



The Sensitive Regions Identified by CNOPs of Three Typhoon Events

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In this paper, several sets of observing system simulation experiments (OSSEs) were designed for three typhoon cases to determine whether or not the additional observation data in the sensitive regions identified by conditional nonlinear optimal perturbations (CNOPs) could improve the short-range forecast of typhoons. The results show that the CNOPs capture the sensitive regions for typhoon forecasts, which implies that conducting additional observation in these specific regions and eliminating initial errors could reduce forecast errors. It is inferred from the results that dropping sondes in the CNOP sensitive regions could lead to improvements in typhoon forecasts.