Fig. S1. (a) Sea surface salinity (SSS, PSU) distribution (color contours: Aquarius data; line contours: Argo monthly gridded data) for September 2013 in the Bay of Bengal (BOB), with the freshwater region denoted by areas of SSS lower than 32.5 PSU. (b), (c) and (d) are the same as (a), but for October and November 2013, and the October climatology, respectively. (e), and (f) are the SSS differences for Oct minus Sep in 2013, and the SSS anomaly for Oct, 2013, respectively. The track of *Phailin* is shown by the red curve in (a)-(f).
Fig. S2. The averaged potential intensity (PI) calculated using (a) SST (PI_SST), (b) ocean temperature averaged over the top 80 m (PI_T80), and (c) scaled ocean temperature (PI_Tm (scaled)) by the method of Bister and Emanuel (2002a, 2002b) in TC duration for 5 TC cases belonging to group 1 shown in Table 3; these 5 TC cases were characterized by a thick BLT and a thick ILD. (d-f) The same as in (a-c) but for 8 TC cases belonging to group 2 and characterized by a thin BLT, but a thick ILD. (g-i) The same as in (a-c) but for 3 TC cases belong to group 3 and characterized by a thin BLT and a thin ILD. The scaled ocean temperature (i.e., Tm(scaled)) for the calculation of PI_Tm, is estimated by T*h/H. Here T is ocean temperature, h is local ILD, and H is the averaged ILD over the Bay. All data are from SODA.
Fig. S3. (a) The 6-hourly positions for 5 TC cases belonging to group 1 shown in Table 3, are denoted as circles that are color-coded by category (based on the Saffir-Simpson Hurricane Wind Scale). (b) and (c) are the same as in (a) but for 8 TC cases belonging to group 2, and 3 TC cases belonging to group 3, respectively.