Supplementary Material

Journal name:Biogeosciences

Article title: Vertical profiles of sediment methanogenic potential and communities in two plateau freshwater lakes

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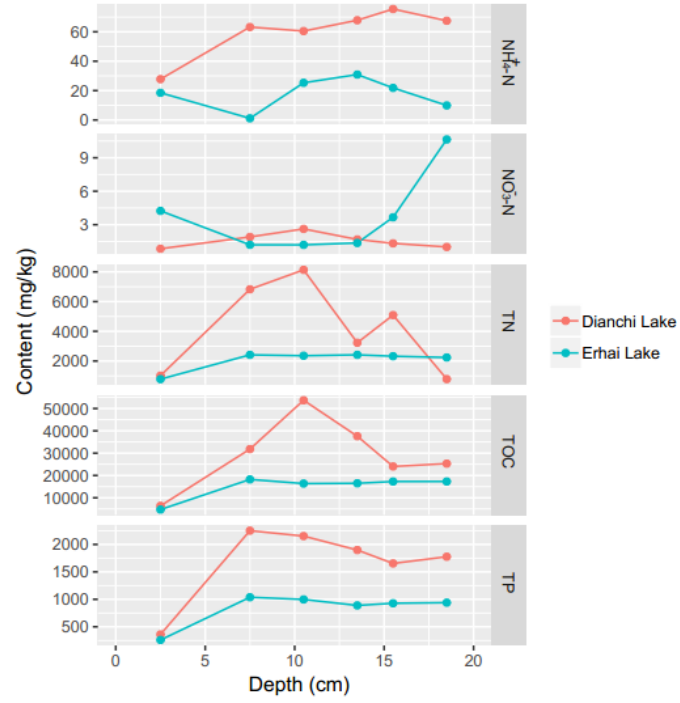
Figure S1 Physicochemical features of sediment samples from Dianchi Lake and

Erhai Lake

Figure S2 Methanogen community compositions based on 16S rRNA gene. Samples

D1–D6 and E1–E6 were from Dianchi Lake and Erhai Lake, respectively. Samples

D1–D6 and E1–E6 were retrieved from Dianchi Lake and Erhai Lake, respectively.

Digits "1" – "6" were referred to sediment depth 0–5, 5–8, 8–11, 11–14, 14–17 and

17–20 cm, respectively.

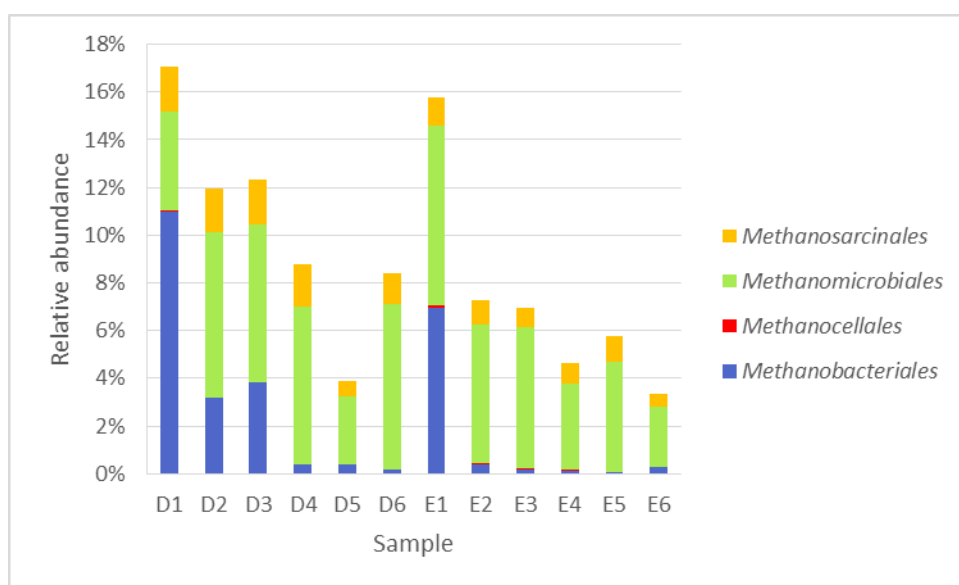



Figure S3 Methanogen community compositions based on *mcrA* gene. Samples D1–D6 and E1–E6 were from Dianchi Lake and Erhai Lake, respectively. Samples D1–D6 and E1–E6 were retrieved from Dianchi Lake and Erhai Lake, respectively. Digits "1" – "6" were referred to sediment depth 0–5, 5–8, 8–11, 11–14, 14–17 and 17–20 cm, respectively.