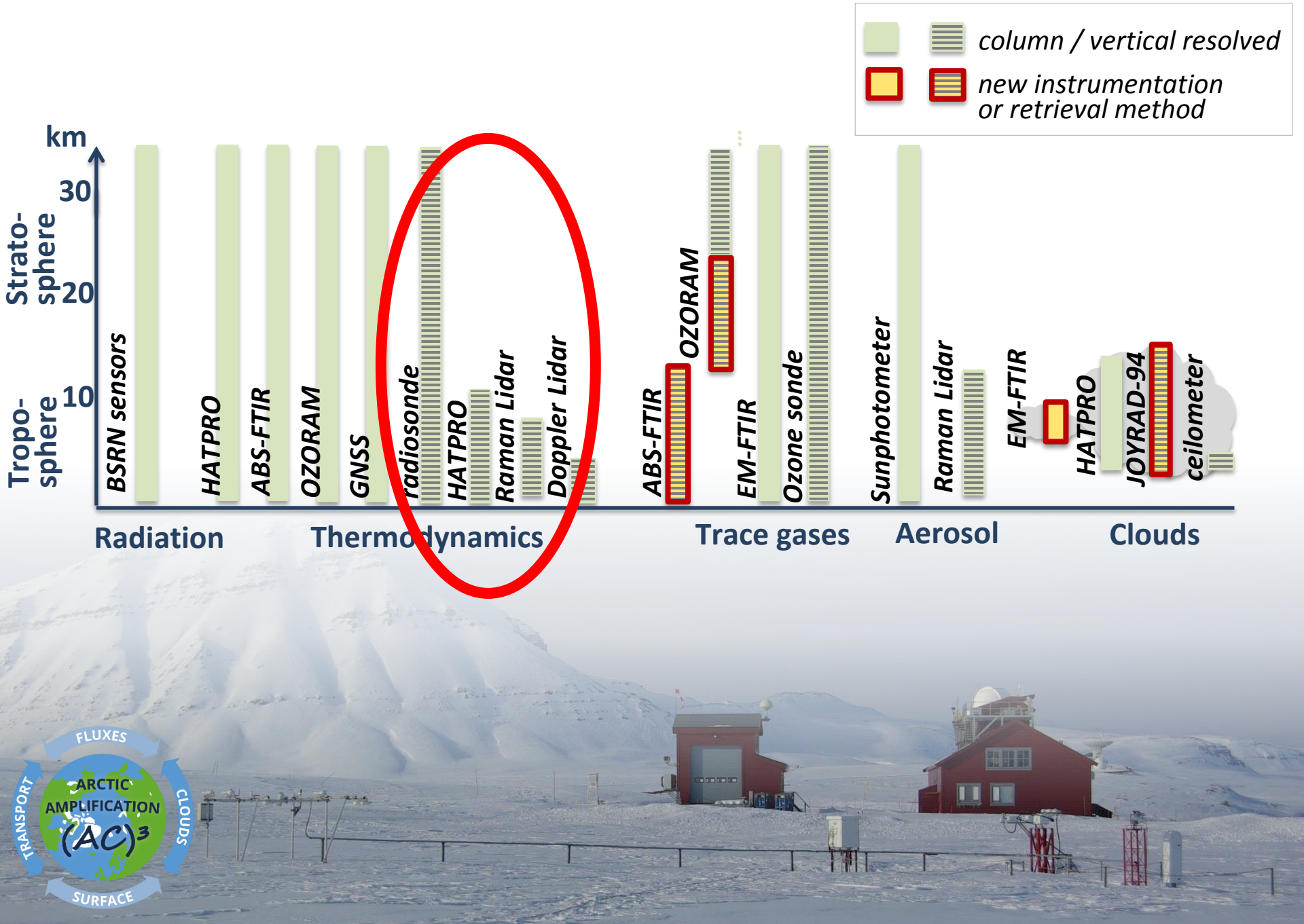
AWIPEV contributions to ACLOUD, (AC)³

The atmosphere above Ny-Ålesund observed at Atmosphere Observatory

M. Maturilli, C. Ritter, R. Neuber

K. Ebell, R. Gierens, S. Crewell

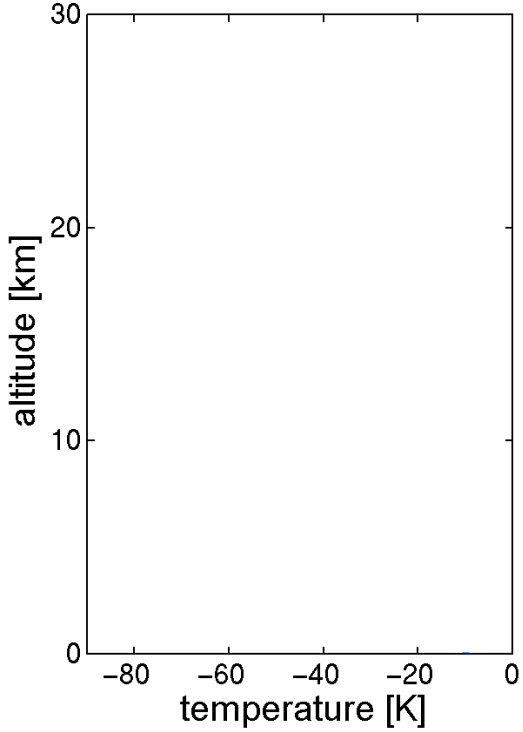
M. Palm, J. Notholt


column / vertical resolved
new instrumentation or retrieval method
km
30
20
10
Strato-sphere
Tropo-sphere
BSRN sensors
HATPRO
ABS-FTIR
OZORAM
GNSS
radiosonde
HATPRO
Raman Lidar
Doppler Lidar
ABS-FTIR
OZORAM
EM-FTIR
Ozone sonde
Sunphotometer
Raman Lidar
EM-FTIR
HATPRO
JOYRAD-94
ceilometer
Radiation
Thermodynamics
Trace gases
Aerosol
Clouds
FLUXES
TRANSPORT
CLOUDS
SURFACE
ARCTIC AMPLIFICATION
(AC)3

Upper-Air Observations

Daily Radiosondes

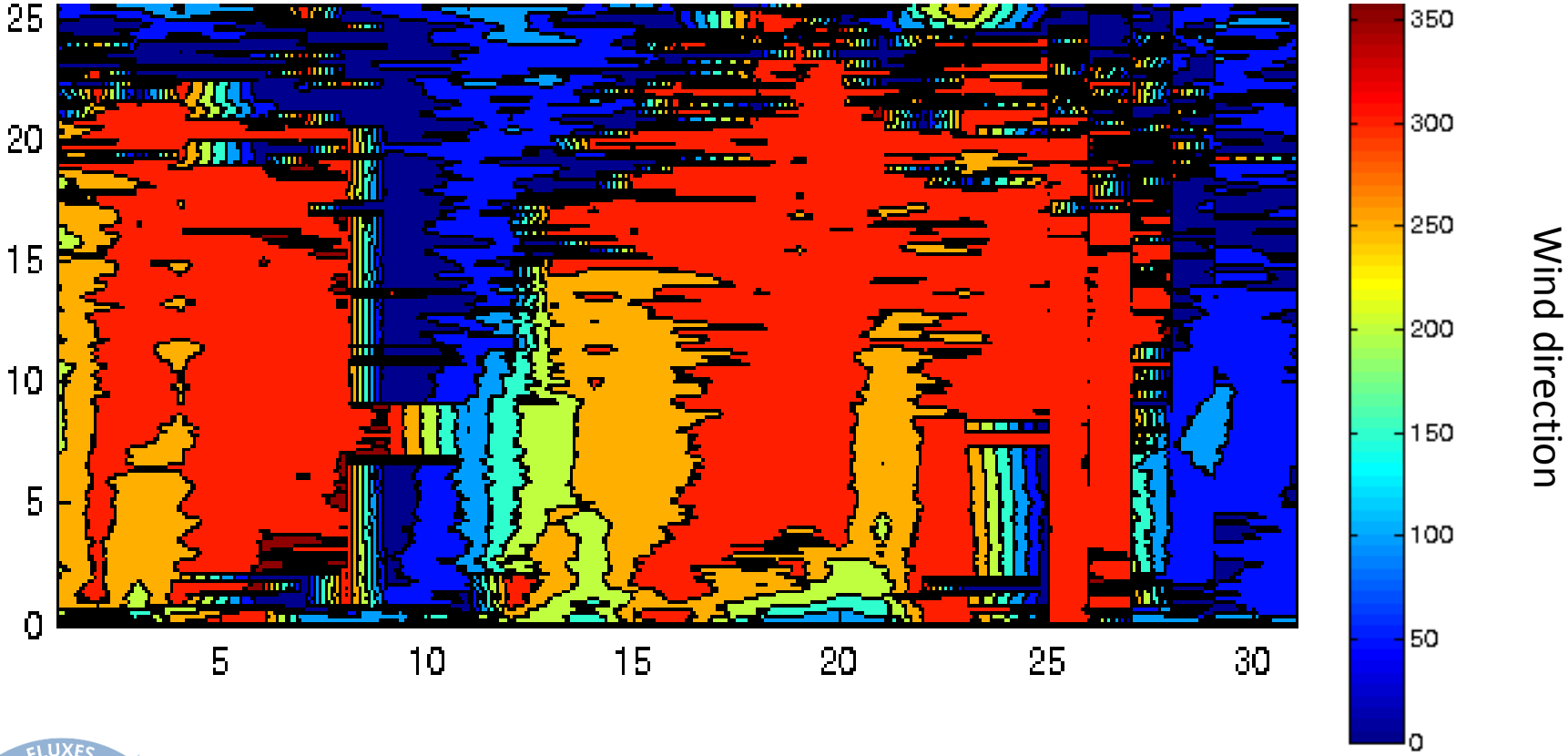
- temperature
- humidity
- wind speed
- wind direction
- pressure



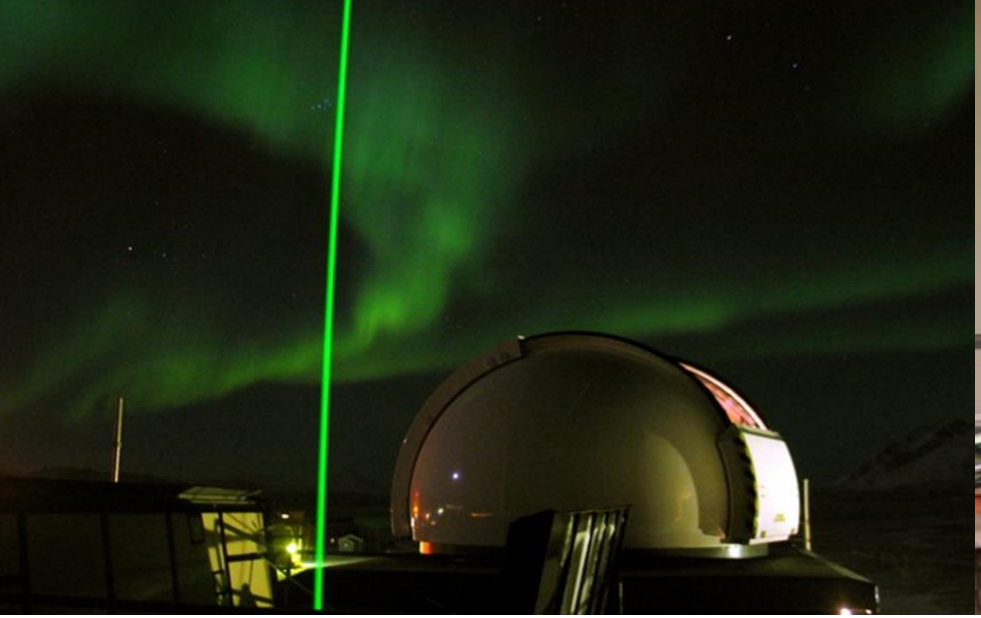
→ part of the GCOS Reference Upper-Air Network

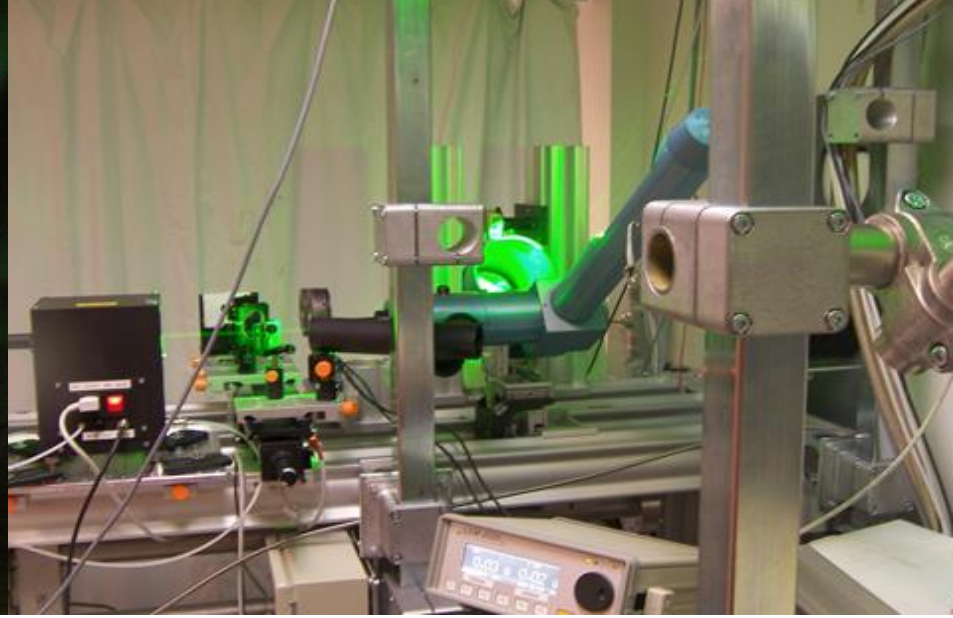
- May 26 – June 21
  Sandro Dahlke
- increased frequency of launches (Radiosondes every 6 hours)
- extra radiosondes on request in accordance with ACLOUD campaign

Radiosonde Winds, May 2017
AWIPEV, Ny-Aalesund



Sandro Dahlke, AWI



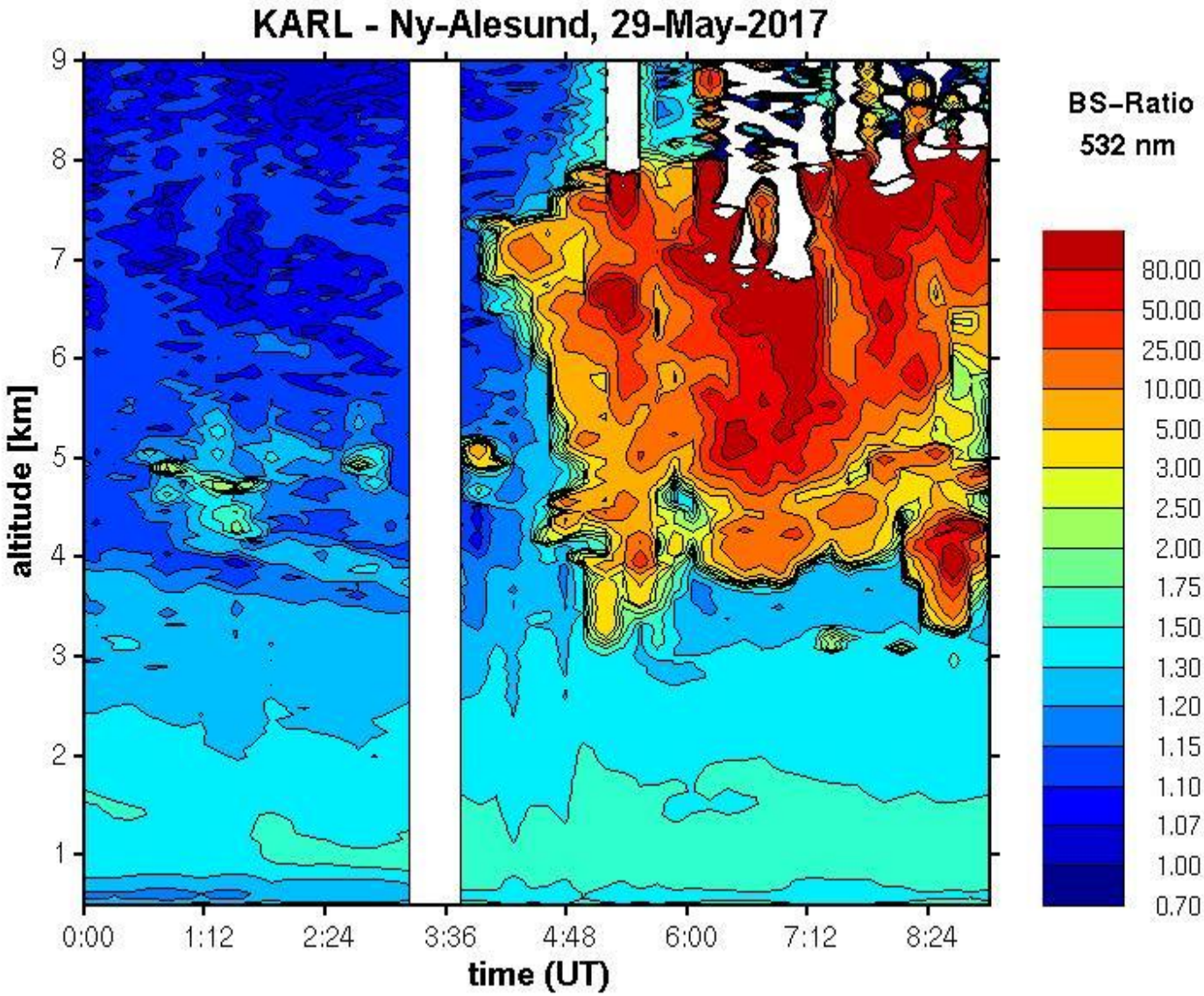


a) Koldewey Aerosol Raman Lidar (KARL)

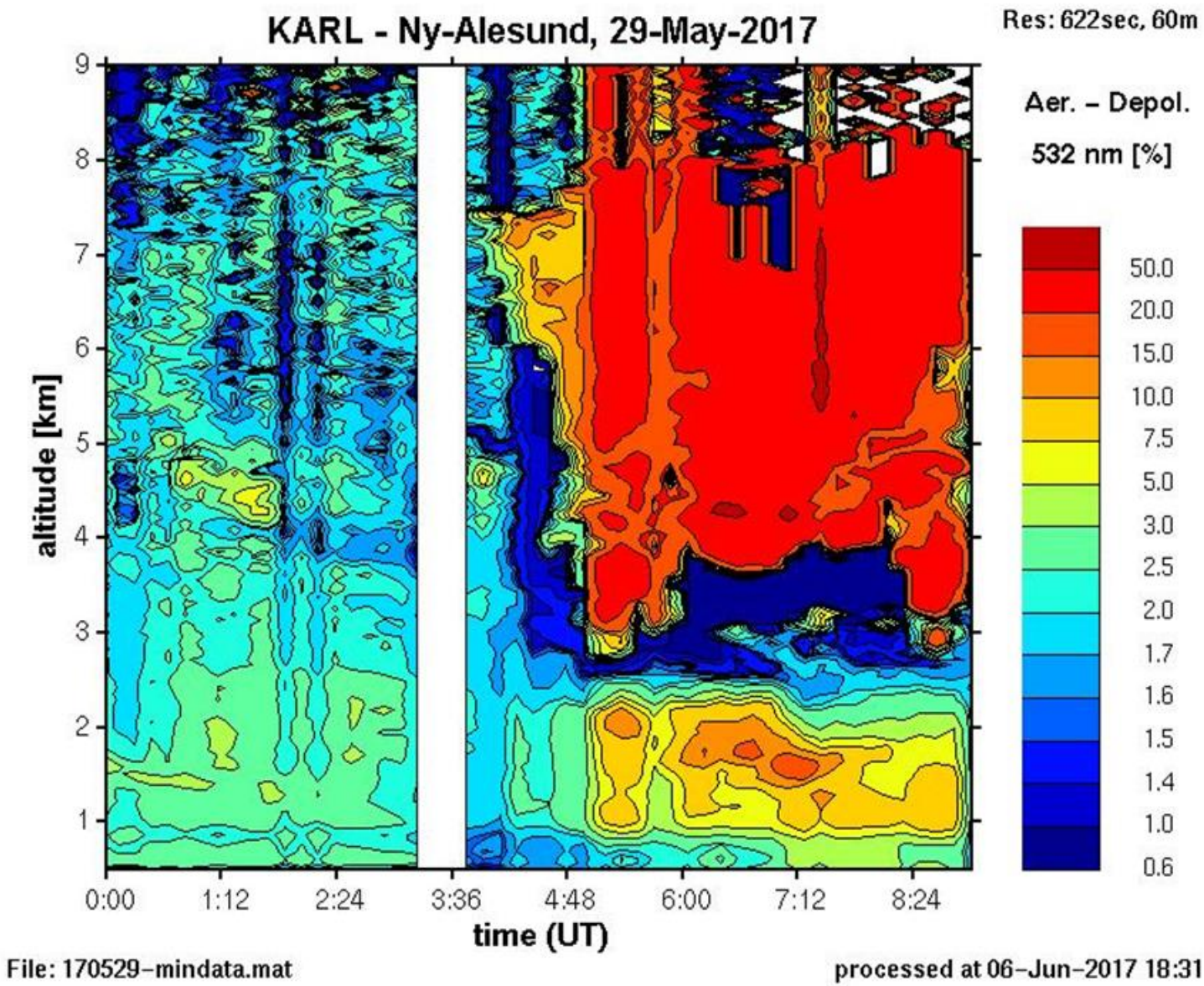
Backscatter: (β) 355nm, 532nm, 1064nm
Extinction: (α) 355nm, 532nm (from N_2 Raman)
Depolarization: (δ) 355nm, 532nm
Water vapor: 407nm, 660nm (from H_2O Raman)

Nd:Yag laser with ~~10W / color~~ 1.8W / color
70cm recording telescope
Moveable aperture (diameter & position) for measurements in tropos- and stratosphere

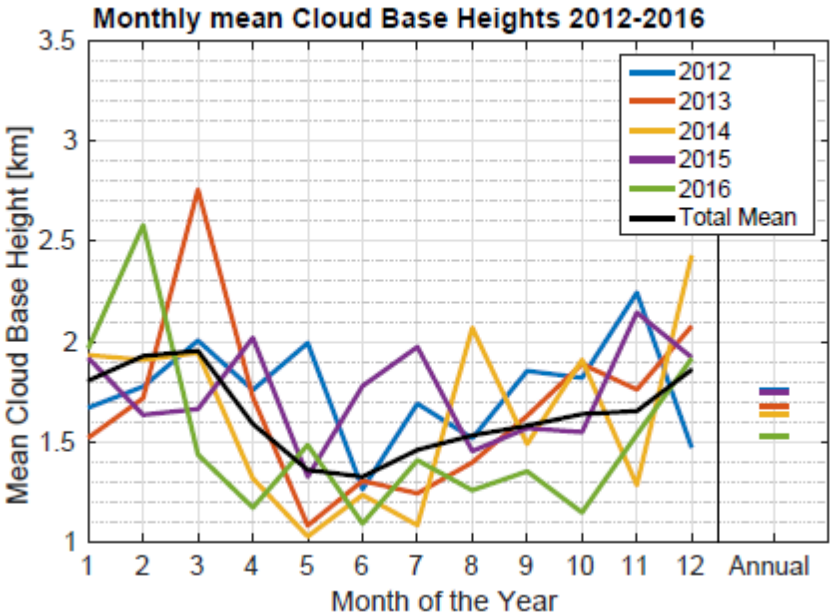
Example 29 Mai (overflight P5 & P6)

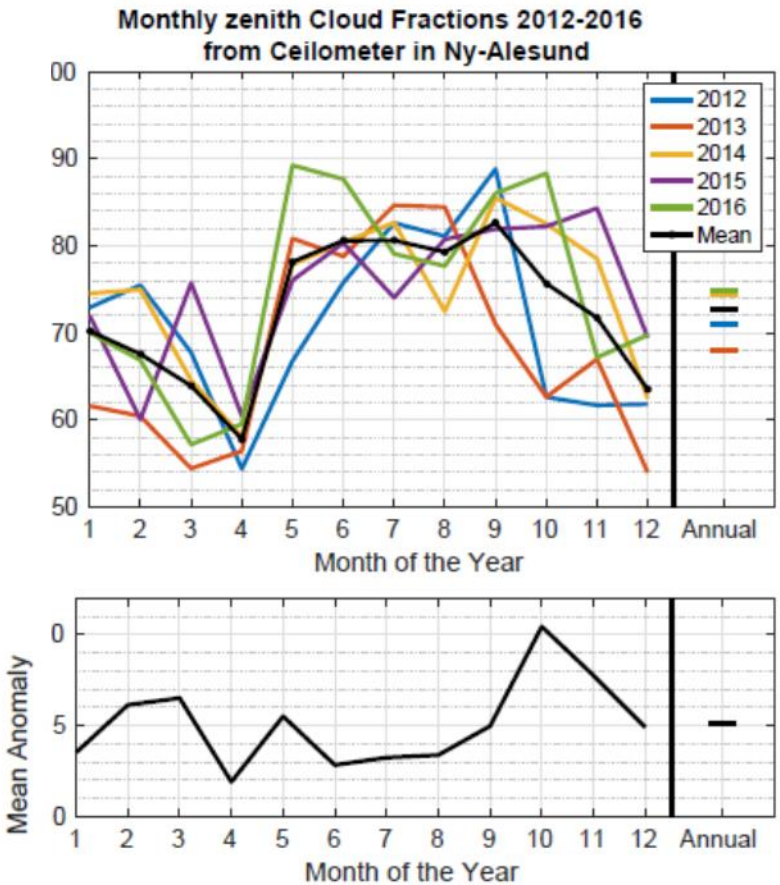


Example 29 Mai (overflight P5 & P6)



AWIPEV Ceilometer: 2012 – 2016: cloud cover statistics from Ny-Ålesund





Anomaly: max. difference from mean

A. Kautzleben, AWI