Reply on AC1
Anne Perring (Editor)

Editor comment on "Statistical and machine learning methods for evaluating trends in air quality under changing meteorological conditions" by Minghao Qiu et al., Atmos. Chem. Phys. Discuss., https://doi.org/10.5194/acp-2022-232-EC1, 2022

Dr. Wells clarifies that the originally truncated point should read:

-One of my biggest concerns is that the time period (7 years for U.S., 5 years for China) is too short to calculate meaningful trend estimates, and because of this, the trend estimates themselves may be a source of additional uncertainty. I fully understand the time and resource constraints of running chemical transport models, therefore, I’m not suggesting that this must be done, but merely that this is addressed as a limitation in the discussion. As a potential future research application, one could expand this type of analysis to a set of model runs evaluated over a longer time period, such as EPA’s EQUATES series for 2002-2017 (https://www.epa.gov/cmaq/equates). The emissions and meteorology inputs for the EQUATES model runs are available from this website.