Caveat for TRMM SLH V7

February 6, 2015

Updated on May 29, 2015

The current version 7 SLH misclassifies some of the stratiform pixels as TypeSLH=4, which is the type designated mainly for Tibet and winter mid-latitude where the melting levels are close to the ground level.

The misclassification leads to an unrealistic positive heating at levels warmer than freezing [see median volumetric latent heating from stratiform precipitation over the US and Argentina shown in Fig. 6b of Liu et al. (2015, Journal of Climate)].

The misclassified pixels are found in the region where near-surface level is relatively high and/or the melting level is relatively low. These pixels exist both over land and ocean, but their impact is considered to be small over ocean. This is because these pixels exist over subtropical ocean with relatively low melting level (i.e. low sea surface temperature) and the number of deep stratiform rain pixels is small there.