



Study on the Fog Weather Process and Ionic Species Concentration

Variation of The Fog Water in Beijing

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Abstract: To study the heavy fog formation mechanism as well as the urban fog pollution in Beijing, a heavy fog with horizontal visibility under 100 meters was observed in the Beijing Observatory which locates in the south suburb (39°56'N , 116°17'E) during 11 to 12 Dec. 2006. The synoptic system and fog water ionic species concentration are analyzed. It has demonstrated that the observed fog process is an advection-radiation fog with a deep layer more than 150 meters and a low visibility less than 100 meters. The formation and development stage of the heavy fog event accompany with an air pollution index V (APIV). Comparing with 1999 Beijing's fog water sample, the PH rises, electric conductivity rate descends, the anion's concentration has decreased generally, but the cation's risen. The chemistrical composition, ion component and concentration of the fog water has improved obviously. Studies have shown that Beijing's city government has taken measures to reduce the heavy fog's frequency and fog water's pollution in recent years.

Keywords: Beijing urban Heavy fog, Advection-radiation fog, Ionic species concentration of the fog water