

Kawai, H., S. Yabu, Y. Hagihara, T. Koshiro, and H. Okamoto, 2015: Characteristics of the cloud top heights of marine boundary layer clouds and the frequency of marine fog over mid-latitudes. *J. Meteor. Soc. Japan*, **93**, 613-628.

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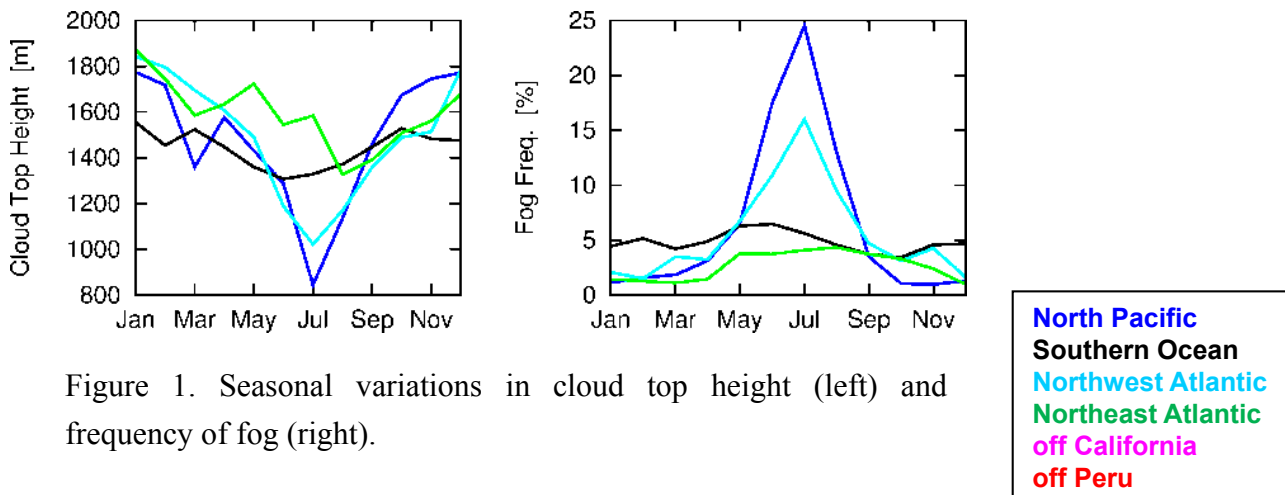


Figure 1. Seasonal variations in cloud top height (left) and frequency of fog (right).

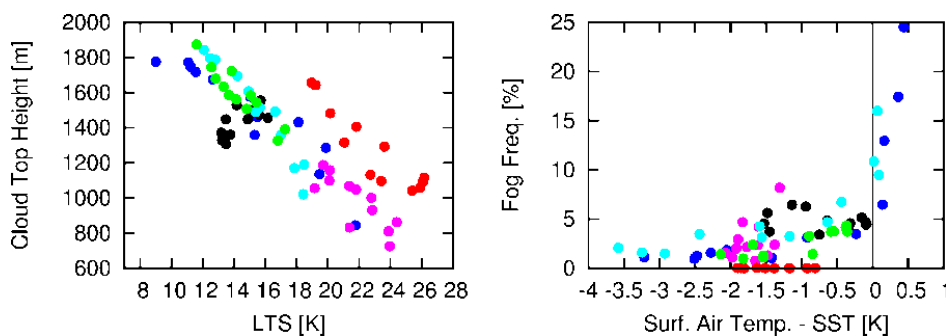


Figure 2. The relationship between cloud top height and LTS (left), and the relationship between fog frequency and temperature difference between the surface air and the sea surface (right).

- The cloud top height of marine boundary layer clouds (MBLCs) in the mid-latitudes, which has received less attention than that of subtropical MBLCs, is investigated globally for the first time using cloud mask data from the CALIPSO satellite with high accuracy on the height estimation.
- Clear seasonal variations in the cloud top height of mid-latitude MBLCs and the frequency of fog occurrence are found over the North Pacific and the northwest Atlantic, whereas those seasonal variations over the Southern Ocean are not well defined (Fig. 1).
- High correlations were found between the MBLC top height and stability indexes, and between the fog frequency and some surface parameters including temperature difference between the surface air and the sea surface (Fig. 2).