg
Innsbruck
55
46
37
28
19
7
0
dBZ
1327
Visualisation: RadVis v3.1 (c) www.radlab.de


02 July 2007
Osnabrück
Münster
Bielefeld
Salzgitter
Magdeburg
Cottbus
Paderborn
Dortmund
Duisburg
Göttingen
Halle
Kassel
Dresden
Köln
Siegen
Erfurt
Gera
Chemnitz
Zwickau
Koblenz
Frankfurt
Würzburg
Ludwigshafen
Fürth
Saarbrücken
Heilbronn
Regensburg
Stuttgart
Ingolstadt
Reutlingen
Ulm
München
Freiburg
Innsbruck
55
46
37
28
19
7
0
dBZ
1356
Visualisation: RadVis v3.1 (c) www.radlab.de

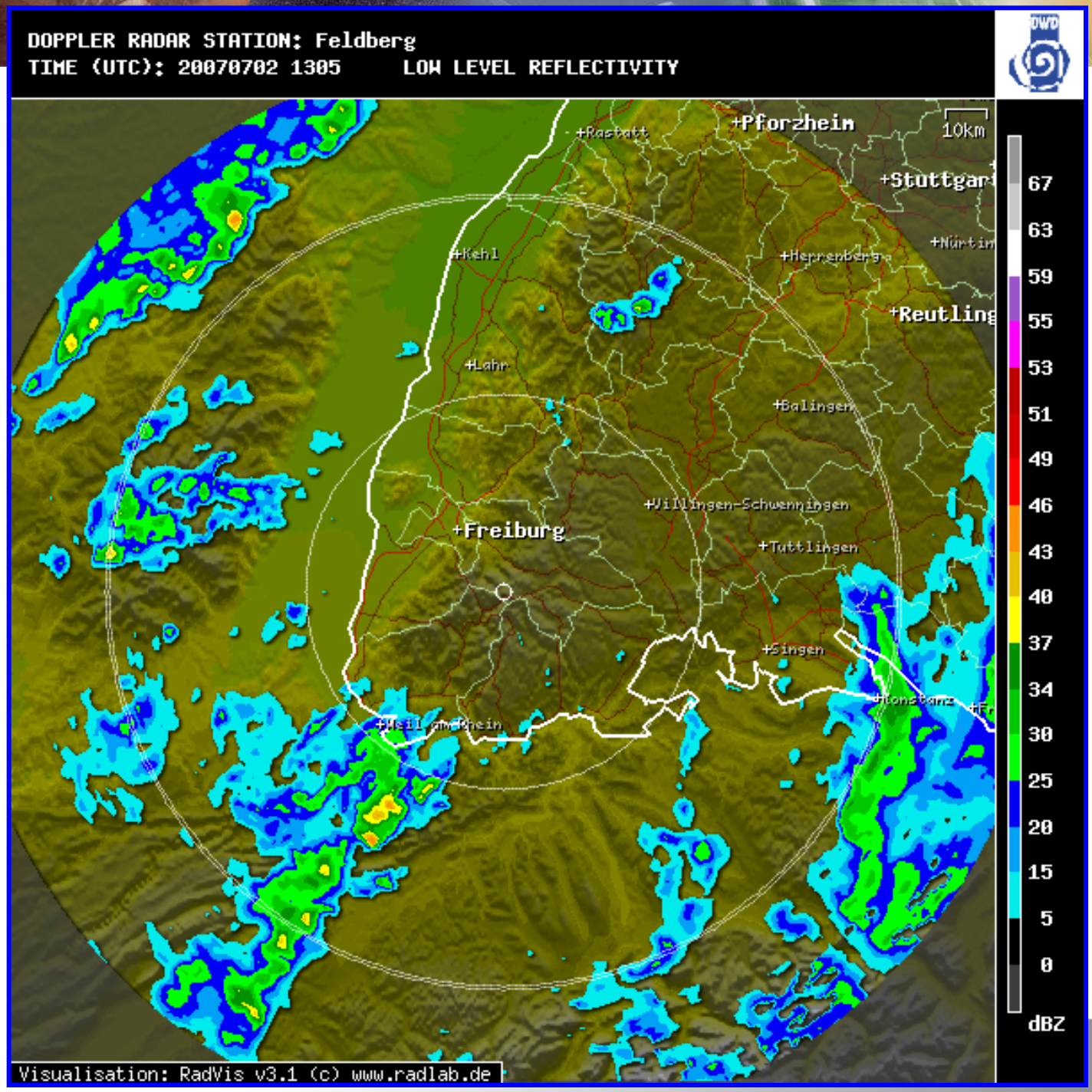

02 July 2007
Osnabrück
Münster
Bielefeld
Salzgitter
Magdeburg
Cottbus
Paderborn
Dortmund
Duisburg
Göttingen
Halle
Kassel
Dresden
Köln
Siegen
Erfurt
Gera
Chemnitz
Zwickau
Koblenz
Frankfurt
Würzburg
Ludwigshafen
Fürth
Saarbrücken
Heilbronn
Regensburg
Stuttgart
Ingolstadt
Reutlingen
Ulm
München
Freiburg
Innsbruck
55
46
37
28
19
7
0
dBZ
1427
Visualisation: RadVis v3.1 (c) www.radlab.de


02 July 2007
Osnabrück
Münster
Bielefeld
Salzgitter
Magdeburg
Cottbus
Paderborn
Dortmund
Duisburg
Göttingen
Halle
Kassel
Dresden
Köln
Siegen
Erfurt
Gera
Chemnitz
Zwickau
Koblenz
Frankfurt
Würzburg
Ludwigshafen
Fürth
Saarbrücken
Heilbronn
Regensburg
Stuttgart
Ingolstadt
Reutlingen
Ulm
München
Freiburg
Innsbruck
55
46
37
28
19
7
0
dBZ
1456
Visualisation: RadVis v3.1 (c) www.radlab.de

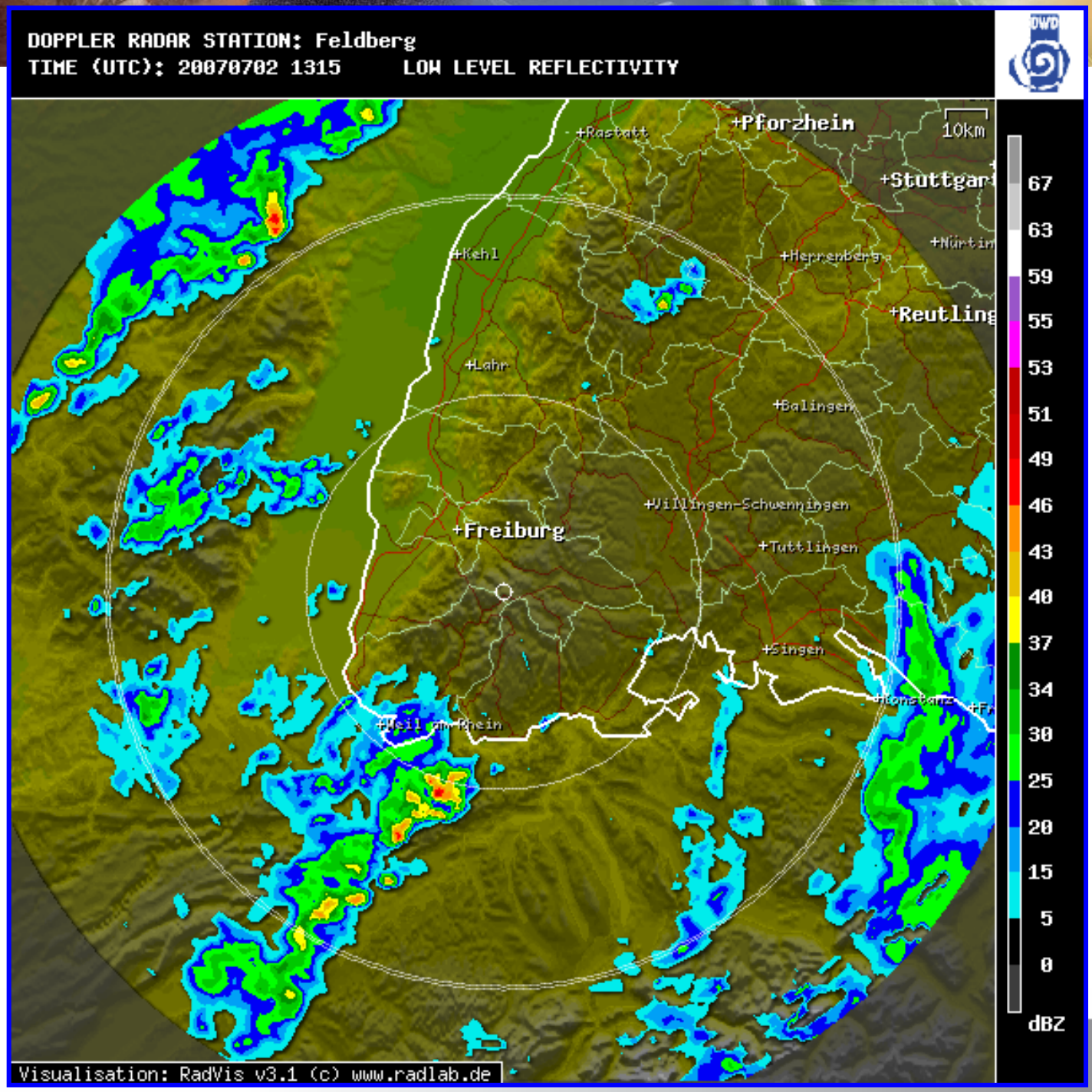

02 July 2007
Osnabrück
Münster
Bielefeld
Salzgitter
Magdeburg
Cottbus
Paderborn
Dortmund
Duisburg
Göttingen
Halle
Kassel
Dresden
Köln
Siegen
Erfurt
Gera
Chemnitz
Zwickau
Koblenz
Frankfurt
Würzburg
Ludwigshafen
Fürth
Saarbrücken
Heilbronn
Regensburg
Stuttgart
Ingolstadt
Reutlingen
Ulm
München
Freiburg
Innsbruck
55
46
37
28
19
7
0
dBZ
1526
Visualisation: RadVis v3.1 (c) www.radlab.de


DOPPLER RADAR STATION: Feldberg
TIME (UTC): 20070702 1255
LOW LEVEL REFLECTIVITY
DWD
10km
+Rastatt
+Pforzheim
+Stuttgart
+Kehl
+Herrenberg
+Nürtin
+Reutling
+Lahr
+Balingen
+Villingen-Schwenningen
+Freiburg
+Tuttlingen
+Singen
+Konstanz
+Weil am Rhein
67
63
59
55
53
51
49
46
43
40
37
34
30
25
20
15
5
0
dBZ
Visualisation: RadVis v3.1 (c) www.radlab.de

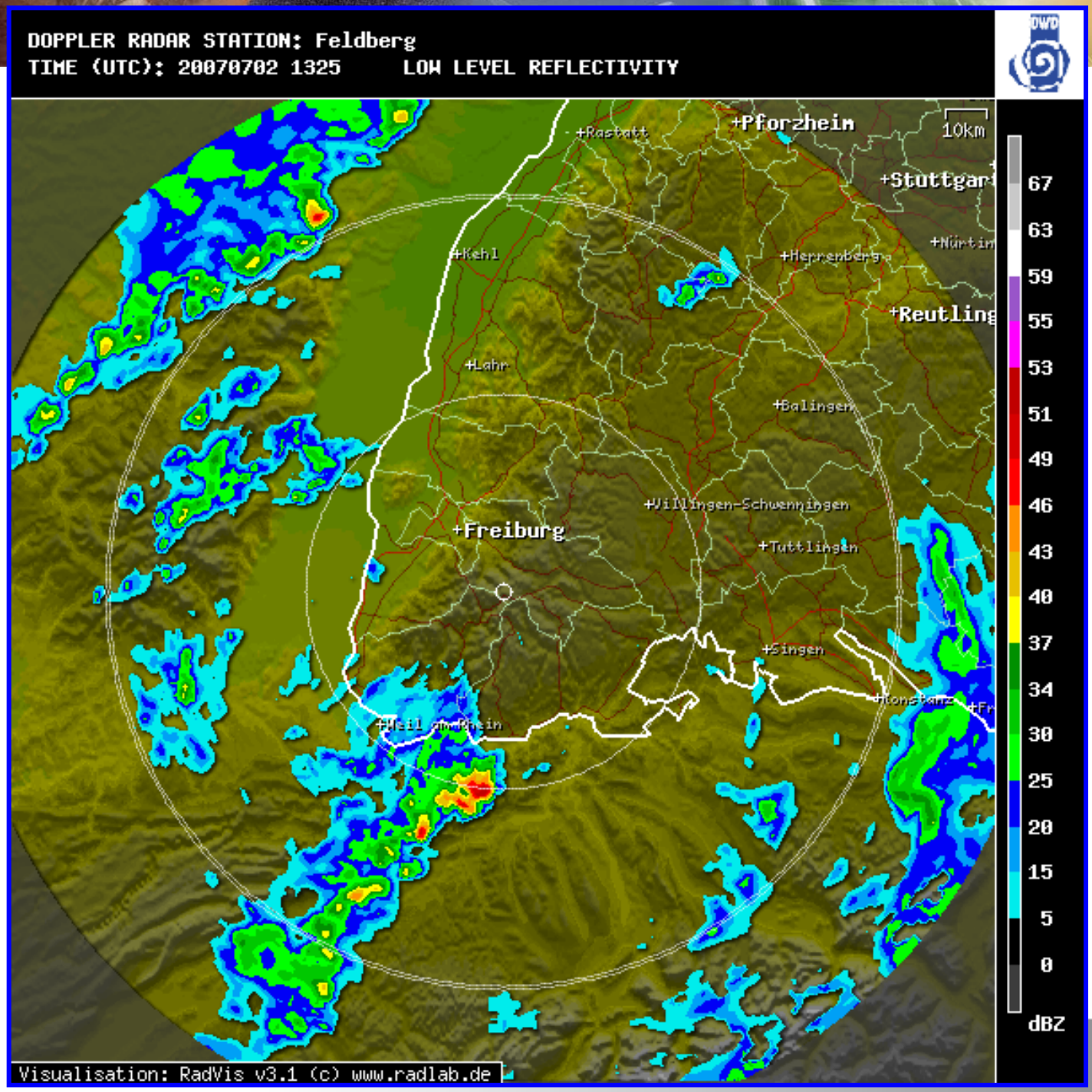
1255


DOPPLER RADAR STATION: Feldberg
TIME (UTC): 20070702 1305
LOW LEVEL REFLECTIVITY
DWD
10km
+Pforzheim
+Rastatt
+Stuttgart
+Nürtin
+Kehl
+Herrenberg
+Reutling
+Lahr
+Balingen
+Villingen-Schwenningen
+Freiburg
+Tuttlingen
+Singen
+Konstanz
+Weil am Rhein
67
63
59
55
53
51
49
46
43
40
37
34
30
25
20
15
5
0
dBZ
Visualisation: RadVis v3.1 (c) www.radlab.de

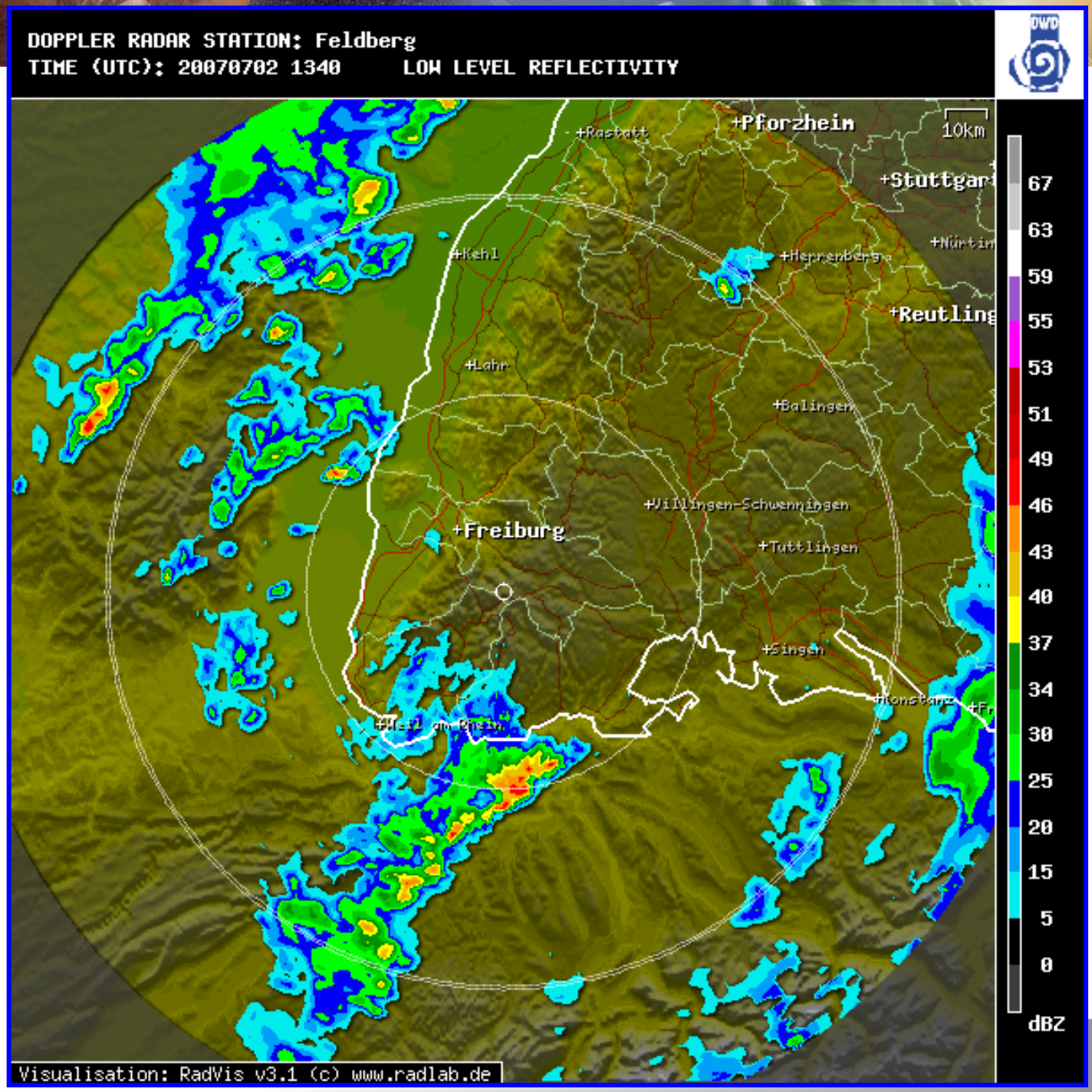
1305


DOPPLER RADAR STATION: Feldberg
TIME (UTC): 20070702 1315
LOW LEVEL REFLECTIVITY
DWD
10km
+Rastatt
+Pforzheim
+Stuttgart
+Nürtin
+Kehl
+Herrenberg
+Reutling
+Lahr
+Balingen
+Villingen-Schwenningen
+Freiburg
+Tuttlingen
+Singen
+Konstanz
+Weil am Rhein
67
63
59
55
53
51
49
46
43
40
37
34
30
25
20
15
5
0
dBZ
Visualisation: RadVis v3.1 (c) www.radlab.de

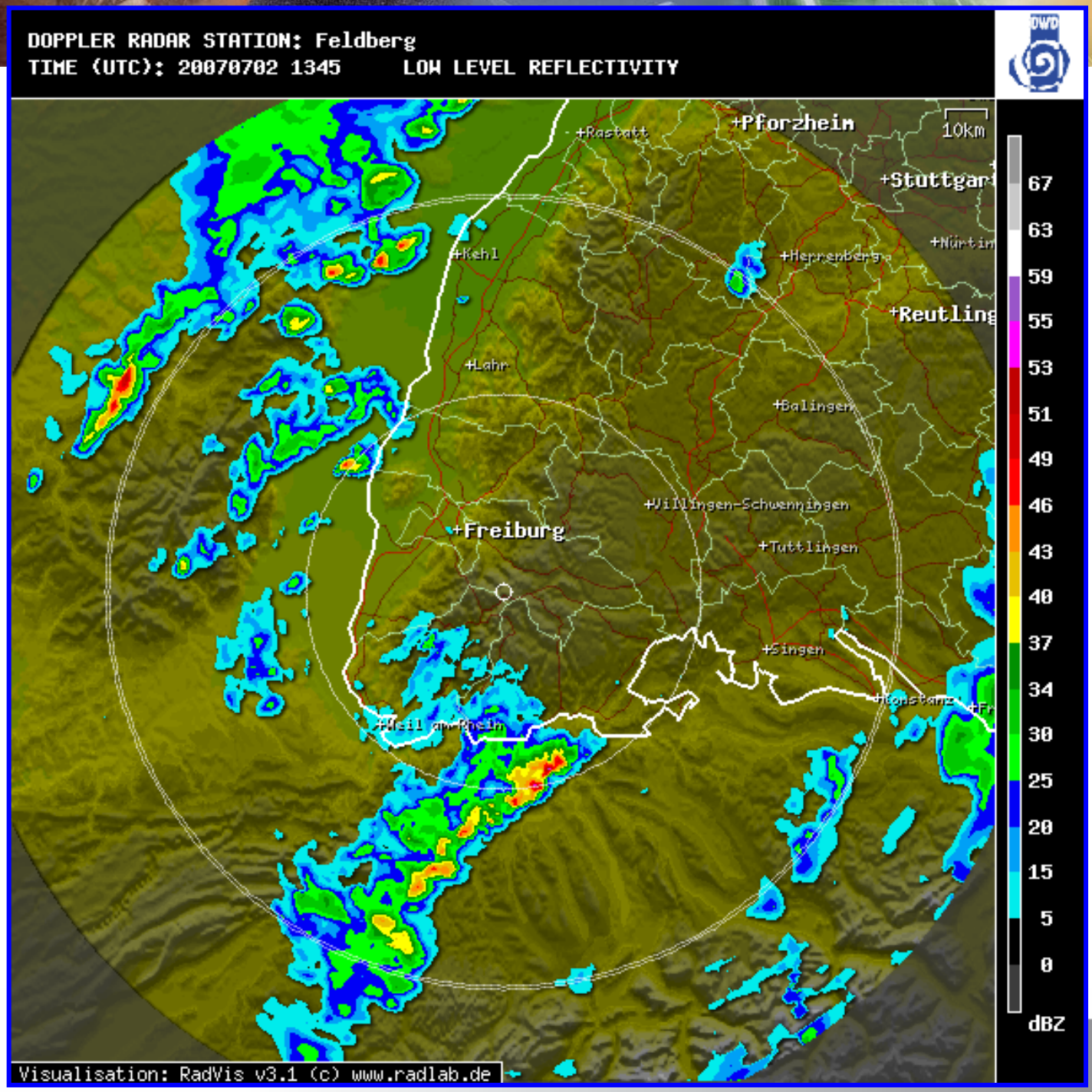
1315


DOPPLER RADAR STATION: Feldberg
TIME (UTC): 20070702 1325
LOW LEVEL REFLECTIVITY
DWD
10km
+Rastatt
+Pforzheim
+Stuttgart
+Nürtin
+Kehl
+Herrenberg
+Reutling
+Lahr
+Balingen
+Villingen-Schwenningen
+Freiburg
+Tuttlingen
+Singen
+Konstanz
+Fr
+Weil am Rhein
67
63
59
55
53
51
49
46
43
40
37
34
30
25
20
15
5
0
dBZ
Visualisation: RadVis v3.1 (c) www.radlab.de

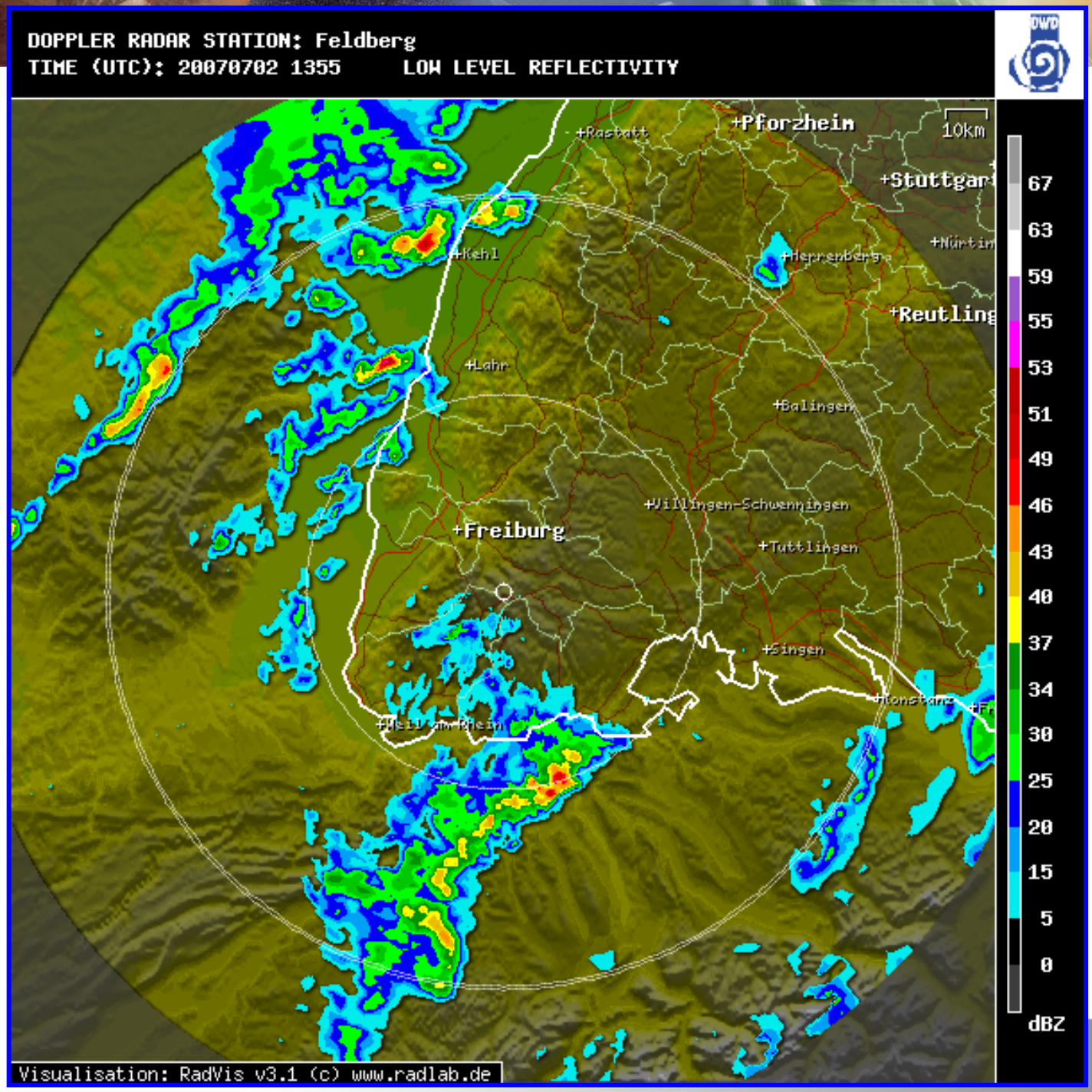
1325


DOPPLER RADAR STATION: Feldberg
TIME (UTC): 20070702 1340
LOW LEVEL REFLECTIVITY
DWD
10km
+Rastatt
+Pforzheim
+Stuttgart
+Nürtin
+Kehl
+Herrenberg
+Reutling
+Lahr
+Balingen
+Villingen-Schwenningen
+Freiburg
+Tuttlingen
+Singen
+Weil am Rhein
67
63
59
55
53
51
49
46
43
40
37
34
30
25
20
15
5
0
dBZ
Visualisation: RadVis v3.1 (c) www.radlab.de

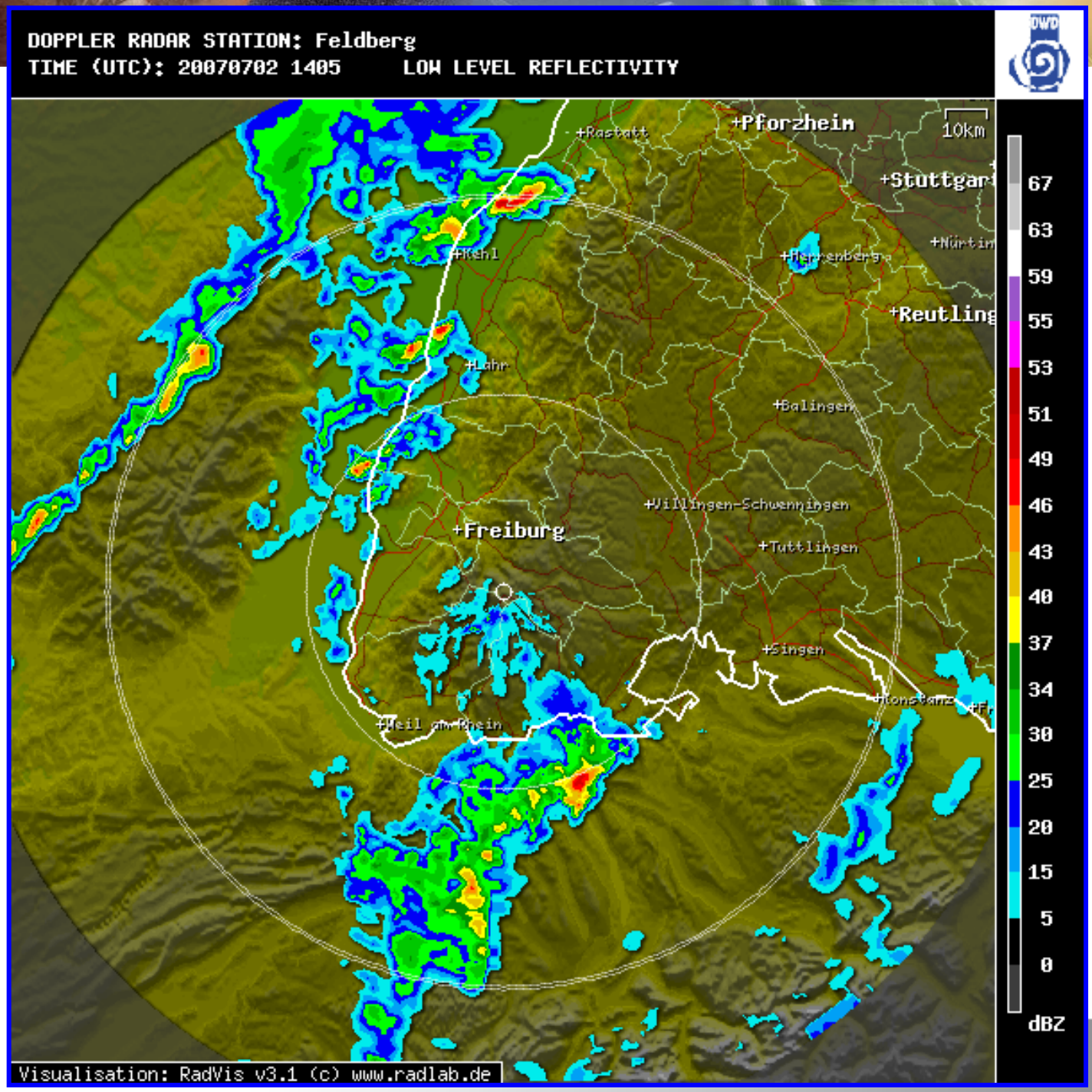
1340


DOPPLER RADAR STATION: Feldberg
TIME (UTC): 20070702 1345
LOW LEVEL REFLECTIVITY
DWD
10km
+Rastatt
+Pforzheim
+Stuttgart
+Nürtin
+Kehl
+Herrenberg
+Reutling
+Lahr
+Balingen
+Villingen-Schwenningen
+Freiburg
+Tuttlingen
+Singen
+Weil am Rhein
67
63
59
55
53
51
49
46
43
40
37
34
30
25
20
15
5
0
dBZ
Visualisation: RadVis v3.1 (c) www.radlab.de

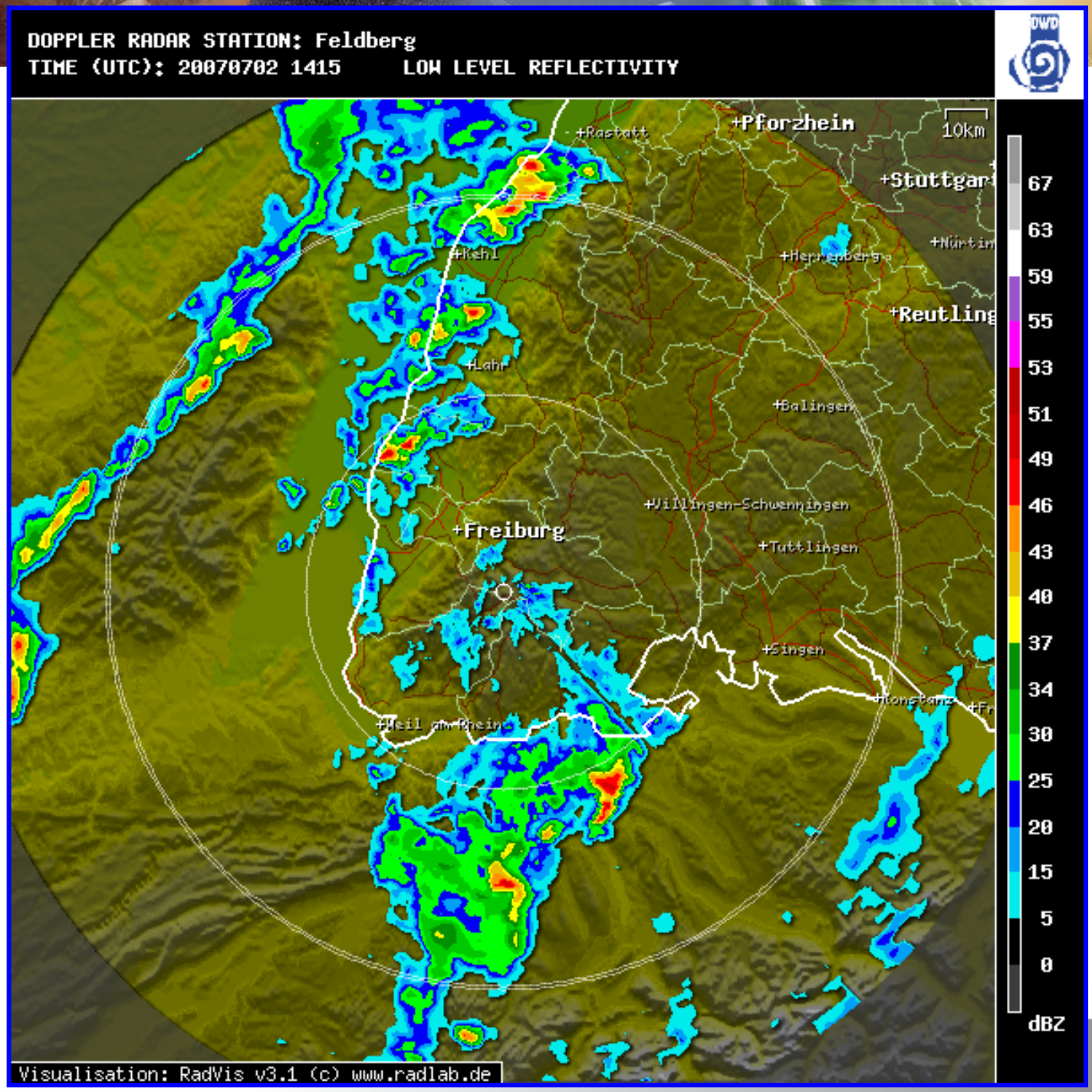
1345


DOPPLER RADAR STATION: Feldberg
TIME (UTC): 20070702 1355
LOW LEVEL REFLECTIVITY
DWD
10km
+Rastatt
+Pforzheim
+Stuttgart
+Kehl
+Herrenberg
+Nürtin
+Reutling
+Lahr
+Balingen
+Villingen-Schwenningen
+Freiburg
+Tuttlingen
+Singen
+Konstanz
+Weil am Rhein
67
63
59
55
53
51
49
46
43
40
37
34
30
25
20
15
5
0
dBZ
Visualisation: RadVis v3.1 (c) www.radlab.de

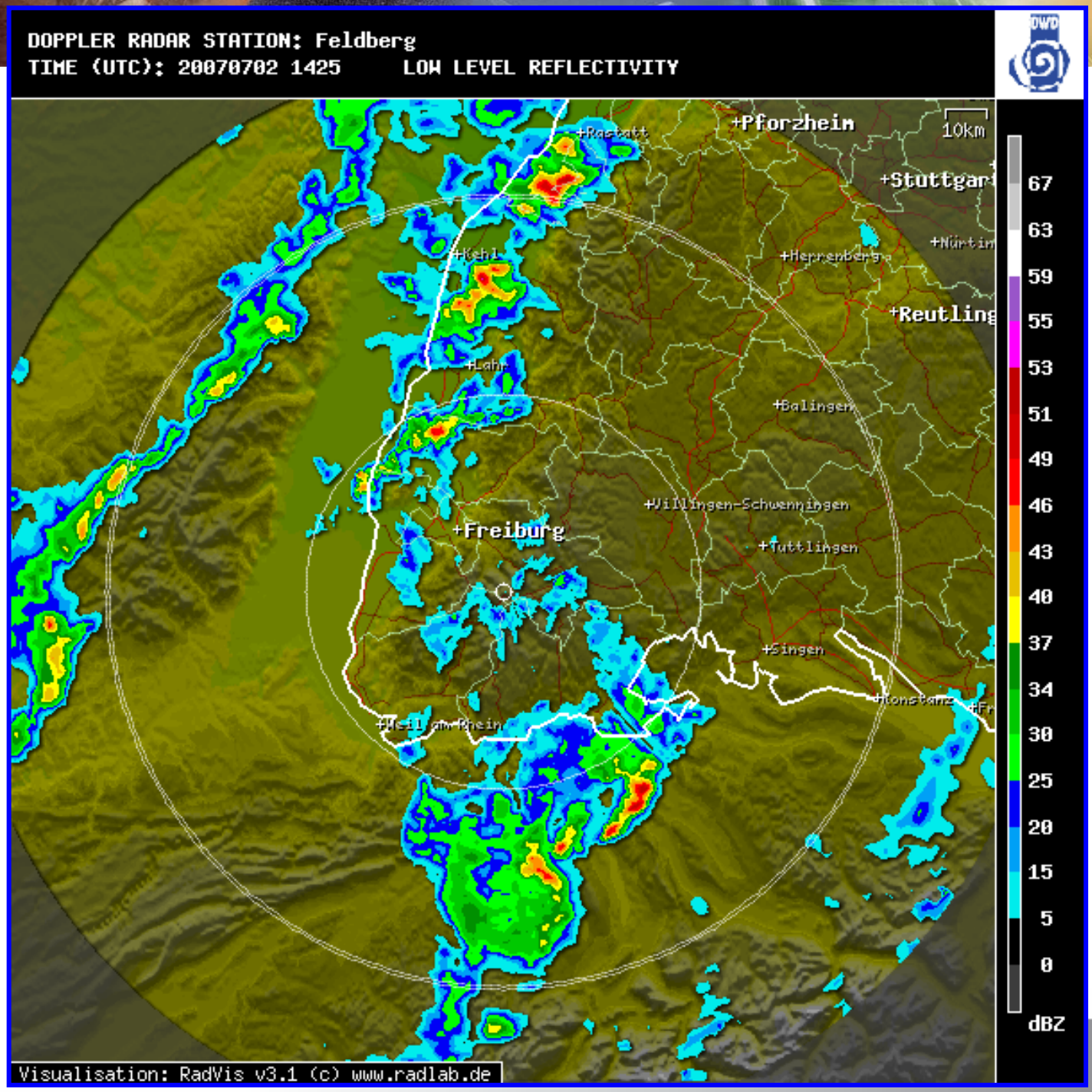
1355


DOPPLER RADAR STATION: Feldberg
TIME (UTC): 20070702 1405
LOW LEVEL REFLECTIVITY
DWD
10km
+Rastatt
+Pforzheim
+Stuttgart
+Nürtin
+Kehl
+Herrenberg
+Reutling
+Lahr
+Balingen
+Villingen-Schwenningen
+Freiburg
+Tuttlingen
+Singen
+Konstanz
+Weil am Rhein
67
63
59
55
53
51
49
46
43
40
37
34
30
25
20
15
5
0
dBZ
Visualisation: RadVis v3.1 (c) www.radlab.de

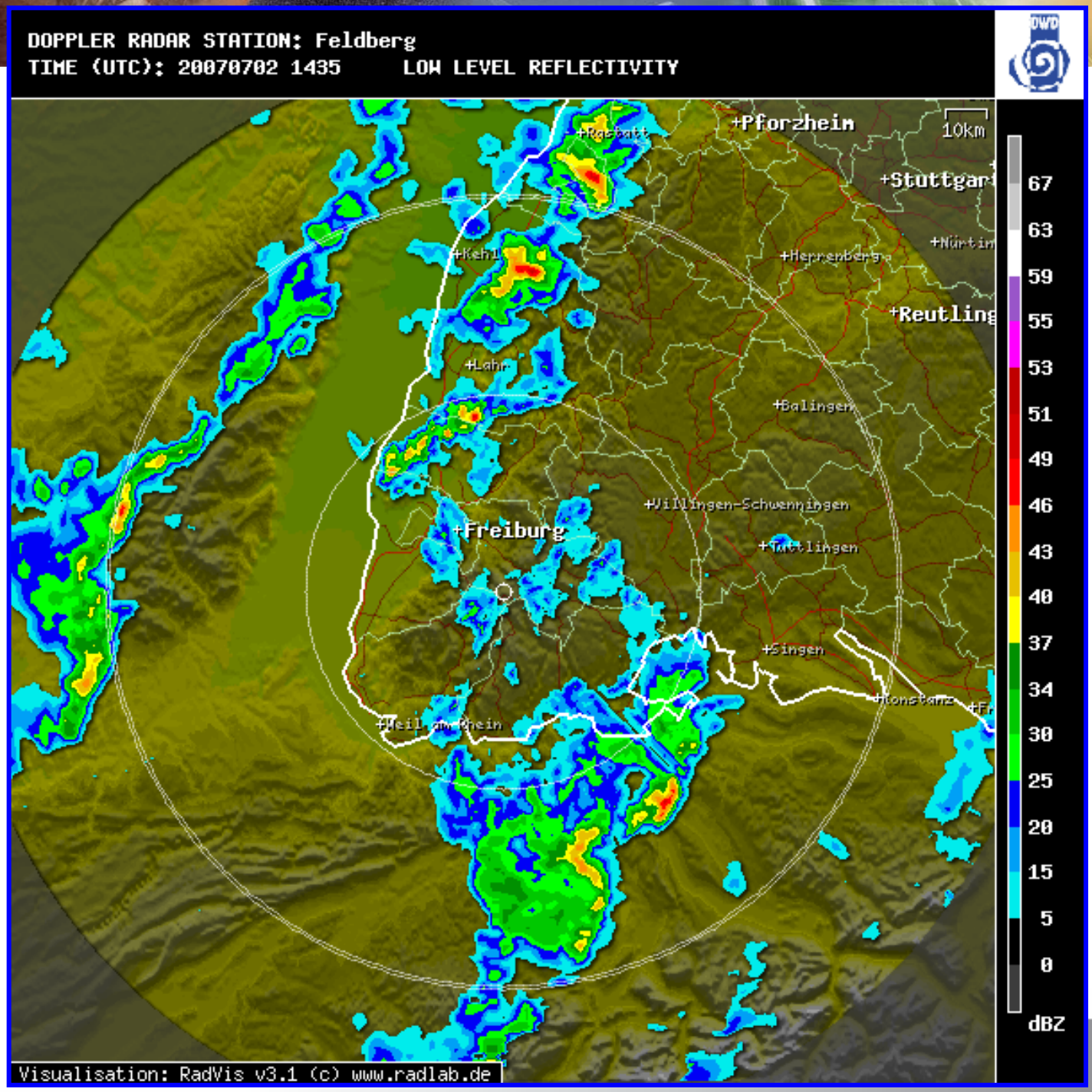
1405


DOPPLER RADAR STATION: Feldberg
TIME (UTC): 20070702 1415
LOW LEVEL REFLECTIVITY
10km
+Pforzheim
+Rastatt
+Stuttgart
+Nürtin
+Kehl
+Herrenberg
+Reutling
+Lahr
+Balingen
+Villingen-Schwenningen
+Freiburg
+Tuttlingen
+Singen
+Weil am Rhein
67
63
59
55
53
51
49
46
43
40
37
34
30
25
20
15
5
0
dBZ
Visualisation: RadVis v3.1 (c) www.radlab.de

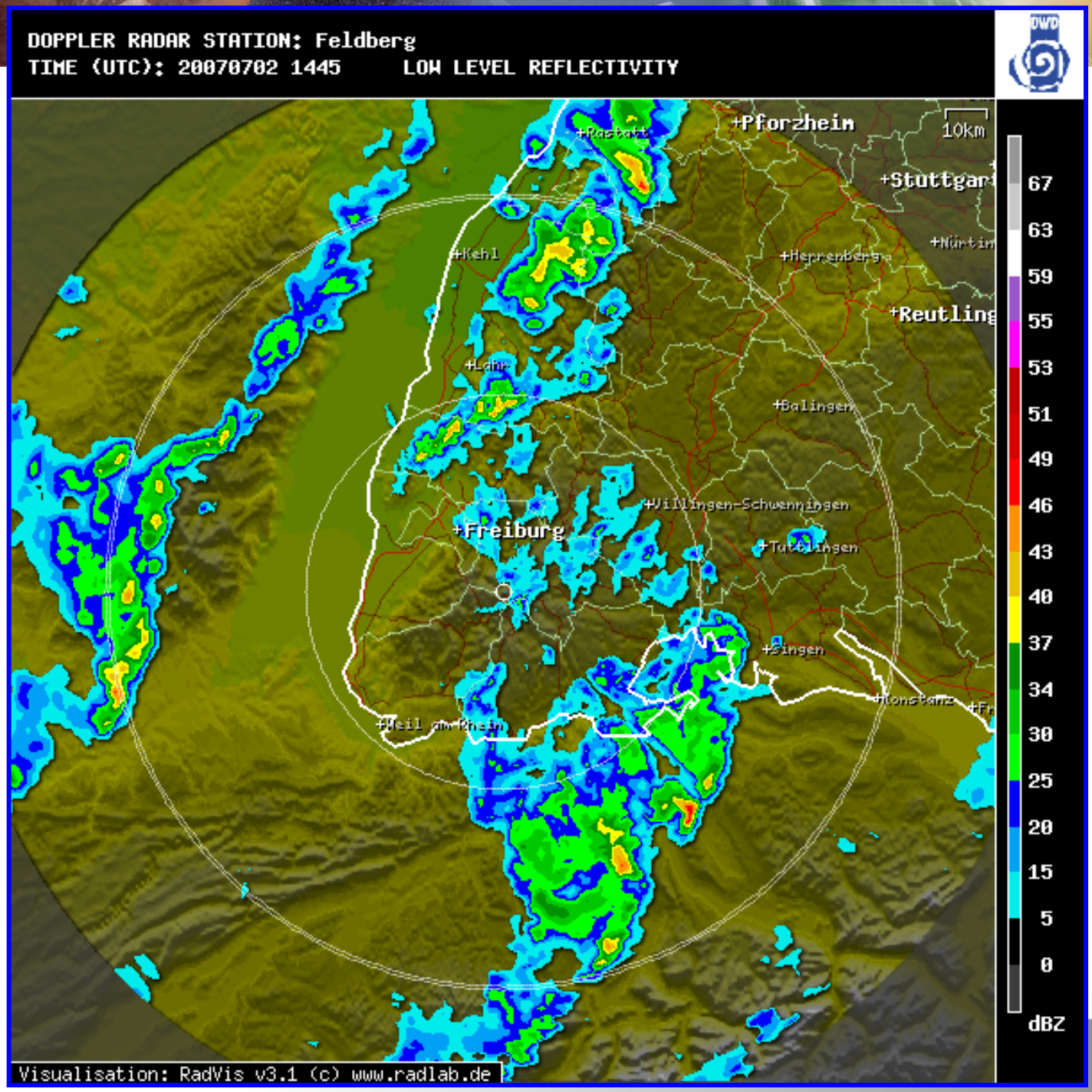
1415


DOPPLER RADAR STATION: Feldberg
TIME (UTC): 20070702 1425
LOW LEVEL REFLECTIVITY
DWD
10km
+Pforzheim
+Stuttgart
+Nürtin
+Herrenberg
+Reutling
+Balingen
+Villingen-Schwenningen
+Freiburg
+Tuttlingen
+Singen
+Konstanz
+Lahr
+Offenburg
+Rastatt
67
63
59
55
53
51
49
46
43
40
37
34
30
25
20
15
5
0
dBZ
Visualisation: RadVis v3.1 (c) www.radlab.de

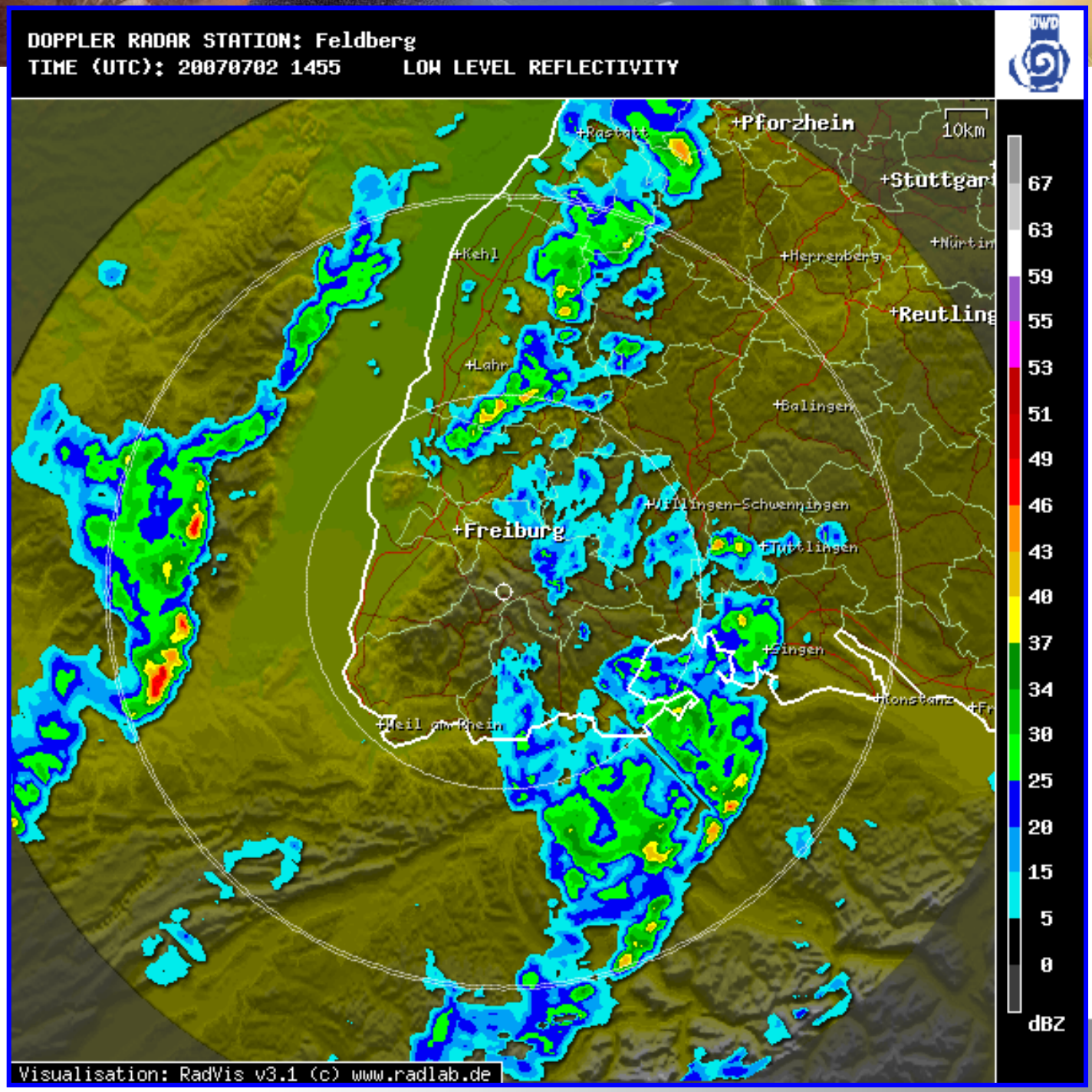
1425


DOPPLER RADAR STATION: Feldberg
TIME (UTC): 20070702 1435
LOW LEVEL REFLECTIVITY
DWD
10km
+Pforzheim
+Stuttgart
+Nürtin
+Herrenberg
+Reutling
+Balingen
+Villingen-Schwenningen
+Freiburg
+Tuttlingen
+Singen
+Konstanz
+Lahr
+Kehl
+Rastatt
67
63
59
55
53
51
49
46
43
40
37
34
30
25
20
15
5
0
dBZ
Visualisation: RadVis v3.1 (c) www.radlab.de

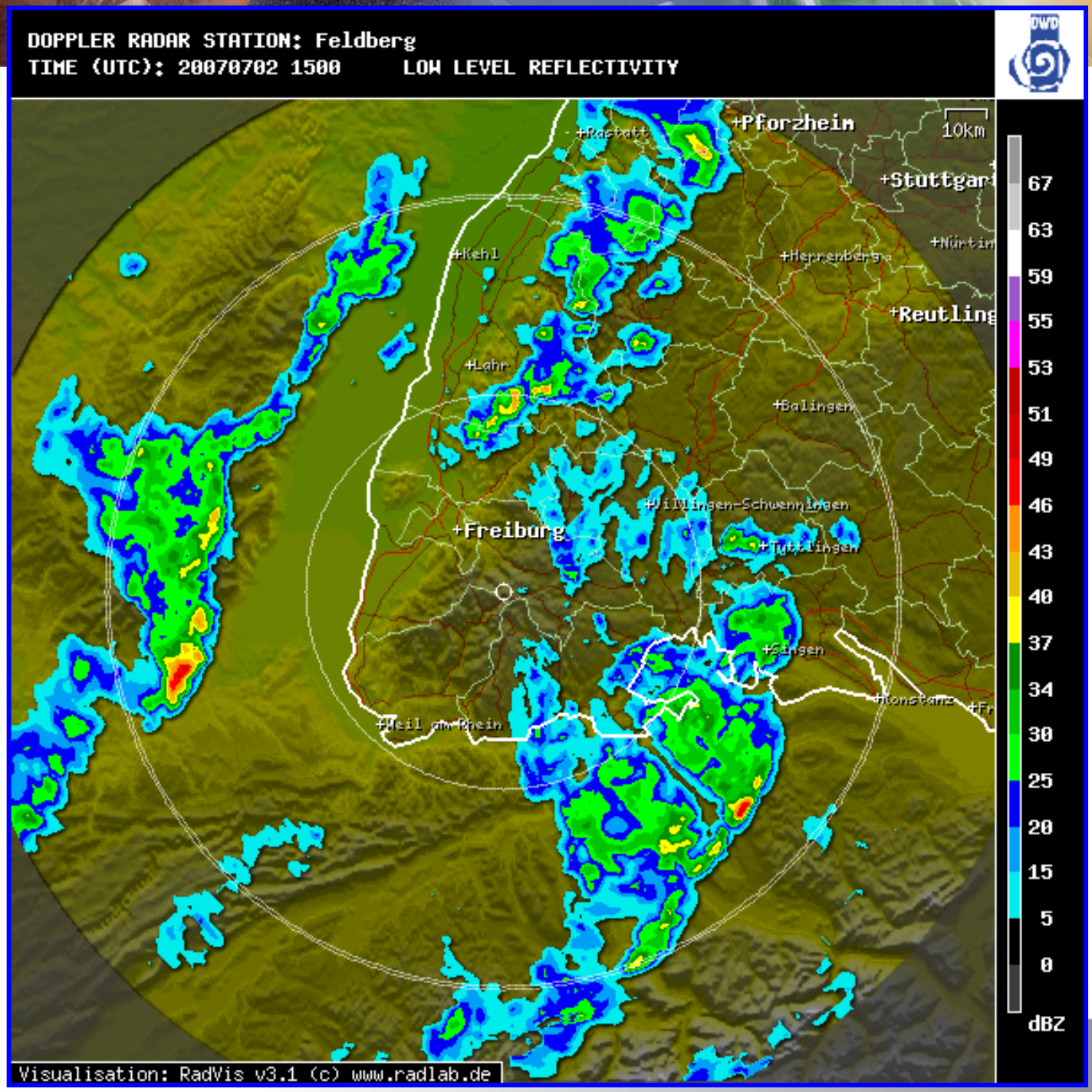
1435


DOPPLER RADAR STATION: Feldberg
TIME (UTC): 20070702 1445
LOW LEVEL REFLECTIVITY
DWD
10km
+Pforzheim
+Stuttgart
+Nürtin
+Herrenberg
+Reutling
+Kehl
+Lahr
+Balingen
+Villingen-Schwenningen
+Freiburg
+Tuttlingen
+Singen
+Konstanz
+Weil am Rhein
67
63
59
55
53
51
49
46
43
40
37
34
30
25
20
15
5
0
dBZ
Visualisation: RadVis v3.1 (c) www.radlab.de

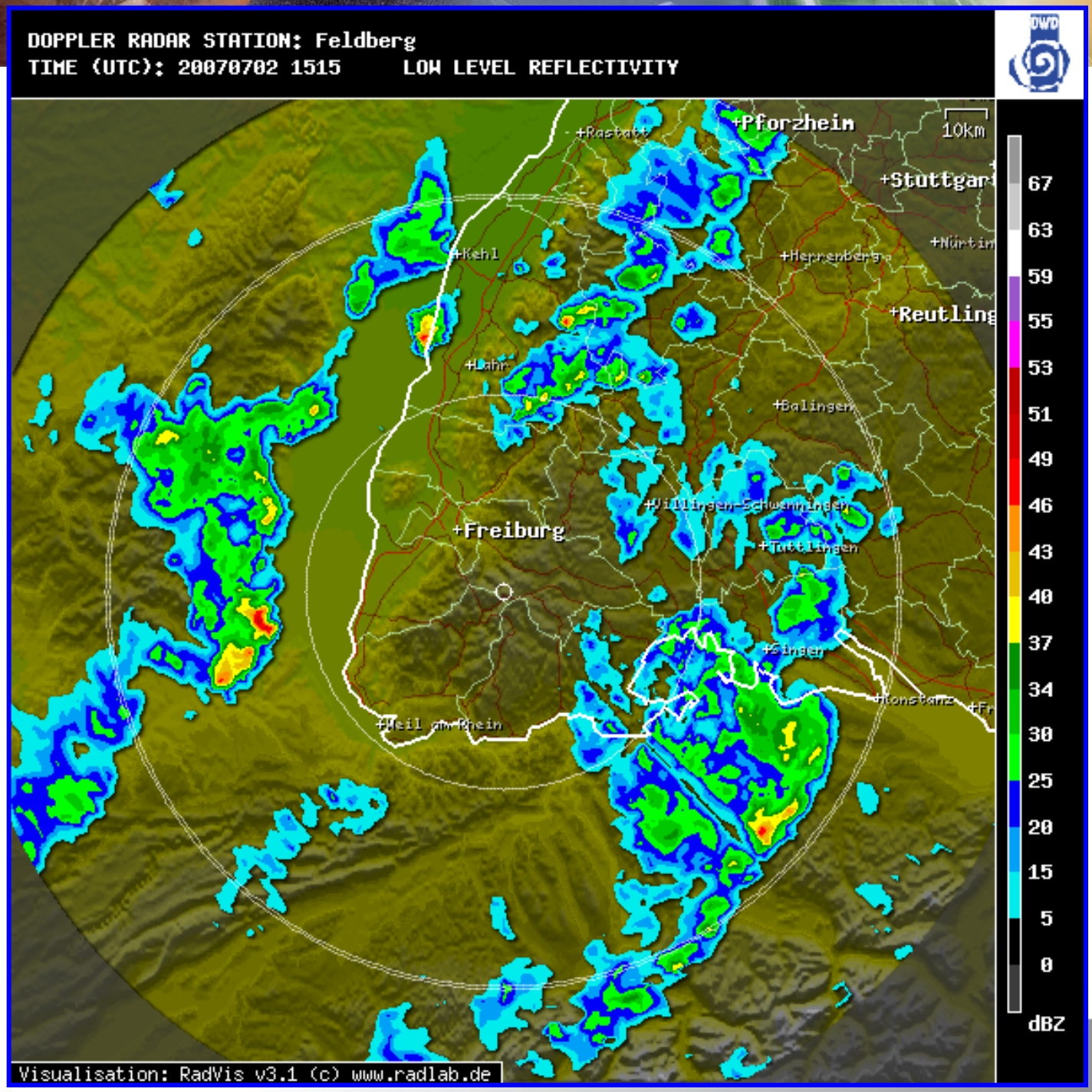
1445


DOPPLER RADAR STATION: Feldberg
TIME (UTC): 20070702 1455
LOW LEVEL REFLECTIVITY
DWD
10km
+Pforzheim
+Rastatt
+Stuttgart
+Kehl
+Herrenberg
+Nürtin
+Reutling
+Lahr
+Balingen
+Villingen-Schwenningen
+Freiburg
+Tuttlingen
+Singen
+Konstanz
+Weil am Rhein
67
63
59
55
53
51
49
46
43
40
37
34
30
25
20
15
5
0
dBZ
Visualisation: RadVis v3.1 (c) www.radlab.de

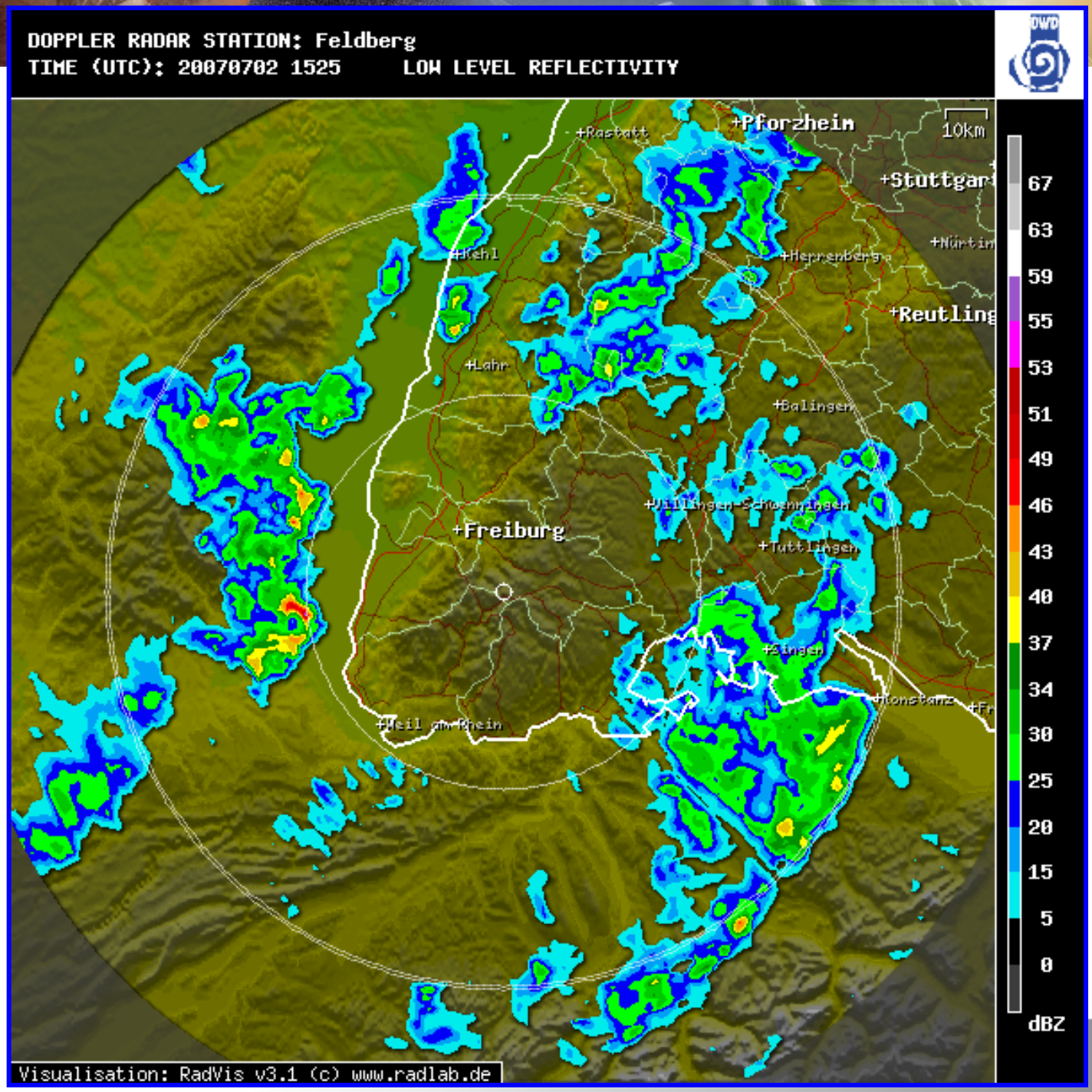
1455


DOPPLER RADAR STATION: Feldberg
TIME (UTC): 20070702 1500
LOW LEVEL REFLECTIVITY
DWD
10km
+Pforzheim
+Rastatt
+Stuttgart
+Nürtin
+Kehl
+Herrenberg
+Reutling
+Lahr
+Balingen
+Villingen-Schwenningen
+Freiburg
+Tuttlingen
+Singen
+Konstanz
+Weil am Rhein
67
63
59
55
53
51
49
46
43
40
37
34
30
25
20
15
5
0
dBZ
Visualisation: RadVis v3.1 (c) www.radlab.de

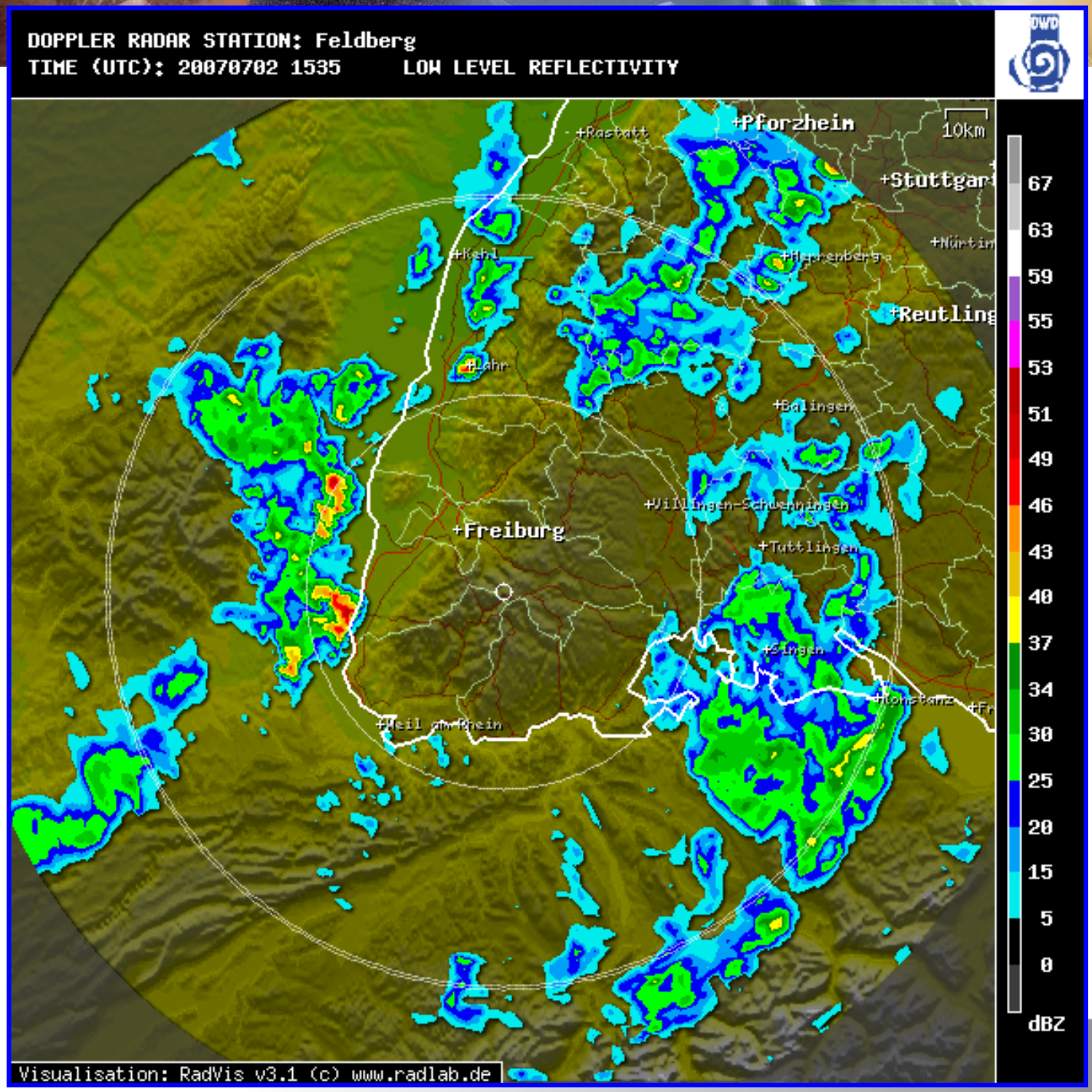
1500


DOPPLER RADAR STATION: Feldberg
TIME (UTC): 20070702 1515
LOW LEVEL REFLECTIVITY
10km
+Pforzheim
+Rastatt
+Stuttgart
+Nürtin
+Kehl
+Herrenberg
+Reutling
+Lahr
+Balingen
+Villingen-Schwenningen
+Freiburg
+Tuttlingen
+Singen
+Konstanz
+Weil am Rhein
67
63
59
55
53
51
49
46
43
40
37
34
30
25
20
15
5
0
dBZ
Visualisation: RadVis v3.1 (c) www.radlab.de

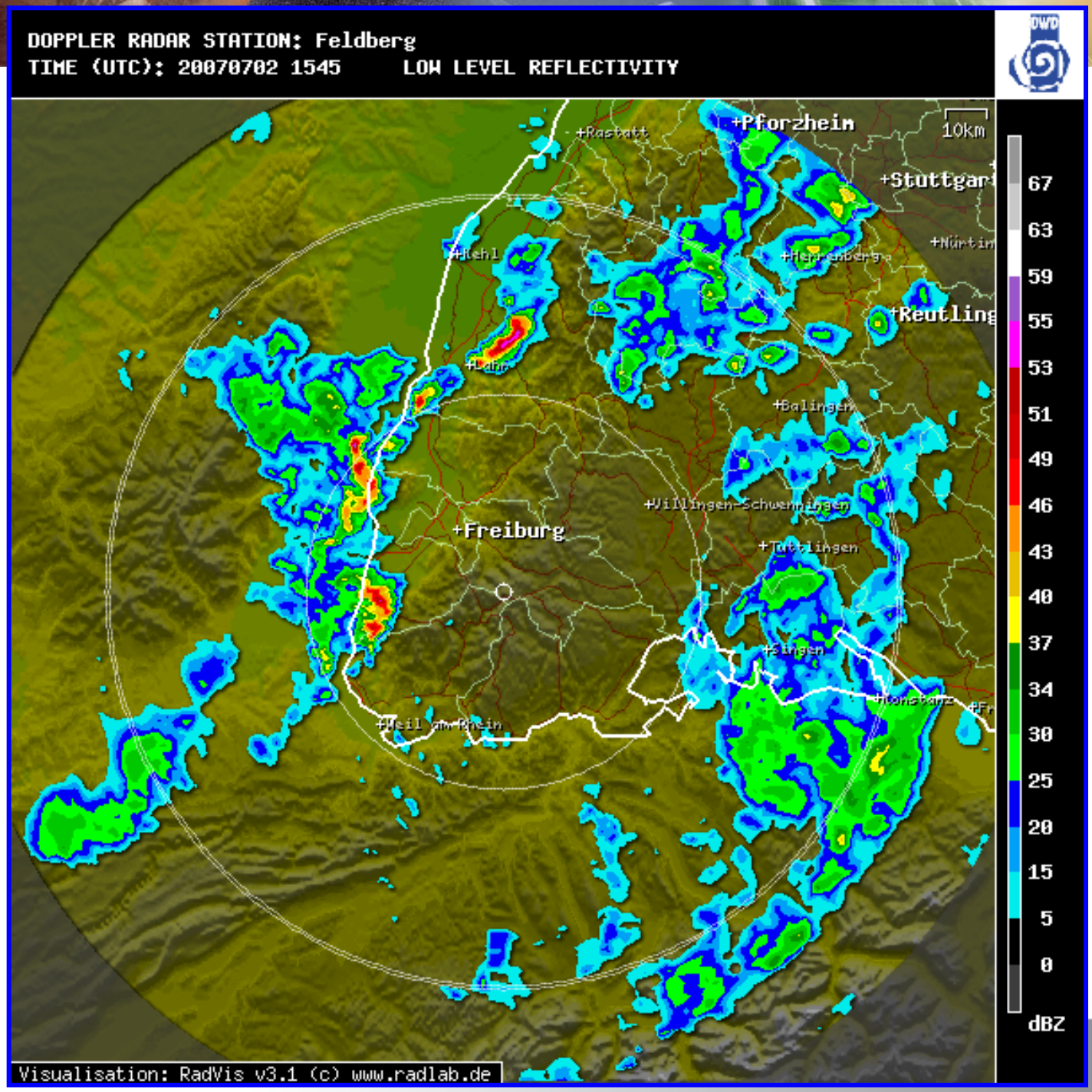
1515


DOPPLER RADAR STATION: Feldberg
TIME (UTC): 20070702 1525
LOW LEVEL REFLECTIVITY
DWD
10km
+Pforzheim
+Rastatt
+Stuttgart
+Nürtin
+Herrenberg
+Reutling
+Kehl
+Lahr
+Balingen
+Villingen-Schwenningen
+Freiburg
+Tuttlingen
+Singen
+Konstanz
+Weil am Rhein
67
63
59
55
53
51
49
46
43
40
37
34
30
25
20
15
5
0
dBZ
Visualisation: RadVis v3.1 (c) www.radlab.de

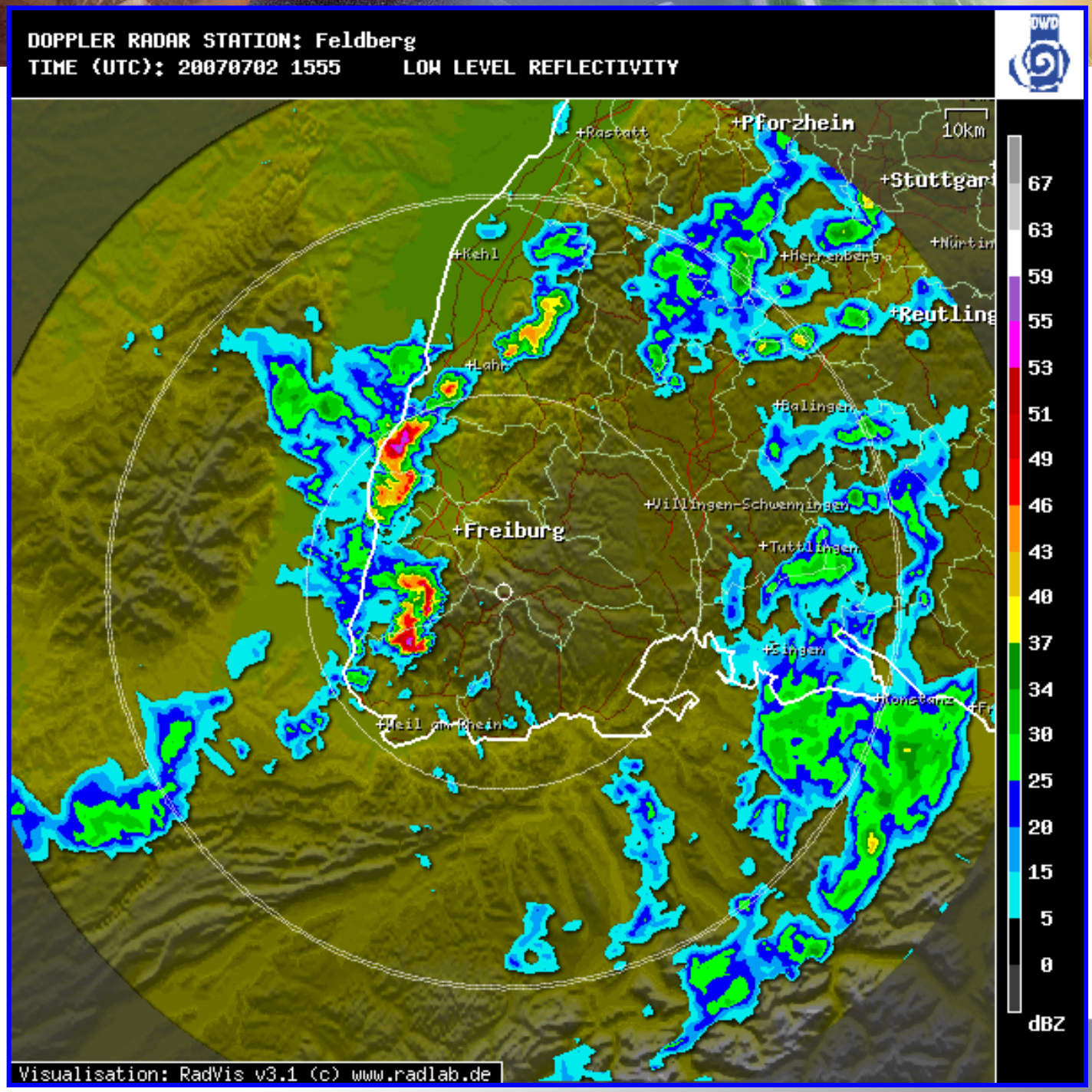
1525


DOPPLER RADAR STATION: Feldberg
TIME (UTC): 20070702 1535
LOW LEVEL REFLECTIVITY
DWD
10km
67
63
59
55
53
51
49
46
43
40
37
34
30
25
20
15
5
0
dBZ
+Pforzheim
+Rastatt
+Stuttgart
+Nürtin
+Kehl
+Hechingen
+Reutling
+Lahr
+Balingen
+Villingen-Schwenningen
+Freiburg
+Tuttlingen
+Singen
+Konstanz
+Weil am Rhein
Visualisation: RadVis v3.1 (c) www.radlab.de

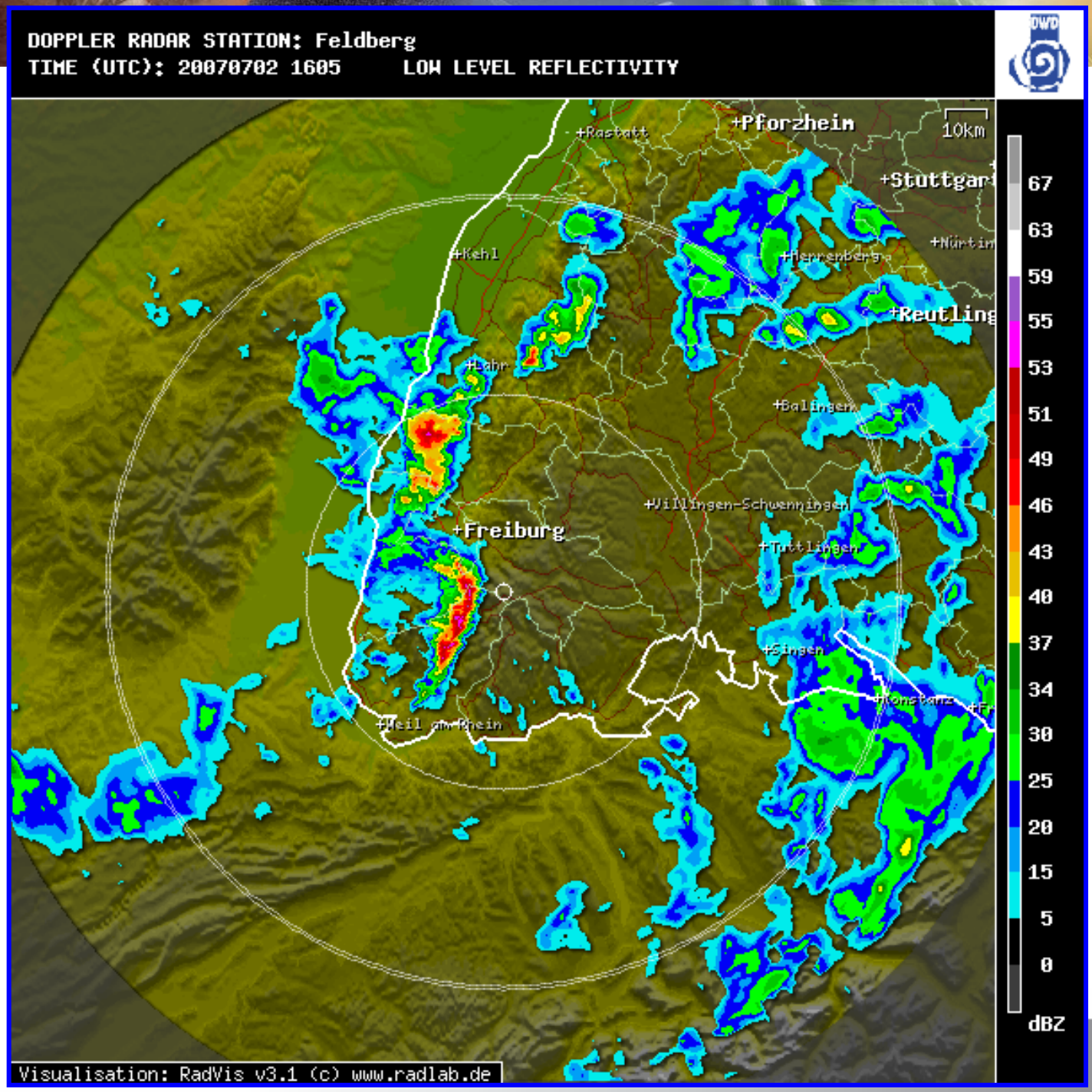
1355


DOPPLER RADAR STATION: Feldberg
TIME (UTC): 20070702 1545
LOW LEVEL REFLECTIVITY
DWD
10km
+Pforzheim
+Rastatt
+Stuttgart
+Nürtin
+Herrenberg
+Reutling
+Balingen
+Villingen-Schwenningen
+Freiburg
+Tuttlingen
+Singen
+Konstanz
+Weil am Rhein
67
63
59
55
53
51
49
46
43
40
37
34
30
25
20
15
5
0
dBZ
Visualisation: RadVis v3.1 (c) www.radlab.de

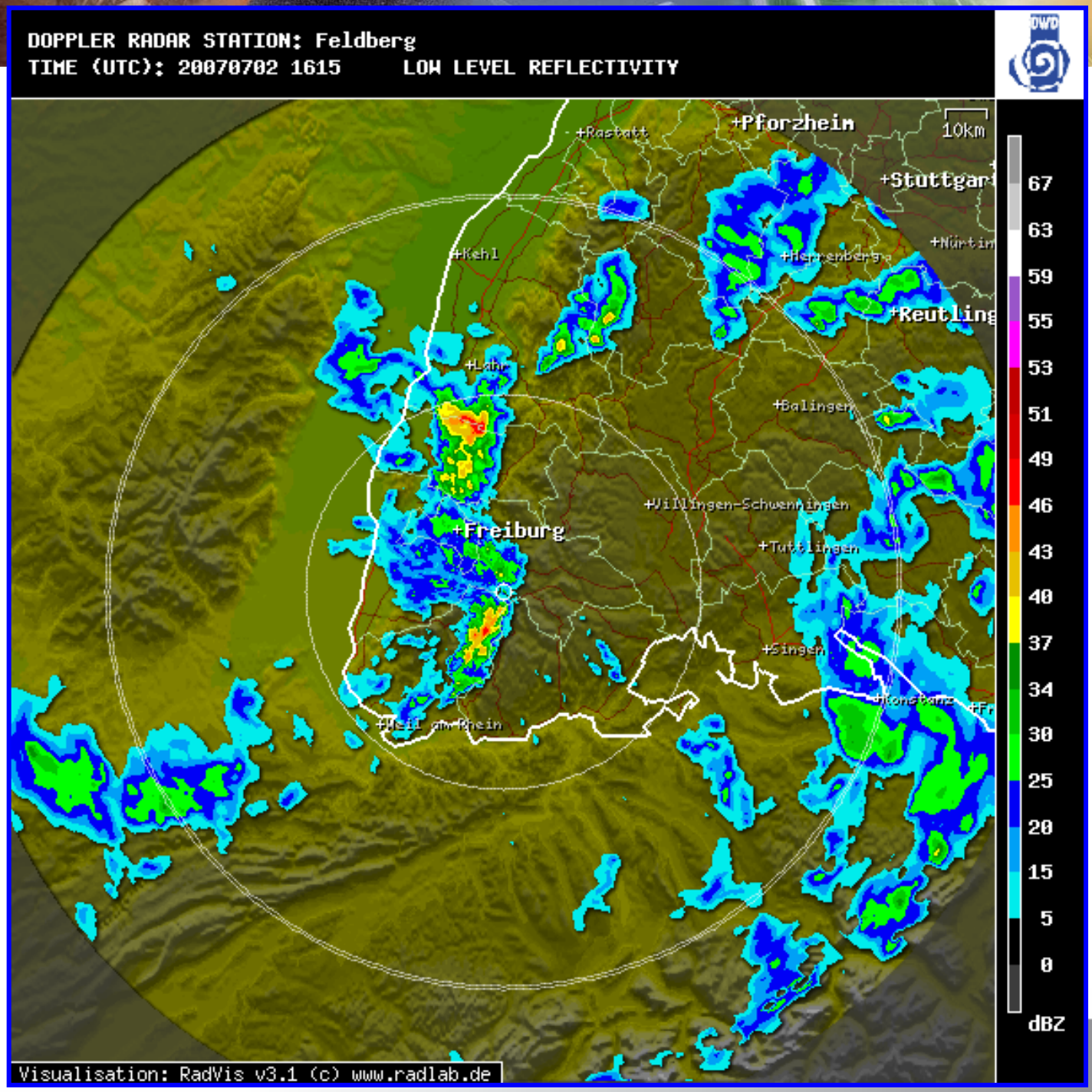
1545


DOPPLER RADAR STATION: Feldberg
TIME (UTC): 20070702 1555 LOW LEVEL REFLECTIVITY
DWD
10km
Pforzheim
Rastatt
Stuttgart
Nürtin
Kehl
Herrenberg
Reutling
Lahr
Balingen
Villingen-Schwenningen
Freiburg
Tuttlingen
Singen
Konstanz
Weil am Rhein
67
63
59
55
53
51
49
46
43
40
37
34
30
25
20
15
5
0
dBZ
Visualisation: RadVis v3.1 (c) www.radlab.de

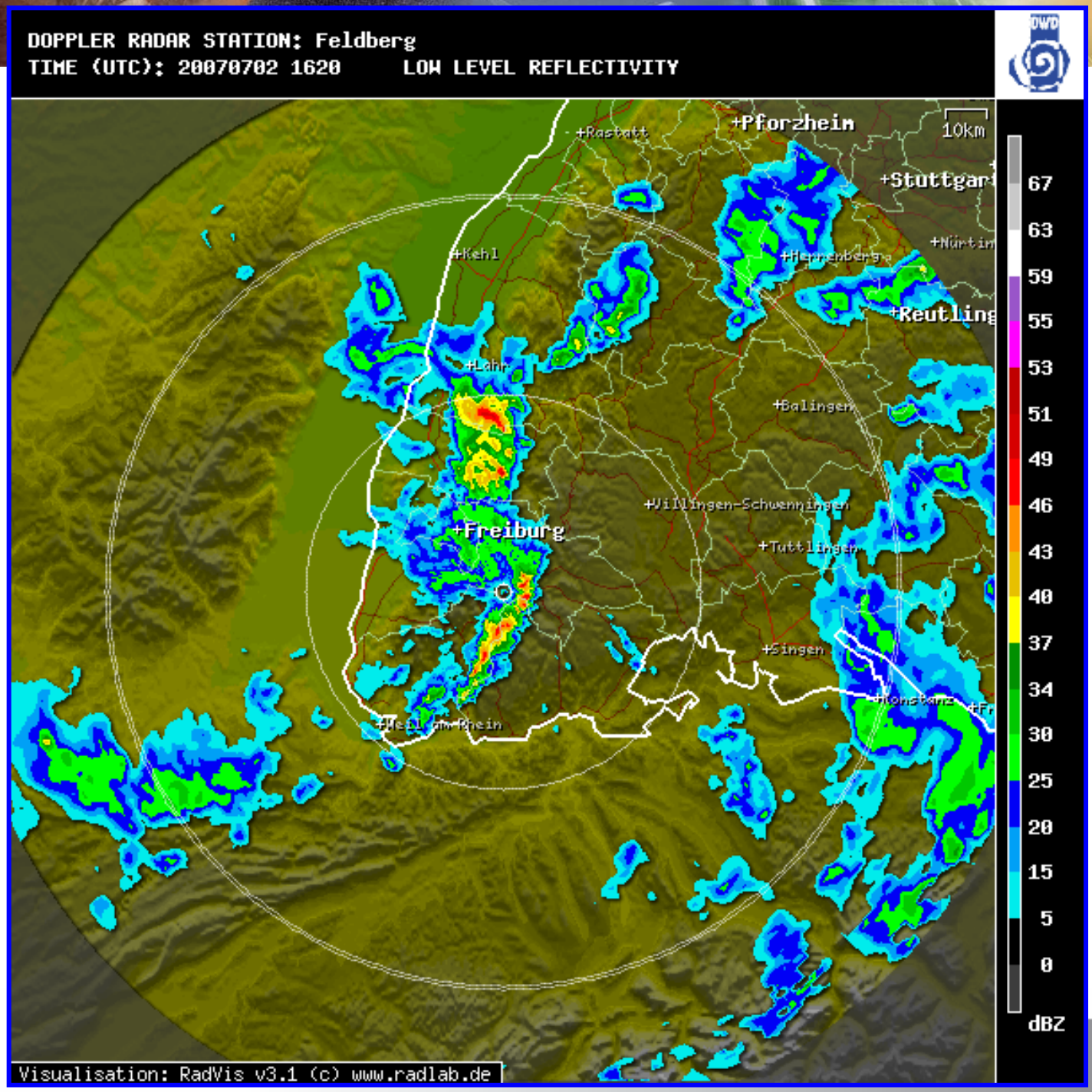
1555


DOPPLER RADAR STATION: Feldberg
TIME (UTC): 20070702 1605
LOW LEVEL REFLECTIVITY
10km
+Rastatt
+Pforzheim
+Stuttgart
+Kehl
+Nürtingen
+Reutlingen
+Lahr
+Balingen
+Villingen-Schwenningen
+Freiburg
+Tuttlingen
+Singen
+Konstanz
+Weil am Rhein
67
63
59
55
53
51
49
46
43
40
37
34
30
25
20
15
5
0
dBZ
Visualisation: RadVis v3.1 (c) www.radlab.de

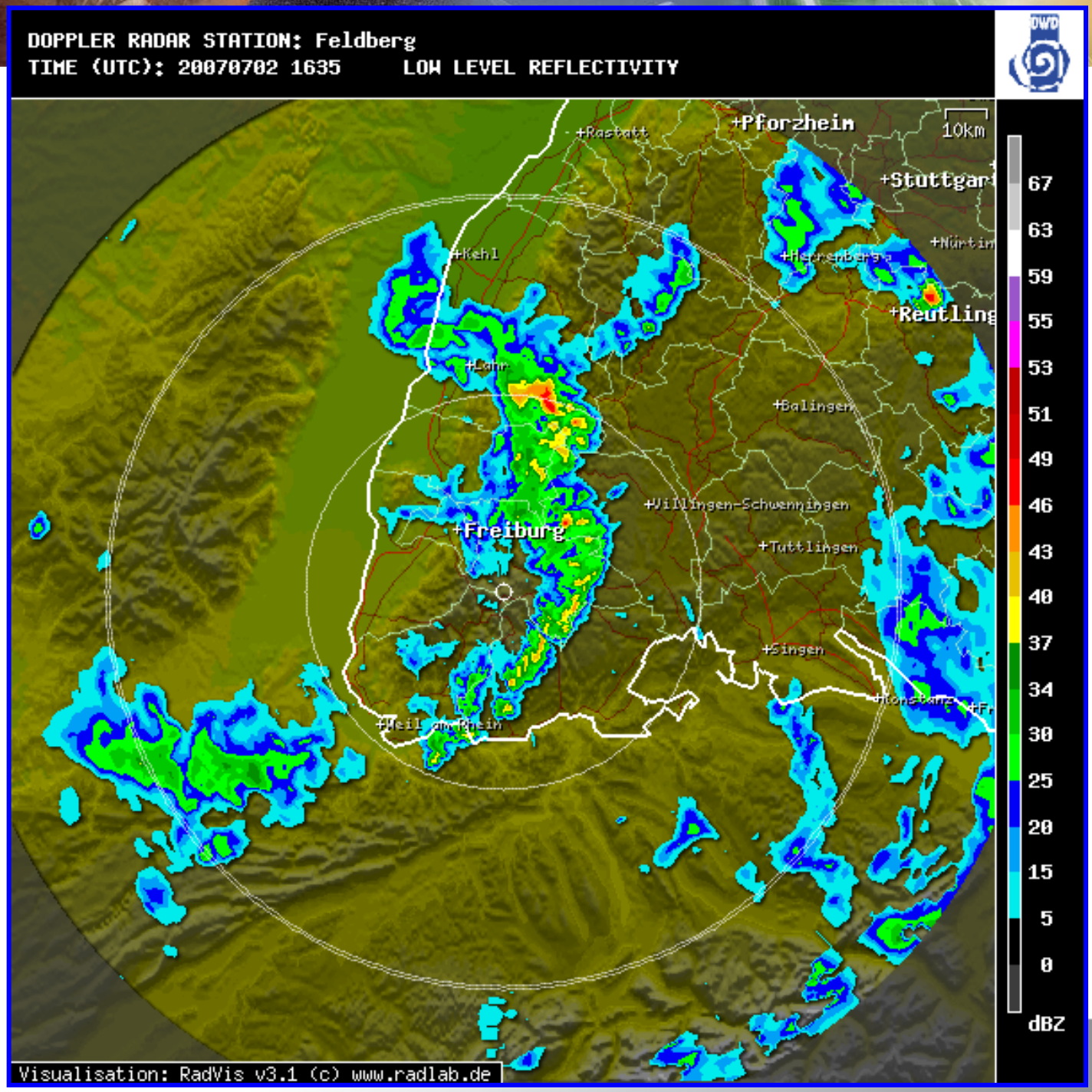
1605


DOPPLER RADAR STATION: Feldberg
TIME (UTC): 20070702 1615
LOW LEVEL REFLECTIVITY
10km
+Pforzheim
+Rastatt
+Stuttgart
+Nürtin
+Herrenberg
+Reutling
+Kehl
+Lahr
+Balingen
+Villingen-Schwenningen
+Freiburg
+Tuttlingen
+Singen
+Konstanz
+Weil am Rhein
67
63
59
55
53
51
49
46
43
40
37
34
30
25
20
15
5
0
dBZ
Visualisation: RadVis v3.1 (c) www.radlab.de

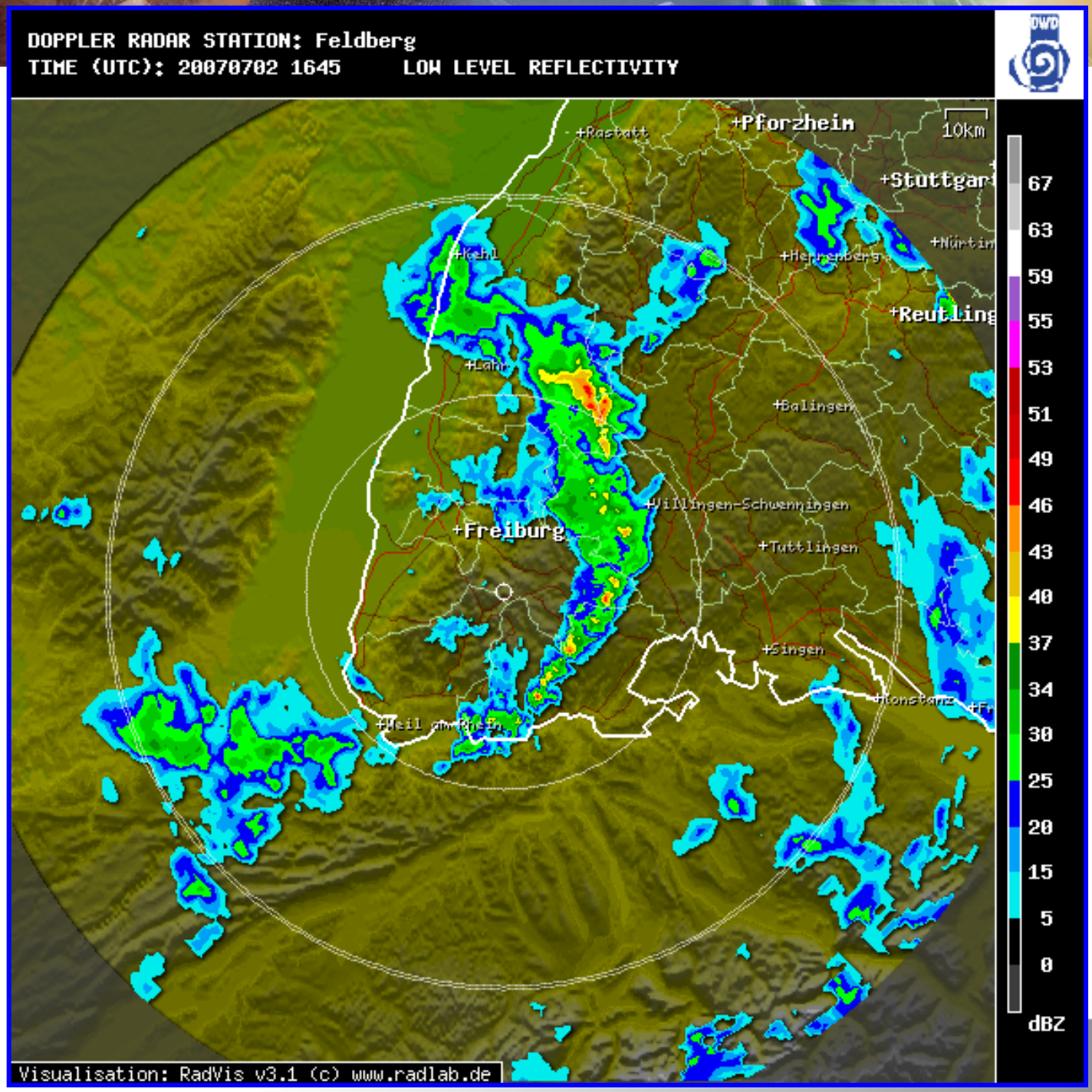
1615


DOPPLER RADAR STATION: Feldberg
TIME (UTC): 20070702 1620
LOW LEVEL REFLECTIVITY
10km
+Rastatt
+Pforzheim
+Stuttgart
+Kehl
+Nürtingen
+Reutlingen
+Lahr
+Balingen
+Villingen-Schwenningen
+Freiburg
+Tuttlingen
+Singen
+Konstanz
+Weil am Rhein
67
63
59
55
53
51
49
46
43
40
37
34
30
25
20
15
5
0
dBZ
Visualisation: RadVis v3.1 (c) www.radlab.de

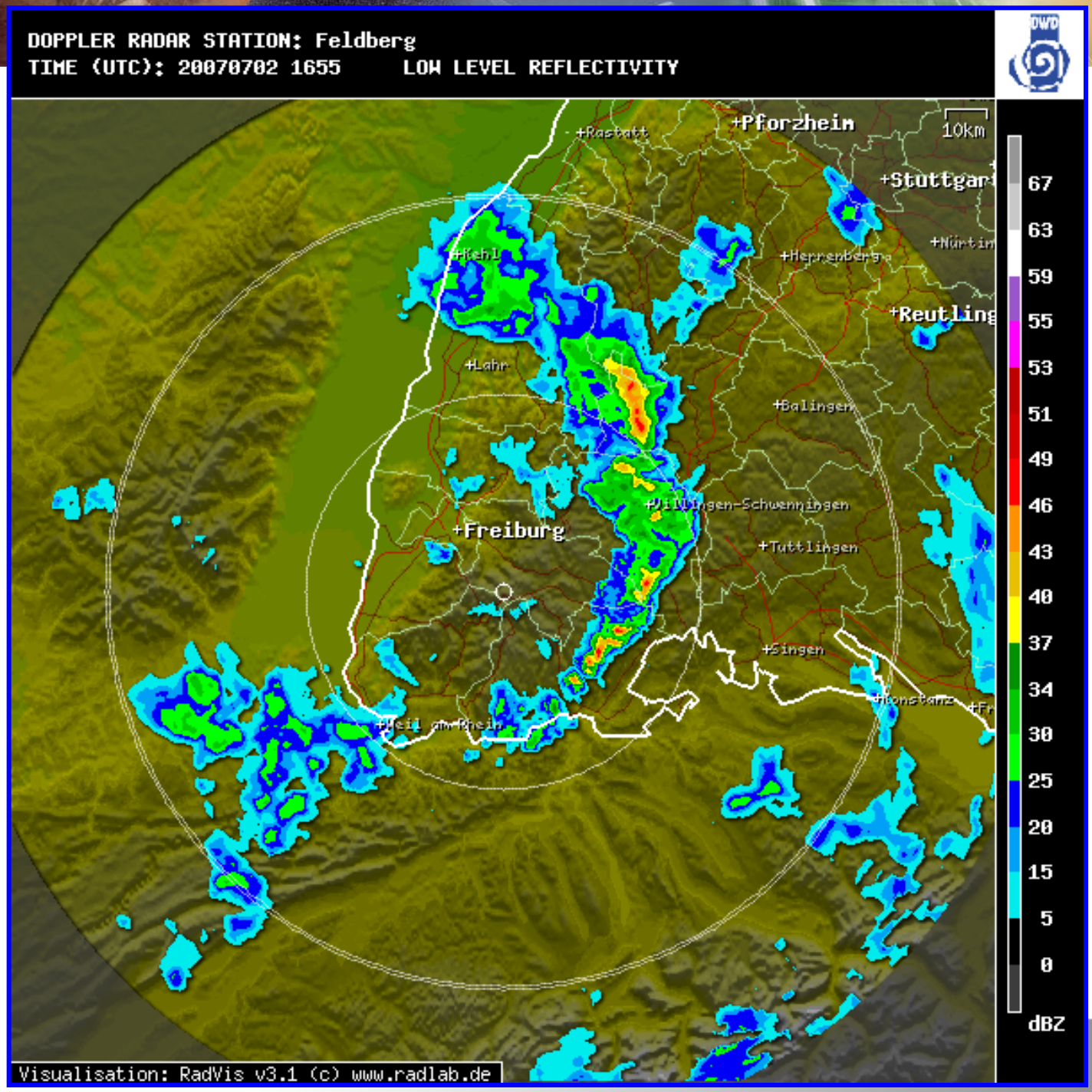
1620


DOPPLER RADAR STATION: Feldberg
TIME (UTC): 20070702 1635
LOW LEVEL REFLECTIVITY
10km
+Rastatt
+Pforzheim
+Stuttgart
+Nürtin
+Kehl
+Herrenberg
+Reutling
+Lahr
+Balingen
+Villingen-Schwenningen
+Freiburg
+Tuttlingen
+Singen
+Weil am Rhein
67
63
59
55
53
51
49
46
43
40
37
34
30
25
20
15
5
0
dBZ
Visualisation: RadVis v3.1 (c) www.radlab.de

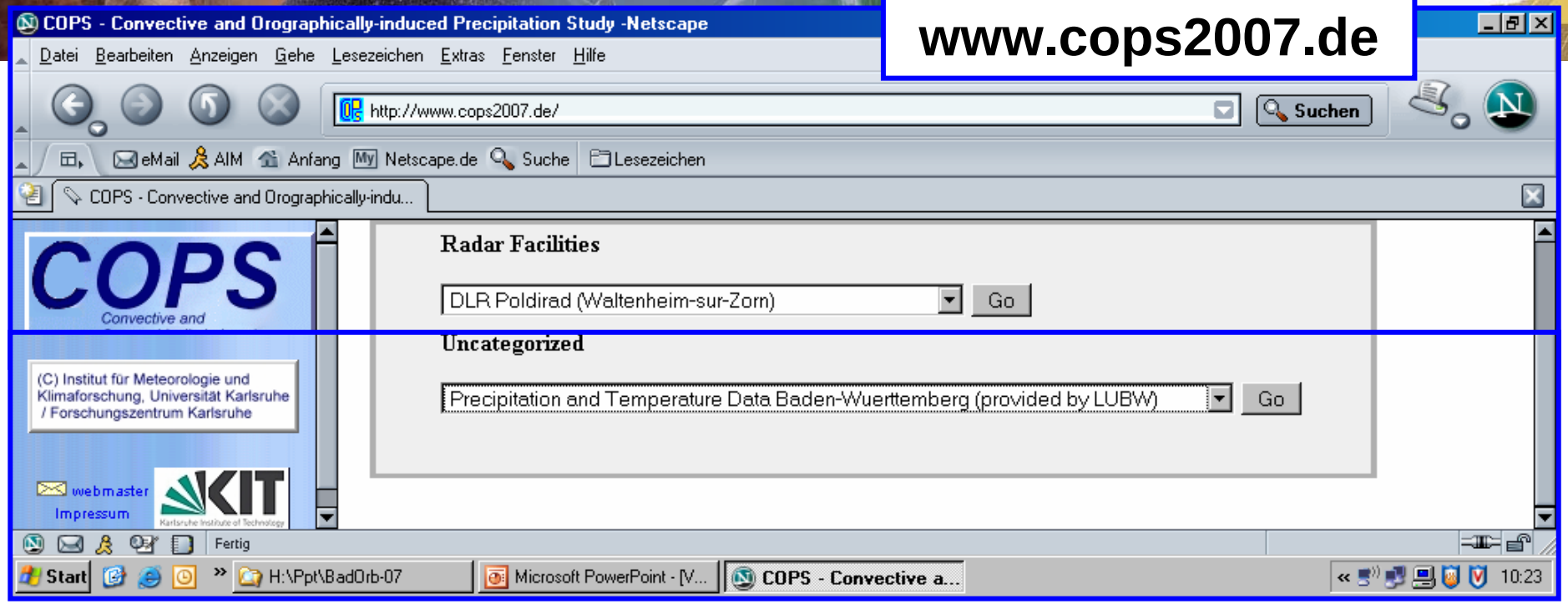
1635


DOPPLER RADAR STATION: Feldberg
TIME (UTC): 20070702 1645
LOW LEVEL REFLECTIVITY
DWD
10km
+Rastatt
+Pforzheim
+Stuttgart
+Nürtin
+Kehl
+Herrenberg
+Reutling
+Lahr
+Balingen
+Freiburg
+Villingen-Schwenningen
+Tuttlingen
+Singen
+Konstanz
+Weil am Rhein
67
63
59
55
53
51
49
46
43
40
37
34
30
25
20
15
5
0
dBZ
Visualisation: RadVis v3.1 (c) www.radlab.de

1645


DOPPLER RADAR STATION: Feldberg
TIME (UTC): 20070702 1655
LOW LEVEL REFLECTIVITY
10km
+Pforzheim
+Rastatt
+Stuttgart
+Nürtin
+Kehl
+Herrenberg
+Reutling
+Lahr
+Balingen
+Freiburg
+Villingen-Schwenningen
+Tuttlingen
+Singen
+Konstanz
+Weil am Rhein
67
63
59
55
53
51
49
46
43
40
37
34
30
25
20
15
5
0
dBZ
Visualisation: RadVis v3.1 (c) www.radlab.de

1655



www.cops2007.de

IOP-5b, 2 July 2007

station#	name	lat.	long.	time	mm
#61317	BB-Geroldsau	48.73	8.25	07:30	2.60
				08:00	2.73
		frontal rain (6.9 mm)		08:30	1.57
		post-frontal convective rain		**16:00**	**4.13**
#4446	Kehl	48.58	7.80	07:00	2.25
		frontal rain (6.9 mm)		07:30	3.67
#61355	Titisee	47.94	8.19	**18:30**	**3.90**
		post-frontal convective rain			

COPS
Convective and Orographically-induced Precipitation Study

PQP Praecipitationis Quantitativae Praedictio

- Contact us / Location
- About COPS
- Daily Reports
- Facility Status
- Operational Products
- Forecast Products
- Missions
- General Information
- Blog
- Links
- Web-Admin
- Ops. Center Mailinglist
- Movies
- Photo Gallery

(C) Institut für Meteorologie und Klimaforschung, Universität Karlsruhe / Forschungszentrum Karlsruhe

webmaster
Impressum

KIT

FORECAST PRODUCTS

1. **COPS Mission Planning Models (D-PHASE Products COPS domain)**

Select Model:

LMK Go

or select Time-height cross section (all models):

Supersite V Go

Model	Institution	PI	Initial Time(s) (UTC)	Forecast Range (h)	Resolution (km)
AROME	Meteo France	Yann Seity	00	+30	2.5
LMK	Deutscher Wetterdienst	Michael Denhard	00, 03, 06, 09, 12, 15, 18, 21	+18	2.8
COSMOCH2	Meteo Schweiz	Felix Ament	00, 03, 06, 09, 12, 15, 18, 21	9, 18 UTC runs: +30, all other runs: +24	2.2
CMCGEMH	Environment Canada	Ron McTaggert-Cowan	06	+18	2.5

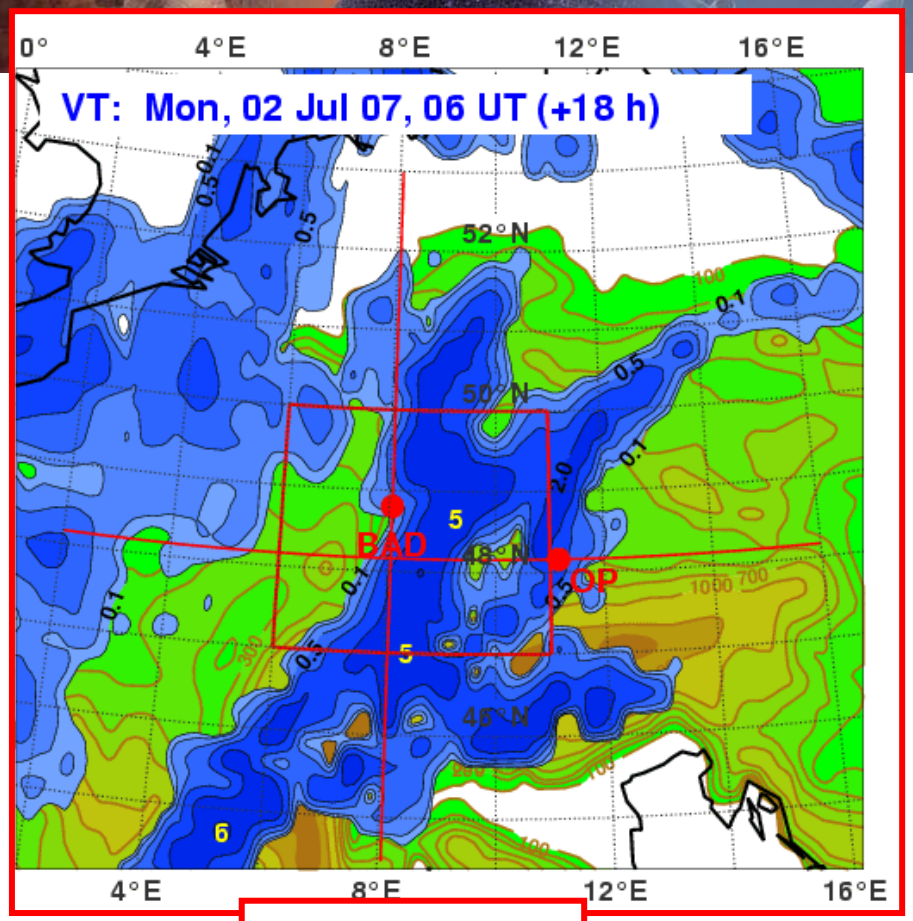
2. **COPS Forecast Website of DLR (user: cops, pw: cloud)**

(ECMWF Forecasts, COSMO-LEPS, Weather Briefing Material,...)

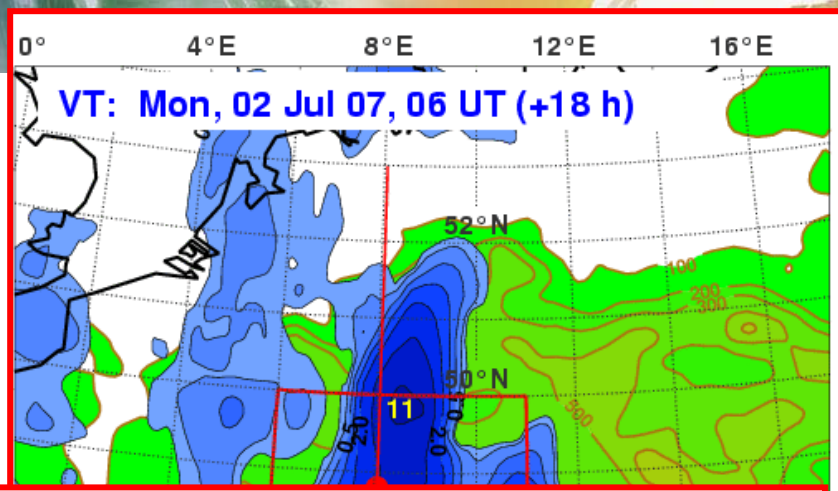
3. **GFS Archive (provided by wetter3)**

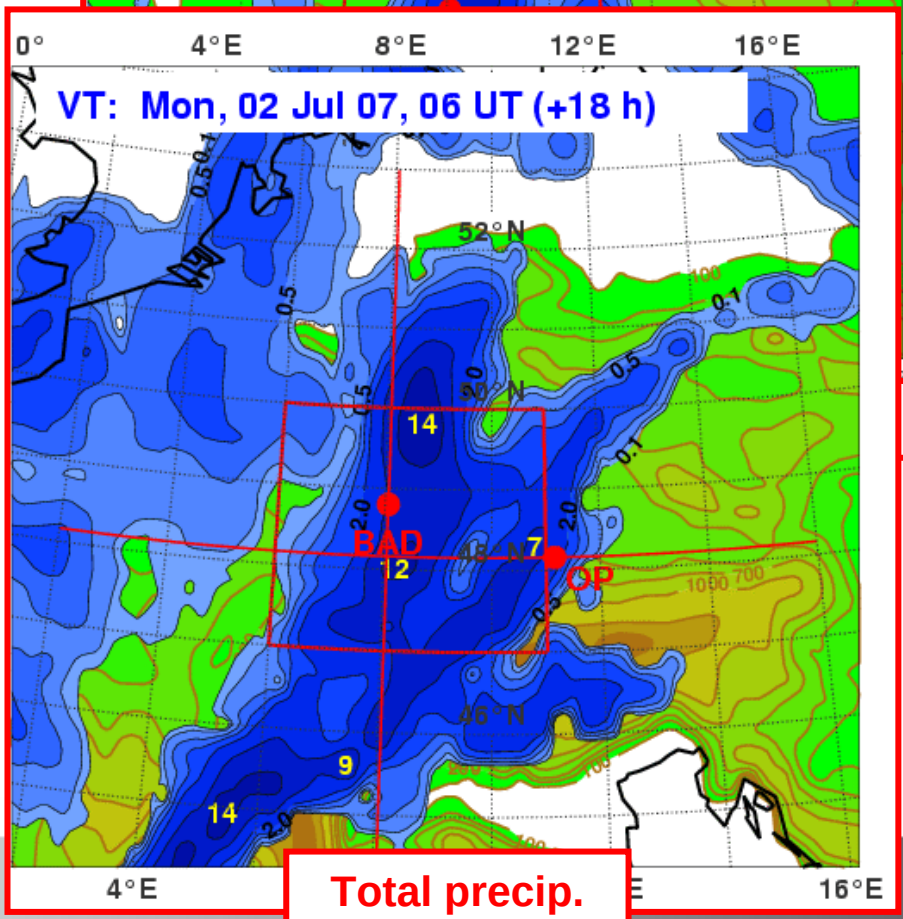
4. **D-PHASE Products (D-PHASE domain)**

detailed archive on the web: user=copsuser; passwd=airpark



Conv. precip.



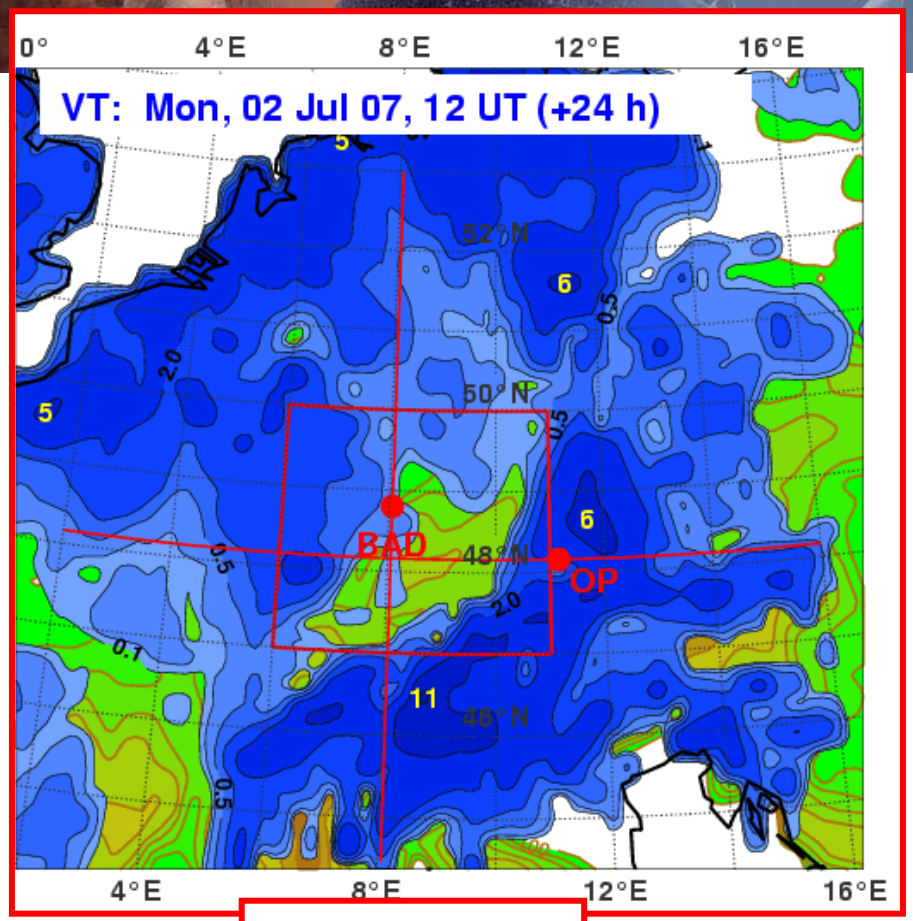


Total precip.

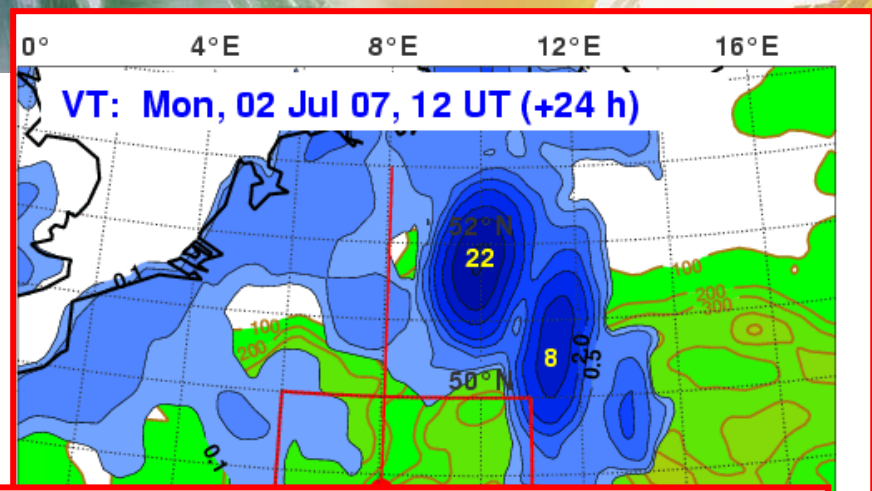
ECMWF (T799L90)

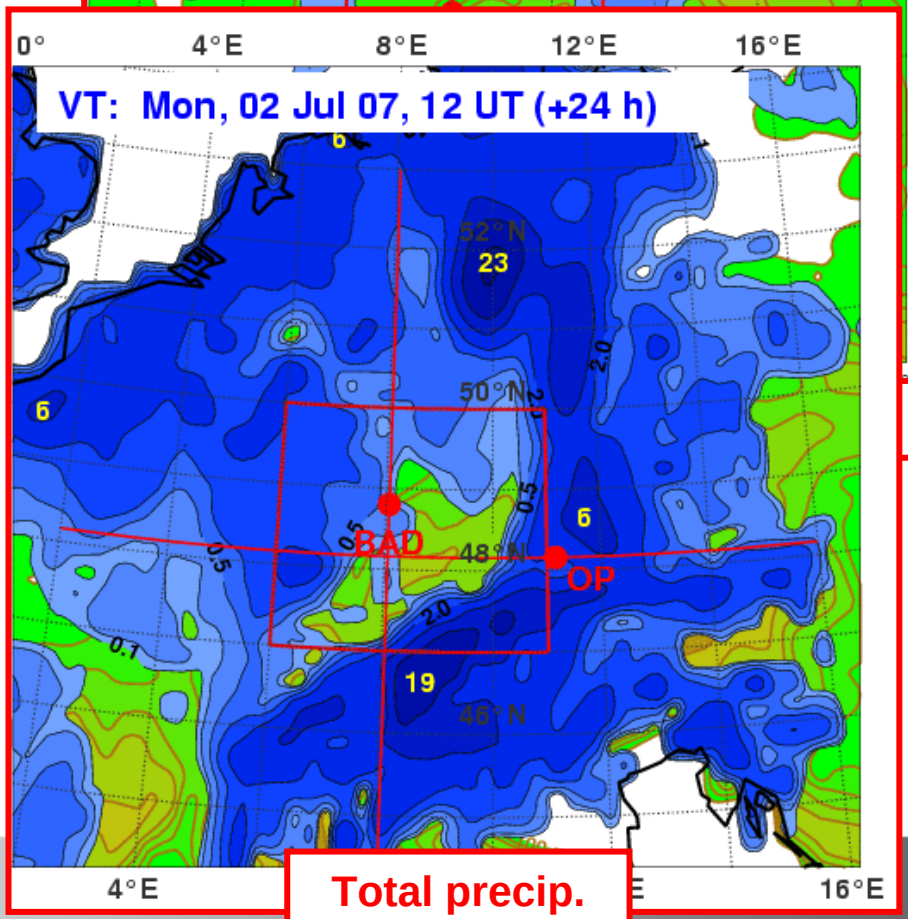
3 h precipitation

Init: 1 July 07, 12 UT



Conv. precip.



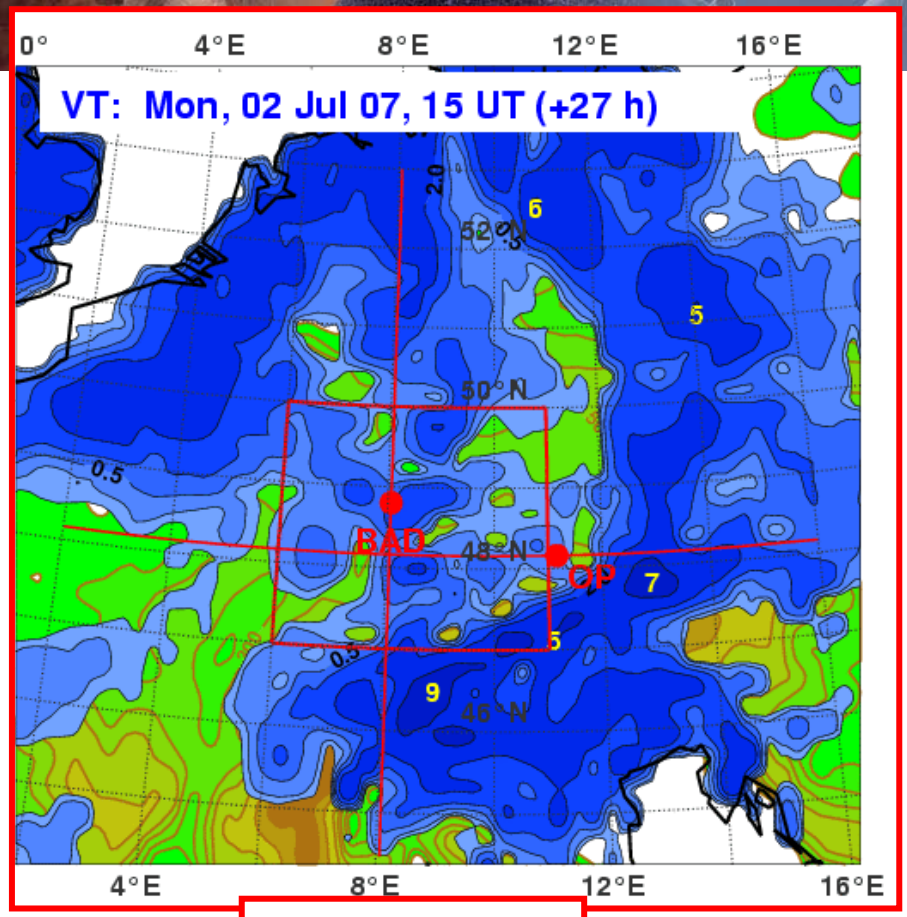


Total precip.

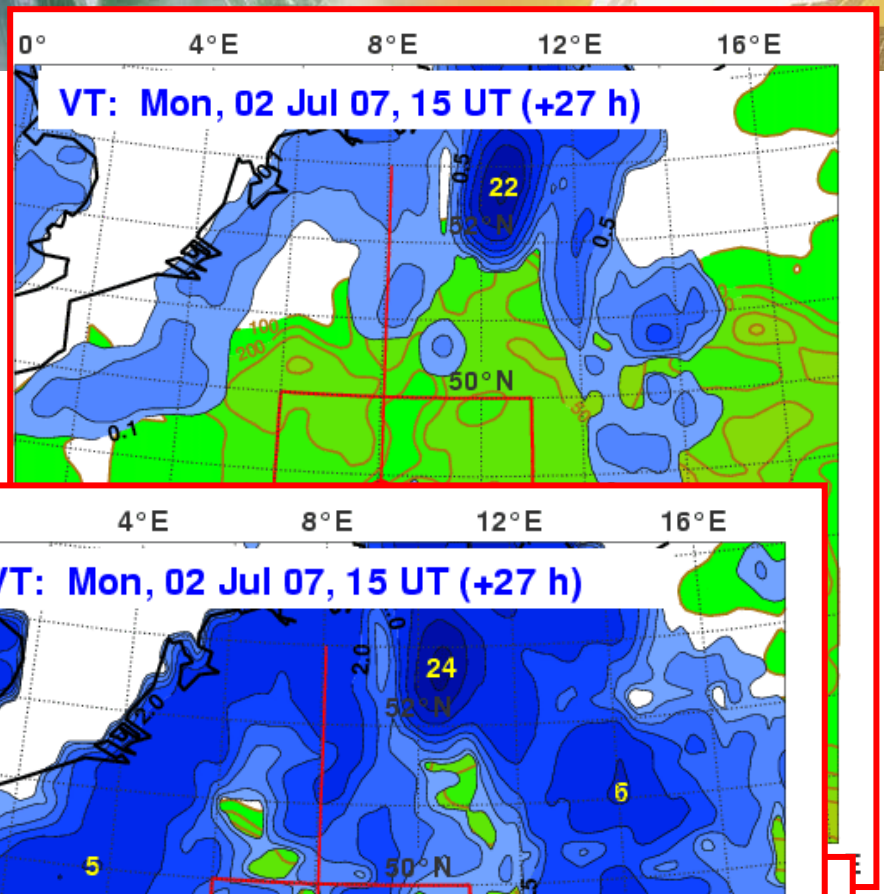
ECMWF (T799L90)

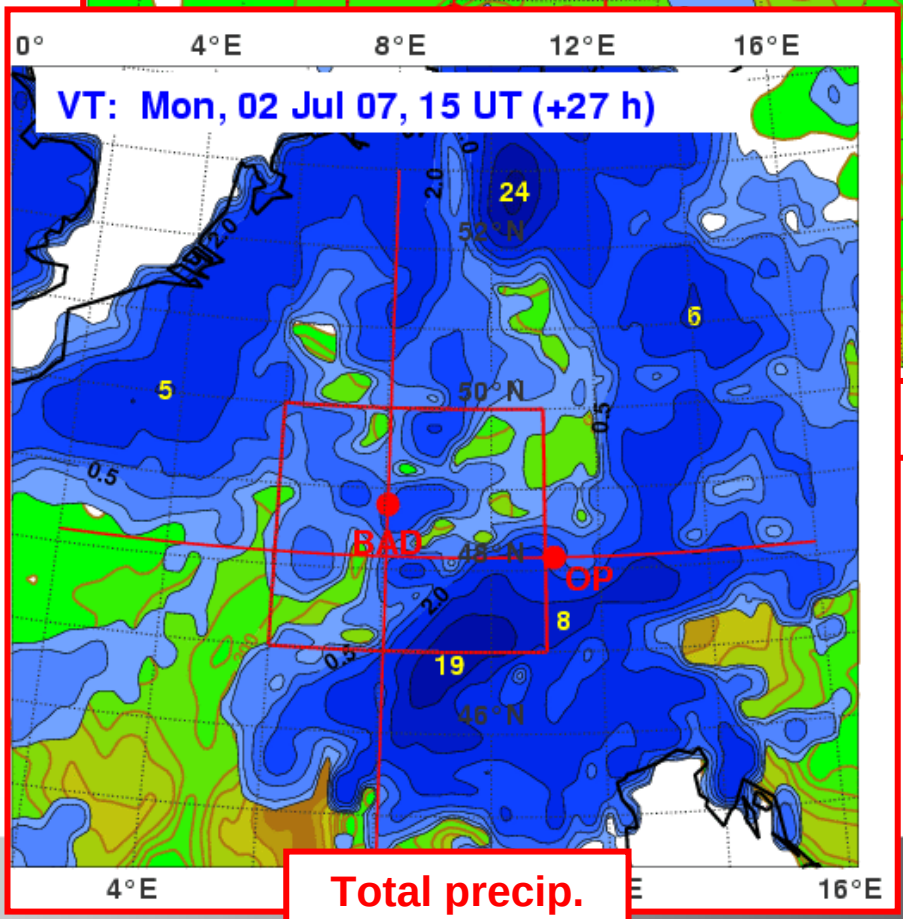
3 h precipitation

Init: 1 July 07, 12 UT



Conv. precip.





Total precip.

ECMWF (T799L90)

3 h precipitation

Init: 1 July 07, 12 UT

COPS
Convective and Orographically-induced Precipitation Study

PQP
Praecipitationis Quantitativae Praedictio

www.cops2007.de

Meso-NH forecast system for COPS

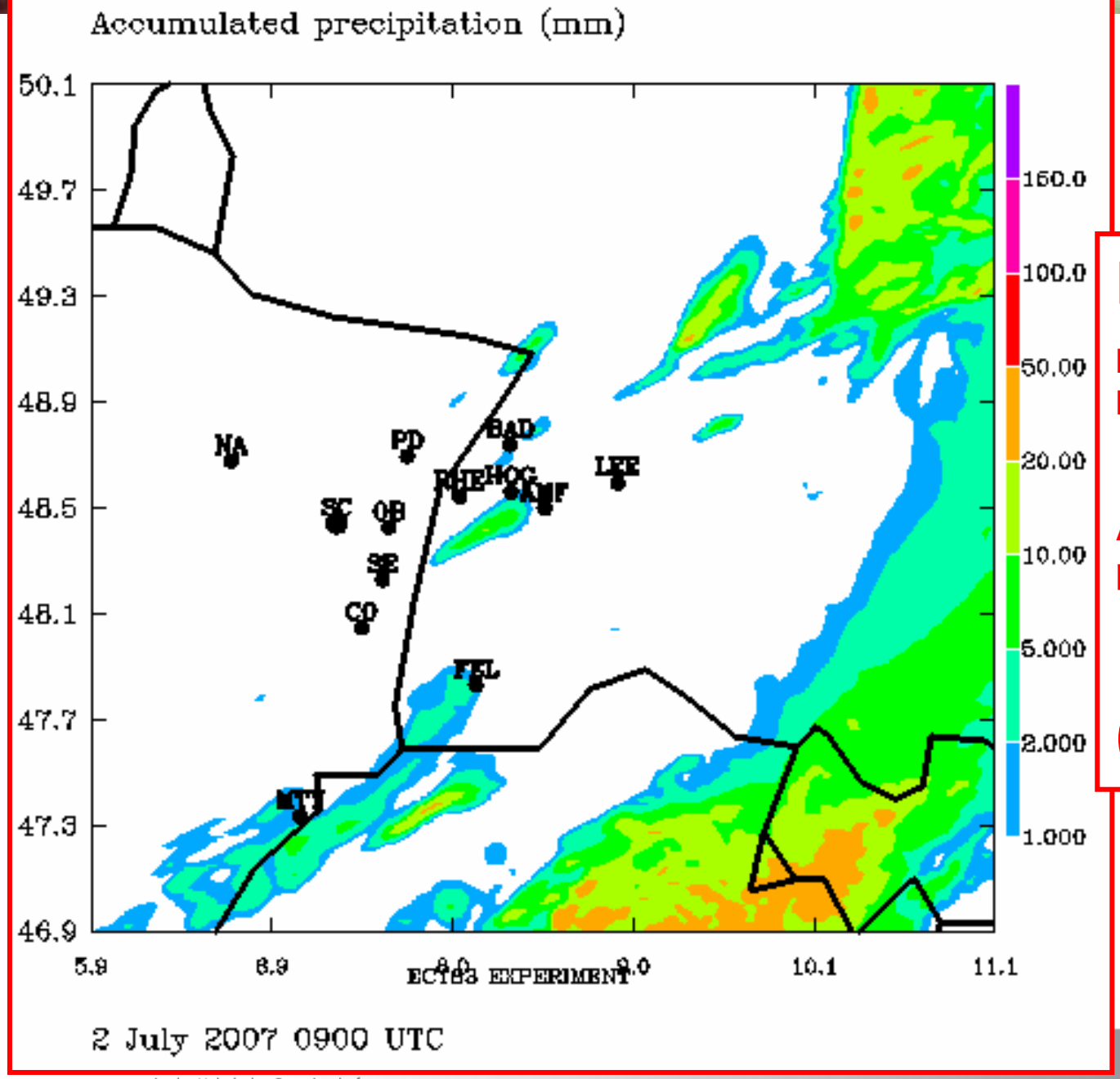
Rationale | Set up | Forecasts | Evaluation | Gallery

simulation | selector

EC310 | CH | 1 | ok | < | > | 1 | m | s

COPS
Convective and Orographically-induced Precipitation Study

Last updated 19-07-2007. Page maintained by Jean-Pierre Chaboureau (LA)

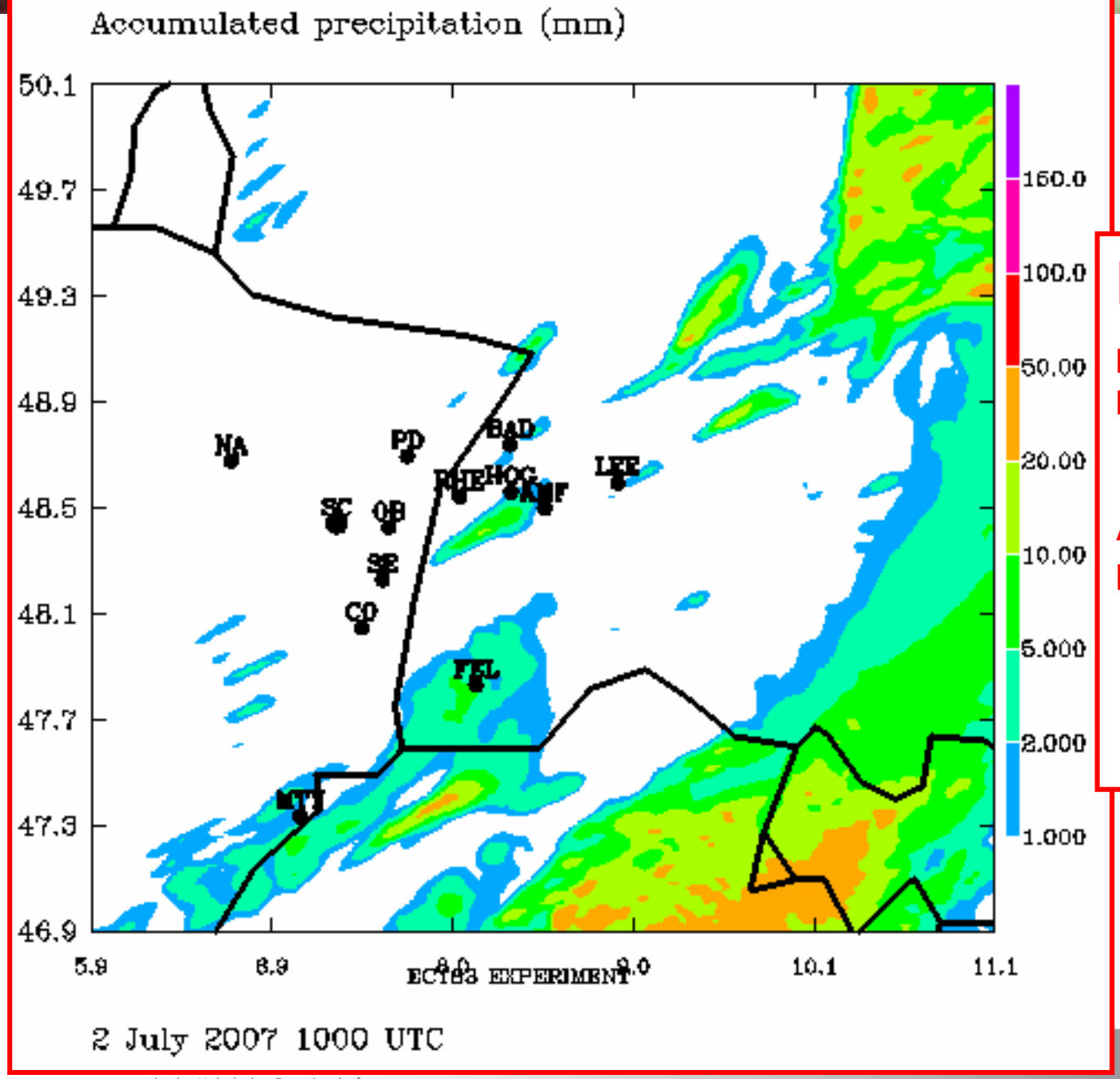


Meso-NH

Day: 183; 2 July
Init: ECMWF

Accumulated precipitation (mm)

0900 UT

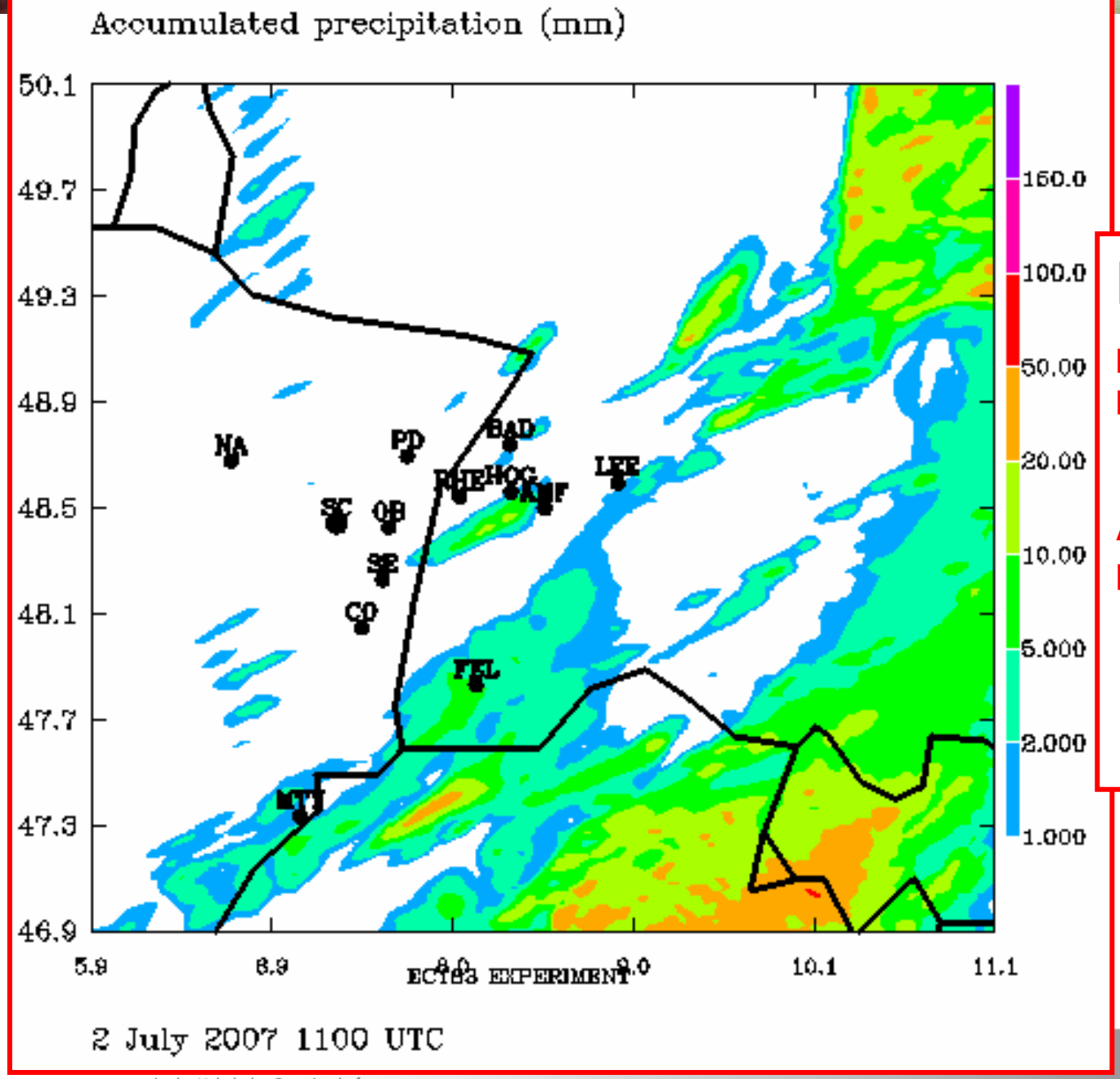


Meso-NH

Day: 183; 2 July
Init: ECMWF

Accumulated precipitation (mm)

1000 UT

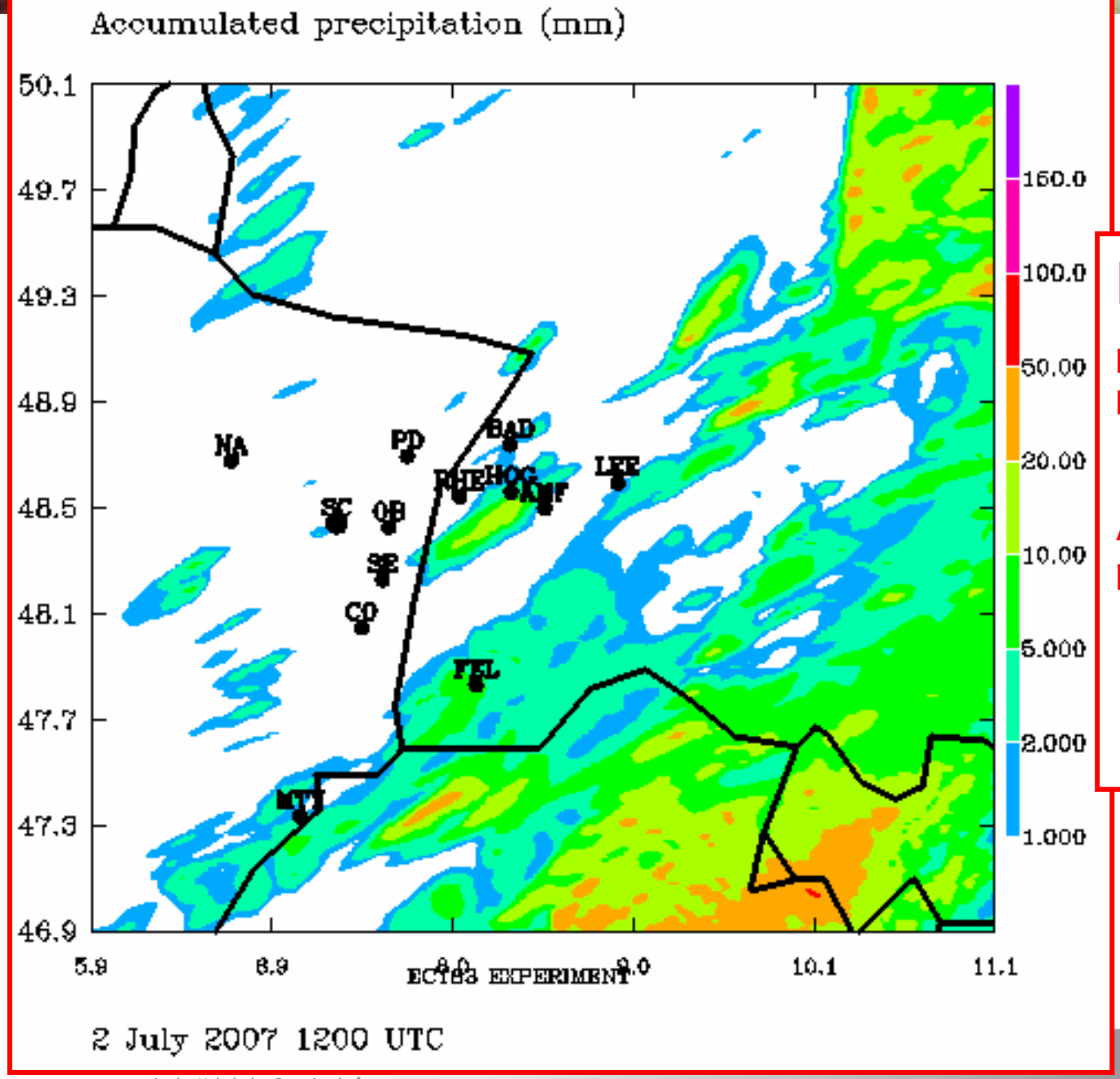


Meso-NH

Day: 183; 2 July
Init: ECMWF

Accumulated precipitation (mm)

1100 UT

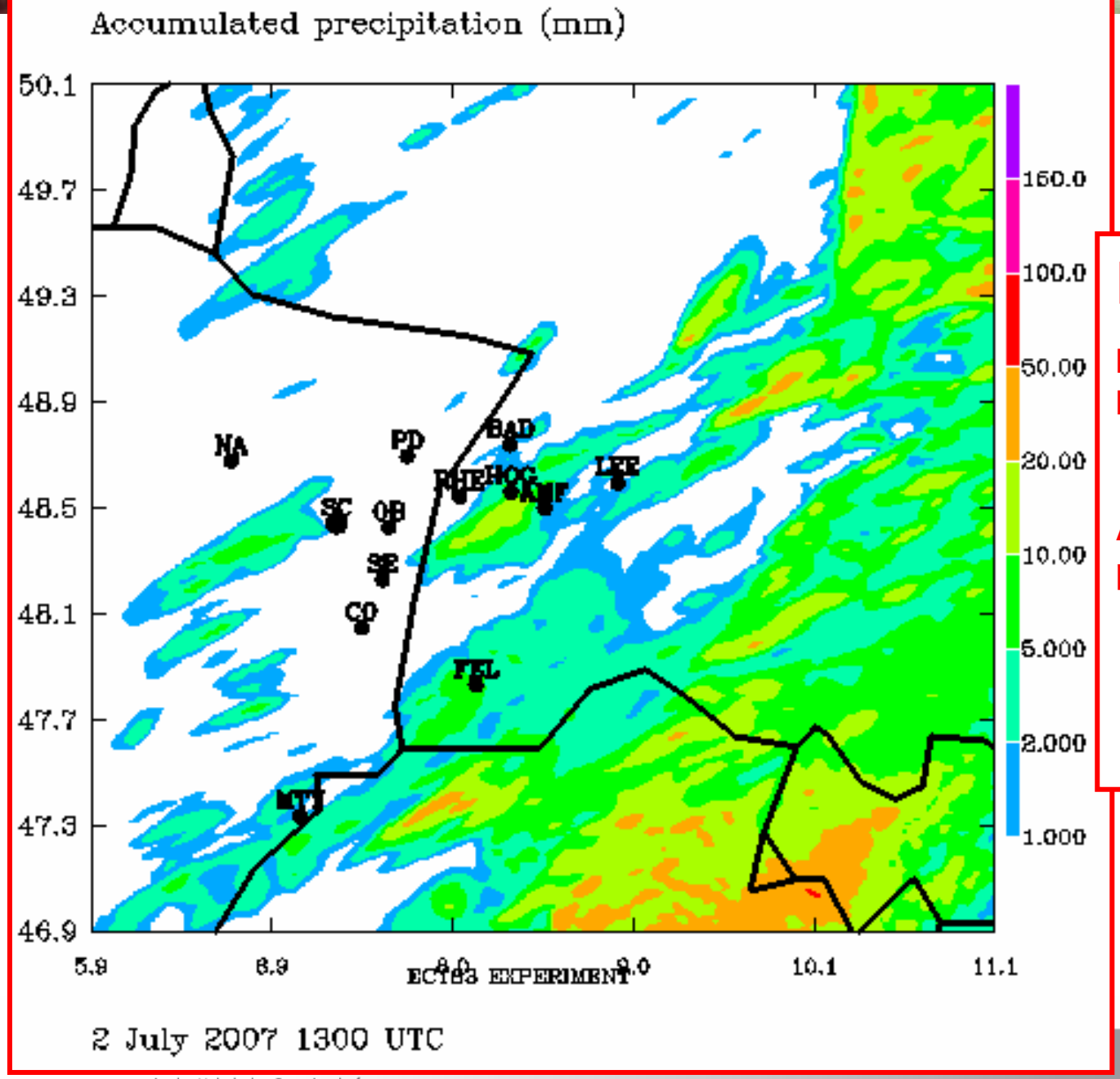


Meso-NH

Day: 183; 2 July
Init: ECMWF

Accumulated precipitation (mm)

1200 UT

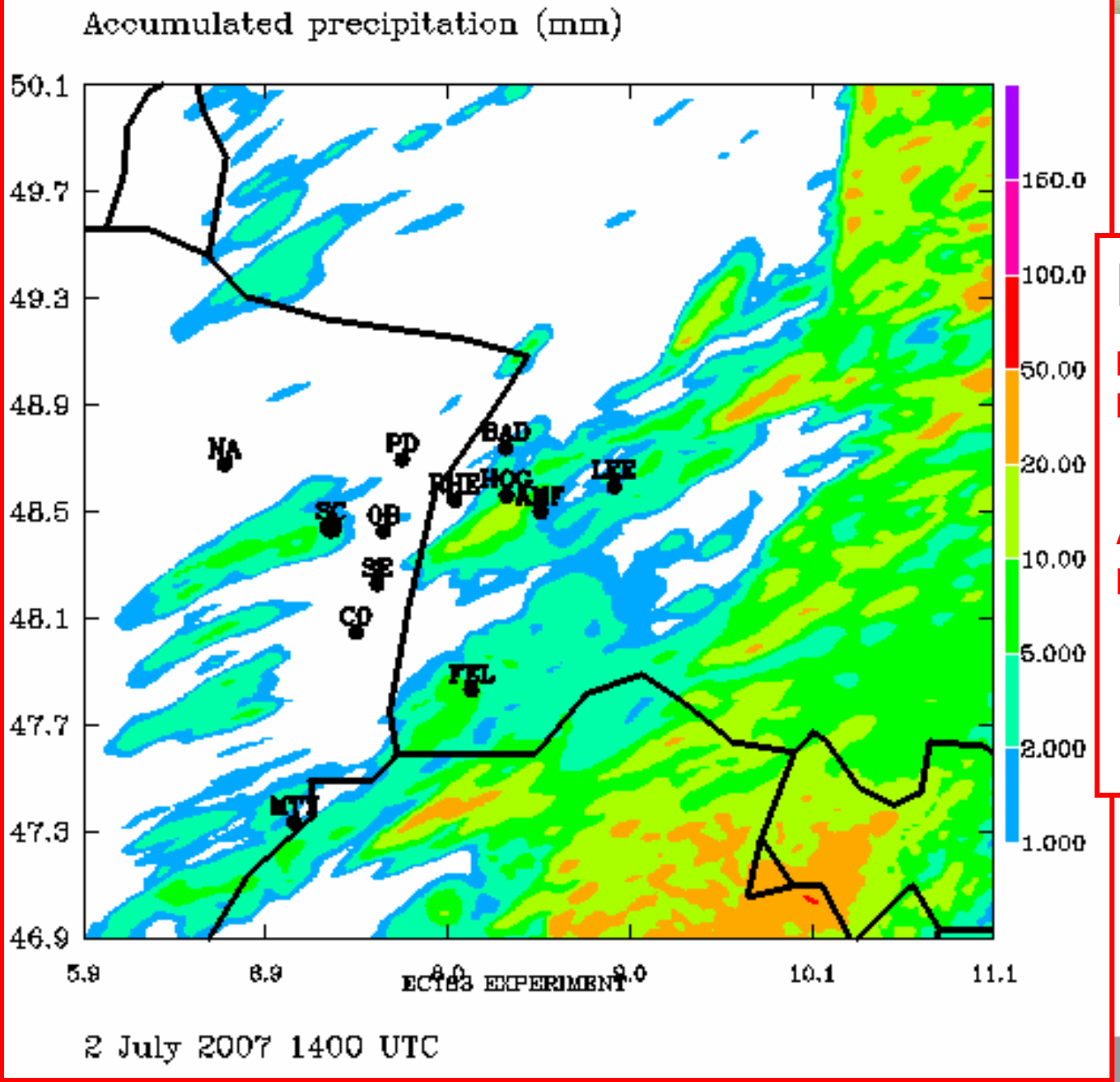


Meso-NH

Day: 183; 2 July
Init: ECMWF

Accumulated precipitation (mm)

1300 UT

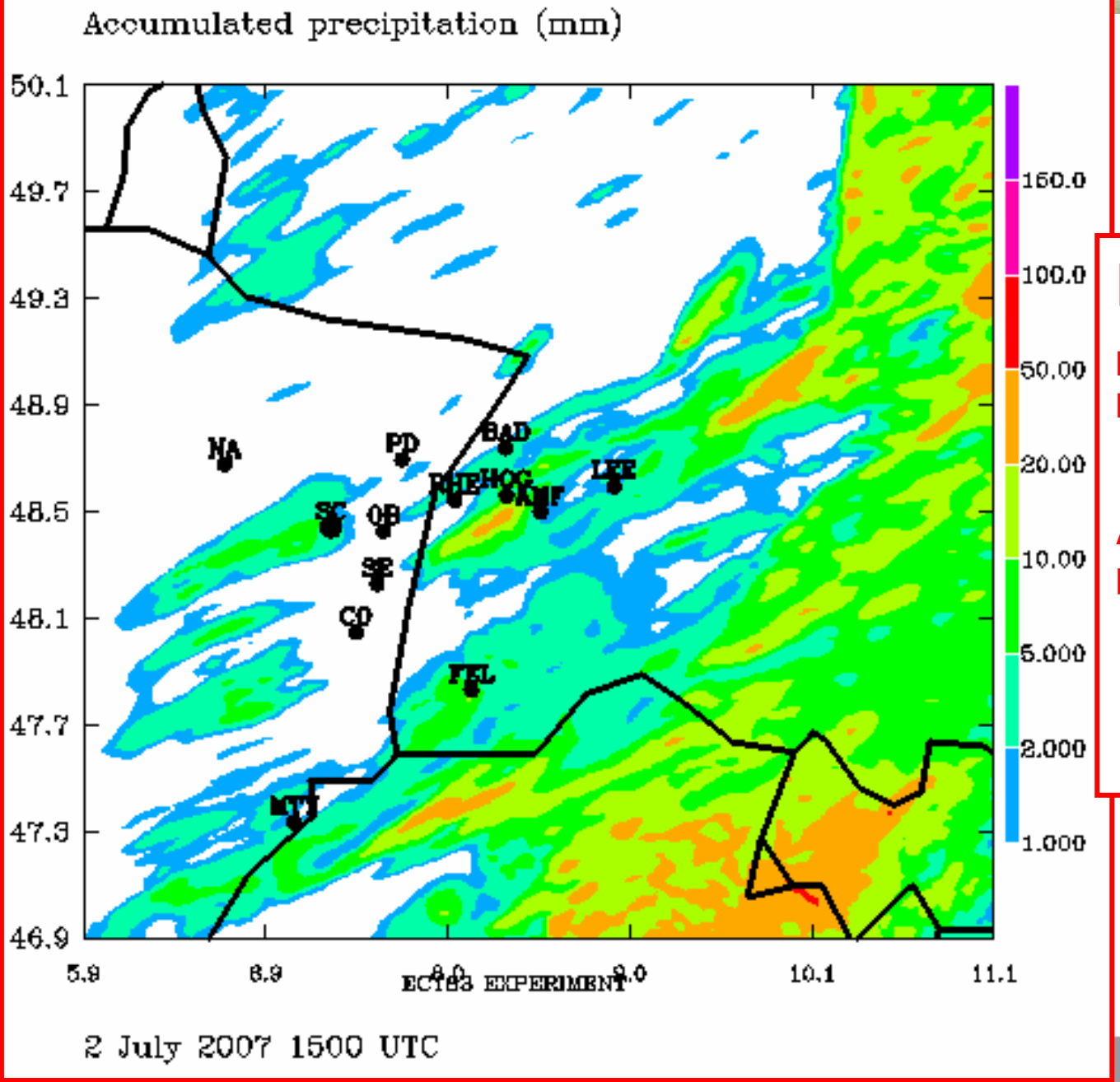


Meso-NH

Day: 183; 2 July
Init: ECMWF

Accumulated precipitation (mm)

1400 UT

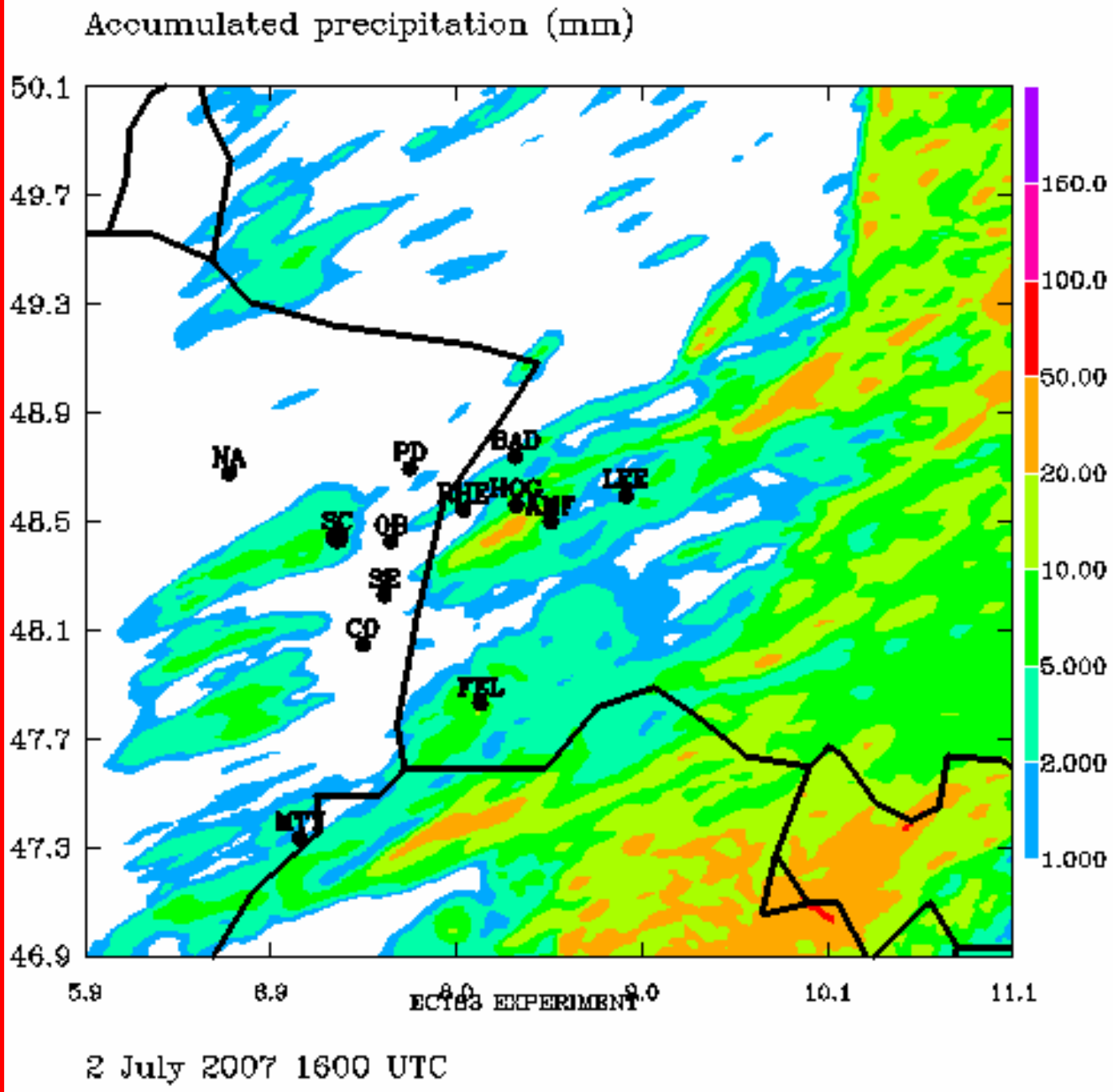


Meso-NH

Day: 183; 2 July
Init: ECMWF

Accumulated precipitation (mm)

1500 UT

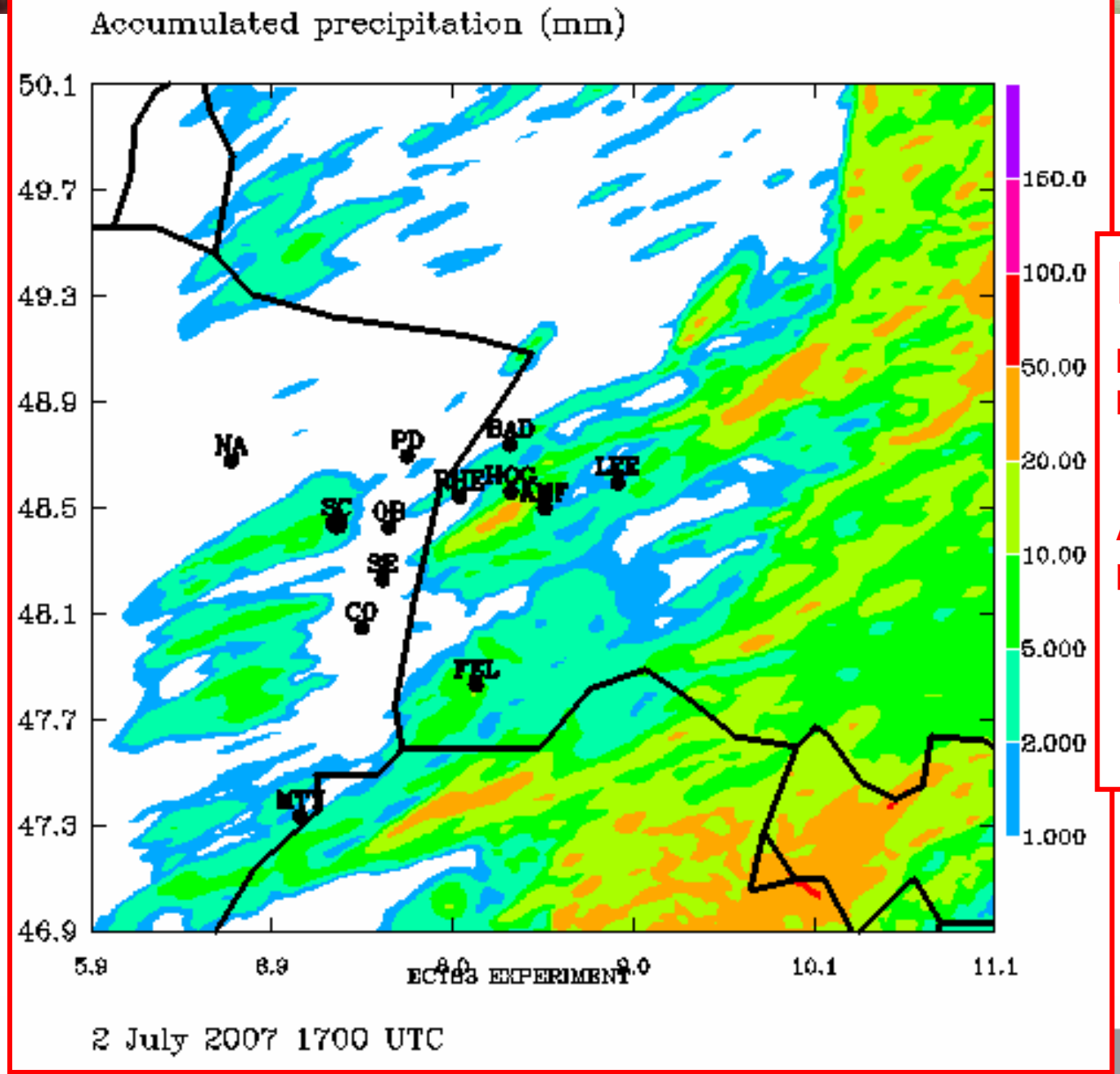


Meso-NH

Day: 183; 2 July
Init: ECMWF

Accumulated precipitation (mm)

1600 UT

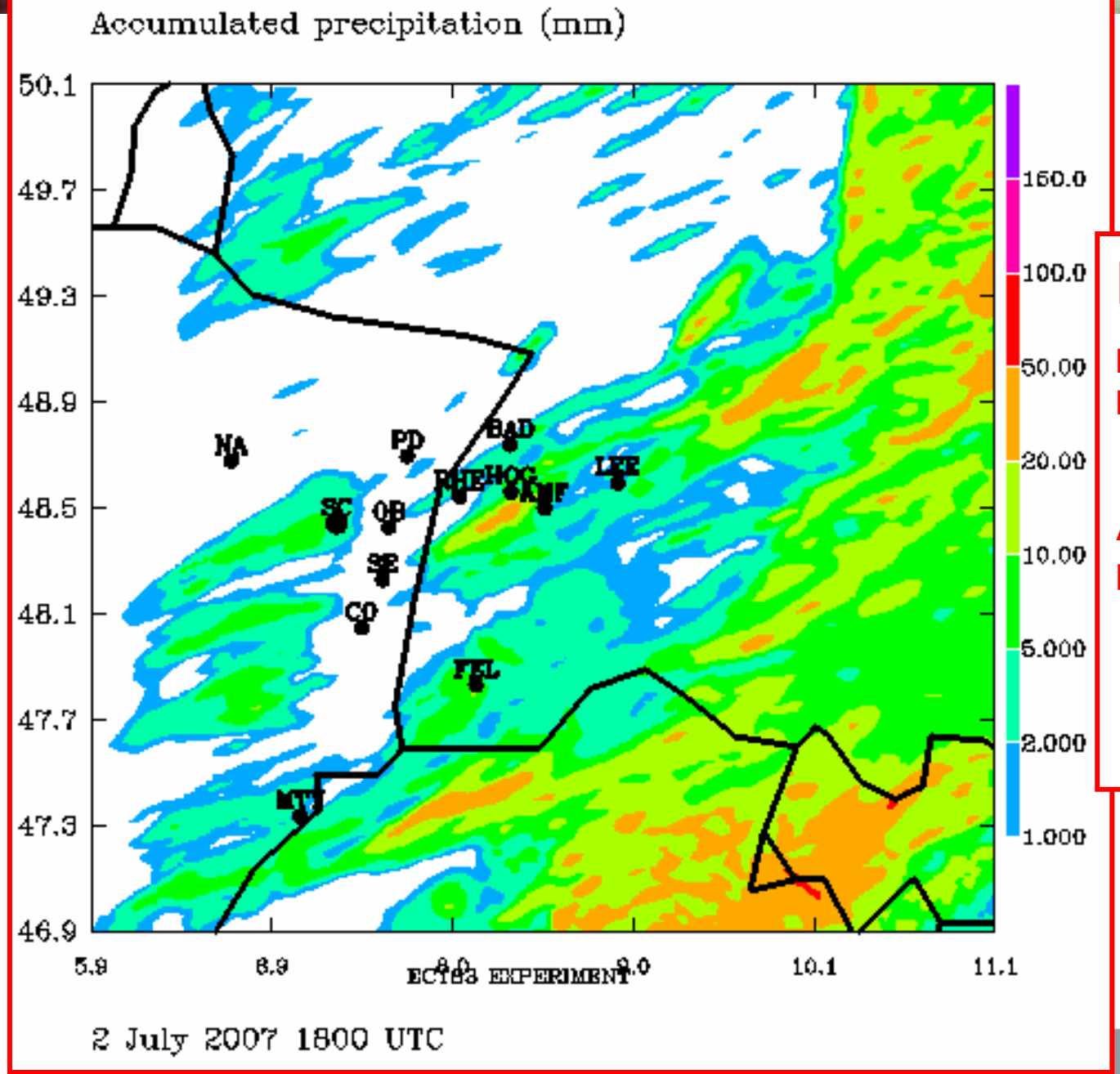


Meso-NH

Day: 183; 2 July
Init: ECMWF

Accumulated precipitation (mm)

1700 UT



Meso-NH

Day: 183; 2 July
Init: ECMWF

Accumulated precipitation (mm)

1800 UT

Conclusions (to do list)

- COPS produced rich datasets through remarkbale cooperation (well accessible)
- better display of precip. distributions (QPF)
- visit large model zoo (→ D-PHASE)
- disentagle forcings (synoptic/orograph./convect.)

- quick look ahead to spring 2009

30th Int.Conf.Alp.Meteo. (ICAM)

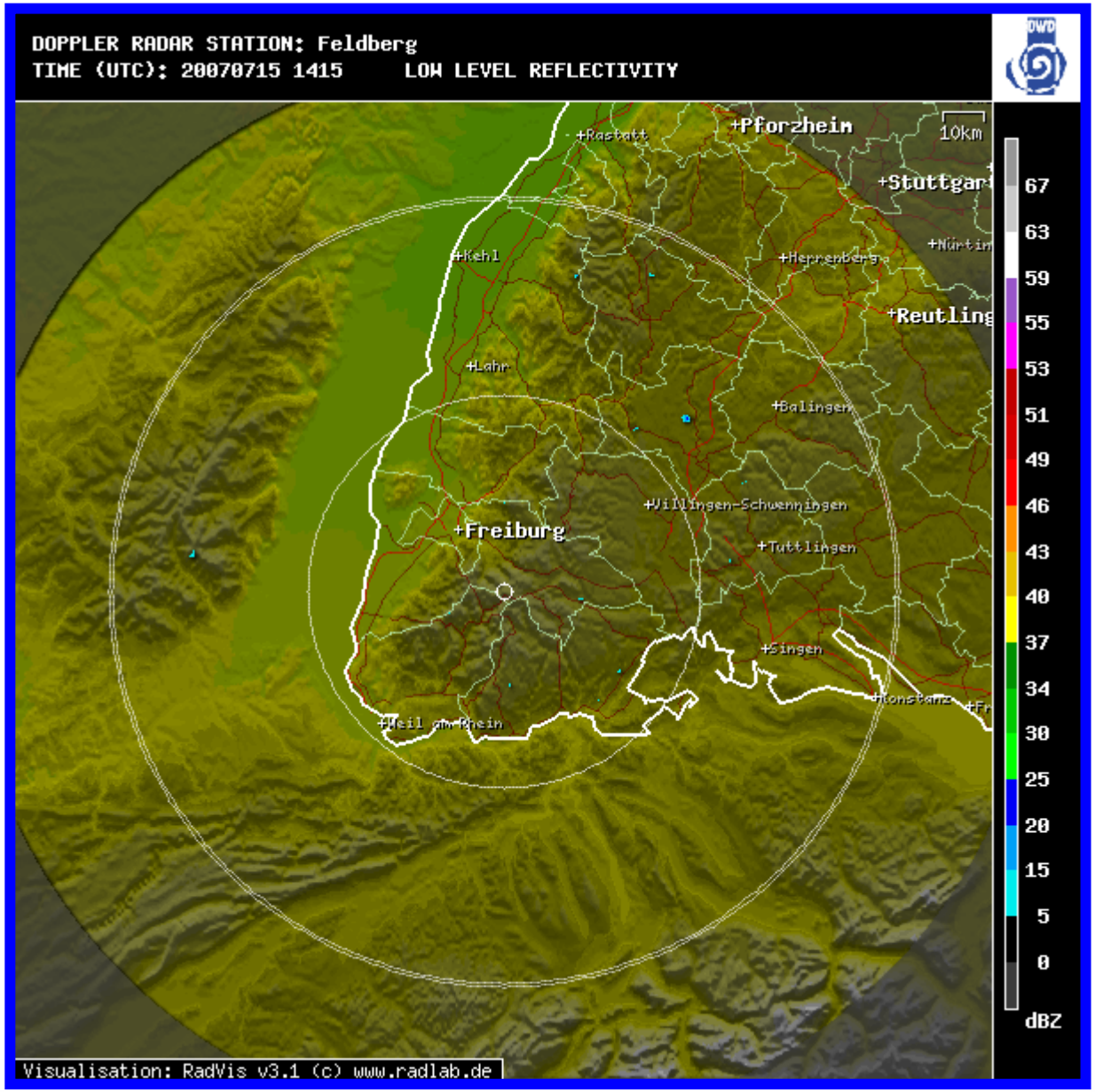
Badner Halle, Rastatt, Germany

11-15 May 2009

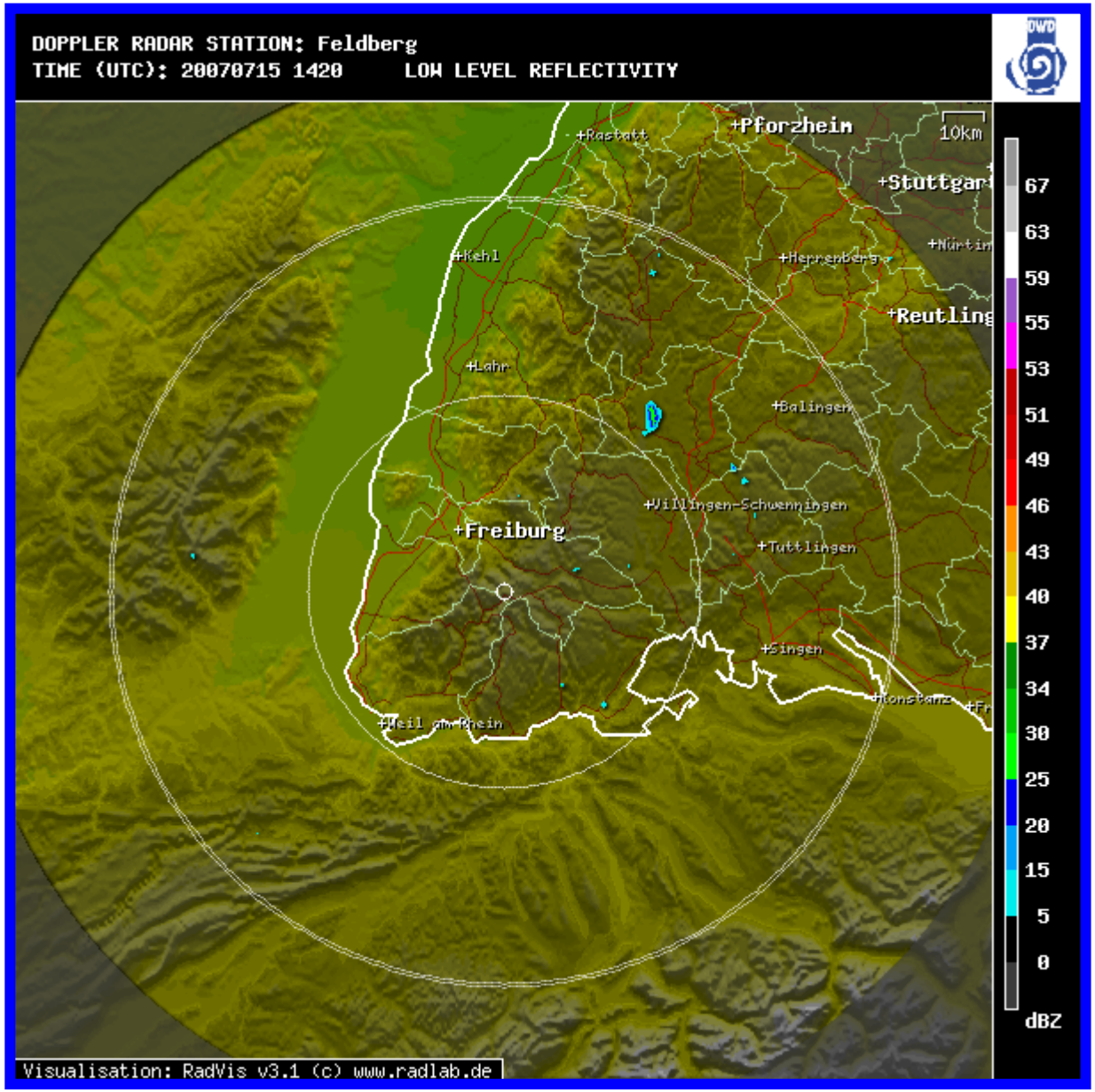
talks

posters

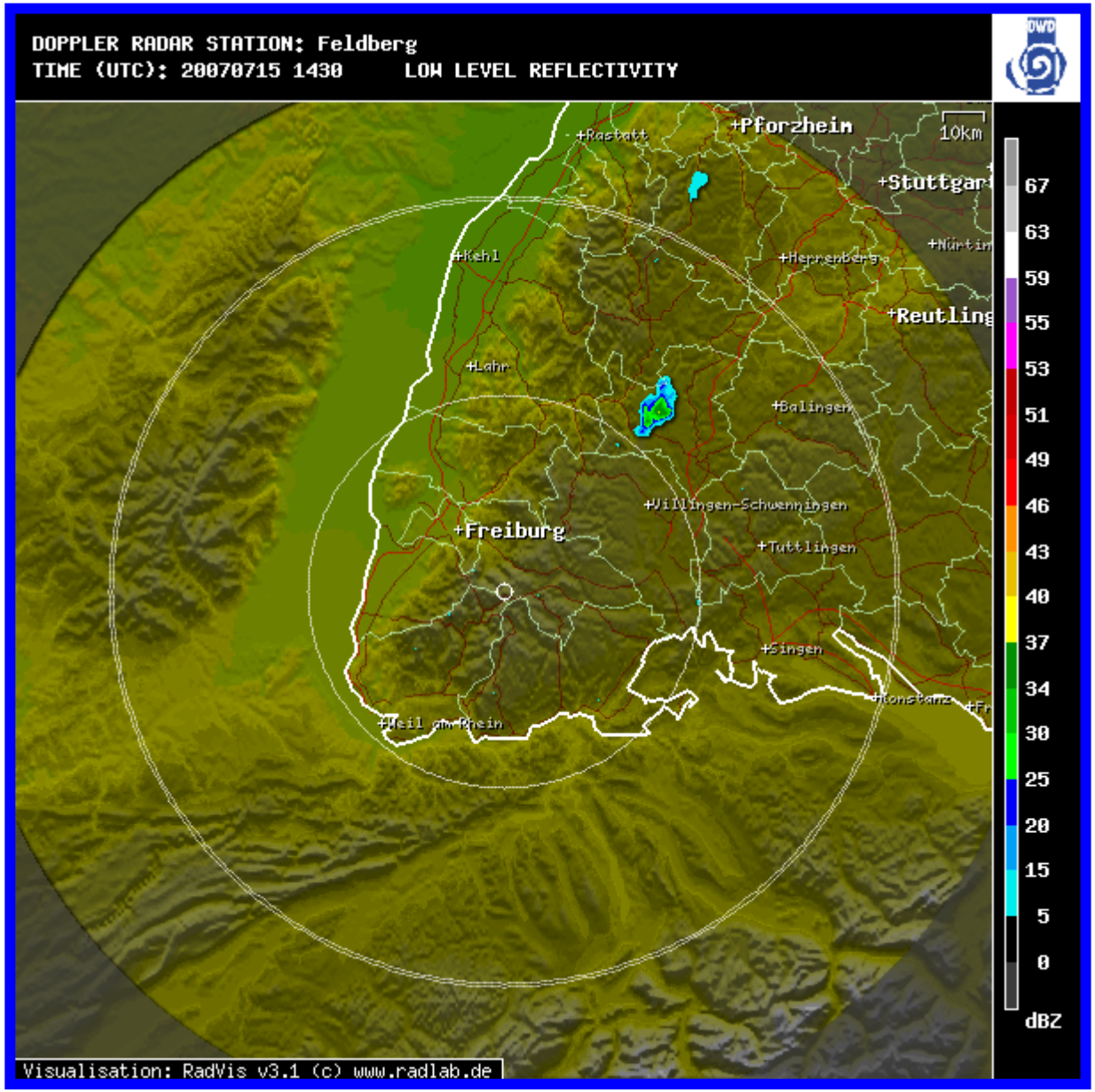
IOP-8b 15 Jul. 07



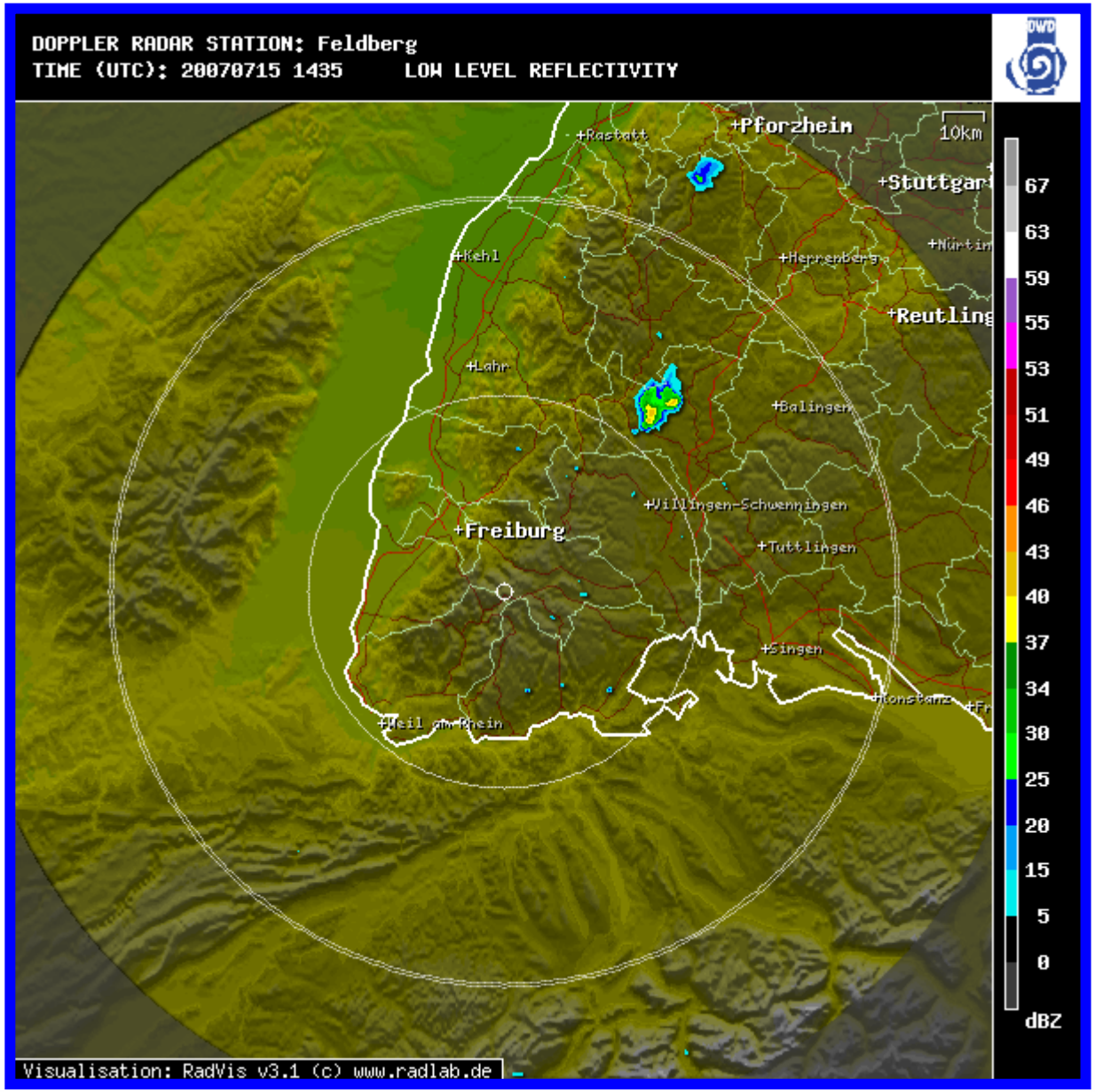
1415


DOPPLER RADAR STATION: Feldberg
TIME (UTC): 20070715 1420
LOW LEVEL REFLECTIVITY
DWD
10km
+Rastatt
+Pforzheim
+Stuttgart
+Nürtin
+Kehl
+Herrenberg
+Reutling
+Lahr
+Balingen
+Villingen-Schwenningen
+Freiburg
+Tuttlingen
+Singen
+Konstanz
+Weil am Rhein
67
63
59
55
53
51
49
46
43
40
37
34
30
25
20
15
5
0
dBZ
Visualisation: RadVis v3.1 (c) www.radlab.de

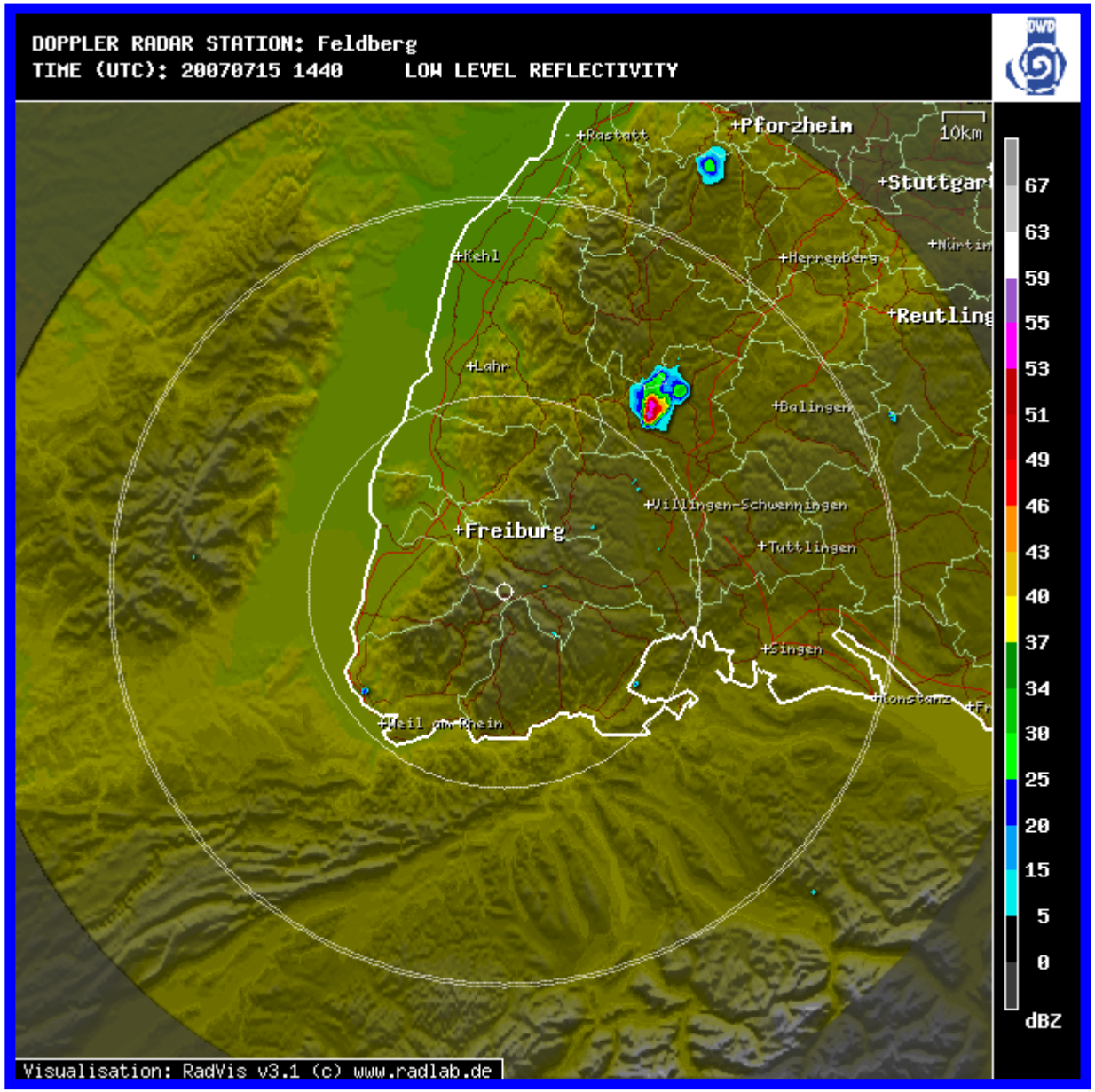
1420


DOPPLER RADAR STATION: Feldberg
TIME (UTC): 20070715 1430
LOW LEVEL REFLECTIVITY
DWD
10km
+Rastatt
+Pforzheim
+Stuttgart
+Nürtin
+Kehl
+Herrenberg
+Reutling
+Lahr
+Balingen
+Villingen-Schwenningen
+Freiburg
+Tuttlingen
+Singen
+Konstanz
+Weil am Rhein
67
63
59
55
53
51
49
46
43
40
37
34
30
25
20
15
5
0
dBZ
Visualisation: RadVis v3.1 (c) www.radlab.de

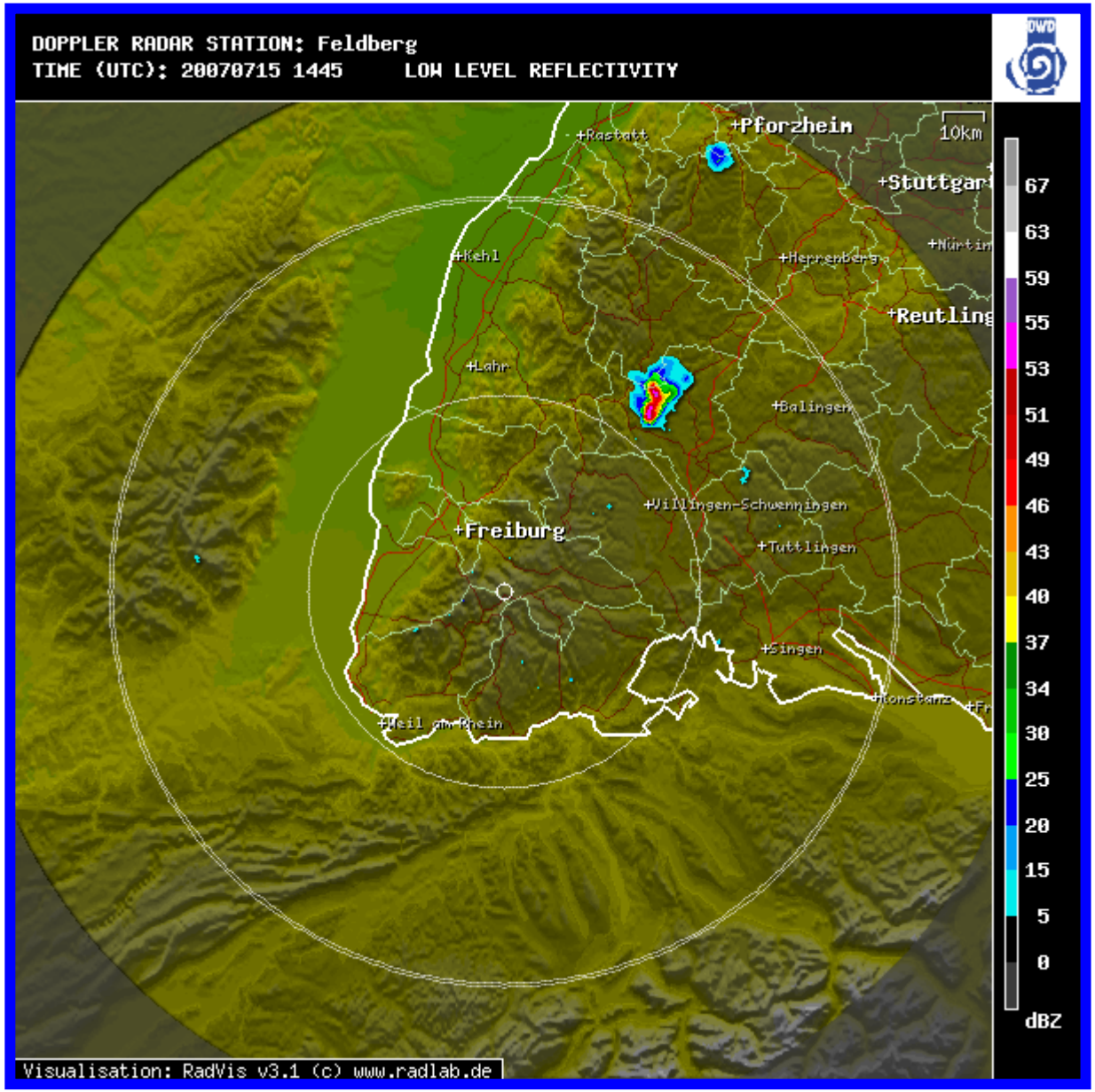
1430


DOPPLER RADAR STATION: Feldberg
TIME (UTC): 20070715 1435
LOW LEVEL REFLECTIVITY
DWD
10km
+Rastatt
+Pforzheim
+Stuttgart
+Nürtin
+Kehl
+Herrenberg
+Reutling
+Lahr
+Balingen
+Villingen-Schwenningen
+Freiburg
+Tuttlingen
+Singen
+Konstanz
+Weil am Rhein
67
63
59
55
53
51
49
46
43
40
37
34
30
25
20
15
5
0
dBZ
Visualisation: RadVis v3.1 (c) www.radlab.de

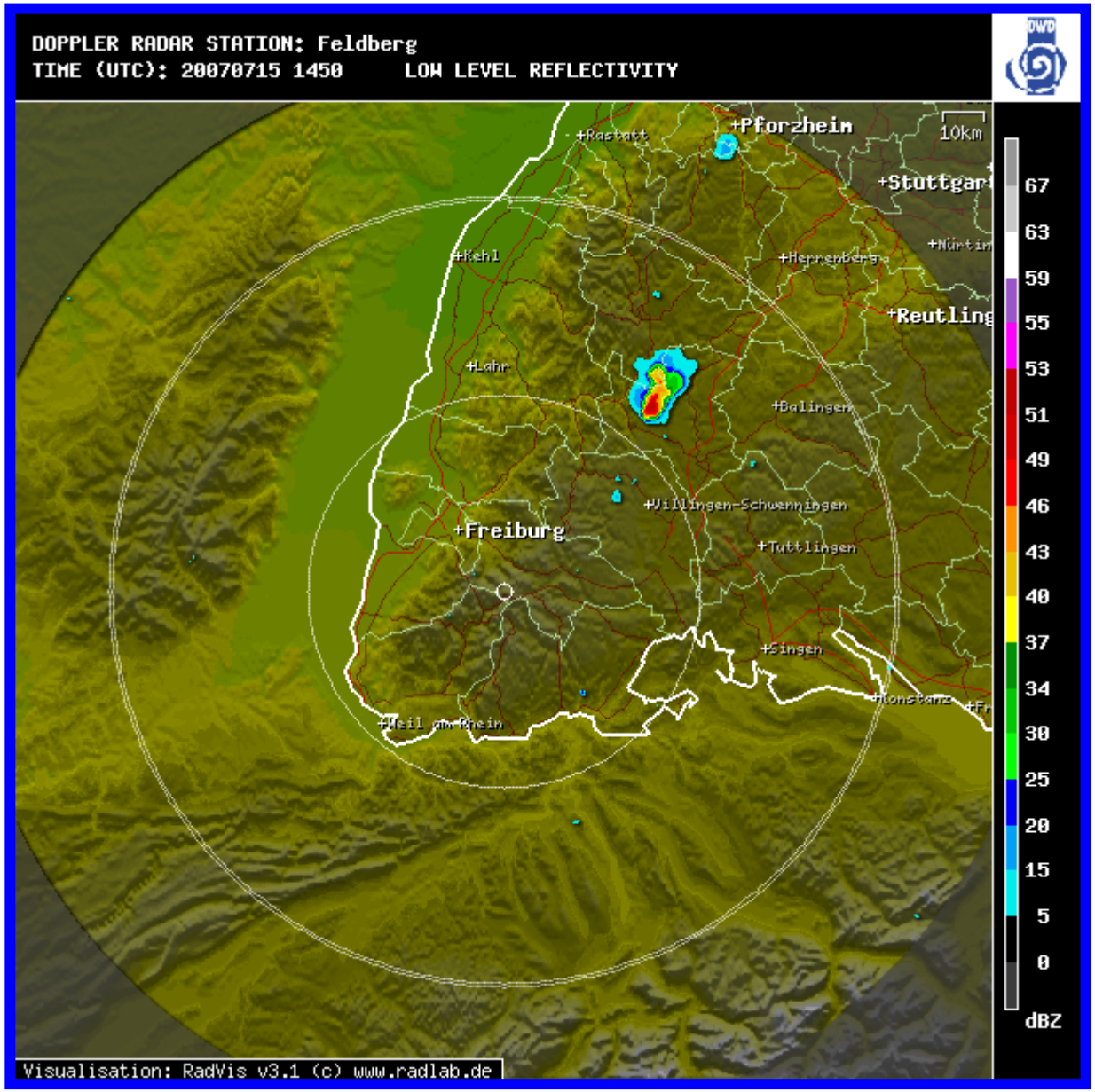
1435


DOPPLER RADAR STATION: Feldberg
TIME (UTC): 20070715 1440 LOW LEVEL REFLECTIVITY
DWD
10km
+Rastatt
+Pforzheim
+Stuttgart
+Nürtin
+Kehl
+Herrenberg
+Reutling
+Lahr
+Balingen
+Villingen-Schwenningen
+Freiburg
+Tuttlingen
+Singen
+Konstanz
+Weil am Rhein
67
63
59
55
53
51
49
46
43
40
37
34
30
25
20
15
5
0
dBZ
Visualisation: RadVis v3.1 (c) www.radlab.de

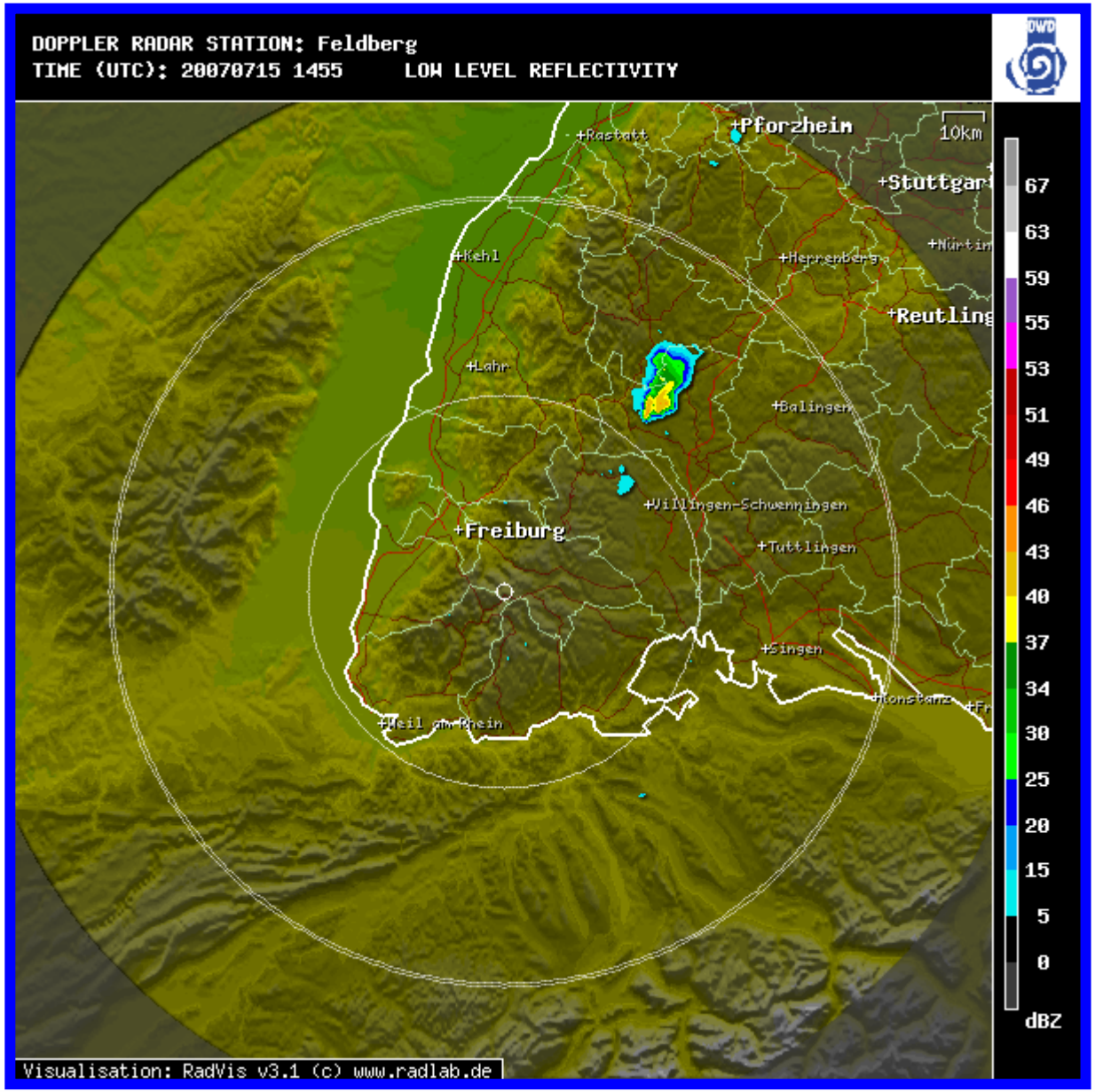
1440


DOPPLER RADAR STATION: Feldberg
TIME (UTC): 20070715 1445
LOW LEVEL REFLECTIVITY
DWD
10km
+Rastatt
+Pforzheim
+Stuttgart
+Nürtin
+Kehl
+Herrenberg
+Reutling
+Lahr
+Balingen
+Villingen-Schwenningen
+Freiburg
+Tuttlingen
+Singen
+Konstanz
+Weil am Rhein
67
63
59
55
53
51
49
46
43
40
37
34
30
25
20
15
5
0
dBZ
Visualisation: RadVis v3.1 (c) www.radlab.de

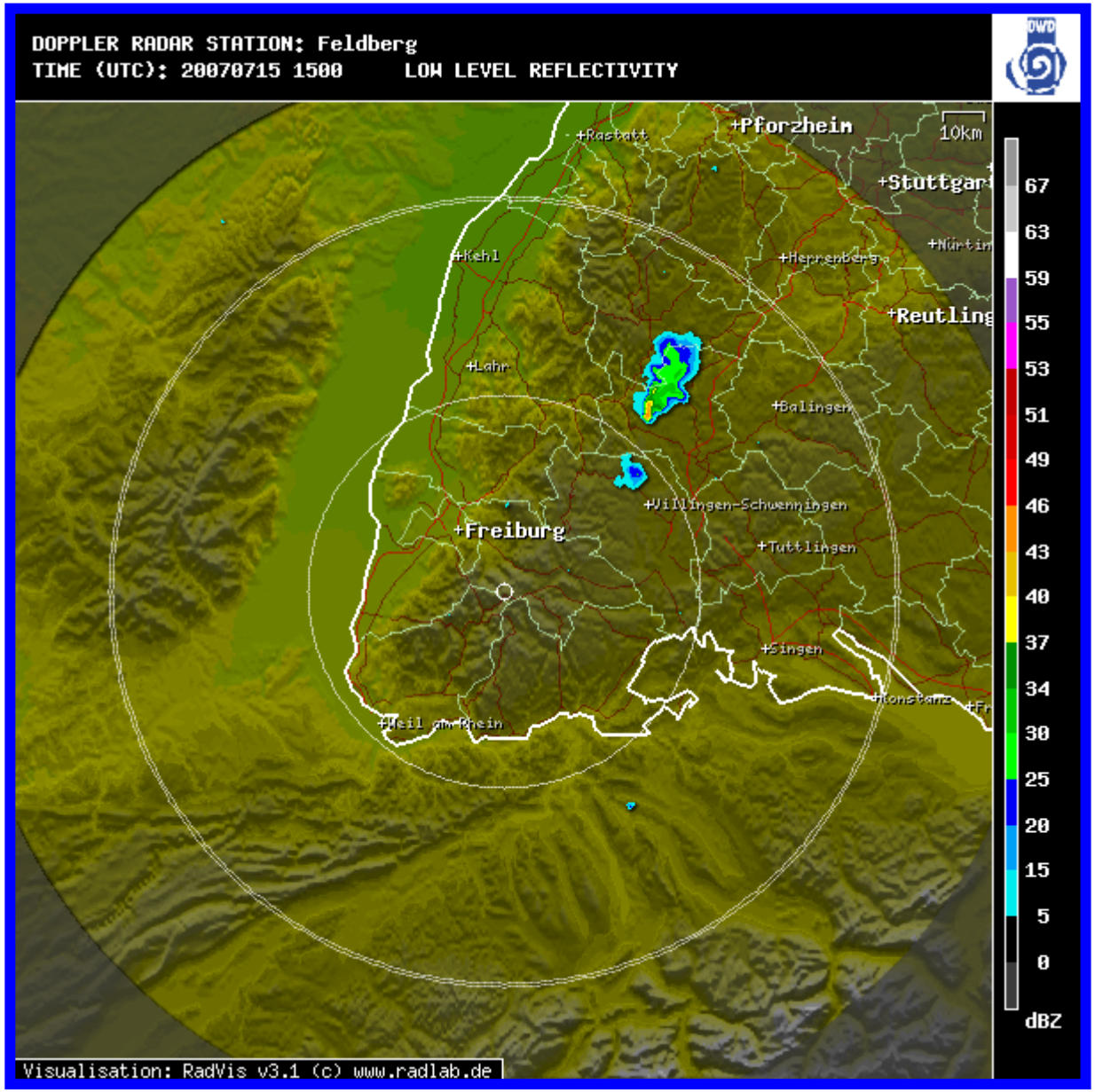
1445


DOPPLER RADAR STATION: Feldberg
TIME (UTC): 20070715 1450
LOW LEVEL REFLECTIVITY
DWD
10km
+Rastatt
+Pforzheim
+Stuttgart
+Nürtin
+Kehl
+Herrenberg
+Reutling
+Lahr
+Balingen
+Villingen-Schwenningen
+Freiburg
+Tuttlingen
+Singen
+Konstanz
+Weil am Rhein
67
63
59
55
53
51
49
46
43
40
37
34
30
25
20
15
5
0
dBZ
Visualisation: RadVis v3.1 (c) www.radlab.de

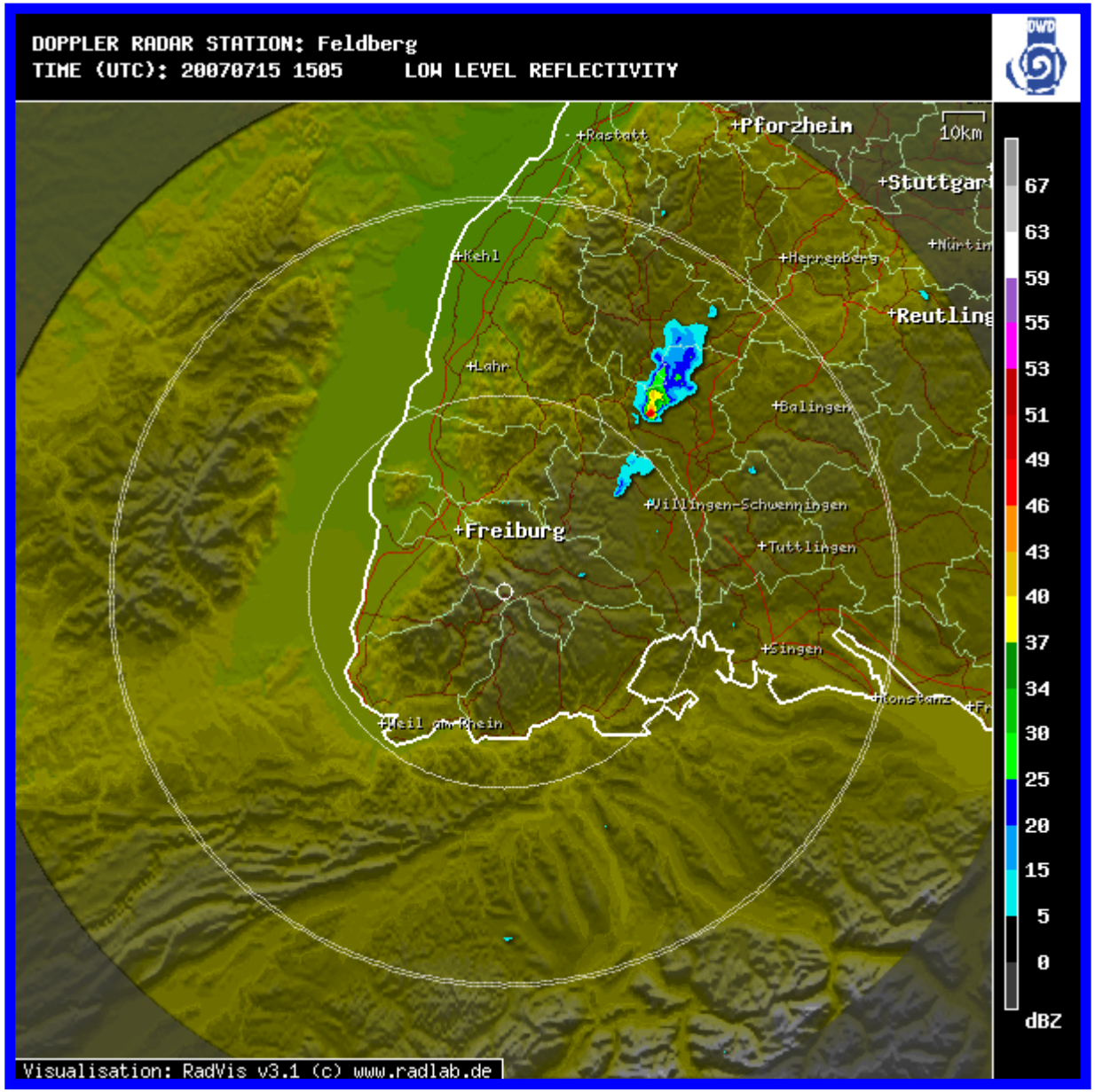
1450


DOPPLER RADAR STATION: Feldberg
TIME (UTC): 20070715 1455
LOW LEVEL REFLECTIVITY
DWD
10km
+Rastatt
+Pforzheim
+Stuttgart
+Nürtin
+Kehl
+Herrenberg
+Reutling
+Lahr
+Balingen
+Villingen-Schwenningen
+Freiburg
+Tuttlingen
+Singen
+Konstanz
+Weil am Rhein
67
63
59
55
53
51
49
46
43
40
37
34
30
25
20
15
5
0
dBZ
Visualisation: RadVis v3.1 (c) www.radlab.de

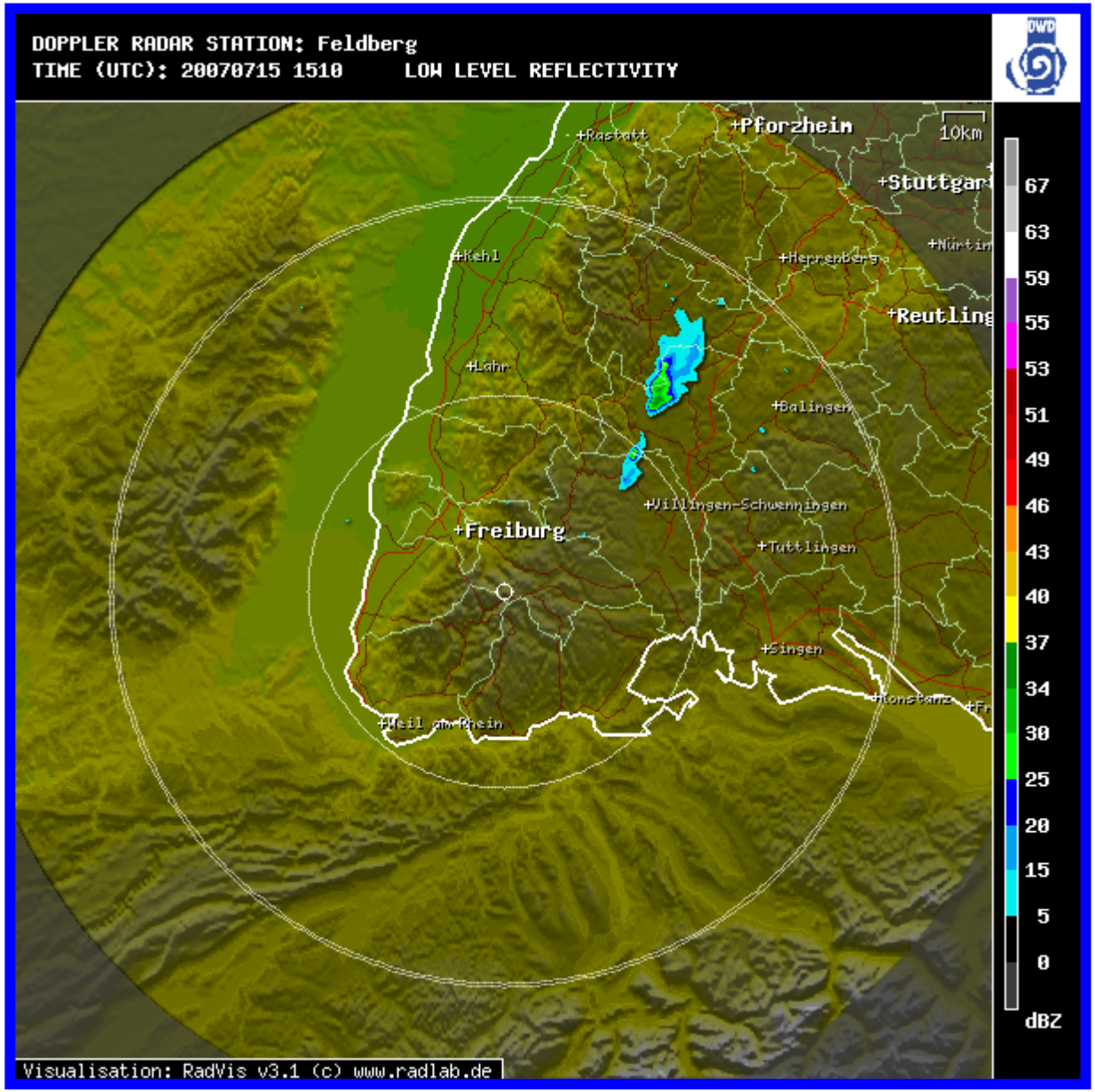
1455


DOPPLER RADAR STATION: Feldberg
TIME (UTC): 20070715 1500
LOW LEVEL REFLECTIVITY
DWD
10km
+Rastatt
+Pforzheim
+Stuttgart
+Nürtin
+Kehl
+Herrenberg
+Reutling
+Lahr
+Balingen
+Villingen-Schwenningen
+Freiburg
+Tuttlingen
+Singen
+Konstanz
+Weil am Rhein
67
63
59
55
53
51
49
46
43
40
37
34
30
25
20
15
5
0
dBZ
Visualisation: RadVis v3.1 (c) www.radlab.de

1500


DOPPLER RADAR STATION: Feldberg
TIME (UTC): 20070715 1505
LOW LEVEL REFLECTIVITY
DWD
10km
+Rastatt
+Pforzheim
+Stuttgart
+Nürtin
+Kehl
+Herrenberg
+Reutling
+Lahr
+Balingen
+Villingen-Schwenningen
+Freiburg
+Tuttlingen
+Singen
+Konstanz
+Weil am Rhein
67
63
59
55
53
51
49
46
43
40
37
34
30
25
20
15
5
0
dBZ
Visualisation: RadVis v3.1 (c) www.radlab.de

1505


DOPPLER RADAR STATION: Feldberg
TIME (UTC): 20070715 1510
LOW LEVEL REFLECTIVITY
DWD
10km
+Rastatt
+Pforzheim
+Stuttgart
+Nürtin
+Kehl
+Herrenberg
+Reutling
+Lahr
+Balingen
+Villingen-Schwenningen
+Freiburg
+Tuttlingen
+Singen
+Konstanz
+Weil am Rhein
67
63
59
55
53
51
49
46
43
40
37
34
30
25
20
15
5
0
dBZ
Visualisation: RadVis v3.1 (c) www.radlab.de

1510

The END

Januar 2008

Mo	Di	Mi	Do	Fr	Sa	So
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31			

8:● 15:◐ 22:○ 30:◑

Februar 2008

Mo	Di	Mi	Do	Fr	Sa	So
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29		

7:● 14:◐ 21:○ 29:◑

März 2008

Mo	Di	Mi	Do	Fr	Sa	So
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30
31						

7:● 14:◐ 21:○ 29:◑

April 2008

Mo	Di	Mi	Do	Fr	Sa	So
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30				

6:● 12:◐ 20:○ 28:◑

Mai 2008

Mo	Di	Mi	Do	Fr	Sa	So
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	

5:● 12:◐ 20:○ 28:◑

Juni 2008

Mo	Di	Mi	Do	Fr	Sa	So
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30						

3:● 10:◐ 18:○ 26:◑

Juli 2008

Mo	Di	Mi	Do	Fr	Sa	So
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31			

3:● 10:◐ 18:○ 25:◑

August 2008

Mo	Di	Mi	Do	Fr	Sa	So
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31

1:● 8:◐ 16:○ 24:◑ 30:●

September 2008

Mo	Di	Mi	Do	Fr	Sa	So
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30					

7:◐ 15:○ 22:◑ 29:●

Oktober 2008

Mo	Di	Mi	Do	Fr	Sa	So
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31		

7:◐ 14:○ 21:◑ 29:●

November 2008

Mo	Di	Mi	Do	Fr	Sa	So
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30

6:◐ 13:○ 19:◑ 27:●

Dezember 2008

Mo	Di	Mi	Do	Fr	Sa	So
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				

5:◐ 12:○ 19:◑ 27:●

Januar 2009

Mo	Di	Mi	Do	Fr	Sa	So
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	

4:◐ 11:○ 18:◑ 26:●

Februar 2009

Mo	Di	Mi	Do	Fr	Sa	So
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	

3:◐ 9:○ 16:◑ 25:●

März 2009

Mo	Di	Mi	Do	Fr	Sa	So
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30	31					

4:◐ 11:○ 18:◑ 26:●

April 2009

Mo	Di	Mi	Do	Fr	Sa	So
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30			

2:◐ 9:○ 17:◑ 25:●

Mai 2009

Mo	Di	Mi	Do	Fr	Sa	So
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31

1:◐ 9:○ 17:◑ 24:● 31:◐

Juni 2009

Mo	Di	Mi	Do	Fr	Sa	So
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30					

7:○ 16:◑ 22:● 29:◐

Juli 2009

Mo	Di	Mi	Do	Fr	Sa	So
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31		

7:○ 15:◑ 22:● 29:◐

August 2009

Mo	Di	Mi	Do	Fr	Sa	So
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30
31						

6:○ 13:◑ 20:● 27:◐

September 2009

Mo	Di	Mi	Do	Fr	Sa	So
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30				

4:○ 12:◑ 18:● 26:◐

Oktober 2009

Mo	Di	Mi	Do	Fr	Sa	So
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	

4:○ 11:◑ 18:● 26:◐

November 2009

Mo	Di	Mi	Do	Fr	Sa	So
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30						

2:○ 9:◑ 16:● 24:◐

Dezember 2009

Mo	Di	Mi	Do	Fr	Sa	So
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31			

2:○ 9:◑ 16:● 24:◐ 31:○

ICAM week