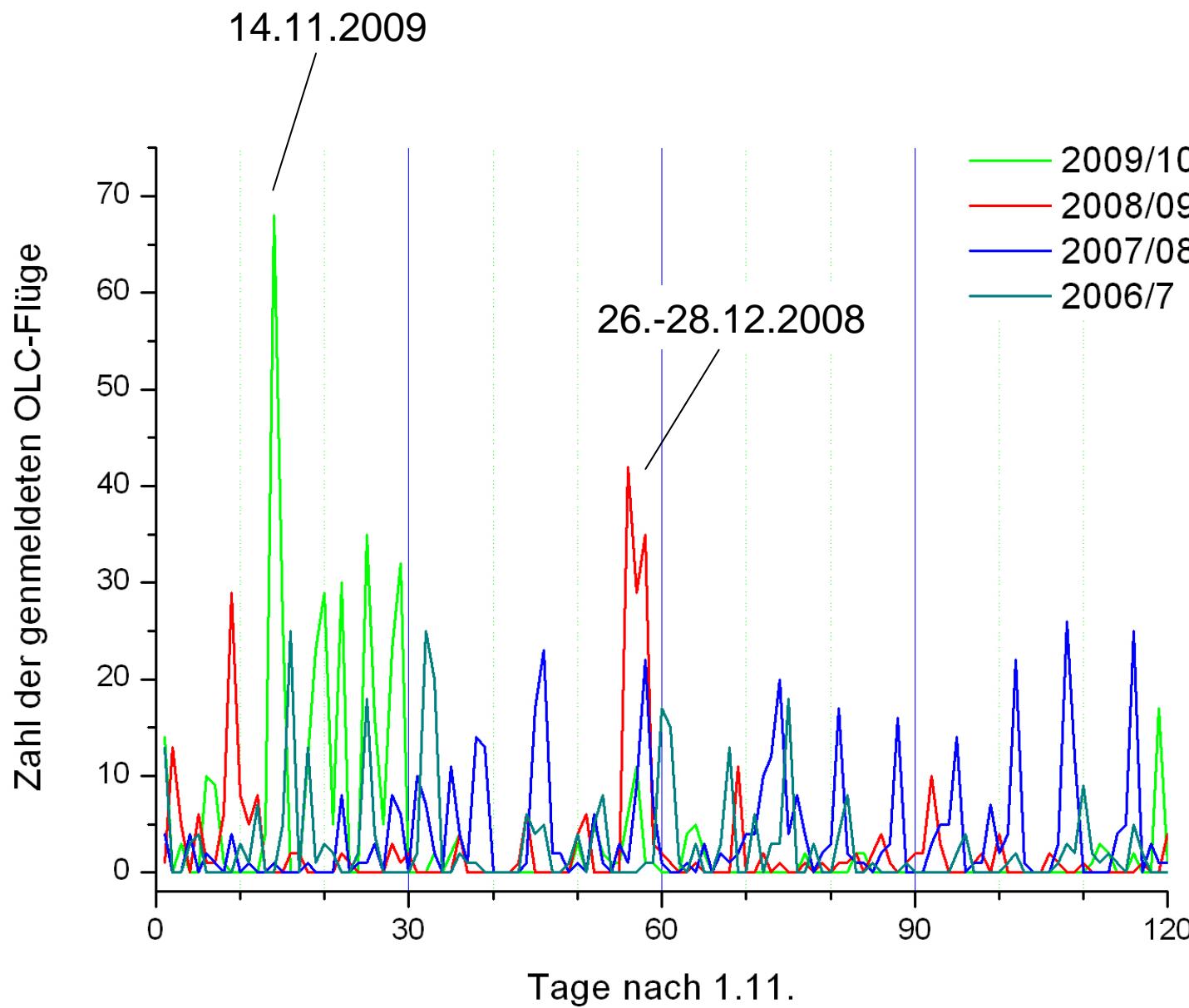




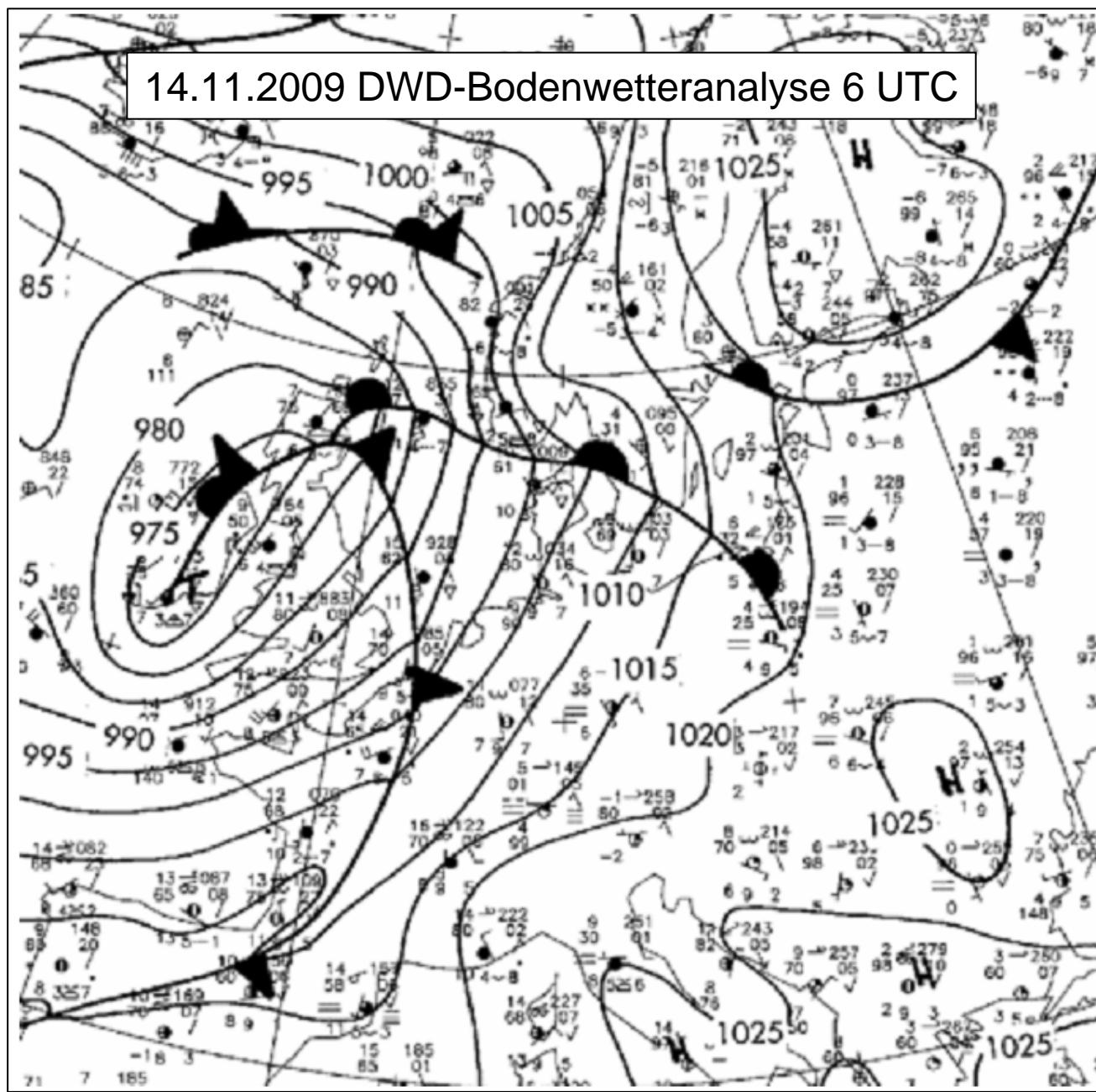
Evaluierung der Wellenvorhersagen für den Harz am 14. und 20.11.09

Christof Maul, Akaflieg Frankfurt



Helmut von Keitz, *18.07.1928, † 14.11.2009





Satellitenbild IR

Satellitenbild VIS

RASP-Vorhersage 850 mbar

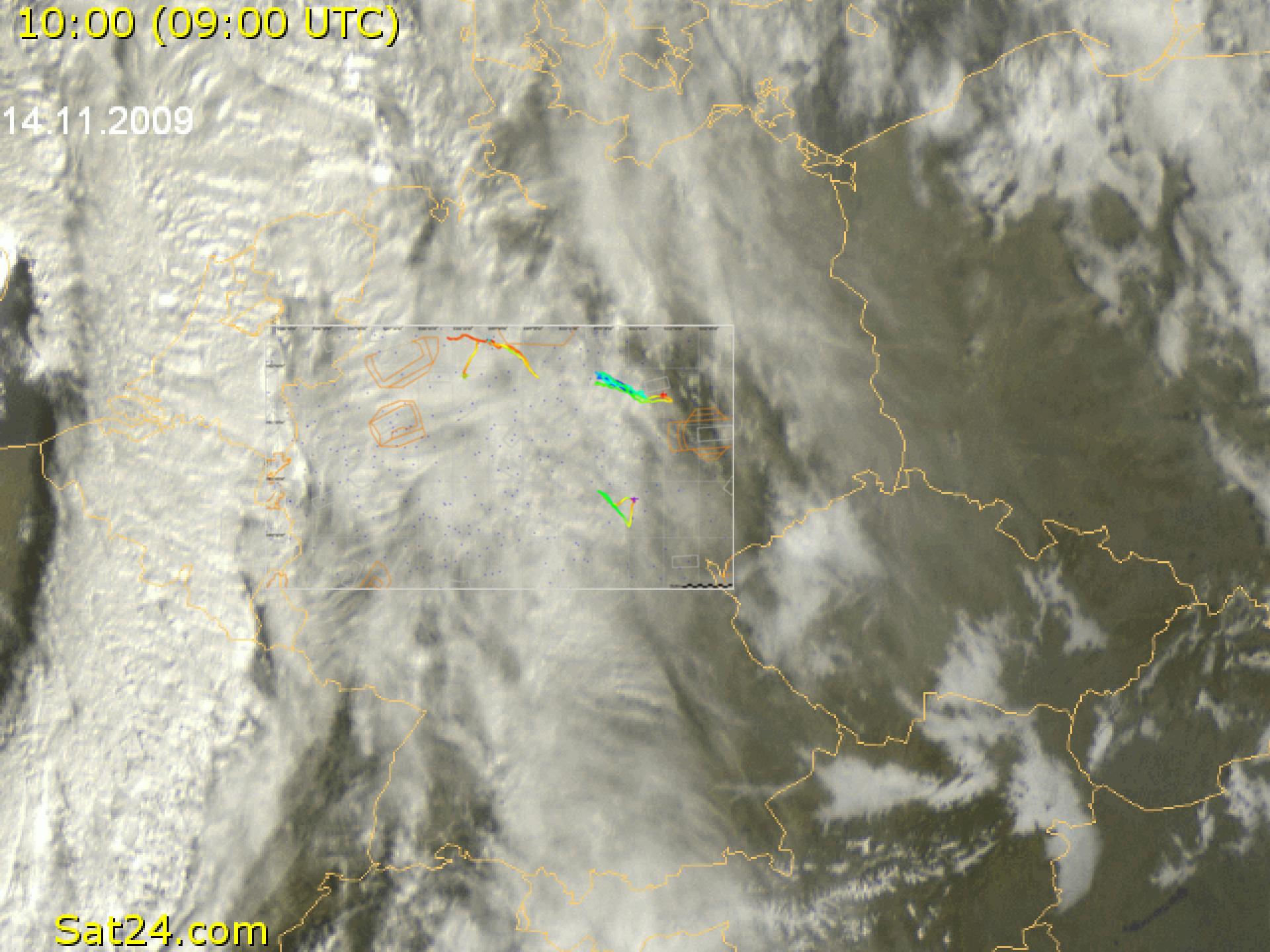
RASP-Vorhersage 700 mbar

RASP-Vorhersage 500 mbar



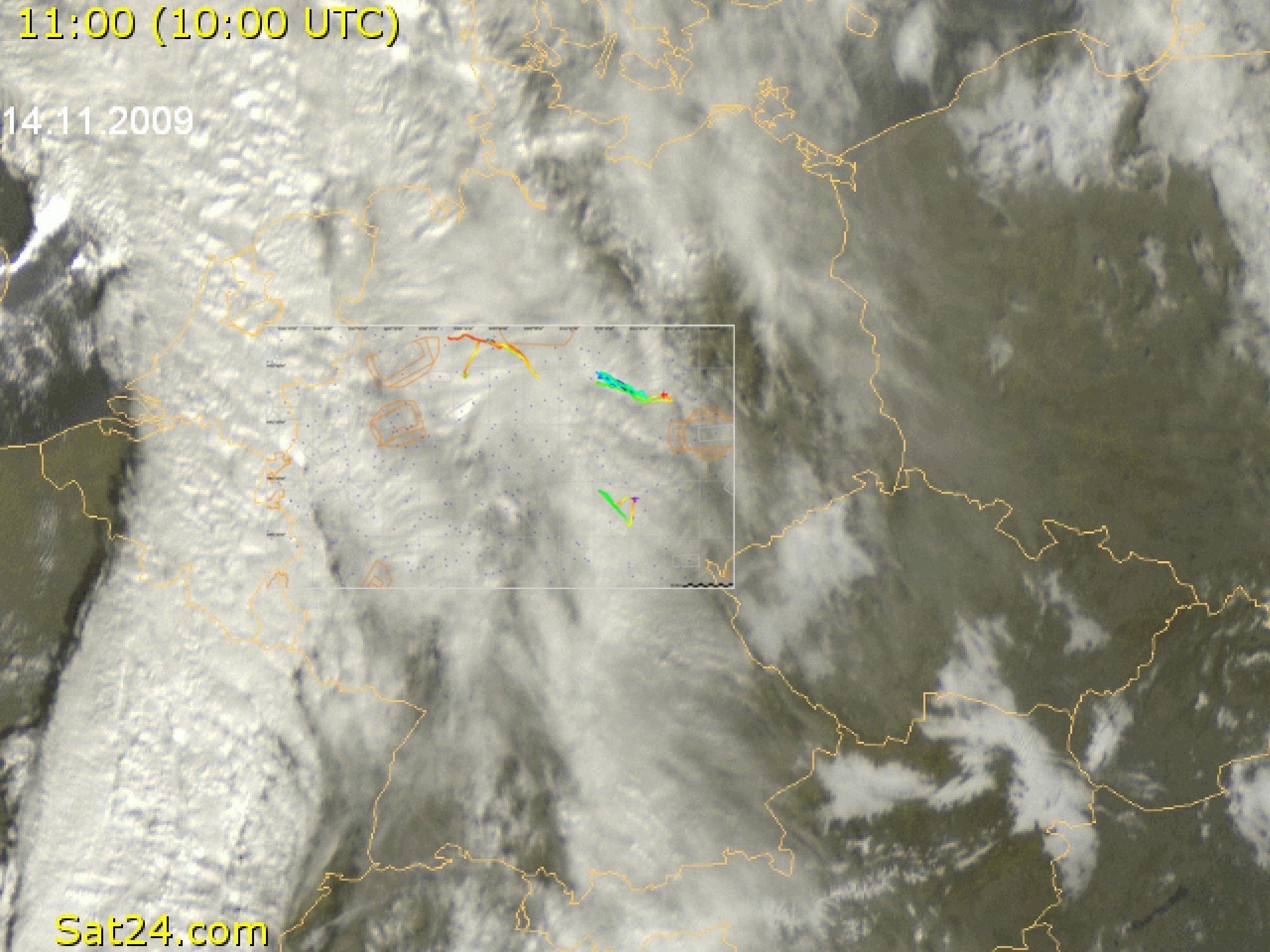
10:00 (09:00 UTC)

14.11.2009



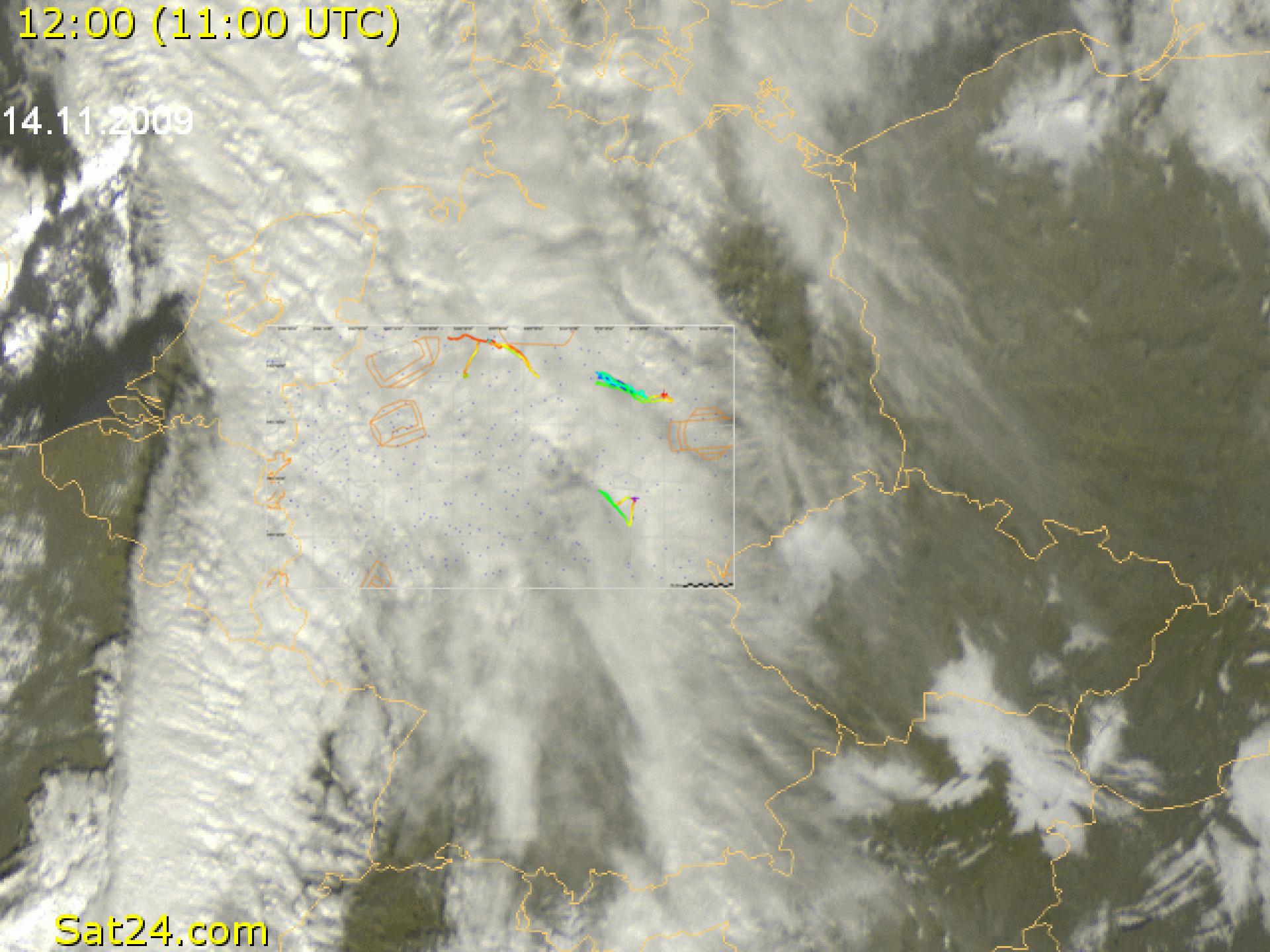
11:00 (10:00 UTC)

14.11.2009



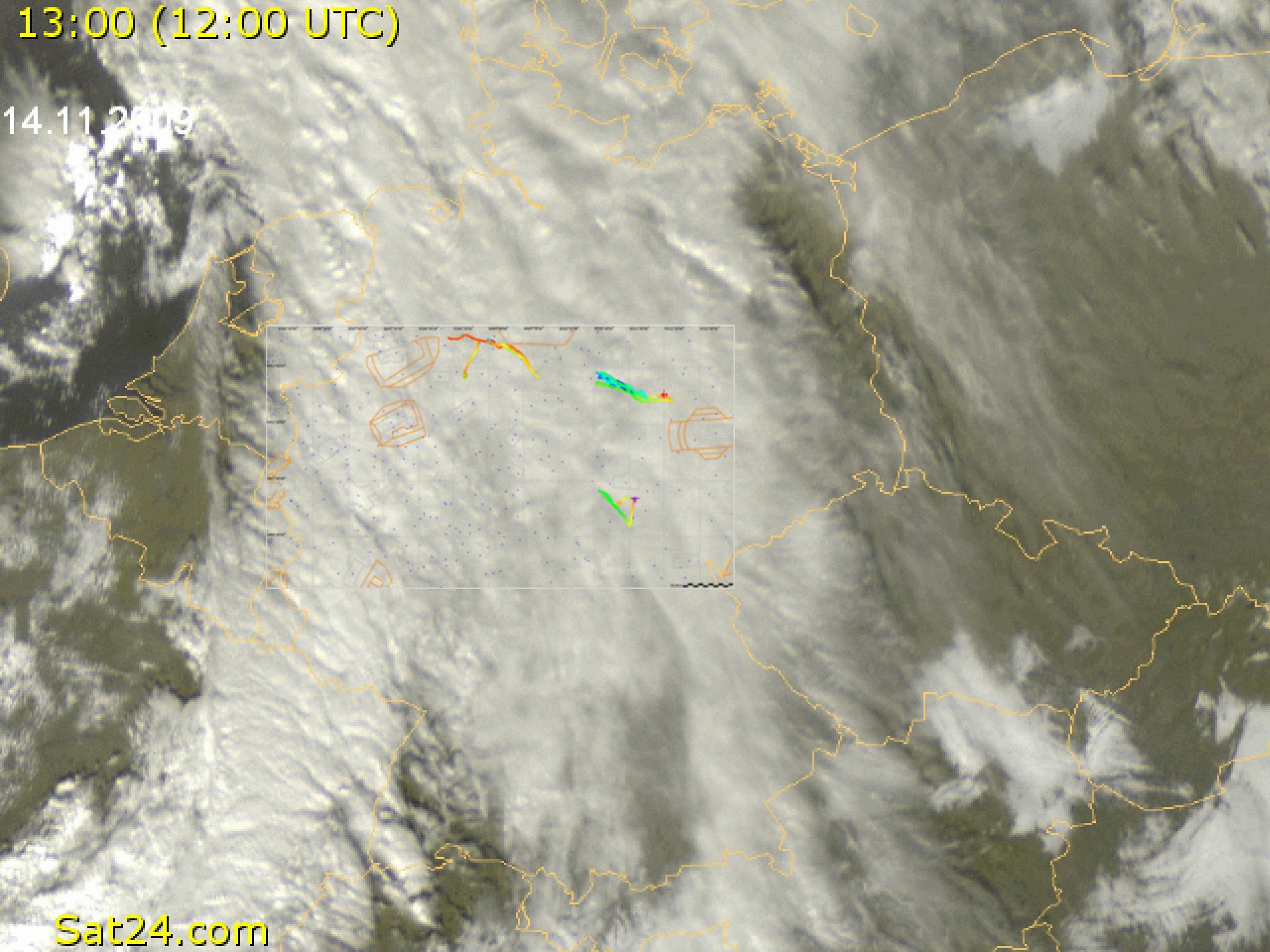
12:00 (11:00 UTC)

14.11.2009



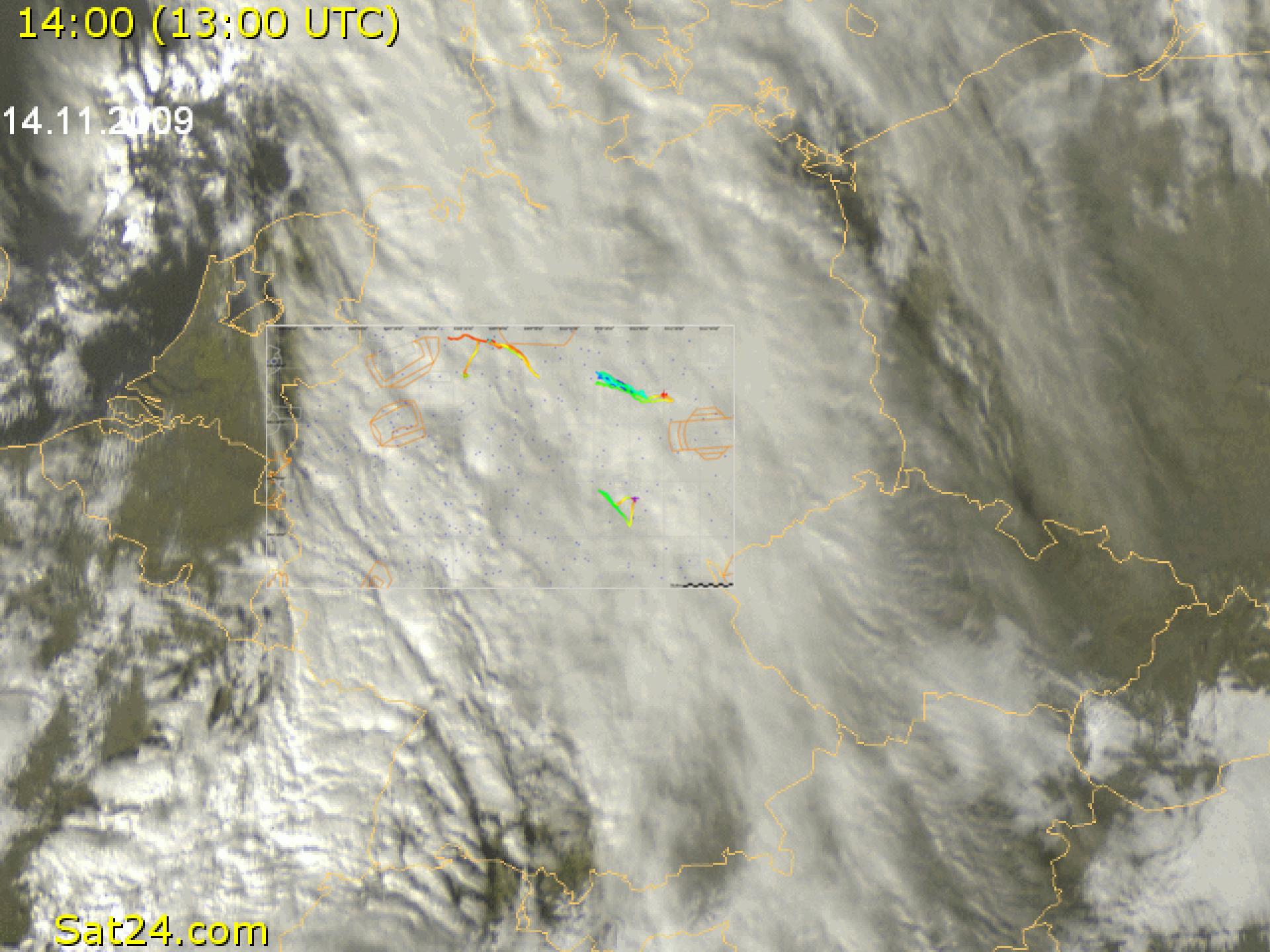
13:00 (12:00 UTC)

14.11.2018



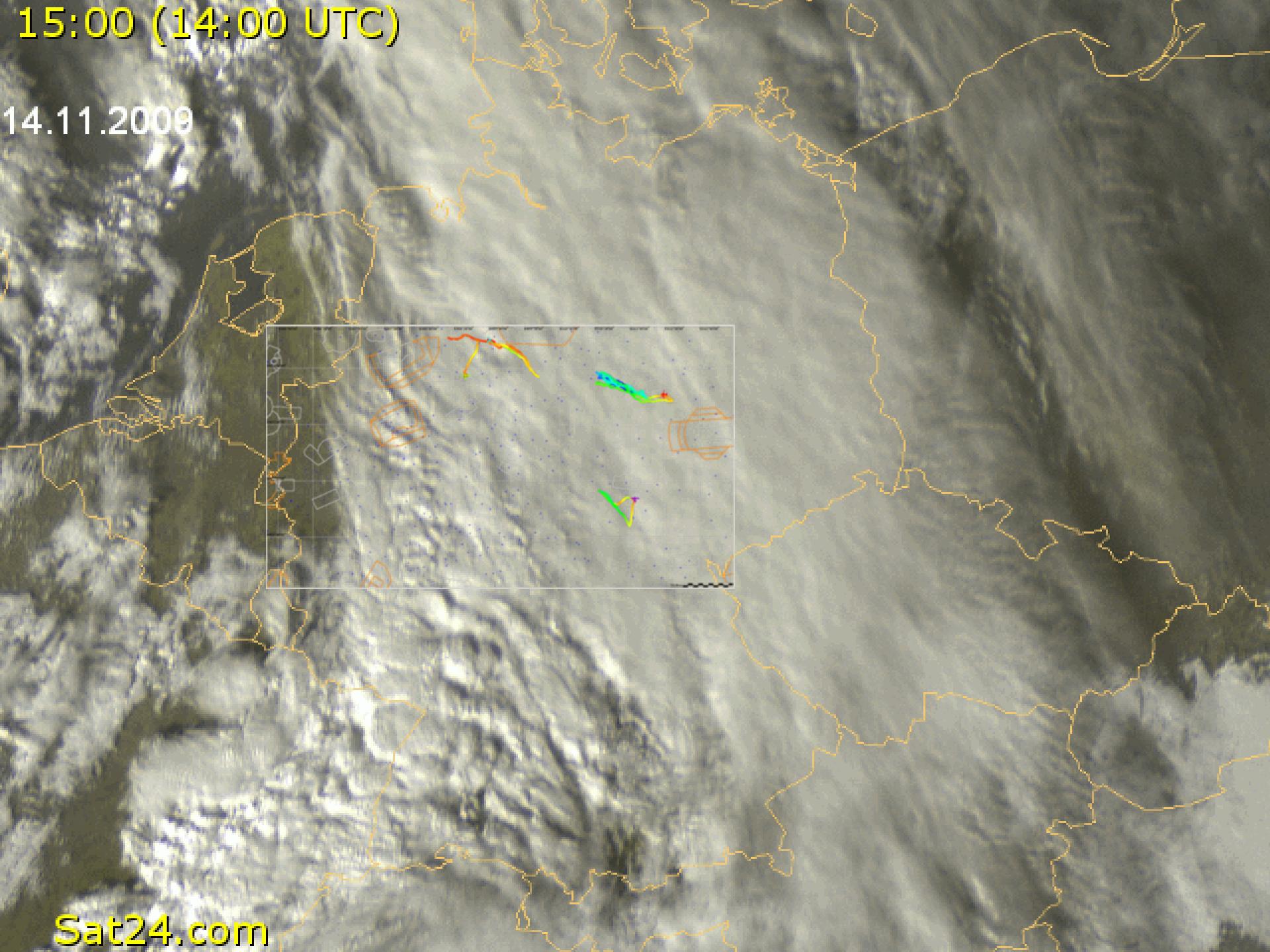
14:00 (13:00 UTC)

14.11.2009



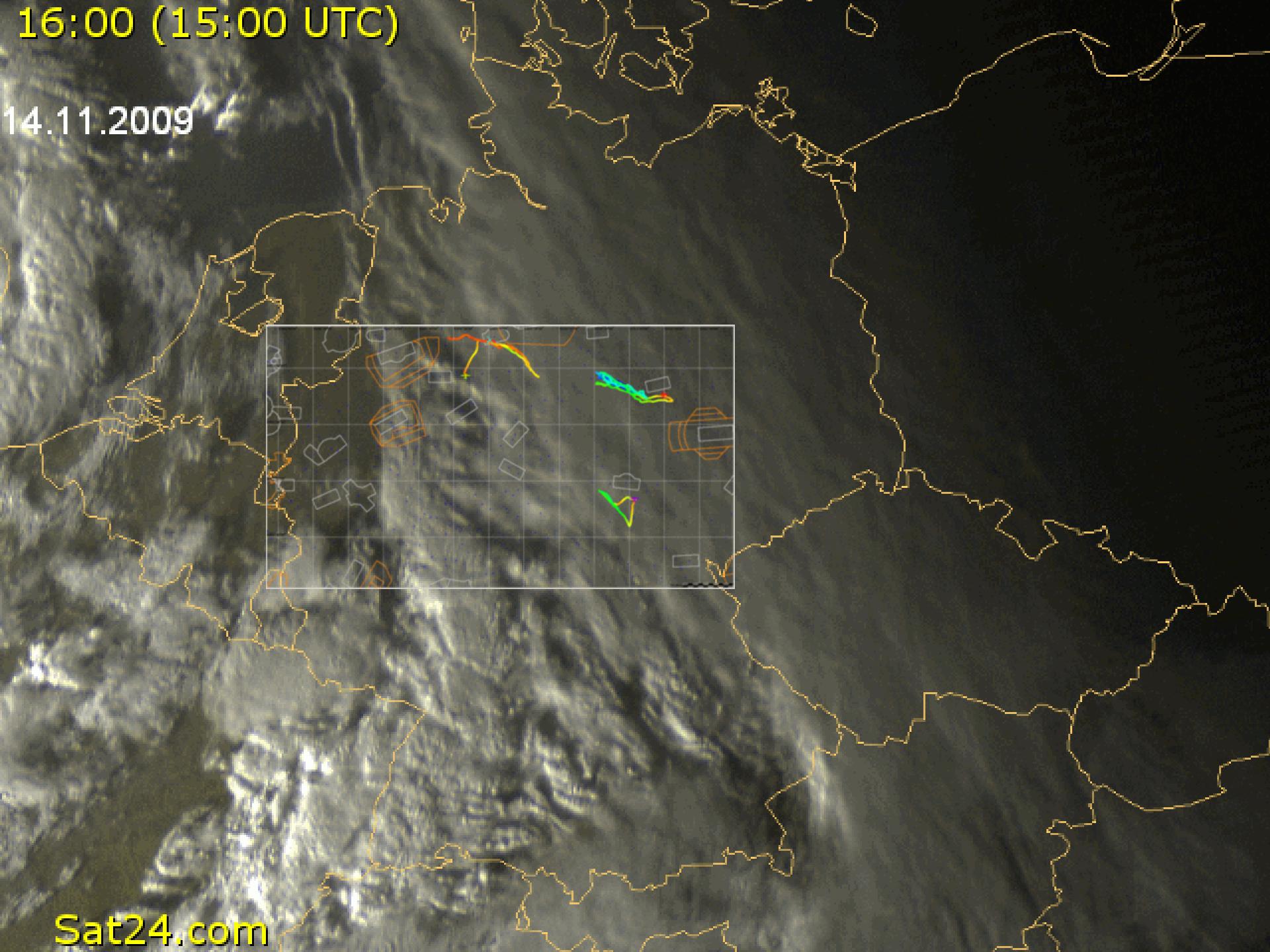
15:00 (14:00 UTC)

14.11.2009



16:00 (15:00 UTC)

14.11.2009



Harzflüge 14.11.2009



RASP

14.11.2009

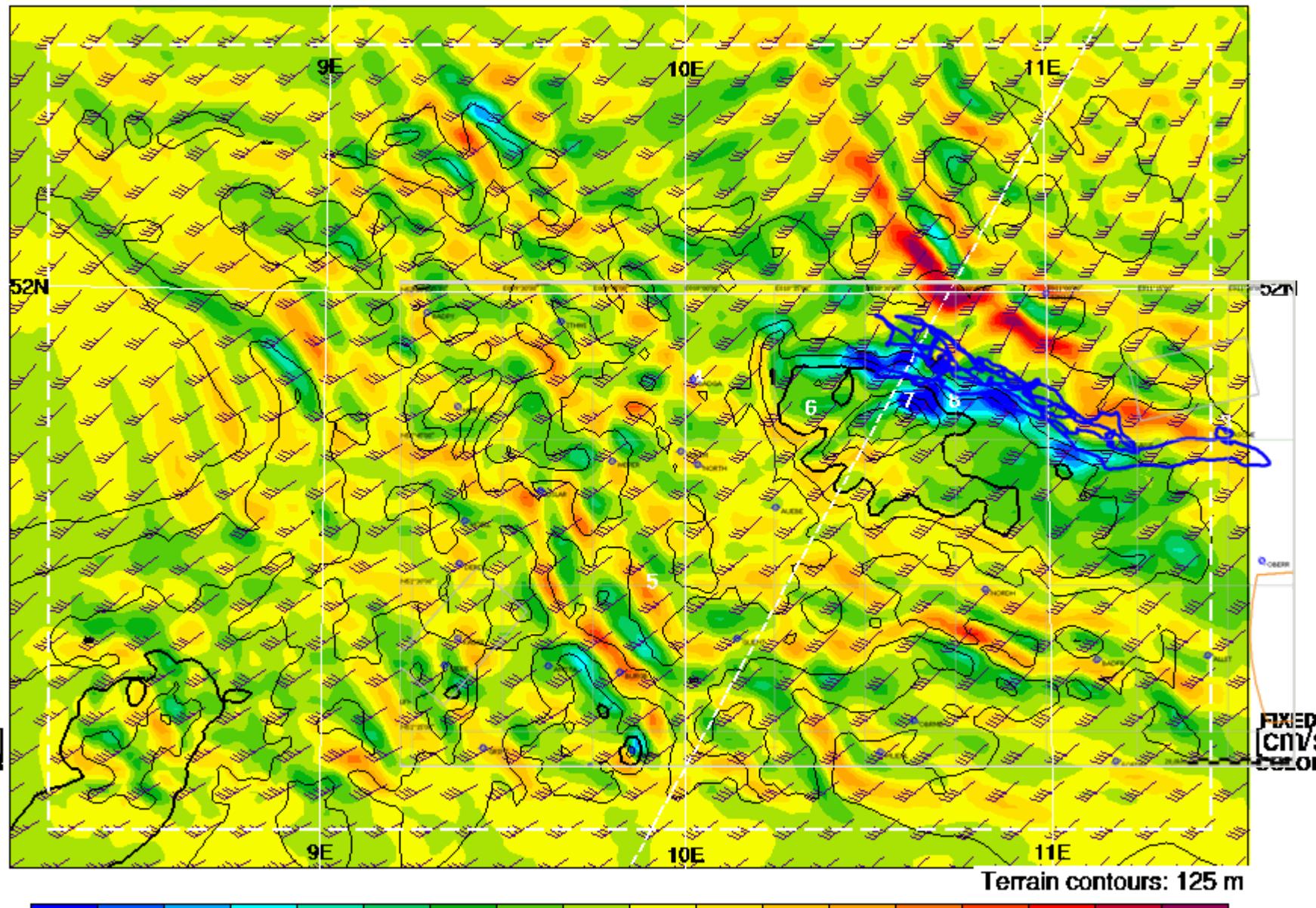
850 mbar

1300 m



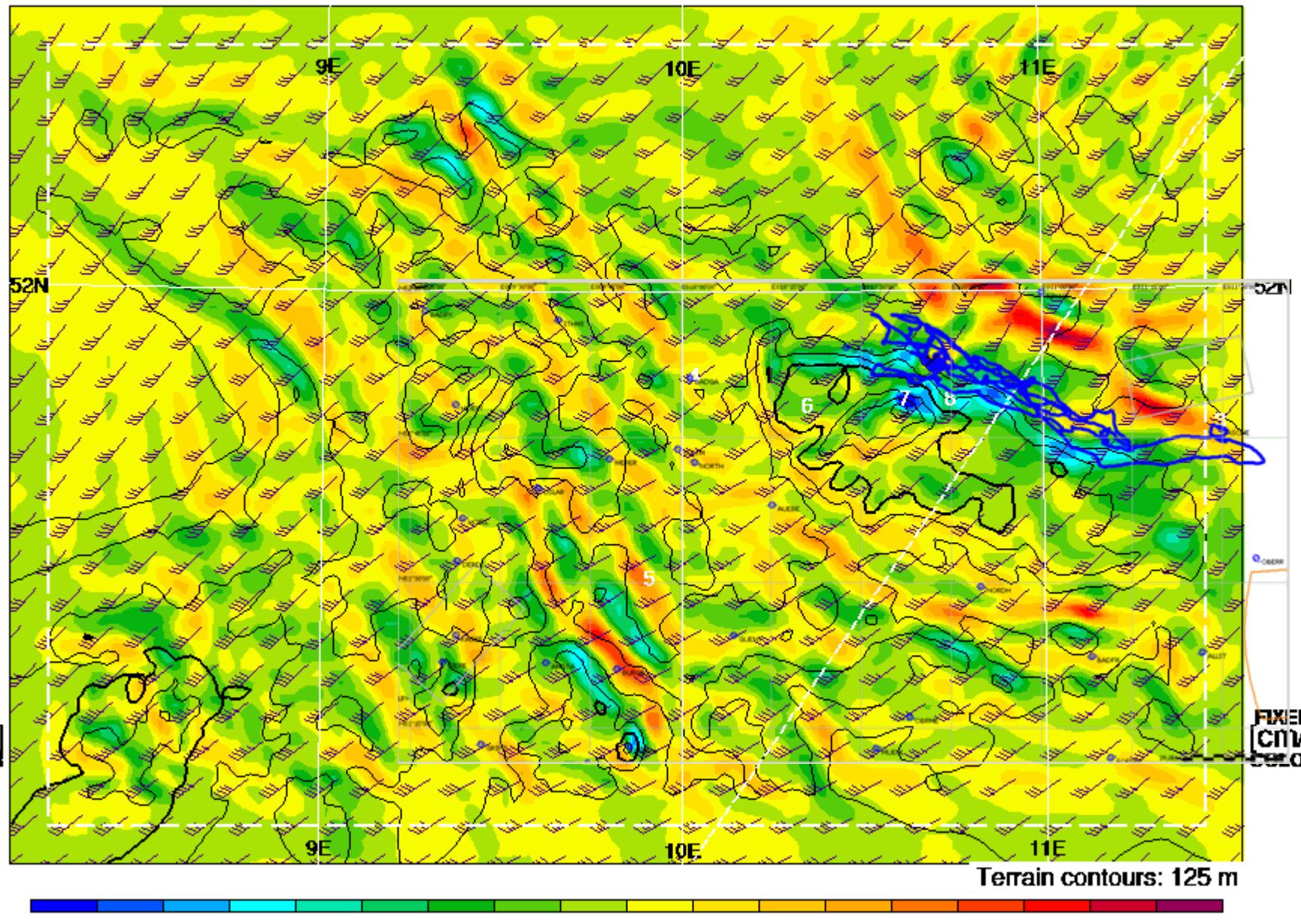
Vertical Velocity & Wind [kt] at 850mb

Valid 1000 CET (0900Z) SAT 14 Nov 2009 [27hrFcst@1600z]
boxWmax=257@52.00,10.73,1518m



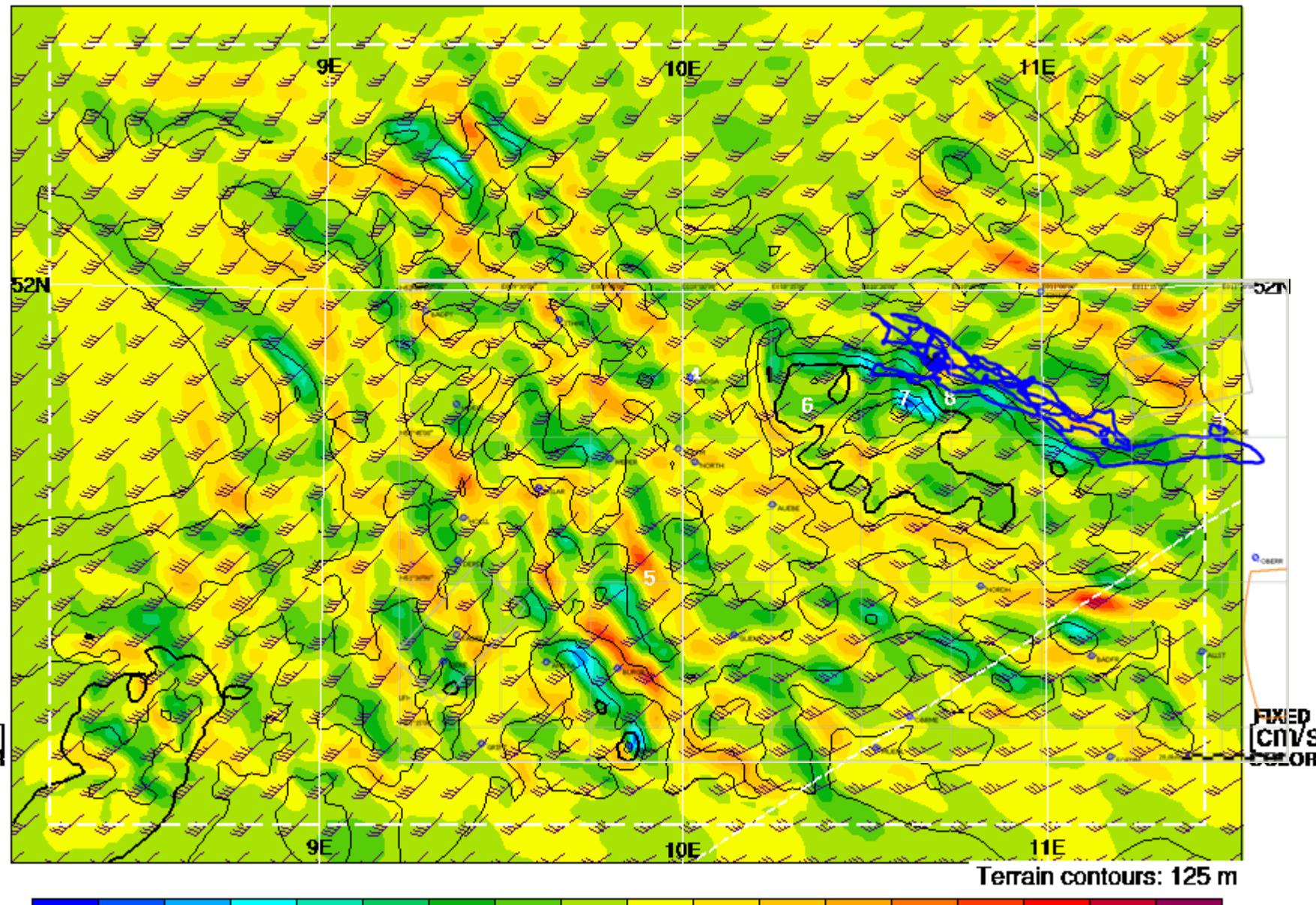
Vertical Velocity & Wind [kt] at 850mb

Valid 1100 CET (1000Z) SAT 14 Nov 2009 [28hrFcst@1623z]
boxWmax=215@51.93,11.04,1417m



Vertical Velocity & Wind [kt] at 850mb

Valid 1200 CET (1100Z) SAT 14 Nov 2009 [29hrFcst@1646z]
boxWmax=185@51.46,11.13,1445m

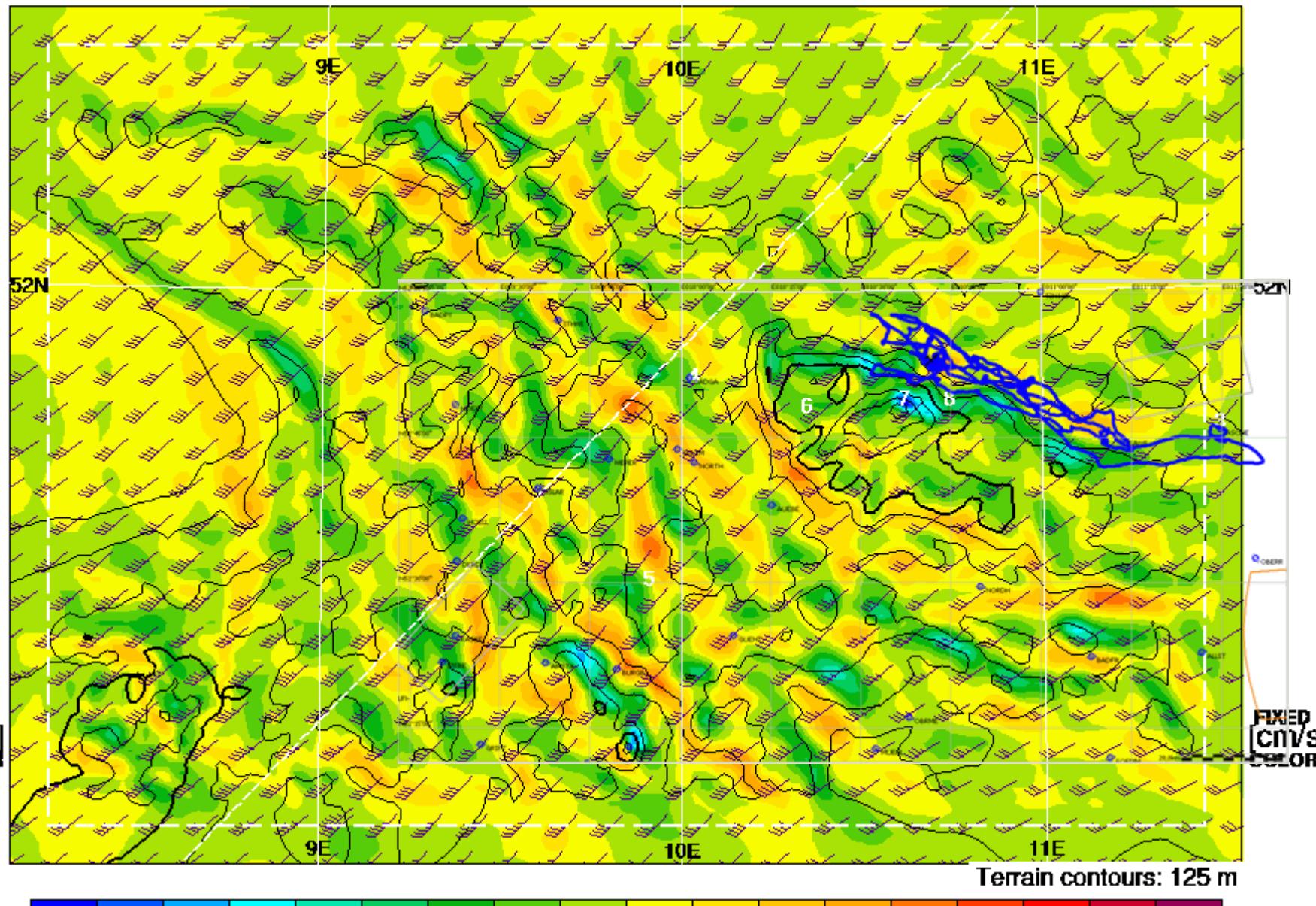


Terrain contours: 125 m



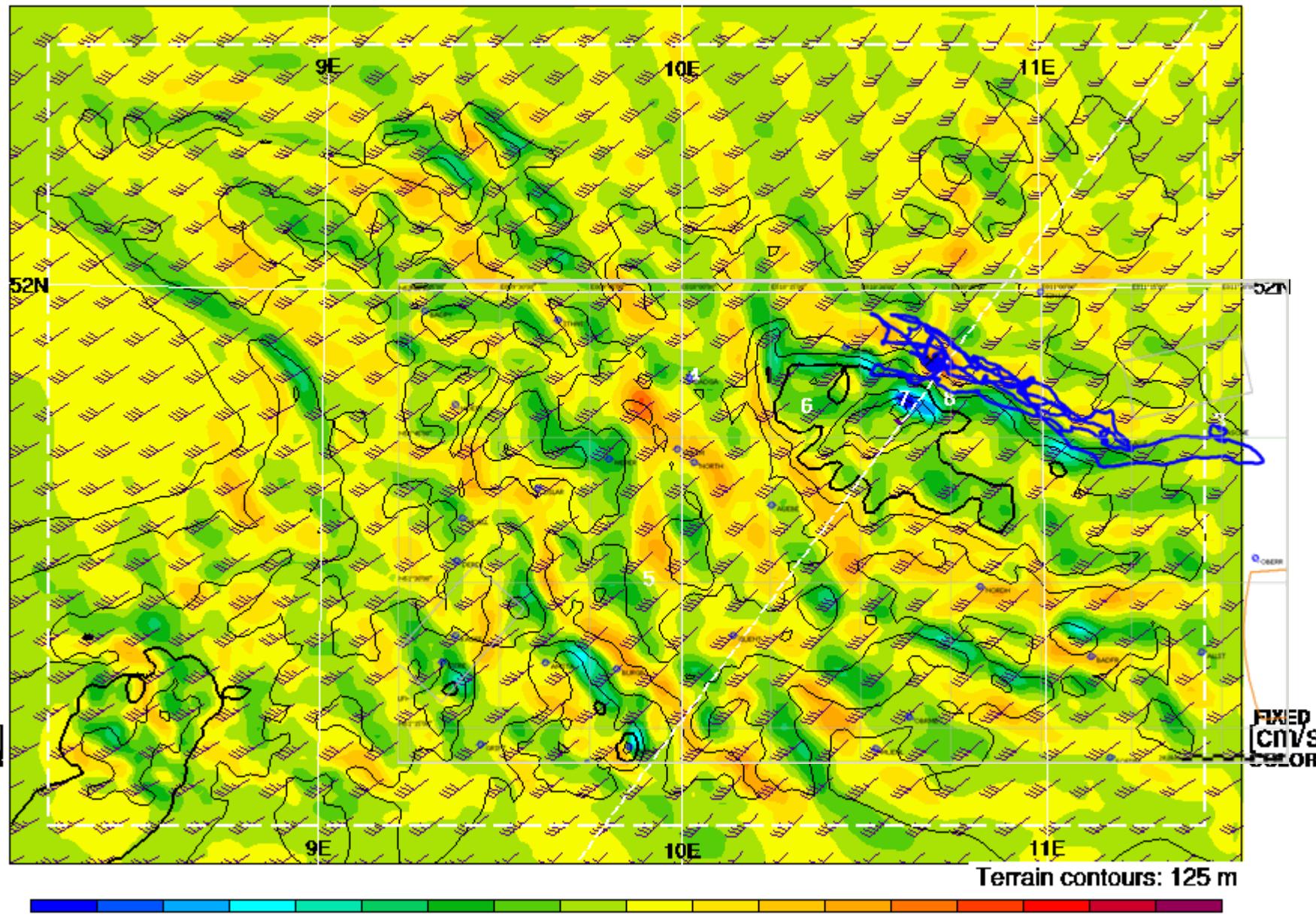
Vertical Velocity & Wind [kt] at 850mb

Valid 1300 CET (1200Z) SAT 14 Nov 2009 [30hrFcst@1708z]
boxWmax=126@51.80,9.84,1393m

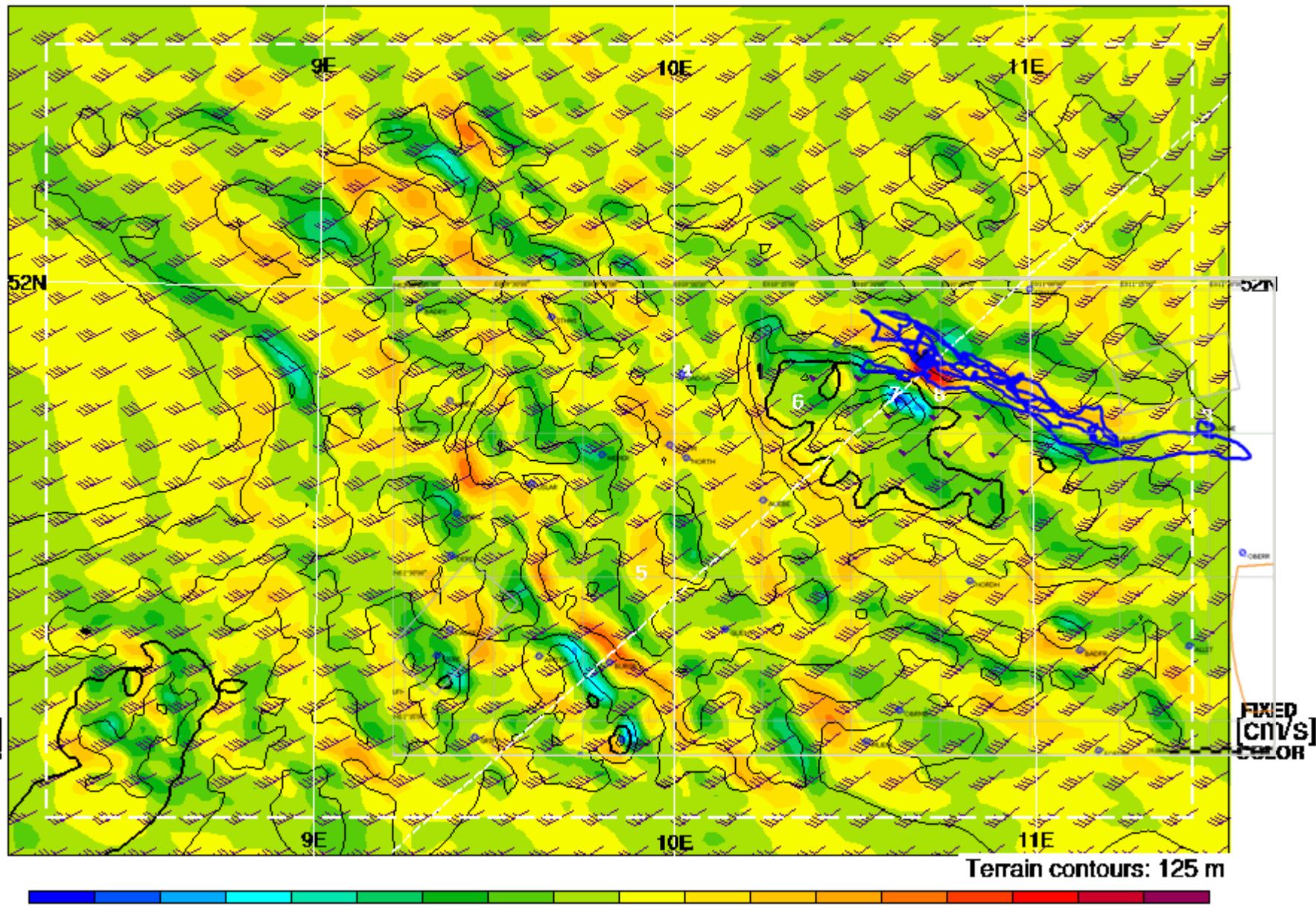


Vertical Velocity & Wind [kt] at 850mb

Valid 1400 CET (1300Z) SAT 14 Nov 2009 [31hrFcst@1731z]
boxWmax=155@51.87,10.72,1503m

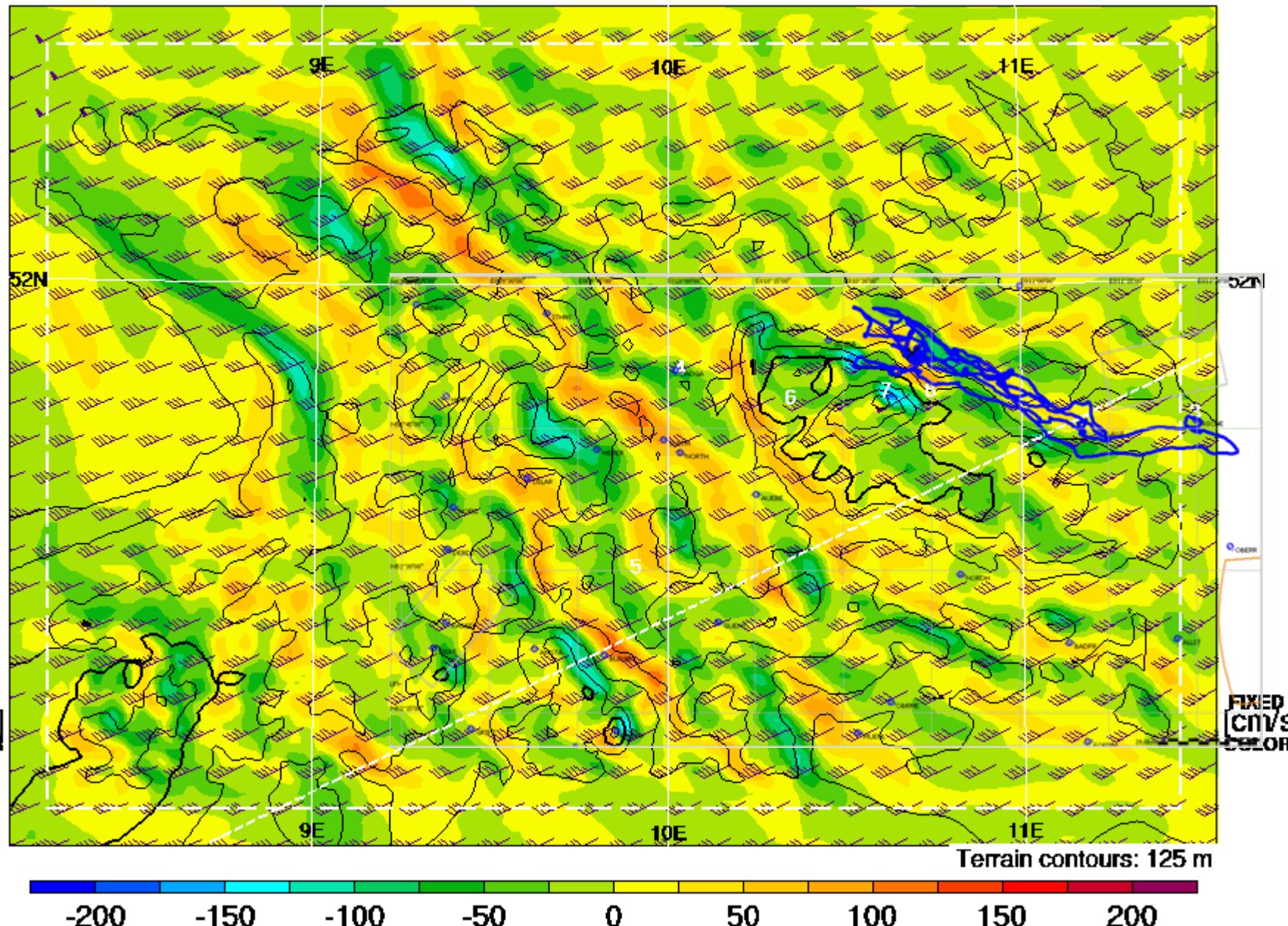


Vertical Velocity & Wind [kt] at 850mb
Valid 1500 CET (1400Z) SAT 14 Nov 2009 [32hrFcst@1755z]
boxWmax=203@51.85,10.70,1544m



Vertical Velocity & Wind [kt] at 850mb

Valid 1600 CET (1500Z) SAT 14 Nov 2009 [33hrFcst@1819z]
boxWmax=136@51.36,9.84,1541m



RASP

14.11.2009

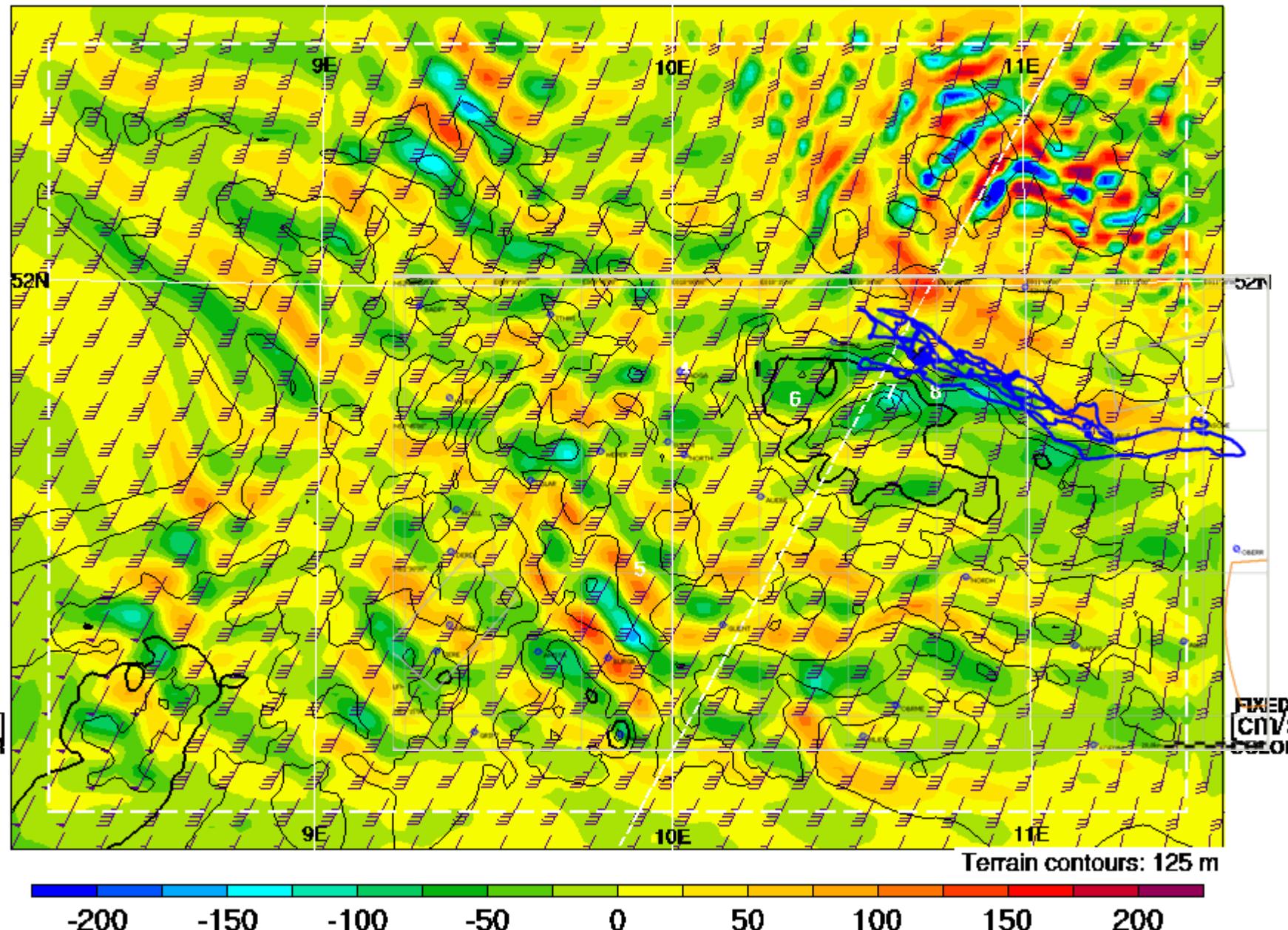
700 mbar

3000 m



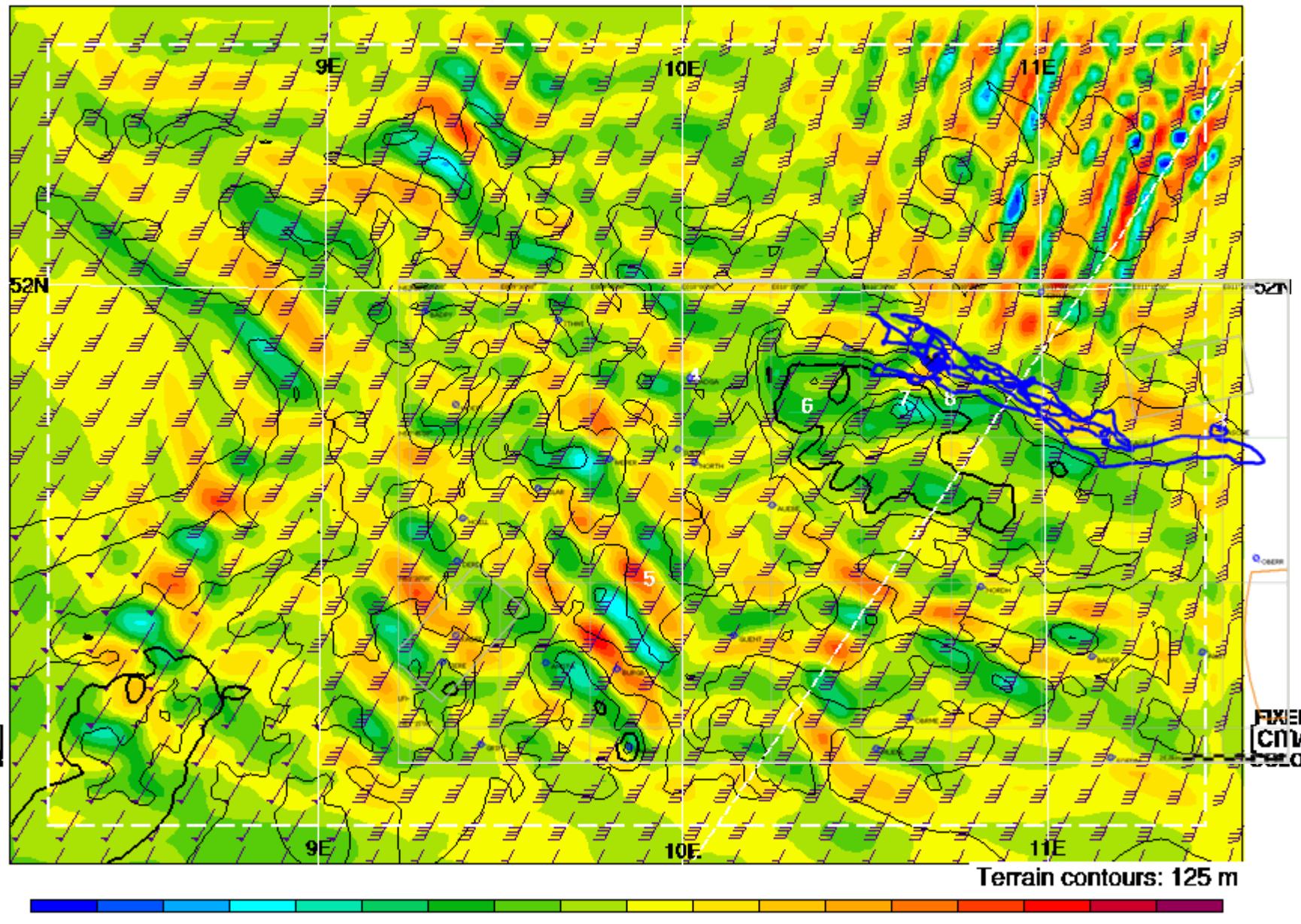
Vertical Velocity & Wind [kt] at 700mb

Valid 1000 CET (0900Z) SAT 14 Nov 2009 [27hrFcst@1600z]
boxWmax=257@52.00,10.73,1518m



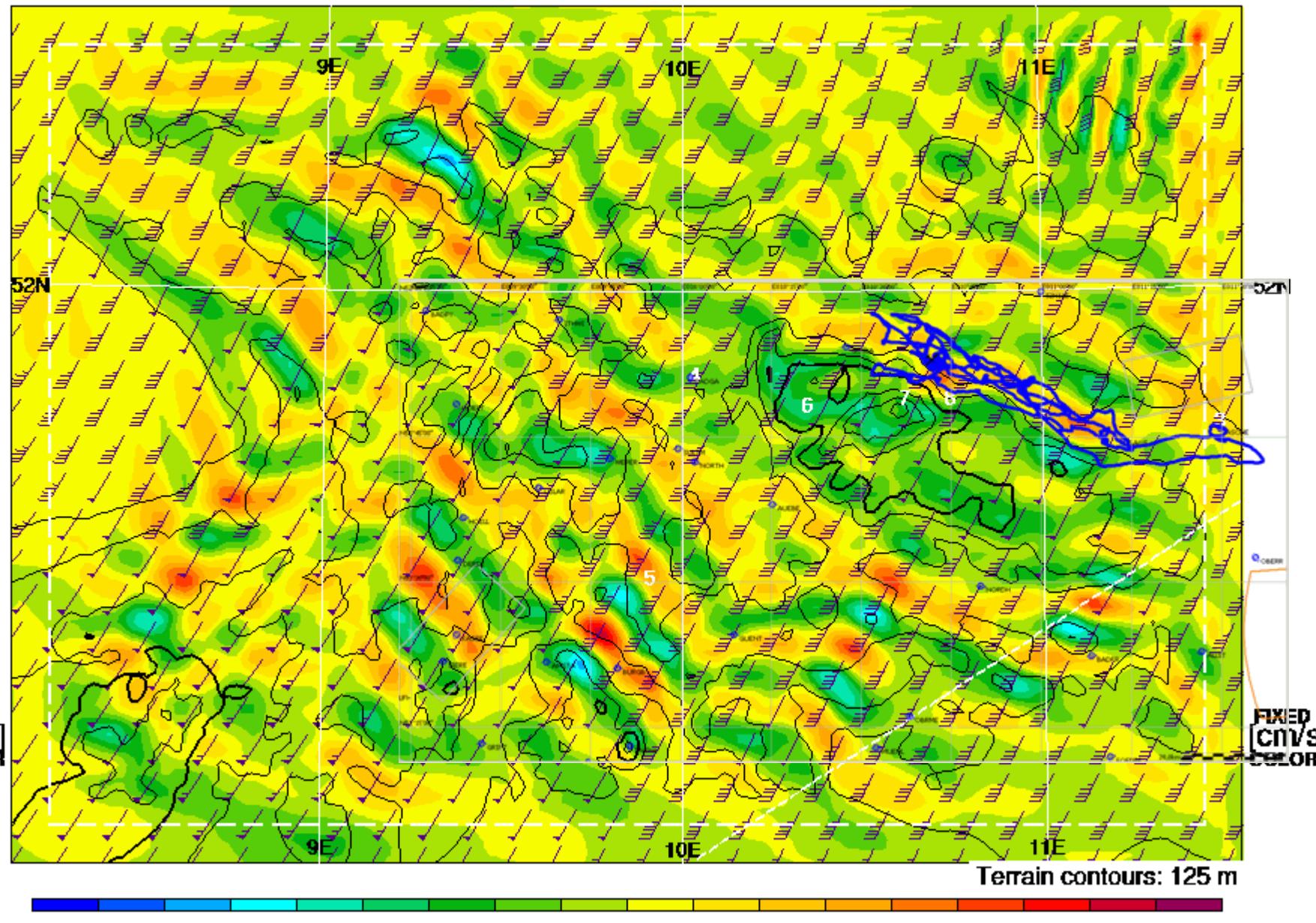
Vertical Velocity & Wind [kt] at 700mb

Valid 1100 CET (1000Z) SAT 14 Nov 2009 [28hrFcst@1623z]
boxWmax=215@51.93,11.04,1417m



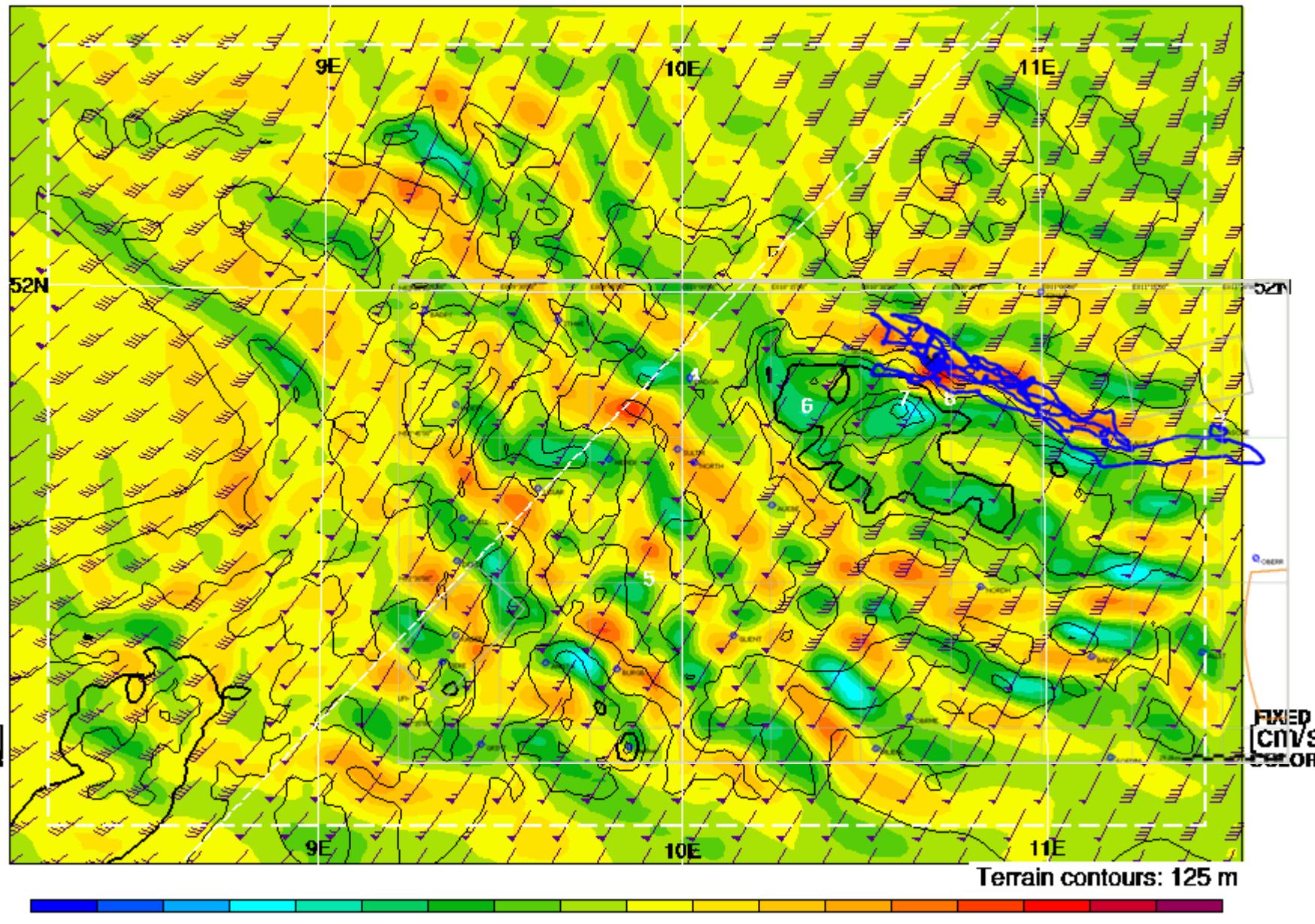
Vertical Velocity & Wind [kt] at 700mb

Valid 1200 CET (1100Z) SAT 14 Nov 2009 [29hrFcst@1646z]
boxWmax=185@51.46,11.13,1445m



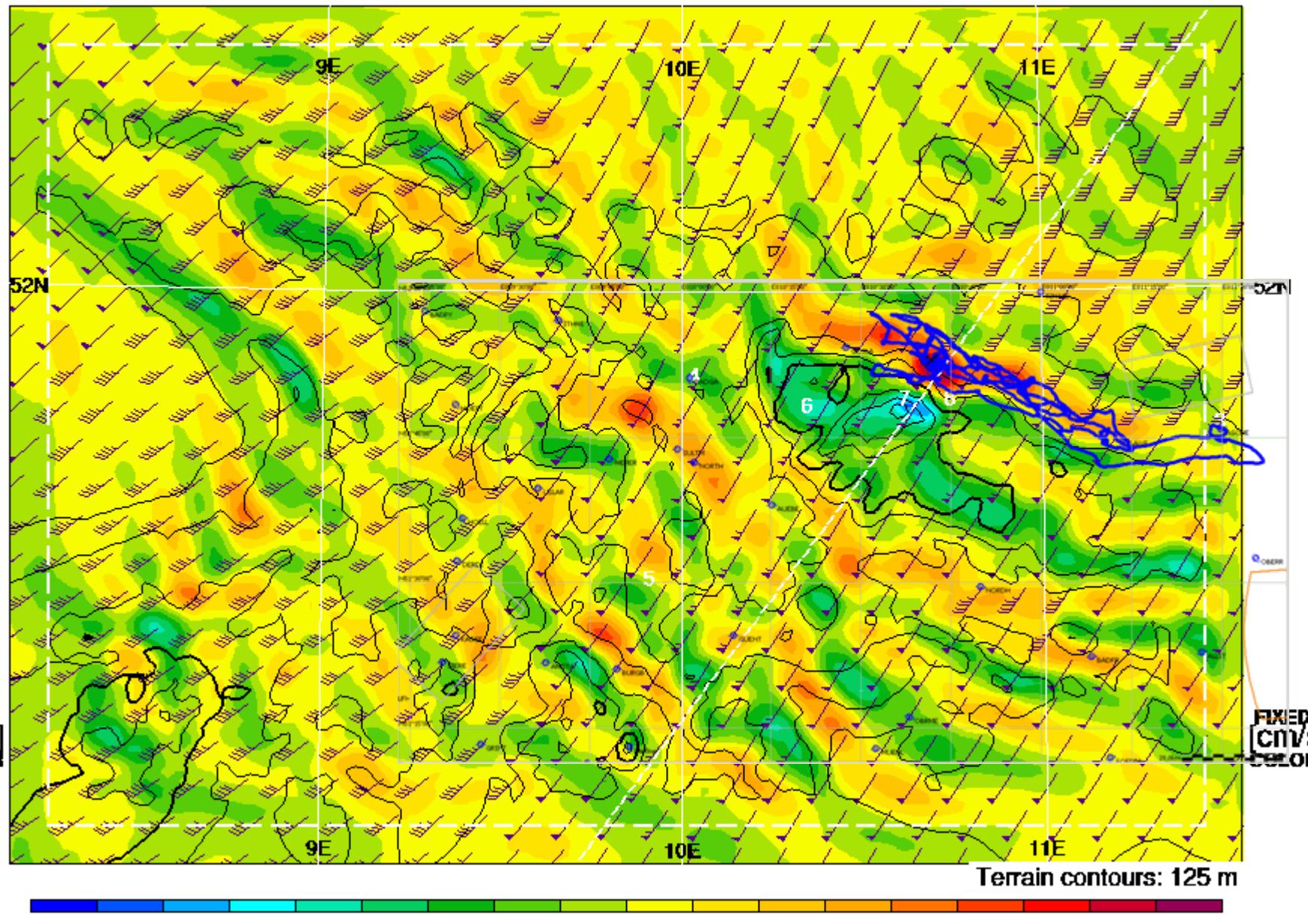
Vertical Velocity & Wind [kt] at 700mb

Valid 1300 CET (1200Z) SAT 14 Nov 2009 [30hrFcst@1708z]
boxWmax=126@51.80,9.84,1393m



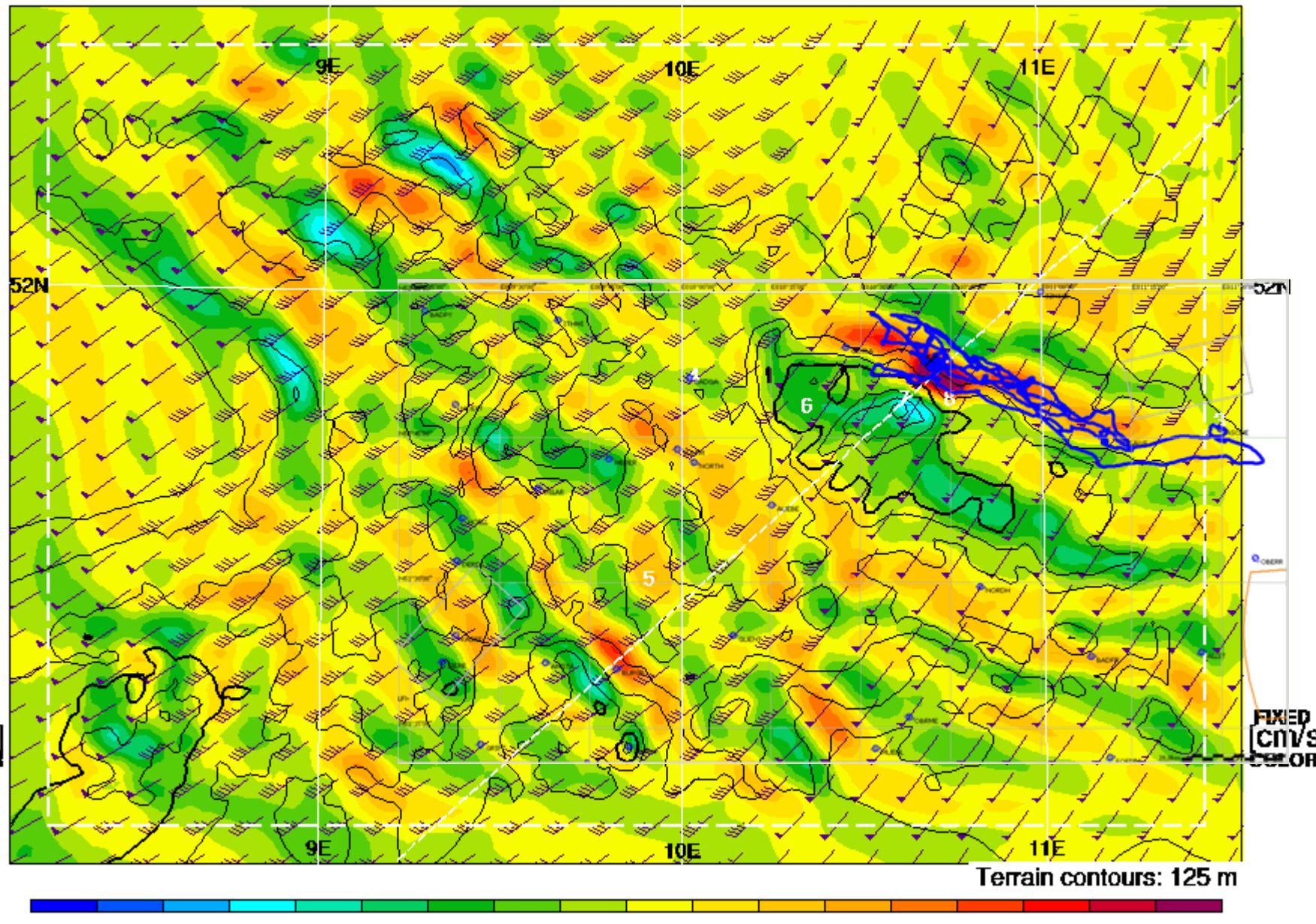
Vertical Velocity & Wind [kt] at 700mb

Valid 1400 CET (1300Z) SAT 14 Nov 2009 [31hrFcst@1731z]
boxWmax=155@51.87,10.72,1503m



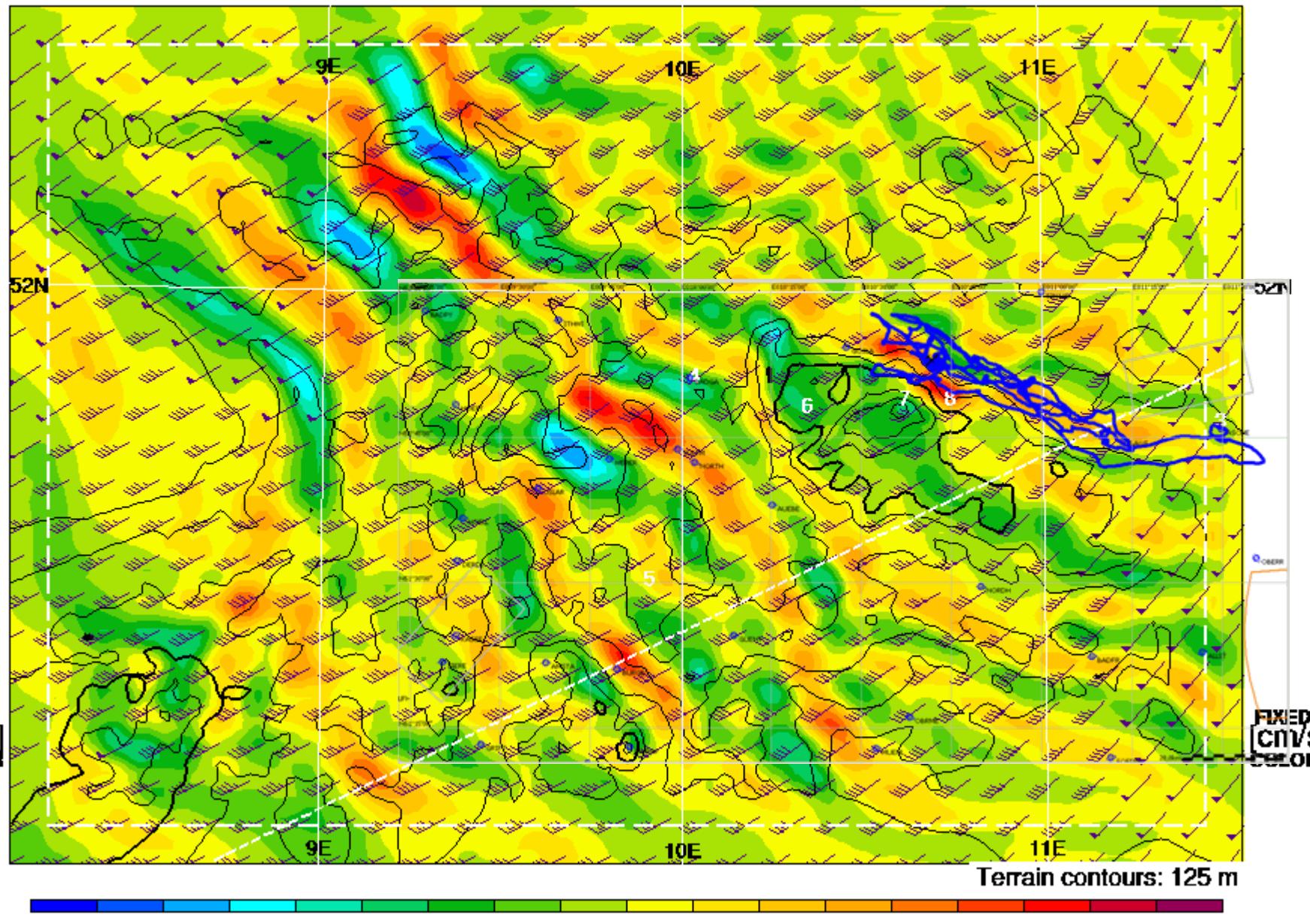
Vertical Velocity & Wind [kt] at 700mb

Valid 1500 CET (1400Z) SAT 14 Nov 2009 [32hrFcst@1755z]
boxWmax=203@51.85,10.70,1544m



Vertical Velocity & Wind [kt] at 700mb

Valid 1600 CET (1500Z) SAT 14 Nov 2009 [33hrFcst@1819z]
boxWmax=136@51.36,9.84,1541m



RASP

14.11.2009

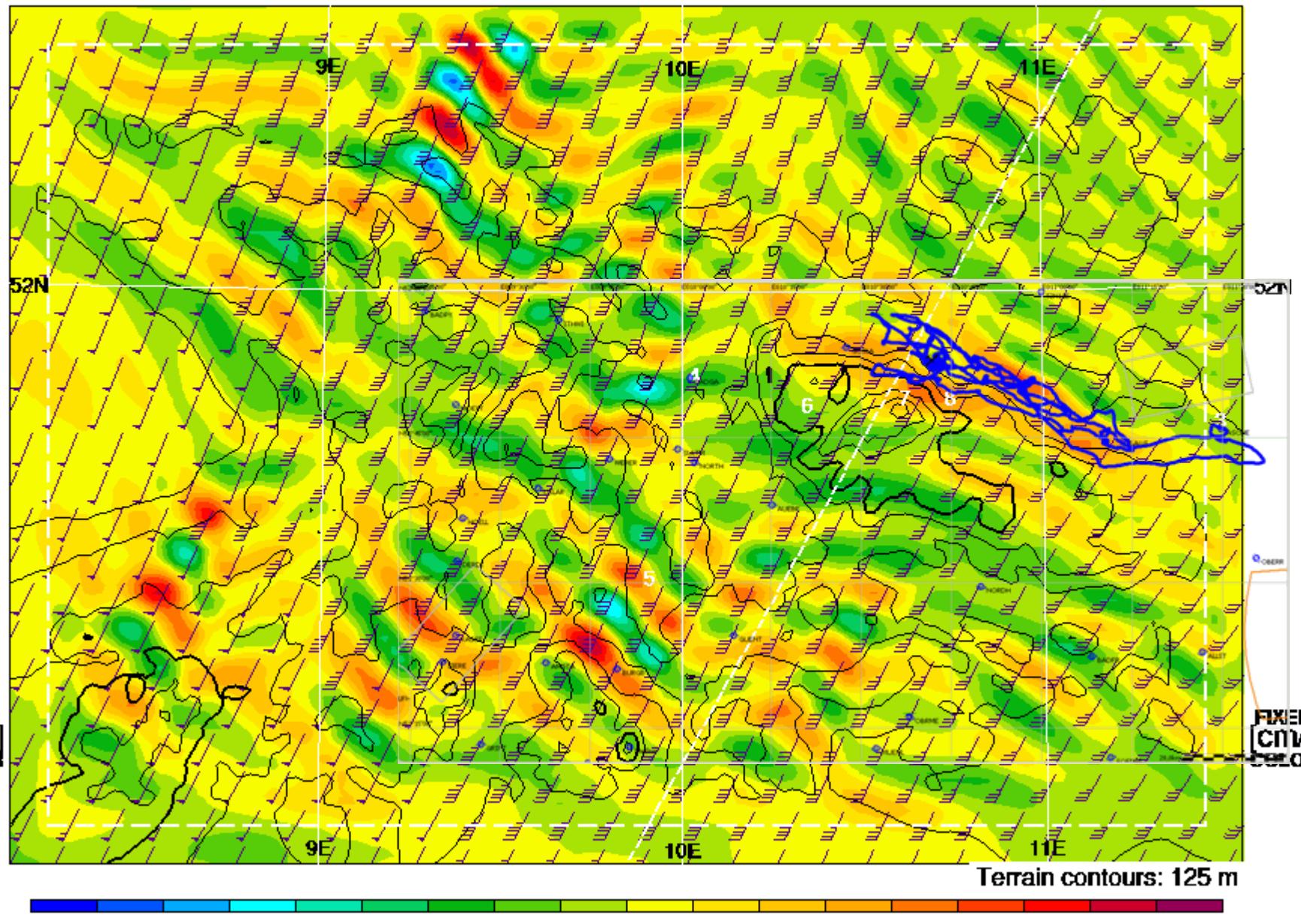
500 mbar

5500 m



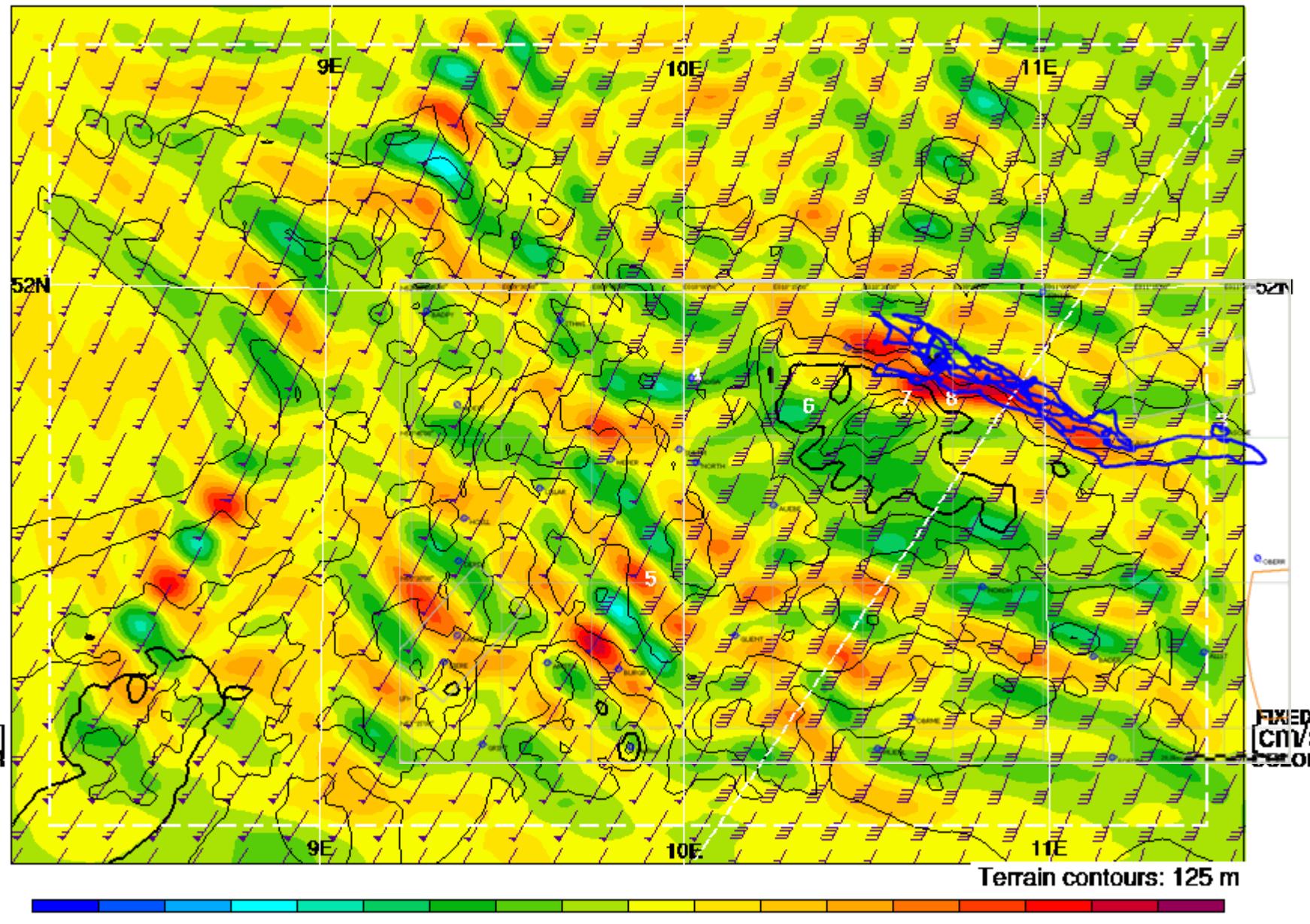
Vertical Velocity & Wind [kt] at 500mb

Valid 1000 CET (0900Z) SAT 14 Nov 2009 [27hrFcst@1600z]
boxWmax=257@52.00,10.73,1518m



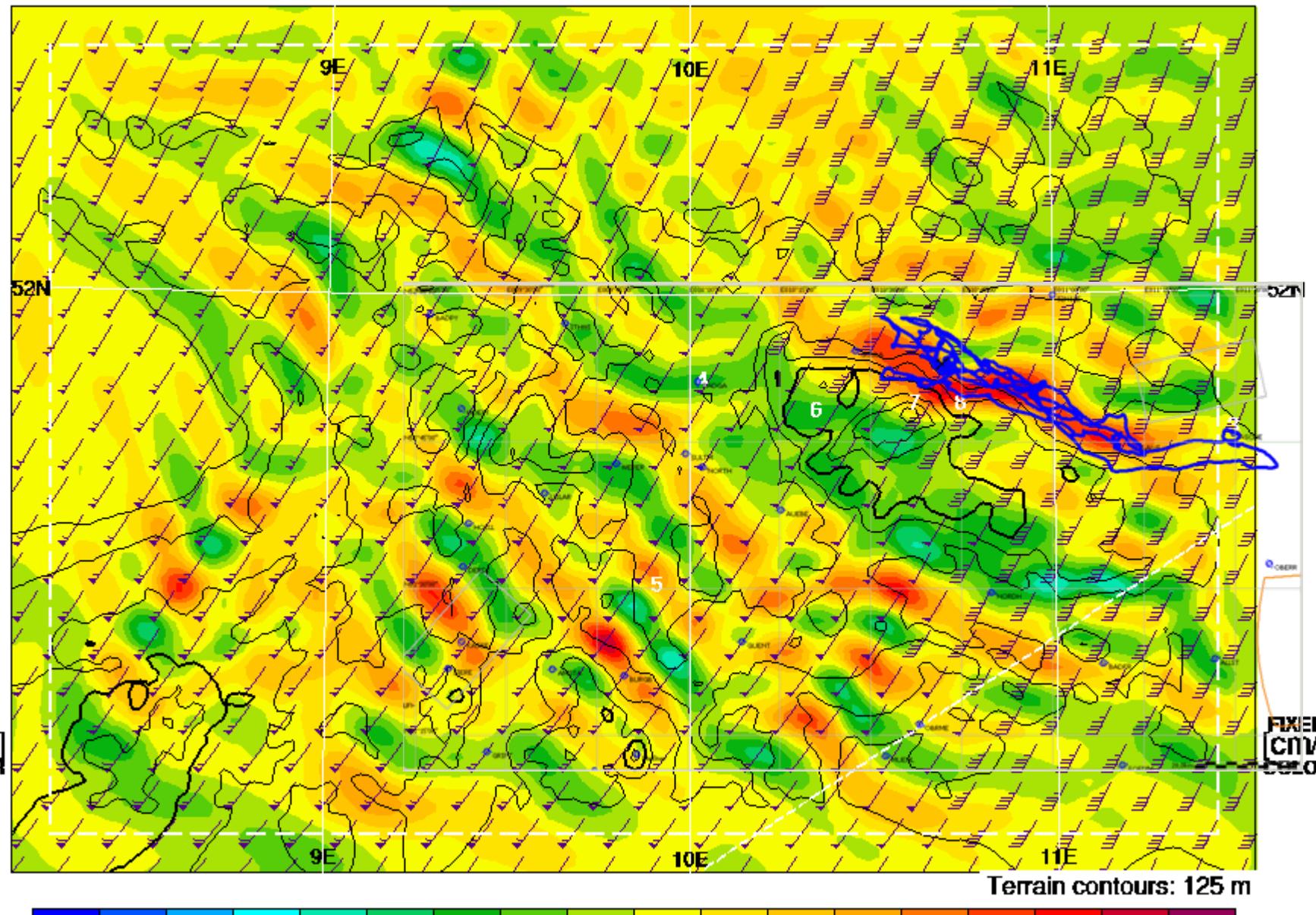
Vertical Velocity & Wind [kt] at 500mb

Valid 1100 CET (1000Z) SAT 14 Nov 2009 [28hrFcst@1623z]
boxWmax=215@51.93,11.04,1417m



Vertical Velocity & Wind [kt] at 500mb

Valid 1200 CET (1100z) SAT 14 Nov 2009 [29hrFcst@1646z]
boxWmax=185@51.46,11.13,1445m

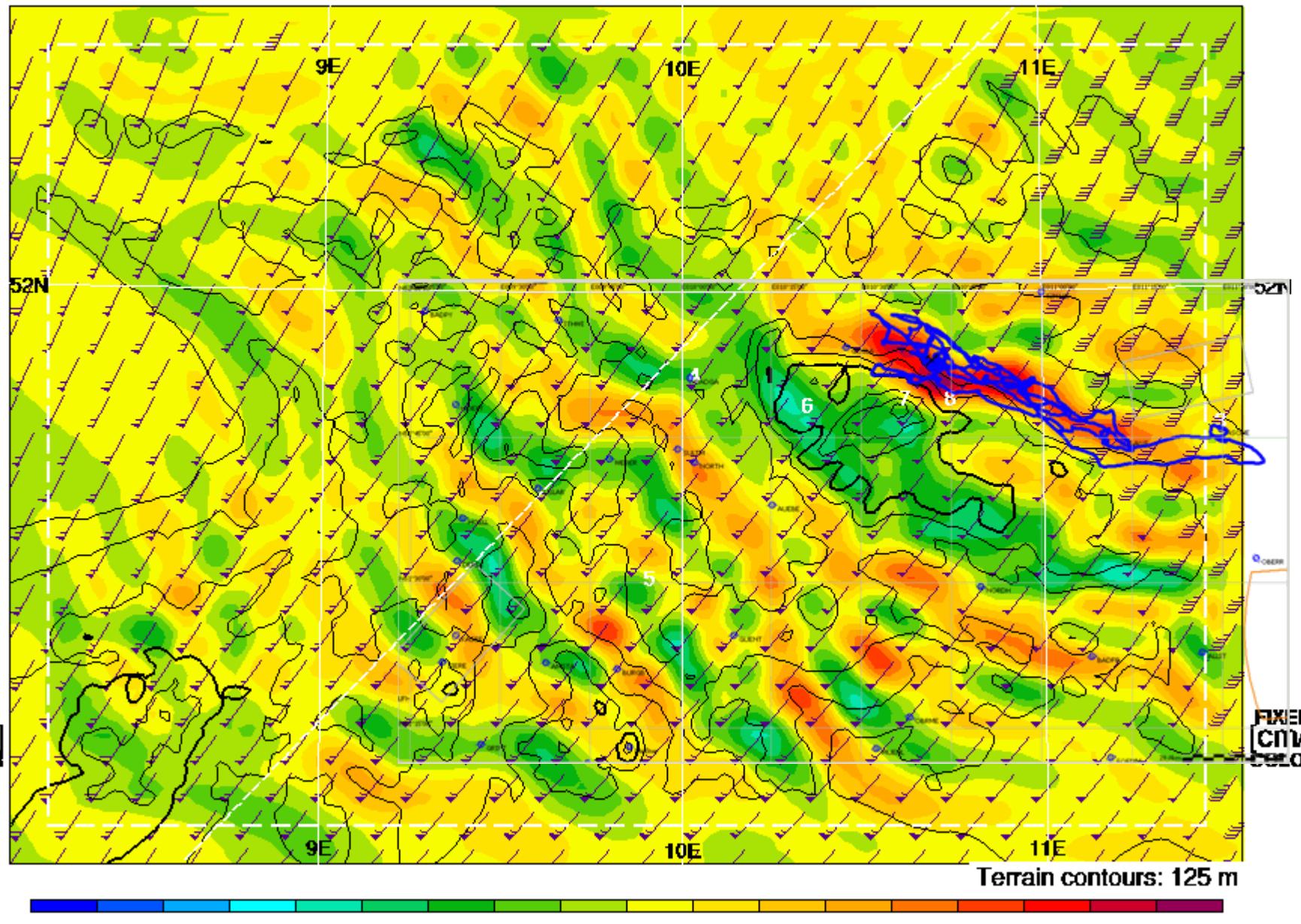


Terrain contours: 125 m



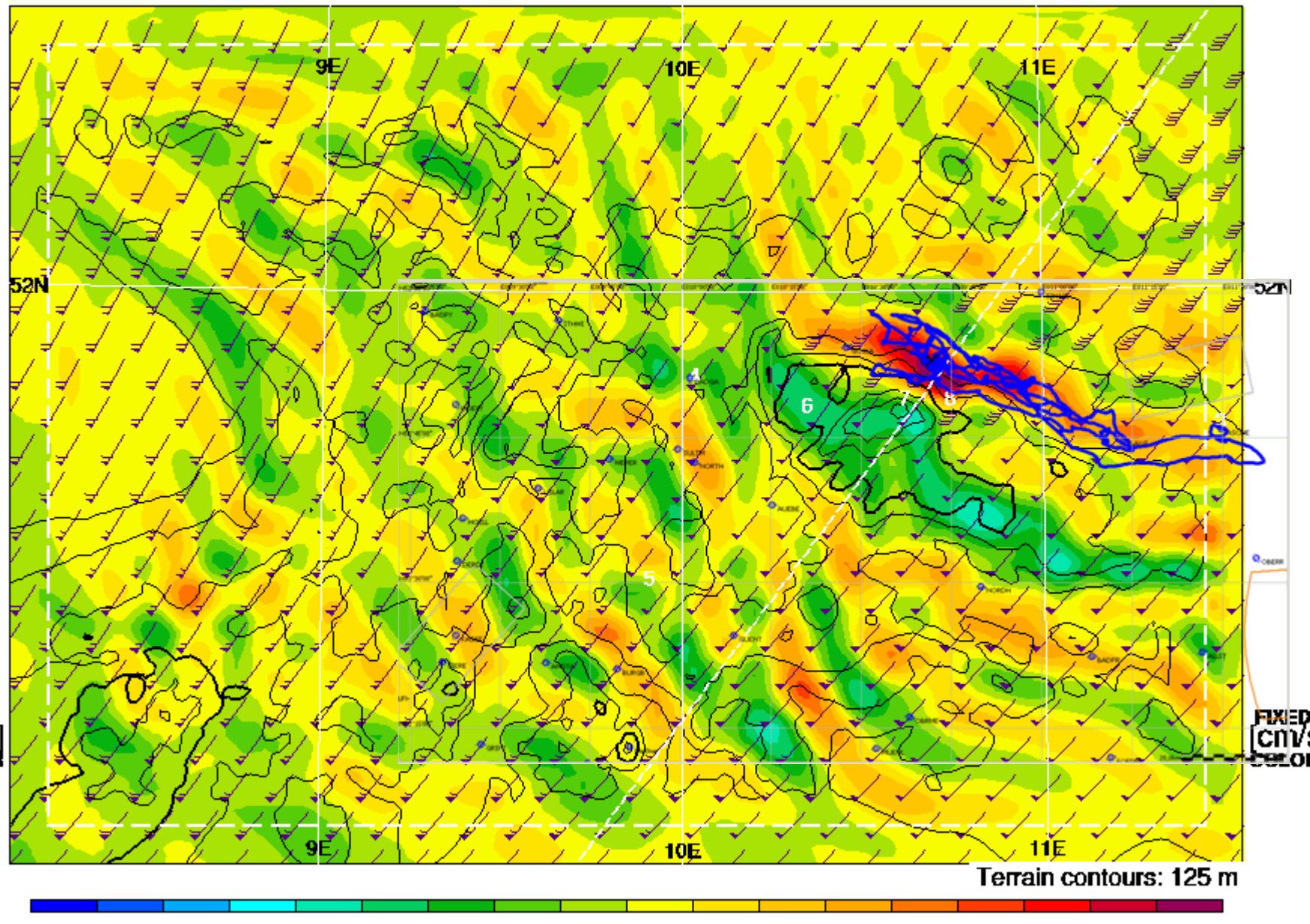
Vertical Velocity & Wind [kt] at 500mb

Valid 1300 CET (1200Z) SAT 14 Nov 2009 [30hrFcst@1708z]
boxWmax=126@51.80,9.84,1393m



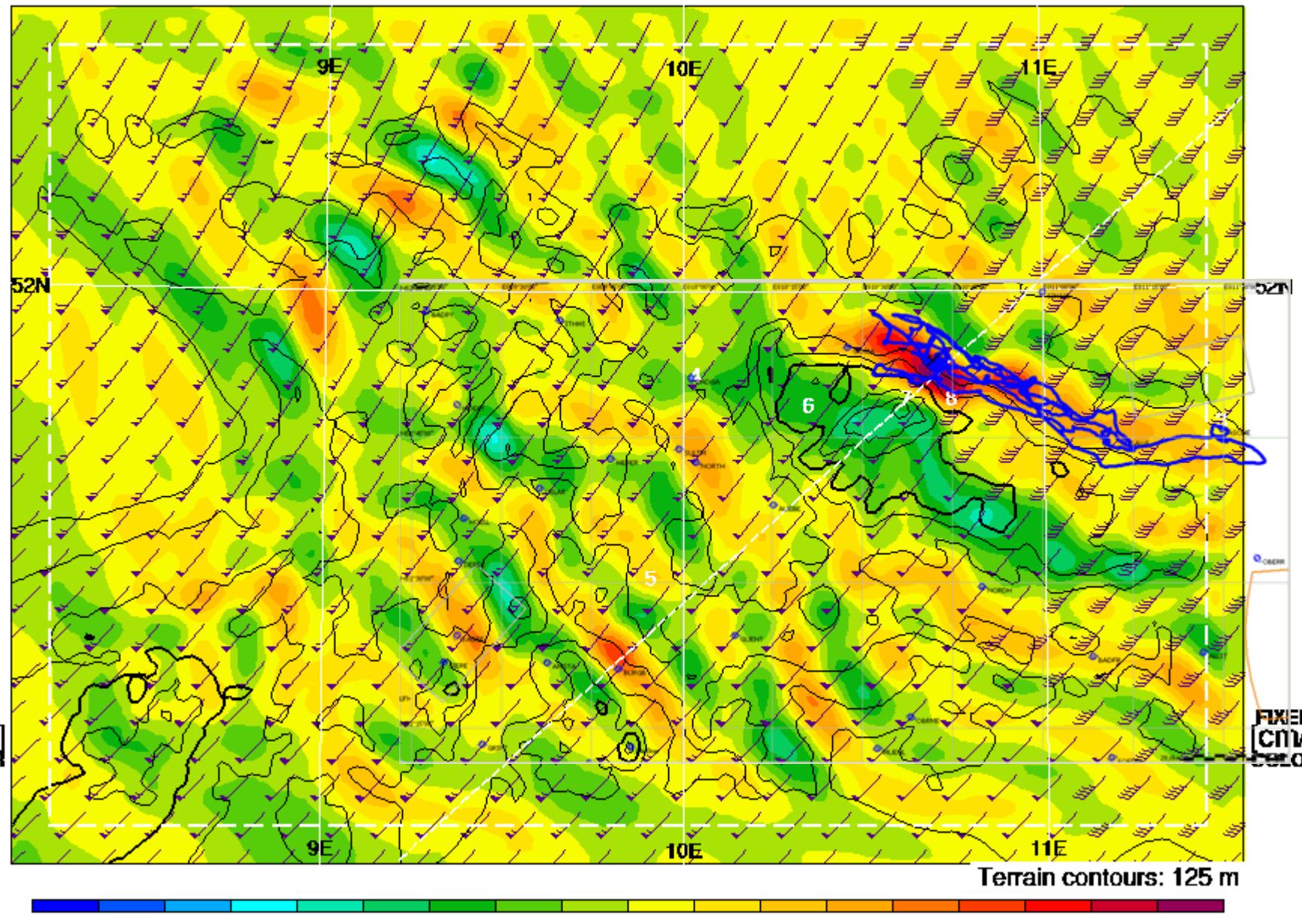
Vertical Velocity & Wind [kt] at 500mb

Valid 1400 CET (1300Z) SAT 14 Nov 2009 [31hrFcst@1731z]
boxWmax=155@51.87,10.72,1503m

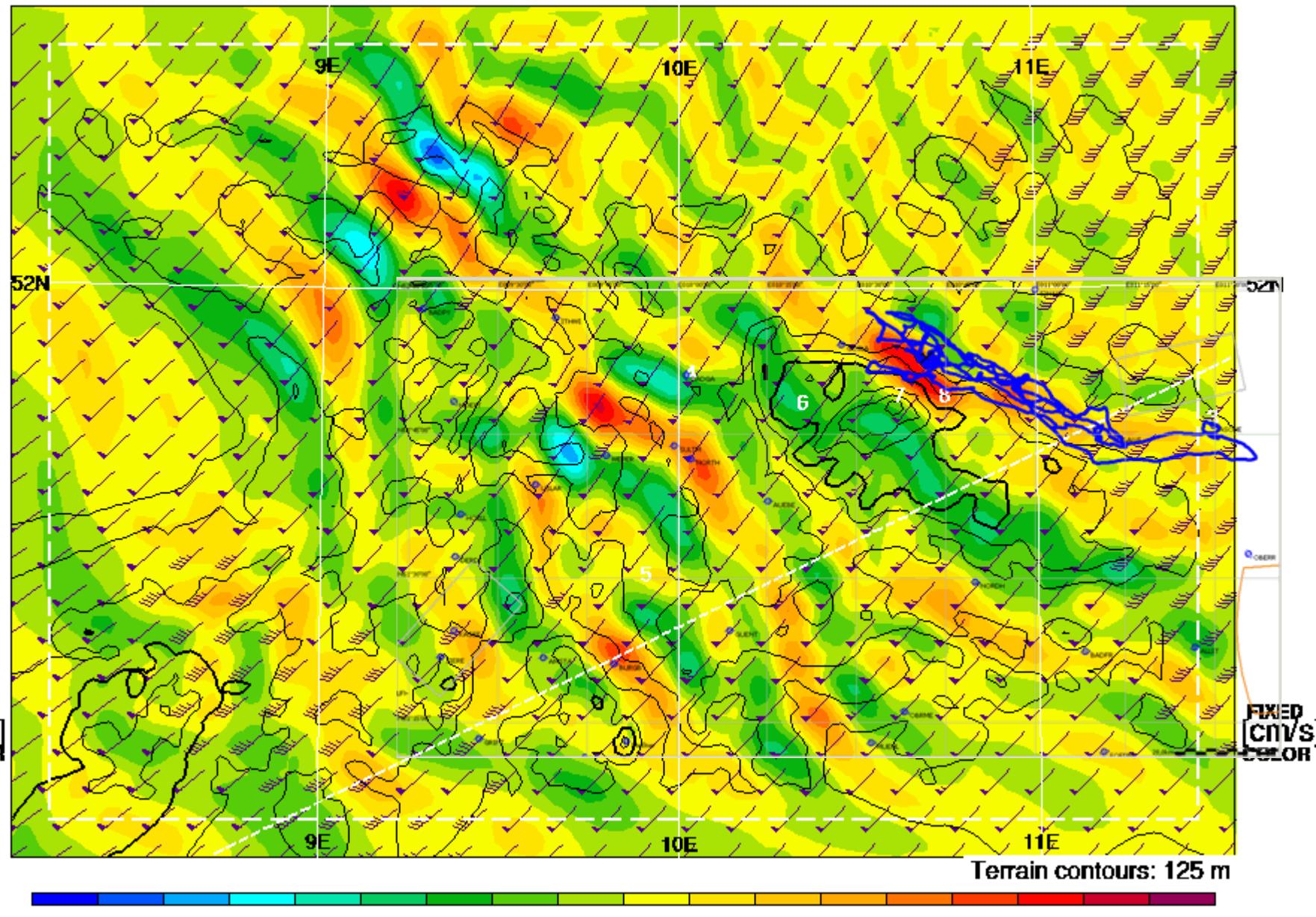


Vertical Velocity & Wind [kt] at 500mb

Valid 1500 CET (1400Z) SAT 14 Nov 2009 [32hrFcst@1755z]
boxWmax=203@51.85,10.70,1544m



Vertical Velocity & Wind [kt] at 500mb
Valid 1600 CET (1500Z) SAT 14 Nov 2009 [33hrFcst@1819z]
boxWmax=136@51.36,9.84,1541m



RASP

14.11.2009

zeit- und höhenauflöst

0920 – 1030 UTC

1600 m – 2400 m

1030 – 1130 UTC

2200 m – 3800 m

1130 – 1230 UTC

3200 m – 4400 m

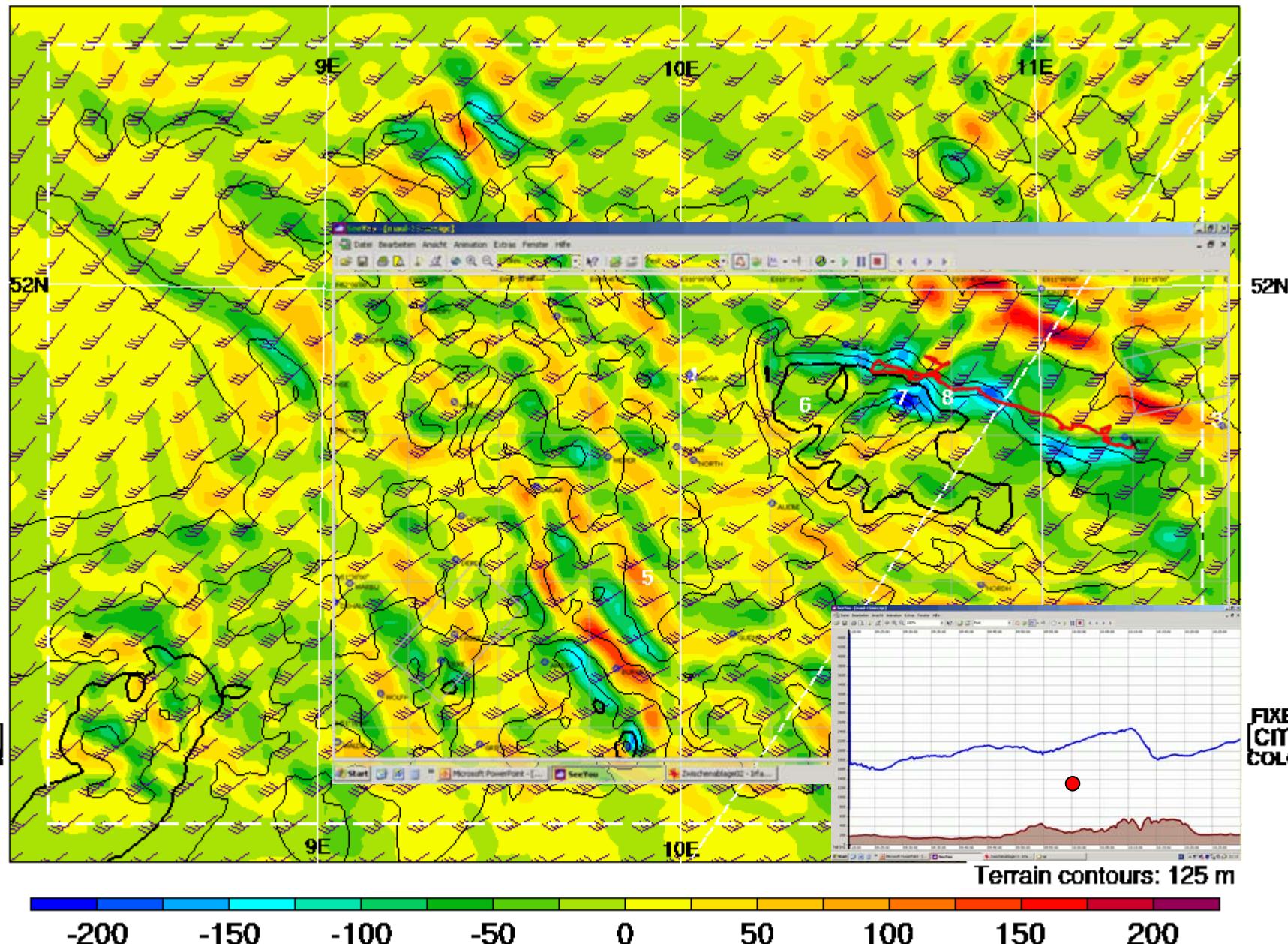
1230 – 1330 UTC

2600 m – 3400 m



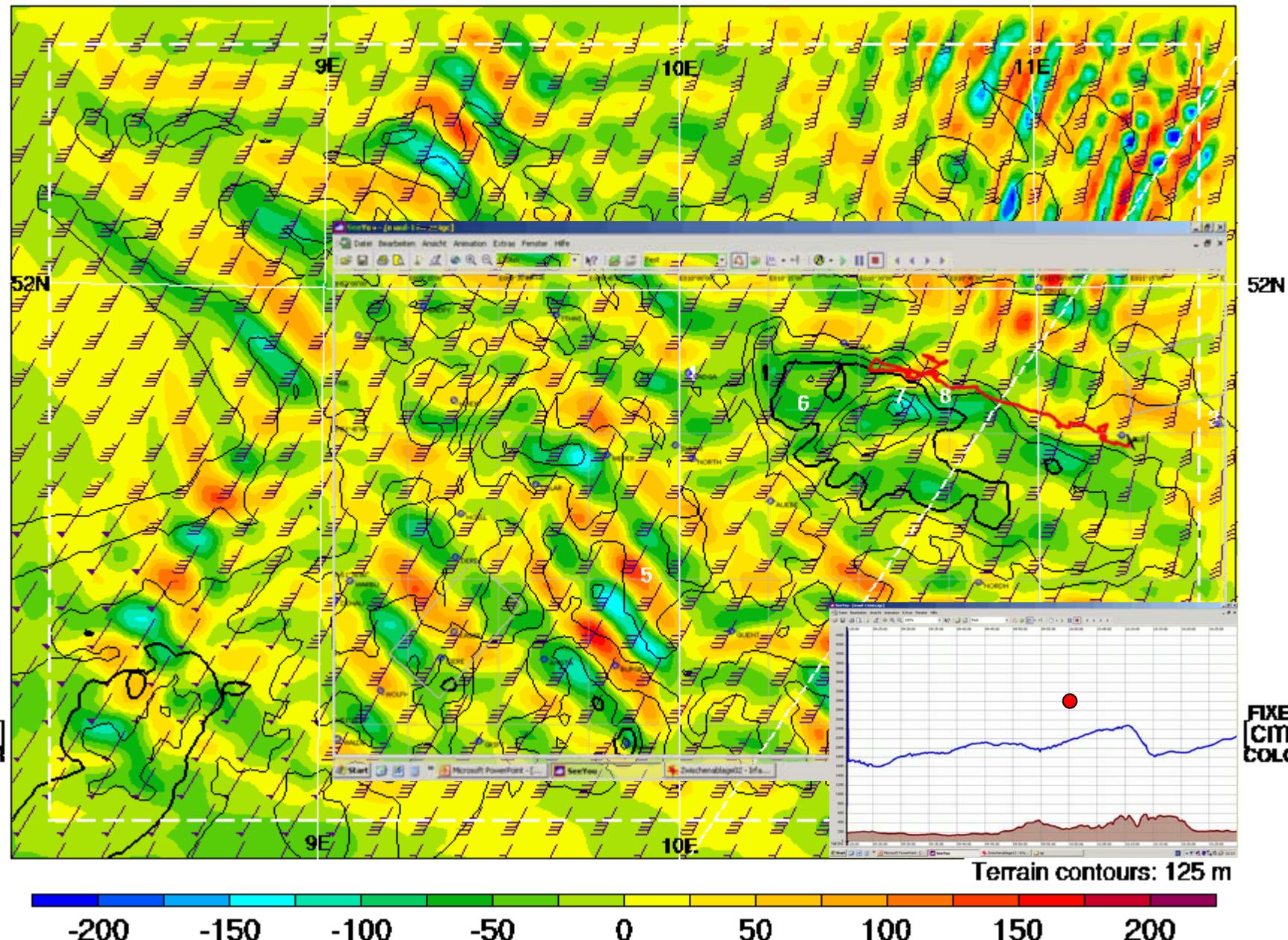
Vertical Velocity & Wind [kt] at 850mb

Valid 1100 CET (1000Z) SAT 14 Nov 2009 [28hrFcst@1623z]
boxWmax=215@51.93,11.04,1417m



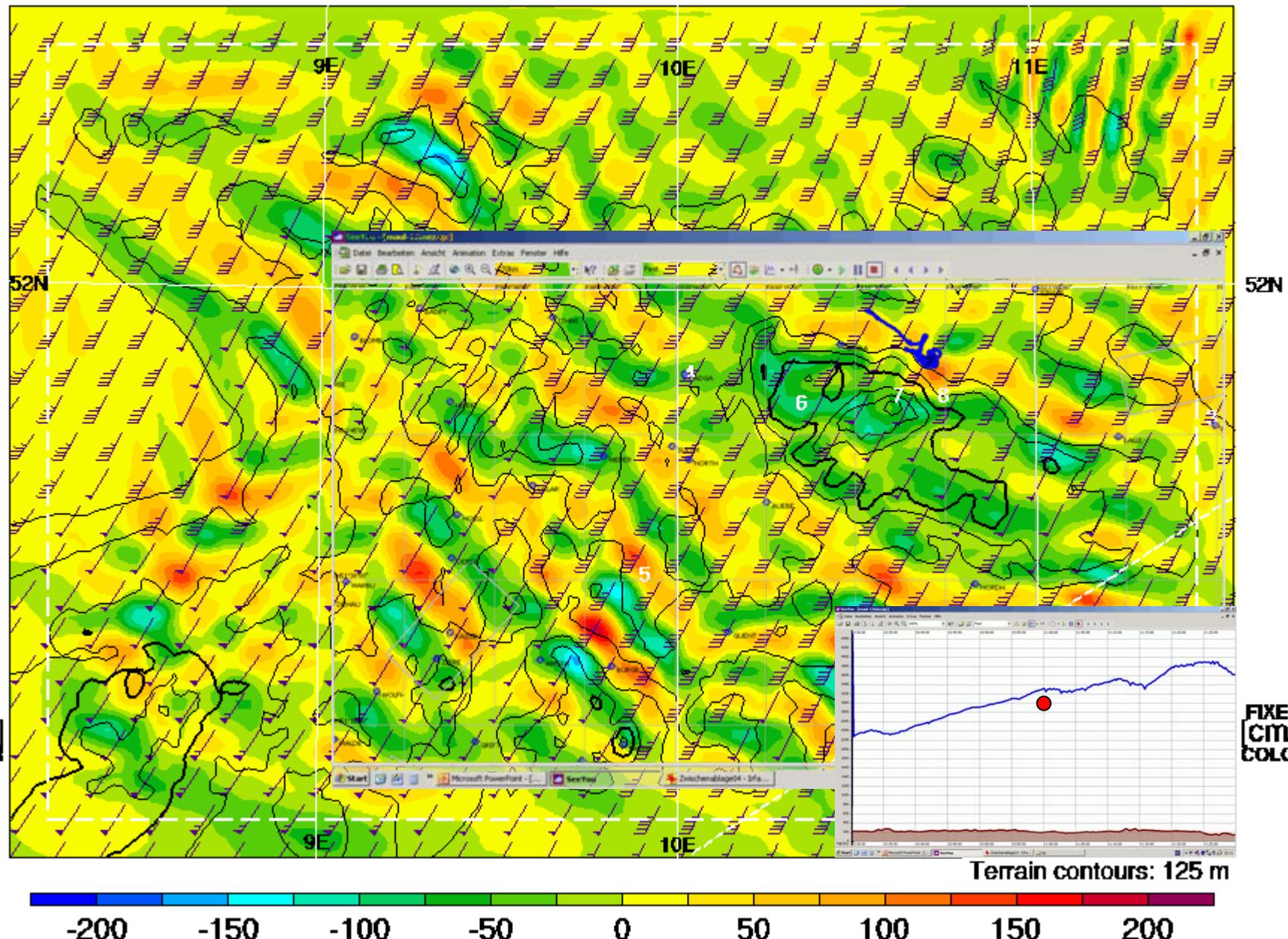
Vertical Velocity & Wind [kt] at 700mb

Valid 1100 CET (1000Z) SAT 14 Nov 2009 [28hrFcst@1623z]
boxWmax=215@51.93,11.04,1417m



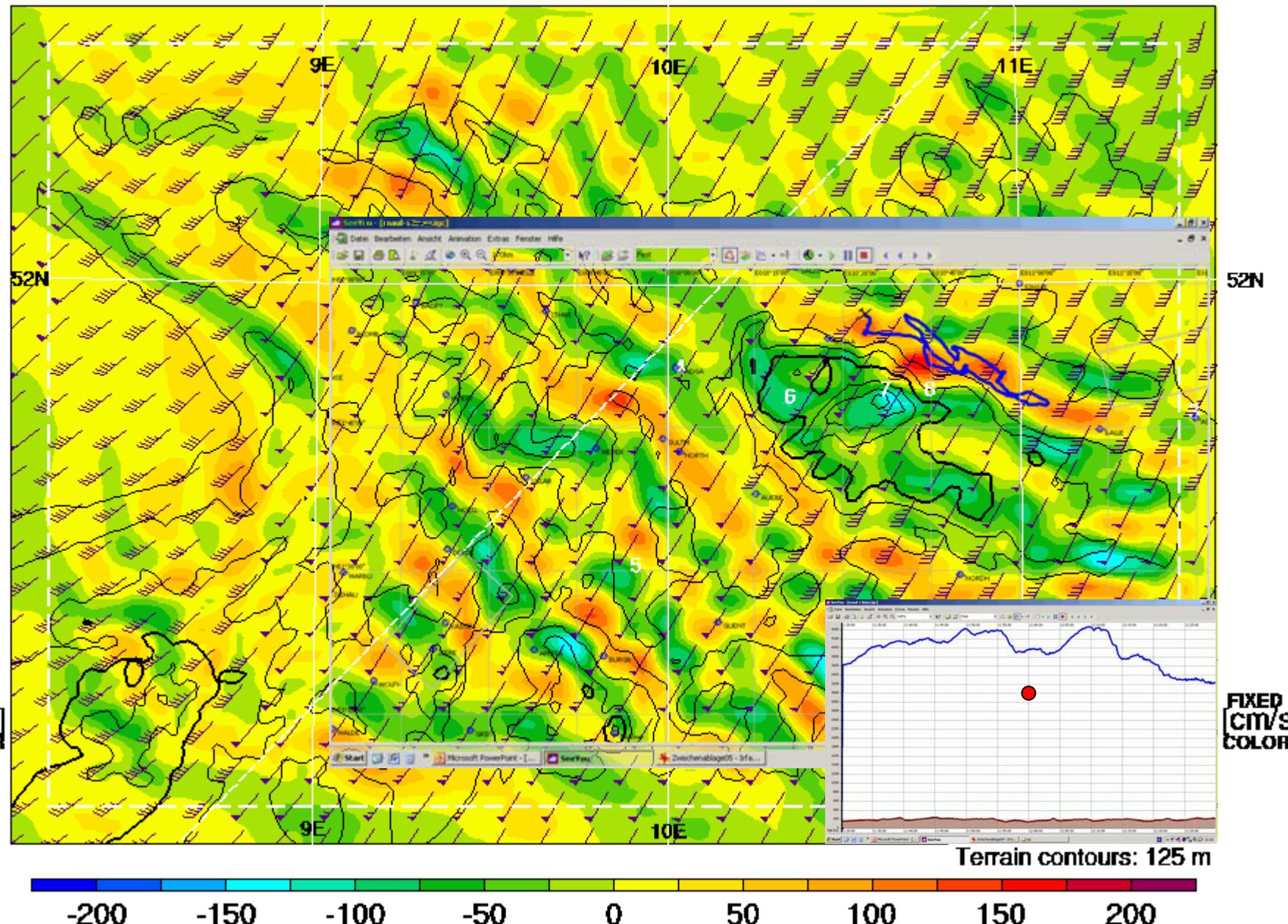
Vertical Velocity & Wind [kt] at 700mb

Valid 1200 CET (1100Z) SAT 14 Nov 2009 [29hrFcst@1646z]
boxWmax=185@51.46,11.13,1445m



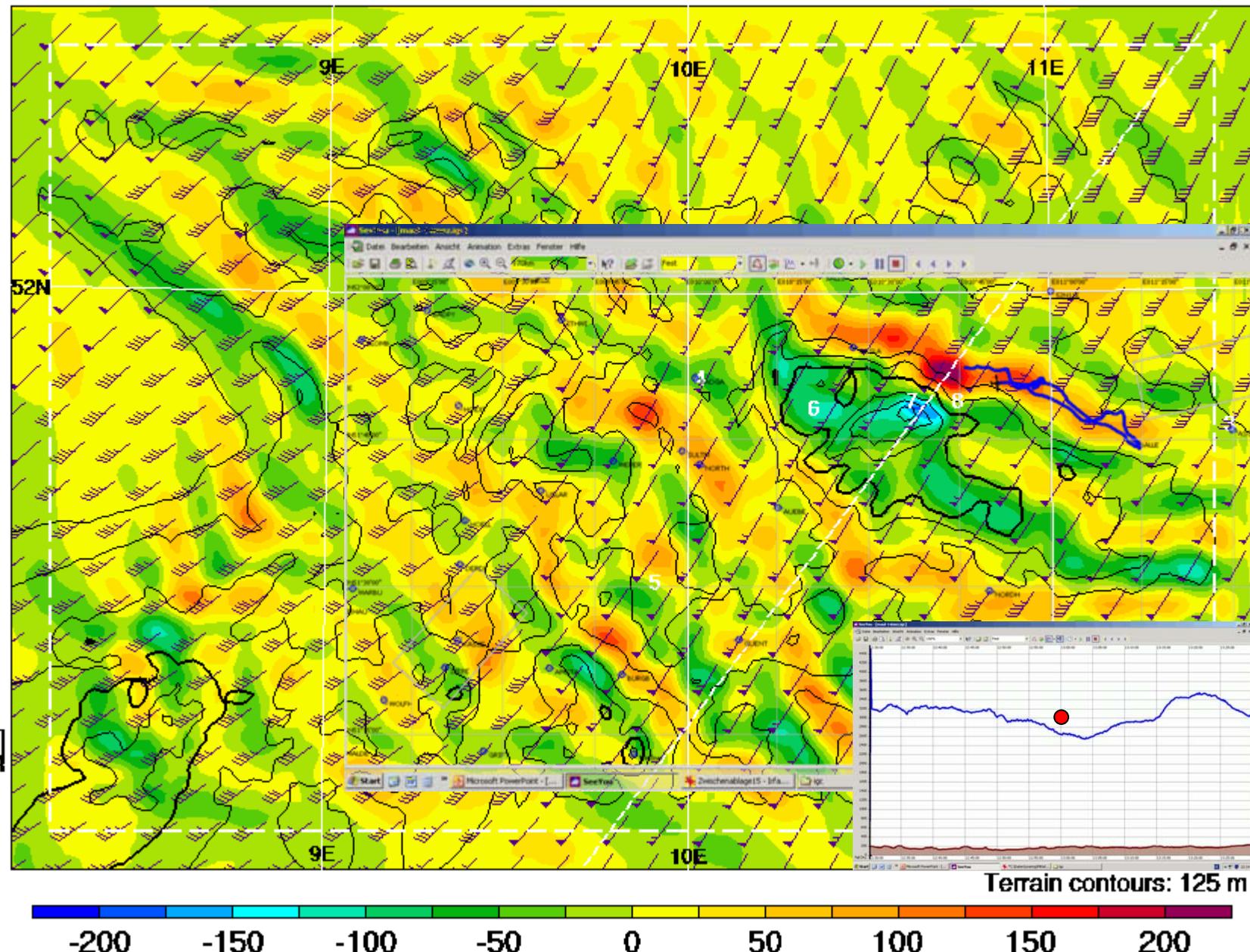
Vertical Velocity & Wind [kt] at 700mb

Valid 1300 CET (1200Z) SAT 14 Nov 2009 [30hrFcst@1708z]
boxWmax=126@51.80,9.84,1393m



Vertical Velocity & Wind [kt] at 700mb

Valid 1400 CET (1300Z) SAT 14 Nov 2009 [31hrFcst@1731z]
boxWmax=155@51.87,10.72,1503m



20.11.2009



Satellitenbild IR

Satellitenbild VIS

Webcam Halberstadt

RASP-Vorhersage 700 mbar

DWD-Vorhersage FL100

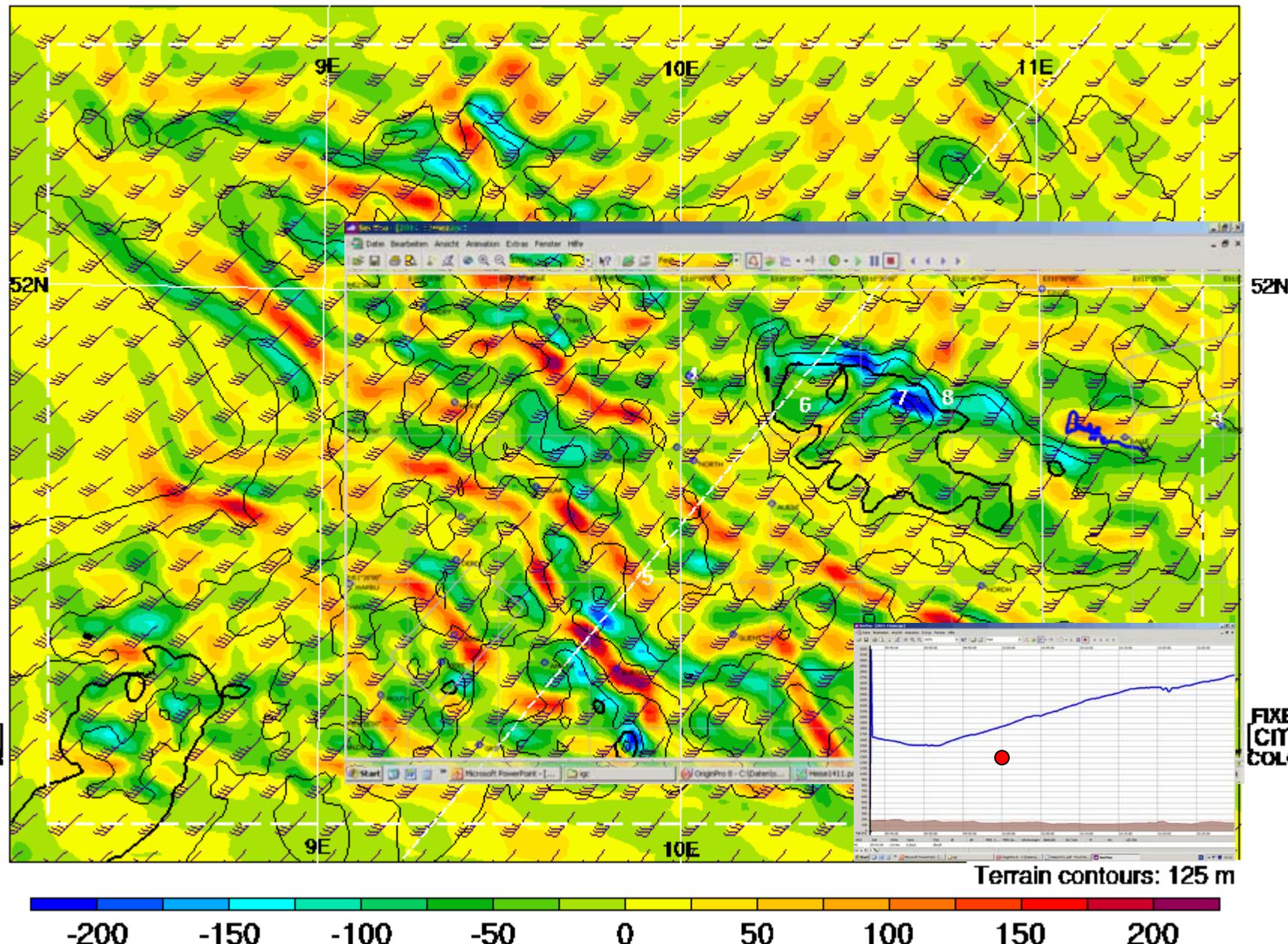


RASP
20.11.2009
zeit- und höhenaufgelöst



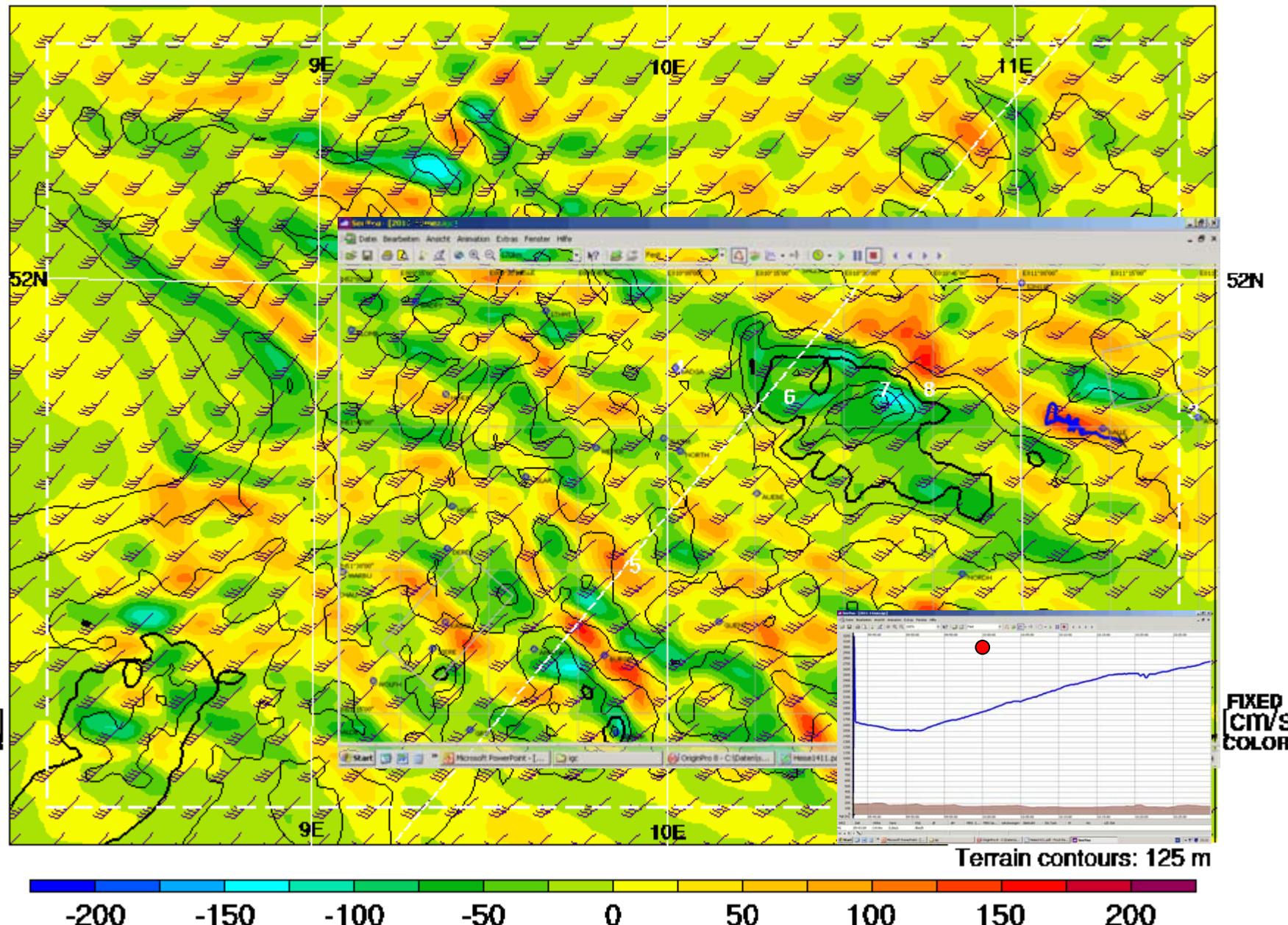
Vertical Velocity & Wind [kt] at 850mb

Valid 1100 CET (1000Z) FRI 20 Nov 2009 [28hrFcst@1619z]
boxWmax=289@51.40,9.74,1486m



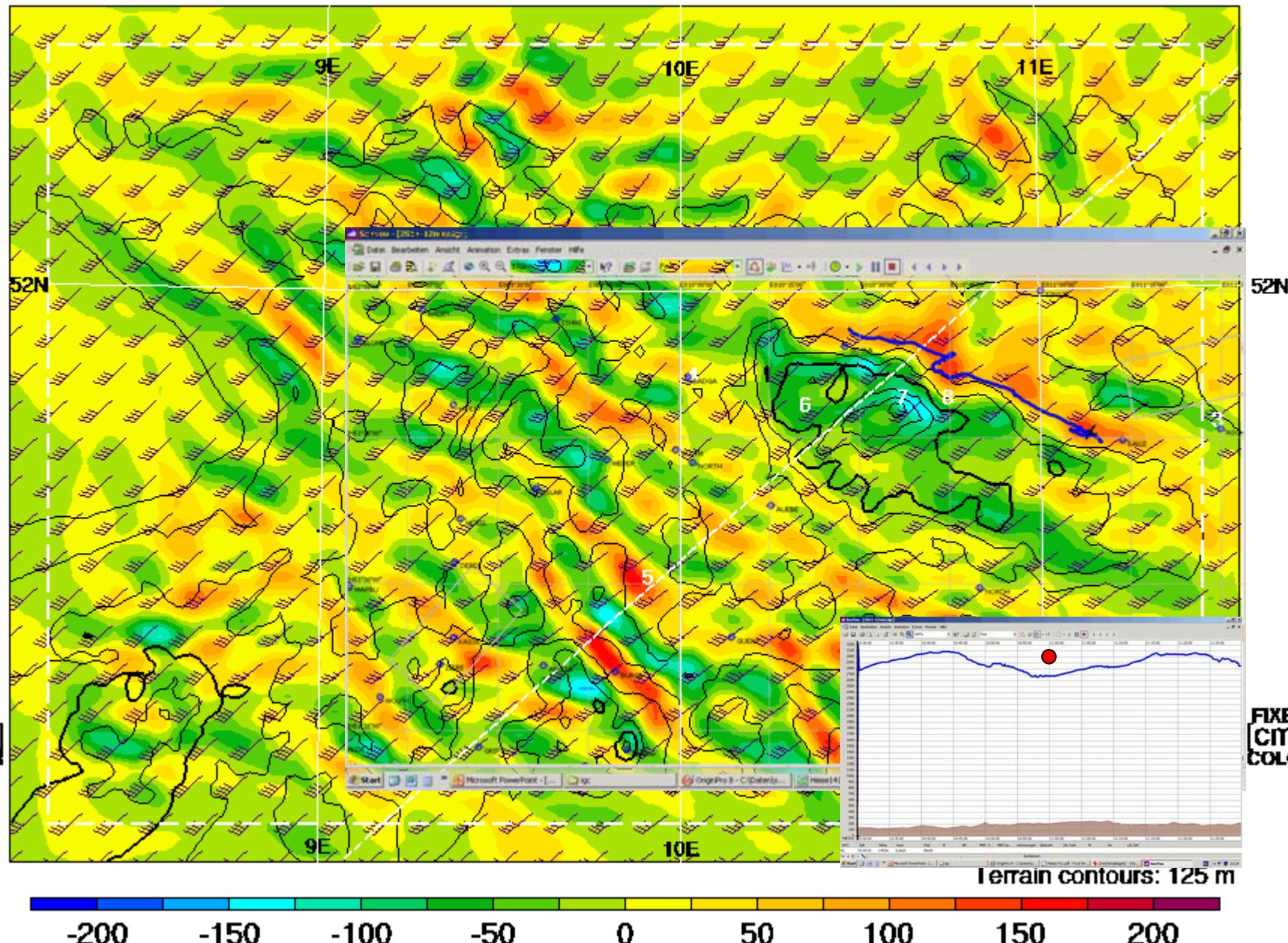
Vertical Velocity & Wind [kt] at 700mb

Valid 1100 CET (1000Z) FRI 20 Nov 2009 [28hrFcst@1619z]
boxWmax=289@51.40,9.74,1486m



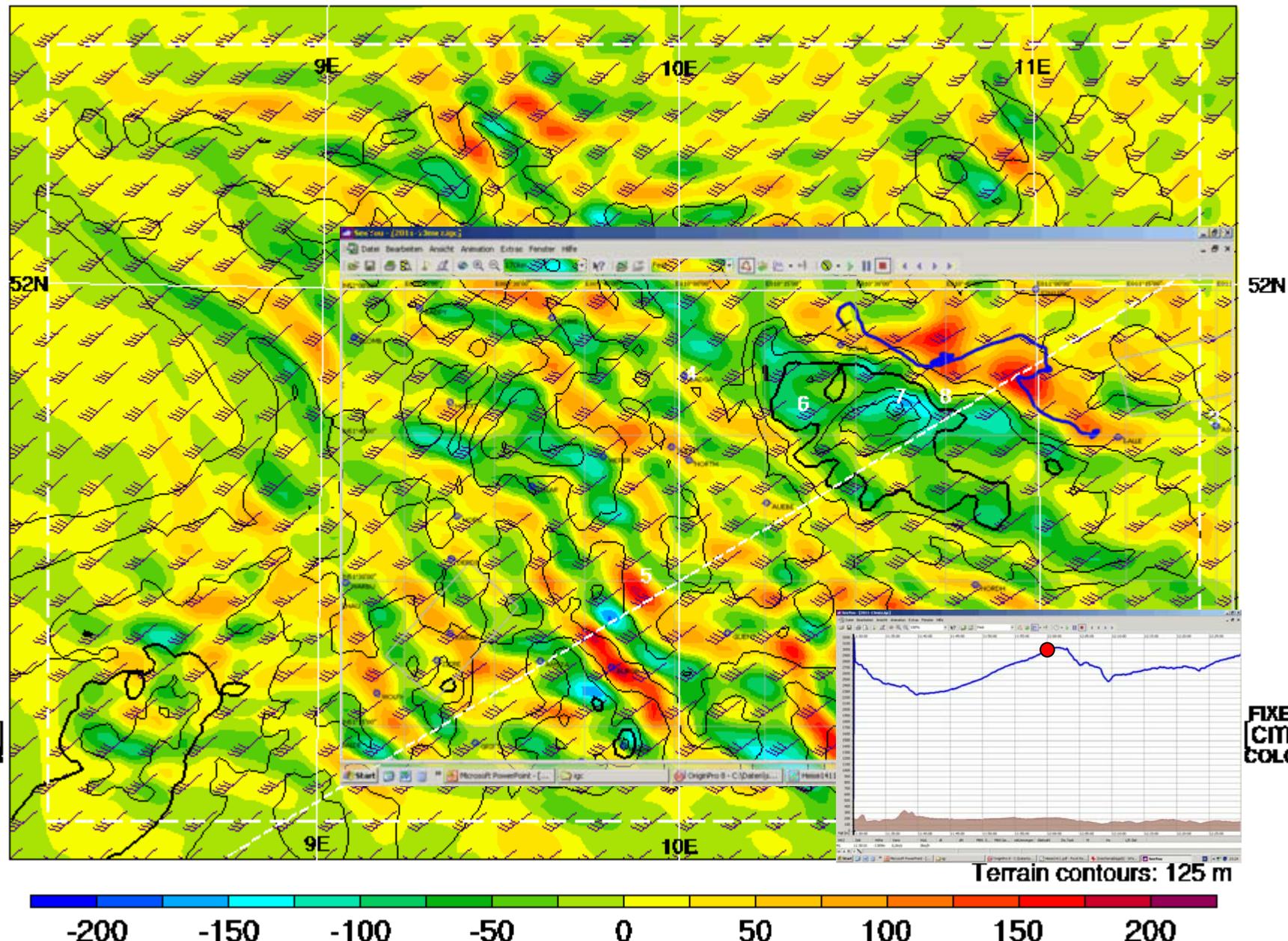
Vertical Velocity & Wind [kt] at 700mb

Valid 1200 CET (1100Z) FRI 20 Nov 2009 [29hrFcst@1642z]
boxWmax=294@51.40,9.76,1520m



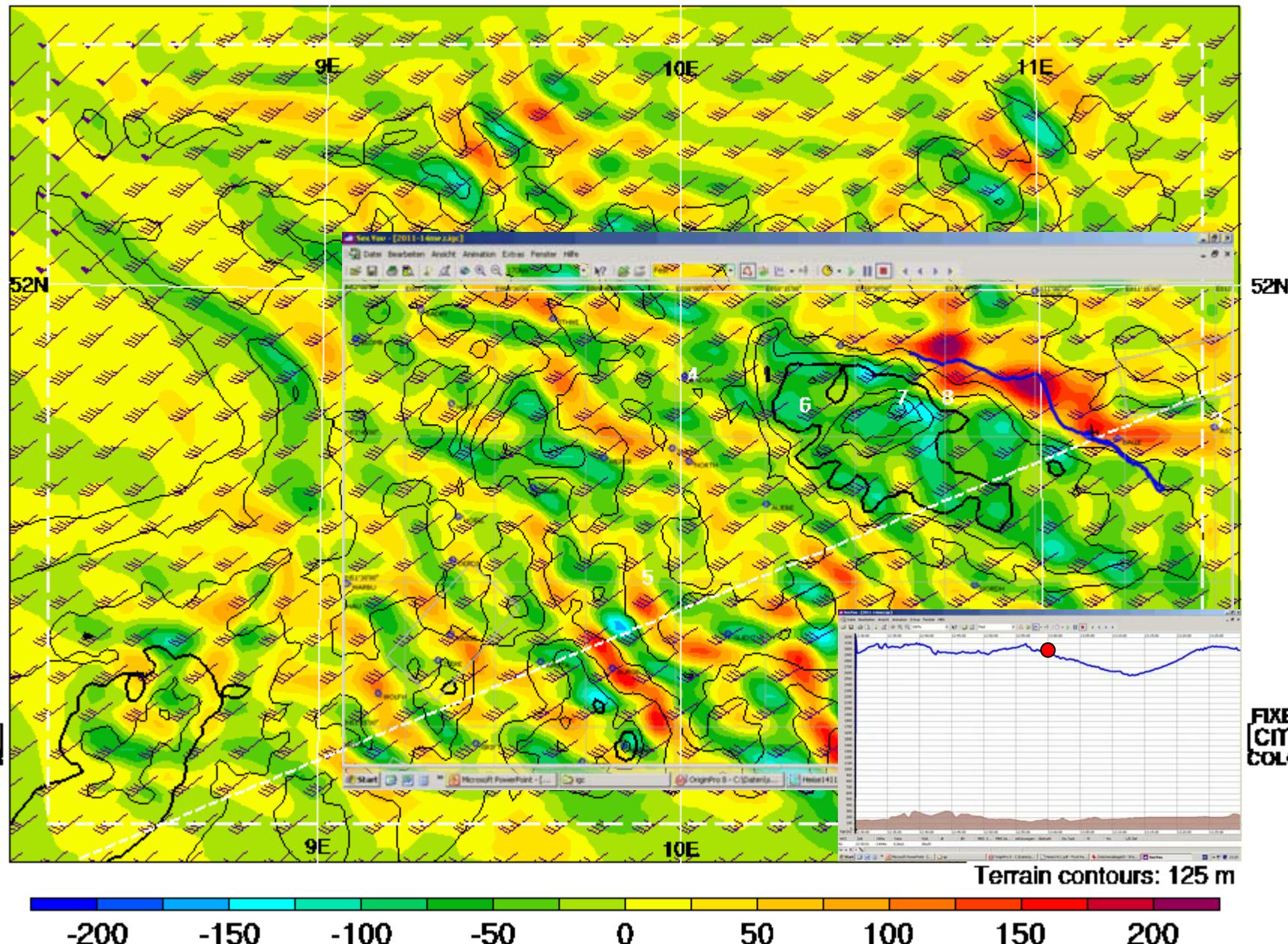
Vertical Velocity & Wind [kt] at 700mb

Valid 1300 CET (1200Z) FRI 20 Nov 2009 [30hrFcst@1706z]
boxWmax=347@51.40,9.76,1521m



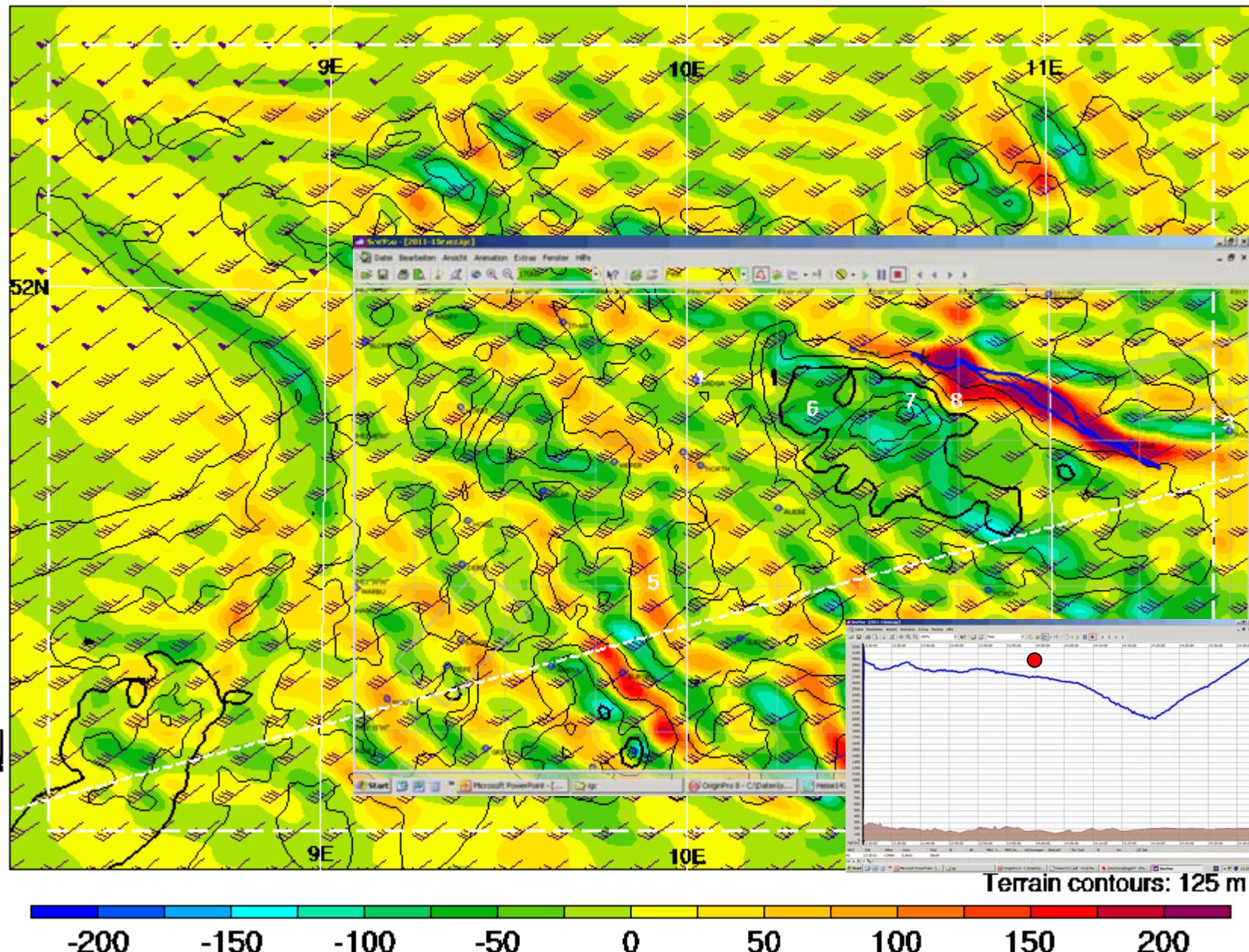
Vertical Velocity & Wind [kt] at 700mb

Valid 1400 CET (1300Z) FRI 20 Nov 2009 [31hrFcst@1725z]
boxWmax=309@51.39,9.78,1476m



Vertical Velocity & Wind [kt] at 700mb

Valid 1500 CET (1400Z) FRI 20 Nov 2009 [32hrFcst@1748z]
boxWmax=284@51.39,9.78,1476m



Vorläufiges Fazit für 14./20.11.:

RASP-Vorhersage stimmte erstaunlich gut.
Höhen- und Zeitabhängigkeit sind wichtig!

DWD konnte noch nicht verifiziert werden wegen Skalierungsproblemen

