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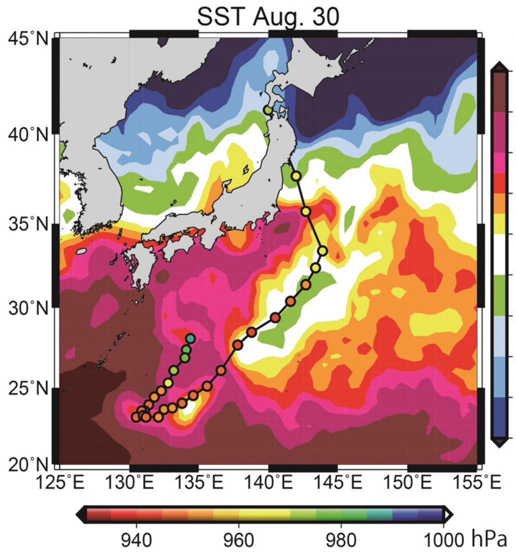
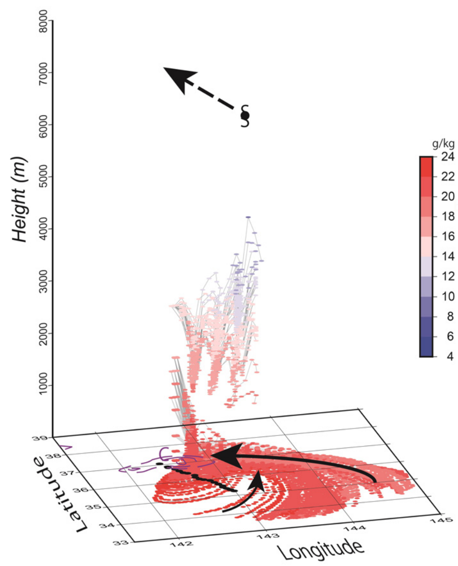


← Figure 1. Horizontal distribution of TRMM/TMI daily mean SST on 30 August 2016. Colors indicate water temperature (˚C). Circles indicate the location and central pressure of Typhoon Lionrock.



← Figure 2. Trajectory analysis every 6 s for 6 h starting at 0300 UTC on 30 August 2016. “C” indicates the confluent zone between the primary circulation of the storm and spiral inflow in the surface boundary layer. The color scale indicates specific humidity. The purple dashed line indicates the convergence area at 20 m height at 0220 UTC on 30 August 2016. Solid arrows indicate frictional inflow and tangential wind at the surface. Dashed line indicates the moving direction of simulated storm.

- The 3-km-mesh coupled atmosphere-wave-ocean model could simulate the occurrence of convective bursts of Typhoon Lionrock (2016) during the decay phase.
- Although SSC was induced by Lionrock (Fig. 1), the decrease in maximum wind speeds was paused due to high horizontal moisture fluxes around the frictional convergence area ahead of the storm, locally occurrences of upward moisture fluxes and CBs in the mid-to-upper troposphere (Fig. 2).
- An asymmetric storm with a relatively fast translation in mid-latitude is expected to rapidly increase maximum surface wind speeds on the upstream side under a favorable oceanic condition because vertical moisture fluxes and the number of CBs could increase around a surface frictional convergence area ahead of the storm.
- The number and distribution of CBs are sensitive to oceanic conditions and are considered to affect the storm-track simulation as well as maximum surface winds.