

5.05 MIXING LAYER HEIGHT ESTIMATION

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In many problems dealing with air-pollution transport and dispersion information about mixing height is needed. This information can be obtained from vertical soundings (balloons, sodars or any kinds of profilers) but very often this equipment is not available in the area where the problem is solved and some other approach has to be used. In this contribution a method for estimating the mixing layer height based on the routinely measured ground meteorological data is shown. This method is based on the estimation of surface heat flux and friction velocity published in [1] for day time and for the night time it is based on the approach published in [2]. Results are compared with time series of meteorological data profiles measured at Prague-Libus upper air sounding site.

REFERENCES

[1] Smith, F. B., 1996: The practical Estimation of surface heat flux and friction velocity. In proc.: Lalas, D. P., Ratto, C. F. (eds.), Modelling of Atmospheric Flow Fields. ICTP Trieste, Italy.

[2] Pielke, R. A., 1984: Mesoscale Meteorological Modelling. Academic Press.