

Interactive comment on “Analysis of the formation of fog and haze in North China Plain (NCP)” by J. Quan et al.

Anonymous Referee #1

Received and published: 25 May 2011

Comments and suggestions:

- 1, In p. 11921, line 2, it is better to show the original author of the formula 1.
- 2, In fig.1, there were 17 stations, 1 more than described in p.11914, line 11. In fact, the Wuqing station was also marked in fig.1 as a rural station, and it should be a field experiment station and was not a historic data station.
- 3, In fig.1, authors used squares and circles to mark rural or urban stations, not black and white symbols listed in fig.1.
- 4, in p.11914, two criterions were used to identify haze or fog. Did authors meet the condition that visibility ≤ 2 km. and RH ≤ 95 percent? Are those criterions consistent with definitions of haze and fog accepted by WMO?

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- 5, in p.11916, line 7-12, the non-linear relationship between OHAZ and OFOG were shown in fig.4 and there were two conditions. From condition 1, authors were suggesting a strong impact of aerosol particles on the fog formation, but it was not a clear description. In fact, liking the condition 2, it seems that meteorological conditions are critical factors to form fog. In fig. 3, after 1980's fog days per year were almost constant 15 days for both rural and urban stations, perhaps, the climate could be a factor either.
- 6, in p.11920, comparing the fog measurement results with Canadian results, authors suggested the resident time of fog should be longer. It could be true, but there was not the direct evidence.
- 7, in p.11924, line 17-18, the conclusion was not clear, in fact, in NCP there were enough CCN to formation of fog.
- 8, in p.11925, line 4, it seems unnecessary to describe NCAR, since for this paper no author and no fund are from NCAR.

Interactive comment on Atmos. Chem. Phys. Discuss., 11, 11911, 2011.