



Plant canopy structure, turbulence and satellite soil classification

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Experimental results relating the velocity profiles and the integral turbulent length scales as a function of plant canopy structure are used to deduce the range of scales and the fractal structure of the wind flow behind canopies. Results from 14 runs in a flume using real plants (barley) and plastic shoots that could be manipulated showed a clear maximum in turbulent kinetic energy near the plant tops. The relationship found between the drag coefficient C_d and the Reynolds number is discussed and used to relate fractal measurements of the plant wakes and the SAR remote measures from ESA ERS1-2 and ENVISAT satellites.