

Review of manuscript WCD-2022-18: “**Stratospheric Downward Wave Reflection Events Modulate North American Weather Regimes and Cold Spells**”, by Messori et al.

The authors addressed mostly my main concerns by conducting a further analysis on the eddy height field and the North American weather regime transitions (including the new figures 9 and 12). Although the authors did not discuss the direct relationship between the reflections and the degree of coldness from the dynamical perspective (i.e., eddy-mean flow interaction and enstrophy/energy transfer between wave and mean flow during reflection events), this work is still valuable and to some extent gives important insight into the role of wave reflection events in sub-seasonal wintertime forecasts via a top-down mechanism. I really enjoyed reading this paper, for me this is one of the most comprehensive papers showing the robust statistical link between the wave reflection events and North American weather regimes/cold spells. As such, I recommend that the paper be accepted with a minor revision:

Minor comments:

- Fig. 12, I think it's better to superimpose the eddy heights with the 2D Plumb's fluxes to better show the downward and upward energy propagation during these reflection events (the energy flux is equal to the group velocity times wave-activity density).
- Table A1, can you clarify how many reflection events that occurred after the SSW events? The reason I'm asking this because in some cases the reflections occur after SSW events, not overlapping (i.e., reflective SSW events).

Best wishes,
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