Table T12. Calcareous nannofossil range chart, Zones NN18–NN6. (See table notes. Continued on next three pages.)

Epoch	Zone	Core, section, interval (cm)	Depth (mbsf)	Preservation	Abundance	*Amaurolithus amplificus*	*Amaurolithus delicatus*	*Amaurolithus primus*	*Amaurolithus tricorniculatus*	*Angulolithina arca*	*Calcidiscus leptoporus*	*Calcidiscus macintyrei*	*Calcidiscus premacintyrei*	*Calcidiscus tropicus*	*Catinaster calyculus*	*Catinaster coalitus*	*Catinaster* spp.	*Ceratolithus cristatus*	*Coccolithus miopelagicus*	*Coccolithus pelagicus*	*Coccolithus pelagicus* (with bar)	*Coronocyclus nitescens*	*Cryptococcolithus mediaperforatus*	*Cyclicargolithus floridanus*	*Discoaster asymmetricus*	*Discoaster bellus*	*Discoaster bergeni*	*Discoaster bollii*	*Discoaster braarudii*	*Discoaster brouweri*	*Discoaster calcaris*	*Discoaster challengeri*	*Discoaster deflandrei*	*Discoaster exilis*	*Discoaster hamatus*	*Discoaster kugleri*	*Discoaster musicus*	*Discoaster neorectus*	*Discoaster pansus*	*Discoaster pentaradiatus*	*Discoaster petaliformis*	*Discoaster prepentaradiatus*	*Discoaster quinqueramus*	*Discoaster* spp.	*Discoaster subsurculus*	*Discoaster surculus*	*Discoaster tamalis*	*Discoaster triradiatus*	*Discoaster variabilis*	*Florisphaera profunda*
		190-1174B-																																																	
late Pliocene	NN18	54R-CC		P	R						C	C		C							C									C														F							A
		55R-CC		P	R							C								C										C														C							A
		56R-2, 75-76	670.95	P	F						C	C													F					C																		F	F		
	NN17	56R-CC		P	R						C	C		C																C						C										F					D
	NN16	57R-2, 75-76	680.55	P	R						C																			C										F						C					A
		57R-4, 75-76	683.55	P	R						C																													F						C	C			A
		58R-CC		P	F						C										C									C										F							C			D
		58R-3, 75-76	691.75	P	R																				F					C										C				C			F			A
		58R-CC		P	R						C	C								F					F											C								F		C					A
		59R-CC		P	F						C	C		C						F					F					F										F						R			F	A
		60R-CC		P	R																									A														C		C			C	
		61R-CC		P	R							F		R											R					R						R								R		F			F	A
		62R-CC		P	F							F													R					R										R										A
early Pliocene	NN15	63R-4, 74-75	741.34		B																																													
		63R-CC		P	R						C	C						F		C					C																							C	C
		64R-2, 71-72	747.91		B																																													
		64R-4, 77-78	750.97		B																																													
		54R-CC			B																									C										A								C	A
		65R-5, 74-75	761.74	P	R																																													
	NN14	65R-CC		P	R		F				C	C													C																			C				C	C
		66R-3, 72-73	739.82	P	R																				C																							C	C
	NN13-12	66R-4, 71-72	769.81	P	R							C																											F										C
		66R-CC			B																																													
		67R-4, 75-76	778.19	P	R																																													
late Miocene	NN11b	67R-6, 75-76	781.19	P	C						C	F		F																F													F		F			R	
		67R-CC		M	C		R				R	F													R																		R		R		R	F	
		68R-CC			B																																													
		69R-CC		P	C						F	F		F																													R		R			R	C
		70R-CC		P	R																																							A					A	
		71R-CC		P	C		F		R	R	F	F		F						C													R			R							R	C		F			F	
		72R-CC		P	R																																											C	
		73R-CC		M	F	C	C		C					C																						C			F				A	C	C		F	C	
	NN11a	74R-3, 41-42	844.81	P	F									C																									F				C		C			F	
		74R-CC			B																																													
		75R-CC		P	R																						C									C			C				C	A	F			C	
		76R-CC		P	R															C							C					C				A			F				C						A	

Table T12 (continued).

Epoch	Zone	Core, section, interval (cm)	Depth (mbsf)	Preservation	Abundance	*Gephyrocapsa* spp. (<2 µm)	*Hayella challengeri*	*Helicosphaera carteri*	*Helicosphaera carteri* var. *Walichii*	*Helicosphaera granulata*	*Helicosphaera intermedia*	*Helicosphaera orientalis*	*Helicosphaera sellii*	*Helicosphaera* spp.	*Helicosphaera stalis*	*Helicosphaera vedderi*	*Helicosphaera waltrans*	*Hughesius gizoensis*	*Orthorhabdus serratus*	*Pontosphaera japonica*	*Pontosphaera multipora*	*Pseudoemiliania lacunosa*	*Pseudoemiliania ovata*	*Reticulofenestra haqii*	*Reticulofenestra minuta*	*Reticulofenestra minutula*	*Reticulofenestra pseudoumbilicus* (>7 µm)	*Reticulofenestra pseudoumbilicus* (5–7 µm)	*Reticulofenestra* spp.	*Rhabdosphaera clavigera*	*Scapholithus fossilis*	*Scyphosphaera globulata*	*Scyphosphaera pulcherrima*	*Scyphosphaera tubifera*	*Scyphosphaera ventriosa*	*Sphenolithus abies*	*Sphenolithus grandis*	*Sphenolithus heteromorphus*	*Sphenolithus moriformis*	*Sphenolithus* spp.	*Triquetrorhabdulus milowii*	*Triquetrorhabdulus rugosus*	*Umbilicosphaera jafari*	*Umbilicosphaera rotula*	*Umbilicosphaera sibogae* var. *sibogae*
		190-1174B-																																											
late Pliocene	NN18	54R-CC		P	R	A																A	C			A	F																		F
		55R-CC		P	R	C																C	C		F	A																		
		56R-2, 75-76	670.95	P	F	D																C	A		C																			
	NN17	56R-CC		P	R																	A	C			C																		
		57R-2, 75-76	680.55	P	R	A																			C	A																		
	NN16	57R-4, 75-76	683.55	P	R																	C	C			A																		
early Pliocene		58R-CC		P	F	C																A				A																		
		58R-3, 75-76	691.75	P	R	A																A	C			A																		
		58R-CC		P	R																	F			C	D																	F	
		59R-CC		P	F	A		F												R		C	F	A		A																F	F	
		60R-CC		P	R																			D																				
		61R-CC		P	R	C																C	F		A	A																		
		62R-CC		P	F	C																C	C		A	A									R		F							
	NN15	63R-4, 74-75	741.34		B																																							
		63R-CC		P	R	A																C			A	A	A										C					C	C	
		64R-2, 71-72	747.91		B																																							
		64R-4, 77-78	750.97		B																																							
		54R-CC			B	A																																						
		65R-5, 74-75	761.74	P	R																			A			D																	
	NN14	65R-CC		P	R			C															C	D			C	C							C									
		66R-3, 72-73	739.82	P	R			R																A			A																	
	NN13-12	66R-4, 71-72	769.81	P	R																			A	D		A																	
		66R-CC			B																																							
		67R-4, 75-76	778.19	P	R																																							
late Miocene	NN11b	67R-6, 75-76	781.19	P	C																			A	D		C	F							C							F		
		67R-CC		M	C	D															F			A	C							R			R	R	F								
		68R-CC			B																																							
		69R-CC		P	C		F																	C	D		C	C							F			F						
		70R-CC		P	R																						A																	
		71R-CC		P	C																			C			A	A							C	F		C	C				F	
		72R-CC		P	R																						D																	
		73R-CC		M	F																			A	C		C	C				C			C			C					C	
	NN11a	74R-3, 41-42	844.81	P	F																			C	D		C															C		
		74R-CC			B																																							
		75R-CC		P	R																			A	A		F	A							C									
		76R-CC		P	R																			A				A																

Table T12 (continued).

Epoch	Zone	Core, section, interval (cm)	Depth (mbsf)	Preservation	Abundance	*Amaurolithus amplificus*	*Amaurolithus delicatus*	*Amaurolithus primus*	*Amaurolithus tricorniculatus*	*Angulolithina arca*	*Calcidiscus leptoporus*	*Calcidiscus macintyrei*	*Calcidiscus premacintyrei*	*Calcidiscus tropicus*	*Catinaster calyculus*	*Catinaster coalitus*	*Catinaster* spp.	*Ceratolithus cristatus*	*Coccolithus miopelagicus*	*Coccolithus pelagicus*	*Coccolithus pelagicus* (with bar)	*Coronocyclus nitescens*	*Cryptococcolithus mediaperforatus*	*Cyclicargolithus floridanus*	*Discoaster asymmetricus*	*Discoaster bellus*	*Discoaster bergeni*	*Discoaster bollii*	*Discoaster braarudii*	*Discoaster brouweri*	*Discoaster calcaris*	*Discoaster challengeri*	*Discoaster deflandrei*	*Discoaster exilis*	*Discoaster hamatus*	*Discoaster kugleri*	*Discoaster musicus*	*Discoaster neorectus*	*Discoaster pansus*	*Discoaster pentaradiatus*	*Discoaster petaliformis*	*Discoaster prepentaradiatus*	*Discoaster quinqueramus*	*Discoaster* spp.	*Discoaster subsurculus*	*Discoaster surculus*	*Discoaster tamalis*	*Discoaster triradiatus*	*Discoaster variabilis*	*Florisphaera profunda*
late Miocene	NN10b	77R-CC			B																																														
		78R-CC			B																																														
	NN10a	79R-CC		P	F											D										F										F		F	C											F
	NN9	80R-4, 75-76	904.25	M	C										C					C						C		C			C	C			C					C		C								
		80R-CC			B																																														
		81R-CC		P	C						F			F	F	C				C								C	C					C	R	R								F	F						
	NN8	82R-2, 74-75	920.54	P	R									C		C				C									F																						
		82R-CC		P	R											A																																				
		83R-3, 85-86	931.75	P	C						C					C															F	C																				
		83R-CC			B																																														
		84R-CC		P	R												A			C												F				F								C							
		85R-4, 75-76	952.35	P	R											A																	C																			
		85R-CC		P	R																													A		A																
		86R-CC		P	R																							F					C	C		F			C												
		87R-3, 46-47	969.96		B																																														
		87R-CC			B																																														
		88R-CC			B																																														
		89R-CC		P	F																							C	C					C		C								A							
	NN7	90R-2, 77-78	997.17	P	R																			A									A											A							
		90R-CC		P	R							C		C																				C		F															
middle Miocene		91R-CC		M	F						C	C							C	C													F			F								F							
		92R-CC		P	R															A																															
		93R-CC		P	R															C		F						F					C	A		C								A							
		94R-CC		P	C						F	C							C	C		F			F									F										F							
		95R-CC		P	C							C							C	C		C			F								F	F		F								C							
		96R-CC		P	R															F					F									C		F								C							
		97R-CC			B																																														
		98R-CC		P	R															F				F	C							F	C			R								C							
	NN6	99R-CC		M	C						F		F						R	C		F			C							C	C			R								C							
		100R-CC		P	F						F									C				R	A								C											C							
		101R-CC		P	R															A					A																			A							
		102R-CC		P	R																	A																													

Notes: D = dominant, A = abundant, C = common, F = few, R = rare, P = poor, M = moderate, G = good. See "**Biostratigraphy,**" p. 9, in the "Explanatory Notes" chapter. This table is also available in **ASCII** format.

Table T12 (continued).

Epoch	Zone	Cor	Depth (mbsf)	Preservation	Abundance	*Gephyrocapsa* spp. (<2 µm)	*Hayella challengeri*	*Helicosphaera carteri*	*Helicosphaera carteri* var. *Walichii*	*Helicosphaera granulata*	*Helicosphaera intermedia*	*Helicosphaera orientalis*	*Helicosphaera sellii*	*Helicosphaera* spp.	*Helicosphaera stalis*	*Helicosphaera vedderi*	*Helicosphaera waltrans*	*Hughesius gizoensis*	*Orthorhabdus serratus*	*Pontosphaera japonica*	*Pontosphaera multipora*	*Pseudoemiliania lacunosa*	*Pseudoemiliania ovata*	*Reticulofenestra haqii*	*Reticulofenestra minuta*	*Reticulofenestra minutula*	*Reticulofenestra pseudoumbilicus* (>7 µm)	*Reticulofenestra pseudoumbilicus* (5–7 µm)	*Reticulofenestra* spp.	*Rhabdosphaera clavigera*	*Scapholithus fossilis*	*Scyphosphaera globulata*	*Scyphosphaera pulcherrima*	*Scyphosphaera tubifera*	*Scyphosphaera ventriosa*	*Sphenolithus abies*	*Sphenolithus grandis*	*Sphenolithus heteromorphus*	*Sphenolithus moriformis*	*Sphenolithus* spp.	*Triquetrorhabdulus milowii*	*Triquetrorhabdulus rugosus*	*Umbilicosphaera jafari*	*Umbilicosphaera rotula*	*Umbilicosphaera sibogae* var. *sibogae*
late Miocene	NN10b	77R-CC			B																																								
		78R-CC			B																																								
	NN10a	79R-CC		P	F			F																C			C	C								A			C						
		80R-4, 75-76	904.25	M	C			C																C	C		A	C																	
	NN9	80R-CC			B																																								
		81R-CC		P	C																			C	A		A	C			F					F			C				C	C	
	NN8	82R-2, 74-75	920.54	P	R																				D		C									C	F							C	
		82R-CC		P	R																						D																		
		83R-3, 85-86	931.75	P	C																			A	D		C	A								F			F						
		83R-CC			B																																								
		84R-CC		P	R																						A	A																	
		85R-4, 75-76	952.35	P	R																			C	A			C											F						
		85R-CC		P	R																						A																		
		86R-CC		P	R														F								D	C								C	C			C			C	C	
		87R-3, 46-47	969.96		B																																								
		87R-CC			B																																								
		88R-CC			B																																								
middle Miocene	NN7	89R-CC		P	F																			A	C		A	A			C						C		C				C	C	
		90R-2, 77-78	997.17	P	R																							D																	
		90R-CC		P	R																			C	C		A	A								F			F				F	F	
		91R-CC		M	F									F								F		C	D		A	C								F	F		F	F			F	C	
		92R-CC		P	R																						A	A																	
		93R-CC		P	R																			C	C		C	A											A	C	C				
		94R-CC		P	C					R	F	F										C		A	A		C	A								C	C		C	F			C	C	
		95R-CC		P	C							F												A	A		A	A								F	R		C					C	
		96R-CC		P	R			F																A	A		A	A									C		C				C		
		97R-CC			B																																								
		98R-CC		P	R														F					D	A		F	C									F		C	F				F	
	NN6	99R-CC		M	C						R								R			F		A	A		C	A											C					C	
		100R-CC		P	F		F							F					F					A	A			A											C		F			F	
		101R-CC		P	R																							A											A						
		102R-CC		P	R																			A				A																	