The author has addressed nearly all of my previous comments and revised the manuscript. The quality of the manuscript has improved a lot, particularly the interpretation of the cluster analysis. The revised manuscript indeed provides a more comprehensive understanding of how the neural network classifies haze and non-haze events over Beijing and Shanghai. Only minor clarification and revision remain, as stated below:

Specific comments:
1. Page 2, abstract: The abstract reads like a short summary of the introduction. I suggest the author includes some key findings (e.g., the performance of the model and/or the identified haze-favorable environment in Beijing and Shanghai) in the abstract.

2. Page 4-7, Section 2: I still feel that the structure of this section is quite complex for readers to follow. I think it is better to add subsection titles and rearrange paragraphs a little bit. The subsections can be defined as follows: 2.1 network architecture (including content of lines 128-154), 2.2 kernel size optimization, 2.3 Data (lines 155-191), and 2.4 Training methodology (lines 192-214). The subsection bullet points (e.g., 2.1) may not be necessary but the author could at least have titles bolded like what you already had for kernel size optimization.

3. Page 7, line 232: "…. see next section and Method)…." I am not sure about which "Method" you refer to here.

4. Page 9, line 301: The author has a subtitle for this section for reducing input features, but there is no subtitle for the prior paragraphs. This is quite confusing for readers to understand the number of input features you used in the results presented in Figures 4 and 5. I suggest the author add bold subtitles for the prior paragraphs: "Model performance using 16 input features".

5. Page 10, lines 321-322: It seems like the following cluster analysis uses the model results with nine input features. Maybe the author can rewrite or add another sentence clearly stating that the subsequent cluster analysis is conducted using the model outputs with nine input features.

6. Page 12, lines 412-416: It will be helpful if the author could provide more analyses, discussions, or insights on why HazeNet misses the FN cases, especially the cases in cluster 1 since they are major cases (Table S1). It seems to me that the key differences between cluster 1 in FN cases and TP cases are shown in U10, V10, DTCV, and SW1. Do the patterns of cluster 1 (or other clusters) in FN cases represent weather patterns unfavorable for haze events?

7. Page 14, lines 438-442: In my previous comment #13 I asked how the trend or seasonality would affect the clustered features. I agree that the analysis could be for future work, but I suggest the author includes several sentences mentioning this point and potential influences of trend or seasonality on the clustered results.