Kanada, S., and A. Wada, 2016: Sensitivity to horizontal resolution of the simulated intensifying rate and inner-core structure of typhoon Ida, an extremely intense typhoon. *J. Meteor. Soc. Japan*, **94A**, 181-190.
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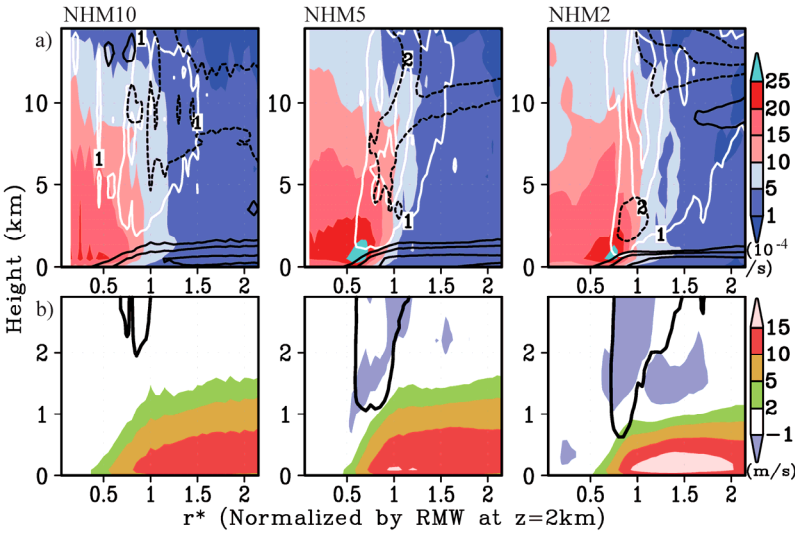
Obs/Model	MCP	Max. dCP	MWS	Max. dMWS
Best track	877	39	–	–
JRA55	926	12	54.4	4.9
NHM20	940	6	42.2	5.6
NHM10	916	8	54.5	6.1
NHM5	889	18	70.1	9.1
NoKF5	894	16	67.8	8.1
NHM2	878	35	74.3	18.9

←Table 1 Minimum central pressure (MCP; hPa), maximum drop in central pressure (Max.dCP; hPa 6 h^{-1}), maximum surface wind speed (MWS; m s^{-1}) and its maximum change (Max. dMWS; m s^{-1}). NoKF5 indicates the sensitivity experiment by NHM5 without any cumulus parametrization scheme.



←Figure 1. Normalized radius–altitude cross sections in the NHM10, NHM5, and NHM2 simulations: (a) Azimuthal mean vertical vorticity (colors; 10^{-4} s^{-1}), radial wind (*Vr*; black contours; 2, 5, and 10 m s^{-1}, dotted; –10, –5, –2 m s^{-1}), and vertical velocity (white contours; 1, 2, and 3 m s^{-1}). (b) *Vr* (colors; m s^{-1}) and vertical velocity (black contours, 1 m s^{-1}). Positive values of *Vr* indicate inflow.

- The model-resolution sensitivity of simulated intensifying and deepening rates of an extremely intense tropical cyclone, Typhoon Ida (1958), was investigated by using the Japan Meteorological Agency/Meteorological Research Institute nonhydrostatic atmospheric model with horizontal resolutions of 20 (NHM20), 10 (NHM10), 5 (NHM5), and 2 km (NHM2).
- The results revealed great differences in the intensifying and deepening rates and their associated structural changes among simulations.
- Only the cloud-resolving 2km model, with explicit microphysics, could reproduce the observed maximum intensity and extreme intensification rate of the typhoon realistically since the model could produce the deep, intense and upright updrafts inside the radius of maximum wind speed around the vorticity-rich area over the strong near-surface inflow.