

Interactive comment on “A measurement and model study on ozone characteristics in marine air at a remote island station and its interaction with urban ozone air quality in Shanghai, China” by Yixuan Gu et al.

Anonymous Referee #1

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The manuscript studied the characteristics and changes of baseline ozone in oceanic air in East China based on 6-year continuous measurements conducted at an island site. Corresponding ozone changes under various transport conditions were detailed presented and the impacts of offshore ozone on ozone air quality in Shanghai were quantified using the WRF-Chem model. Since increasing ozone pollution has become an urgent environmental problem in coastal urban agglomerations in East China, the results of this study provide valuable insight into what needs to be considered in dealing with ozone pollution in coastal megacities like Shanghai.

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General comments: Results and discussion-Sect.3 presented the overall changes of ozone in oceanic air at SSI. However, the key point was not prominent enough in current version. I suggest focusing more on the novelties of the study (the changes of baseline O₃ in oceanic air). Questions of why O₃ changes in September and October were analyzed, and what could be the driver of the detected changes need to be deeply reformulated.

Specific comments: 1. Line 59: The location where the increased ozone concentrations were observed should be specified. 2. Line 69: Change “the three” to “those” 3. Line 73: Remove “surface” 4. Line 74: Change “atmospheric oxidation capacity response to” to “atmospheric oxidation capacity of continental air responding to” 5. Line 76: Change “in” to “at” 6. Line 91: Change “covering ...area” to “covering an area of ...” 7. Line 93: Change “magnitude” to “levels” 8. Line 120-121: Remove “In addition” 9. Line 125: Please explain the impact 10. Line 158: Add “its” before “surrounding” 11. Line 175: Change “require” to “requires” 12. Line 177: Add “to” before “be” 13. Line 216: Change “cleaner” to “less polluted” 14. Line 228: Change “distinctions” to “variations” 15. Line 234: The observed O₃ at DT site need to be provided in the supplementary materials. 16. Line 252: Actually, the study of Scheel et al. (1997) were conducted in Europe. Is 1.4 also a typical value of O₃-max/O₃-min in Chinese background sites? Please make sure of that. 17. Line 292: How about the trend of O₃ observed at DT and Lin'an? 18. Line 298: Change “nearly uncontaminated” to “least contaminated” 19. Line 330: Change “variations of” to “changes in” 20. Line 396-397: Please specify the source of this conclusion. Reference or methods need to be added. 21. Line 456: Do the 6-8 ppbv increases in O₃ occur in downtown Shanghai? Please specify it. 22. Line 473: Change “mean concentrations” to “a mean value”

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