Thank you for the responses. I appreciate you taking the time to improve the manuscript based upon my comments. I still have a few comments on your corrections that I think may improve the manuscript further. I have shown your responses in red and commented in blue.

1.) Firstly, I believe the English in the title is not quite correct. If you can, I'd suggest changing it to: How do gravity waves triggered by a typhoon propagate from the troposphere to the upper atmosphere?

2.) "A single dominant horizontal wavelength of CGW at the altitude of 20 km, 40 km, and 60 km obtained by the ERA-5 reanalysis due to the limitation of resolution. In contrast the horizontal scales of CGW obtained by OH airglow network are diverse, ranging from approximately 30 km to 300 km."

I'd suggest re-wording as: A single dominant horizontal wavelength is seen at the altitudes of 20 km, 40 km, and 60 km in the ERA-5 reanalysis due to the limited resolution. In contrast, the horizontal scales of the CGW obtained by OH airglow network are diverse, ranging from approximately 30 km to 300 km as the imager has much higher spatial resolution."

3.) Response:
We appreciate your careful review, which is very beneficial for improving our paper. Yes, you are right. There exist spectral powers between 100-150 km horizontal wavelength. But compared with the main spectral powers, they are very weak. The blue lines in Figure 9 in the revised manuscript also appear to match up with dark phases in the intensity of the OH image. However, the difference can be seen because the blue lines do not completely overlap with the fitted red circles.

I am still a little confused here. Both Figures 5d and f show strong power at ~150 km which to me suggests either possible harmonic generation of the 300km mode by nonlinear processes or these modes are simply part of the spectra. These waves could be the same waves seen in the Thermosphere, which also seem to have power around ~150km from the wavelet analysis you sent in the review response. In addition, figure 9 (assuming the x-axis is distance in km) also suggests a dominant wavelength of around ~150km (with smaller scales of ~25 km present which are likely wave breaking structures (e.g. in Heale et al. (2020) figures 5,7,8, 10 ) Can you overlay the OI 630 nm data on these plots to compare scales? My thinking is that primary gravity waves are breaking or nonlinearly generating these smaller scale secondary waves which are those seen in the thermosphere.

4. ) Response:
"In addition, the second waves can be generated by momentum transferred nonlinearly from the primary wave mode to harmonics or sub harmonics (Snively, 2017). Local momentum flux divergence associated with wave breaking, vortex generation, and wave interactions can also generate secondary GWs (Fritts et al., 2006)."

Change second waves to secondary wave

"Our analysis demonstrated that the CGWs in the mesopause region were directly by the typhoon, but the CGW observed in the thermosphere may be excited by the CGW dissipation and/or nonlinear processes in the mesosphere, rather than being directly excited by the typhoon and propagated to the thermosphere. Overall, the complete propagation process of the CGWs was studied and demonstrated. Specifically, it was shown how CGWs were generated by typhoon in the troposphere, passed through the stratosphere, reached the mesosphere. The obvious nonlinear wave-wave interaction and the dissipation process of CGWs are observed in the mesopause region. Therefore, momentum deposition due to wave dissipation and/or local momentum flux divergence associated with wave interactions generated secondary GWs,and then propagated to the thermosphere. "

I'd suggest re-writing as: Our analysis demonstrated that the CGWs in the mesopause region were excited directly by the typhoon, but the CGW observed in the thermosphere may be secondary wave excited by the primary CGW dissipation, breaking and/or nonlinear processes in the mesosphere, rather than being directly excited by the typhoon.