Auxiliary Material for

Termination 1 Timing in Radiocarbon-Dated Regional Benthic 18O Stacks

Joseph V. Stern and Lorraine E. Lisiecki

(Department of Earth Science, University of California, Santa Barbara, California)

Paleoceanography, 2014

Introduction

This auxiliary material includes information about the 252 benthic δ18O records that were used for our regional stacks and data for the stacks themselves. Table S1 “ts01.xlsx” contains a list of cores used in this study and their locations, resolutions, species, and references. Table S2 “ts02.xlsx” contains the 95% uncertainty ranges for our regional radiocarbon age models. Table S3 “ts03.docx”contains benthic δ18O species offset corrections used in this study. Table S4 “ts04.xlsx” contains the regional benthic δ18O stacks and their δ18O uncertainties. Figure S1 “fs01.pdf” shows the individual benthic δ18O records on our regional age models. Figure S2 “fs02.pdf” shows regional benthic δ18O stacks using different alignment targets for the intermediate North Atlantic and intermediate South Atlantic. Complete auxiliary references are available in “text01.pdf”.

1. ts01.xlsx List of cores used in this study.
   1. Column “Core”, name of core.
   2. Column “Region”, name of one of our seven independent regions.
   3. Column “Latitude”, degrees, latitude of the core, north of equator.
   4. Column “Longitude”, degrees, longitude of the core, east of Greenwich.
   5. Column “Depth (m)”, meters, modern water depth of the core.
   6. Column “Resolution (yr)”, years, average benthic δ18O resolution on our regional radiocarbon age model.
   7. Column “Benthic species”, name(s) of benthic foraminifer(a) species used for δ18O record.
   8. Column “References”, list of data references for the core.
2. ts02.xlsx 95% uncertainty ranges for our regional radiocarbon age models.
   1. Column “14C age (kyr BP)”, kyr BP, radiocarbon-based mean age.

2.2 Column “intermediate North Atlantic lower 95%”, kyr BP, lower 95% age limit for the intermediate North Atlantic age model.

2.3 Column “intermediate North Atlantic upper 95%”, kyr BP, upper 95% age limit for the intermediate North Atlantic age model.

2.4 Column “deep North Atlantic lower 95%”, kyr BP, lower 95% age limit for the deep North Atlantic age model.

2.5 Column “deep North Atlantic upper 95%”, kyr BP, upper 95% age limit for the deep North Atlantic age model.

2.6 Column “intermediate South Atlantic lower 95%”, kyr BP, lower 95% age limit for the intermediate South Atlantic age model.

2.7 Column “intermediate South Atlantic upper 95%”, kyr BP, upper 95% age limit for the intermediate South Atlantic age model.

2.8 Column “deep South Atlantic lower 95%”, kyr BP, lower 95% age limit for the deep South Atlantic age model.

2.9 Column “deep South Atlantic upper 95%”, kyr BP, upper 95% age limit for the deep South Atlantic age model.

2.10 Column “intermediate Pacific lower 95%”, kyr BP, lower 95% age limit for the intermediate Pacific age model.

2.11 Column “intermediate Pacific upper 95%”, kyr BP, upper 95% age limit for the intermediate Pacific age model.

2.12 Column “deep Pacific lower 95%”, kyr BP, lower 95% age limit for the deep Pacific age model.

2.14 Column “deep Pacific upper 95%”, kyr BP, upper 95% age limit for the deep Pacific age model.

2.15 Column “deep Indian lower 95%”, kyr BP, lower 95% age limit for the deep Indian age model.

2.16 Column “deep Indian upper 95%”, kyr BP, upper 95% age limit for the deep Indian age model.

3. ts03.docx Benthic δ18O species correction factors.

3.1 Column “Species”, species of benthic foraminfera.

3.2 Column “Offset”, per mil, species correction factor, assuming Uvigerina sp. = 0.

3.3 Column “References”, references for the species offset values.

4. ts04.xlsx Regional benthic δ18O stacks and their δ18O uncertainties.

4.1 Column “14C age (kyr BP)”, kyr BP, radiocarbon-based mean age.

4.2 Column “intermediate North Atlantic stack”, ‰, intermediate North Atlantic stacked δ18O values.

4.3 Column “intermediate North Atlantic # pts, number of points in each stacked interval for the intermediate North Atlantic.

4.4 Column “intermediate North Atlantic std. error”, ‰, intermediate North Atlantic standard error for stacked δ18O.

4.5 Column “deep North Atlantic stack”, ‰, deep North Atlantic stacked δ18O values.

4.6 Column “deep North Atlantic # pts, number of points in each stacked interval for the deep North Atlantic.

4.7 Column “deep North Atlantic std. error”, ‰, deep North Atlantic standard error for stacked δ18O.

4.8 Column “intermediate South Atlantic stack”, ‰, intermediate South Atlantic stacked δ18O values.

4.9 Column “intermediate South Atlantic # pts, number of points in each stacked interval for the intermediate South Atlantic.

4.10 Column “intermediate South Atlantic std. error”, ‰, intermediate South Atlantic standard error for stacked δ18O.

4.11 Column “deep South Atlantic stack”, ‰, deep South Atlantic stacked δ18O values.

4.12 Column “deep South Atlantic # pts, number of points in each stacked interval for the deep South Atlantic.

4.13 Column “deep South Atlantic std. error”, ‰, deep South Atlantic standard error for stacked δ18O.

4.14 Column “intermediate Pacific stack”, ‰, intermediate Pacific stacked δ18O values.

4.15 Column “intermediate Pacific # pts, number of points in each stacked interval for the intermediate Pacific.

4.16 Column “intermediate Pacific std. error”, ‰, intermediate Pacific standard error for stacked δ18O.

4.17 Column “deep Pacific stack”, ‰, deep Pacific stacked δ18O values.

4.18 Column “deep Pacific # pts, number of points in each stacked interval for the deep Pacific.

4.19 Column “deep Pacific std. error”, ‰, deep Pacific standard error for stacked δ18O.

4.20 Column “deep Indian stack”, ‰, deep Indian stacked δ18O values.

4.21 Column “deep Indian # pts, number of points in each stacked interval for the deep Indian.

4.22 Column “deep Indian std. error”, ‰, deep Indian standard error for stacked δ18O.

4. fs01.pdf Figure showing all 252 individual benthic δ18O records, color-coded by region (orange=INA, red=DNA, cyan=ISA, dark blue=DSA, lavender=IP, blue=DP, green=DI) with the position of radiocarbon dates indicated by triangles.

7. fs02.pdf Figure showing Atlantic stacks constructed based on different alignment targets for the (a) Intermediate North Atlantic and (b) Intermediate South Atlantic. The termination onset is not affected by the choice of alignment target (regardless of whether the target is from within a particular region), but millennial-scale features differ between stacks with different targets.

8. text01.pdf Complete auxiliary references for this study.