We have included responses to the editor's comments in blue font below.

#1. The current title is misleading and I would suggest the authors consider rename it. "Long-Range transport mechanisms" indicated this paper will mainly address transport mechanisms, but only smoke from the maritime continent and typhoon were mentioned. The manuscript briefly mentioned the southwesterly initiated the transport and low precipitation permits the transport, but the more detailed discussion shall be included if the authors want to emphasize the impact of transport mechanisms. The main content of this paper is analyzing the sources/sinks and chemical components of aerosols measured at one site but the title refers to "East and Southeast Asia", which is not really representative. The response argued that they also included NAAPS model results, but numerous modeling papers have already thoroughly explored the regional transport of air pollutants in Southeast Asia, so one site data couldn't "broaden the scope". Please consider rephrase the title or include more in-depth discussion of transport mechanisms.

Response: We have changed the title to the following:

""Long-Range Aerosol Transport and Impacts on Size-Resolved Aerosol Composition in Metro Manila, Philippines"

#2. Abstract need to present the innovative findings, not general self-comment as "Results of this study have implications for a better understanding of …"

Response: We have removed the last two sentences of the abstract:

"Results of this study have implications for better understanding of the transport and chemical characteristics of aerosol in a highly-populated region that has thus far been difficult to measure through remote-sensing methods. Furthermore, findings associated with the effects of air mass mixing on aerosol physiochemical properties are applicable to other global regions impacted by both natural and anthropogenic sources.

Furthermore, we note that we already present innovative findings above these removed sentences; therefore, no additional text is needed to address this comment.

#3. This manuscript has too many general statements that are improper for scientific publications. Reviewer#3 pointed out a lot of examples but the authors need to properly refine their writing.

Response: We have attempted to address this comment by making the following changes throughout the paper:

- In the Abstract, we have changed:
  "This study analyzes mechanisms of long-range transport of aerosol and aerosol chemical characteristics in and around East and Southeast Asia. Ground-based size-resolved aerosol measurements collected at the Manila Observatory in Metro Manila, Philippines from July - October 2018 were used to identify and contrast high and low aerosol loading events."

To the following:

"This study analyzes long-range transport of aerosol and aerosol chemical characteristics based on instances of high and low aerosol loading events determined via ground-based size-resolved aerosol measurements collected at the Manila Observatory in Metro Manila, Philippines from July - October 2018."

- In the Introduction, we have removed the following sentence:
"Although impacts and processes of long-range aerosol transport have worldwide applicability, the variety of meteorological conditions and emission sources that can contribute to aerosol transport necessitate detailed analyses of transport events at the regional level."

- In the Results, we have changed:
"Examination of the major species contributing to the water-soluble mass (Figure 6) can lend additional insights into the variability in the size distributions."

  To the following:
"Figure 6 describes the major species contributing to the water-soluble mass."

- In the Results, we have removed the following sentence:
"Water-soluble organic aerosol species serve as good tracers for emission sources, impact the cloud condensation nuclei (CCN) budget, and contribute non-negligible mass to atmospheric aerosol."

- In the Conclusions, we have changed:
"These results have important implications for better understanding the aerosol budget and influences in and around the Philippines and SE Asia. Transport of aerosol both into and out of Metro Manila can impact human health, cloud condensation nuclei (CCN) budgets, and radiative forcing in the region. Furthermore, the identification of various tracer species (e.g. K and Rb for biomass burning) and the impacts of different long-range transport mechanisms have worldwide applications."

  To the following:
"These results have important implications for better understanding the aerosol budget in and around the Philippines and SE Asia via the identification of various tracer species (e.g. K and Rb for biomass burning) and the impacts of different long-range aerosol transport pathways."

#4. Response for comment#8, Line#110-111: does anthropogenic emission itself has seasonality, like higher SO2/NOx in winter and lower in summer?

Response: While there may be seasonality in the anthropogenic emission amounts, this does not seem to be discussed within the paper we are referencing (Lin et al., 2007).

#5. For the description of Fig.1 and Fig.2 and responses to comment#13 and #14, authors do not respond clearly. Transport of air pollutants is in 3-D, Fig.1 shows 850hPa level transport, so did Fig.2, they are both 2-D.

Response:

The purpose of Figure 1 is to demonstrate the prevailing winds at 850 hPa and the cloud coverage during the sampling time frames. Our references throughout the paper to Figure 1 are used to describe general conditions, such as the southwesterly flow that characterizes the southwest monsoon season, the passage of the nearby typhoon, and the average cloud cover amounts. Therefore, we believe that the representation of conditions provided in Figure 1 is valid for the purposes stated.

In response to Figure 2, HYSPLIT is a 3-D model. We have chosen to set the model parameters such that our HYSPLIT runs are terminating at our ground-based sampling site so that we may compare with our ground-based measurements. Although we are only plotting the latitude and longitude points of the back-trajectories, there are altitudes associated with each run as well. To address these questions, we have added the following figure to the supplement, as well as the following line of text to the paper. As shown in the figure, for the high aerosol cases where we are hypothesizing the influence of long-range aerosol transport, the back-trajectories from HYSPLIT all occur at heights above ground level of less than 900 m for MO7 and less than 300 m for MO14 and MO12.

"Heights above ground level for HYSPLIT back-trajectories corresponding to the three high aerosol loading events (MO7, MO12, and MO14) can be found in Figure S1."
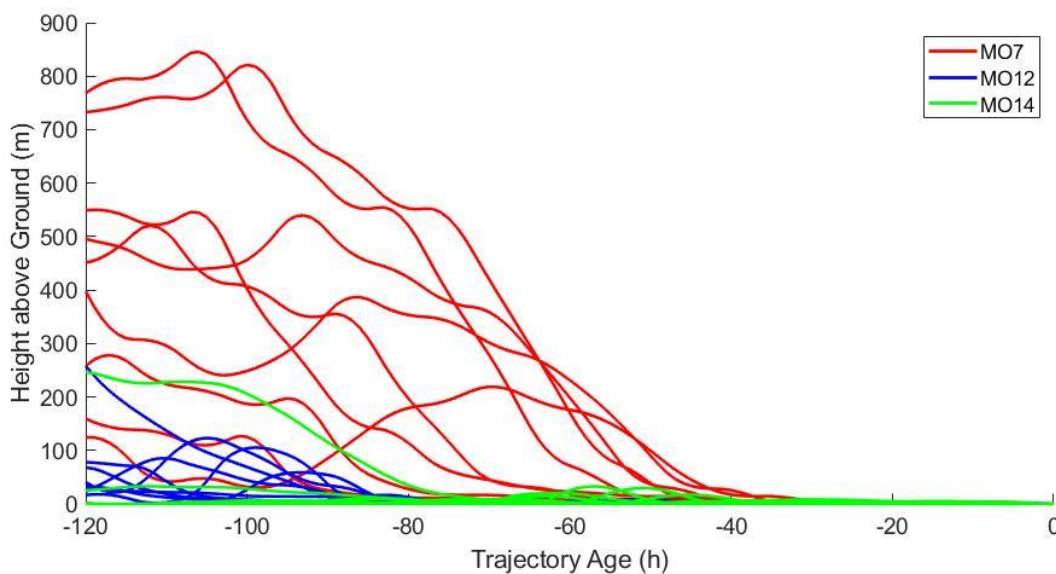
Figure S1. Heights above ground (m) for HYSPLIT back-trajectories shown in Figure 2 for the three high aerosol cases (MO7, MO12, and MO14).