Figure 3.

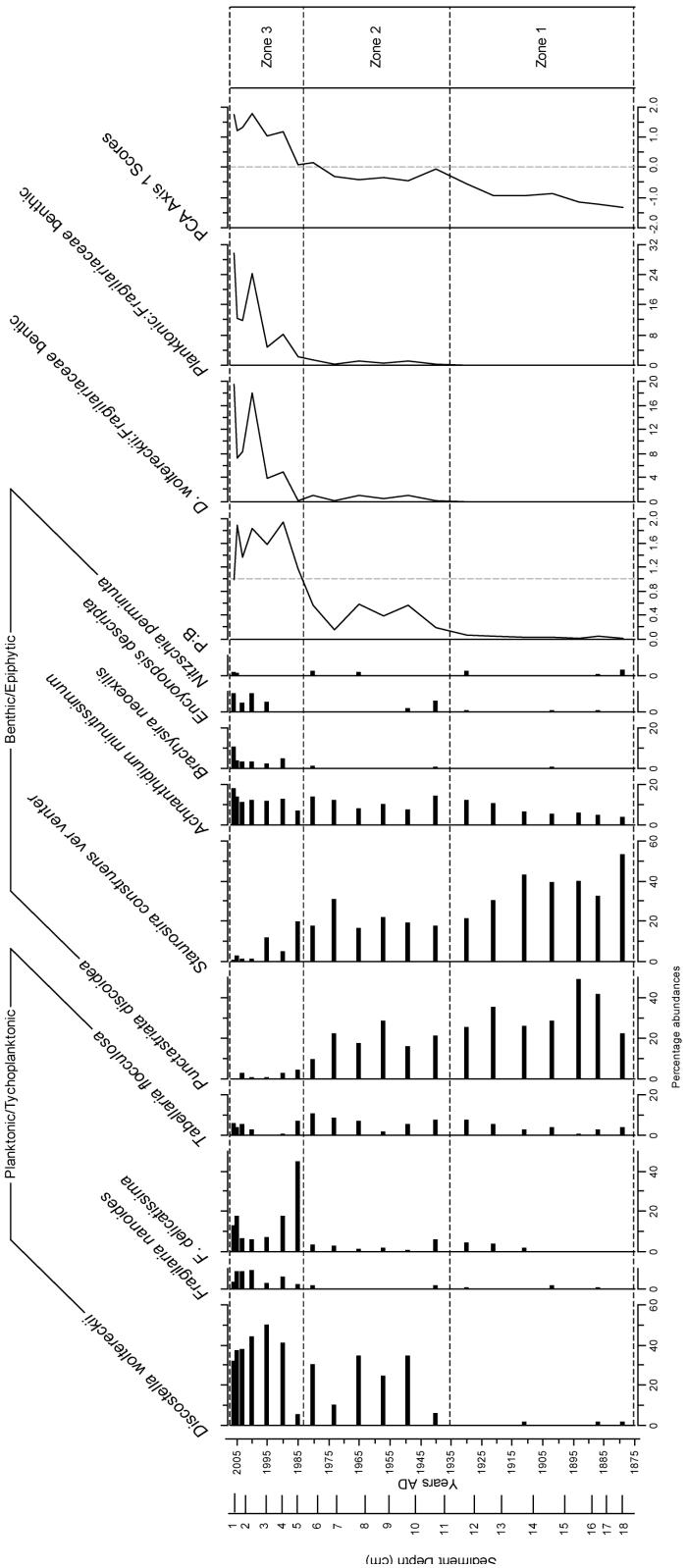

Zone 3
Zone 2
Zone 1
PCA Axis 1 Scores
Planktonic:Fragilariaceae benthic
D. wolfereckii:Fragilariaceae benthic
P.B
Nitzschia pemminuta
Encyonopsis descripta
Brachysira neoexilis
Achnanthidium minutissimum
Staurosira construens ver venter
Pseudostriata discoidea
Tabellaria flocculosa
F. delicatissima
Fragilaria nanoides
Discostella woltereckii
Benthic/Epiphytic
Planktonic/Tychoplanktonic
Years AD
Sediment depth (cm)
Percentage abundances

Figure 4.

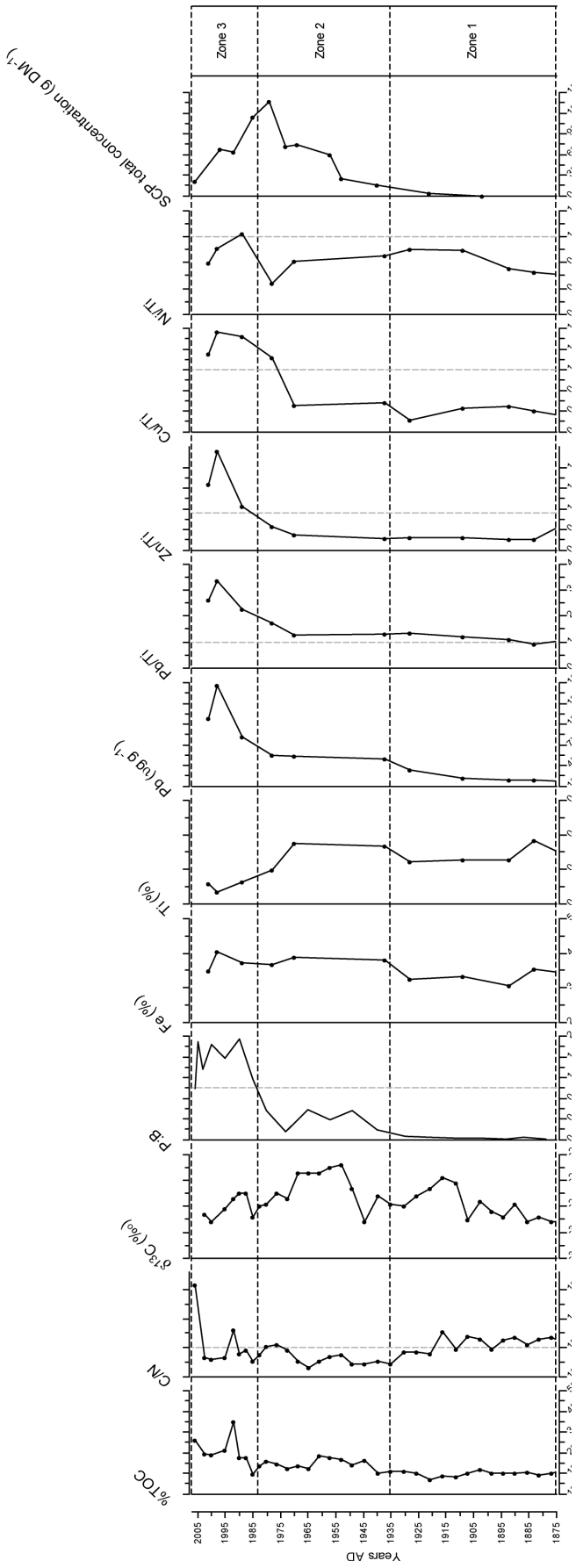
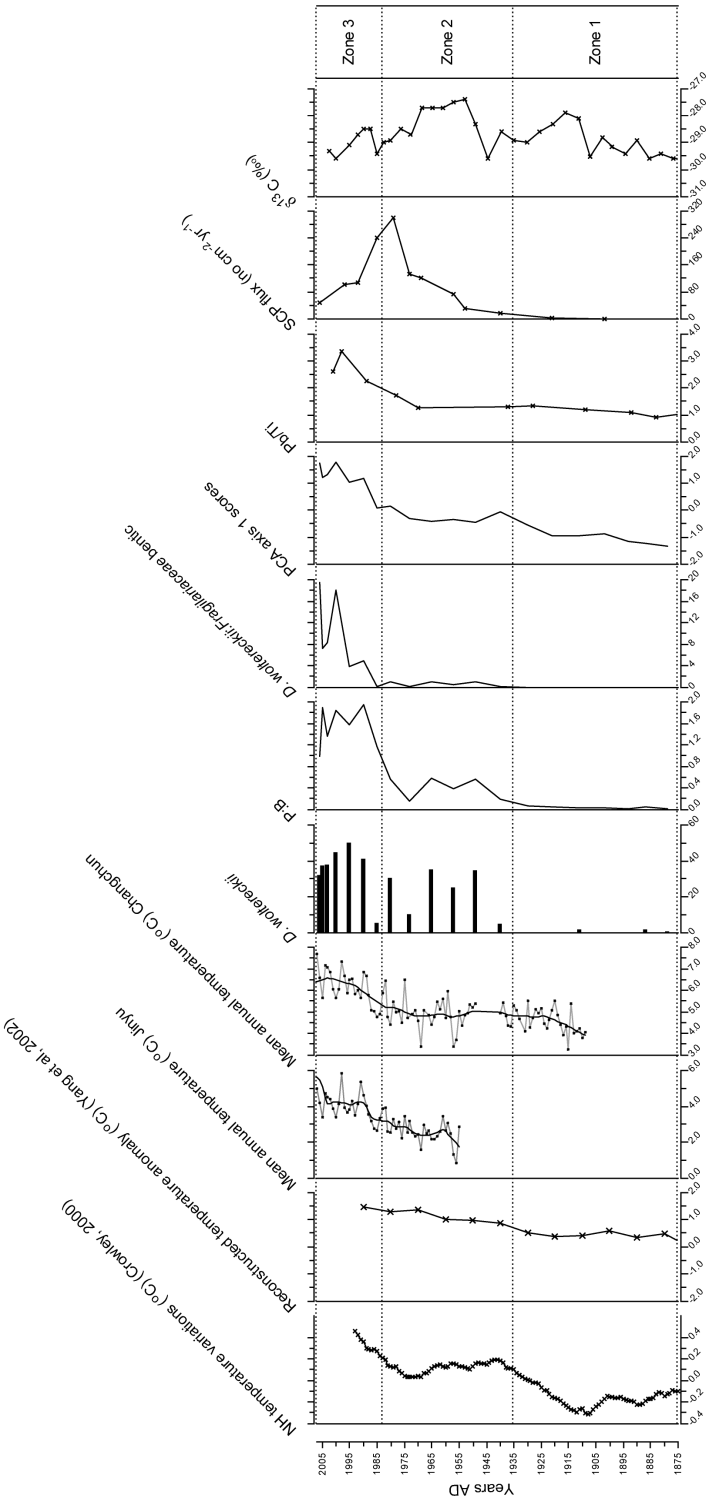

Zone 3
Zone 2
Zone 1
SCP total concentration (g DM-1)
Ni/Ti
Cu/Ti
Zn/Ti
Pb/Ti
Pb (ug g-1)
Ti (%)
Fe (%)
P:B
δ13C (‰)
C/N
%TOC
2005
1995
1985
1975
1965
1955
1945
1935
1925
1915
1905
1895
1885
1875
Years AD

Figure 5.


Zone 3
Zone 2
Zone 1
δ13 C (‰)
SCP flux (no cm-2 yr-1)
Pb/Ti
PCA axis 1 scores
D. woleraecki/Fragilariaceae benlic
P.B
D. woleraecki
Mean annual temperature (°C) Changchun
Mean annual temperature (°C) Jinyu
Reconstructed temperature anomaly (°C) (Yang et al, 2002)
NH temperature variations (°C) (Crowley, 2000)
Years AD
2005
1995
1985
1975
1965
1955
1945
1935
1925
1915
1905
1895
1885
1875