

Review of Geosciences-526376

Title: The College Park, Maryland Tornado of 24 September 2001

Authors: Pryor, Wawrzyniak, and Zhang

Minor Comments:

Line 11: “long-track” instead of “long-tracked”

Changed

Line 11: As I mentioned in the last review, meteorologically, “violent” tornadoes are those rated F4/5 or EF4/5 and tornadoes are described as “strong” for F2/3 or EF2/3.

Changed “violent” to “strong”.

Line 56: Why is the tornado track discontinuous? This figure shows two separate tornado tracks.

Explained in section 3: “A secondary RFD surge most likely occurred between 2136 and 2146 UTC when outbound velocities again increased to become significantly greater than inbound velocities. During this time period, non-tornadic (i.e. downburst) wind damage was observed in the Laurel area, where there was a break and subsequent westward shift in the tornado track.”

Line 59: Indicate what the track is based off of. Official survey from the NWS?

Yes: National Weather Service, 2001: Storm Data and Unusual Weather Phenomena, September 2001. Available online at <https://www.weather.gov/lwx/stormdata>

Line 74: Its nighttime occurrence made it potentially more “dangerous” than formidable.

Changed “formidable” to “dangerous”.

Lines 123, 246, 276, 334, 507, etc.: “tornadogenesis” is one word.

Corrected

Line 192: typo “the equivalent...”

Corrected

Lines 298-306: I’ve tried hard to identify details of the particular storm in Fig. 6 and really cannot. Please zoom in the figure so that the reader can get better detail of the supercell.

Figures 6 and 7 have been revised: zoomed and re-calibrated to highlight the structural features of the supercell storm.

Lines 303-06: Suggest adding a reference here.

Not necessary.

Line 308: Please use a different color and size for the arrows in Fig. 6, they are very difficult to see.

Figures 6 and 7 have been revised: zoomed and re-calibrated to highlight the structural features of the supercell storm.

Line 337: I do not see a blue curve anywhere on any of these panel images marking a cold front.

Reference to cold front has been removed.

Lines 387-403: Please cite figure panels (e.g., Fig. 8c) within the discussion so the reader can easily identify which panel is being identified.

Figure panel citations added.

Line 388: Should this time be 2120 UTC?

Yes- corrected.

Line 390: Should this time be 2116 UTC?

Yes-corrected.

Reviewer #2- Responses to minor comments

L54- There should probably be a citation for damage values, etc. (I'm guessing this is from Storm Data?).

Yes- added the citation "National Weather Service 2001, available online at <https://www.weather.gov/lwx/stormdata>". Also added the corresponding reference: National Weather Service, 2001: Storm Data and Unusual Weather Phenomena, September 2001. Available online at <https://www.weather.gov/lwx/stormdata>

L126: If referring to a DRC, this should be cited, see:
Was there any evidence of DRC for this case?

Yes- evident as an increase in reflectivity in the hook echo between 2111 and 2126 UTC as displayed in Figures 8-9. Added the citations and references to Rasmussen et al. and Kennedy et al., respectively.

L154: might be extra space prior to Doppler?

Corrected – removed extra space.

L169-173: I would wordsmith some of this, since the description is nearly verbatim with the description on the NCAR RDA.

Modified the text in this section to now read: "The NCEP FNL Operational Global Analysis, with 1-degree by 1-degree resolution and six hourly update cycle, is generated from the Global Data Assimilation System (GDAS). The FNL analyses are generated by the same model used in the Global Forecast System (GFS) about an hour after the GFS is initialized, resulting in the ingestion

of more observational data. The GFS uses the FNL from the previous 6-h cycle as part of its initialization.”

Figure 3: Can you change the black dot to a color so it is more prominent?

Yes – Black dot in Figure 3a has been replaced with a larger blue dot and replaced in Figure 3b with a larger red dot.

L246/276 (and onward): tornadogenesis (one word)

Corrected

L300: (and as evidenced by the hodograph shown in Fig. 5)

Included this statement into line 301.