Jianliang Jia, Changsheng Miao, and Wenquan Xie, 2022, Terrestrial paleoclimate transition associated with continental weathering and drift during the Aptian–Albian of East Asia: GSA Bulletin, https://doi.org/10.1130/B36253.1.

Supplemental Material

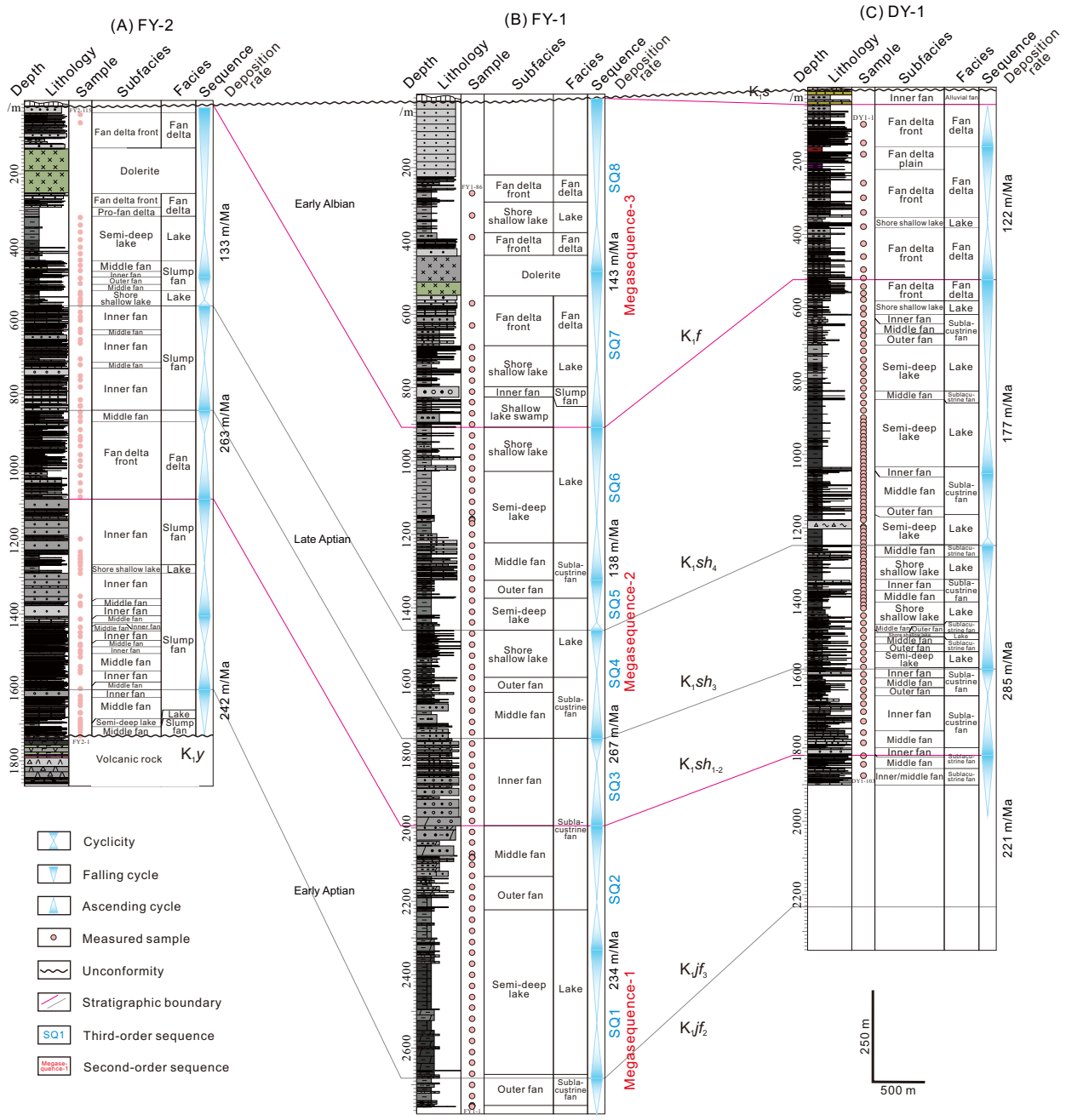
Table S1. Climate indicators of element and isotope geochemistry, and clay and carbonate minerals from boreholes FY-2, FY-1 and DY-1 in the Fuxin Basin.

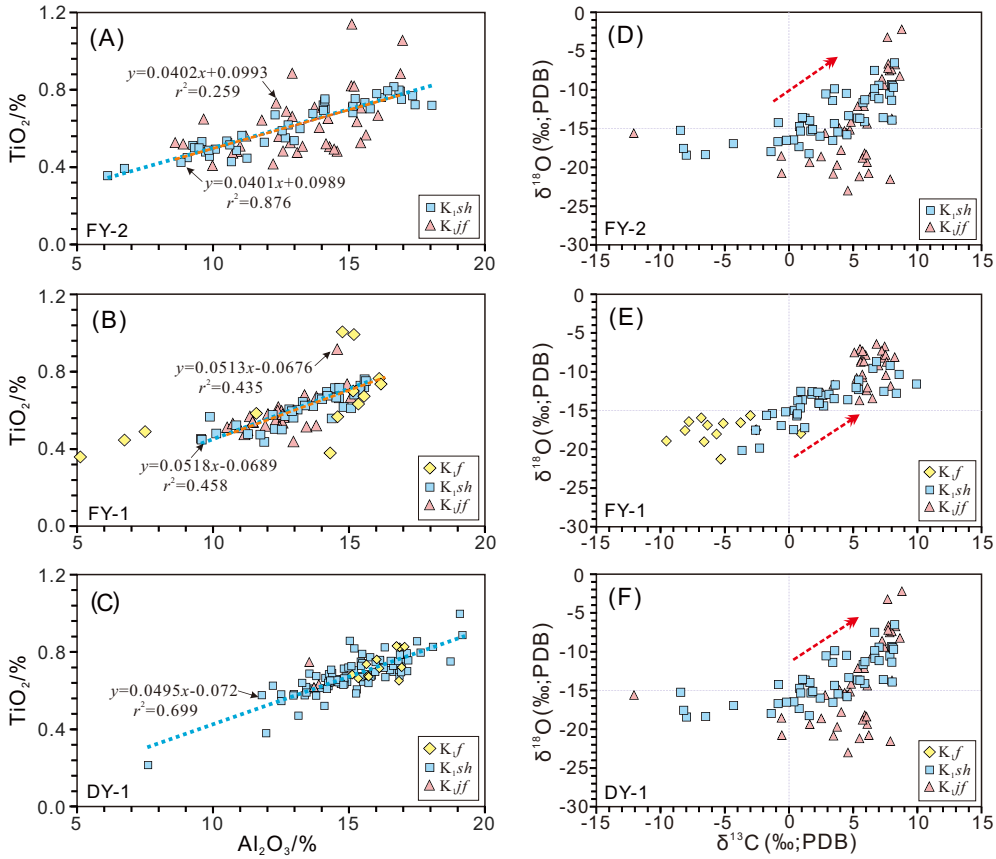
Table S2. Palynomorph assemblage from the borehole FY-2 in the Fuxin Basin.

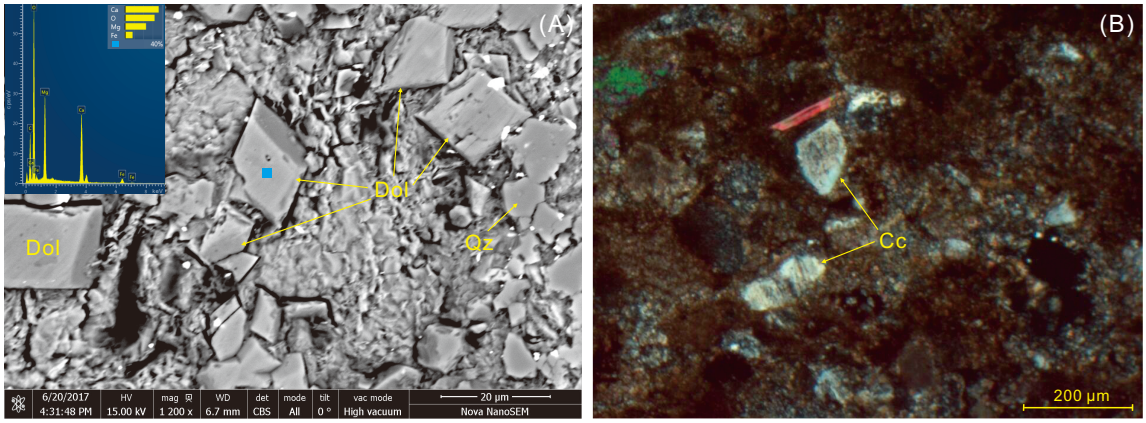
Figure S1. Correlated sequence stratigraphy and sedimentary facies with positions of measured samples in the Fuxin Basin from borehole FY-2 in the west (A), FY-1 in the centre (B), and DY-1 in the east (C) (modified after Jia et al., 2021). Symbols are the same as shown in Figure 1 and the location is shown in Figure 1B.

Figure S2. Diagrams of Al_2O_3 and TiO_2 and $\delta^{13}C$ and $\delta^{18}O$ values for organic-rich mudrocks from boreholes FY-2 (A, D), FY-1 (B, E), and DY-1 (C, F).

Figure S3. Microscopic characteristics of carbonate minerals observed in SEM (A) and thin section images (B) of organic-rich mudrocks from borehole FY-2.


(A) FY-2
(B) FY-1
(C) DY-1
Depth
Lithology
Sample
Subfacies
Facies
Sequence
Deposition rate
/m
Fan delta front
Dolerite
Pro-fan delta
Semi-deep lake
Middle fan
Inner fan
Outer fan
Shore shallow lake
Shallow lake swamp
Slump fan
Subla-custrine fan
Alluvial fan
Fan delta plain
Volcanic rock
K1y
K1s
K1f
K1sh4
K1sh3
K1sh1-2
K1jf3
K1jf2
Early Albian
Late Aptian
Early Aptian
133 m/Ma
263 m/Ma
242 m/Ma
143 m/Ma
138 m/Ma
267 m/Ma
234 m/Ma
122 m/Ma
177 m/Ma
285 m/Ma
221 m/Ma
SQ8
SQ7
SQ6
SQ5
SQ4
SQ3
SQ2
SQ1
Megasequence-3
Megasequence-2
Megasequence-1
Cyclicity
Falling cycle
Ascending cycle
Measured sample
Unconformity
Stratigraphic boundary
Third-order sequence
Second-order sequence
250 m
500 m


(A)
y=0.0402x+0.0993
r²=0.259
y=0.0401x+0.0989
r²=0.876
FY-2
K1sh
K1jf
TiO2/%
(B)
y=0.0513x-0.0676
r²=0.435
y=0.0518x-0.0689
r²=0.458
FY-1
K1f
K1sh
K1jf
(C)
y=0.0495x-0.072
r²=0.699
DY-1
Al2O3/%
(D)
δ18O (‰;PDB)
(E)
(F)
δ13C (‰;PDB)


(A)
Dol
Dol
Qz
6/20/2017
4:31:48 PM
HV
15.00 kV
mag
1 200 x
WD
6.7 mm
det
CBS
mode
All
tilt
0 °
vac mode
High vacuum
20 µm
Nova NanoSEM
(B)
Cc
200 µm