**Supplemental Material for**

**Recent environmental changes in the Yunnan–Guizhou Plateau inferred from organic geochemical records from the sediments of Fuxian Lake**

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**Table S1** TOC, TN, C/N, and isotopic compositions (δ13Corg) and proxies of n-alkanes in bulk sediments from core FX-1 from Fuxian Lake. C/N is expressed as atomic ratio.

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Sample no. | Depth  (cm) | TOC  (%) | TN  (%) | C/N | δ13Corg  (‰) | ACL | CPI | TAR | Paq |
| FX-1-1 | 0~1 | 1.82 | 0.22 | 9.89 | -27.71 | 29.44 | 0.92 | 0.58 | 0.42 |
| FX-1-2 | 1~2 | 1.15 | 0.15 | 8.97 | -26.41 |  |  |  |  |
| FX-1-3 | 2~3 | 0.85 | 0.12 | 8.47 | -26.42 | 29.63 | 1.13 | 1.05 | 0.45 |
| FX-1-4 | 3~4 | 0.87 | 0.11 | 8.92 | -26.16 |  |  |  |  |
| FX-1-5 | 4~5 | 0.81 | 0.12 | 7.99 | -25.91 | 29.53 | 1.00 | 0.89 | 0.46 |
| FX-1-6 | 5~6 | 0.73 | 0.10 | 8.14 | -25.88 |  |  |  |  |
| FX-1-7 | 6~7 | 0.64 | 0.09 | 8.64 | -24.98 |  |  |  |  |
| FX-1-8 | 7~8 | 0.68 | 0.10 | 7.75 | -25.19 |  |  |  |  |
| FX-1-9 | 8~9 | 0.62 | 0.10 | 7.65 | -25.23 | 29.94 | 1.09 | 2.06 | 0.27 |
| FX-1-10 | 9~10 | 0.76 | 0.11 | 7.74 | -25.29 |  |  |  |  |
| FX-1-11 | 10~11 | 0.68 | 0.10 | 7.96 | -25.23 | 29.17 | 1.02 | 0.67 | 0.48 |
| FX-1-12 | 11~12 | 0.66 | 0.10 | 7.53 | -25.20 |  |  |  |  |
| FX-1-13 | 12~13 | 0.69 | 0.11 | 7.71 | -25.43 | 29.79 | 1.11 | 1.80 | 0.32 |
| FX-1-14 | 13~14 | 0.69 | 0.11 | 7.62 | -25.18 | 29.58 | 1.16 | 0.80 | 0.51 |
| FX-1-15 | 14~15 | 0.70 | 0.10 | 7.90 | -25.26 | 29.74 | 1.14 | 1.21 | 0.41 |
| FX-1-16 | 15~16 | 0.65 | 0.10 | 7.53 | -25.53 |  |  |  |  |
| FX-1-17 | 16~17 | 0.67 | 0.10 | 7.68 | -25.09 | 29.82 | 1.05 | 1.28 | 0.38 |
| FX-1-18 | 17~18 | 0.72 | 0.10 | 8.19 | -24.87 |  |  |  |  |
| FX-1-19 | 18~19 | 0.71 | 0.10 | 8.31 | -25.40 | 29.45 | 1.06 | 2.19 | 0.32 |

**Table S2** TOC, TN, C/N, and isotopic compositions (δ13Corg) and proxies of n-alkanes in bulk sediments from core FX-2 from Fuxian Lake. C/N is expressed as atomic ratio.

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Sample no. | Depth  (cm) | TOC  (%) | TN  (%) | C/N | δ13Corg  (‰) | ACL | CPI | TAR | Paq |
| FX-2-1 | 0~1 | 3.09 | 0.34 | 10.47 | -28.07 | 29.08 | 0.92 | 0.23 | 0.44 |
| FX-2-2 | 1~2 | 3.12 | 0.34 | 10.68 | -27.88 |  |  |  |  |
| FX-2-3 | 2~3 | 2.64 | 0.29 | 10.71 | -27.88 | 29.60 | 1.07 | 1.12 | 0.44 |
| FX-2-4 | 3~4 | 2.04 | 0.23 | 8.39 | -27.17 |  |  |  |  |
| FX-2-5 | 4~5 | 1.39 | 0.19 | 7.80 | -26.77 | 29.29 | 1.09 | 0.82 | 0.45 |
| FX-2-6 | 5~6 | 1.46 | 0.18 | 7.54 | -26.48 |  |  |  |  |
| FX-2-7 | 6~7 | 1.47 | 0.15 | 8.11 | -26.14 | 29.59 | 1.03 | 0.23 | 0.41 |
| FX-2-8 | 7~8 | 1.30 | 0.15 | 7.69 | -26.10 |  |  |  |  |
| FX-2-9 | 8~9 | 1.44 | 0.15 | 7.71 | -26.14 | 29.65 | 1.07 | 1.14 | 0.44 |
| FX-2-10 | 9~10 | 1.06 | 0.13 | 7.94 | -25.71 |  |  |  |  |
| FX-2-11 | 10~11 | 1.03 | 0.13 | 8.27 | -25.49 | 29.13 | 1.06 | 0.46 | 0.48 |
| FX-2-12 | 11~12 | 1.21 | 0.13 | 8.96 | -25.45 | 29.72 | 1.05 | 1.15 | 0.42 |
| FX-2-13 | 12~13 | 1.13 | 0.13 | 8.63 | -25.03 |  |  |  |  |
| FX-2-14 | 13~14 | 1.06 | 0.13 | 8.88 | -25.26 | 29.65 | 1.07 | 1.08 | 0.44 |
| FX-2-15 | 14~15 | 1.05 | 0.12 | 8.96 | -25.06 | 29.70 | 1.06 | 1.15 | 0.43 |
| FX-2-16 | 15~16 | 1.21 | 0.13 | 8.88 | -24.77 |  |  |  |  |
| FX-2-17 | 16~17 | 0.88 | 0.11 | 9.28 | -24.87 | 29.77 | 1.02 | 1.16 | 0.41 |