Table S1. Single depth resolved CCA outputs showing raw first axis loadings for each environmental parameter. Three first axes eigenvalues and their cumulative explanation for the total variation.

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Depth | Chlorophyll-*a* | Temperature | Salinity | Dissolved O2 | pH | Axis 1 (%) | Axis 2 (%) | Axis 3 (%) | Cumulative (%) |
| 10-20 m | 0,890512 | -0,3692 | -0,39696 | 0,392512 | -0,37942 | 67.68 | 20.24 | 8.343 | 96.263 |
| 20-40 m | 0,862381 | -0,76102 | -0,7794 | 0,269807 | -0,80025 | 41.97 | 32.21 | 18.79 | 92.97 |
| 40-60 m | 0,977943 | -0,81199 | -0,78902 | -0,00232 | -0,79028 | 62.04 | 21.58 | 10.51 | 94.13 |
| 60-80 m | -0,67721 | 0,899717 | 0,843639 | 0,241035 | 0,8912 | 59.28 | 22.59 | 11.57 | 93.44 |
| 80-100 m | -0,19455 | 0,848706 | 0,803882 | 0,176282 | 0,831847 | 43.51 | 28.37 | 18.79 | 90.67 |
| 100-200 m | 0,526706 | 0,708287 | 0,687501 | -0,46048 | 0,897014 | 54.35 | 19.06 | 16.11 | 89.52 |
| 200-300 m | -0,04198 | -0,43706 | -0,5173 | 0,712815 | -0,78649 | 59.38 | 28.83 | 8.355 | 96.565 |
| 300-500 m | -0,39078 | 0,437056 | 0,441936 | -0,73462 | 0,464915 | 53.05 | 23.13 | 16.63 | 92.81 |
| 500-700 m | 0,842677 | -0,03368 | -0,02254 | -0,09016 | -0,11942 | 31.85 | 28.37 | 22.79 | 83.01 |

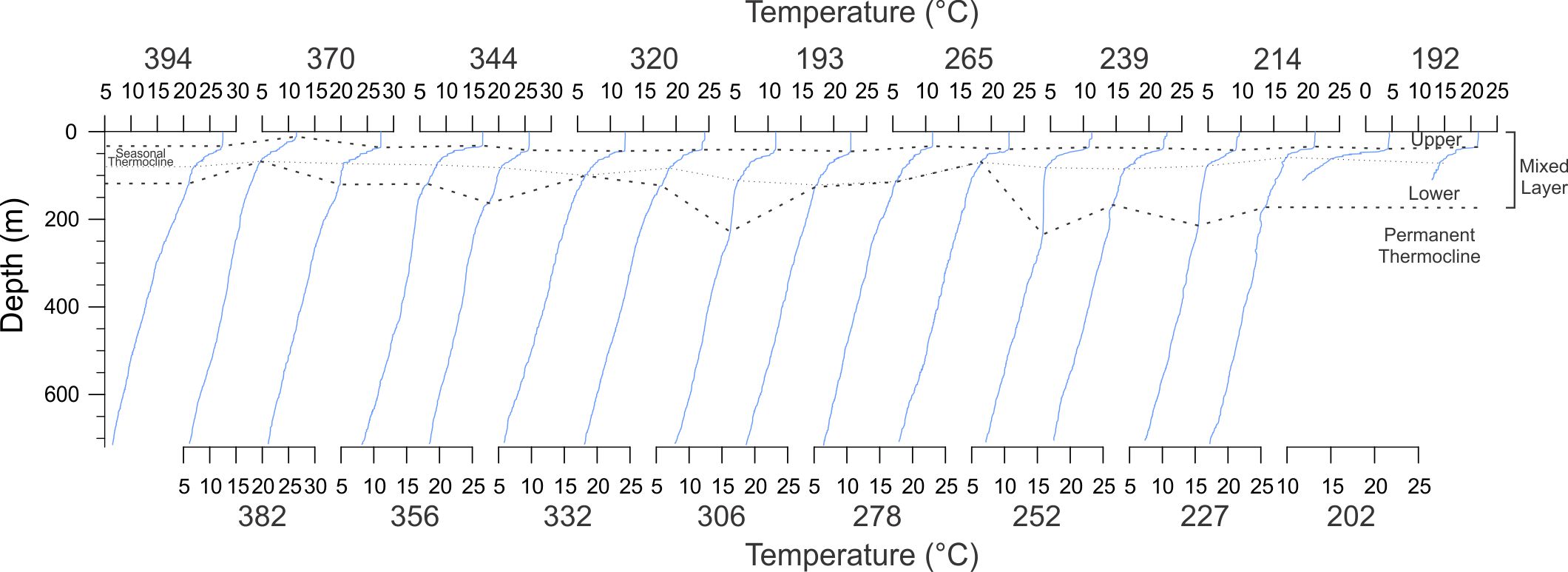


Figure S1. Thermal upper 700 m profiles of M124 stations and the upper, lower mixed layer and permanent thermocline delimitation.

Figure S2 – PDF attached file

Figure S2. Total concentration of living (with cytoplasm) and empty (no cytoplasm) planktonic foraminifera tests for each station and depth layer. Note that concentration values are shown in logarithmic scale.

Figure S3 – see JPEG attached file

Figure S3. Total living planktonic foraminifera for each station and depth layer separating adult and pre-adult tests.

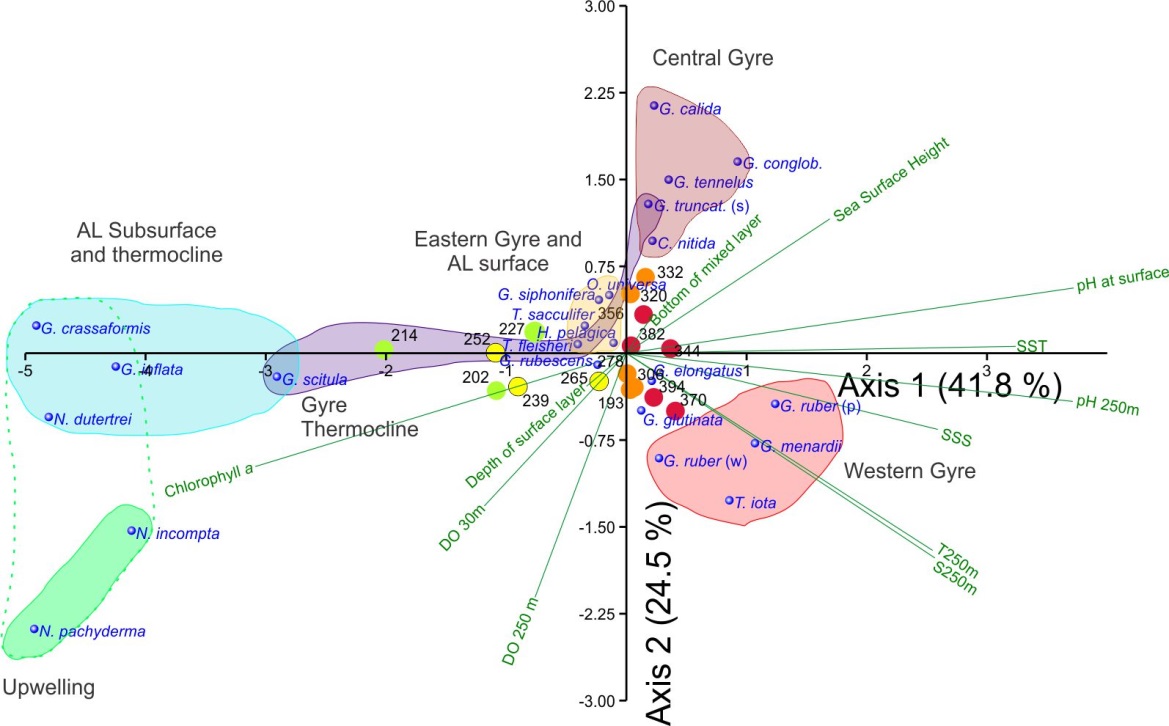


Figure S4. Canonical Correspondence analysis plot with the figure 8 matrix data without the station 192 (Benguela). AL = Agulhas Leakage.

Plates captions:

**Plate 1. (1) Adult and (2) pre-adult stages of *Globigerinella calida*. (3, 4) Adult and (5) pre-adult specimens of *Globigerinoides conglobatus*. (6, 7) adult and (8) neanic specimens of *Globigerinoider ruber* pink. (9 – 13) *Globigerinoides ruber* white in different ontogenetic states: (9, 10) adult, (11, 12) neanic and (13) juvenile. (14, 15) Adult *Globigerinoides elongatus*.**

**Plate 2. (1 – 6) different ontogenetic stages of *Trilobatus sacculifer*: (1, 2), adult without sac, (3) adult with sac, (4, 5) late neanic, and (6) early neanic. (7 – 9) *Globoturborotalita rubescens*: (7, 8) adult and (9) pre-adult. (10, 11) Specimens of *Globigerinoides tenellus*. (12) Late adult *Orbulina universa* with the final spheric chamber and (12) early adult Globigerina-like specimen with soft and smooth chambers.**

**Plate 3. (1 – 3) Small specimen of *Neogloboquadrina dutertrei*. (4, 5) *Neogloboquadrina incompta* and (6, 7) *Neogloboquadrina pachyderma*. (8 – 10) Adult *Globorotalia crassaformis* *sensu lato* from station 192 (Benguela). White bars for overviews: 100 µm.**

**Plate 4. (1 – 3) Adult *Globorotalia crassaformis* *sensu stricto* from station 382 (Western Subtropical Gyre). (4 – 6) Adult *Globorotalia menardii*. (7 – 9) *Globorotalia inflata*. (10 – 12) *Globorotalia scitula*. White bars for overviews: 100 µm.**

**Plate 5. (1 – 3) Adult *Globorotalia truncatulinoides*. (4, 5) Adult *Globigerinita glutinata*. (6, 7) Adult and (8) pre-adult specimens of *Candeina nitida*. (9, 10) *Tenuitella iota*. (11 – 13) *Tenuitella fleisheri*. White bars for overviews: 100 µm.**