What makes wind flop around?

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Wind meandering is an omnipresent feature in the atmospheric boundary layer, which was shown to dominate dispersion for all stability and wind speed conditions. Light winds particularly emphasise its visibility and effects by allowing wind vector flopping. It is primarily manifested as frequent sudden shifts in wind direction, rather than smooth sine-shaped transitions as previously thought. The underlying flow features are small-scale non-turbulent motions, also referred to as submeso motions. While many different, more or less known mechanisms may be involved in generating these motions, it has almost never been possible to distinguish dominant physical mechanisms for individual cases. In this talk, a short history of the search for the origins of submeso motions is presented. Our current level of understanding is reviewed based on various field experiments and numerical modelling results, and limitations of contemporary measurement and modelling techniques are discussed together with prospects for their improvement.

Seminar will be held in Room 345, Building 28, October 29th, 11am-12pm
All Welcome!
For more information, contact Gareth Berry (room 213, 9905 4466)