**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  |