

Authors' responses

We thank the referees and editor for the positive assessment of the revised manuscript and for the additional suggestions. We have implemented the requested changes as detailed below.

Anonymous Referee #2

1. On line 93, please explain why you chose to conduct two experiments with different period.

Response: We have added a brief explanation in the Methods section. The 11-year experiment was conducted to characterize the multi-year transport behavior and obtain robust statistics for the continuously forced age-of-air and constant tracers. The shorter, 2.5-year experiment was used for the staggered tracers and associated sensitivity experiments. This duration allowed all twelve staggered tracers, initialized on the first day of each month in 1999, to evolve for at least six month after initialization while limiting the considerable computational cost associated with the larger number of tracers and sensitivity configurations.

2. On Table 1, please indicate what experiment (11-year or 2.5 year or both) is used for the different tracers.

Response: We have revised Table 1 to specify the simulation period associated with each tracer or tracer set.