

Eldgos í Grímsvötn 2011: Öskumælingar

Sumarþing Veðurfræðifélagsins

Sibylle von Löwis

06. júní 2011



**National Centre for
Atmospheric Science**

NATURAL ENVIRONMENT RESEARCH COUNCIL

FH D

Fachhochschule Düsseldorf
University of Applied Sciences

FB 4

Fachbereich Maschinenbau und Verfahrenstechnik
Department of Mechanical Process Engineering

Mælitæki og staðsetning

Halo Photonics pulsed Doppler LIDAR

- Keflavík 22. maí – 1.júní



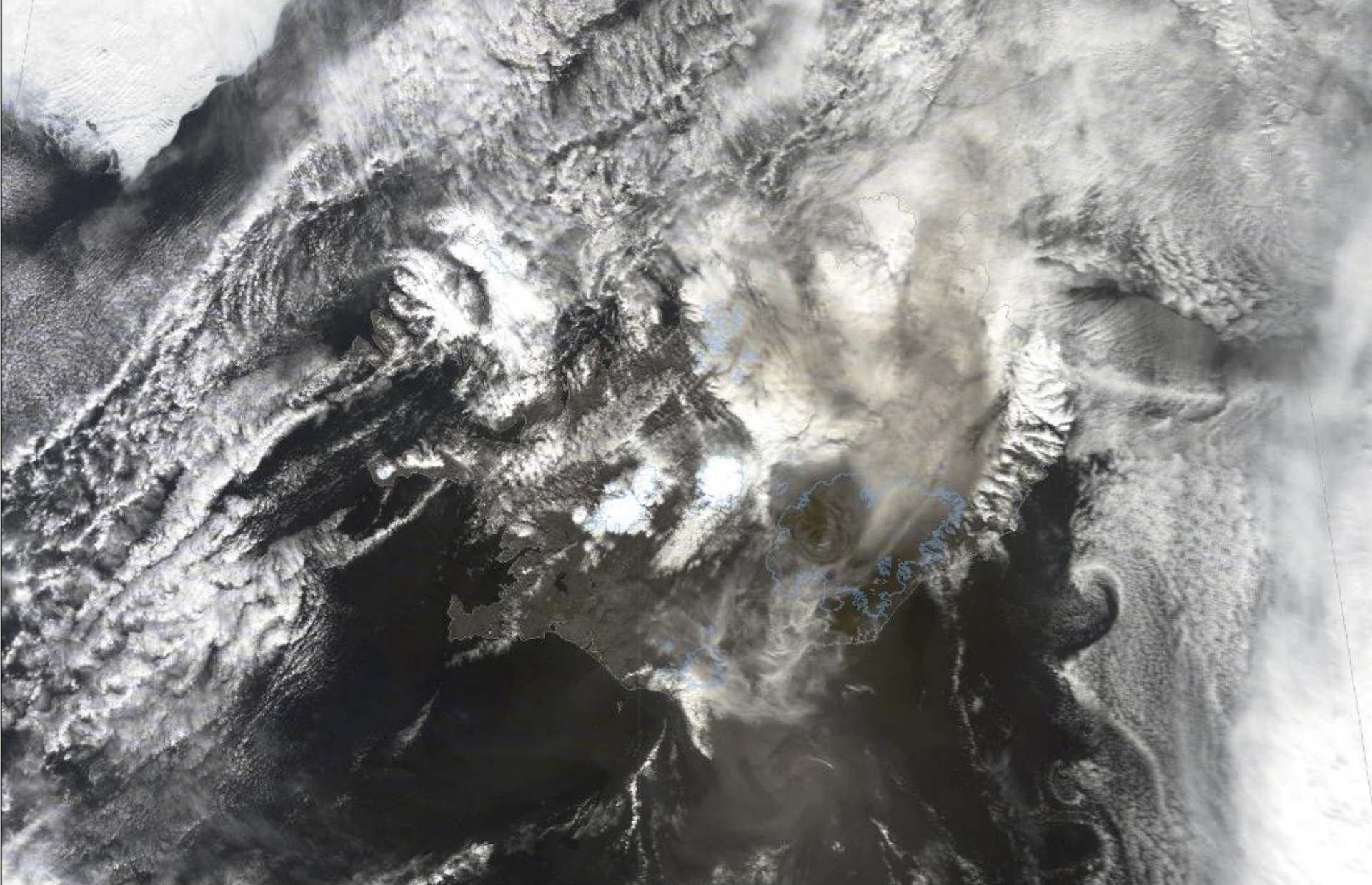
- Light Detection And Ranging
- Measurement ceiling height: 9600 m
- Max velocity measurement : ± 19.4 m/s
- Eye safe laser ($\lambda = 2050$ nm)

OPC Optical Particle Counter

- Hvollsvöllur (18. maí)
- Drangshlíðardalur (online 18.maí)







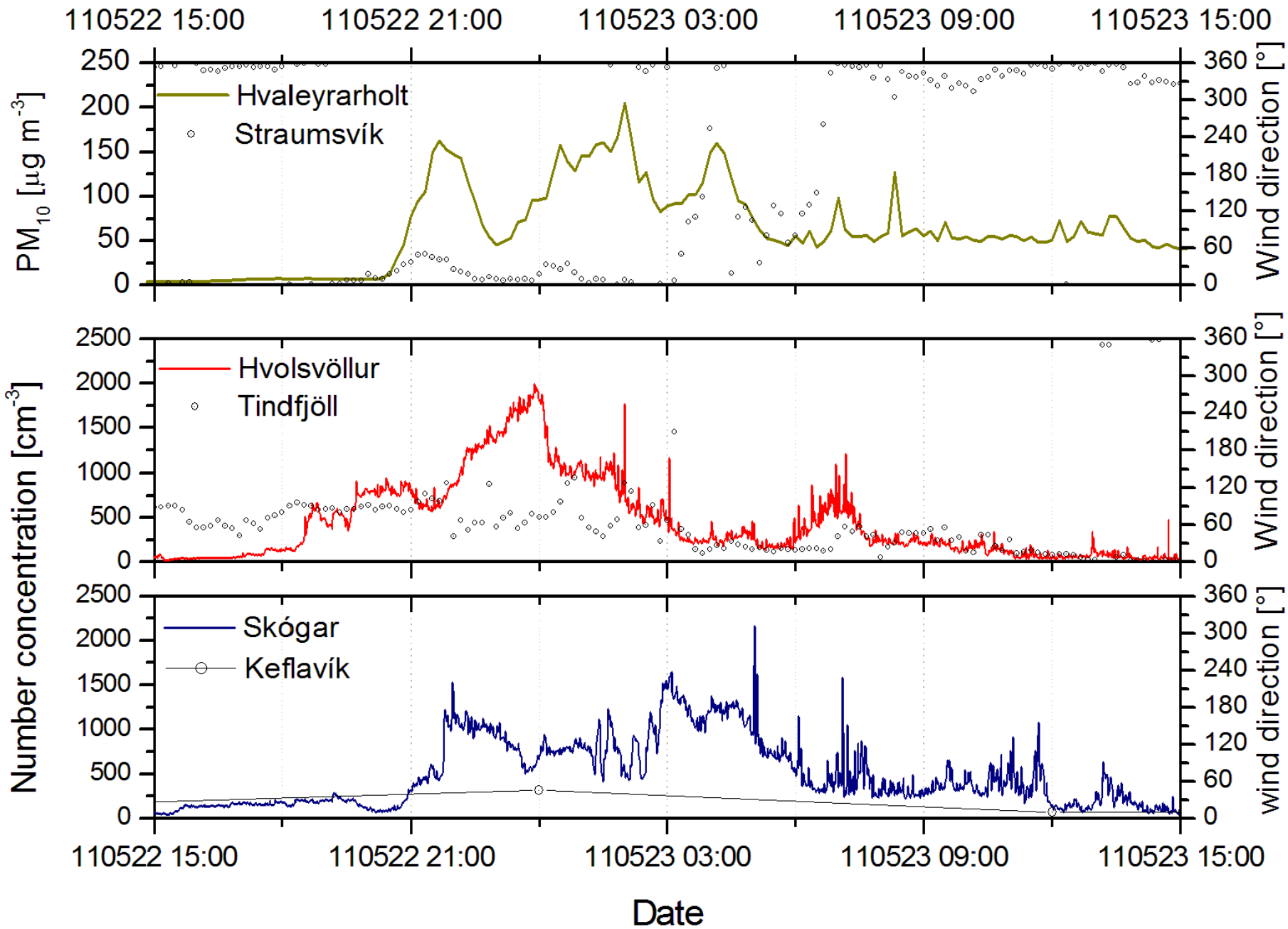
GRÍMSVÖTN 22.5. 2011 13:04 GMT

MODIS ljósmynd frá NASA & Dundee Satellite Receiving Station

Kortagögn frá Landmælingum Íslands.

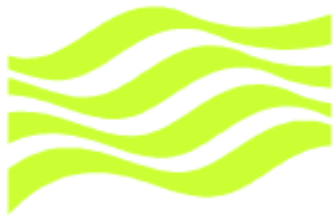
Myndvinnsla og kortagerð Jarðvísindastofnun Háskólans

Ingibjörg Jónsdóttir ij@hi.is



Depolarisation ratio δ

- $\delta = \frac{I_{perpendicular}}{I_{parallel}}$ where I backscatter intensity
- To distinguish between solid and liquid phase of water in atmosphere
- Backscatter signal of spherical particles of linearly polarised laser beam ($\delta \sim 0$)
- Nonspherical particles $0 < \delta < 1$
 - i.e. Ice crystals, dust, volcanic ash

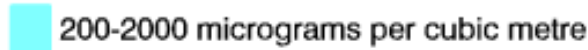
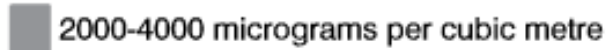
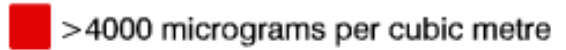


Modelled Ash Concentration from FL000 to FL200 at 1800 UTC 22/05/2011

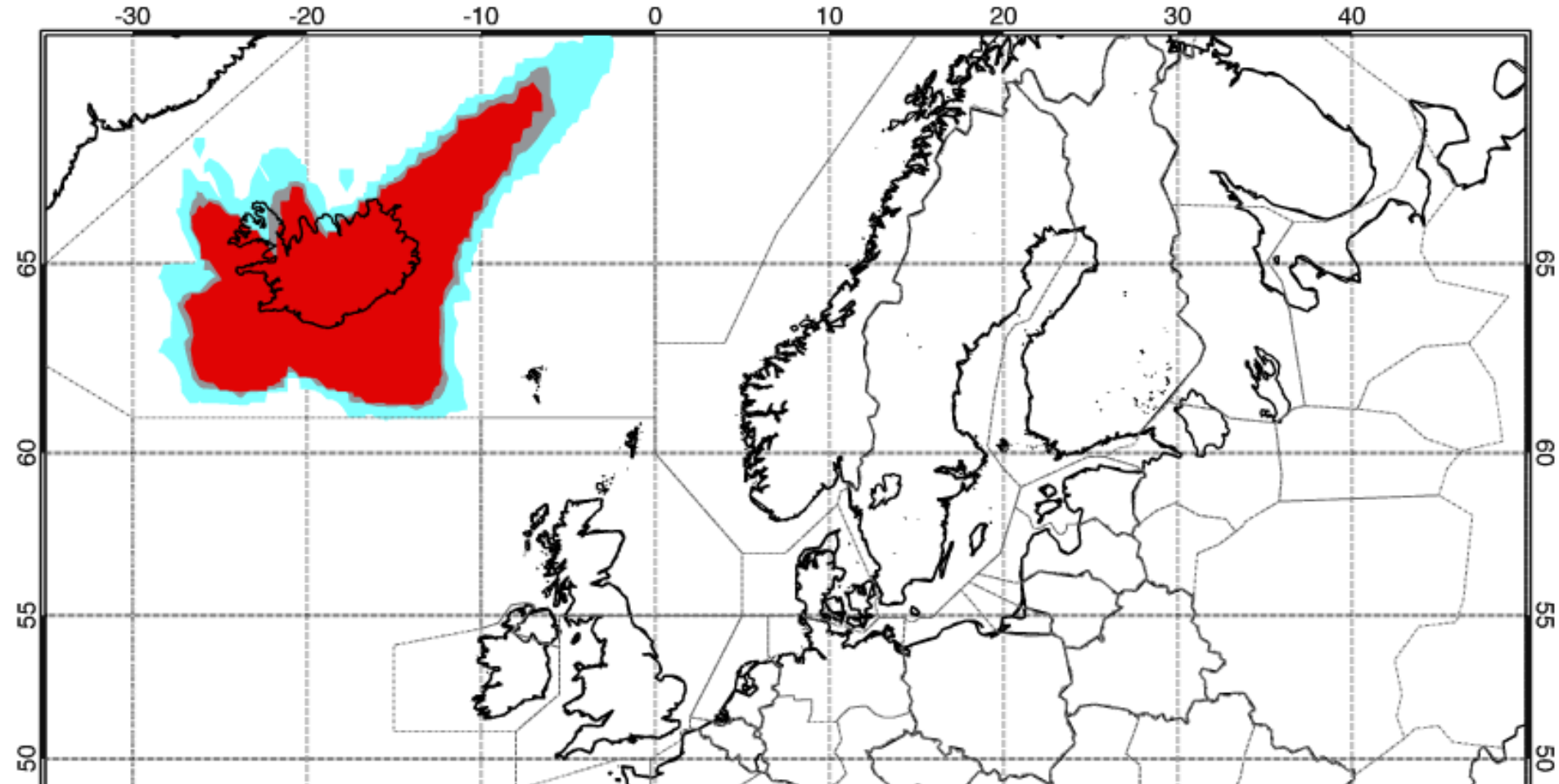
Issue time: 201105221200

This is a guidance product generated from model data and is supplemental to the official VAAC London Volcanic Ash Advisory and Volcanic Ash Graphic products. FIR boundaries are indicated for reference

Met Office

 200-2000 micrograms per cubic metre  2000-4000 micrograms per cubic metre  >4000 micrograms per cubic metre

All concentrations are subject to a level of uncertainty relative to errors in the estimation of the eruption strength

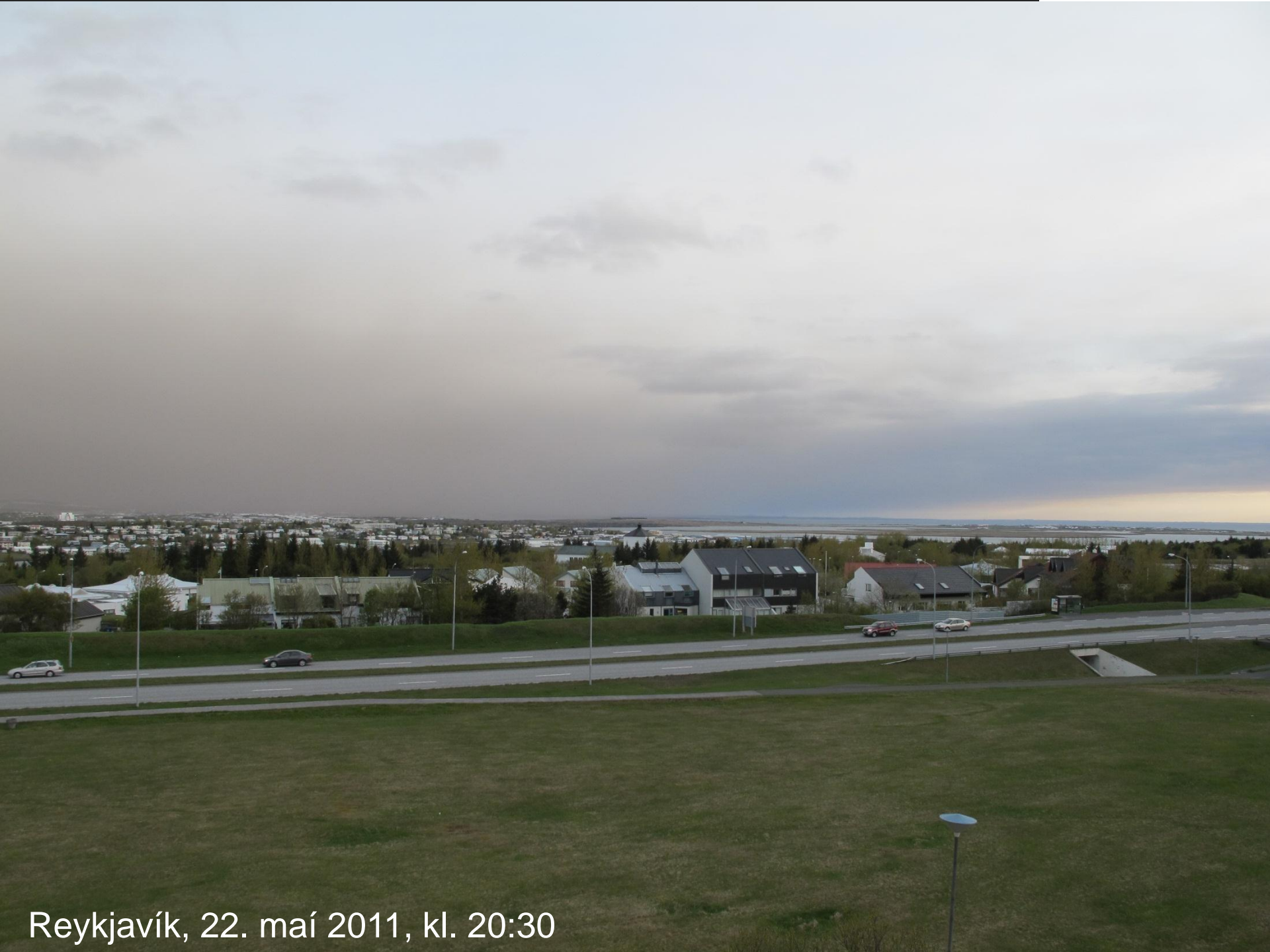




Reykjavík, 22. maí 2011, kl. 20:30

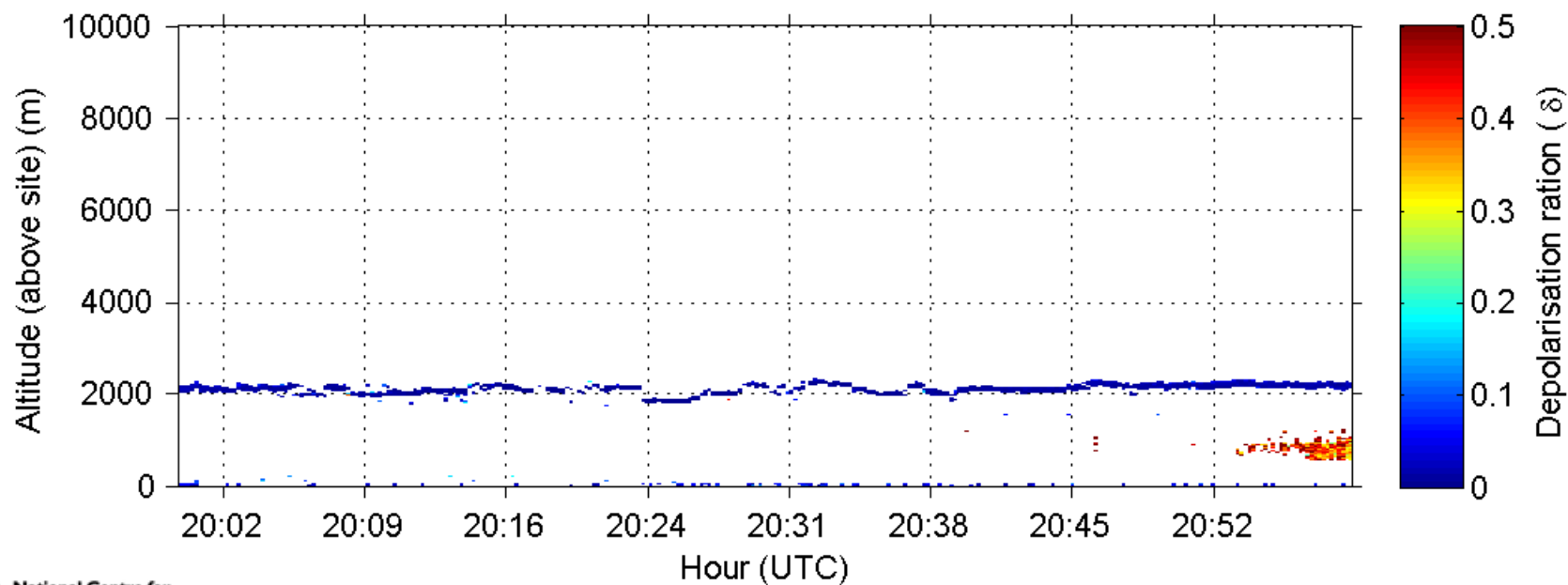
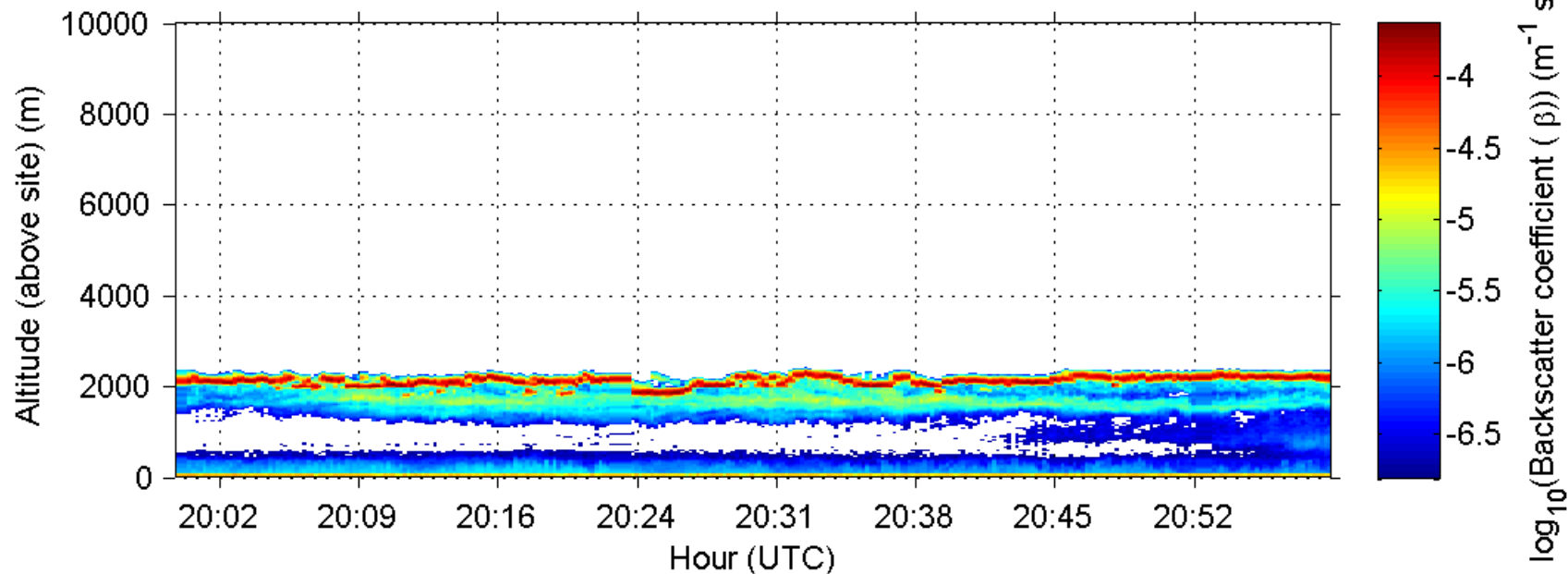


Reykjavík, 22. maí 2011, kl. 20:30

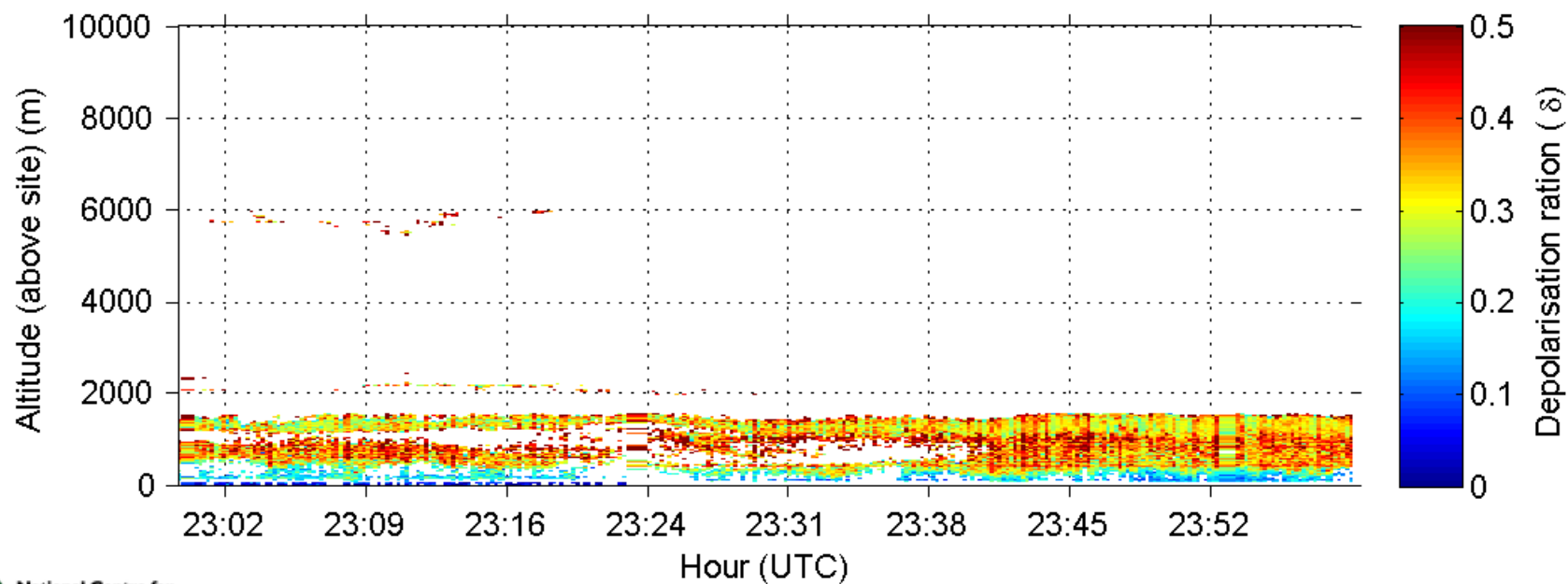
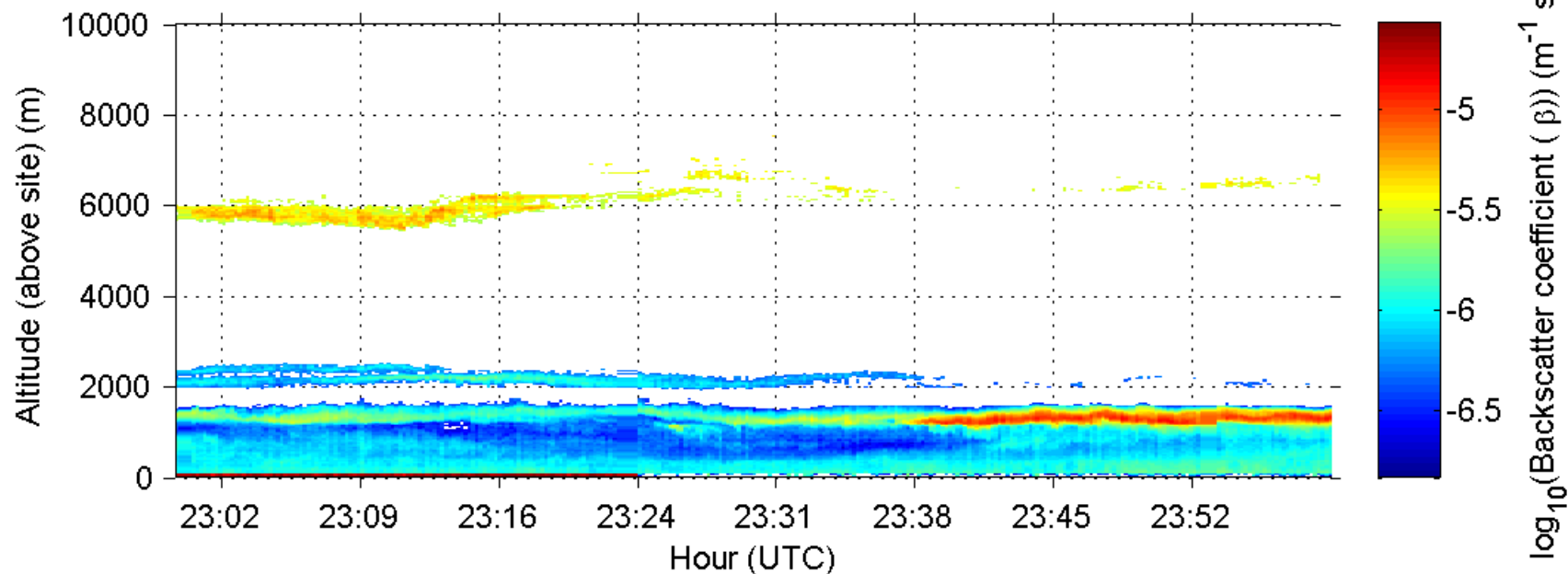


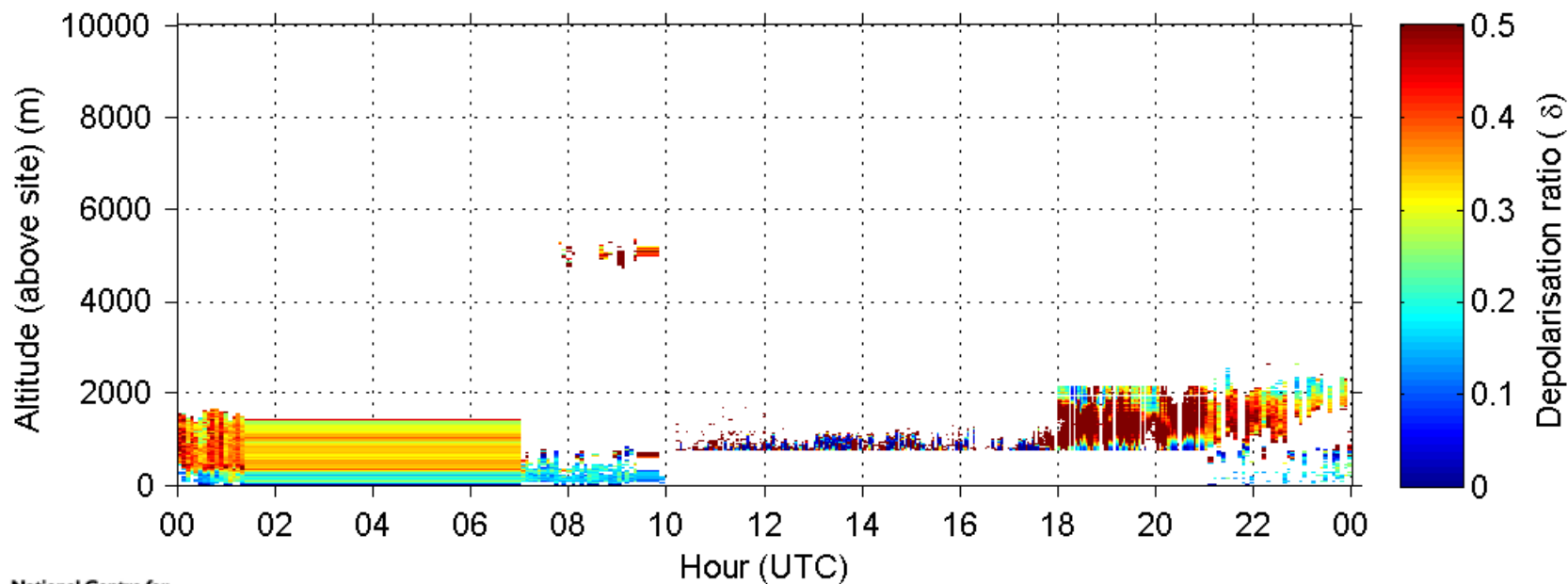
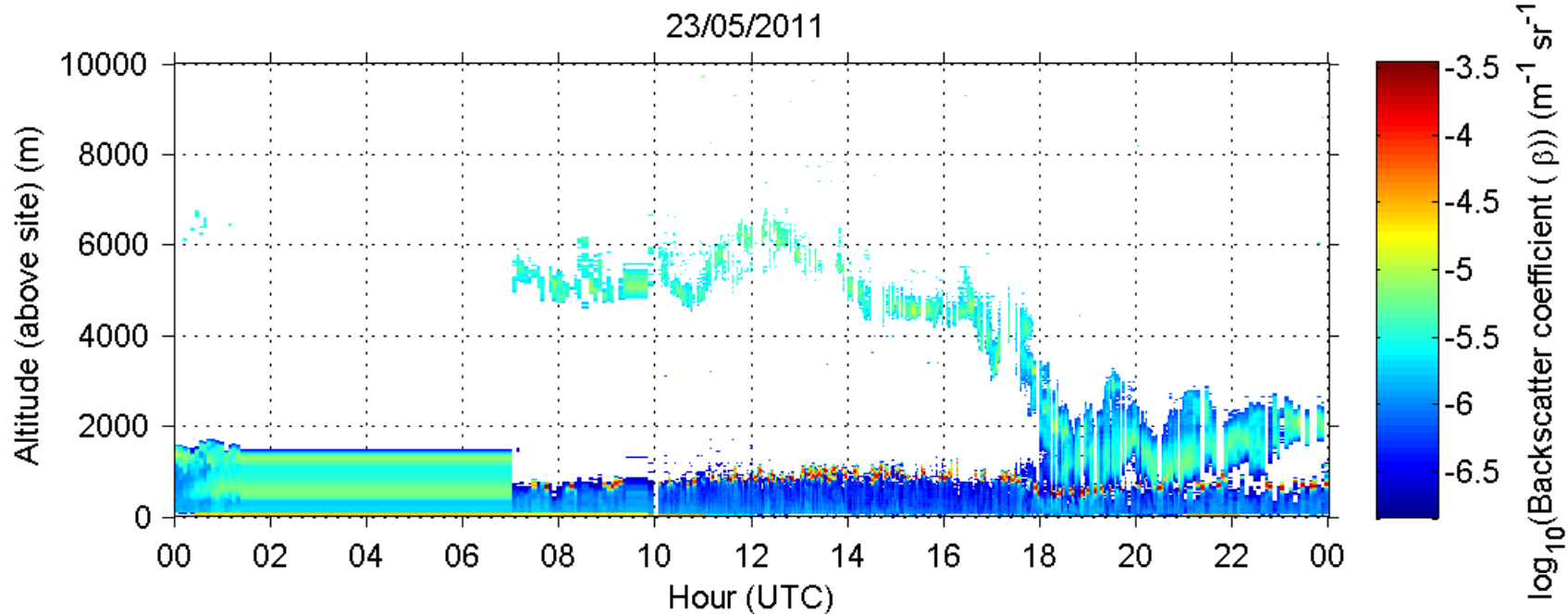
Reykjavík, 22. maí 2011, kl. 20:30

22/5/2011/ Hr:20:00

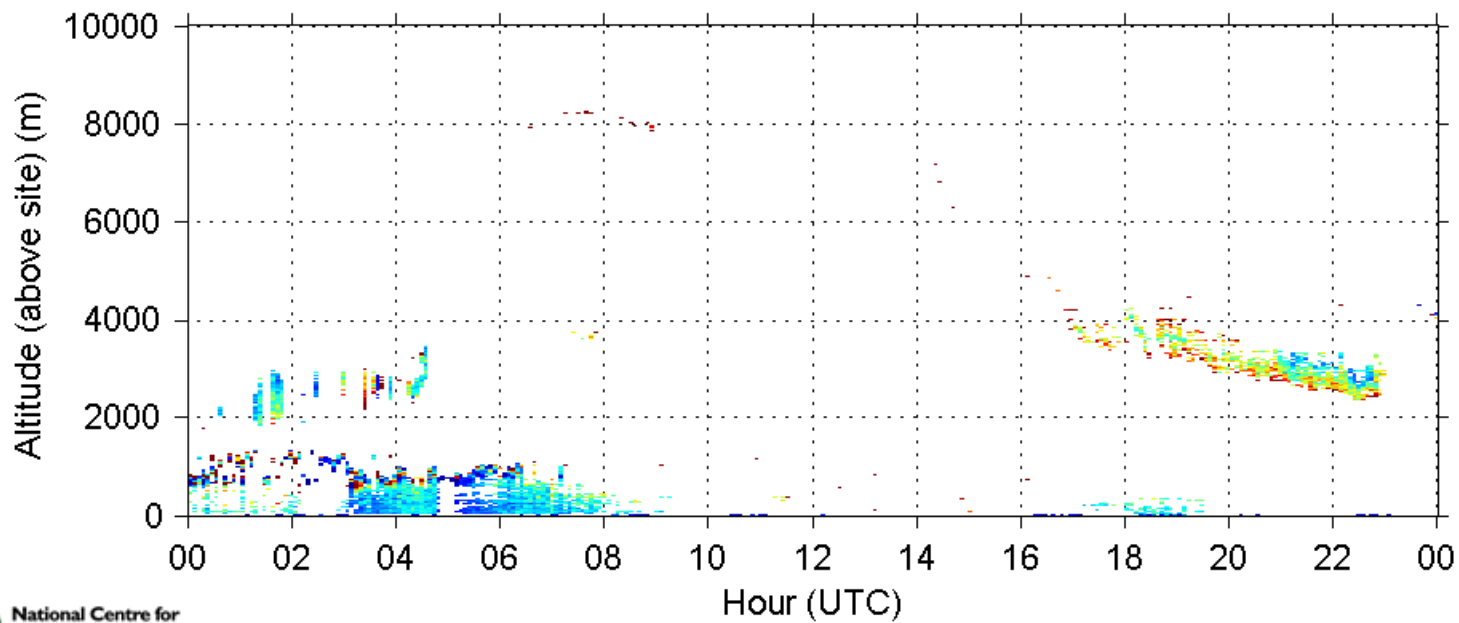
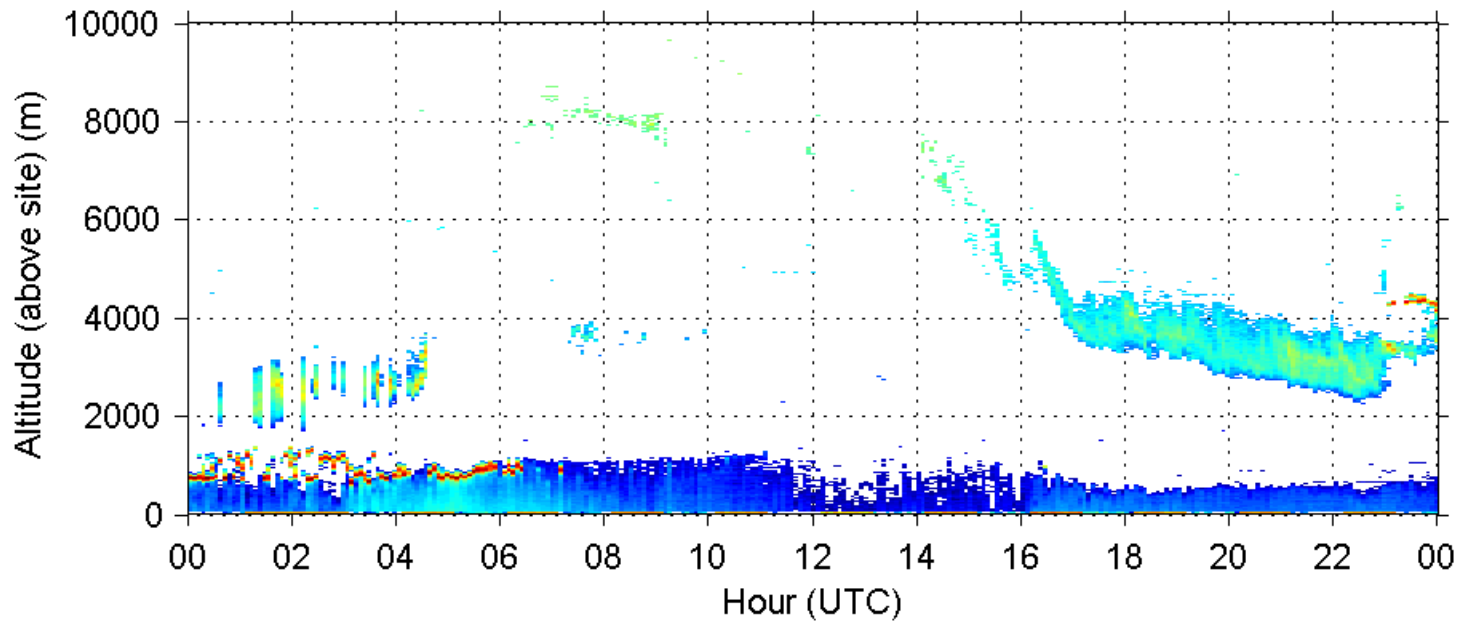


22/5/2011/ Hr:23:00





24/05/2011





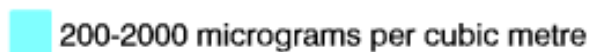
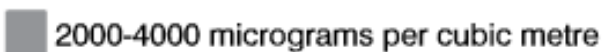

Modelled Ash Concentration from FL000 to FL200 at 1200 UTC 25/05/2011

Issue time: 201105250600

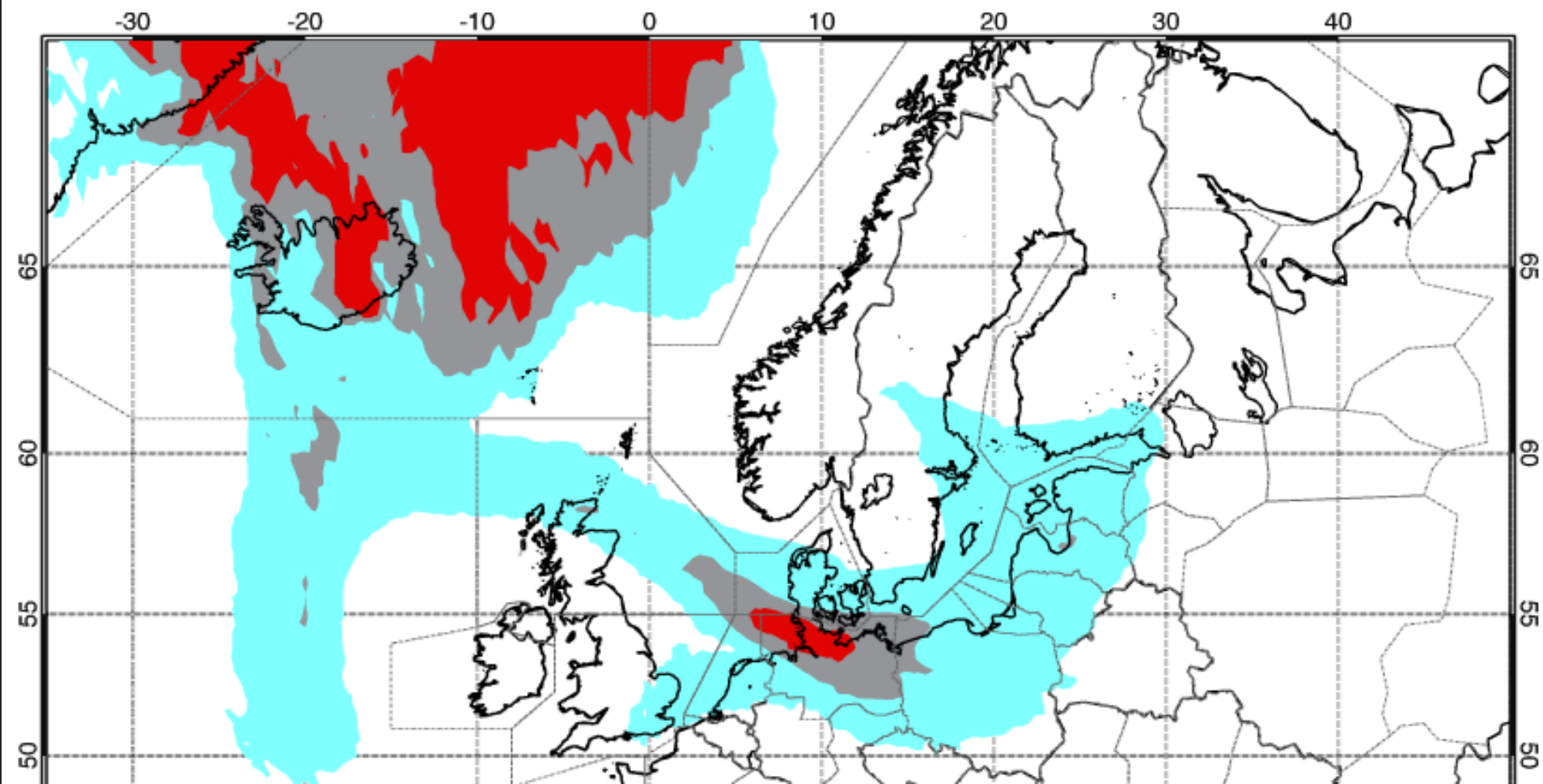
This is a guidance product generated from model data and is supplemental to the official VAAC London Volcanic Ash Advisory and Volcanic Ash Graphic products.

FIR boundaries are indicated for reference

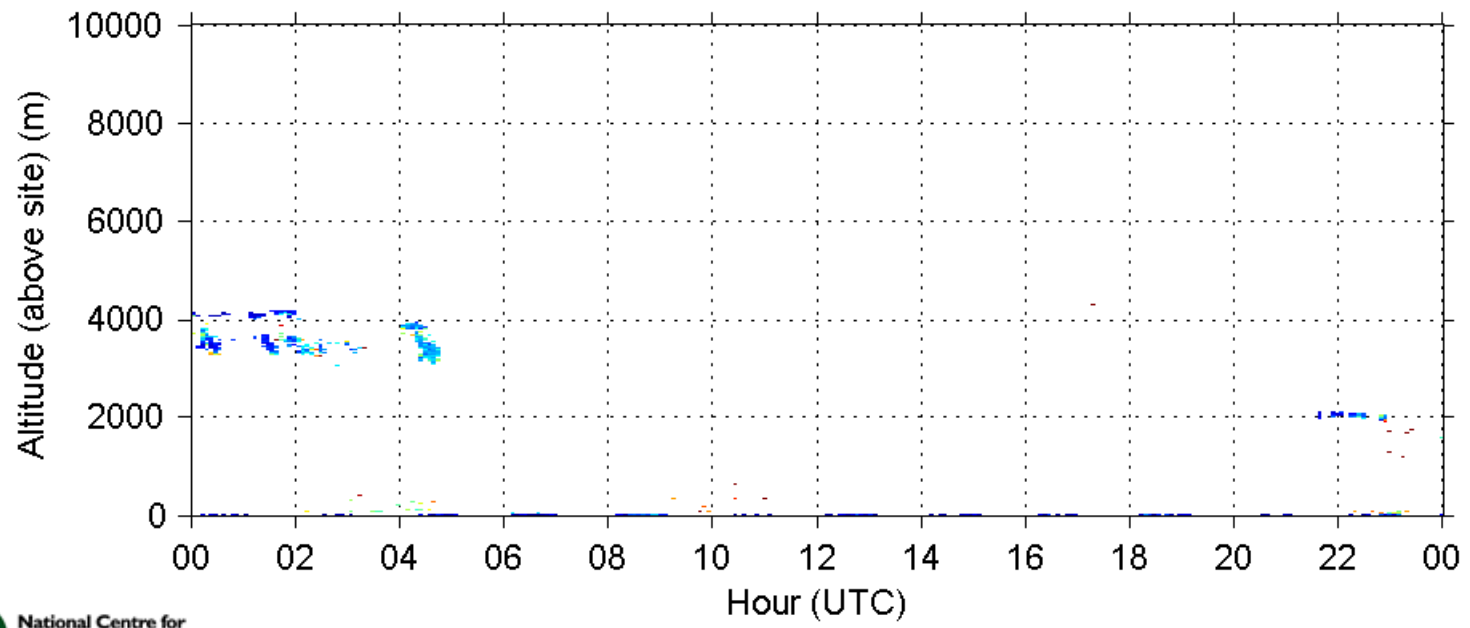
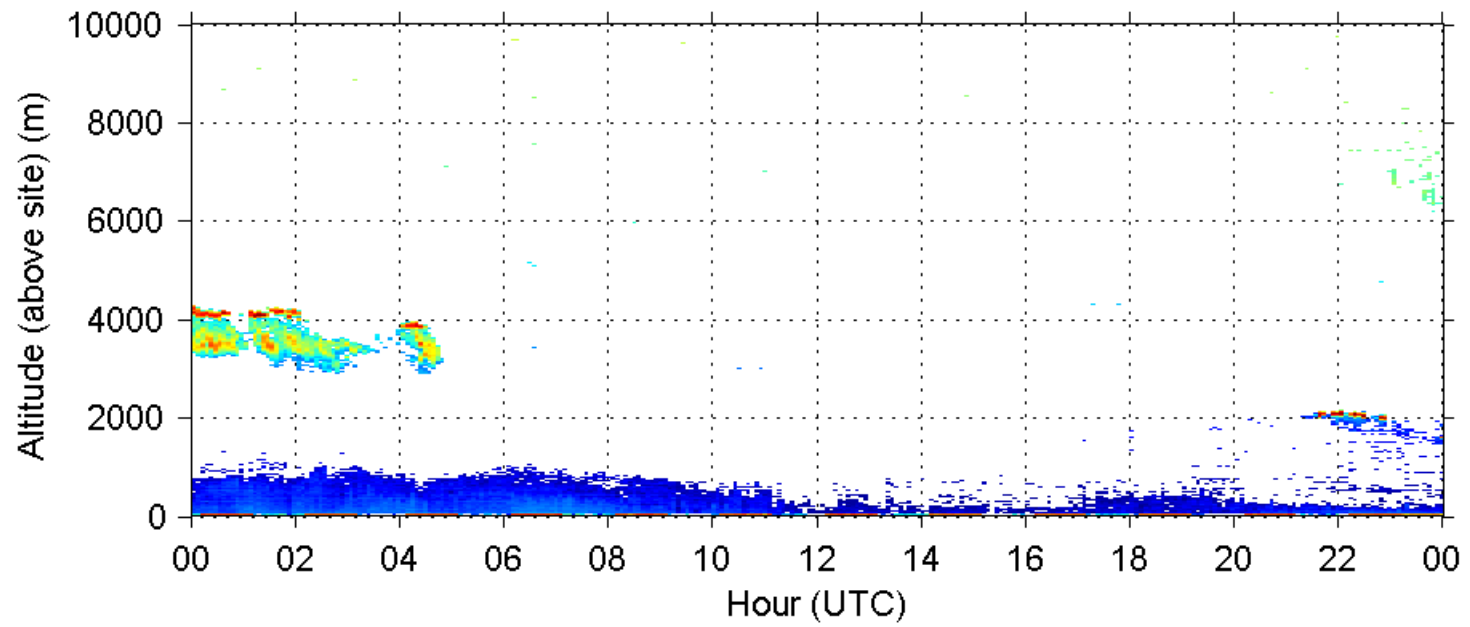
Met Office

 200-2000 micrograms per cubic metre  2000-4000 micrograms per cubic metre  >4000 micrograms per cubic metre

All concentrations are subject to a level of uncertainty relative to errors in the estimation of the eruption strength



25/05/2011



Takk fyrir

Barbara, James og Stephen
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Christian (FH Düsseldorf)

Kristín H., Guðrún Nína, Sigvaldi,
Gunnar Þór (VÍ)