

E-PROFILE

2nd IUGG-WMO workshop on
ash dispersal forecast and civil aviation

WMO, Geneva, 18-20 November 2013

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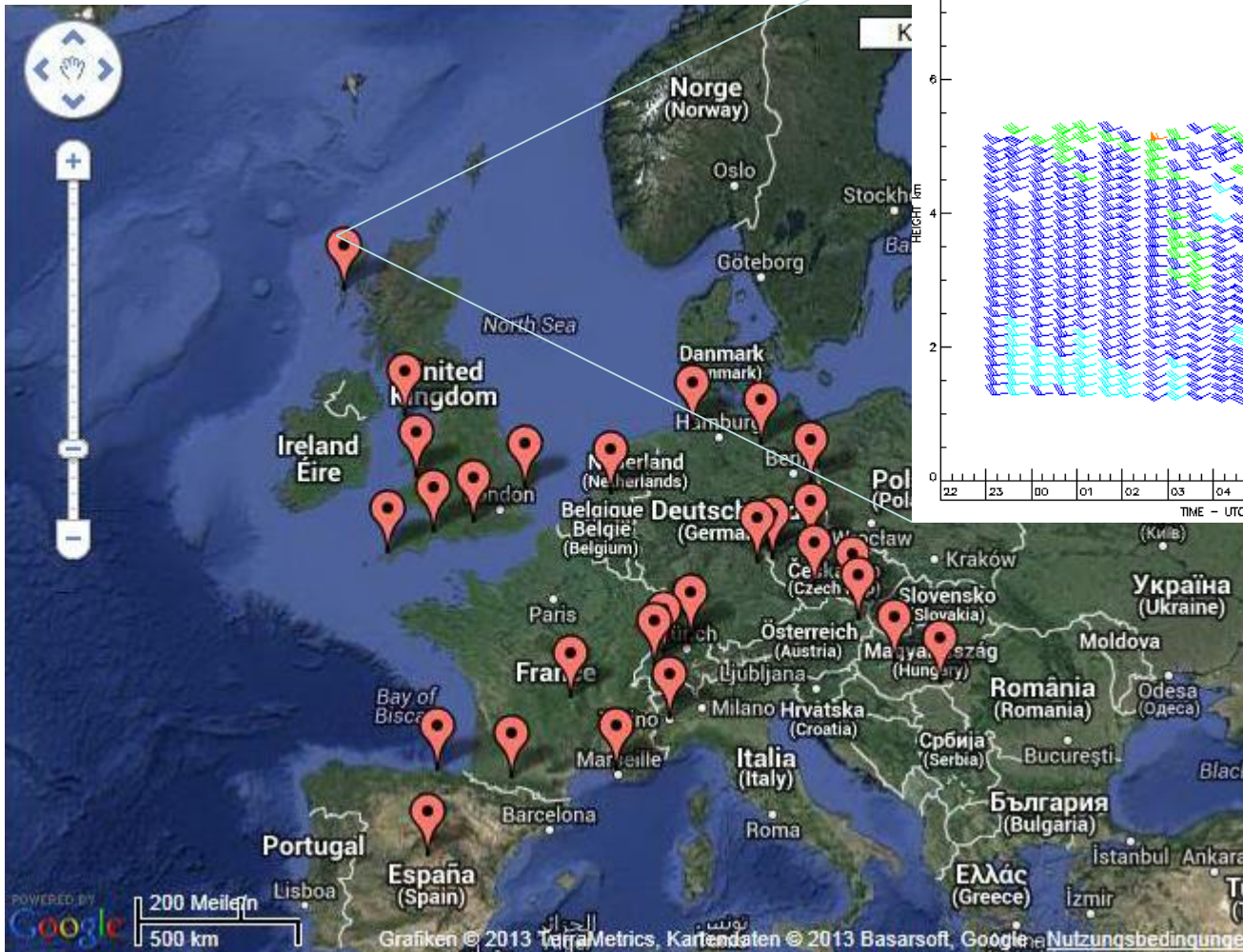
Some facts on E-PROFILE

A network for vertical profiling of wind and aerosols

- It is a EUMETNET programme
- Coordinated by MeteoSwiss
- 17 member states
- 1.1.2013 until 31.12.2017
- Continuation of E-WINPROF (windprofiler network)
- Integration of ceilometers and lidars

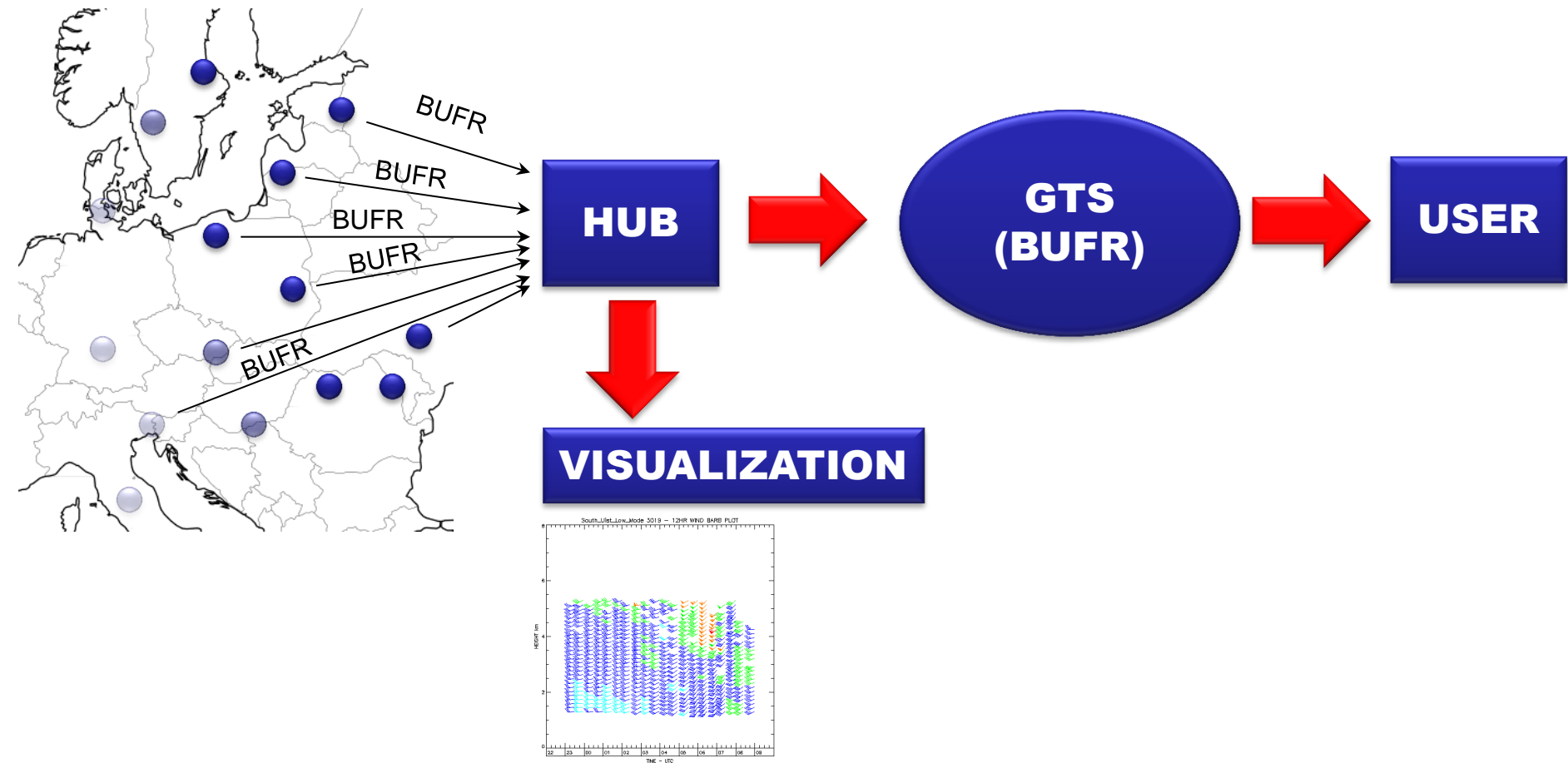
www.eumetnet.eu/e-profile

A network for vertical wind profiling

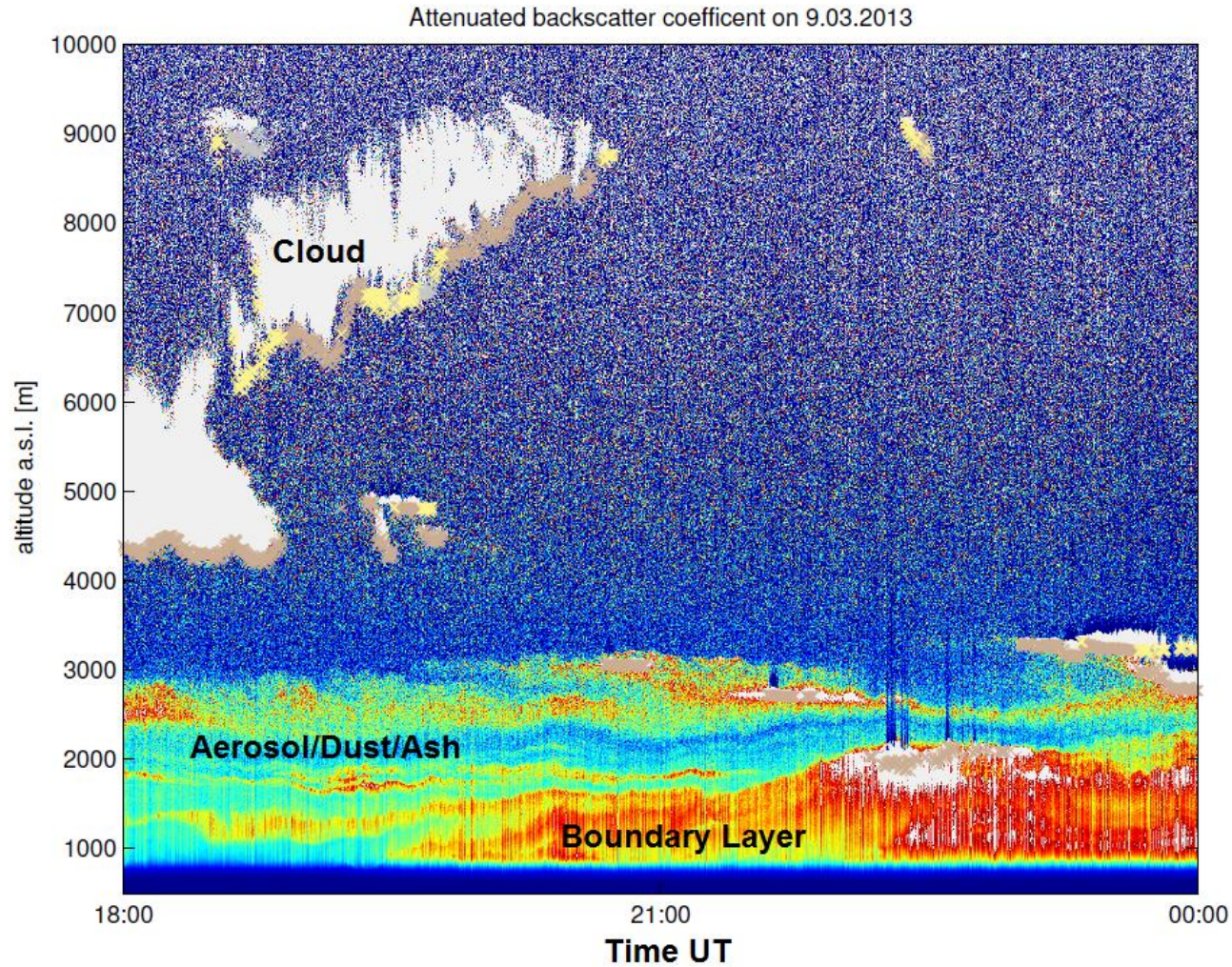


- 28 stations
- L-band to VHF
- [Map](#)

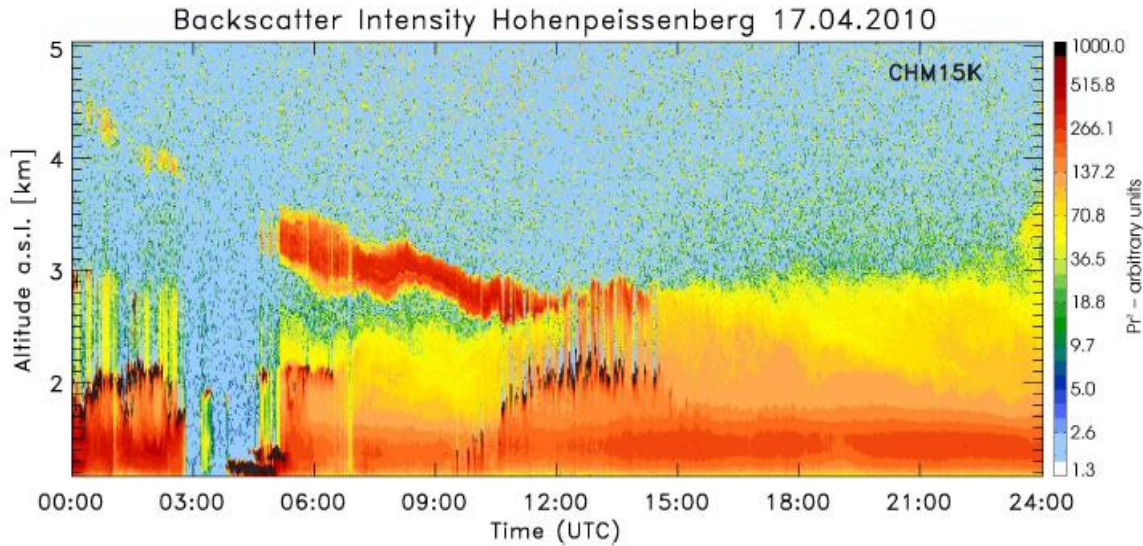
A network for vertical wind profiling



Ceilometers for vertical profiling



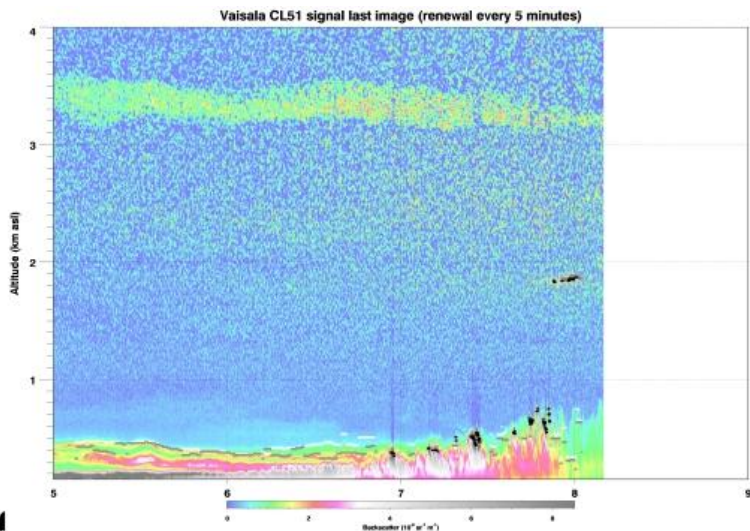
Ceilometers for vertical profiling



17 April 2010

Volcanic ash observed above Hohenpeissenberg, Germany

[Flentje et al. 2010]

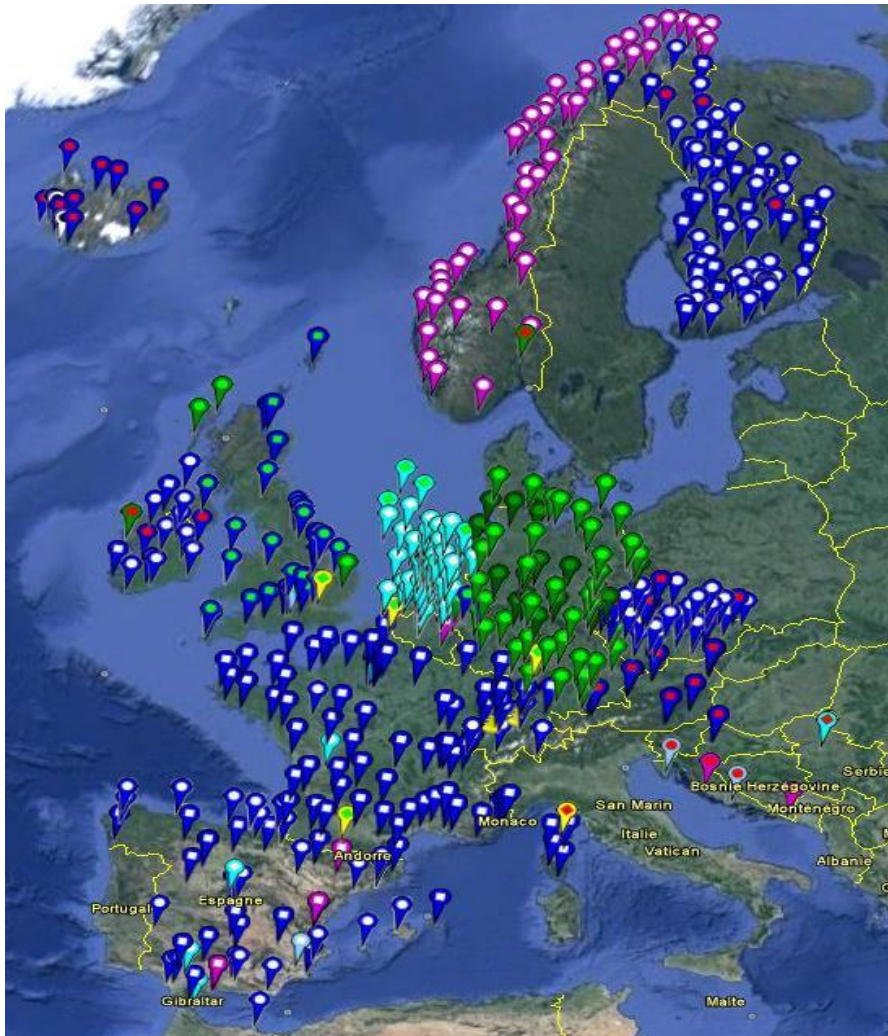


26 June 2013

Smoke from Canadian forest fires observed above Uccle, Netherlands.

Courtesy of Royal Meteorological Institute.

Inventory of ceilometer infrastructure

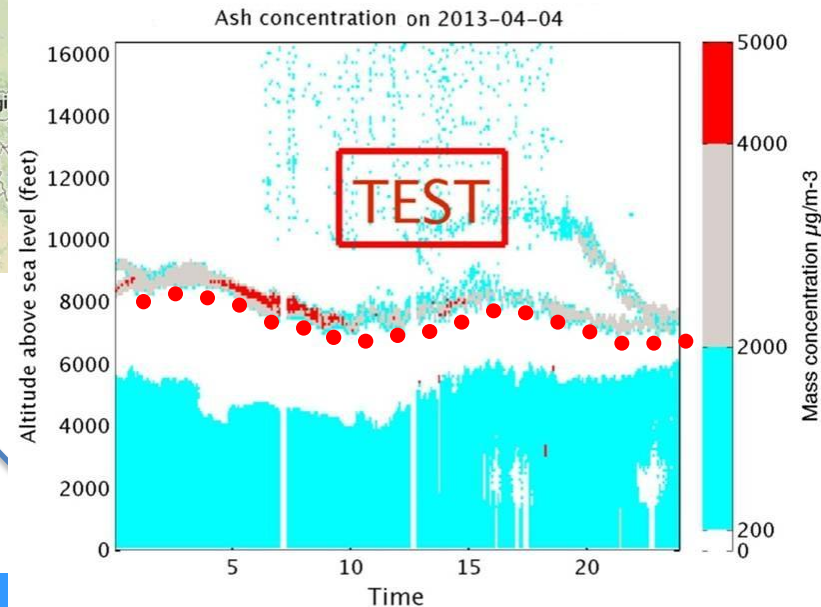


- Only E-PROFILE members
- ~700 ceilometer and automatic lidars

Current and future data products



Category	Parameter
C_0	cloud base height
C_1	RCS/SNR
C_1	RCS/SNR (future)
C_2	Cal. signal / att. Backsc.
C_3	Backsc./Extinct. Coeff.
C_4	Mass conc./size distribution



End users

End users:

- *National meteorological services (NMS).*
- *Aeronautics.*

Requirements: Real-time cloud information

End users:

- *Volcanic Ash Advisory Centres (VAAC).*
- *Research centres*

Requirements: Location in space and time of ash layer, mass concentration.

End users:

- *Numerical Weather Prediction (NWP) community.*
- *Environmental Protection Agencies (EPA).*

Requirements: Boundary layer height, backscatter profiles

The way forward

2013

- Inventory of infrastructure

2014

- Review of user requirements
- Definition of BUFR template for ceilometer/lidar
- Harmonization of data processing
- Business case for ceilometer network

2015-2016

- Implementation phase
- Pre-operational acceptance

2017

- Operational acceptance

Conclusions

- E-PROFILE is a network for vertical profiling of wind and aerosols.
- The windprofiler network is the continuation of a former EUMETNET programme.
- Ceilometers have the capacity to provide valuable information on the vertical aerosol distribution.
- The future ceilometer network of E-PROFILE counts 700 units.
- Data will be provided in numerical and visualized form through the central data hub and GTS.

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