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Comparing free troposhperic measurement data of ozone with in situ surface data for selected sites across Europe

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Free tropospheric data for ozone measured by ozone sondes and carbon monoxide measured remotely by Fourier-transform infrared spectrometer (FTIR) are compared to air quality in situ ground based data obtained from the European Environmental Agency respectively.
Comparisons were done for selected sonde and FTIR sites across Europe, and compared with the three closest in situ sites provided they are within a 250 km radius of the sonde or FTIR sites. Preliminary comparisons of ozone between the sonde and in situ measurements show a good agreement in general for most locations. The few cases where measurements do not correlate well are investigated and possible reasons for these inconsistencies in terms of the site locations and co-locations (geographical features of these sites, for example elevation or distance differences), day-to-day variation (of ozone) and other possible local influences are discussed.
A method for comparing the in situ data with free tropospheric data for the selected sites is suggested, as well as additional suggestions for the few particular sites where additional conditions may be taken into account.