

SYNOPTIC CLIMATOLOGY OF FOG AT MELBOURNE AIRPORT

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The purpose of the paper is to present a synoptic classification of fog situations at Melbourne Airport. Stern and Parkyn (1999) detail how the synoptic patterns are classified, in addition to describing a new technique that predicts the probability of fog at Melbourne Airport. The basis for the synoptic types is the direction, strength and curvature of the surface flow. Fog occurs quite frequently at Melbourne Airport with some synoptic types (Figures 1 and 2). For example, there is fog associated with 18% of the occurrences of the synoptic type "weak ENE cyclonic". By contrast, there has never been a fog in association with the synoptic type "strong NNW anticyclonic".

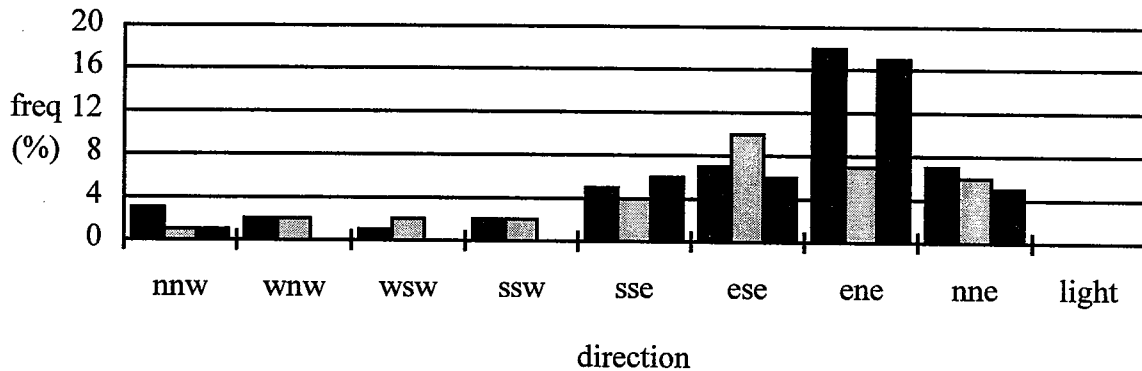


FIGURE 1 Frequency (%) of fogs associated with each direction for weak (left column), moderate (middle column), and strong (right column) cyclonic synoptic flow, and for light and variable cyclonic synoptic flow.

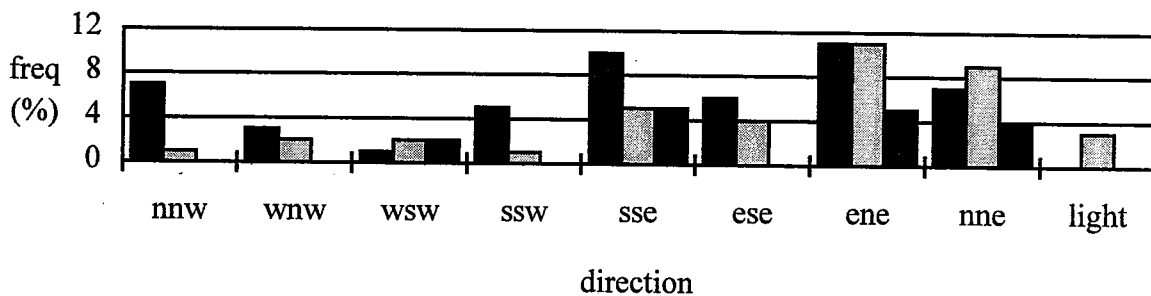


FIGURE 2 Frequency (%) of fogs associated with each direction for weak (left column), moderate (middle column), and strong (right column) anticyclonic synoptic flow, and for light and variable anticyclonic synoptic flow.

Reference: Stern, H. and Parkyn, K., 1999: Predicting the likelihood of fog at Melbourne Airport. *To be presented at 8th conf. on aviation, range and aerospace meteorology*, 10-15 January 1999, American Meteorological Society, Dallas, Texas.