Derivation of Ocean Latent Heat Flux using SSM/I Data Over East Asia and Its Validation

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Abstract

A bulk parameterization approach to derive the latent heat flux over ocean using the brightness temperature measured from SSM/I (Special Sensor for Microwave Image) and AVHRR (Advanced Very High Resolution Radiometer) has been developed. Atmospheric variables such as specific humidity and wind speed are directly derived from SSM/I, while sea surface temperature is from AVHRR data. Comparison of the derived latent heat flux from satellite data and in-situ buoy observation show a good agreement. For a better comparison, the buoy observation data at about 1.5m above ocean surface are estimated at 10m using the atmospheric stability functions. The changes of latent heat flux during the passage of tropical cyclone and wintertime severe storm over the Korean peninsular are studied and will be presented