



A statistical Analysis of Explosively Developing Extratropical Cyclone through Northern Japan and North Pacific Blocking

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From 16 December 2014, until 18 December 2014, a storm surge induced by explosive cyclone hit Nemuro, a city located in Hokkaido, Northern Japan, causing great damage due to strong wind and flooding. This explosive cyclone was rapidly intensified along the east coast of Tohoku region when it merged with the other low pressure system and remained stationary due to the atmospheric blocking over the Russian Far East.

In this study, we used the 40-yr ECMWF Re-Analysis (ERA-40; Uppala et al. 2005) for the 1960-1999 and statistically analyzed the explosive cyclone in the northwestern Pacific region. The results suggest that approximately half the number of explosive cyclones experienced merging with the other cyclone. In addition, explosive cyclones suddenly developed after the merging. The other analysis shows that explosive cyclone makes slow and steady progress when atmospheric blocking located on the northern part of it.