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TEMPORAL VARIATIONS IN TROPOSPHERIC WATER VAPOUR CONTENT AT COASTAL ANTARCTIC SITES

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We present a study of tropospheric water vapour observed over an 11-year period at Davis and Mawson stations on the coast of East Antarctica. Radiosonde soundings have been used to determine Total Column Moisture (TCM) over the study period, providing information on temporal variations in the volume of water vapour at these locations. These data show that although Davis consistently has a higher level of TCM, the variation of this parameter over time is very similar at the two study sites. The Davis and Mawson TCM analyses clearly show a semi-annual oscillation that is consistent with the seasonal changes in temperature at these sites. In addition, our analyses have detected longer-term signals in the TCM data, which appear to be linked to the movement of the Antarctic Circumpolar Wave in this region.