

Reply

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It is important to respond to the comments of Fenner since it will help to clarify the intended focus of our paper. Our study was an attempt to identify some characteristics of general precipitation areas that would be relevant to assessing the potential for their explicit representation and prediction in numerical models. It was evident that the analysis had to consider the largest possible scale of coherent organization for these areas in order to be relevant.

Understanding the properties of convective precipitation areas was *not* an important goal of the study. In fact, a large part of the data sample was for warm front precipitation areas. No attempt was made to determine the depth of the precipitation systems or the details of vertical wind shear, or to examine physical relationships of the echo systems to the synoptic situations. The wind

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levels considered were intended to be representative of standard levels in a numerical model.

Fenner raised a few specific questions that should be answered. Strict objective linear interpolation was not used for the rawinsonde winds. A subjective approach was used. It was our experience that linear interpolation was quite accurate in most situations. In regions with large gradients second derivative effects were taken into consideration. The statistical *F*-test was used for determining significance. The term "mechanical lifting" was perhaps a poor choice of words for describing the upward vertical motion in frontal areas.

We hope the comment concerning the supposed failure by us to use a reference because it was in Japanese was only a touch of humor from the Continent. In reply we can note that an unpublished Ph.D. thesis is probably even less accessible and it is hoped that the insights found in the 1974 thesis of Fenner will become more available soon.