

Table S2. Age constrains for each of the studied cores.

Core	Level /Interval dated (cm)	Uncor-rected AMS ¹⁴ C ages *	Error (+/-) yr	Dated material or event based stratigraphy	Lab. id. **	Calendar age (yr)	Calendar age reference
MD95-2009	0	5010	70	<i>N. pachyderma</i> (s)	?	5366	Calib 7.1.0 / Marine13 (Reimer et al., 2013)
MD95-2009	50	8640	100	<i>N. pachyderma</i> (s)	?	9305	Calib 7.1.0 / Marine13 (Reimer et al., 2013)
MD95-2009	120	10930	100	<i>N. pachyderma</i> (s)	?	12367	Calib 7.1.0 / Marine13 (Reimer et al., 2013)
MD95-2009	280	14590	130	<i>N. pachyderma</i> (s)	?	17270,5	Calib 7.1.0 / Marine13 (Reimer et al., 2013)
MD95-2009	330	15420	130	<i>N. pachyderma</i> (s)	?	18241	Calib 7.1.0 / Marine13 (Reimer et al., 2013)
MD95-2009	360	16720	140	<i>N. pachyderma</i> (s)	?	19707,5	Calib 7.1.0 / Marine13 (Reimer et al., 2013)
MD95-2009	390	18760	160	<i>N. pachyderma</i> (s)	?	22213	Calib 7.1.0 / Marine13 (Reimer et al., 2013)
MD95-2009	430	21760	200	<i>N. pachyderma</i> (s)	?	25687	Calib 7.1.0 / Marine13 (Reimer et al., 2013)
MD95-2009	510	24360	230	<i>N. pachyderma</i> (s)	?	28007,5	Calib 7.1.0 / Marine13 (Reimer et al., 2013)
MD95-2009	527			GI4 termination (duration 0.3 ka)		28550	(Wolff et al., 2010) (GICC05 age scale)
MD95-2009	539			GI4 onset		28850	(Wolff et al., 2010) (GICC05 age scale)
MD95-2009	580	27930	290	<i>N. pachyderma</i> (s)	?	31332	Calib 7.1.0 / Marine13 (Reimer et al., 2013)
MD95-2009	611			GI5 termination (duration 0.5 ka)		31950	(Wolff et al., 2010) (GICC05 age scale)
MD95-2009	630			GI5 onset		32450	(Wolff et al., 2010) (GICC05 age scale)
MD95-2009	642			GI6 termination (duration 0.4 ka)		33290	(Wolff et al., 2010) (GICC05 age scale)
MD95-2009	665			GI6 onset		33690	(Wolff et al., 2010) (GICC05 age scale)
MD95-2009	688			GI7 termination (duration 0.7 ka)		34730	(Wolff et al., 2010) (GICC05 age scale)
MD95-2009	720			GI7 onset		35430	(Wolff et al., 2010) (GICC05 age scale)
MD95-2009	756			GI8 termination (duration 1.6 ka)		36570	(Wolff et al., 2010) (GICC05 age scale)
MD95-2009	805			GI8 onset		38170	(Wolff et al., 2010) (GICC05 age scale)
MD95-2009	847			GI9 termination (duration 0.3 ka)		39810	(Wolff et al., 2010) (GICC05 age scale)
MD95-2009	858			GI9 onset		40110	(Wolff et al., 2010) (GICC05 age scale)
MD95-2009	876			GI10 termination (duration 0.7 ka)		40710	(Wolff et al., 2010) (GICC05 age scale)
MD95-2009	900			GI10 onset		41410	(Wolff et al., 2010) (GICC05 age scale)
MD95-2009	915			GI11 termination (duration 1 ka)		42290	(Wolff et al., 2010) (GICC05 age scale)
MD95-2009	942			GI11 onset		43290	(Wolff et al., 2010) (GICC05 age scale)
MD95-2009	966			GI12 termination (duration 2,6 ka)		44210	(Wolff et al., 2010) (GICC05 age scale)
MD95-2009	1030			GI12 onset		46810	(Wolff et al., 2010) (GICC05 age scale)
MD95-2009	1102			GI13 onset		49230	(Wolff et al., 2010) (GICC05 age scale)
MD95-2009	1160			GI14 onset		54170	(Wolff et al., 2010) (GICC05 age scale)
MD95-2010	34-35	10700		Vedde ash – base		12121	(Rasmussen et al., 2006) (GICC05 age scale)
MD95-2010	54-55	11415	55	?	KIA 6551	12867	Calib 7.1.0 / Marine13 (Reimer et al., 2013)
MD95-2010	136-137	13250	60	?	KIA 6552	15306,5	Calib 7.1.0 / Marine13 (Reimer et al., 2013)
MD95-2010	173-174	14750	110	?	KIA 6553	17474,5	Calib 7.1.0 / Marine13 (Reimer et al., 2013)
MD95-2010	197-198	15620	70	?	KIA 6554	18483,5	Calib 7.1.0 / Marine13 (Reimer et al., 2013)
MD95-2010	300-301	16990	110	?	KIA 6555	20010	Calib 7.1.0 / Marine13 (Reimer et al., 2013)
MD95-2010	449-450	19830	130	?	GifA 96476	23382,5	Calib 7.1.0 / Marine13 (Reimer et al., 2013)
MD95-2010	459-460	19930	120	?	GifA 96487	23529,5	Calib 7.1.0 / Marine13 (Reimer et al., 2013)
MD95-2010	469-470	20340	130	?	GifA 96490	23988,5	Calib 7.1.0 / Marine13 (Reimer et al., 2013)

MD95-2010	470-471	20390	160	?	GifA 96684	24048,5	Calib 7.1.0 / Marine13 (Reimer et al., 2013)
MD95-2010	521-522	21590	190	?	GifA 96685	25525	Calib 7.1.0 / Marine13 (Reimer et al., 2013)
MD95-2010	600			GI3 termination (duration 0.3 ka)		27430	(Wolff et al., 2010) (GICC05 age scale)
MD95-2010	610			GI3 onset		27730	(Wolff et al., 2010) (GICC05 age scale)
MD95-2010	620			GI4 termination (duration 0.3 ka)		28550	(Wolff et al., 2010) (GICC05 age scale)
MD95-2010	630			GI4 onset		28850	(Wolff et al., 2010) (GICC05 age scale)
MD95-2010	640-641	25520	240	?	KIA 6557	29151,5	Calib 7.1.0 / Marine13 (Reimer et al., 2013)
MD95-2010	670-671	27450	200	?	GifA 96496	31077,5	Calib 7.1.0 / Marine13 (Reimer et al., 2013)
MD95-2010	708			GI5 termination (duration 0.5 ka)		31950	(Wolff et al., 2010) (GICC05 age scale)
MD95-2010	720			GI5 onset		32450	(Wolff et al., 2010) (GICC05 age scale)
MD95-2010	728			GI6 termination (duration 0.4 ka)		33290	(Wolff et al., 2010) (GICC05 age scale)
MD95-2010	736-738	29670	260	?	GifA 96687	33480	Calib 7.1.0 / Marine13 (Reimer et al., 2013)
MD95-2010	740			GI6 onset		33690	(Wolff et al., 2010) (GICC05 age scale)
MD95-2010	752			GI7 termination (duration 0.7 ka)		34730	(Wolff et al., 2010) (GICC05 age scale)
MD95-2010	765			GI7 onset		35430	(Wolff et al., 2010) (GICC05 age scale)
MD95-2010	784			GI8 termination (duration 1.6 ka)		36570	(Wolff et al., 2010) (GICC05 age scale)
MD95-2010	790-791	33420	370	?	GifA 96494	37120	Calib 7.1.0 / Marine13 (Reimer et al., 2013)
MD95-2010	802			GI8 onset		38170	(Wolff et al., 2010) (GICC05 age scale)
MD95-2010	820			GI9 termination (duration 0.3 ka)		39810	(Wolff et al., 2010) (GICC05 age scale)
MD95-2010	830			GI9 onset		40110	(Wolff et al., 2010) (GICC05 age scale)
MD95-2010	840			GI10 termination (duration 0.7 ka)		40710	(Wolff et al., 2010) (GICC05 age scale)
MD95-2010	864			GI10 onset		41410	(Wolff et al., 2010) (GICC05 age scale)
MD95-2010	870			GI11 termination (duration 1 ka)		42290	(Wolff et al., 2010) (GICC05 age scale)
MD95-2010	889			GI11 onset		43290	(Wolff et al., 2010) (GICC05 age scale)
MD95-2010	894			GI12 termination (duration 2,6 ka)		44210	(Wolff et al., 2010) (GICC05 age scale)
MD95-2010	934			GI12 onset		46810	(Wolff et al., 2010) (GICC05 age scale)
MD95-2010	954			GI13 onset		49230	(Wolff et al., 2010) (GICC05 age scale)
MD95-2010	996			GI14 onset		54170	(Wolff et al., 2010) (GICC05 age scale)
MD95-2010	1000-1001			Ash-layer II - base		55380	(Wolff et al., 2010) (GICC05 age scale)
MD95-2010	1072-1073			Marine isotope event 4.0		59000	(Martinson et al., 1987) (SPECMAP)
MD99-2281	40	10260	100	<i>G. bulloides</i>	GifA 100405	11276,5	Calib 7.1.0 / Marine13 (Reimer et al., 2013)
MD99-2281	270	10800	100	<i>G. bulloides</i>	GifA 100407	12276,5	Calib 7.1.0 / Marine13 (Reimer et al., 2013)
MD99-2281	400	11060	110	<i>G. bulloides</i>	GifA 100408	12592,5	Calib 7.1.0 / Marine13 (Reimer et al., 2013)
MD99-2281	510	15290	130	<i>N. pachyderma s</i>	GifA 100409	18111	Calib 7.1.0 / Marine13 (Reimer et al., 2013)
MD99-2281	580	15760	170	<i>N. pachyderma s</i>	GifA 100410	18617	Calib 7.1.0 / Marine13 (Reimer et al., 2013)
MD99-2281	650	16040	140	<i>N. pachyderma s</i>	GifA 100411	18882,5	Calib 7.1.0 / Marine13 (Reimer et al., 2013)
MD99-2281	780	18060	160	<i>N. pachyderma s</i>	GifA 100412	21342	Calib 7.1.0 / Marine13 (Reimer et al., 2013)
MD99-2281	1240			GI3 termination (duration 0.3 ka)		27430	(Wolff et al., 2010) (GICC05 age scale)
MD99-2281	1275			GI3 onset		27730	(Wolff et al., 2010) (GICC05 age scale)
MD99-2281	1280	24210	140	<i>N. pachyderma s</i>	SacA 19117	27852,5	Calib 7.1.0 / Marine13 (Reimer et al., 2013)
MD99-2281	1300			GI4 termination (duration 0.3 ka)		28550	(Wolff et al., 2010) (GICC05 age scale)
MD99-2281	1355			GI4 onset		28850	(Wolff et al., 2010) (GICC05 age scale)
MD99-2281	1430	27430	140	<i>N. pachyderma s</i>	SacA 19118	31068,5	Calib 7.1.0 / Marine13 (Reimer et al., 2013)
MD99-2281	1440	27940	140	<i>N. pachyderma s</i>	SacA 19119	31322	Calib 7.1.0 / Marine13 (Reimer et al., 2013)

MD99-2281	1475			GI5 termination (duration 0.5 ka)		31950	(Wolff et al., 2010) (GICC05 age scale)
MD99-2281	1523			GI5 onset		32450	(Wolff et al., 2010) (GICC05 age scale)
MD99-2281	1548			GI6 termination (duration 0.4 ka)		33290	(Wolff et al., 2010) (GICC05 age scale)
MD99-2281	1605			GI6 onset		33690	(Wolff et al., 2010) (GICC05 age scale)
MD99-2281	1650			GI7 termination (duration 0.7 ka)		34730	(Wolff et al., 2010) (GICC05 age scale)
MD99-2281	1711			GI7 onset		35430	(Wolff et al., 2010) (GICC05 age scale)
MD99-2281	1755			GI8 termination (duration 1.6 ka)		36570	(Wolff et al., 2010) (GICC05 age scale)
MD99-2281	1880			GI8 onset		38170	(Wolff et al., 2010) (GICC05 age scale)
MD99-2281	1930			GI9 termination (duration 0.3 ka)		39810	(Wolff et al., 2010) (GICC05 age scale)
MD99-2281	1960			GI9 onset		40110	(Wolff et al., 2010) (GICC05 age scale)
MD99-2281	2030			GI10 termination (duration 0.7 ka)		40710	(Wolff et al., 2010) (GICC05 age scale)
MD99-2281	2090			GI10 onset		41410	(Wolff et al., 2010) (GICC05 age scale)
MD99-2281	2110			GI11 termination (duration 1 ka)		42290	(Wolff et al., 2010) (GICC05 age scale)
MD99-2281	2170			GI11 onset		43290	(Wolff et al., 2010) (GICC05 age scale)
MD99-2285	1,5	3005	30	Bulk planktonic foraminifera	SacA 31203	2769	Calib 7.1.0 / Marine13 (Reimer et al., 2013)
MD99-2285	70,5	10335	40	<i>N. pachyderma</i> (s)	SacA 37852	11318,5	Calib 7.1.0 / Marine13 (Reimer et al., 2013)
MD99-2285	136,5	13160	45	<i>N. pachyderma</i> (s)	SacA 31207	15197	Calib 7.1.0 / Marine13 (Reimer et al., 2013)
MD99-2285	175	14480	50	<i>N. pachyderma</i> (s)	SacA 31204	17110,5	Calib 7.1.0 / Marine13 (Reimer et al., 2013)
MD99-2285	200	15730	50	<i>N. pachyderma</i> (s)	SacA 37854	18607,5	Calib 7.1.0 / Marine13 (Reimer et al., 2013)
MD99-2285	213	16410	50	<i>N. pachyderma</i> (s)	SacA 31205	19319,5	Calib 7.1.0 / Marine13 (Reimer et al., 2013)
MD99-2285	260	19850	200	<i>N. pachyderma</i> (s)	SacA 37855	23395,5	Calib 7.1.0 / Marine13 (Reimer et al., 2013)
MD99-2285	275	20510	90	<i>N. pachyderma</i> (s)	SacA 37856	24171	Calib 7.1.0 / Marine13 (Reimer et al., 2013)
MD99-2285	294	22180	100	<i>N. pachyderma</i> (s)	SacA 37857	25997,5	Calib 7.1.0 / Marine13 (Reimer et al., 2013)
MD99-2285	325			GI3 termination (duration 0.3 ka)		27430	(Wolff et al., 2010) (GICC05 age scale)
MD99-2285	332			GI3 onset		27730	(Wolff et al., 2010) (GICC05 age scale)
MD99-2285	337			GI4 termination (duration 0.3 ka)		28550	(Wolff et al., 2010) (GICC05 age scale)
MD99-2285	349			GI4 onset		28850	(Wolff et al., 2010) (GICC05 age scale)
MD99-2285	386			GI6 termination (duration 0.4 ka)		33290	(Wolff et al., 2010) (GICC05 age scale)
MD99-2285	406			GI6 onset		33690	(Wolff et al., 2010) (GICC05 age scale)
MD99-2285	419			GI7 termination (duration 0.7 ka)		34730	(Wolff et al., 2010) (GICC05 age scale)
MD99-2285	441			GI7 onset		35430	(Wolff et al., 2010) (GICC05 age scale)
MD99-2285	457			GI8 termination (duration 1.6 ka)		36570	(Wolff et al., 2010) (GICC05 age scale)
MD99-2285	489			GI8 onset		38170	(Wolff et al., 2010) (GICC05 age scale)
MD99-2285	535			GI9 termination (duration 0.3 ka)		39810	(Wolff et al., 2010) (GICC05 age scale)
MD99-2285	552			GI9 onset		40110	(Wolff et al., 2010) (GICC05 age scale)
MD99-2285	590			GI10 termination (duration 0.7 ka)		40710	(Wolff et al., 2010) (GICC05 age scale)
MD99-2285	621			GI10 onset		41410	(Wolff et al., 2010) (GICC05 age scale)
MD99-2285	664			GI11 termination (duration 1 ka)		42290	(Wolff et al., 2010) (GICC05 age scale)
MD99-2285	730			GI11 onset		43290	(Wolff et al., 2010) (GICC05 age scale)
MD99-2285	750			GI12 termination (duration 2,6 ka)		44210	(Wolff et al., 2010) (GICC05 age scale)
MD99-2285	810			GI12 onset		46810	(Wolff et al., 2010) (GICC05 age scale)
MD99-2285	850			GI13 onset		49230	(Wolff et al., 2010) (GICC05 age scale)

* Uncorrected AMS¹⁴C dates are from Manthé (1998) for core MD95-2009, Dokken and Jansen (1999) for core MD95-2010, Zumaque et al. (2012) and Caulle et al. (2013) for core MD99-2281, and Wary et al. (2016) for core MD99-2285.

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