



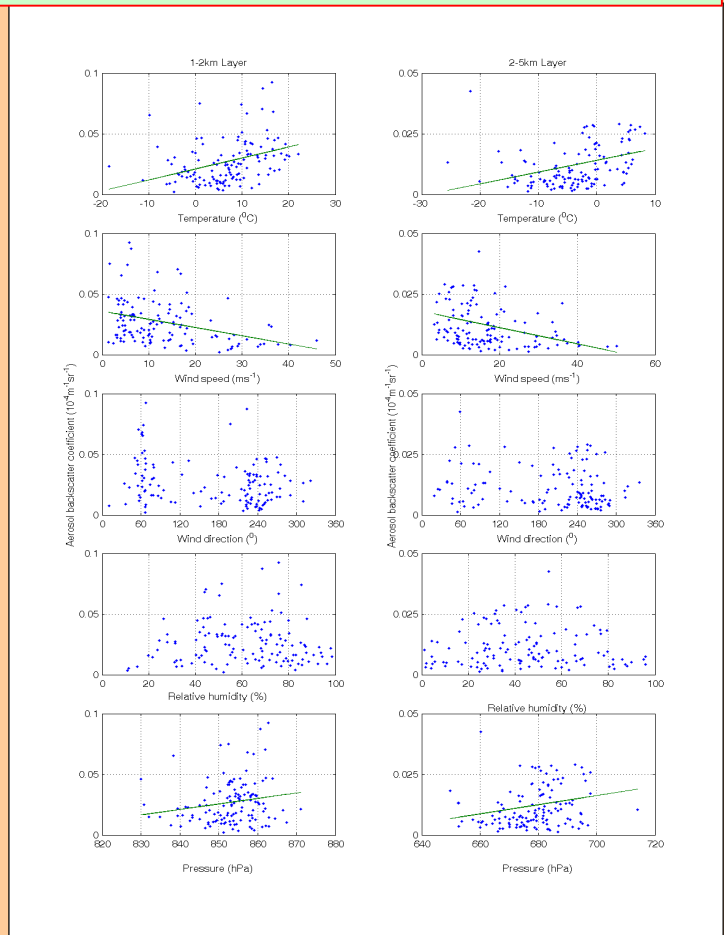
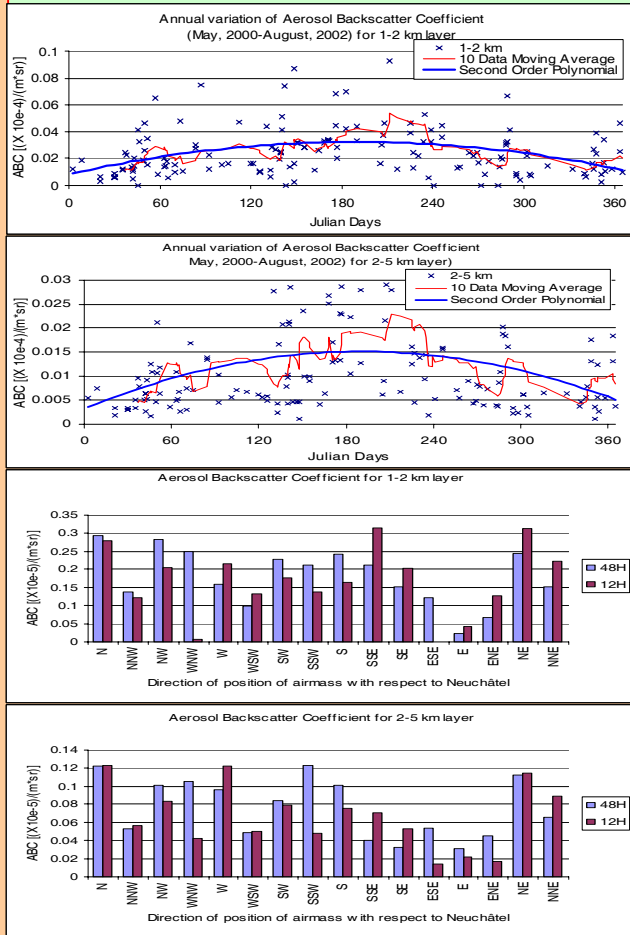
Aerosols statistics in the PBL and lower troposphere above Neuchâtel (Switzerland):

Two years of routine measurements

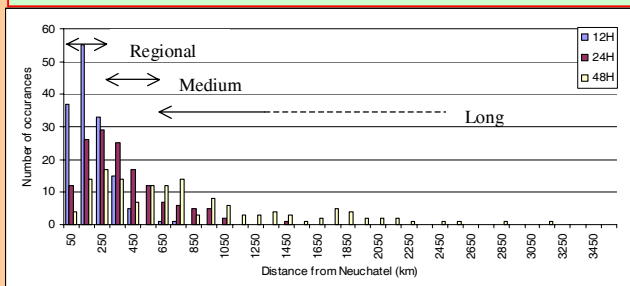
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Aerosol Backscatter Coefficient (ABC) is derived from Backscatter Lidar measurements at Neuchâtel, Switzerland (47.00°N, 6.95°E, 485 m asl). The analysis presented here summarises the ABC obtained during the period from May 2000 till August 2002. ABC values are studied in accordance to the time of measurement and the weather in 3-ways: the annual cycle, the meteorological parameters and the origin of airmass. The study presents the statistics in vertical layers defined as 1-2 km and 2-5 km above sea level.

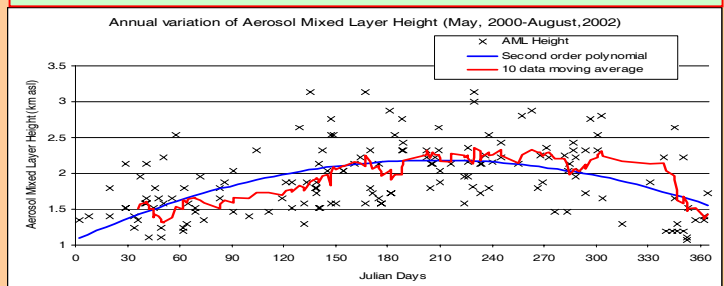
Aerosol Backscatter Coefficient over Neuchâtel and relationship with local meteorology and origin of airmass



Occurrence of effecting airmass over Neuchâtel



Aerosol Mixed Layer dynamics over Neuchâtel



CONCLUSIONS:

- High values of ABC correspond to summer, followed by spring, autumn and winter. ABC is showing a concurrent relationship with Temperature and Pressure, and antecedent relationship with Wind speed.
- Aerosol Mixed Layer top is showing the highest altitude during autumn, followed by summer, spring and winter.
- The source of aerosols over Neuchâtel has been classified as - long distant, medium distant and short distant (or regional) on the basis of dominance of 48H, 24H and 12H back data, respectively. 'Short distant (Regional)' is within the radius of about 250 km surrounding Neuchâtel. This region is dominated by 12H back data. Medium-distant sources has been classified for the region beyond 'regional' till about 600 km on the basis of dominance of 24H back data. Long-distant sources are beyond 600 km and are classified on the domination of 48H back data.