Cleary et al. reports the data set of lake breeze captured during the forecasted high ozone events at Chiwaukee Prairie State Natural Area in southeastern Wisconsin during the WiscoDISCO-21 campaign. The campaign used a fixed-wing (University of Colorado RAAVEN) and a multirotor (Purdue University DJI M210) UAS to measure temperature, humidity, 3-D wind and vertical profiles of temperature, humidity and ozone at two different altitude. The WiscoDISCO-21 was conducted in conjunction with Enhanced Ozone Monitoring plan from WI-DNR that included Doppler lidar wind profiler observations. This study demonstrates how UAS can be used to sample a complex circulation, and the obtained data are important for evaluating the characteristics of lake breeze incursion. Overall, the manuscript is well written, and I recommend publication of the current manuscript after the following revisions.

General comment:

Although a summary section has been included in the manuscript to summarize the 2021 WiscoDISCO field campaign, it is not very clear on the scientific importance of the data collected from the campaign. The authors should add a detail discussion here to show the scientific importance of the collected data. They should also highlight this in the abstract and introduction of the manuscript.

Specific comments:

Page 2, Line 46: List out the examples of precursors being emitted? General reader might not familiar with the precursors to ozone production.

Page 2, Line 50: Correct to Stanier et al. (2021).

Page 3, Line 89-90: Elaborate what are NO, NOy, NOx and VOC for non-expert reader.

Page 4, Line 101: Give the number for the highest ozone concentrations in the state.

Page 6, Line 117-119: Forecasts from both the WiDNR and Realtime Air Quality Modeling System (RAQMS) were used to select an ideal deployment period. I am curious to know how well the modeling forecast results agreed with the measurements.

Page 6, Table 1: Define what are flight Pattern A and B?

Page 8, Figure 2: How does the normalized probability being calculated in figure 2B (also for Fig.3)? The details should be stated in the caption.

Page 9, Figure 3: It is better to list the figure with alphabets rather than mentioning it from clockwise to top left.

Page 10, Line 161: Should be km hr^{-1}

Page 15, Figure 5: In this figure, it is clearer if the authors label the location of the bracket-mounted POM and iMET (similar to that in Fig.4).

Page 17, Figure 6: Please show the PANDORA and Doppler lidar inside the figure too.

Page 18, Line 333: The authors mentioned that ‘A linear fit is then calculated to relate the VN-300 pressure and the difference between the VN-300 reported altitude and the autopilot reported

altitude. This pressure-dependent altitude correction is then applied to the VN-300-reported altitude to derive a final altitude'. Please show the figure or equation of linear fit that was used for correcting the altitude.

Page 20, Figure 7: The dash-line used to indicate one-to-one agreement is not clear. Suggest making it thicker or changing to another color.

Page 21, Line 383-384: What is the rationale for setting the limits to be 6% between RSS421 sensors, and 15% between the output RH value and the MHP-provided RH value?

Page 23, Line 454: Please specify how many flights.