

## Reviewer 1:

Please clarify how the relative  $\text{NH}_3$  was calculated in Figure 9. Did you normalize the data by a reference value (median or mean)? If so, denote the color for the reference value on the colorbar.

**Response:** Thank you for your feedback. To clarify, in Figure 9, the color bar and marker sizes represent the plume-specific  $\text{NH}_3$  range, where blue and red correspond to the minimum and maximum  $\text{NH}_3$  values within each panel, respectively. Since the value ranges differ across plumes, showing nine separate color bars and marker size legend would clutter the figure. In the revised version, we have relabeled the color bar and marker size legend as “Plume-specific  $\text{NH}_3$ ” and changed the labels “Low” and “High” to “Min” and “Max”, respectively. The caption has also been expanded to explicitly state that colors and marker sizes are not comparable across panels, and that absolute concentrations are provided in Figures 8 and 10.



**Figure 9.** Maps of individual ground-level  $\text{NH}_3$  plumes (A to I), as defined in Figure 8, measured by the mobile platform. The color bar and marker sizes represent the plume-specific  $\text{NH}_3$  range, where blue and red correspond to the minimum and

maximum  $\text{NH}_3$  values within each panel, respectively. Because scaling is performed separately for each plume, colors and marker sizes highlight spatial patterns within plumes but are not comparable across panels. Absolute concentrations and cross-plume comparisons are provided in Figures 8 and 10. Average wind speed and direction were calculated from the nearest HRRR grid cells. Base imagery ©2025 Google.