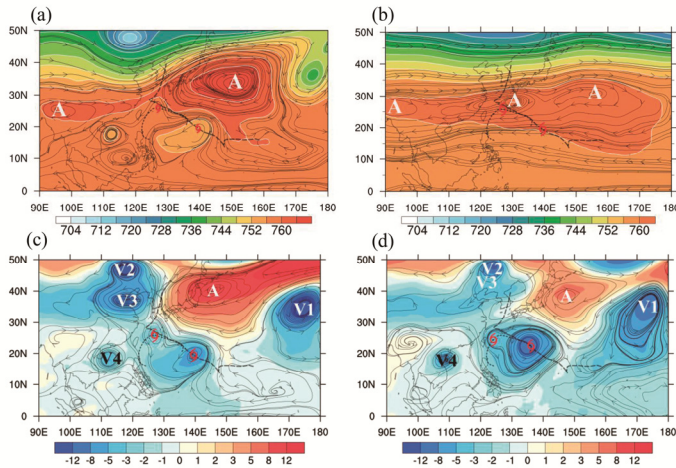
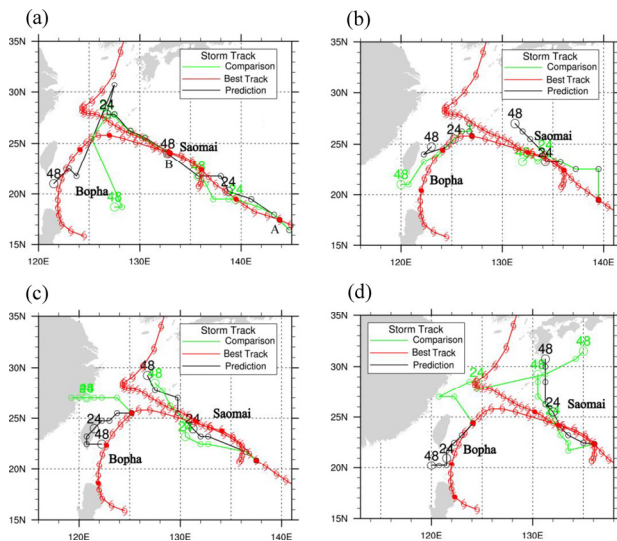


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Figure 1. (a) Total height (shading, 4×10 gpm interval) and total flow, (b) climatic height (shading, 4×10 gpm interval) and climatic flow, (c) height anomaly (shading, 1×10 , 2×10 and 4×10 gpm intervals) and anomalous flow at 400 hPa at 1200 UTC 8 September 2000. (d) Same as (c) but at 450 hPa at 1200 UTC 9 September 2000. Letters “A” and “V” indicate the centers of anticyclone and vortex, respectively. The symbol “9” denotes the position of each TC and the dashed line is the best track.



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Figure 2. Best track (red line) and original GBAM prediction track (black line), and compared prediction (comparison) track (green line) when another TC vortex is replaced by climatic flow initiated respectively at (a) 450 hPa at 1200 UTC 7, (b) 400 hPa at 1200 UTC 8, (c) 600 hPa at 0000 UTC 9, and (d) 450 hPa at 1200 UTC 9 September 2000.

- Four pairs of tropical cyclones (TCs) in the vicinity of Northwest (NW) Pacific have been restudied in this paper by decomposing a total flow into a climatic component and an anomaly (Figure 1) as well as by a simple generalized beta-advection model (GBAM). Results contradict with previous identification that binary interactions occurred in the four pairs of TCs (Figure 2).
- The intensities of the four studied TC pairs were not well equal to each other at the same time during their common lifetime period. The result of GBAM revealed that a stronger TC had a direct influence on the track of a weaker TC but the reverse was not true.
- Whether a binary interaction happens between two TCs and whether the two TCs interact with other anomalous systems can be determined by the GBAM at the optimal level near the maximum center of vorticity anomaly.