



Supplement of

Dissolution of a submarine carbonate platform by a submerged lake of acidic seawater

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Supplementary figures

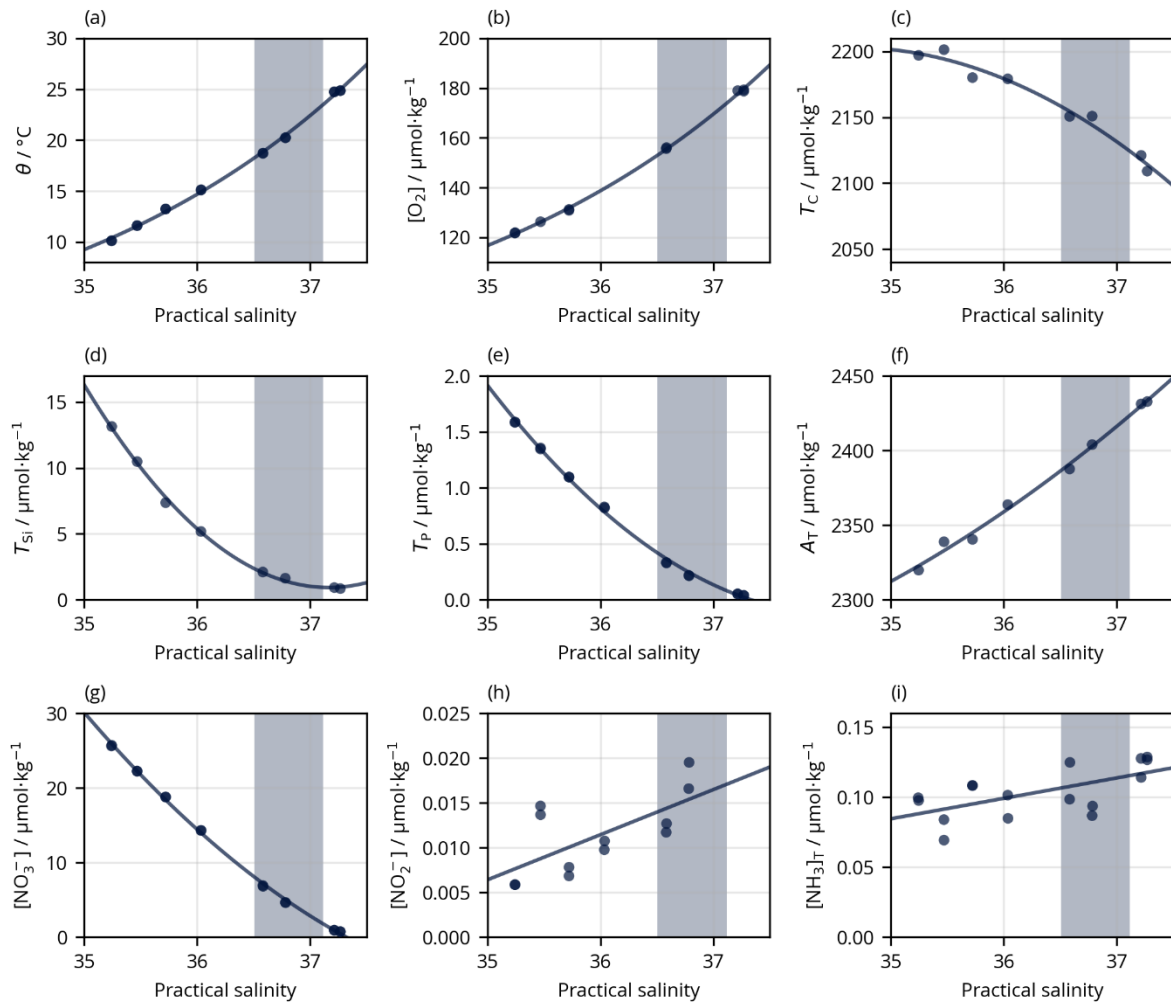


Figure S1. Measurements of off-platform variables and their fits to practical salinity, which were used to estimate preformed sinkhole water properties within the acid lake. The shaded vertical bars show the range of practical salinity values observed within the acid lake. Variables shown are (a) potential temperature (θ), (b) dissolved oxygen ($[O_2]$), (c) dissolved inorganic carbon (T_C), (d) dissolved silica (T_{Si}), (e) orthophosphate (T_P), (f) total alkalinity (A_T), (g) dissolved inorganic nitrate ($[NO_3^-]$), (h) dissolved inorganic nitrite ($[NO_2^-]$), and (i) total ammonia ($[NH_3]_T$).

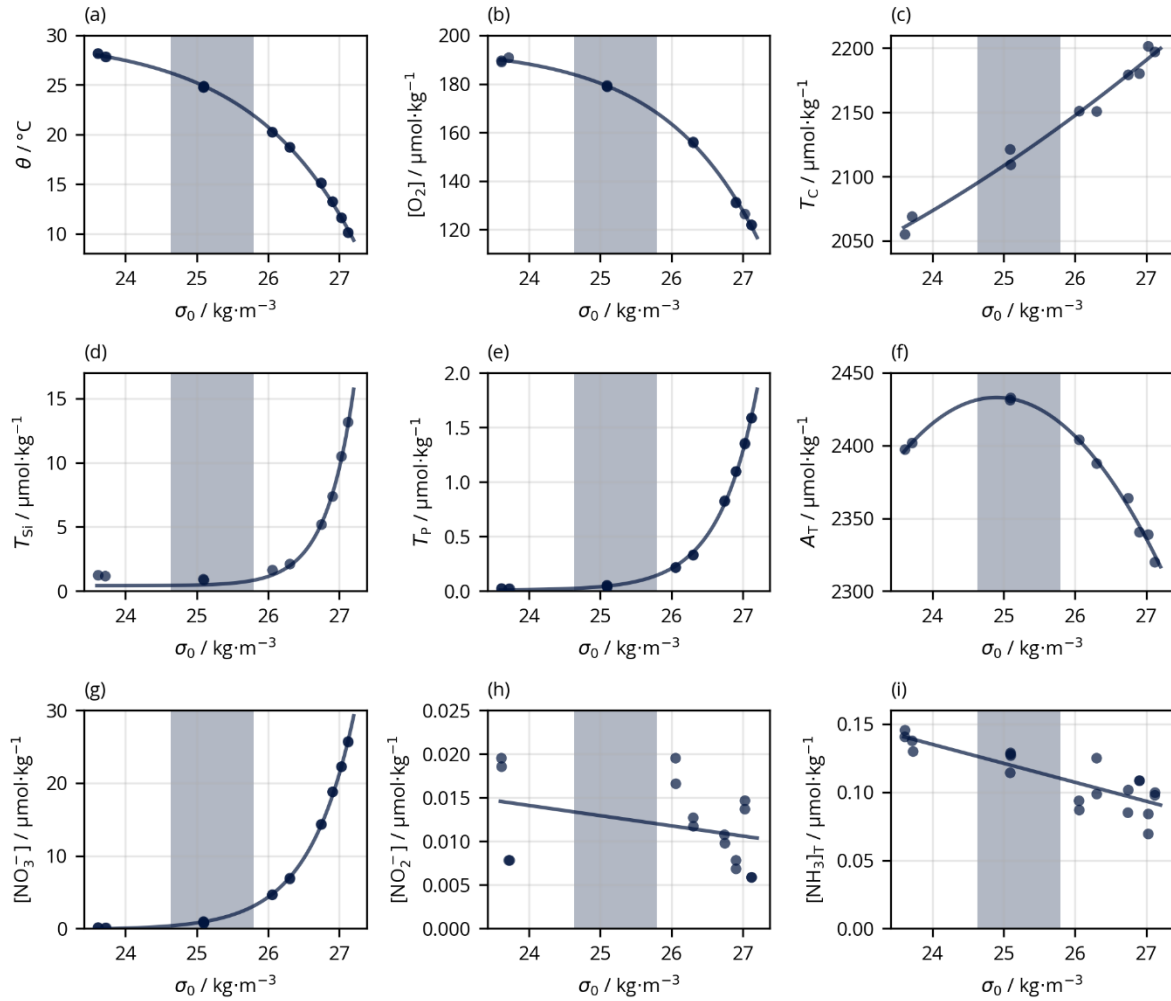


Figure S2. Measurements of off-platform variables and their fits to potential density anomaly (σ_0), which were used to estimate preformed sinkhole water properties within the sinkholes except the acid lake. The shaded vertical bars show the range of σ_0 values observed within the sinkholes. Variables shown are (a) potential temperature (θ), (b) dissolved oxygen ($[\text{O}_2]$), (c) dissolved inorganic carbon (T_c), (d) dissolved silica (T_{Si}), (e) orthophosphate (T_p), (f) total alkalinity (A_T), (g) dissolved inorganic nitrate ($[\text{NO}_3^-]$), (h) dissolved inorganic nitrite ($[\text{NO}_2^-]$), and (i) total ammonia ($[\text{NH}_3]_T$).

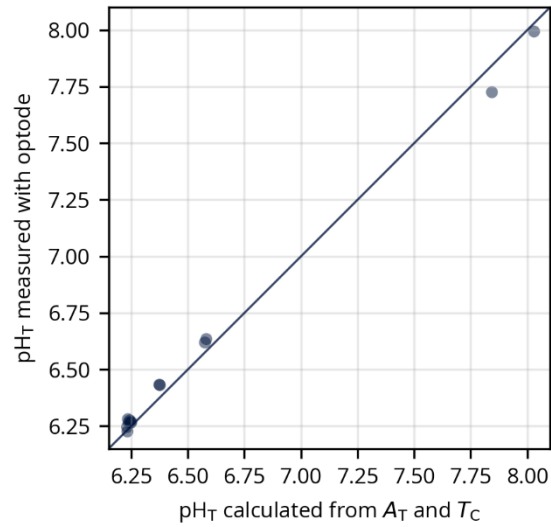


Figure S3. Comparison between pH on the Total scale (pH_T) calculated from total alkalinity (A_T) and dissolved inorganic carbon (T_C) with PyCO2SYS v1.7.0 and measured with an optode sensor. Diagonal line shows ideal 1:1 relationship. Least-squares best fit regression has slope = 0.94, intercept = 0.41. The root-mean-square of all differences between calculated and measured values is 0.05.