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Meteorology applied to urban air pollution problems: concepts from COST 715

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Abstract. The outcome of COST 715 is reviewed from the viewpoint of a potential user who is required to consider urban meteorology within an air pollution assessment. It is shown that descriptive concepts are helpful for understanding the complex structure of the urban boundary layer, but that they only apply under a limited number of conditions. However such concepts are necessary to gain insight into both simple and complex air pollution models. It is argued that wider considerations are needed when considering routine air quality assessments involving an air quality model's formulation and pedigree. Moreover there appears to be a reluctance from model developers to move away from familiar concepts of the atmospheric boundary layer even if they are not appropriate to urban areas. An example is given from COST 715 as to how routine urban meteorological measurements of wind speed may be used and adapted for air quality assessments. Reference to the full COST 715 study is made which provides further details.

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