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INTRODUCTION

The U.S. Geological Survey is conducting a long-term study of the climatic and oceanographic conditions of the Pliocene. One of the major elements of the study involves the use of quantitative composition of planktic foraminifer assemblages in conjunction with stable isotope analysis of planktic and benthic foraminifers to estimate sea-surface temperatures and identify major oceanographic boundaries and water masses in the North Pacific region. We anticipate analyzing many samples during the project, which will result in a large volume of raw census data. In addition, it is likely that all or some of the census data from individual cores will be incorporated into analyses for more than one report over the course of the project. Therefore we have decided to make the raw census data available in a series of open-file reports that will provide basic data for future work. In this report we present counting categories and raw census data for planktic foraminifer assemblages in 34 samples from DSDP Hole 463 and ODP Hole 769B (Fig. 1).

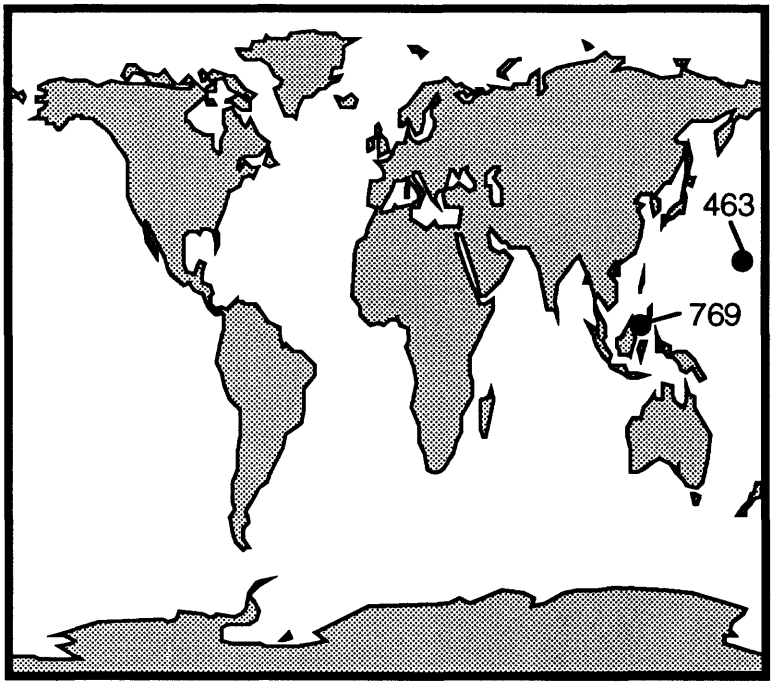

FIGURE 1. Location of Sites 463 and 769.

A variety of statistical techniques are being developed to transform census data of planktic foraminifers in Pliocene deep-sea cores into quantitative estimates of Pliocene sea-surface temperatures. Details of statistical techniques, details of taxonomic groupings, and oceanographic interpretations are presented in more formal publications (Dowsett and Poore, 1990, 1991; Dowsett, 1991).

Latitude, longitude, and water depth for each locality are in Table 1. Counts of variables tabulated in each sample are given in Tables 2-3.

TABLE 1. Localities discussed in text

Site	Lat.	Lon.	Depth
463	21.35N	174.66E	2525.0 m
769	8.78N	121.21E	3643.6 m

METHODS

The samples used in this study were washed using low temperature (isotope) procedures. Sediment samples were dried in an oven at ≤50°C and weighed. The dried bulk sample was disaggregated in a beaker with warm tap water and about 2 ml of dilute calgon solution (5 gm calgon to 1 liter water). The beaker was agitated on a shaker/hot plate without heating. Samples were then washed through a 63 μm sieve using a fine spray hose and dried in an oven at ≤50° C. ODP Hole 769B samples required an additional treatment with $NaCO_3$ added to the wash in order to obtain clean specimens. Weights were then obtained for the fine and coarse fractions of each sample.

A split of 300-350 planktic foraminifer specimens was obtained from the ≥149 μm size fraction using a Carpco sample splitter. Specimens were identified, sorted, and glued to a standard 60 square micropaleontological slide.

COUNTING CATEGORIES

The taxonomic names used in Tables 2 and 3 as well as taxon codes used in other publications are summarized in a comprehensive list below. In general, our taxonomic concepts follow Parker (1962; 1967) and Blow (1969). Exceptions to their practices are noted below.

DSDP and ODP sample designations are abbreviated in Tables 2-3 as core-section, depth within section in centimeters (eg. 10-5, 34 = core 10, section 5, 34 cm below top of section 5). The depth column lists depth of sample below sea floor in meters.

Code Taxon (taxa) comments

Cande *Candeina*

bulls *Globigerina bulloides* (d'Orbigny) and *G. praebulloides* Blow

falco *Globigerina falconensis* Blow

pseud *Globigerina pseudobesa* (Salvatorini)

incis *Globigerina incisa* (Bronnimann and Resig)

praed *Globigerina praedigitata* Parker

woodi *Globigerina woodi* Jenkins and *G. apertura* Cushman

decor *Globigerina decoraperta* Takayanagi and Saito

nepen *Globigerina nepenthes* Todd

sp. 1 *Globigerina* sp. 1. Taxon resembles *G. falconensis* but has reticulate surface texture similar to *G. woodi* group.

aequi *Globigerinella aequilateralis* (Brady)

gluti *Globigerinita glutinata* (Egger) s.l.

congl *Globigerinoides conglobatus* (Brady)

obliq *Globigerinoides obliquus* Bolli and *G. extremus* Bolli and Bermudez

ruber *Globigerinoides ruber* (d'Orbigny)

saccu *Globigerinoides sacculifer* (Brady), *G. quadrilobatus* (d'Orbigny) and *G. trilobus* (Reuss)

Gnoid *Globigerinoides* spp. Representatives of *Globigerinoides* (usually small) that could not be confidently assigned to *G. ruber, G. obliquus* (s.l.) or *G. conglobatus.*

Pulln *Pulleniatina* spp. Includes individuals of *Pulleniatina obliquiloculata* (Parker and Jones) and *Pulleniatina primalis* Banner and Blow.

altis *Globoquadrina altispira* (Cushman and Jarvis)

venez *Globoquadrina venezuelana* (Hedberg)

cibao *Globorotalia cibaoensis* Bermudez
conom *Globorotalia conomiozea* Kennett

crass *Globorotalia crassaformis* (Galloway and Wissler). This category includes *G. ronda* Blow and *G. oceanica* Cushman and Bermudez . Specimens with a distinct keel on the entire ultimate whorl are tabulated separately under "kcras".

kcras This category includes *G. crassaformis* with fully keeled ultimate whorl.

viola *Globorotalia viola* Blow. Both encrusted (*G. crassula* of Blow, 1969) and non-encrusted specimens are included.

hirsu *Globorotalia hirsuta* (d'Orbigny)

plata *Globorotalia inflata* (d'Orbigny) and *G. puncticulata* (Deshayes)

marga *Globorotalia margaritae* Bolli and Bermudez

menar *Globorotalia menardii* (Parker, Jones, and Brady) s.l. This category includes various members of the *G. menardii* lineage such as *G. limbata* (Fornasini) and *G. miocenica* Palmer.

pumil This category includes small forms with 5-7 chambers in the ultimate whorl that are similar to *Globorotalia pumilio* Parker, *G. praepumilio* (Parker) and *G. pseudopumilio* Bronnimann and Resig.

scitu *Globorotalia scitula* (Brady) s.l. This category includes various members of the *G. scitula* group, for example *G. subscitula* Conato.

tocat *Globorotalia tosaensis* Takayanagi and Saito and *G. truncatulinoides* (d'Orbigny)

tumid *Globorotalia tumida* (Brady) s.l. This category includes *G. plesiotumida* Blow and Banner.

hexag *Globorotaloides hexagona* (Natland)

acost *Neogloboquadrina acostaensis* (Blow) and *N. continuosa* (Blow)

satca *Neogloboquadrina atlantica* (Berggren) left-coiling. See Poore and Berggren, 1975 for discussion of this highly variable taxon.

datca *Neogloboquadrina atlantica* (Berggren) right-coiling

humer *Neogloboquadrina humerosa* (Takayanagi and Saito)

spach *Neogloboquadrina pachyderma* (Ehrenberg) left-coiling. Relatively small, compact *Neogloboquadrina* with 4-5 chambers in the ultimate whorl, kummerform ultimate chamber, and a slightly to distinct oval equatorial outline are included here. Separating small left-coiling *N. atlantica* from large left-coiling *N. pachyderma* is arbitrary in many North Atlantic high-latitude sites.

dpach *Neogloboquadrina pachyderma* (Ehrenberg) right-coiling. This category is restricted to specimens with 4 chambers in the ultimate whorl. Right-coiling specimens close to *N. pachyderma* that have more than 4 chambers in the ultimate whorl are tabulated as "dupac".

dupac This category is used for specimens of right-coiling *Neogloboquadrina* with more

than four chambers in the ultimate whorl that are transitional between *N. pachyderma* and *N. acostaensis or N. atlantica.*

Neogl This category includes *Neogloboquadrina* that were not identified to specific level but generally does not include representatives of *N. atlantica.*

Orbul *Orbulina universa* d'Orbigny

Sphae *Sphaeroidinella* and *Sphaeroidinellopsis*

quinq *Turborotalita quinqueloba* (Natland)

OTHER This category includes unidentified specimens and taxa that are rare within assemblages from the cores.

TOTAL PLANK Total number of planktic forams in the counting split.

frags fragments of planktic foraminifers

bform benthic foraminifers

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Table 2. Faunal census data, DSDP Hole 463.

Sample	Depth (m)	*Dentoglobigerina altispira*	*Globorotalia tumida*	*Globigerina sp.*	*Globigerina bulloides*	*Globigerina incisa*	*Globigerina nepenthes*	*Globigerina quinqueloba*	*Globigerina woodi/ apertura*	*Globigerinella siphonifera*	*Globigerinoides obliquus*	*Globigerinoides ruber*	*Globigerinoides rubescens*	*Globigerinoides sacculifer*	*Globigerinoides conglobatus*	*Globigerinoides sp.*	*Globorotalia crassaformis*	*Globorotalia inflat/puncticulata*	*Globorotalia menardii*	*Globorotalia scitula*	*Globorotalia sp.*	*Globorotalia tosaensis*	*Globorotalia truncatulinoides*	*Globorotalia ungulata*	*Neogloboquadrina acostaensis*	*Neogloboquadrina sp.*	*Neogloboquadrina du/pac*	*Neogloboquadrina pachyderma (s)*	*Neogloboquadrina pachyderma (d)*	*Globigerinita glutinata*	*Orbulina universa*	*Pulleniatina spp.*	*Sphaeroidinellopsis s.l.*	Other	Total	*fragments*	Benthic forams
1-1-100cm	1.00	0	1	0	10	4	5	0	12	11	8	174	2	34	0	0	6	5	11	2	13	14	8	0	6	0	1	1	5	0	2	1	7	7	350	0	20
1-2-102cm	2.52	0	8	0	2	11	5	0	14	5	7	127	3	14	18	1	9	2	7	1	0	10	4	5	3	0	0	3	1	0	2	0	4	6	272	314	17
1-3-48cm	3.48	0	3	0	5	4	5	0	34	2	12	129	3	35	0	0	2	1	15	3	9	10	0	0	5	0	2	6	2	0	7	0	13	5	312	0	13
1-4-48cm	4.98	0	5	2	12	0	24	0	28	4	2	163	3	54	12	4	14	17	13	1	3	1	1	1	2	0	1	1	0	13	11	0	23	3	418	577	8
2-1-47cm	5.97	0	0	0	3	2	7	0	18	0	13	120	6	46	0	0	26	0	6	2	4	0	7	0	9	0	0	4	1	0	4	2	17	4	301	0	13
2-1-103cm	6.53	0	3	0	3	10	10	0	20	2	33	156	2	27	5	0	6	0	17	3	1	4	4	6	1	0	0	0	0	20	6	0	6	0	345	162	5
2-2-31cm	7.31	0	5	0	4	4	5	0	26	1	41	142	4	36	0	0	12	0	9	2	3	0	0	0	1	0	1	2	2	0	12	1	12	5	330	110	1
2-2-111cm	8.11	0	8	0	8	15	5	0	10	2	18	117	2	36	4	0	3	2	17	1	5	0	0	4	0	0	0	1	0	19	2	0	8	2	289	203	3
2-3-32cm	8.82	0	15	0	4	6	15	0	17	0	28	114	9	25	0	0	3	0	22	2	5	0	0	0	3	0	0	3	2	0	16	0	30	6	325	0	4
2-3-110cm	9.60	5	36	2	2	12	2	0	14	6	67	75	0	11	14	0	9	7	13	0	1	0	0	0	0	0	0	1	7	11	10	0	34	1	340	402	12
2-4-31cm	10.31	26	3	0	4	10	5	0	8	0	91	82	2	47	0	0	12	0	9	3	0	0	0	0	7	0	0	2	2	0	4	0	19	0	336	0	0
2-4-111cm	11.11	31	1	1		9	0	1	3	1	83	69	0	63	0	0	13	0	3	1	7	0	0	0	3	0	0	0	3	0	7	0	21	7	327	0	4
2-5-31cm	11.81	53	2	3	1	9	2	0	19	2	46	84	1	31	9	1	7	1	4	0	0	0	0	1	0	0	0	0	0	9	13	0	15	2	315	299	7
2-5-111cm	12.61	14	4	1	1	5	1	0	3	3	87	32	2	75	0	0	6	0	8	0	3	0	0	0	4	0	1	4	2	0	12	1	32	7	308	0	14
2-6-31cm	13.31	45	2	0	0	4	4	0	5	2	59	26	1	63	0	0	3	0	5	1	11	0	0	0	7	0	0	0	7	0	10	0	35	4	294	0	23
2-6-111cm	14.11	19	1	0	0	9	9	0	1	0	40	20	0	42	0	0	4	0	3	2	21	0	1	0	1	0	1	0	5	0	4	0	52	12	247	0	27
2-7-31cm	14.81	1	0	0	0	5	36	0	2	0	62	6	2	3	0	0	0	0	0	0	24	0	0	0	0	1	0	0	0	0	24	0	74	16	256	0	28
3-1-48cm	15.48	16	2	0	0	6	127	0	1	0	48	0	1	2	0	0	0	0	4	0	14	0	0	0	0	0	0	0	0	0	25	0	74	11	331	0	18
3-2-31cm	16.81	9	2	0	0	5	77	0	3	0	62	3	0	4	0	0	0	0	2	0	3	0	0	0	0	2	0	0	0	0	14	1	106	11	304	0	28
3-2-111cm	17.61	14	1	1	0	6	57	0	9	0	90	2	9	18	0	0	0	0	3	1	4	0	0	0	0	0	0	1	0	0	21	1	67	17	322	0	15
3-3-35cm	18.35	1	0	0	0	0	106	0	2	0	70	2	5	14	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0	0	8	0	86	24	321	0	26
3-3-111cm	19.11	2	0	0	1	0	72	0	4	0	49	1	2	15	0	0	0	0	0	0	8	0	0	0	0	0	0	0	0	0	15	0	80	30	279	0	29
3-4-35cm	19.85	7	0	0	0	0	87	0	2	0	58	5	7	6	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	26	0	112	29	340	0	26

Table 3. Faunal census data, ODP Hole 769B

Sample	Depth (m)	*Dentoglobigerina altispira*	*Globigerina bulloides*	*Globigerina decoraperta*	*Globigerina falconensis*	*Globigerina incisa*	*Globigerina sp.*	*Globigerina woodi*	*Globigerinella aequilateralis*	*Globigerinita glutinata*	*Globigerinoides conglobatus*	*Globigerinoides obliquus*	*Globigerinoides ruber*	*Globigerinoides sacculifer*	*Globorotalia conomiozea*	*Globorotalia hirsuta*	*Globorotalia menardii*	*Globorotalia pseudobesa*	*Globorotalia puncticulata/inflata*	*Globorotalia scitula*	*Globorotalia sp.*	*Globorotalia tosaensis*	*Globorotalia tumida*	*Neogloboquadrina "dupac"*	*Neogloboquadrina acostaensis*	*Neogloboquadrina humerosa*	*Neogloboquadrina pachyderma (s)*	*Neogloboquadrina pachyderma (d)*	*Neogloboquadrina sp.*	*Orbulina universa*	*Pulleniatina obliquiloculata*	*Sphaeroidinellopsis subdehiscens*	*Turborotalita quinqueloba*	Other	Total planktics	Benthics
13H-3-71	113.61	0	0	0	0	1	0	1	0	1	0	1	3	8	0	0	0	0	1	1	11	2	1	0	7	0	0	0	0	1	1	65	0	1	106	20
13H-3-81	113.71	4	2	0	0	6	2	11	1	28	0	12	43	25	1	3	15	0	2	2	19	9	17	0	21	2	1	0	0	1	11	47	0	8	293	29
13H-3-91	113.81	7	0	11	1	0	2	0	0	11	0	14	26	21	0	0	12	0	0	2	20	4	2	0	15	0	0	0	1	2	6	180	0	3	340	95
13H-3-121	114.11	2	1	0	0	1	0	0	0	0	0	4	3	12	0	0	1	0	0	0	10	1	1	0	7	0	0	0	2	1	2	9	0	1	58	24
13H-3-141	114.31	1	0	1	0	1	1	0	0	3	0	2	13	22	0	0	1	0	0	0	10	1	1	0	12	0	0	1	0	2	8	69	0	8	157	46
13H-4-26	114.66	3	0	0	0	1	2	2	0	0	0	7	9	15	1	0	0	0	0	0	4	4	2	0	10	0	0	0	0	1	4	64	0	5	134	27
13H-4-41	114.81	0	0	0	0	0	0	0	0	6	0	2	2	3	0	0	0	0	0	0	7	0	0	0	8	0	0	0	0	0	8	18	0	4	58	41
13H-4-92	115.32	0	0	0	0	2	0	1	0	6	0	6	9	4	0	0	1	0	0	0	8	1	3	2	7	0	1	2	3	0	4	180	0	7	247	75
13H-6-101	118.41	0	0	0	0	2	2	9	4	23	0	4	53	24	0	0	6	0	4	1	30	2	3	1	60	24	0	0	5	7	6	22	2	17	311	42
13H-6-121	118.61	0	1	0	0	7	0	10	0	27	0	13	63	33	0	0	3	0	1	0	19	0	6	0	46	24	0	0	1	5	19	14	0	12	304	31
13H-6-131	118.71	1	3	0	0	4	0	9	1	63	1	18	48	23	0	0	2	0	0	0	26	5	1	0	53	24	0	0	0	2	27	5	2	6	324	12
13H-6-141	118.81	1	6	0	0	5	2	6	4	67	0	17	48	32	0	0	3	1	1	0	9	6	2	0	58	12	1	0	4	4	20	8	3	12	332	5
13H-7-9	118.99	0	7	0	2	0	0	16	3	52	0	20	62	31	0	0	3	1	0	0	15	1	1	0	48	15	0	0	0	9	8	2	1	13	310	4
13H-CC-11	119.21	0	7	0	0	2	7	6	4	17	0	15	46	39	0	0	1	2	0	0	21	2	0	0	87	40	1	0	7	7	3	11	0	6	331	2
14H-1-121	120.61	0	4	1	1	2	3	17	1	69	0	9	55	15	0	0	0	0	0	0	15	0	3	0	47	37	0	1	9	7	14	7	0	10	327	9
14H-1-131	120.71	0	4	0	0	6	2	16	1	64	1	17	50	29	0	0	2	0	1	0	15	0	0	0	35	19	0	0	3	8	30	2	0	10	315	6
14H-1-141	120.81	0	5	0	0	5	1	24	1	60	0	22	54	30	0	0	3	0	1	0	21	0	0	0	31	23	0	1	3	4	12	5	0	9	315	8
14H-2-11	121.01	2	4	2	0	11	2	19	13	31	0	26	26	29	0	0	5	0	0	0	17	1	0	1	72	30	0	0	0	12	0	14	0	3	320	6
14H-2-121	122.11	1	5	2	2	2	0	9	1	29	0	18	53	32	0	0	4	0	0	0	26	2	2	0	68	7	1	0	0	8	2	36	0	9	319	35
14H-4-11	124.01	0	0	0	0	0	0	0	0	0	0	0	2	1	0	0	0	0	0	0	1	0	0	0	2	0	0	0	0	2	0	8	0	0	16	20
14H-4-19	124.09	0	0	0	0	0	0	0	0	2	0	0	3	0	0	0	2	0	0	0	13	0	0	1	54	0	2	2	0	4	0	180	0	3	266	163
14H-4-31	124.21	3	1	0	0	2	0	6	0	3	0	3	24	16	0	0	6	0	1	0	22	0	0	0	107	2	2	1	0	6	4	60	0	6	275	27
14H-4-41	124.31	1	2	1	0	3	0	8	4	1	1	3	41	42	0	0	1	0	0	0	25	0	0	2	80	4	1	1	4	11	3	78	0	4	321	15
18H-4-96	162.86	20	0	0	0	11	0	18	1	0	0	8	1	37	0	0	2	0	5	0	12	0	0	0	28	1	1	2	0	27	0	69	0	79	322	28
18H-4-101	162.91	14	0	0	0	0	0	0	1	0	5	0	0	14	0	0	0	0	0	0	5	0	0	0	0	0	0	0	5	35	0	22	0	4	105	9
18H-4-121	163.11	16	0	0	0	4	0	13	0	1	4	1	0	53	0	0	2	0	0	0	12	0	0	3	21	0	0	1	0	23	0	38	1	81	274	16