Response – revision 4

Comments to the Author:
Many thanks for these further improvements.

However, I note a new misquote on Mile et al., which also affects Mie wind assimilation. You write "In the case of observations representing courser spatial scales than the model, this scale difference has been demonstrated to be successfully handled by application of a so-called supermodding approach (Mile et al., 2021)."

Note that ASCAT winds have 25-km resolution, but Mile et al. find 60-km supermodding to work best. This is model aggregation beyond the observation resolution. Mile et al. show furthermore that supermodding changes the spatial scales that are extracted from the observations. The idea of supermodding is that those spatial scales are initialized that best improve the short-range forecasts. Initializing the small-scale noise of the model over the oceans and in the upper air is not thought to be productive. See for a more complete motivation:
https://nwp-saf.eumetsat.int/site/download/documentation/scatterometer/reports/High_Resolution_Wind_Data_Assimilation_Guide_1.3.pdf , as referred to by Mile et al.

So, I'd suggest something like: "To deal with model noise and spatial representation of observations, a careful evaluation of data assimilation in terms of initializing targetted spatial scales needs further evaluation for the quiite different spatial characteristics of the Mie and Rayleigh winds. For example, model noise over the ocean has been demonstrated to be successfully handled by application of a so-called supermodding approach (Mile et al., 2021)."

Thank you for the clarification. The manuscript has been updated as suggested.
Best wishes,
the authors