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Daily simulation using the cloud resolving model

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We have conducted the daily simulation using the Cloud Resolving Storm Simulator (CReSS: Tsuboki and Sakakibara, 2002) developed by Hydrospheric Atmospheric Research Center, Nagoya University since 2005. Because of the computer limitation, the simulation domain was limited around the target observational region and the horizontal resolution was 5km. After third generation cluster system has installed in 2010, the simulation domain was expanded almost all Japan and the horizontal resolution was 2.5km. Since October 2012, the horizontal resolution has been 2.0km. We have also developed the three dimensional atmosphere-ocean coupled model (CReSS-NHOES) since 2010. The ocean model, Non-Hydrostatic Ocean Model for the Earth Simulator (NHOES), has been developed by Japan Agency for Marine-Earth Science and Technology. Using this model, we have conducted the daily atmosphere-ocean coupling simulation which the horizontal resolution is about 5km since 2011. We have saved all results without any information loss. We make use of them to evaluate and improve the CReSS and the CReSS-NHOES. Also, it is expected that these data would be useful for assessment, such as wind and photovoltaic power plant.

Keywords: cloud resolving model, atmosphere ocean coupled model