

Interactive comment on “Deciphering the Chemical Forms of Gaseous Oxidized Mercury in Florida, USA” by Jiaoyan Huang et al.

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Interactive comment on “Deciphering the Chemical Forms of Gaseous Oxidized Mercury in Florida, USA” by Jiaoyan Huang et al. Anonymous Referee #1 Received and published: 5 December 2016

The manuscript presents field observations of ambient concentrations of speciated mercury and other air pollutants at a coastal site in Florida. GOM were monitored with Tekran and membranes. GOM dry deposition fluxes were calculated using Tekran concentrations (with a correction factor) and dry deposition velocities, and monitored using surrogate surfaces. Some GOM forms were observed on some membranes, and those possible forms were used to estimate dry deposition fluxes with various correction factors. Other analyses include back trajectory. The topic is relevant to ACP.

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Response: Thank you for reading our paper.

My comments/suggestions are listed below. 1) Major concern My major concern is the originality and scientific contributions of this manuscript, considering the large number of publications (as listed in the reference section of the manuscript) by the two primary authors (i.e. Huang and Gustin) in the past few years on the topic of the chemical forms of GOM. The authors may want to clarify whether this manuscript presents results at additional sites, during a different time period, with different methodologies, or of different findings /concessions.

Response: We have added two sentences to the abstract to clarify this. “Data were collected simultaneously using the UNRRMAS for the first time at this location and methods that have been applied before at OLF, allowing for comparison and better understanding of GOM. This work represents an attempt to measure the chemical compounds of GOM in the air.”

2) Editorial comments and suggestions The use of English language is overall satisfactory. However, there is room for improvement. a) L78-89, this section could be replaced by a brief summary of the methodology since a detailed description is presented in the Methods section.

Response: Details noted in the methods were deleted.

b) There are a few awkward phrases and sentences, e.g. “_24% of the air comes from the marine boundary layer during the day and 60% during the night”; “if we assume the model is right”.

Response: We have read through the paper and removed what we thought were awkward sentences.

c) In the references, some papers are listed twice. Also, not sure if a manuscript under preparation (L440) could be included in ACP manuscripts.

Response: This has been corrected and the manuscript under preparation removed.

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d) Table 2, not sure if a manuscript under review could be included in ACP manuscripts.

Response: The Table caption has been updated with the correct references.

e) Figure 5 caption was incorrect to me. Response: The caption has been adjusted.

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