

Deformation characteristics of a continuous Sea Fog process in the Yellow Sea and Bohai Sea and its Genesis Analysis

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On March 3rd-5th of 2016, a large sea fog continuously appeared over the most areas of Yellow and Bohai Seas. In this article, the satellite remote sensing monitoring data is used to analysis the morphological variation of the sea fog event during the three stages: generation, development, and extinction. It reveals the lack of sea fog over southeast coast of Shandong Peninsula and the evolution of the event. The results show that: 1) Early in the formation of the sea fog, there is no sea fog under the southerly wind on the southeast coast of Shandong Peninsula. Because of the weak cyclone, instability of atmospheric layer, and low humidity. Affected by low pressure, no water vapor convergence. 2) The period of maturity of the sea fog, the air temperature is lower than that on the sea surface. This condition is caused by the radiation from the top of the fog within the 0-10C of the temperature difference of the air and sea surface. The southerly heating low air from the northwest Pacific Ocean is beneficial to the formation of sea fog. It is monitored the obviously water vapor convergence in this area. 3) The effect of vertical wind shear especially from 925hPa to 1000hPa is positive to the maintenance of inversion layer and promote the development of vertical height of the sea fog. Eventually it forms the typical sea fog with the certain thickness.

Key words: sea fog, morphological variation, the temperature difference of the air and sea surface, inversion layer, vertical wind shear