



Supplement of

Conceptual models of dissolved carbon fluxes in a two-layer stratified lake: interannual typhoon responses under extreme climates

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Fig. S1. Seasonal responses of continuous (a-d) upper layer DIC and (e-h) lower layer DIC (mg-C L⁻¹) between typhoon (*Typhoon*) and non-typhoon (*Non*) years for each season as in **Fig. 3**. *Fit* (*blue boxes*) condition shows the best-fit data by using the conceptual two-layer C model; Lv1 (yellow boxes) and Lv2 (red boxes) show the extreme climates. *Empty dots show the continuous DIC and DOC data.* "ns": *p*-values ≥ 0.05 ; *: *p*-values from 0.05 to 0.01; **: *p*-values from 0.01 to 0.001; ****: *p*-values less than 0.0001 based on a t-test.



Fig. S2. Seasonal responses of **(a-d)** upper layer DOC and **(e-h)** lower layer DOC (mg-C L⁻¹) between typhoon (*Typhoon*) and non-typhoon (*Non*) years for each season as in Fig. 7. The *Fit* (*blue boxes*) condition shows the best-fit data by using the conceptual two-layer carbon model; *Lv1* (*yellow boxes*) and *Lv2* (*red boxes*) show the extreme climates. *Empty dots show the continuous DIC and DOC data.* "ns": *p-values* ≥ 0.05 ; *: *p-values from* 0.05 to 0.01; **: *p-values from* 0.01 to 0.001; ****: *p-values less than* 0.0001 based on a t-test.