

1 **Supporting information/material of:**

2 *Changes in Holocene meridional circulation and poleward Atlantic flow: the Bay*
3 *of Biscay as a nodal point*

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1. Planktonic foraminifera assemblages

18 Planktonic foraminifera assemblages from core PP10-07 (unpublished) were determined after counts (minimum of
 19 300 specimens) in the > 150 μm fraction. Species identification follows Hemleben et al. (1989) and Kennett and
 20 Srinivasan (1983). Foraminiferal assemblages are here described by the relative percentages of each species,
 21 calculated relative to the total sum of planktonic foraminifera (Figure E1).

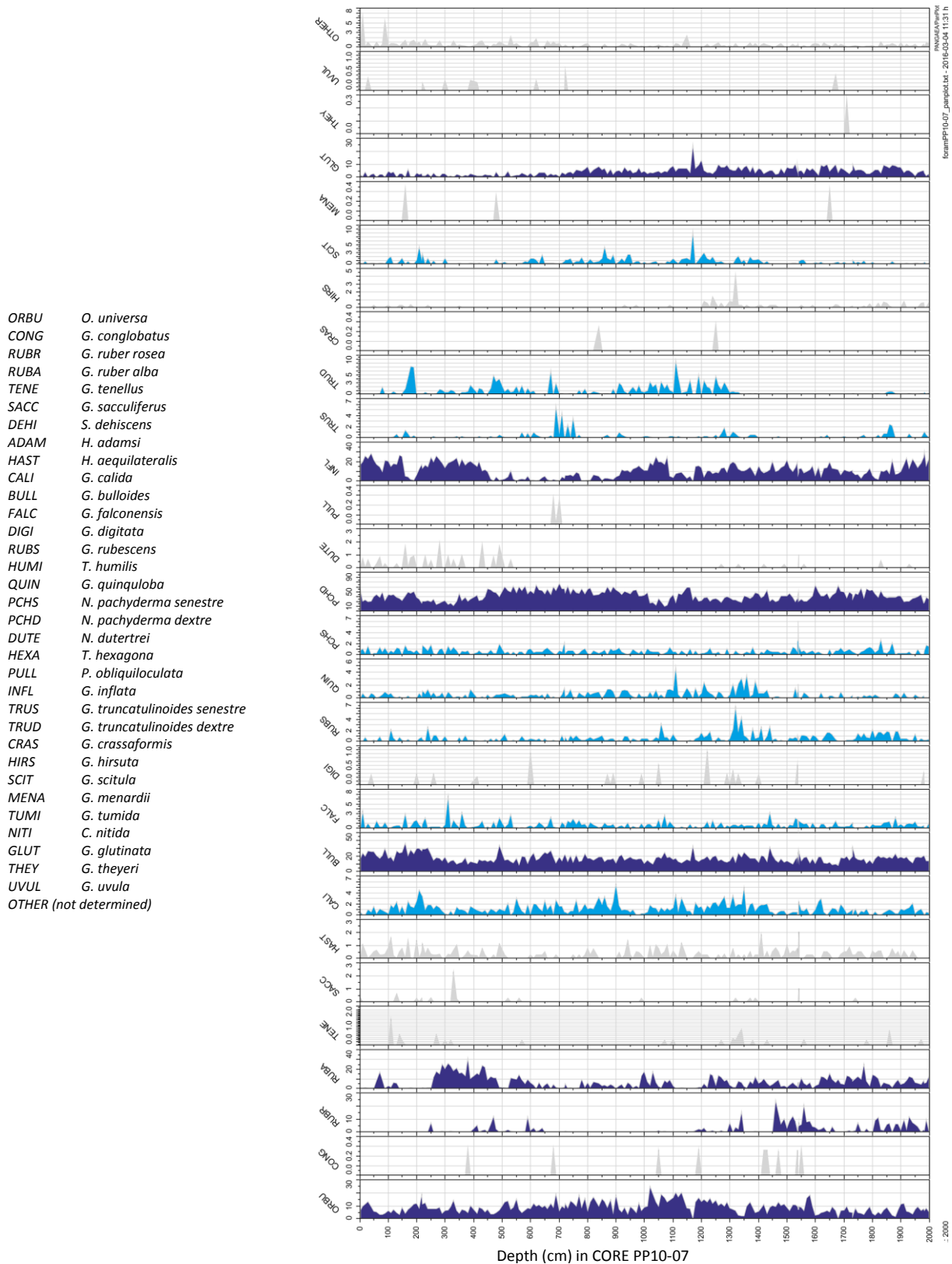


Figure E1: Planktonic foraminifera assemblages (relative abundances- %) in core PP10-07. Color code: Dark blue: characteristic species/ light blue: minor species/ grey: fortuitous species.

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26 **2. SST reconstructions**

27 Relative abundance data obtained after the analysis of planktonic foraminifera assemblages (as published in
 28 Mojtahid et al., 2013 for core Ks10B, and from unpublished counts for core PP10-07, see above Figure E1) were used
 29 for MAT calculations (see Methods of the paper) according to the following root mean square errors of prediction
 30 (Table E3). Seasonal mean calculations are displayed on Figure E2 for core KS10b and Figure E3 for core PP10-07.
 31 These plots underline the good coherency with modern sea-surface conditions except during warm spells as
 32 discussed in the core manuscript. They also show that fall and spring seasons mirror the mean annual values in
 33 absolute values.

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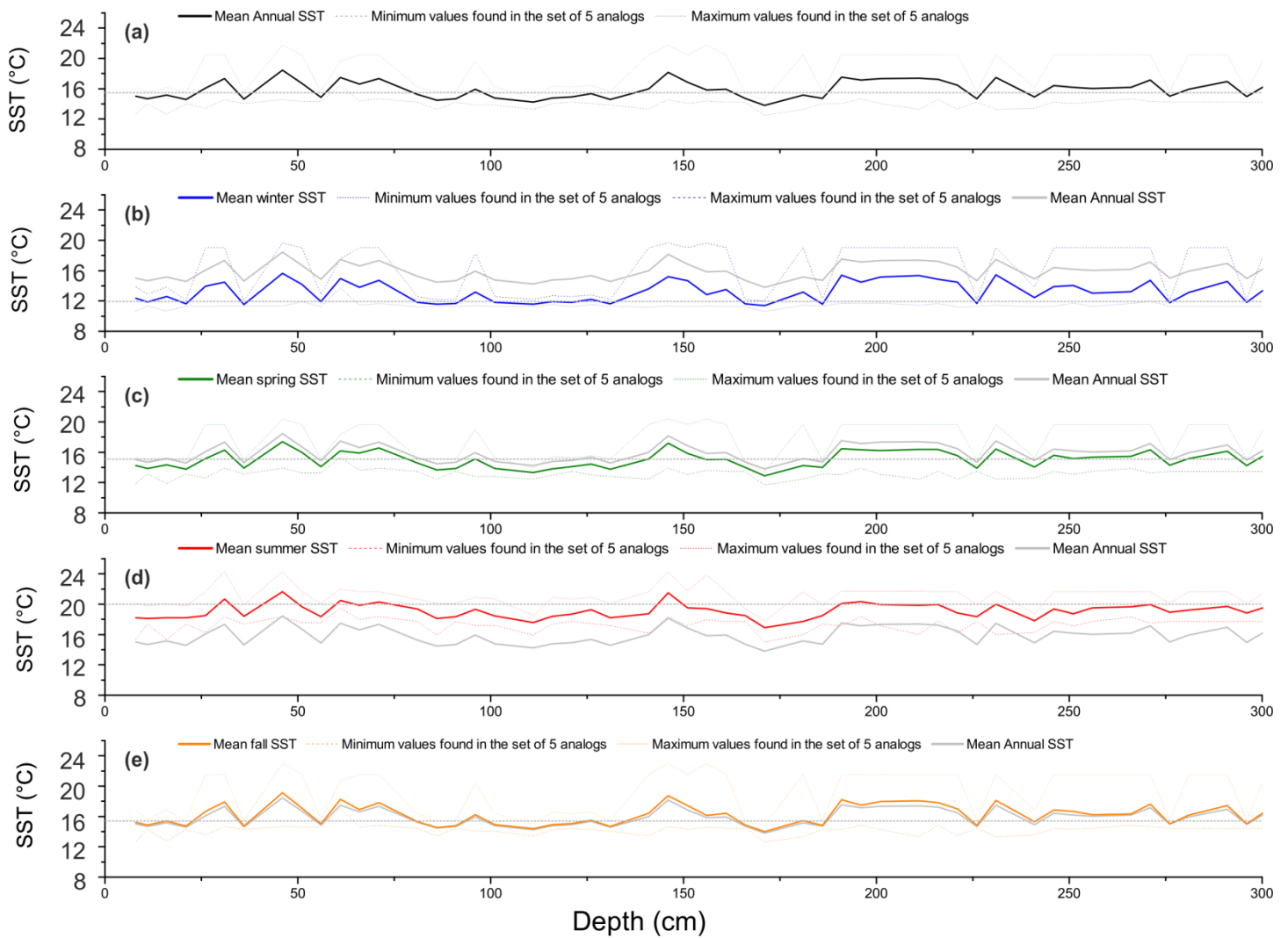
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Hydrographical parameters	Mean Annual SST (°C)	Mean Winter (January-February -March) –JFM SST (°C)	Mean Spring (April May -June) –AMJ SST (°C)	Mean Summer (July- August- September) –JAS SST (°C)	Mean Fall (October -November -December) – OND SST (°C)
RMSEP	1.1	1.2	1.1	1.3	1.2

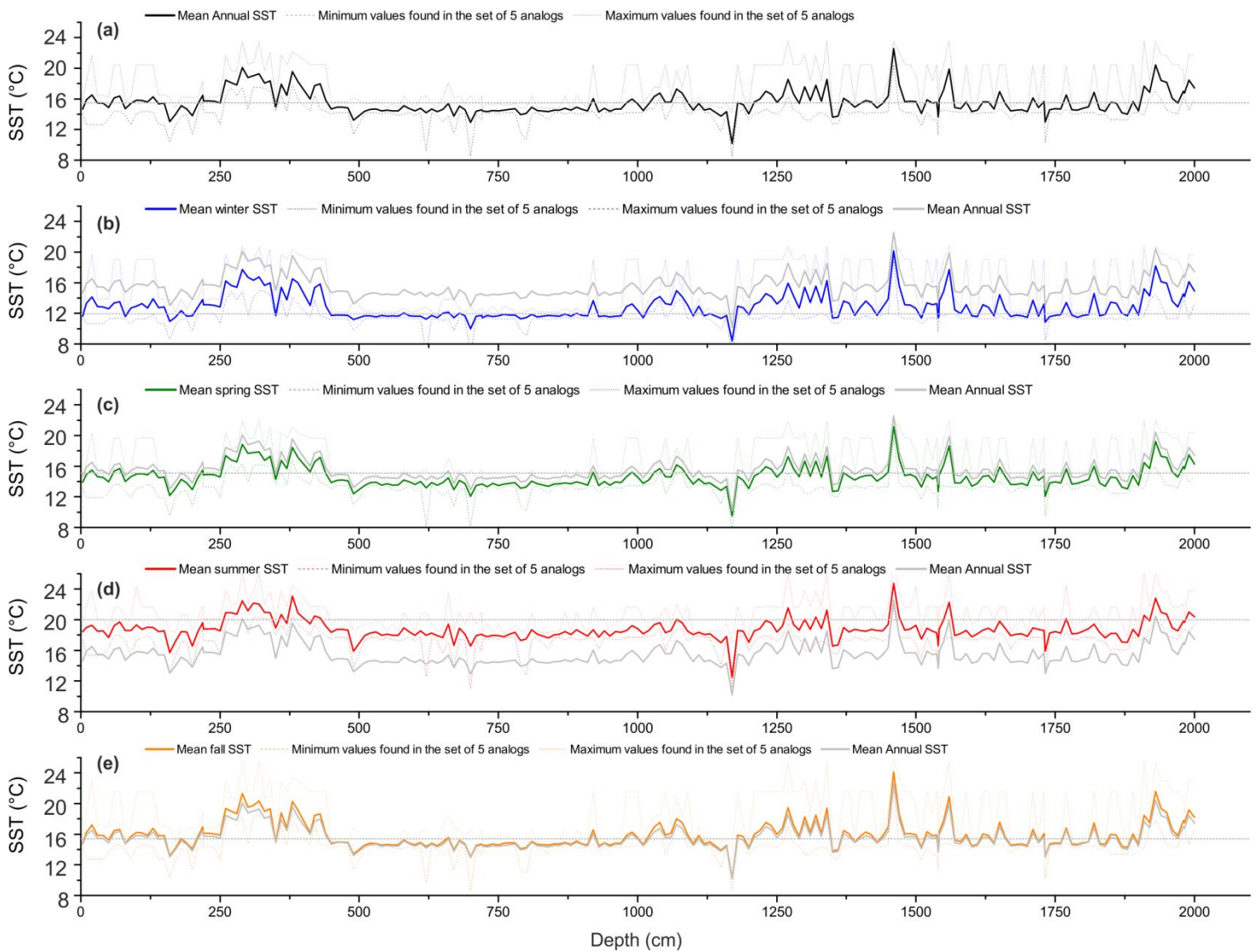
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37 **Table E1: Prediction error (RMSEP : root mean square error of prediction) of the MAT technique developed at**
 38 **EPOC (MATR_1007PF, e.g. Eynaud et al., 2013).**

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 41 **Figure E2: SST quantifications after MATR_1007PF on core Ks10b**, with from the top to the bottom: (a) mean annual
 42 SST, (b) mean winter (JFM), (c) mean spring (AMJ), (d) mean summer (JAS), (e) mean fall (OND) SST. The seasonal
 43 means are compared to the annual one (grey curve). On each graph, colored dotted lines identify the respective
 44 minimal and maximal SST values found in the set of the 5 selected analogs. The horizontal grey dotted lines
 45 correspond to the modern values for each season after **Schäfer-Neth and Manschke, 2002 -WOA sample tool**.
 46 Available at: <http://www.geo.uni-bremen.de/geomod/staff/csn/woasample.html>



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51 **Figure E3: SST quantifications after MATR_1007PF on core PP10-07, with from the top to the bottom: (a) mean**
 52 **annual SST, (b) mean winter (JFM), (c) mean spring (AMJ), (d) mean summer (JAS), (e) mean fall (OND) SST. The**
 53 **seasonal means are compared to the annual one (grey curve). On each graph, colored dotted lines identify the**
 54 **respective minimal and maximal SST values found in the set of the 5 selected analogs. The horizontal grey dotted**
 55 **lines correspond to the modern values for each season after Schäfer-Neth and Manschke, 2002 -WOA sample tool.**
 56 **Available at: <http://www.geo.uni-bremen.de/geomod/staff/csn/woasample.html>**

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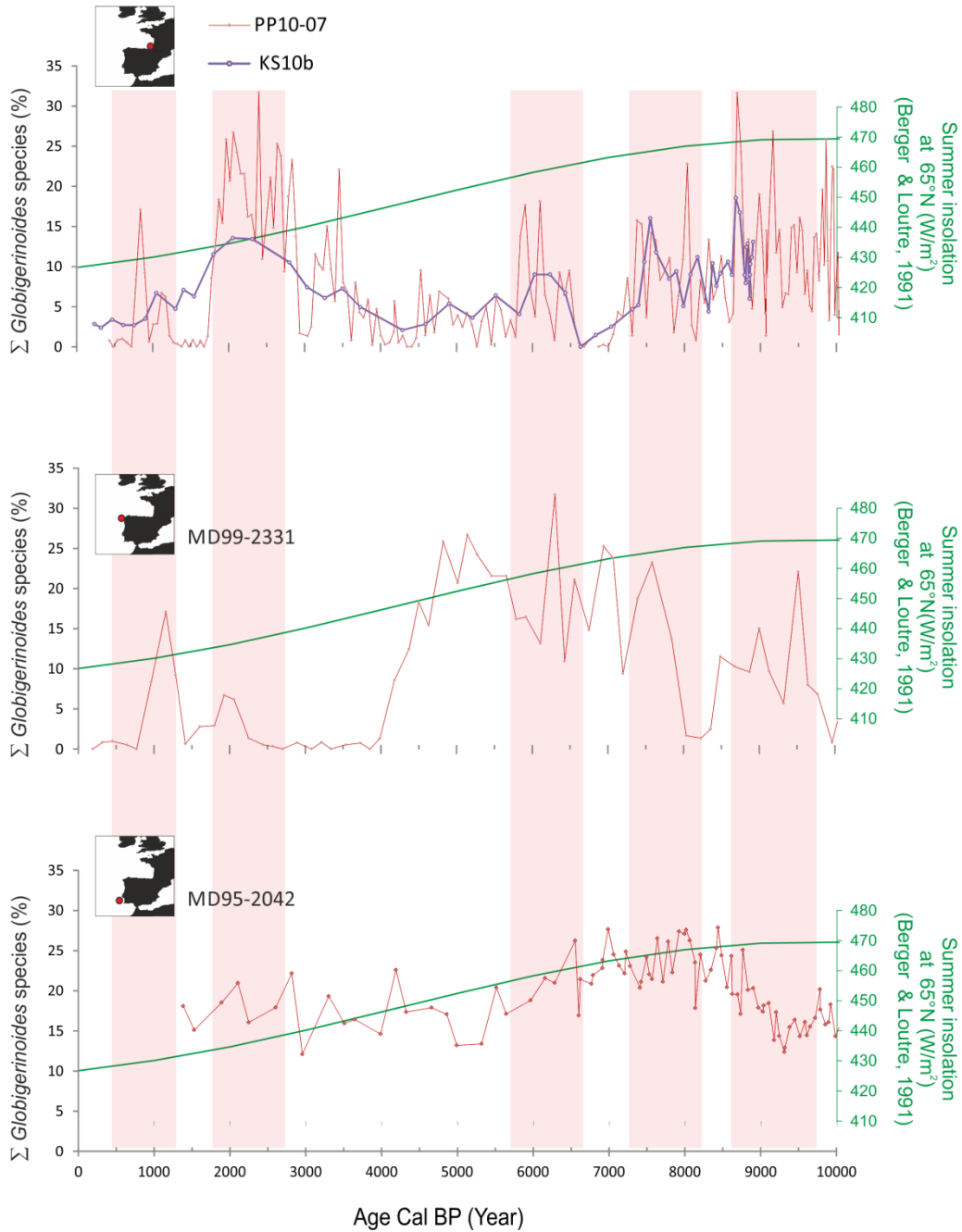
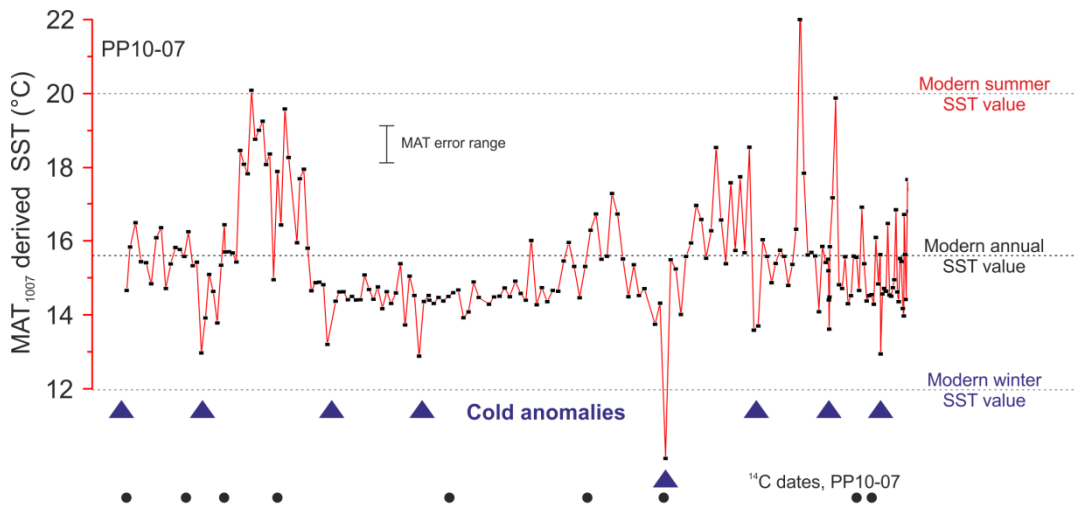


Figure E4: comparison of warm assemblages of the *Globigerinoides* species along latitudes (same cores and legend as in Figure 3)