

General Comments

Overall, this is an interesting study that adds insight into the role that typhoons and mesoscale convective systems play in transporting stratospheric ozone to the surface. The science of this study is sound, the paper is well organized, and the figures nicely complement the text. However, there is poor grammar throughout the paper which makes it difficult to read at times. I include specific comments below that address many of these grammatical errors. My comments below are mainly minor in scope. As a result, I fully support acceptance of this paper once the following comments are addressed. I think this paper will be a good addition to the ACP journal.

General Comments

You should add a table that lists basic parameters you used for your WRF simulation. This is standard practice when running a model simulation.

You should capitalize “Typhoon” since you are referring to a specific one by name. You should do this throughout the paper anytime you reference “Typhoon In-fa”.

Be consistent with how you refer to water “vapor”. You go back and forth between “vapor” and “vapour” throughout the paper. These are both correct so select one and stick with it.

Make sure to include articles like “a” and “the” before referring to a singular noun. I did my best to address some of these specific instances below but I did not discuss all of them below.

Spell out “Figure” if it begins a sentence.

Specific Comments

Line 14 – Change “...at night...” to “...during the night...”

Line 16 – Provide the time units (LT or UTC) for 23:00 and 6:00

Line 16 – Change “01 August, 2021” to “1 August 2021”. There are other instances of this throughout the paper so fix date formats accordingly.

Line 19 – Change “...of...” to “...of a...”

Lines 20-21 – Reword this sentence. You make a good point, but this is lost here because of grammar issues.

Lines 23,66 – You should define the MCS acronym as MCSs because you refer to “systems” which is plural. Once this is defined then you can use “MCS” in the future when referring to just a single mesoscale convective system.

Line 26 – Change to “...still bring down a stratospheric...”

Line 28 – Change “pre-existed” to “pre-existing”

Line 29 – Change “descending” to “descent”

Line 39 – Change to “...contains only 5-10% of atmospheric ozone, as well as high water vapor and CO concentrations due...”

Line 43 – Be careful here. You refer to deep convection which is singular but then you use “they” later in the sentence. Be consistent with your grammar.

Line 48 – Change to “...in the UTLS.”

Line 51 – Change to “...from the ABL to the UTLS...”

Line 53 – Change to “...for the radiation balance...”

Line 58-62 – This sentence is too long. I suggest breaking this up into two separate sentences.

Line 80 – Change “Compare” to “Compared” since the comparison occurred in the past tense.

Line 82 – Change to “Such a significant...”

Line 85 – Change “...in 2021 summer...” to “...in Summer 2021.”

Line 90 – Replace “unneglectable” with a better word here

Line 91 – Use a singular verb “was” instead of “were” when referring to the MCS event

Line 95 – Change “descend” to “descends”

Line 120 – Should read “...by the Institute of Atmospheric...”

Line 123 – Avoid starting a sentence with O3. Spell this out instead.

Line 128- You discuss numerous acronyms here without defining them beforehand – this includes AIRS, EOS, OMI, etc.

Line 170 – Change to “guarantees”

Line 171 – Change to “To explicitly...”

Line 180 - Change to “Covering the entire lifespan of the MCS...”

Line 190 – Change “...would be described...” to “...is described...”

Line 201 – What does the squiggly line mean between 45 and 50? Is this a range? If so, change this to a dash.

Lines 204-205 – Change “...normal diurnal cycles since...” to “...subsequent diurnal cycles...”

Line 210 – Use a better word than “severer”

Line 224 – Change “...and MCS took place...” to “...during the MCS event...”

Line 225 – Change to “...in cities such as...”

Lines 234-235 – I suggest rewriting this sentence. Using words like “well revealed” or “averagely” sound awkward.

Line 237 – Change to “the SHATLE...”

Line 237 – Define the acronym SHATLE for the reader here.

Line 244 – Change “continuously” to “continuous”

Line 245 – Change to “...in the next 10 minutes and remained high for the next eight hours.”

Line 270 – remove “originated”

Line 273 – “typhoon” should be plural

Line 277 – Change “While in this case study...” to something simpler like “In this study...”

Line 278 – Refer to the storm as “Typhoon In-fa”

Line 293 – Change to “...even though In-fa was in its dissipation stage.”

Line 303 – refer to “suggest” in the present tense

Line 308-311 – Break this up into more than one sentence.

Line 312-315 – Break this up into more than one sentence.

Line 345 – Change “descending” to “descent”

Line 346 – Refer to dates with the proper format

Line 348 – Change “...located at southwest...” to “...located southwest...”

Line 350 – Change to “...evolved into a bow-echo MCS....”

Lines 354-356 – Clean this sentence up. I do not understand what you are trying to say.

Line 368 – Change “...that located...” to just “located”

Line 375 – Change “...of thunderstorm...” to “...of a thunderstorm...”

Line 382 – Change “descending” to “descent”

Line 387 – Explain what you mean by overforecasted convection distribution. Does this mean the model was too aggressive in developing convection? If so, state this more clearly.

Line 387 – Change “...well captures...” to “...does a good job capturing...”

Figure 9 – Change caption from “...occurred in the night...” to “...occurred during the night...”

Line 402 – Change “descending” to “descent”

Line 402-405 – Clean this entire sentence up. It is difficult to read.

Line 420 – Change “upper” to “up”

Line 423 – Change “descending” to “descent”

Line 436 – Change “dissipating” to “dissipation”

Line 445 – Change “perturbated” to “perturbed”

Line 446 – Change “pre-existed” to “pre-existing”

Line 460 – Remove “relatively”

Line 480 – Change “perturbate” to “perturb”

Line 483 – Change “descending” to “descent”

Line 487 – What does “at the midnight” mean?

Line 488 – Change “pre-existed” to “pre-existing”

Line 491 – Replace “rapider” with a better word

Line 500-502 - Clean this sentence up. It reads awkwardly.

Line 503 – Change “threatens” to “threats”

Line 505 – Change “...in the mechanisms...” to “...of the mechanisms...”

Line 689 – The Preston reference should list “Barth” as a coauthor (not Berth)

Figure 5 – The second sentence of this caption needs to be fixed – “...the last six track information...” does not make sense.

Figure 7 – Include the year of the dates with this caption

Figure 8 – Remove “occurred” in the caption