Reply on RC2
Nathan Paldor and Lazar Friedland

Author comment on "Extension of Ekman (1905) wind-driven transport theory to the \(\beta\)-plane" by Nathan Paldor and Lazar Friedland, EGUsphere, https://doi.org/10.5194/egusphere-2022-831-AC3, 2022

We agree with the reviewer’s general remarks and were happy to read that the reviewer “... enjoyed reading the mathematical development in section 3, ‘Analysis.’”.

As for the two main comments:

A. We accepted this point. In the revised version the numerical solutions will follow the analysis. In accordance with this change, old Fig. 3 is split into two figures: 3 for the \(y\)-dynamics and 4 for the \(x\)-dynamics.

B. We agree – the meaning of \(y_0\) is much subtler (and intriguing) on the \(b\)-plane than on the \(f\)-plane. In the revised version the numerical calculations will be initiated at the fixed point \(y_0=0\) (and \(V_0 \neq 0\)). As expected – our preliminary calculations show that the change of initial conditions does not affect the general features of the results.

Specific comments:

Thank you for your careful reading. All typos and miss-worded phrases will be corrected in the revised version.