CORRIGENDUM

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The equation for the drift velocity of a barotropic vortex on the $\beta$ plane, given on page 4291 of Graff and LaCasce (2014), is incorrect. It should read as

$$v_d = C\beta R^2 \left( \frac{\beta R}{\zeta} \right)^{-1/2} = C\zeta^{1/2} R^{3/2} \beta^{1/2},$$

which is in line with Eq. (12) of Smith (1993). This was a clear oversight on our part, given that one of us had described the $\beta^{1/2}$ dependence of the drift velocity in an earlier paper (LaCasce 1998).

Thus, our subsequent comment, that having a stronger potential vorticity (PV) gradient inhibits the poleward drift of cyclones, was incorrect. The result above implies the opposite. The above is in fact consistent with the recent baroclinic studies of Rivière et al. (2012) and Oruba et al. (2013), who found that a stronger barotropic PV gradient was linked to more rapid poleward translation. As we noted in the paper, our numerical results were inconclusive with regards to changes in the PV gradient. Nevertheless, the previous studies are consistent on this point.

However, our statement that stronger vortices should translate faster remains valid. This was one of the central observations, shown in Fig. 14 of Graff and LaCasce (2014).

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REFERENCES


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