

CORRESPONDENCE

From J. R. Colquhoun: 20 January 1977

Mr R. Del Beato and Miss L. Olds kindly informed me that the mathematical description of the severe thunderstorm model in Colquhoun (1975)* is inconsistent. Consistency is achieved by:

1. Defining $D(p)$ as the horizontal width of the winds feeding the storm at pressure p , measured normal to the direction of motion of the storm where the wind field is not affected by the storm.
2. Multiplying by \hat{V}_S the vectors within the modulus signs prior to equation 2 on page 101. \hat{V}_S is the unit vector in the direction of motion of the storm.
3. Assuming that, relative to the storm, the updraft and downdraft approach from opposite sides.
4. Deleting the sentence on page 101 which includes equation 2.
5. Inserting a sentence following that containing expression 4 on page 102 which indicates how expression 4 is maximised and equation 1 simplified.

Also it is not necessary to restrict the orientation relative to the storm's velocity of the horizontal cross-section of the interface between the severe thunderstorm's updraft and downdraft.

The model has been correctly used to estimate the velocities of severe thunderstorms in the 'Case Studies' section.

Minor corrections are page 102 second last line read 'backing' for 'bakcing', page 103 Table 2 read 'change' for 'chance' and in Fig 1(a) read ' $V_M - V_{SH}$ ' for ' $V_M V_{SH}$ '.

* Colquhoun, J.R. 1975. A method of estimating the velocity of severe thunderstorms. *Aust. Met. Mag.*, 23, 99-107.

