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U.S. PROGRAM IN BIOLOGY

INTERNATIONAL INDIAN OCEAN EXPEDITION

FINAL CRUISE REPORT

ANTON BRUUN CRUISES 7,8,9

VOLUME 1 (of 2)

INTERNATIONAL INDIAN OCEAN EXPEDITION

WOODS HOLE OCEANOGRAPHIC INSTITUTION

OCTOBER, 1965

U. S. PROGRAM IN BIOLOGY

INTERNATIONAL INDIAN OCEAN EXPEDITION

Final Report: R/V ANTON BRUUN, Cruises 7, 8 and 9

Volume 1 (of 2)

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INTRODUCTION

Presented in this report are the reduced oceanographic, chemical, and biological data, station lists of plankton and benthic collections, and bathythermograph positions for Cruises 7 and 8 of the R/V ANTON BRUUN; and the station lists of reef and inshore, plankton, benthic, and miscellaneous biological collections, and bathythermograph positions for Cruise 9. Narrative reports of Cruises 7 and 8 were issued as News Bulletins No. 9 (Jan. 1965) and No. 10 (Feb. 1965), respectively, by the U. S. Program in Biology, IIOE.

Cruises 7 and 8 were devoted primarily to benthic biology. On Cruise 7, which concentrated on the area east of South Africa and south of Madagascar (Fig. 1), collections of the bottom fauna were made with a variety of gear including Campbell and Van Veen grabs, Phleger and trigger corers, Menzies and Agassiz trawls, rock dredges, and Dietz-Lafond snappers. On Cruise 8 collections were made in the Mozambique Channel and adjacent continental shelves (Fig. 2) mainly with a 40 ft. Gulf of Mexico type shrimp trawl, Menzies trawl, and Ockelman dredge.

Cruise 9 emphasized reef and shore collecting in some of the more remote island areas in the southwestern Indian Ocean (Fig. 3). Specimens were obtained by SCUBA and free diving, rotenone poisoning, and collecting in the exposed intertidal zones of the reef and shore areas of Mombasa, Kenya (Fig. 4); Latham Island south of Zanzibar; Grand Comore and Mayotta Islands (Figs. 5 and 6); Aldabra and Farquhar Islands (Figs. 7 and 8); St. Joseph's

and D'Arros Islands in the Amirante Isles (Fig. 9); and Mahe and Cerf Islands in the Seychelles (Fig. 10). Although general collections were made at all these areas, certain groups received special attention because of specific interests among the scientific party. These included macroscopic algae, sea-grasses, mollusks, commensal and parasitic copepods, parasitic helminths, nemerteans, ostracods, lancelets, pontoniid shrimps, fishes and Ascothoracida, a parasitic group of barnacles found in the certain cavities of zoantharians and echinoderms.

At most of the island stations, longline gear and a 200 ft. shark gill net were fished. Bottom trawling with a Gulf of Mexico shrimp trawl was impractical because of the many pinnacles and dome-shaped formations around the various islands. Towards the end of Cruise 9, a series of trawl hauls was made on the narrow continental shelf along the Somali coast.

Most of the Cruise 9 scientific party left the ship at Aden on December 20. The remaining members made a series of plankton collections in the Red Sea, and disembarked at Hurghada, U.A.R. to make shore collections.

Table 1 Itinerary, Cruises 7, 8, 9

29 July 1964	Departed Durban (SOUTH AFRICA) - Start Cruise 7
7 August	Arrived Tulear (MADAGASCAR)
10 August	Departed Tulear
20 August	Arrived Lourenco Marques (MOZAMBIQUE)
22 August	Departed Lourenco Marques
10 September	Arrived Durban - End Cruise 7
25 September	Departed Durban - Start Cruise 8
5 October	Arrived Beira (MOZAMBIQUE)
8 October	Departed Beira
24 October	Arrived Nossi Be (MADAGASCAR)
24 October	Departed Nossi Be
24 October	Arrived Diego Suarez (MADAGASCAR)
27 October	Departed Diego Suarez
28 October	Arrived Nossi Be
29 October	Departed Nossi Be
9 November	Arrived Mombasa (KENYA) - End Cruise 8

Table 1 (continued)

18 November	1964	Departed Mombasa (KENYA) - Start Cruise 9
22 November		Arrived Grande Comore (COMORO ISLANDS)
22 November		Departed Grande Comore
23 November		Arrived Mayotta (COMORO ISLANDS)
26 November		Departed Mayotta
27 November		Arrived Grande Comore
28 November		Departed Grande Comore
30 November		Arrived Dar es Salaam (TANZANIA)
30 November		Departed Dar es Salaam
2 December		Arrived Aldabra Islands
4 December		Departed Aldabra Islands
6 December		Arrived Farquhar Islands
6 December		Departed Farquhar Islands
8 December		Arrived St. Joseph and D'Arros (AMIRANTE ISLANDS)
8 December		Departed St. Joseph and D'Arros
9 December		Arrived Mahe (SEYCHELLE ISLANDS)
12 December		Departed Mahe
20 December		Arrived Aden (ADEN)
22 December		Departed Aden
28 December		Arrived Hurghada (U.A.R.) - End Cruise 9

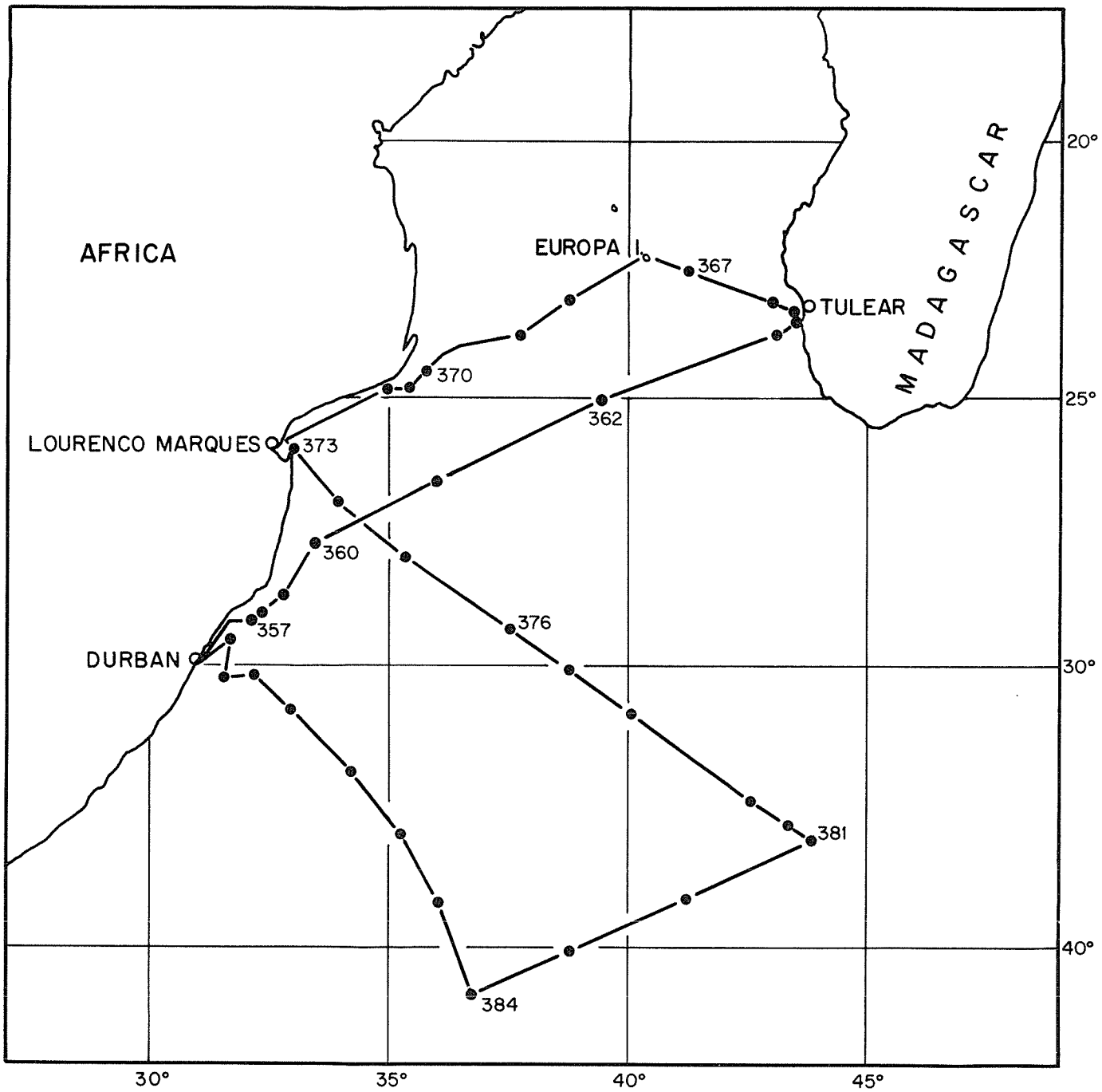

Figure 1 - Cruise track - Cruise 7

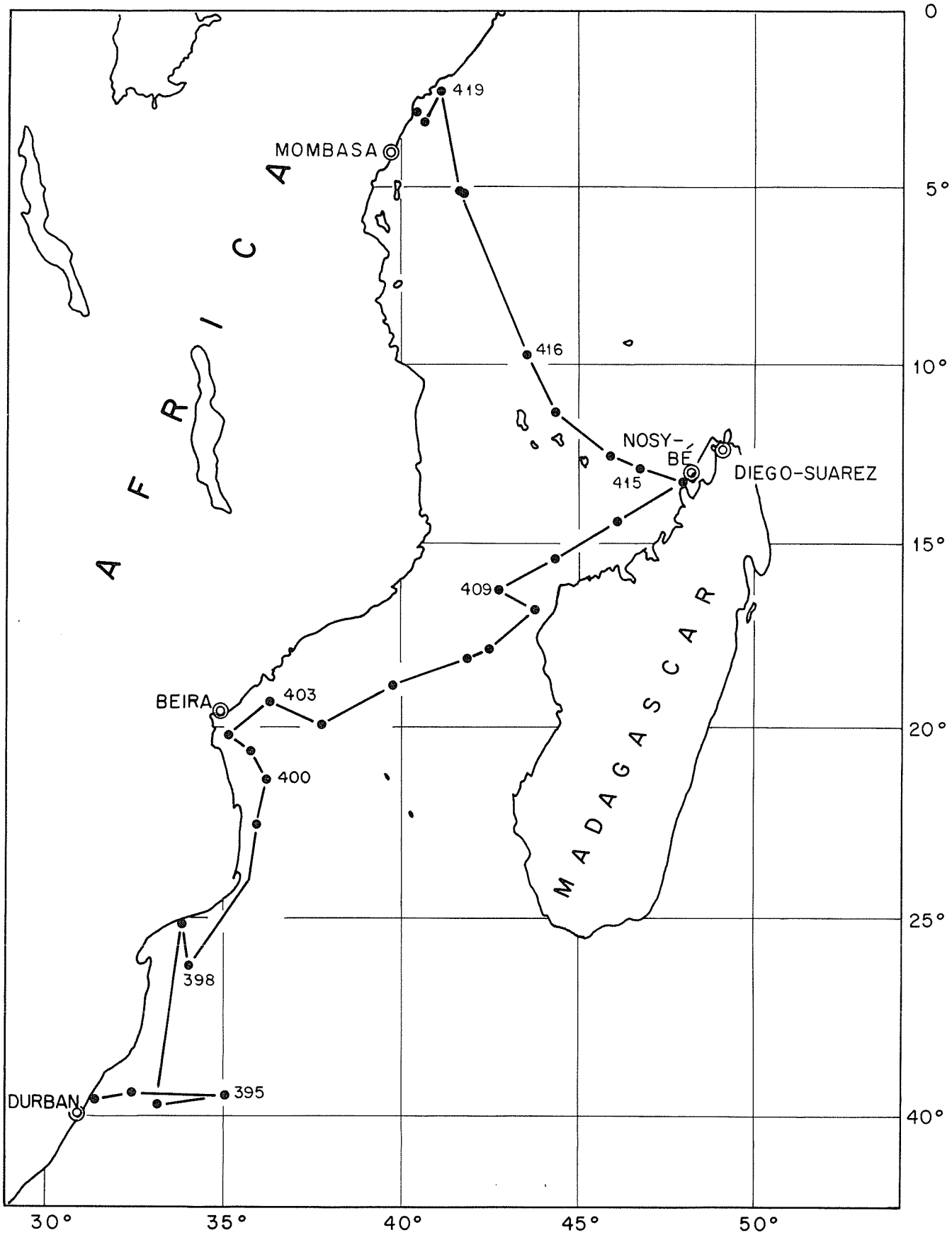

Figure 2 - Cruise track - Cruise 8

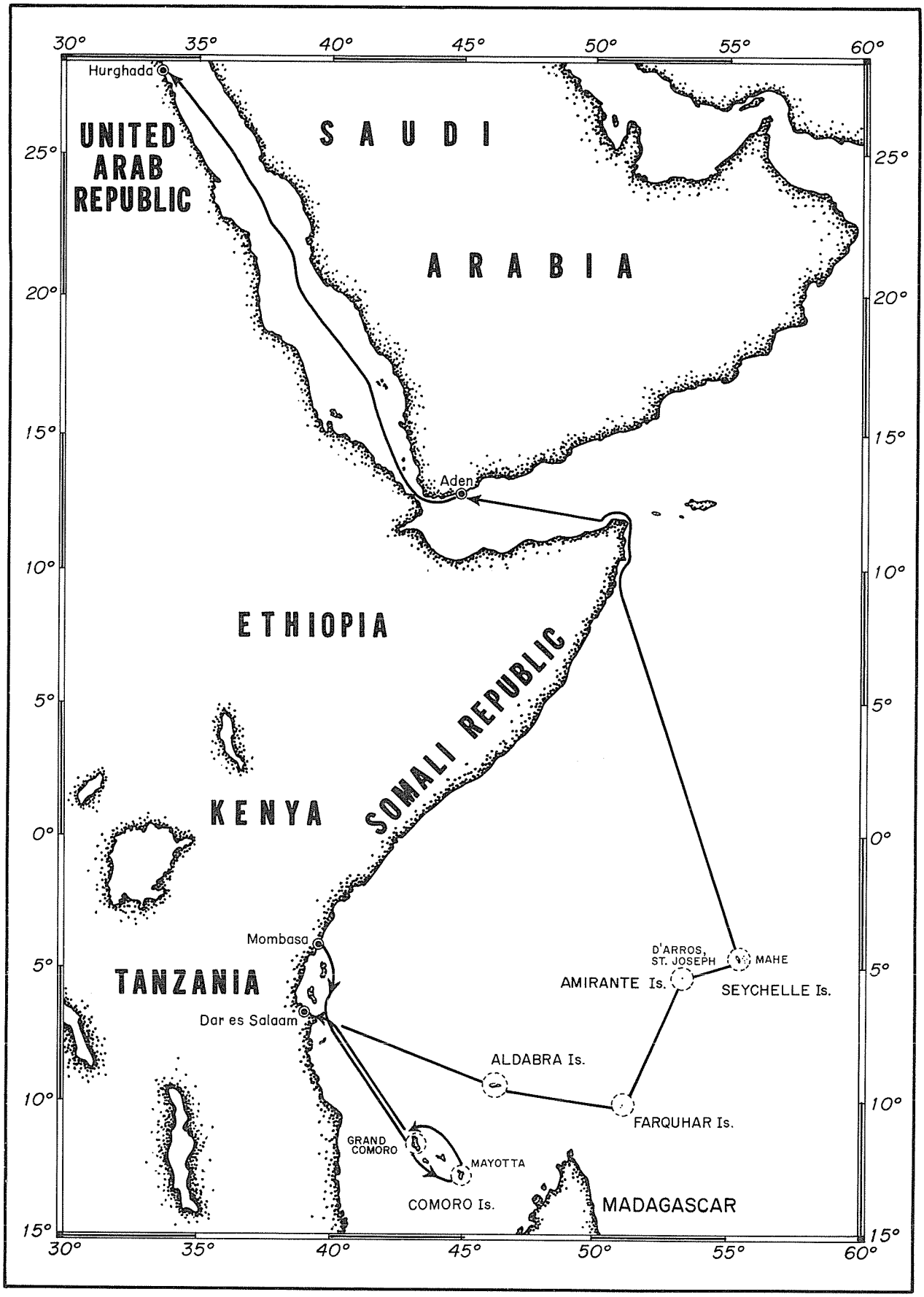

Figure 3 - Cruise track - Cruise 9

Table 2. Key to Abbreviations

A. PLANKTON NETS

IOSN:	Indian Ocean Standard Net 113 cm diameter 0.33 mm mesh aperture
75M25:	75 cm diameter 0.064 MM mesh aperture (No. 25 mesh)
NV70:	Modified Nansen Vertical Net 70 cm diameter 0.239 mm mesh aperture (No. 6 mesh) Bucket 0.569 mm mesh aperture (No. 0 mesh)
75M3	75 cm diameter 0.333 mm mesh aperture (No. 3 mesh)

B. OTHER SAMPLING GEAR

DR:	Dredge
GMT:	Gulf of Mexico shrimp trawl (40 foot lead line)

C. INSTITUTIONS & INDIVIDUALS

SOSC:	Smithsonian Oceanographic Sorting Center U. S. National Museum Washington, D. C.
IOBC:	Indian Ocean Biological Center Ernakulam Cochin, India
GDG:	George D. Grice Woods Hole Oceanographic Institution Woods Hole, Massachusetts
ELP:	E. Lowe Pierce University of Florida Gainesville, Florida
GEN:	Norberto Della Croce Istituto di Zoologia--Universita Via Balbi 5 Genova, Italia

Table 3 Summary of major activities - Cruise 7
(exclusive of benthic collections)

Station	Date	Position Latitude	Position Longitude	Hydro Cast	Prim. Prod.	Plankton Tows 75M25	Plankton Tows IOSN	Plankton Tows 75M3	NV-70
356	29 Jul 64	29°11'S	31°37'E	x	x		x		
357	29 Jul 64	29°10'S	31°51'E	x				x	
358	30 Jul 64	29°12'S	32°06'E	x	x	x	x		x
359	31 Jul 64	28°35'S	32°40'E	x	x	x	x		x
360	31 Jul 64	27°38'S	33°24'E	x	x	x	x		x
361	1 Aug 64	26°35'S	35°57'E	x	x	x	x		x
362	3 Aug 64	24°53'S	39°18'E	x	x	x	x		x
363	4 Aug 64	23°46'S	43°07'E	x	x	x	x		x
364	12 Aug 64	23°20'S	43°36'E	x	x			x	
365	12 Aug 64	23°19'S	43°33'E	x	x	x	x		
366	12 Aug 64	23°13'S	43°13'E	x	x	x	x		x
367	13 Aug 64	22°34'S	41°16'E	x	x	x	x		x
368	16 Aug 64	23°04'S	38°35'E	x	x	x	x		x
369	17 Aug 64	23°48'S	36°48'E	x	x	x	x		x
370	17 Aug 64	24°19'S	35°46'E	x	x	x	x		x
371	18 Aug 64	24°42'S	35°23'E	x	x	x	x		x
372	19 Aug 64	24°48'S	34°59'E	x	x				
373	22 Aug 64	26°01'S	33°04'E	x	x			x	
374	23 Aug 64	26°57'S	33°53'E	x	x	x	x		x
375	24 Aug 64	27°58'S	35°16'E	x	x	x	x		x
376	26 Aug 64	29°22'S	37°31'E	x	x		x		x
377	27 Aug 64	30°09'S	38°39'E	x	x		x		x
378	28 Aug 64	30°51'S	40°11'E	x	x		x		x
379	29 Aug 64	32°22'S	42°55'E	x	x		x	x	
380	30 Aug 64	32°58'S	43°37'E	x	x		x		x
381	30 Aug 64	33°13'S	42°53'E	x	x			x	
382	31 Aug 64	34°08'S	41°15'E	x	x		x		x
383	1 Sep 64	34°57'S	38°49'E	x	x		x		x
384	2 Sep 64	35°44'S	36°47'E	x	x		x		x
385	3 Sep 64	34°15'S	36°04'E	x	x		x		x
386	4 Sep 64	32°55'S	35°21'E	x	x		x		x
387	5 Sep 64	31°57'S	34°18'E	x	x		x		x
388	6 Sep 64	30°45'S	32°58'E	x	x		x		x
389	6 Sep 64	30°10'S	32°09'E	x	x		x	x	
390	8 Sep 64	29°45'S	31°42'E	x	x		x		
391	9 Sep 64	29°29'S	31°44'E	x	x				
392	9 Sep 64	29°18'S	31°33'E	x	x			x	

Table 4 - Summary of Benthic Collections - Cruise 7

STA.	DATE	ZONE TIME	POSITION lat. (°S.)	POSITION long. (°E.)	DEPTH (m)	GEAR & REMARKS
356A	29-VII-64	1633	29°11'	31°37'	15	Campbell Grab
356B	"	1659	29°11'	31°37'	15	Rock Dredge
356C	"	1812	29°10'	31°40'	33	Campbell Grab
356D	"	1835	29°10'	31°40'	33	Trigger Corers
356E	"	1926	29°12'	31°42'	40	Campbell Grab
356F	"	1944	29°12'	31°42'	40	Trigger Corers
356G	"	2110	29°10'	31°51'	42	Campbell Grab
356H	"	2128	29°10'	31°51'	42	Trigger Corers
356J	"	2153-2214	29°10'	31°51'	42	Menzies Trawl
357A	30-VII-64	0540	29°11'	32°02'	69	Campbell Grab
357B	"	0605-0618	29°11'	32°02'	69	Rock Dredge
357C	"	0717	29°11'	32°04'	126	Campbell Grab
357D	"	0744-0758	29°11'	32°04'	104	Rock Dredge
357E	"	0847	29°10'	32°05'	168	Campbell Grab
358A	"	1443	29°19'	32°00'	366	Campbell Grab
358B	"	1516	29°20'	31°59'	421	Trigger Corers
358C	"	1548	29°21'	31°58'	366	Menzies Trawl
359A	31-VII-64	0510	28°40'	32°39'	1079	Campbell Grab (Scoured bottom, No sample)
359B	"	0710	28°43'	32°38'	1170	Agassiz Trawl
359C	"	0900	28°43'	32°38'	1207	Rock Dredge
360A	1-VIII-64	0015-0103	27°39'	33°23'	1360	Campbell Grab (No sample, Smooth hard bottom)
361A	"	2100	26°35'	35°58'	1829	Snapper
361B	2-VIII-64	0020-0142	26°34'	35°59'	1829	Campbell Grab
361C	"	0203-0230	26°33'	36°00'	1829	Phleger Corers
361D	"	0310-0345	26°32'	36°02'	1829	Menzies Trawl
361E	"	1233-1350	25°50'	37°21'	2700	Campbell Grab
361F	"	1410-1545	25°50'	37°21'	2750	Trigger Corers
361G	"	1540-1620	25°50'	37°21'	2750	Menzies Trawl
361H	"	1950-2230	25°39'	37°45'	3750	Campbell Grab
361J	"	2315	25°39'	37°45'	3800	Phleger Corers

STA.	DATE	ZONE TIME	POSITION lat. (°S.)	POSITION long. (°E.)	DEPTH (m)	GEAR & REMARKS
362A	3-VIII-64	1115	24°55'	39°21'	3600	Snapper
362B	"	1755-1845	24°57'	39°24'	3570	Rock Dredge with Fine Screening
362C	"	2025	24°54'	39°26'	3570	Phleger Corers
362D	4-VIII-64	0907-1110	24°18'	41°26'	3950	Campbell Grab
362E	"	1145-1310	24°16'	41°25'	3950	Phleger Corers
363A	5-VIII-64	0052	23°46'	43°08'	3120	Snapper
363B	"	0643	23°45'	43°10'	2980	Campbell Grab
363C	"	0805	23°45'	43°10'	2980	Trigger Corers
363D	"	0912-1050	23°45'	43°11'	1605	Menzies Trawl
363E	"	1248	23°40'	43°21'	1860	Campbell Grab
363F	"	1345	23°40'	43°21'	1860	Trigger Corers
363G	"	1458	23°38'	43°24'	1350	Campbell Grab
363H	"	1543	23°37'	43°24'	1310	Trigger Corers
363J	"	1620-1740	23°36'	43°24'	1280	Menzies Trawl
363K	"	1915-1955	23°43'	43°25'	1190	Agassiz Trawl
363L	6-VIII-64	0730-0800	23°17'	43°30'	841	Campbell Grab
363M	"	0810	23°17'	43°30'	1006	Trigger Corers
363N	"	0855	23°17'	43°31'	1006	Campbell Grab
363P	"	0950-1013	23°17'	43°33'	1225	Agassiz Trawl
363Q	"	1240	23°17'	43°34'	430	Van Veen Grab
363Q'	"	1303	23°17'	43°35'	311	Van Veen Grab
363R	"	1330	23°17'	43°35'	220	Trigger Corers
363S	"	1430	23°18'	43°36'	33	Campbell Grab
363T	"	1445	23°18'	43°36'	35	Trigger Corers
363U	"	1525	23°19'	43°35'	128	Campbell Grab
363V	"	1540	23°19'	43°35'	91	Trigger Corers
363W	"	1555-1608	23°19'	43°36'	82	Agassiz Trawl

STA.	DATE	ZONE TIME	POSITION lat. (°S.)	POSITION long. (°E.)	DEPTH (m)	GEAR & REMARKS
364A	12-VIII-64	1115	23°20'	43°36'	51	Campbell Grab
364B	"	1125	23°20'	43°36'	51	Trigger Corers
364C	"	1215-1225	23°20'	43°36'	77	Agassiz Trawl
365A	"	1515	23°19'	43°33'	420	Van Veen Grab (Returned open with small samples)
365B	"	1555	23°19'	43°33'	420	Campbell Grab (Metal strap bent and caused grab to stay open)
365C	"	1620	23°19'	43°33'	439	Trigger Corers
365D	"	1655-1750	23°20'	43°32'	695-475	Agassiz Trawl
366A	13-VIII-64	0340	23°09'	43°09'	2300	Campbell Grab
366B	"	0441	23°09'	43°08'	2300	Trigger Corers
366C	"	0555-0720	23°09'	43°07'	2710	Agassiz Trawl
367A	"	2050	22°36'	41°18'	3350	Snapper
367B	14-VIII-64	0145	22°36'	41°21'	3350	Trigger Corers
367C	"	0320-0350	22°37'	41°22'	3250	Menzies Trawl
367D	"	1242	22°15'	40°21'	2200	Campbell Grab (No sample, Rock bottom)
367E	"	1405-1410	22°14'	40°19'	2200	Rock Dredge
367F	15-VIII-64	0700-0815	22°12'	40°38'	2750	Rock Dredge
367G	"	1600	22°42'	39°19'	3140	Campbell Grab
367H	"	1715	22°40'	39°21'	3140	Trigger Corers
367J	"	1900-1940	22°38'	39°24'	3040	Agassiz Trawl (No specimens)
368A	16-VIII-64	0140	23°03'	38°35'	2990	Snapper
368B	"	0837	23°01'	38°37'	2995	Trigger Corers
368C	"	0945-1030	23°00'	38°37'	2995	Menzies Trawl
369A	"	2349	23°48'	37°47'	2270	Snapper
369B	17-VIII-64	0501	23°48'	37°46'	2270	Trigger Corers
369C	"	0600	23°48'	37°45'	2200	Agassiz Trawl
369D	"	1100	24°04'	36°16'	1720	Campbell Grab
369E	"	1146	24°04'	36°16'	1690	Trigger Corers

STA.	DATE	ZONE TIME	POSITION lat. (°S.)	POSITION long. (°E.)	DEPTH (m)	GEAR & REMARKS
369F	17-VIII-64	1250-1400	24°04'	36°15'	1610	Agassiz Trawl
369G	"	1550	24°12'	36°02'	1205	Campbell Grab
369H	"	1630	24°12'	36°01'	1185	Trigger Corers
369J	"	1720-1805	24°12'	36°01'	1140	Agassiz Trawl
370A	"	2028	24°20'	35°47'	914	Snapper
370B	"	2315	24°25'	35°47'	910	Campbell Grab
370C	"	2345	24°25'	35°37'	910	Trigger Corers
370D	18-VIII-64	0020-0115	24°28'	35°36'	880	Agassiz Trawl
370E	"	0750	24°39'	35°29'	380	Campbell Grab
370F	"	0800	24°39'	35°29'	358	Trigger Corers
370G	"	0830-0910	24°40'	35°28'	347	Agassiz Trawl
371A	"	1130	24°42'	35°23'	190	Snapper
371B	"	1348	24°46'	35°21'	176	Trigger Corers (Very small samples, core cutters damaged)
371C	"	1403-1440	24°47'	35°21'	170	Menzies Trawl (Net split, frame bent)
371D	"	1500-1510	24°46'	35°20'	165	Agassiz Trawl (Net ripped)
371E	"	1530-1545	24°46'	35°20'	132	Rock Dredge
371F	"	1630-1700	24°46'	35°18'	110	Rock Dredge
371G	"	1750-1800	24°49'	35°13'	73	Rock Dredge
372A	19-VIII-64	0600	24°48'	34°59'	42	Snapper
372B	"	0700-0710	24°48'	34°59'	42	Rock Dredge
372C	"	0825-0845	24°46'	34°50'	22	Rock Dredge
372D	"	0905-0910	24°46'	34°49'	19	Rock Dredge
372E	"	1038	24°52'	34°56'	55	Campbell Grab
372F	"	1045	24°52'	34°56'	55	Trigger Corers
372G	"	1100-1110	24°53'	34°56'	55	Rock Dredge
372H	"	1145	24°54'	34°56'	55	Campbell Grab
372J	"	1455	25°07'	34°34'	106	Campbell Grab
372K	"	1505	25°07'	34°34'	106	Trigger Corers

STA.	DATE	ZONE TIME	POSITION lat. (°S.)	POSITION long. (°E.)	DEPTH (m)	GEAR & REMARKS
372L	19-VIII-64	1520-1528	25°07'	34°34'	112	Agassiz Trawl
372M	"	1625-1640	25°03'	34°31'	55	Rock Dredge
372N	"	1648	25°03'	34°31'	55	Trigger Corers
372P	22-VIII-64	1755	25°57'	33°02'	37	Campbell Grab
372Q	"	1815-1835	25°57'	33°02'	42	Dredge
373A	"	2035	26°00'	33°05'	135	Campbell Grab
373B	"	2053-2059	26°00'	33°05'	135	Rock Dredge
373C	"	2105-2130	26°00'	33°05'	175	Rock Dredge
373D	"	2210	26°02'	33°08'	366	Campbell Grab
373E	"	2235-2300	26°02'	33°08'	366	Rock Dredge
373F	"	2325-2345	26°02'	33°08'	366	Menzies Trawl
373G	23-VIII-64	0730	26°58'	33°54'	896	Campbell Grab
373H	"	0800-0845	26°58'	33°54'	896	Agassiz Trawl
373J	"	0920-0945	26°58'	33°53'	880	Menzies Trawl
374A	"	0945-1250	26°55'	33°50'	896	Trigger Corers
374B	"	1530	27°10'	34°09'	1335	Campbell Grab
374C	"	1610	27°09'	34°09'	1335	Trigger Corers
375A	24-VIII-64	0338	27°57'	35°16'	1840	Snapper
375B	"	0805	28°00'	35°16'	1910	Trigger Corers
375C	"	0908-0938	28°01'	35°14'	1910	Agassiz Trawl
375D	"	1135-1215	28°04'	35°12'	1910	Agassiz Trawl (No sample)
375E	25-VIII-64	0805-0845	29°00'	36°42'	3840	Agassiz Trawl (Lost)
375F	"	1130	29°03'	36°43'	3840	Trigger Corers
375G	"	1335-1430	29°06'	36°44'	3890	Rock Dredge with fine screen
376A	"	2242	29°22'	37°31'	5000	Snapper
376B	26-VIII-64	0735-0815	29°26'	37°35'	5000	Rock Dredge (No sample)
376C	"	1014	29°23'	37°30'	5000	Trigger Corers
376D	"	1330-1400	29°20'	37°26'	5000	Menzies Trawl

STA.	DATE	ZONE TIME	POSITION lat. (°S.)	POSITION long. (°E.)	DEPTH (m)	GEAR & REMARKS
377A	27-VIII-64	0157	30°08'	38°39'	4940	Snapper
377B	"	1011	30°11'	38°36'	4940	Trigger Corers
377C	"	1200-1230	30°12'	38°35'	4870	Menzies Trawl
378A	28-VIII-64	0113	30°50'	40°11'	4800	Snapper
378B	"	0825	30°50'	40°10'	4820	Trigger Corers
378C	"	1040-1115	30°48'	40°11'	4870	Agassiz Trawl (No sample)
379A	29-VIII-64	1028	32°23'	42°55'	2970	Snapper
379B	"	1800	32°23'	42°56'	2600	Trigger Corers
379C	"	2015-2100	32°26'	42°58'	2410	Agassiz Trawl (Lost)
379D	"	2200-2400	32°27'	43°00'	2400	Rock Dredge
380A	30-VIII-64	0700	32°58'	43°37'	935	Snapper
380B	"	0921	32°58'	43°41'	935	Trigger Corers
380C	"	0945-1015	32°58'	43°41'	950	Menzies Trawl
381A	"	1415	33°13'	43°51'	46	Campbell Grab
381B	"	1435-1445	33°13'	43°51'	38	Rock Dredge
381C	"	1510-1525	33°13'	43°53'	40	Rock Dredge
381D	"	1710-1800	33°13'	43°50'	205	Rock Dredge
381E	"	1825	33°13'	43°48'	321	Campbell Grab
382A	31-VIII-64	1008	34°09'	41°15'	4900	Snapper
382B	"	1600	34°06'	41°15'	4900	Trigger Corers
382C	"	1805-1905	34°06'	41°15'	4900	Menzies Trawl
383A	1-IX-64	1110	34°57'	38°48'	5250	Snapper
383B	"	1830	34°44'	38°49'	5250	Trigger Corers
383C	"	2050-2210	34°45'	38°47'	5250	Menzies Trawl
384A	2-IX-64	1200	35°44'	36°48'	5250	Snapper (Lost)
384B	"	1610	35°47'	36°45'	5350	Trigger Corers
384C	"	1845-1915	35°51'	36°46'	5450	Agassiz Trawl
385A	3-IX-64	1140	34°15'	36°03'	3140	Snapper
385B	"	1750	34°15'	35°59'	3150	Trigger Corers
385C	"	1923-2030	34°17'	35°55'	3150	Agassiz Trawl

STA.	DATE	ZONE TIME	POSITION lat. (°S.)	POSITION long. (°E.)	DEPTH (m)	GEAR & REMARKS
386A	4-IX-64	1150	32°55'	35°21'	1360	Snapper (Lost)
386B	"	1625-1645	32°55'	35°21'	1260	Fine Rock Dredge
386C	"	1725	32°55'	35°19'	1265	Trigger Corers
386D	"	2043	32°38'	35°00'	1200	Trigger Corers
386E	"	2215-2315	32°38'	35°00'	1200	Menzies Trawl
386F	"	2345	32°42'	34°58'	1250	Campbell Grab
387A	5-IX-64	0905	31°57'	34°16'	2770	Snapper
387B	"	1425	31°54'	34°21'	2565	Trigger Corers
387C	"	1545-1625	31°54'	34°21'	2700	Rock Dredge
387D	"	1730	31°53'	34°24'	2750	Trigger Corers
387E	"	2305	31°23'	33°48'	3260	Trigger Corers
388A	6-IX-64	0931	30°44'	32°58'	3070	Snapper
388B	"	1600	30°48'	32°58'	3090	Trigger Corers
388C	"	1730-1800	30°49'	32°58'	3090	Agassiz Trawl
388D	7-IX-64	0655	30°19'	30°18'	1820	Trigger Corers
388E	"	0755-0825	30°19'	30°18'	1865	Agassiz Trawl
389A	"	1042	30°09'	32°09'	1370	Snapper
389B	"	1338	30°10'	32°04'	1355	Trigger Corers
389C	"	1428-1545	30°12'	32°01'	1360	Agassiz Trawl
389D	"	1832	30°10'	31°37'	930	Trigger Corers
389E	"	1905-2005	30°09'	31°37'	930	Agassiz Trawl
389F	8-IX-64	0645	29°57'	31°31'	715	Trigger Corers
389G	"	0730-0830	29°57'	31°31'	700	Agassiz Trawl
390A	"	1245	29°45'	31°40'	445	Trigger Corers
390B	"	1320	29°45'	31°40'	445	Campbell Grab
390C	"	1345-1415	29°45'	31°40'	440	Agassiz Trawl
390D	"	1512	29°42'	31°38'	350	Trigger Corers
390E	"	1530-1610	29°42'	31°38'	350	Agassiz Trawl
390F	"	1822	29°38'	31°36'	200	Trigger Corers
390G	"	1835	29°38'	31°36'	200	Campbell Grab
390H	"	1855-1940	29°38'	31°36'	190	Agassiz Trawl
390J	9-IX-64	0630	29°35'	31°38'	156	Trigger Corers
390K	"	0645	29°35'	31°38'	155	Campbell Grab

STA.	DATE	ZONE TIME	POSITION lat. (°S.)	POSITION long. (°E.)	DEPTH (m)	GEAR & REMARKS
390L	9-IX-64	0705-0745	29°35'	31°38'	150	Agassiz Trawl
390M	"	0830	29°34'	31°39'	115	Trigger Corers
390N	"	0840	29°34'	31°39'	115	Campbell Grab
390P	"	0850-0930	29°34'	31°39'	118	Agassiz Trawl
390Q	"	1017	29°53'	31°42'	138	Trigger Corers
390R	"	1025	29°35'	31°42'	138	Campbell Grab
390S	"	1038-1108	29°35'	31°42'	138	Agassiz Trawl
390T	"	1130-1200	29°34'	31°43'	150	Menzies Trawl
391A	"	1425	29°29'	31°45'	86	Trigger Corers
391B	"	1435	29°29'	31°45'	86	Campbell Grab
391C	"	1440-1500	29°29'	31°45'	86	Agassiz Trawl
391D	"	1545	29°26'	31°46'	77	Trigger Corers
391E	"	1600	29°26'	31°46'	77	Campbell Grab
391F	"	1610-1620	29°26'	31°46'	77	Agassiz Trawl
391G	"	1745	29°21'	31°35'	57	Trigger Corers
391H	"	1800	29°21'	31°35'	57	Campbell Grab
391J	"	1810-1820	29°21'	31°35'	57	Agassiz Trawl
392A	"	1950	29°18'	31°33'	47	Trigger Corers
392B	"	2000	29°18'	31°33'	47	Campbell Grab
392C	"	2005-2010	29°18'	31°33'	46	Agassiz Trawl
392D	"	2100-2110	29°17'	31°32'	35	Rock Dredge
392E	"	2120	29°16'	31°32'	35	Campbell Grab
392F	10-IX-64	0615	29°16'	31°32'	35	Campbell Grab
392G	"	0645	29°14'	31°31'	18	Campbell Grab
392H	"	0700-0710	29°14'	31°31'	18	Agassiz Trawl
392J	"	0815	29°19'	31°26'	38	Campbell Grab
392K	"	0820-0830	29°19'	31°26'	38	Agassiz Trawl

REDUCED DATA

U. S. PROGRAM IN BIOLOGY — INTERNATIONAL INDIAN OCEAN PROGRAM

STATION NO. 356
CRUISE NO. 7
VESSEL *R/V ANTON BRUUN*
DATE 29-VII-64
RELIABILITY OF DEPTH

LAT. 29°11'S
LONG. 31°37'E
DEPTH 18.7 m.
TIME 1545
WIND Force 4; Dir. 06

PRIMARY PROD. .40 g C /m²/day
EXT. COEFF. (k)
RADIATION 217 g.cal./cm²/day
ZOOPLANKTON VOL.
IOSN STD. TOW ml./m.²

DEPTH	TEMP.	SAL. ‰	O_2 ml./l.	PO_4-P µgA/l.	NO_3-N µgA/l.	NO_2-N µgA/l	SiO_3 Si µgA/l.		
1	20.09	35.391	5.30	0.25	1.2	0.19	2.6		
5	20.19	35.386	5.35	0.26	1.2	0.20	3.7		
10	19.96	35.393	5.37	0.26	1.5	0.19	2.8		
18	17.77	35.390	5.09	0.31	2.2	0.25	3.2		

DEPTH	Chl. a µg/l.	INSITU C^{14} µgC/l/d	C^{14}-1000 fc µgC/l/d.	
1	0.99	29.8	96.0	
5	1.31	26.3	93.6	
13	1.06	46.4	90.7	

REDUCED DATA

U. S. PROGRAM IN BIOLOGY — INTERNATIONAL INDIAN OCEAN PROGRAM

STATION NO. 357
CRUISE NO. 7
VESSEL *R/V ANTON BRUUN*
DATE 29-VII-64
RELIABILITY OF DEPTH

LAT. 29°10'S
LONG. 31°51'E
DEPTH 43.9 m.
TIME 2254
WIND Force 4; Dir. 05

PRIMARY PROD. g C /m²/day
EXT. COEFF. (k)
RADIATION g.cal./cm²/day
ZOOPLANKTON VOL.
IOSN STD. TOW ml./m.²

DEPTH	TEMP.	SAL. ‰	O_2 ml./l.	PO_4-P µgA/l.	NO_3-N µgA/l.	NO_2-N µgA/l.	SiO_3 Si µgA/l.			DEPTH	Chl. a µg/l.	INSITU C^{14} µgC/l./d	C^{14}-1000 fc µgC/l./d.	
1	19.63	35.384	5.39	0.24	1.4	0.37	4.4							
7	19.64	35.382	5.37	0.26	1.6	0.38	2.6							
15	19.49	35.352	5.22	0.31	2.4	0.57	3.1							
30	19.26	35.380	5.10	0.38	3.5	0.81	4.0							
43	19.20	35.384	5.12	0.39		0.83	4.4							

REDUCED DATA

U. S. PROGRAM IN BIOLOGY — INTERNATIONAL INDIAN OCEAN PROGRAM

STATION NO. 358
CRUISE NO. 7
VESSEL *R/V ANTON BRUUN*
DATE 30-VII-64
RELIABILITY OF DEPTH

LAT. 29°12'S
LONG. 32°06'E
DEPTH 431.6 m.
TIME 1058
WIND Force 4; Dir. 32

PRIMARY PROD. .38 g C /m²/day
EXT. COEFF. (k) 0.064
RADIATION 206 g.cal./cm.²/day
ZOOPLANKTON VOL.
IOSN STD. TOW ml./m.²

DEPTH	TEMP.	SAL. ‰	O_2 ml./l.	PO_4-P µgA/l.	NO_3-N µgA/l.	NO_2-N µgA/l.	SiO_3 Si µgA/l.		
1	21.79	35.372	5.08	0.18	µ	0.01	2.0		
46	21.63	35.396	4.88	0.21	0.8	0.09	2.5		
69	21.32	35.410	4.80	0.24	1.3	0.10	3.0		
92	19.66	35.366	4.24	0.53	5.9	0.14	5.7		
115	18.07	35.354	3.66	0.72	9.1	0.05	7.8		
138	17.32	35.396	3.82	0.76	9.4	0.05	8.4		
183	15.99	35.374	3.85	0.83	11.0	0.03	9.0		
275	13.99	35.316	4.48	0.80	10.8	0.02	7.6		
367	12.19	35.128	4.54	1.06	14.1	0.02	8.8		
399	11.48	35.049	4.58	1.12	15.3	0.02	9.2		

DEPTH	Chl. a µg/l.	INSITU C^{14} µgC/l/d	C^{14}-1000 fc µgC/l/d.	
1	0.38	6.2	17.0	
12	0.32	5.8	11.8	
23	0.25	7.4	27.6	
56	0.21	4.5	23.1	
72	0.31	0.8	15.6	

REDUCED DATA

U. S. PROGRAM IN BIOLOGY — INTERNATIONAL INDIAN OCEAN PROGRAM

STATION NO. 359
CRUISE NO. 7
VESSEL *R/V ANTON BRUUN*
DATE 31-VII-64
RELIABILITY OF DEPTH

LAT. 28°35'S
LONG. 32°40'E
DEPTH 997
TIME 0135
WIND Force 4; Dir. 26

PRIMARY PROD. .37 g C /m²/day
EXT. COEFF. (k) 0.064
RADIATION 200 gcal./cm²/day
ZOOPLANKTON VOL.
IOSN STD. TOW 16.0 ml./m.²

DEPTH	TEMP.	SAL. ‰	O_2 ml./l.	PO_4-P µgA/l.	NO_3-N µgA/l.	NO_2-N µgA/l.	SiO_3 Si µgA/l.			DEPTH	Chl. a µg/l.	INSITU C^{14} µgC/l/d	C^{14}-1000 fc µgC/l/d.	
1	21.74	35.368	5.10	0.16	µ	0.00	3.4			1	0.27	3.4	19.4	
30	21.75	35.400	5.10	0.17	0.4	0.00	3.1			12	0.33	5.8	28.7	
60	21.60	35.431	5.00	0.17	0.5	0.05	3.5			23	0.50	6.6	18.8	
99	21.28	35.465	5.03	0.18	0.5	0.07	2.0			36	0.22	8.0	21.0	
124	20.30	35.469	4.85	0.38	3.3	0.09	4.8			72	0.20	0.8	4.2	
149	18.54	35.471	4.02	0.58	5.8	0.04	7.0							
199	16.57	35.465	4.24	0.67	7.3	0.05	6.5							
298	14.20	35.342	4.53	0.77	9.2	0.04	7.3							
397	12.45	35.144	4.40	1.04	13.1	0.03	10.5							
595	9.95	34.858	4.66	1.33	17.3	µ	11.8							
795	7.75	34.727	3.62	1.99	26.6	0.01	33.2							
993	5.25	34.640	2.80	2.36	31.3	0.02	56.5							

REDUCED DATA

U. S. PROGRAM IN BIOLOGY — INTERNATIONAL INDIAN OCEAN PROGRAM

STATION NO. 360
CRUISE NO. 7
VESSEL *R/V ANTON BRUUN*
DATE 31-VII-64
RELIABILITY OF DEPTH

LAT. 27° 38' S
LONG. 33° 24' E
DEPTH 1379 m.
TIME 2035
WIND Force 2; Dir. 11

PRIMARY PROD. .41 g C /m²/day
EXT. COEFF. (k) 0.064
RADIATION 253 g.cal./cm.²/day
ZOOPLANKTON VOL.
IOSN STD. TOW 14.5 ml./m.²

DEPTH	TEMP.	SAL. ‰	O_2 ml./l.	PO_4-P µgA/l.	NO_3-N µgA/l.	NO_2-N µgA/l.	SiO_3 Si µgA/l.			DEPTH	Chl. a µg/l.	INSITU C^{14} µgC/l/d	C^{14}-1000 fc µgC/l./d.	
1	21.31	35.438	5.10	0.09	0.1	0.00	2.7			1	0.32	3.0	7.7	
66	21.01	35.482	5.01	0.10	0.3	0.08	1.9			12	0.31	5.1	8.6	
96	20.85	35.492		0.08	1.3	0.04	2.5			23	0.34	6.1	16.9	
125	20.70	35.500	4.82	0.16	0.2	0.09	3.0			36	0.31	6.7	11.5	
160	19.11	35.504	4.24	0.36	4.6	0.04	4.0			72	0.38	5.6	11.2	
185	18.08	35.512	4.33	0.39	4.9	0.04	5.2							
210	17.33	35.538	4.60	0.38	5.1	0.03	4.4							
235	16.62	35.527	4.79	0.40	4.8	0.02	3.7							
335	14.54	35.412	4.81	0.58	7.5	0.02	4.8							
434	13.08	35.256	5.00	0.68	10.5	0.01	4.8							
633	10.57	34.925	5.00	1.05	15.6	0.01	7.2							
832	8.26	34.703	4.24	1.59	23.4	0.03	21.7							
1130	4.69	34.610	3.47	2.29	32.6	0.05	58.5							
1376	3.15	34.707	3.70	2.34	32.9	0.04	75.3							

REDUCED DATA

U. S. PROGRAM IN BIOLOGY — INTERNATIONAL INDIAN OCEAN PROGRAM

STATION NO. 361
CRUISE NO. 7
VESSEL *R/V ANTON BRUUN*
DATE 1-VIII-64
RELIABILITY OF DEPTH

LAT. 26°35'S
LONG. 35°57'E
DEPTH 1826 m.
TIME 2056
WIND Force 1; Dir. 12

PRIMARY PROD. .11 g C /m²/day
EXT. COEFF. (k) 0.064
RADIATION 258 g.cal./cm.²/day
ZOOPLANKTON VOL.
IOSN STD. TOW 12.0 ml./m.²

DEPTH	TEMP.	SAL. ‰	O_2 ml./l.	PO_4-P µgA/l.	NO_3-N µgA/l.	NO_2-N µgA/l.	SiO_3 Si µgA/l.
1	21.58	35.392	5.16	0.13	0.1	0.02	3.3
56	21.50	35.390	5.07	0.15	0.1	0.01	3.3
81	21.44	35.383	5.05	0.15	0.2	0.06	2.7
121	21.43	35.410	4.95	0.21	0.4	0.15	2.7
161	20.40	35.518	4.50	0.37	2.3	0.08	3.9
201	19.31	35.567	4.42	0.43	3.7	0.04	3.7
241	17.41	35.559	4.63	0.50	4.3	0.06	3.2
341	14.97	35.457	5.07	0.65	6.8	0.20	4.5
441	13.49	35.312	4.80	0.77	8.8	0.03	4.2
640	11.08	35.014	5.15	1.05	13.3	0.00	5.8
839	8.26	34.729	4.79	1.47	19.2	0.02	14.0
1040	5.59	34.545	4.00	2.18	28.9	0.15	39.8
1238	4.36	34.608	3.52	2.45	31.4	0.03	60.8
1536	3.39	34.713	3.55	2.50	32.7	0.03	75.0
1846	2.54	34.787	4.43	2.19	29.7	0.07	73.5
1861	2.50	34.791	4.43	2.12	29.1	0.02	71.0

DEPTH	Chl. a µg/l.	INSITU C^{14} µgC/l/d	C^{14}-1000 fc µgC/l./d.
1	0.05	0.2	3.7
12	0.05	2.4	3.6
23	0.05	2.1	3.9
36	0.14	1.7	2.4
72	0.21	0.7	8.8

REDUCED DATA

U. S. PROGRAM IN BIOLOGY — INTERNATIONAL INDIAN OCEAN PROGRAM

STATION NO. 362
CRUISE NO. 7
VESSEL *R/V ANTON BRUUN*
DATE 3-VIII-64
RELIABILITY OF DEPTH

LAT. 24°53'S
LONG. 39°18'E
DEPTH 3676 m.
TIME 1002
WIND Force 4; Dir. 13

PRIMARY PROD. .21 g C /m²/day
EXT. COEFF. (k) 0.05
RADIATION 292 g.cal./cm²/day
ZOOPLANKTON VOL.
IOSN STD. TOW 7.5 ml./m.²

DEPTH	TEMP.	SAL. ‰	O_2 ml./l.	PO_4-P µgA/l.	NO_3-N µgA/l.	NO_2-N µgA/l.	SiO_3 Si µgA/l.		
1	20.95	35.495	5.19	0.16	0.1	0.03	2.1		
25	20.91	35.496	5.19	0.41	0.0	0.01	2.5		
50	20.61	35.514	5.21	0.13	µ	0.02	1.7		
75	20.22	35.551	5.13	0.14	0.1	0.09	2.2		
100	20.03	35.555	4.47	0.14	0.2	0.22	2.2		
125	18.75	35.595	4.46	0.36	2.5	0.04	3.2		
150	17.73	35.542	4.52	0.42	4.4	0.06	4.2		
200	16.41	35.535	4.79	0.45	4.2	0.05	3.7		
300	14.44	35.410	4.96	0.58	6.8	0.08	3.7		
386	13.20	35.269	4.88	0.79	9.6	0.02	5.4		
585	10.50	34.911	5.03	1.12	14.9	0.05	7.2		
784	7.05	34.566	4.57	1.79	24.4	0.03	20.6		
1082	4.36	34.605	3.55	2.43	25.9	0.05	60.0		
1381	3.56	34.723	3.38	2.55	31.6	0.04	77.8		
1680	2.88	34.750	3.87	2.38	30.9	0.06	79.0		
2078	2.48	34.793	4.44	2.17	29.8	0.03	74.6		
2476	2.27	34.822	4.84	2.02	28.1	0.02	86.0		
2874	1.98	34.820	5.01	2.02	27.1	0.00	74.0		
3272	1.51	34.780	5.06	2.02	28.6	0.03	87.1		
3657	1.20	34.756	5.07	2.02	29.9	0.01	96.7		
3672	1.17	34.756	5.06	2.05	28.2	0.02	96.4		

DEPTH	Chl a µg/l.	INSITU C^{14} µgC/l/d	C^{14}-1000 fc µgC/l/d.	
1	0.08	1.9	10.2	
14	0.07	1.4	10.1	
28	0.15	3.3	18.5	
47	0.16	3.5	13.2	
94	0.05	0.4	1.2	

REDUCED DATA

U. S. PROGRAM IN BIOLOGY — INTERNATIONAL INDIAN OCEAN PROGRAM

STATION NO. 363
CRUISE NO. 7
VESSEL *R/V ANTON BRUUN*
DATE 4-VIII-64
RELIABILITY OF DEPTH

LAT. 23°46'S
LONG. 43°07'E
DEPTH 3085 m.
TIME 2327
WIND Force 2; Dir. 16

PRIMARY PROD. .47 g C /m²/day
EXT. COEFF. (k) 0.05
RADIATION 283 g.cal./cm.²/day
ZOOPLANKTON VOL.
IOSN STD. TOW 22.0 ml./m.²

DEPTH	TEMP.	SAL. ‰	O_2 ml./l.	PO_4-P µgA/l.	NO_3-N µgA/l.	NO_2-N µgA/l.	SiO_3 Si µgA/l.			DEPTH	Chl. a µg/l.	INSITU C^{14} µgC/l./d	C^{14}-1000 fc µgC/l./d.	
1	23.25	35.252	5.08	0.22	0.1	µ	3.7			1	0.09	4.6	9.8	
35	23.15	35.252	5.04	0.22	0.2	0.01	4.2			14	0.14	3.5	6.1	
70	22.64	35.279	4.62	0.33	1.5	0.45	3.3			28	0.15	6.8	8.9	
100	21.62	35.296	4.13	0.45	4.5	0.10	4.6			47	0.44	7.6	21.7	
125	20.67	35.282	3.62	0.62	7.1	0.16	7.1			94	0.06	1.4	1.2	
150	19.34	35.468	4.12	0.48	5.4	0.05	4.7							
175	18.06	35.543	4.45	0.42	4.3	0.04	4.5							
200	16.98	35.538	4.58	0.41	4.9	0.05	4.8							
299	14.09	35.367	4.93	0.65	7.6	0.07	4.8							
286	14.63	35.410	4.83	0.65	7.4	0.02	4.7							
486	11.23	35.019	5.13	1.00	12.7	0.02	5.9							
685	8.28	34.702	4.43	1.67	22.4	0.04	19.4							
984	5.91	34.726	2.78	2.41	31.9	0.02	58.4							
1283	4.69	34.779	2.61	2.61	34.1	0.04	79.5							
1582	3.65	34.766	3.10	2.57	33.7	0.03	86.7							
1981	2.82	34.765	3.86	2.36	32.0	0.02	94.3							
2380	2.42	34.764	4.35	2.18	30.3	0.02	--							
2780	2.24	34.789	4.77	2.02	29.0	0.02	75.5							
3030	2.02	34.811	4.94	1.99	28.4	0.03	77.3							
3081	2.01	34.810	4.94	2.02	27.2	0.02	76.2							

REDUCED DATA

U. S. PROGRAM IN BIOLOGY — INTERNATIONAL INDIAN OCEAN PROGRAM

STATION NO. 364
CRUISE NO. 7
VESSEL *R/V ANTON BRUUN*
DATE 12-VIII-64
RELIABILITY OF DEPTH

LAT. 23° 20' S
LONG. 43° 36' E
DEPTH 49.4 m.
TIME 1046
WIND Force 3; Dir. 22

PRIMARY PROD. 1.44 g C /m²/day
EXT. COEFF. (k) 0.05
RADIATION 317 g.cal./cm²/day
ZOOPLANKTON VOL.
IOSN STD. TOW ml./m.²

DEPTH	TEMP.	SAL. ‰	O_2 ml./l.	PO_4-P µgA/l.	NO_3-N µgA/l.	NO_2-N µgA/l.	SiO_3 Si µgA/l.		
1	22.68	35.310	4.96	0.17	0.2	0.04	2.8		
7	22.65	35.276	4.96	0.16	0.4	0.05	2.7		
15	22.55	35.312	5.08	0.16	0.2	0.03	1.8		
30	22.51	35.306	4.97	0.16	0.3	0.05	2.7		
50	22.40	35.321	4.92	0.17	0.3	0.08	2.6		

DEPTH	Chl. a µg/l.	INSITU C^{14} µgC/l./d	C^{14}-1000 fc µgC/l./d.	
1	0.46	16.8	75.5	
8	0.44	23.0	68.5	
16	0.47	31.1	76.7	
28	0.44	26.6	71.0	
56	0.70	26.1	55.5	

REDUCED DATA

U. S. PROGRAM IN BIOLOGY — INTERNATIONAL INDIAN OCEAN PROGRAM

STATION NO. 365
CRUISE NO. 7
VESSEL *R/V ANTON BRUUN*
DATE 12-VIII-64
RELIABILITY OF DEPTH

LAT. 23°19.6'S
LONG. 43°33.3'E
DEPTH 440 m.
TIME 1343
WIND Force 4; Dir. 20

PRIMARY PROD. .37 g C /m²/day
EXT. COEFF. (k) 0.05
RADIATION 330 g.cal./cm.²/day
ZOOPLANKTON VOL.
IOSN STD. TOW 20.0 ml./m.²

DEPTH	TEMP.	SAL. ‰	O_2 ml./l.	PO_4-P µgA/l.	NO_3-N µgA/l.	NO_2-N µgA/l.	SiO_3 Si µgA/l.			DEPTH	Chl a µg/l.	INSITU C^{14} µgC/l./d	C^{14}-1000 fc µgC/l./d.	
1	23.18	35.272	4.99	0.13	0.1	µ	2.6			1	0.12	2.2	9.5	
15	22.95	35.258	5.00	0.14	0.1	0.01	2.6			14	0.14	2.7	6.8	
40	22.78	35.275	4.96	0.13	0.0	0.00	2.4			28	0.24	5.4	12.2	
65	22.75	35.290	4.90	0.16	0.3	0.08	2.2			47	0.37	6.1	11.2	
90	22.74	35.305	4.84	0.17	0.6	0.12	2.4			94	0.23	1.3	4.6	
130	22.01	35.438	4.90	0.16	0.3	0.08	2.0							
150	--	35.460	4.90	0.17	0.5	0.19	2.0							
190	18.59	35.502	4.12	0.49	5.8	0.05	5.0							
290	14.45	35.402	4.81	0.60	7.9	0.04	4.4							
439	12.14	35.152	5.07	0.76	11.5	0.03	5.0							

REDUCED DATA

U. S. PROGRAM IN BIOLOGY — INTERNATIONAL INDIAN OCEAN PROGRAM

STATION NO. 366
CRUISE NO. 7
VESSEL *R/V ANTON BRUUN*
DATE 12-VIII-64
RELIABILITY OF DEPTH

LAT. 23°13'S
LONG. 43°13'E
DEPTH 2286 m.
TIME 2257
WIND Force 0; Dir. 00

PRIMARY PROD. .73 g C /m²/day
EXT. COEFF. (k) 0.05
RADIATION 330 g.cal./cm²/day
ZOOPLANKTON VOL.
IOSN STD. TOW 37.0 ml./m.²

DEPTH	TEMP.	SAL. ‰	O_2 ml./l.	PO_4-P µgA/l.	NO_3-N µgA/l.	NO_2-N µgA/l.	SiO_3 Si µgA/l.			DEPTH	Chl. a µg/l.	INSITU C^{14} µgC/l./d	C^{14}-1000 fc µgC/l./d.	
1	22.87	35.295	5.02	0.25	0.2	µ	3.4			1	0.26	4.0	7.8	
30	22.77	35.289	4.99	0.24	0.3	0.02	2.4			14	0.17	9.6	5.6	
75	22.53	35.306	4.82	0.27	0.8	0.30	2.4			28	0.32	12.1	14.1	
100	21.78	35.441	4.91	0.27	0.7	0.21	3.1			47	0.40	11.3	12.8	
125	21.51	35.467	4.84	0.29	0.9	0.31	2.7			94	0.20	0.0	2.8	
156	--	35.321	3.49	0.70	8.3	0.06	6.7							
181	18.66	35.502	4.19	0.52	5.1	0.07	5.0							
206	17.51	35.531	4.43	0.52	5.1	0.04	4.8							
281	15.04	35.422	4.49	0.73	8.4	0.04	5.5							
306	14.31	35.374	4.70	0.72	8.6	0.06	5.5							
405	12.39	35.155	5.05	0.87	11.0	0.05	5.3							
505	10.81	34.965	5.05	1.04	14.5	0.04	7.1							
705	8.09	34.721	4.05	1.77	24.7	0.04	25.5							
904	6.15	34.717	2.94	2.31	26.8	0.05	53.2							
1103	5.28	34.763	2.57	2.54	--	0.03	68.9							
1401	4.10	34.766	2.89	2.60	33.6	0.05	81.7							
1799	2.91	34.760	3.69	2.45	32.9	0.05	83.9							
2298	2.38	34.804	4.40	2.16	30.4	0.05	78.8							

REDUCED DATA

U. S. PROGRAM IN BIOLOGY — INTERNATIONAL INDIAN OCEAN PROGRAM

STATION NO. 367
CRUISE NO. 7
VESSEL *R/V ANTON BRUUN*
DATE 13-VIII-64
RELIABILITY OF DEPTH

LAT. 22°34'S
LONG. 41°16'E
DEPTH 3350 m.
TIME Force 3; Dir. 34
WIND

PRIMARY PROD. .20 g C /m²/day
EXT. COEFF. (k) 0.05
RADIATION 287 g.cal./cm.²/day
ZOOPLANKTON VOL.
IOSN STD. TOW 15.0 ml./m.²

DEPTH	TEMP.	SAL. ‰	O_2 ml/l.	PO_4-P µgA/l.	NO_3-N µgA/l.	NO_2-N µgA/l.	SiO_3 Si µgA/l.			DEPTH	Chl. a µg/l.	INSITU C^{14} µgC/l/d	C^{14}-1000 fc µgC/l/d.	
1	22.17	35.466	5.33	0.16	0.1	0.07	2.4			1	0.06	1.4	6.7	
25	21.82	35.449	5.05	0.16	0.1	0.06	1.7			14	0.06	4.2	5.8	
50	21.69	35.457	5.05	0.16	µ	0.03	1.4			28	0.02	1.5	7.9	
75	21.09	35.457	4.90	0.21	1.3	0.02	1.9			47	0.06	1.8	7.0	
100	19.58	35.494	4.40	0.42	4.5	0.12	4.1			94	0.18	2.0	2.8	
125	18.78	35.512	4.26	0.35	5.1	0.08	3.9							
150	17.89	35.568	4.49	0.37	4.4	0.06	3.9							
200	16.06	35.523	4.84	0.40	5.2	0.07	3.3							
300	13.79	35.339	5.00	0.62	8.6	0.07	3.9							
305	13.44	35.306	5.00	0.64	9.2	0.06	4.1							
504	10.70	34.955	4.66	1.14	16.3	0.04	9.8							
703	8.74	34.774	3.92	1.56	23.5	0.03	21.6							
1001	6.43	34.747	2.81	2.28	31.2	0.02	53.6							
1299	5.00	34.792	2.48	2.52	33.7	0.02	77.8							
1598	3.70	34.760	3.04	2.51	34.2	0.03	86.6							
1997	2.72	34.764	4.10	2.18	30.1	0.02	78.3							
2396	2.41	34.800	4.62	2.00	29.0	0.04	71.4							
2794	2.16	34.811	4.96	1.80	28.0	0.02	66.0							
3317	1.85	34.800	5.01	1.92	28.5	0.02	77.9							
3342	1.84	34.792	5.01	1.92	28.4	0.02	78.2							

REDUCED DATA

U. S. PROGRAM IN BIOLOGY — INTERNATIONAL INDIAN OCEAN PROGRAM

STATION NO. 368
CRUISE NO. 7
VESSEL *R/V ANTON BRUUN*
DATE 16-VIII-64
RELIABILITY OF DEPTH

LAT. 23°04'S
LONG. 38°35'E
DEPTH 3030 m.
TIME 0127
WIND Force 3; Dir. 22

PRIMARY PROD. .43 g C /m²/day
EXT. COEFF. (k) 0.05
RADIATION 262 g.cal./cm²/day
ZOOPLANKTON VOL.
IOSN STD. TOW 12.0 ml./m.²

DEPTH	TEMP.	SAL. ‰	O_2 ml./l.	PO_4-P µgA/l.	NO_3-N µgA/l.	NO_2-N µgA/l.	SiO_3 Si µgA/l.		
1	21.81	35.386	5.10	0.17	µ	0.01	3.3		
25	21.76	35.381	5.11	0.17	0.0	0.01	3.3		
50	21.21	35.445	5.16	0.17	0.1	0.01	2.4		
75	20.74	35.492	4.88	0.14	0.6	0.05	2.9		
100	19.19	35.537	4.51	0.21	3.2	0.12	4.6		
125	18.13	35.550	4.48	0.35	4.2	0.05	4.5		
150	17.25	35.549	4.78	0.39	4.0	0.06	4.1		
200	16.09	35.528	4.73	0.50	5.3	0.08	4.4		
300	13.84	35.349	5.07	--	8.1	0.07	4.1		
305	13.88	35.348	5.07	--	8.3	0.03	4.6		
405	12.75	35.216	5.15	0.78	10.5	0.02	5.1		
605	9.55	34.801	5.06	1.22	--	0.04	8.5		
1001	5.85	34.699	2.92	2.31	32.8	0.03	58.8		
1200	4.81	34.750	2.69	2.53	--	0.05	74.9		
1498	3.43	34.750	3.30	2.45	34.1	0.03	87.9		
1795	2.81	34.734	3.91	2.24	31.6	0.03	83.7		
2196	2.43	34.800	4.35	2.09	30.0	0.00	76.3		
2592	2.15	34.810	4.92	1.97	28.5	0.00	72.1		
3010	1.66	34.798	5.02	1.97	28.5	0.03	84.1		
3020	1.66	34.789	5.01	2.02	29.6	0.00	84.1		

DEPTH	Chl. a µg/l.	INSITU C^{14} µgC/l/d	C^{14}-1000 fc µgC/l/d.	
1	0.07	4.7	13.7	
14	0.09	5.0	14.8	
28	0.12	6.6	11.9	
47	0.10	5.8	18.0	
94	0.07	1.6	1.2	

REDUCED DATA

U. S. PROGRAM IN BIOLOGY — INTERNATIONAL INDIAN OCEAN PROGRAM

STATION NO. 369
CRUISE NO. 7
VESSEL *R/V ANTON BRUUN*
DATE 17-VIII-64
RELIABILITY OF DEPTH

LAT. 23°48'S
LONG. 36°48'E
DEPTH 2187 m.
TIME 0048
WIND Force 6; Dir. 35

PRIMARY PROD. 1.00 g C /m²/day
EXT. COEFF. (k) 0.049
RADIATION 290 g.cal./cm²/day
ZOOPLANKTON VOL.
IOSN STD. TOW 7.0 ml./m.²

DEPTH	TEMP.	SAL. ‰	O_2 ml./l.	PO_4-P µgA/l.	NO_3-N µgA/l.	NO_2-N µgA/l.	SiO_3 Si µgA/l.			DEPTH	Chl. a µg/l.	INSITU C^{14} µgC/l/d	C^{14}-1000 fc µgC/l/d.	
1	21.21	35.447	5.17	0.13	0.2	0.00	2.2			1	0.10	0.6	6.8	
25	21.24	35.447	5.13	0.12	0.2	0.02	3.0			14	0.22	3.3	9.1	
50	20.92	35.457	5.05	0.13	0.4	0.14	2.4			28	0.10	0.8	7.3	
75	20.41	35.502	4.84	0.20	1.3	0.17	3.0			47	0.07	0.9	8.2	
100	19.52	35.542	4.42	0.31	3.2	0.13	4.0			94	0.12	0.4	1.5	
125	18.88	35.541	4.37	0.41	4.5	0.04	4.5							
150	18.10	35.557	4.39	0.43	4.7	0.06	4.4							
200	16.79	35.551	4.52	0.36	3.9	0.06	4.2							
277	14.71	35.445	4.93	0.55	6.2	0.08	4.2							
376	13.20	35.279	5.00	0.70	6.3	0.05	4.8							
576	10.62	34.941	4.76	1.14	16.0	0.05	9.1							
774	8.50	34.747	3.88	1.71	23.7	0.09	24.8							
973	6.88	34.770	2.69	2.30	30.7	0.06	51.4							
1171	4.71	34.670	3.14	2.41	32.7	0.06	64.5							
1469	3.28	34.728	3.60	2.35	32.4	0.04	78.0							
1768	2.73	34.757	4.03	2.24	31.0	0.08	80.0							
2138	2.34	34.804	4.70	1.99	28.7	0.00	71.5							
2168	2.36	34.805	4.70	1.98	28.5	0.01	72.6							

REDUCED DATA

U. S. PROGRAM IN BIOLOGY — INTERNATIONAL INDIAN OCEAN PROGRAM

STATION NO. 370
CRUISE NO. 7
VESSEL *R/V ANTON BRUUN*
DATE 17-VIII-64
RELIABILITY OF DEPTH

LAT. 24°19'S
LONG. 35°46'E
DEPTH 920 m.
TIME 2028
WIND Force 5, Dir. 16

PRIMARY PROD. 1.21 g C /m²/day
EXT. COEFF. (k) 0.047
RADIATION 296 g.cal./cm²/day
ZOOPLANKTON VOL.
IOSN STD. TOW 21.0 ml./m.²

DEPTH	TEMP.	SAL. ‰	O_2 ml./l.	PO_4-P µgA/l.	NO_3-N µgA/l.	NO_2-N µgA/l.	SiO_3 Si µgA/l.		
1	22.19	35.325	5.11	0.12	0.1	0.02	2.6		
39	22.18	35.323	5.07	0.12	--	0.03	2.8		
63	21.81	35.375	4.99	0.12	0.4	0.11	--		
88	21.37	35.414	4.98	0.15	0.7	0.17	2.2		
113	21.07	35.421	4.58	0.22	2.0	0.12	3.3		
137	19.83	35.333	3.56	0.47	6.9	0.07	6.1		
162	18.52	35.272	3.11	0.90	11.9	0.03	9.9		
187	17.57	35.428	3.82	0.65	--	0.04	7.7		
299	--	35.543	4.60	0.39	--	0.04	4.2		
407	12.49	35.143	4.33	1.02	13.9	0.03	9.7		
603	9.88	34.856	4.45	1.37	19.2	0.04	13.7		
789	7.84	34.766	3.61	1.83	25.2	0.04	29.6		
915	5.69	34.738	2.74	2.32	--	0.04	61.7		

DEPTH	Chl. a µg/l.	INSITU C^{14} µgC/l/d	C^{14}-1000 fc µgC/l/d.	
1	0.18	14.8	8.8	
15	0.15	15.3	6.9	
30	0.17	15.9	6.7	
50	0.22	14.4	16.5	
100	0.11	4.3	3.3	

REDUCED DATA

U. S. PROGRAM IN BIOLOGY — INTERNATIONAL INDIAN OCEAN PROGRAM

STATION NO. 371
CRUISE NO. 7
VESSEL *R/V ANTON BRUUN*
DATE 18-VIII-64
RELIABILITY OF DEPTH

LAT. 24°42'S
LONG. 35°23'E
DEPTH 190 m.
TIME Force 4; Dir. 12
WIND

PRIMARY PROD. .69 g C /m²/day
EXT. COEFF. (k) 0.06
RADIATION 316 g.cal./cm²/day
ZOOPLANKTON VOL.
IOSN STD. TOW 9.5 ml./m.²

DEPTH	TEMP.	SAL. ‰	O_2 ml./l.	PO_4-P µgA/l.	NO_3-N µgA/l.	NO_2-N µgA/l.	SiO_3 Si µgA/l.		
1	22.55	35.295	5.17	0.17	0.2	0.06	2.6		
16	22.46	35.290	5.19	0.19	0.0	0.02	3.5		
46	22.32	35.292	5.07	0.17	0.3	0.03	1.9		
71	21.49	35.352	4.64	0.34	2.7	0.22	3.9		
96	20.84	35.358	4.36	0.46	4.4	0.20	6.3		
121	18.81	35.433	5.17	0.54	--	0.09	6.0		
146	17.64	35.374	4.05	0.73	8.4	0.08	8.5		
186	15.60	35.325	4.02	0.90	12.2	0.11	10.6		

DEPTH	Chl. a µg/l.	INSITU C^{14} µgC/l./d	C^{14}-1000 fc µgC/l./d.	
1	0.28	13.3	23.4	
13	0.29	6.3	41.9	
26	0.46	8.2	42.2	
39	0.50	14.7	18.4	
78	0.29	2.4	4.2	

REDUCED DATA

U. S. PROGRAM IN BIOLOGY — INTERNATIONAL INDIAN OCEAN PROGRAM

STATION NO. 372
CRUISE NO. 7
VESSEL *R/V ANTON BRUUN*
DATE 19-VIII-64
RELIABILITY OF DEPTH

LAT. 24°48'S
LONG. 34°59'E
DEPTH 45.7 m.
TIME 0600
WIND Force 3, Dir. 10

PRIMARY PROD. 1.44 g C /m²/day
EXT. COEFF. (k)
RADIATION 311 g.cal./cm²/day
ZOOPLANKTON VOL.
IOSN STD. TOW ml./m.²

DEPTH	TEMP.	SAL. ‰	O_2 ml./l.	PO_4-P µgA/l.	NO_3-N µgA/l.	NO_2-N µgA/l.	SiO_3 Si µgA/l.		
1	21.57	35.315	5.05	0.20	0.4	0.11	3.0		
5	21.57	35.314	5.01	0.20	0.4	0.11	3.3		
14	21.55	35.312	5.03	0.22	0.5	0.12	2.8		
29	21.57	35.312	5.00	0.21	0.6	0.11	2.6		
43	21.62	35.310	5.02	0.21	0.4	0.09	2.8		

DEPTH	Chl. a µg/l.	INSITU C^{14} µgC/l/d	C^{14}-1000 fc µgC/l/d.	
1	1.23	42.9	172.2	
5	1.01	32.7	153.4	
15	1.31	35.2	180.1	
30	1.28	30.6	167.2	
45	1.25	30.8	175.2	

REDUCED DATA

U. S. PROGRAM IN BIOLOGY — INTERNATIONAL INDIAN OCEAN PROGRAM

STATION NO. 373
CRUISE NO. 7
VESSEL *R/V ANTON BRUUN*
DATE 22-VIII-64
RELIABILITY OF DEPTH

LAT. 26°01'S
LONG. 33°04'E
DEPTH 112 m.
TIME 1933
WIND Force 4; Dir. 70

PRIMARY PROD. 3.05 g C /m²/day
EXT. COEFF. (k) 0.06
RADIATION 217 gcal./cm²/day
ZOOPLANKTON VOL.
IOSN STD. TOW ml./m.²

DEPTH	TEMP.	SAL. ‰	O_2 ml./l.	PO_4-P µgA/l.	NO_3-N µgA/l.	NO_2-N µgA/l.	SiO_3 Si µgA/l.			DEPTH	Chl. a µg/l.	INSITU C^{14} µgC/l/d	C^{14}-1000 fc µgC/l/d.	
1	21.15	35.376	5.30	0.20	0.4	0.04	2.6			1	1.80	83.1	86.1	
16	21.15	35.368	5.25	0.16	0.4	0.05	4.0			13	1.87	28.4	65.9	
41	21.10	35.370	5.25	0.23	0.6	0.07	2.0			26	2.13	75.6	96.0	
76	21.11	35.370	5.27	0.24	0.7	0.07	2.4			39	1.40	30.5	102.5	
91	21.09	35.371	5.24	0.24	0.7	0.06	3.5			78	1.71	21.6	120.1	
111	20.87	35.372	5.06	0.29	1.6	0.08	3.0							

REDUCED DATA

U. S. PROGRAM IN BIOLOGY — INTERNATIONAL INDIAN OCEAN PROGRAM

STATION NO. 374
CRUISE NO. 7
VESSEL *R/V ANTON BRUUN*
DATE 23-VIII-64
RELIABILITY OF DEPTH

LAT. 26°57'S
LONG. 33°53'E
DEPTH 923 m.
TIME 1032
WIND Force 5; Dir. 35

PRIMARY PROD. .39 g C /m²/day
EXT. COEFF. (k) 0.09
RADIATION 209 g.cal./cm.²/day
ZOOPLANKTON VOL.
IOSN STD. TOW 9.5 ml./m.²

DEPTH	TEMP.	SAL. ‰	O_2 ml./l.	PO_4-P µgA/l.	NO_3-N µgA/l.	NO_2-N µgA/l.	SiO_3 Si µgA/l.		
1	21.97	35.321	5.09	0.21	0.3	0.03	4.6		
16	21.96	35.321	5.06	0.23	0.3	0.03	8.7		
41	21.92	35.334	5.06	0.31	0.4	0.04	2.7		
66	21.51	35.392	4.74	0.31	1.9	0.23	4.4		
91	20.69	35.469	5.06	0.26	0.5	0.12	7.1		
116	20.23	35.486	4.74	0.34	1.7	0.11	3.1		
141	18.98	35.500	5.25	0.51	4.6	0.07	5.0		
191	17.12	35.500	5.44	0.61	6.4	0.04	7.0		
291	14.61	35.408	4.82	0.74	7.6	0.04	3.8		
391	13.02	35.250	5.08	--	9.6	0.03	6.3		
491	11.77	35.086	5.17	0.94	13.4	0.03	8.9		
591	10.48	34.916	5.09	1.12	15.1	0.03	7.6		
790	8.02	34.733	3.74	1.81	24.9	0.06	31.0		
889	7.44	34.720	3.40	2.15	29.7	0.04	45.8		
919	6.96	34.714	3.29	2.11	28.7	0.04	42.3		

DEPTH	Chl. a µg/l.	INSITU C^{14} µgC/l/d	C^{14}-1000 fc µgC/l/d.	
1	0.28	6.0	44.9	
8	0.26	1.4	38.1	
15	0.20	8.1	53.0	
26	0.26	2.4	47.3	
52	0.35	3.7	53.6	

REDUCED DATA

U. S. PROGRAM IN BIOLOGY — INTERNATIONAL INDIAN OCEAN PROGRAM

STATION NO. 375
CRUISE NO. 7
VESSEL *R/V ANTON BRUUN*
DATE 24-VIII-64
RELIABILITY OF DEPTH

LAT. 27°58'S
LONG. 35°16'E
DEPTH 1828 m.
TIME 0430
WIND Force 6; Dir. 20

PRIMARY PROD. 0.00 g C /m²/day
EXT. COEFF. (k) 0.072
RADIATION 108 g.cal./cm²/day
ZOOPLANKTON VOL.
IOSN STD. TOW 8.5 ml./m.²

DEPTH	TEMP.	SAL. ‰	O_2 ml./l.	PO_4-P µgA/l.	NO_3-N µgA/l.	NO_2-N µgA/l.	SiO_3 Si µgA/l.		
1	20.57	35.446	5.17	0.17	0.2	0.05	2.4		
35	20.60	35.447	5.18	0.15	0.2	0.04	1.8		
74	20.56	35.461	5.23	0.17	0.2	0.06	2.4		
99	20.57	35.473	5.19	0.17	0.3	0.06	2.0		
124	19.86	35.522	4.80	0.28	2.0	0.09	2.5		
148	19.23	35.517	4.30	0.43	4.6	0.05	4.2		
173	18.00	---	--	--	--	--	--		
198	17.16	35.536	4.47	0.50	5.2	0.05	4.2		
362	12.84	35.242	5.24	0.74	9.0	0.07	3.6		
457	11.60	35.069	5.25	0.92	11.7	0.07	4.5		
647	9.29	34.761	4.93	1.34	18.6	0.06	9.8		
836	7.20	34.615	4.22	1.88	25.1	0.07	25.3		
1027	5.27	35.524	4.00	2.19	21.4	0.06	41.4		
1219	4.53	34.648	3.34	2.47	25.2	0.06	62.1		
1507	3.18	34.726	3.74	2.42	19.6	0.07	73.9		
1795	2.55	34.792	4.44	2.14	22.5	0.08	70.4		
1824	2.53	34.791	4.50	2.13	21.4	0.05	71.0		

DEPTH	Chl. a µg/l.	INSITU C^{14} µgC/l/d	C^{14}-1000 fc µgC/l./d.	
1	0.26	--	41.0	
10	0.28	--	31.2	
20	0.28	--	40.2	
32	0.26	--	34.1	
64	0.30	--	36.3	

REDUCED DATA

U. S. PROGRAM IN BIOLOGY — INTERNATIONAL INDIAN OCEAN PROGRAM

STATION NO. 376
CRUISE NO. 7
VESSEL *R/V ANTON BRUUN*
DATE 26-VIII-64
RELIABILITY OF DEPTH

LAT. 29°22'S
LONG. 37°31'E
DEPTH 5014 m.
TIME 0037
WIND Force 6; Dir. 20

PRIMARY PROD. .24 g C /m²/day
EXT. COEFF. (k) 0.72
RADIATION 180 g.cal./cm²/day
ZOOPLANKTON VOL.
IOSN STD. TOW 12.0 ml./m.²

DEPTH	TEMP.	SAL. ‰	O_2 ml./l.	PO_4-P µgA/l.	NO_3-N µgA/l.	NO_2-N µgA/l.	SiO_3 Si µgA/l.
1	20.12	35.513	5.15	0.21	0.4	0.19	4.1
40	20.14	35.504	5.15	0.18	0.3	0.20	2.4
80	20.14	35.498	5.19	0.25	0.4	0.18	2.4
120	20.16	35.497	5.19	0.20	0.4	0.18	2.7
160	19.52	35.526	4.72	0.32	2.7	0.12	3.2
200	18.44	35.563	4.68	0.36	3.2	0.09	3.9
250	17.02	35.544	4.72	0.40	4.5	0.08	4.2
300	16.03	35.508	4.62	0.48	5.9	0.11	4.2
416	14.11	35.385	4.95	0.61	7.6	0.11	4.2
616	11.77	35.087	5.25	0.86	11.8	0.11	4.8
814	9.46	34.782	5.15	1.22	16.7	0.11	7.4
1014	6.64	34.551	4.43	1.83	25.1	0.13	26.2
1312	4.56	34.579	3.56	2.28	30.4	0.12	57.6
1611	3.76	34.693	3.36	2.45	32.0	0.19	76.5
2011	2.79	34.746	4.06	2.24	30.0	0.12	77.3
2511	2.44	34.825	4.76	1.99	27.2	0.20	70.1
3011	2.14	34.829	4.93	1.96	27.1	0.09	73.3
3511	1.61	34.802	5.05	1.93	28.2	0.10	87.6
4009	1.14	34.760	5.04	2.07	28.3	0.09	102.
4505	0.76	34.725	5.10	2.14	30.9	0.12	115.
5001	0.62	34.720	5.11	2.23	31.0	0.06	118.

DEPTH	Chl. a µg/l.	INSITU C^{14} µgC/l./d	C^{14}-1000 fc µgC/l./d.
1	0.12	2.6	15.4
10	0.16	3.7	15.5
20	0.20	5.4	13.1
32	0.16	3.7	11.9
64	0.16	3.1	10.7

REDUCED DATA

U. S. PROGRAM IN BIOLOGY — INTERNATIONAL INDIAN OCEAN PROGRAM

STATION NO. 377
CRUISE NO. 7
VESSEL *R/V ANTON BRUUN*
DATE 27-VIII-64
RELIABILITY OF DEPTH

LAT. 30°09'S
LONG. 38°39'E
DEPTH 4950 m.
TIME 0412
WIND Force 6; Dir. 05

PRIMARY PROD. .22 g C /m²/day
EXT. COEFF. (k) 0.061
RADIATION 211 g.cal./cm²/day
ZOOPLANKTON VOL.
IOSN STD. TOW 7.5 ml./m.²

DEPTH	TEMP.	SAL. ‰	O_2 ml./l.	PO_4-P µgA/l.	NO_3-N µgA/l.	NO_2-N µgA/l.	SiO_3 Si µgA/l.		
1	19.54	35.534	5.20	0.17	0.5	0.14	3.3		
35	19.57	35.532	5.20	0.17	0.4	0.14	3.0		
74	19.57	35.530	5.20	0.17	0.4	0.12	2.4		
99	19.34	35.536	5.06	0.20	1.0	0.21	3.5		
124	18.50	--	--	--	--	--	--		
149	18.12	35.586	5.13	0.50	6.2	0.04	4.1		
198	17.24	35.557	5.03	0.31	3.1	0.04	3.2		
298	15.38	35.469	4.87	0.21	1.4	0.04	2.7		
399	13.79	35.341	4.96	0.64	8.3	0.08	4.1		
597	11.92	35.098	5.16	0.84	11.2	0.05	4.8		
795	9.53	34.786	5.02	1.71	24.3	0.08	22.1		
995	7.34	34.603	4.43	2.32	32.2	0.07	58.4		
1394	4.54	34.600	3.49	--	--	0.07	--		
1693	3.72	34.673	3.49	2.41	32.0	0.05	73.6		
2092	2.94	34.729	3.92	2.28	30.0	0.04	80.2		
2591	2.54	34.792	4.56	2.02	28.4	0.04	70.8		
3090	2.19	34.807	4.95	1.93	27.4	0.03	71.6		
3588	1.61	34.786	5.03	1.95	28.6	0.02	85.5		
4085	0.98	34.739	5.09	2.13	30.1	0.05	108.		
4583	0.65	34.712	5.09	2.22	31.2	0.01	115.		

DEPTH	Chl. a µg/l.	INSITU C^{14} µgC/l/d	C^{14}-1000 fc µgC/l/d.	
1	0.16	3.6	24.1	
13	0.28	0.5	29.8	
26	0.24	3.7	26.4	
39	0.24	3.0	25.1	
78	0.23	3.6	24.9	

REDUCED DATA

U. S. PROGRAM IN BIOLOGY — INTERNATIONAL INDIAN OCEAN PROGRAM

STATION NO. 378
CRUISE NO. 7
VESSEL *R/V ANTON BRUUN*
DATE 28-VIII-64
RELIABILITY OF DEPTH

LAT. 30°51'S
LONG. 40°11'E
DEPTH 4919 m.
TIME 0255
WIND Force 4, Dir. 03

PRIMARY PROD. .36 g C /m²/day
EXT. COEFF. (k) 0.06
RADIATION 222 g.cal./cm²/day
ZOOPLANKTON VOL.
IOSN STD. TOW 30.5 ml./m.²

DEPTH	TEMP.	SAL. ‰	O_2 ml./l.	PO_4-P µgA/l.	NO_3-N µgA/l.	NO_2-N µgA/l.	SiO_3 Si µgA/l.		
1	18.43	35.578	5.53	0.16	0.2	0.04	3.0		
50	18.43	35.568	5.59	0.17	0.3	0.05	2.6		
74	17.51	35.567	5.26	0.29	2.4	0.11	3.7		
99	17.10	35.569	5.50	0.25	1.8	0.17	3.7		
124	16.89	35.565	5.62	0.25	1.8	0.19	3.2		
149	16.85	35.572	5.63	0.25	1.8	0.20	3.1		
198	16.12	35.492	4.91	0.46	5.1	0.03	4.5		
298	14.84	35.427	5.10	0.56	6.4	0.03	4.5		
409	13.43	35.281	5.14	0.68	9.2	0.03	5.2		
606	11.22	35.000	5.03	1.01	14.0	0.03	7.7		
804	8.47	34.670	4.89	1.46	21.0	0.04	13.6		
1001	5.94	34.485	4.58	1.94	26.6	0.03	28.3		
1346	3.58	34.490	4.21	2.27	31.3	0.06	53.8		
1640	2.98	34.613	4.09	2.27	31.9	0.03	68.1		
2033	2.76	34.746	4.07	2.21	30.6	0.04	78.8		
2528	2.46	34.800	4.79	1.93	27.3	0.03	68.1		
3024	2.15	34.795	5.02	1.77	26.7	0.10	72.2		
3521	1.70	34.783	5.67	1.92	28.3	0.02	84.8		
4016	1.21	34.749	5.68	2.02	27.9	0.02	96.5		
4533	0.74	34.703	5.14	2.14	31.1	0.10	110.		
4926	0.63	34.699	5.14	2.19	31.2	0.05	115.		

DEPTH	Chl. a µg/l.	INSITU C^{14} µgC/l/d	C^{14}-1000 fc µgC/l/d.	
1	0.24	9.7	71.2	
13	0.28	5.5	72.8	
26	0.33	7.1	60.0	
39	0.35	3.5	57.6	
78	0.10	2.6	16.9	

REDUCED DATA

U. S. PROGRAM IN BIOLOGY — INTERNATIONAL INDIAN OCEAN PROGRAM

STATION NO. 379
CRUISE NO. 7
VESSEL *R/V ANTON BRUUN*
DATE 29-VIII-64
RELIABILITY OF DEPTH

LAT. 32°22'S
LONG. 42°55'E
DEPTH 2972 m.
TIME 1144
WIND Force 6; Dir. 17

PRIMARY PROD. .43 g C /m²/day
EXT. COEFF. (k) 0.06
RADIATION 205 g.cal./cm.²/day
ZOOPLANKTON VOL.
IOSN STD. TOW 6.0 ml./m.²

DEPTH	TEMP.	SAL. ‰	O_2 ml./l.	PO_4-P µgA/l.	NO_3-N µgA/l.	NO_2-N µgA/l.	SiO_3 Si µgA/l.		
1	16.62	35.582	5.57	--	1.0	0.21	1.9		
25	16.61	35.581	5.55	--	1.1	0.21	1.7		
50	16.63	35.577	5.56	--	1.0	0.22	1.3		
75	16.61	35.575	5.57	--	1.1	0.23	1.3		
100	16.59	35.569	5.53	--	1.0	0.25	1.5		
125	16.62	35.568	5.57	--	1.1	0.27	1.1		
150	16.61	35.573	5.51	--	1.1	0.26	1.2		
200	16.58	35.568	5.50	--	1.2	0.28	1.2		
300	14.92	35.451	5.03	--	5.7	0.05	3.8		
409	13.90	35.345	5.13	--	6.1	0.04	3.3		
608	12.09	35.117	5.19	--	11.6	0.03	3.2		
906	7.94	34.626	4.80	--	21.0	0.03	13.8		
1205	4.61	34.432	4.58	--	27.0	0.02	39.8		
1602	3.00	34.583	4.13	--	30.4	0.03	59.2		
2002	2.67	34.725	4.28	--	28.9	0.03	68.7		
2502	2.42	34.812	4.82	--	26.4	0.00	64.0		

DEPTH	Chl. a µg/l.	INSITU C^{14} µgC/l/d	C^{14}-1000 fc µgC/l/d.	
1	0.20	7.2	38.6	
13	0.13	3.4	36.1	
26	0.17	6.6	32.4	
39	0.18	6.2	35.7	
78	0.18	4.8	32.7	

REDUCED DATA

U. S. PROGRAM IN BIOLOGY — INTERNATIONAL INDIAN OCEAN PROGRAM

STATION NO. 380
CRUISE NO. 7
VESSEL *R/V ANTON BRUUN*
DATE 30-VIII-64
RELIABILITY OF DEPTH

LAT. 32°58'S
LONG. 43°37'E
DEPTH 938 m.
TIME 0705
WIND Force 5; Dir. 10

PRIMARY PROD. .45 g C /m²/day
EXT. COEFF. (k) 0.06
RADIATION 166 g.cal./cm²/day
ZOOPLANKTON VOL.
IOSN STD. TOW 4.0 ml./m.²

DEPTH	TEMP.	SAL. ‰	O_2 ml./l.	PO_4-P µgA/l.	NO_3-N µgA/l.	NO_2-N µgA/l.	SiO_3 Si µgA/l.			DEPTH	Chl. a µg/l.	INSITU C^{14} µgC/l./d	C^{14}-1000 fc µgC/l./d.	
1	16.47	35.574	5.56	0.26	1.8	0.29	3.2			1	0.16	5.6	29.0	
99	16.51	35.569	5.55	0.24	1.8	0.26	2.7			13	0.16	5.1	39.2	
148	16.51	35.565	5.56	0.25	1.9	0.25	2.7			26	0.19	5.8	26.3	
198	16.39	35.556	5.45	0.28	--	0.24	3.3			39	0.14	5.6	31.7	
247	15.86	35.512	5.21	0.40	--	0.09	3.8			78	0.12	7.0	30.2	
296	15.20	35.445	5.10	0.48	--	0.04	3.9							
345	14.63	35.406	5.05	0.56	--	0.00	5.0							
442	13.45	35.270	5.10	0.67	--	0.02	5.1							
634	11.78	35.078	5.15	0.91	--	µ	5.8							
821	8.51	34.675	4.92	1.38	--	0.01	12.5							
932	7.48	34.585	4.80	1.62	--	0.00	16.8							

REDUCED DATA

U. S. PROGRAM IN BIOLOGY — INTERNATIONAL INDIAN OCEAN PROGRAM

STATION NO. 381
CRUISE NO. 7
VESSEL *R/V ANTON BRUUN*
DATE 30-VIII-64
RELIABILITY OF DEPTH

LAT. 33°13'S
LONG. 42°53'E
DEPTH 22 m.
TIME 1337
WIND Force 4; Dir. 04

PRIMARY PROD. .22 g C /m²/day
EXT. COEFF. (k) --
RADIATION 202 g.cal./cm.²/day
ZOOPLANKTON VOL.
IOSN STD. TOW -- ml./m.²

DEPTH	TEMP.	SAL. ‰	O_2 ml./l.	PO_4-P µgA/l.	NO_3-N µgA/l.	NO_2-N µgA/l.	SiO_3 Si µgA/l.		
1	16.37	35.568	4.73	0.26	1.9	0.18	3.1		
10	16.41	35.567	4.72	0.23	1.9	0.18	2.7		
25	16.35	35.565	4.72	0.29	2.2	0.16	2.6		

DEPTH	Chl. a µg/l.	INSITU C^{14} µgC/l./d	C^{14}-1000 fc µgC/l./d.	
1	0.16	12.8	39.1	
15	0.20	7.0	34.6	
30	0.16	4.4	26.3	

REDUCED DATA

U. S. PROGRAM IN BIOLOGY — INTERNATIONAL INDIAN OCEAN PROGRAM

STATION NO. 382
CRUISE NO. 7
VESSEL *R/V ANTON BRUUN*
DATE 31-VIII-64
RELIABILITY OF DEPTH

LAT. 34°08'S
LONG. 41°15'E
DEPTH 5050 m.
TIME 1116
WIND Force 4; Dir. 02

PRIMARY PROD. .51 g C /m²/day
EXT. COEFF. (k) 0.047
RADIATION 232 g.cal./cm²/day
ZOOPLANKTON VOL.
IOSN STD. TOW 3.0 ml./m.²

DEPTH	TEMP.	SAL. ‰	O_2 ml./l.	PO_4-P µgA/l.	NO_3-N µgA/l.	NO_2-N µgA/l.	SiO_3 Si µgA/l.
1	16.47	35.573	5.55	0.24	1.8	0.19	3.2
40	16.47	35.580	5.56	0.24	1.8	0.20	3.4
80	16.47	35.579	5.56	0.25	1.8	0.19	3.0
120	16.46	35.573	5.56	0.24	1.8	0.19	3.0
159	16.41	35.567	5.54	0.24	1.8	0.18	3.1
199	16.42	35.563	5.53	0.25	2.0	0.19	--
249	16.39	35.567	5.50	0.25	2.1	0.18	3.5
299	15.75	35.496	4.95	0.45	5.1	0.05	4.1
386	14.52	35.404	4.98	0.54	7.4	0.06	4.1
586	12.73	35.211	5.27	0.72	7.9	0.03	4.8
786	10.44	34.895	5.13	1.05	15.6	0.03	7.3
1035	7.22	34.574	4.70	1.60	26.9	0.04	19.5
1334	4.16	34.444	4.49	2.07	31.2	0.07	42.0
1634	3.20	34.584	4.01	2.29	31.6	0.05	63.1
2035	2.76	34.739	4.22	2.09	31.5	0.07	69.2
2534	2.48	34.818	4.80	1.82	28.5	0.04	66.7
3033	2.18	34.825	4.98	1.86	27.2	0.02	71.5
3533	1.80	34.811	5.03	1.85	28.7	0.03	80.3
4033	1.26	34.766	5.13	2.01	29.6	0.04	97.4
4534	0.76	34.732	5.11	2.10	31.0	0.01	110.
5053	0.65	34.717	5.13	2.20	31.9	µ	115.

DEPTH	Chl. a µg/l.	INSITU C^{14} µgC/l./d	C^{14}-1000 fc µgC/l./d.
1	0.17	8.8	39.7
15	0.14	8.8	36.9
30	0.21	--	44.2
50	0.20	4.6	38.9
100	0.20	1.6	31.1

REDUCED DATA

U. S. PROGRAM IN BIOLOGY — INTERNATIONAL INDIAN OCEAN PROGRAM

STATION NO. 383
CRUISE NO. 7
VESSEL *R/V ANTON BRUUN*
DATE 1-IX-64
RELIABILITY OF DEPTH

LAT. 34°57'S
LONG. 38°49'E
DEPTH 5250 m.
TIME 1302
WIND Force 7, Dir. 02

PRIMARY PROD. .40 g C /m²/day
EXT. COEFF. (k) 0.0475
RADIATION 279 g.cal./cm²/day
ZOOPLANKTON VOL.
IOSN STD. TOW 7.0 ml./m.²

DEPTH	TEMP.	SAL. ‰	O_2 ml./l.	PO_4-P µgA/l.	NO_3-N µgA/l.	NO_2-N µgA/l.	SiO_3 Si µgA/l.		
1	16.55	35.581	5.63	0.25	1.6	0.24	3.5		
49	16.57	35.579	5.62	0.25	1.7	0.27	3.5		
99	16.48	35.577	5.56	0.25	1.9	0.28	3.5		
148	16.50	35.570	5.57	0.28	1.9	0.30	3.5		
197	16.22	35.544	5.28	0.39	3.6	0.15	3.8		
247	15.31	35.466	4.96	0.55	5.9	0.05	4.4		
296	14.69	35.412	5.04	0.59	7.0	0.04	4.7		
394	13.64	35.299	5.08	--	8.6	0.04	4.7		
591	11.98	35.082	5.12	0.92	12.2	0.05	6.1		
791	9.36	34.756	4.96	1.31	18.4	0.03	10.7		
1040	5.92	34.462	4.75	1.92	26.8	0.04	24.6		
1340	4.13	34.477	4.22	2.15	30.7	0.08	47.2		
1638	3.34	34.615	3.80	2.37	32.6	0.08	67.7		
2037	2.77	34.729	4.20	2.21	31.0	0.07	70.8		
2535	2.48	34.812	4.77	2.01	27.8	0.12	66.0		
3032	2.20	34.833	4.98	1.78	24.4	0.06	47.2		
3531	1.74	34.784	4.94	1.76	27.8	0.04	72.4		
4030	1.18	34.751	5.08	2.03	29.4	0.04	94.8		
4526	0.77	34.721	5.22	2.29	30.8	0.05	108.		
5023	0.67	34.709	5.14	2.16	31.7	0.04	112.		

DEPTH	Chl. a µg/l.	INSITU C^{14} µgC/l./d	C^{14}-1000 fc µgC/l./d.	
1	0.30	4.0	38.7	
15	0.28	6.0	38.6	
30	0.28	4.6	39.7	
50	0.26	2.9	32.8	
100	0.20	4.0	17.3	

REDUCED DATA

U. S. PROGRAM IN BIOLOGY — INTERNATIONAL INDIAN OCEAN PROGRAM

STATION NO. 384
CRUISE NO. 7
VESSEL *R/V ANTON BRUUN*
DATE 2-IX-64
RELIABILITY OF DEPTH

LAT. 35°44'S
LONG. 36°47'E
DEPTH 5295
TIME 1333
WIND Force 6; Dir. 26

PRIMARY PROD. .87 g C /m²/day
EXT. COEFF. (k) 0.0475
RADIATION 267 gcal./cm²/day
ZOOPLANKTON VOL.
IOSN STD. TOW 12.5 ml./m.²

DEPTH	TEMP.	SAL. ‰	O_2 ml./l.	PO_4-P µgA/l.	NO_3-N µgA/l.	NO_2-N µgA/l.	SiO_3 Si µgA/l.
1	17.48	35.593	5.56	0.24	0.2	0.15	3.3
35	17.49	35.579	5.55	0.22	0.9	0.15	3.7
74	17.37	35.584	5.46	0.25	0.7	0.17	3.0
99	16.77	35.567	5.51	0.30	1.6	0.21	3.3
138	16.59	35.566	5.53	0.30	1.9	0.17	3.3
198	16.64	35.560	5.51	0.30	1.8	0.16	3.3
298	15.87	35.465	5.06	0.46	4.5	0.03	3.9
397	14.61	35.397	4.80	0.63	7.2	0.02	4.8
597	12.66	35.187	5.13	0.80	10.0	0.03	5.3
795	10.70	34.935	4.99	1.03	14.2	0.02	7.1
1044	7.57	34.591	4.67	1.65	22.3	0.02	19.0
1342	4.44	34.427	4.59	2.18	29.1	0.04	38.1
1641	3.31	34.536	3.97	2.33	31.5	0.05	63.2
2041	2.86	34.717	3.97	2.23	30.5	0.06	72.6
2541	2.54	34.816	4.84	1.95	26.8	0.04	63.2
3041	2.26	34.827	5.04	1.92	25.4	0.02	68.2
3541	1.81	34.800	5.07	1.98	26.6	0.03	81.1
4041	1.22	34.760	5.09	2.13	29.0	0.03	98.8
4541	0.80	34.733	5.23	2.15	28.9	0.03	110.
5041	0.66	34.711	5.16	2.23	30.6	0.03	120.
5242	0.61	34.710	5.16	--	--	--	--
5292	0.61	34.714	5.15	2.29	30.1	0.02	121.

DEPTH	Chl. a µg/l.	INSITU C^{14} µgC/l./d	C^{14}-1000 fc µgC/l./d.
1	0.36	9.1	51.3
15	0.34	5.5	43.5
30	0.41	4.6	51.1
50	0.36	4.7	41.6
100	0.16	2.3	19.4

REDUCED DATA

U. S. PROGRAM IN BIOLOGY — INTERNATIONAL INDIAN OCEAN PROGRAM

STATION NO. 385
CRUISE NO. 7
VESSEL *R/V ANTON BRUUN*
DATE 3-IX-64
RELIABILITY OF DEPTH

LAT. 34°15'S
LONG. 36°04'E
DEPTH 3137 m.
TIME 1250
WIND Force 5, Dir. 28

PRIMARY PROD. .31 g C /m²/day
EXT. COEFF. (k) 0.0475
RADIATION 244 g.cal./cm²/day
ZOOPLANKTON VOL.
IOSN STD. TOW 11.0 ml./m.²

DEPTH	TEMP.	SAL. ‰	O_2 ml./l.	PO_4-P µgA/l.	NO_3-N µgA/l.	NO_2-N µgA/l.	SiO_3 Si µgA/l.
1	17.95	35.601	5.46	0.20	0.4	0.07	3.7
35	17.90	35.591	5.48	0.22	0.4	0.09	3.5
75	17.88	35.589	5.46	0.20	0.8	0.09	3.2
100	17.67	35.585	5.39	0.22	0.8	0.13	3.5
125	17.44	35.585	5.45	0.22	0.9	0.13	3.3
150	17.33	35.581	5.21	0.29	1.1	0.05	3.4
175	16.82	35.550	5.00	0.37	3.4	0.04	4.1
200	16.30	35.525	4.85	0.48	5.0	0.03	4.1
242	15.62	35.493	4.98	0.48	5.3	0.05	4.1
342	14.55	35.416	4.99	0.56	6.9	0.02	4.8
541	12.72	35.205	5.13	0.80	9.9	0.03	5.2
741	10.84	34.949	5.10	0.02	14.6	0.02	5.8
991	7.79	34.601	4.72	1.57	23.2	0.08	17.2
1291	4.79	34.483	4.24	2.20	29.6	0.08	42.3
1591	3.62	34.587	3.74	2.36	32.2	0.08	65.4
1991	2.83	34.719	4.09	2.23	30.8	0.03	72.4
2491	2.51	34.821	4.82	1.85	27.7	0.02	63.5
2991	2.28	34.833	5.00	1.88	27.0	0.02	66.6
3091	2.23	34.832	5.04	1.83	26.6	0.06	67.2
3131	2.22	34.829	5.02	1.83	26.7	0.02	67.2

DEPTH	Chl. a µg/l.	INSITU C^{14} µgC/l./d	C^{14}-1000 fc µgC/l./d.
1	0.26	10.9	42.6
15	0.20	4.8	39.7
30	0.28	3.0	49.7
50	0.37	3.2	39.8
100	0.18	µ	22.4

REDUCED DATA

U. S. PROGRAM IN BIOLOGY — INTERNATIONAL INDIAN OCEAN PROGRAM

STATION NO. 386
CRUISE NO. 7
VESSEL *R/V ANTON BRUUN*
DATE 4-IX-64
RELIABILITY OF DEPTH

LAT. 32°55'S
LONG. 35°21'E
DEPTH 1370 m.
TIME 1148
WIND Force 8; Dir. 22

PRIMARY PROD. .71 g C /m²/day
EXT. COEFF. (k) 0.0475
RADIATION 275 g.cal./cm²/day
ZOOPLANKTON VOL.
IOSN STD. TOW 12.0 ml./m.²

DEPTH	TEMP.	SAL. ‰	O_2 ml./l.	PO_4-P µgA/l.	NO_3-N µgA/l.	NO_2-N µgA/l.	SiO_3 Si µgA/l.
1	17.22	35.601	5.48	0.15	0.5	0.09	3.4
39	17.22	35.582	5.49	0.15	0.6	0.09	3.4
79	17.25	35.593	5.52	0.21	0.6	0.09	2.1
104	17.16	35.584	5.45	0.24	1.0	0.10	3.0
129	16.94	35.572	5.27	0.27	2.1	0.09	3.0
154	16.46	35.532	5.02	0.42	4.1	0.03	3.3
179	15.99	35.507	4.90	0.47	4.3	0.02	3.9
204	15.71	35.492	4.93	0.50	4.4	0.04	3.9
303	14.64	35.418	4.97	0.57	6.1	0.04	3.8
403	13.54	35.303	5.02	0.91	11.0	0.04	5.3
602	11.77	35.071	5.10	1.38	18.9	0.02	11.1
800	8.84	34.710	4.87	0.71	9.0	0.01	5.1
998	6.75	34.529	4.62	1.76	23.9	0.03	21.8
1366	4.21	34.550	--	2.34	30.5	0.05	55.0

DEPTH	Chl. a µg/l.	INSITU C^{14} µgC/l./d	C^{14}-1000 fc µgC/l./d.
1	0.16	8.7	33.8
15	0.23	8.0	36.6
30	0.30	9.1	37.0
50	0.25	7.2	37.0
100	0.16	4.9	28.8

REDUCED DATA

U. S. PROGRAM IN BIOLOGY — INTERNATIONAL INDIAN OCEAN PROGRAM

STATION NO. 387
CRUISE NO. 7
VESSEL *R/V ANTON BRUUN*
DATE 5-IX-64
RELIABILITY OF DEPTH

LAT. 31°57'S
LONG. 34°18'E
DEPTH 2760 m.
TIME 1005
WIND Force 6, Dir. 28

PRIMARY PROD. .35 g C /m²/day
EXT. COEFF. (k) 0.0475
RADIATION 296 g.cal./cm²/day
ZOOPLANKTON VOL.
IOSN STD. TOW 8.0 ml./m.²

DEPTH	TEMP.	SAL. ‰	O_2 ml./l.	PO_4-P µgA/l.	NO_3-N µgA/l.	NO_2-N µgA/l.	SiO_3 Si µgA/l.			DEPTH	Chl. a µg/l.	INSITU C^{14} µgC/l/d	C^{14}-1000 fc µgC/l/d.	
1	17.85	35.569	5.42	0.26	1.0	0.15	4.2			1	0.31	8.6	80.8	
25	17.87	35.567	5.45	0.26	0.9	0.15	4.4			15	0.32	6.3	72.2	
50	17.86	35.567	5.45	0.28	1.0	0.15	2.8			30	0.30	4.8	70.6	
75	17.73	35.567	5.16	0.32	2.0	0.11	3.3			50	0.39	1.8	68.7	
100	17.52	35.578	5.23	0.25	1.9	0.10	3.3			100	0.07	1.9	13.7	
125	17.52	35.548	5.19	0.31	2.0	0.07	3.1							
150	17.39	35.546	5.13	0.34	4.8	0.07	3.3							
200	16.82	35.525	4.77	0.50	2.2	0.06	3.9							
350	14.68	35.394	4.76	0.66	7.3	0.07	4.5							
450	13.44	35.293	4.99	0.77	--	0.05	5.1							
649	11.35	35.201	5.06	1.01	13.4	0.06	6.0							
846	8.88	34.723	4.67	1.48	20.0	0.05	13.8							
1044	6.18	34.527	4.34	1.95	26.7	0.07	30.0							
1337	4.02	34.513	3.99	2.35	31.1	0.07	53.0							
1632	3.28	34.630	3.77	2.38	31.5	0.09	69.3							
2025	2.82	34.726	4.07	2.27	30.4	0.07	75.0							
2419	2.52	34.800	--	2.01	28.1	0.08	68.9							
2714	2.41	34.818	4.82	1.94	27.4	0.06	65.8							
2763	--	34.822	4.80	1.91	26.7	0.06	66.2							

REDUCED DATA

U. S. PROGRAM IN BIOLOGY — INTERNATIONAL INDIAN OCEAN PROGRAM

STATION NO. 388
CRUISE NO. 7
VESSEL *R/V ANTON BRUUN*
DATE 6 IX-64
RELIABILITY OF DEPTH

LAT. 30°45'S
LONG. 32°58'E
DEPTH 3070 m.
TIME 1041
WIND Force 6; Dir. 21

PRIMARY PROD. .99 g C /m²/day
EXT. COEFF. (k) 0.0475
RADIATION 203 g.cal./cm²/day
ZOOPLANKTON VOL.
IOSN STD. TOW 7.0 ml./m.²

DEPTH	TEMP.	SAL. ‰	O_2 ml./l.	PO_4-P µgA/l.	NO_3-N µgA/l.	NO_2-N µgA/l.	SiO_3 Si µgA/l.		
1	21.33	35.408	5.06	0.20	0.3	0.04	2.7		
25	21.35	35.393	5.05	0.20	0.3	0.05	3.3		
50	21.34	35.402	5.04	0.21	0.3	0.05	2.7		
75	21.00	35.424	4.65	0.29	2.0	0.22	3.8		
100	20.77	35.454	4.78	0.22	1.2	0.17	2.6		
125	20.47	35.468	5.05	0.22	0.4	0.23	3.8		
150	20.36	35.483	5.11	0.18	0.4	0.14	2.6		
200	19.30	35.537	5.06	0.23	1.2	0.45	3.2		
449	14.58	35.412	4.89	0.59	6.5	0.05	4.4		
545	13.43	35.299	5.06	0.71	8.6	0.04	4.7		
737	11.59	35.063	5.17	0.92	11.9	0.06	5.5		
928	9.19	34.746	4.94	1.35	17.8	0.06	9.7		
1118	6.77	34.560	4.38	1.88	25.8	0.08	26.2		
1403	4.58	34.568	3.64	2.38	31.7	0.11	55.1		
1684	3.46	34.642	3.66	2.44	31.4	0.09	70.5		

DEPTH	Chl. a µg/l.	INSITU C^{14} µgC/l./d	C^{14}-1000 fc µgC/l./d.	
1	0.16	14.3	64.8	
15	0.38	19.0	82.4	
30	0.12	14.9	88.5	
50	0.14	9.7	80.3	
100	0.07	0.6	6.5	

REDUCED DATA

U. S. PROGRAM IN BIOLOGY — INTERNATIONAL INDIAN OCEAN PROGRAM

STATION NO. 389
CRUISE NO. 7
VESSEL *R/V ANTON BRUUN*
DATE 6-IX-64
RELIABILITY OF DEPTH

LAT. 30°10'S
LONG. 32°09'E
DEPTH 1370 m.
TIME Force 3, Dir. 10
WIND

PRIMARY PROD. .57 g C /m²/day
EXT. COEFF. (k) 0.060
RADIATION 231 g.cal./cm.²/day
ZOOPLANKTON VOL. 28.0
IOSN STD. TOW ml./m.²

DEPTH	TEMP.	SAL. ‰	O_2 ml./l.	PO_4-P µgA/l.	NO_3-N µgA/l.	NO_2-N µgA/l.	SiO_3 Si µgA/l.		
1	21.87	35.306	5.03	0.25	0.6	0.09	4.1		
56	21.89	35.301	5.03	0.24	0.6	0.10	0.4		
113	21.23	35.335	4.32	0.37	0.4	0.15	4.7		
150	20.67	35.461	5.05	0.19	0.7	0.21	3.1		
174	20.44	35.484	5.09	0.15	0.3	0.17	3.0		
197	20.14	35.484	5.00	0.19	--	0.26	3.0		
220	19.63	35.476	5.03	0.39	4.0	0.05	4.4		
244	18.37	35.548	4.52	0.40	3.9	0.03	4.7		
337	15.20	35.488	4.22	0.76	9.6	0.02	7.8		
431	13.11	35.223	4.55	0.90	11.9	0.01	8.4		
617	11.59	35.055	4.57	1.09	14.9	0.01	10.3		
803	8.45	34.673	4.85	1.48	20.2	0.02	13.7		
1045	5.82	34.567	3.86	2.16	28.6	0.02	40.3		
1277	4.39	34.625	3.37	2.43	31.5	0.02	64.4		
1323	4.04	34.685	3.37	2.45	32.6	0.05	70.7		

DEPTH	Chl. a µg/l.	INSITU C^{14} µgC/l/d	C^{14}-1000 fc µgC/l/d.	
1	0.38	8.7	55.4	
13	0.40	8.2	54.2	
26	0.42	6.6	56.0	
39	0.38	7.3	55.7	
78	0.41	7.2	47.5	

REDUCED DATA

U. S. PROGRAM IN BIOLOGY — INTERNATIONAL INDIAN OCEAN PROGRAM

STATION NO. 390
CRUISE NO. 7
VESSEL *R/V ANTON BRUUN*
DATE 8-IX-64
RELIABILITY OF DEPTH

LAT. 29°45'S
LONG. 31°42'E
DEPTH 520 m.
TIME 1129
WIND Force 8; Dir. 03

PRIMARY PROD. 1.64 g C /m²/day
EXT. COEFF. (k) 0.06
RADIATION 319 g.cal./cm²/day
ZOOPLANKTON VOL.
IOSN STD. TOW ml./m.²

DEPTH	TEMP.	SAL. ‰	O_2 ml./l.	PO_4-P µgA/l.	NO_3-N µgA/l.	NO_2-N µgA/l.	SiO_3 Si µgA/l.		
1	21.08	35.400	5.19	0.13	0.2	0.06	3.0		
27	21.43	35.395	5.12	0.13	0.2	0.05	2.6		
67	21.03	35.411	5.14	0.02	0.2	0.05	2.5		
96	21.06	35.410	5.08	0.15	0.3	0.06	2.8		
121	20.86	35.439	4.90	0.19	1.2	0.06	3.3		
145	20.19	35.415	4.35	0.39	3.8	0.06	4.5		
170	18.81	35.475	4.12	0.50	6.0	0.02	5.9		
194	17.61	35.516	4.36	0.52	5.7	0.04	5.5		

DEPTH	Chl. a µg/l.	INSITU C^{14} µgC/l./d	C^{14}-1000 fc µgC/l./d.	
1	0.44	21.6	68.3	
13	0.44	24.7	87.5	
26	0.40	27.6	84.7	
39	0.37	23.2	86.4	
78	0.45	12.3	84.7	

REDUCED DATA

U. S. PROGRAM IN BIOLOGY — INTERNATIONAL INDIAN OCEAN PROGRAM

STATION NO. 391
CRUISE NO. 7
VESSEL *R/V ANTON BRUUN*
DATE 9-IX-64
RELIABILITY OF DEPTH

LAT. 29°29'S
LONG. 31°44'E
DEPTH 89 m.
TIME 1329
WIND Force 6, Dir. 25

PRIMARY PROD. 1.37 g C /m²/day
EXT. COEFF. (k) 0.09
RADIATION 312 g.cal./cm²/day
ZOOPLANKTON VOL.
IOSN STD. TOW ml./m.²

DEPTH	TEMP.	SAL. ‰	O_2 ml./l.	PO_4-P µgA/l.	NO_3-N µgA/l.	NO_2-N µgA/l.	SiO_3 Si µgA/l.		
1	20.07	35.440	4.14	0.31	2.8	0.07	4.1		
7	20.06	35.439	4.13	0.34	2.9	0.08	4.1		
22	20.01	35.448	4.13	0.31	3.4	0.10	3.9		
51	19.47	35.455	3.95	0.39	4.4	0.07	6.1		
81	18.92	35.455	3.73	0.41	3.9	0.07	5.3		

DEPTH	Chl. a µg/l.	INSITU C^{14} µgC/l./d	C^{14}-1000 fc µgC/l./d.	
1	0.38	66.2	93.3	
8	0.44	73.2	120.8	
15	0.44	63.6	124.5	
26	0.42	5.8	60.2	
32	0.15	1.9	23.7	

REDUCED DATA

U. S. PROGRAM IN BIOLOGY — INTERNATIONAL INDIAN OCEAN PROGRAM

STATION NO. 392
CRUISE NO. 7
VESSEL *R/V ANTON BRUUN*
DATE 9-IX-64
RELIABILITY OF DEPTH

LAT. 29°18'S
LONG. 31°33'E
DEPTH 49 m.
TIME 1912
WIND Force 3; Dir. 04

PRIMARY PROD. 3.14 g C /m²/day
EXT. COEFF. (k)
RADIATION 312 g.cal./cm²/day
ZOOPLANKTON VOL.
IOSN STD. TOW ml./m.²

DEPTH	TEMP.	SAL. ‰	O_2 ml./l.	PO_4-P µgA/l.	NO_3-N µgA/l.	NO_2-N µgA/l.	SiO_3 Si µgA/l.		
1	19.45	35.431	5.14	0.40	3.7	1.05	6.4		
16	19.42	35.429	5.14	0.29	2.9	1.29	6.1		
31	19.39	35.432	5.15	0.28	1.3	1.11	5.7		

DEPTH	Chl. a µg/l.	INSITU C^{14} µgC/l./d	C^{14}-1000 fc µgC/l./d.	
1	0.93	101.5	121.7	
15	1.04	91.0	113.0	
30	0.73	80.8	141.4	
40	0.86	19.6	132.6	

BATHYTHERMOGRAPH LOG

R/V ANTON BRUUN, CRUISE 7

SLIDE NO.	DATE	ZONE TIME	POSITION		SURF. TEMP. (°C)
			LAT.	LONG.	
1	29 VII 64	1530	29°11'S	31°37'E	20.1
2		2235	29°10'S	31°51'E	19.8
3	30 VII 64	0835	29°11'S	32°05'E	21.9
4		1025	29°11'S	32°07'E	21.8
5		2030	28°57'S	32°19'E	22.0
6	31 VII 64	0030	28°34'S	32°39'E	22.0
7		1525	28°06'S	32°59'E	21.6
8		1800	27°48'S	33°16'E	21.7
9		1940	27°37'S	33°24'E	21.5
10	1 VIII 64	0730	27°27'S	34°02'E	21.3
11		1000	27°18'S	34°27'E	21.4
12		1300	27°06'S	34°57'E	23.5
13		1600	26°53'S	35°24'E	22.2
14		2000	26°35'S	35°57'E	22.3
15	2 VIII 64	0730	26°14'S	36°34'E	21.3
16		1030	25°59'S	37°04'E	21.8
17		1220	25°50'S	37°21'S	21.2
18	3 VIII 64	0210	25°28'S	38°07'E	21.8
19		0500	25°11'S	38°37'E	21.3
20		0810	24°58'S	39°05'E	21.4
21		0935	24°52'S	39°17'E	21.2
22	4 VIII 64	0200	24°44'S	40°10'E	22.8
23		0600	24°33'S	40°57'E	23.0
24		1340	24°15'S	41°31'E	22.0
25		1640	24°08'S	42°03'E	22.6

SLIDE NO.	DATE	ZONE TIME	POSITION		SURF. TEMP. (°C)
			LAT.	LONG.	
26	4 VIII 64	2030	23°54'S	42°44'E	23.2
27		2245	23°46'S	43°07'E	23.5
28	5 VIII 64	1200	23°42'S	43°19'E	23.2
29		2050	23°32'S	43°27'E	22.9
30	12 VIII 64	1015	23°20'S	43°36'E	23.0
31		1300	23°18'S	43°33'E	23.3
32		2040	23°13'S	43°13'E	
33	13 VIII 64	1220	22°56'S	42°25'E	24.6
34		1910	22°34'S	41°16'E	22.6
35	14 VIII 64	0830	22°23'S	40°52'E	22.5
36		1200	22°15'S	40°22'E	23.2
37	15 VIII 64	1200	22°30'S	39°47'E	22.9
38		1500	22°43'S	39°17'E	22.9
39		2100	22°41'S	39°21'E	22.8
40	16 VIII 64	0000	22°55'S	38°52'E	22.4
41		0105	23°00'S	38°43'E	22.0
42		1400	23°15'S	38°07'E	22.0
43		1700	23°26'S	37°42'E	21.6
44		2305	23°48'S	36°48'E	21.5
45	17 VIII 64	1100	24°04'S	36°17'E	21.5
46		1645	24°11'S	36°02'E	21.7
47		1950	24°18'S	35°46'E	22.4
48	18 VIII 64	1110	24°42'S	35°25'E	22.8
49	19 VIII 64	0545	24°48'S	34°59'E	21.7
50	22 VIII 64	1915	26°01'S	33°04'E	21.4

BATHYTHERMOGRAPH LOG

R/V ANTON BRUUN, CRUISE 7

SLIDE NO.	DATE	ZONE TIME	POSITION		SURF. TEMP. (°C)
			LAT.	LONG.	
51	23 VIII 64	1000	26°57'S	33°53'E	22.2
52		1545	27°10'S	34°08'E	22.3
53		2145	27°28'S	34°36'E	20.7
54	24 VIII 64	0245	27°57'S	35°16'E	20.9
55	25 VIII 64	0830	29°00'S	36°42'E	20.5
56		2135	29°21'S	37°31'E	20.0
57	26 VIII 64	1800	29°32'S	37°46'E	19.6
58		2100	29°48'S	38°11'E	20.1
59	27 VIII 64	0040	30°08'S	38°39'E	19.7
60		1700	30°32'S	39°02'E	18.0
61		2000	30°41'S	39°31'E	17.4
62	28 VIII 64	0000	30°49'S	40°11'E	18.5
63		1625	31°08'S	40°42'E	18.7
64		1930	31°28'S	41°07'E	18.8
65	29 VIII 64	0910	32°22'S	42°53'E	16.7
66	30 VIII 64	0330	32°42'S	43°17'E	16.7
67		0630	32°58'S	43°37'E	16.5
68		1330	33°13'S	43°52'E	---
69		2100	33°22'S	43°21'E	17.0
70		2350	33°34'S	42°48'E	16.8
71	31 VIII 64	0320	33°48'S	42°07'E	16.4
72		0620	34°00'S	41°34'E	16.7
73		0825	34°09'S	41°14'E	16.6
74	1-IX-64	0005	34°26'S	40°37'E	17.0
75		0315	34°41'S	40°01'E	16.9

SLIDE NO.	DATE	ZONE TIME	POSITION		SURF. TEMP. (°C)
			LAT.	LONG.	
76	1-IX-64	0645	34°58'S	39°21'E	16.5
77		1000	34°58'S	38°49'E	16.7
78	2-IX-64	0200	35°01'S	38°12'E	16.5
79		0500	35°15'S	37°41'E	16.8
80		0800	35°30'S	37°09'E	17.6
81		1020	35°43'S	36°49'E	17.6
82	3-IX-64	0345	35°19'S	36°33'E	17.5
83		0715	34°45'S	36°21'E	17.8
84		1050	34°15'S	36°04'E	18.0
85	4-IX-64	0000	33°55'S	35°44'E	17.6
86		0300	33°27'S	35°34'E	17.9
87		1110	32°56'S	35°21'E	17.3
88		2030	32°38'S	35°00'E	17.5
89	5-IX-64	0315	32°20'S	34°37'E	17.7
90		0800	31°57'S	34°16'E	18.7
91		2100	31°32'S	34°00'E	20.1
92		2345	31°24'S	33°47'E	20.1
93	6-IX-64	0300	31°01'S	33°29'E	20.2
94		0600	30°44'S	33°19'E	20.3
95		0825	30°43'S	33°00'E	21.2
96		2045	30°40'S	32°40'E	21.1
97	7-IX-64	1010	30°09'S	32°09'E	21.9
98	8-IX-64	1045	29°45'S	31°42'E	21.1
99	9-IX-64	1320	29°28'S	31°44'E	20.2
100		1900	29°18'S	31°35'E	19.7

BIOLOGICAL LOG —— R/V ANTON BRUUN, CRUISE 7

COLLECTION	DATE	STA.	POSITION		BOTTOM DEPTH (M)	SAMPLING DEPTH (M)	ZONE TIME	SAMP. GEAR	LABEL NO.	CURRENT CUSTODY
			LAT.	LONG.						
Plankton:	29 Jul 64	356	29°11'S	31°37'E	15	5-0				
Oblique							1605-1620	IOSN	2870	SOSC
Plankton:	29 Jul 64	357	29°10'S	31°51'E	44	35-0				
Oblique							1109-1121	75M3	2871	SOSC
Plankton:	30 Jul 64	358	29°12'S	32°06'E	430					
Vertical						200-0	1137-1147	IOSN	2872	IOBC
Vertical						200-0	1151-1205	75M25	2873	SOSC
Vertical						400-164	1215-1232	NV70	2874	SOSC
Vertical						200-91	1410-1420	NV70	2875	SOSC
Vertical						100-0	1430-1440	NV70	2876	SOSC
Plankton:	31 Jul 64	359	28°35'S	32°40'E	997					
Vertical						200-0	0229-0244	IOSN	2877	IOBC
Vertical						200-0	0246-0300	75M25	2882	SOSC
Vertical						500-196	0310-0335	NV70	2879	SOSC
Vertical						200-94	0340-0355	NV70	2881	SOSC
Vertical						100-0	0400-0410	NV70	2884	SOSC

BIOLOGICAL LOG —— R/V ANTON BRUUN, CRUISE 7

COLLECTION	DATE	STA.	POSITION		BOTTOM DEPTH (M)	SAMPLING DEPTH (M)	ZONE TIME	SAMP. GEAR	LABEL NO.	CURRENT CUSTODY
			LAT.	LONG.						
Plankton:	31 Jul 64	360	27°38'S	33°24'E	1379					
Vertical						200-0	2129-2144	IOSN	2885	IOBC
Vertical						200-0	2147-2200	75M25	2886	SOSC
Vertical						500-191	2255-2316	NV70	2900	SOSC
Vertical						200-100	2223-2334	NV70	2901	SOSC
Plankton:	1 Aug 64	361	26°35'S	35°57'E	1826					
Vertical						200-0	2200-2218	IOSN	2887	IOBC
Vertical						200-0	2221-2238	75M25	2888	SOSC
Vertical						200-100	2320-2340	NV70	2902	SOSC
Vertical						100-0	2400-0013	NV70	2903	SOSC
Plankton:	3 Aug 64	362	24°53'S	39°18'E	3603					
Vertical						200-0	1300-1314	IOSN	2889	IOBC
Vertical						200-0	1316-1334	75M25	2890	SOSC
Vertical						200-100	1340-1353	NV70	2904	SOSC
Vertical						500-200	1357-1421	NV70	2905	SOSC
Vertical						100-0	1426-1432	NV70	2906	SOSC
Vertical						1000-480	1437-1514	NV70	2911	SOSC
Vertical						2000-950	1522-1635	NV70	2907	SOSC

BIOLOGICAL LOG —— R/V ANTON BRUUN, CRUISE 7

COLLECTION	DATE	STA.	POSITION		BOTTOM DEPTH (M)	SAMPLING DEPTH (M)	ZONE TIME	SAMP. GEAR	LABEL NO.	CURRENT CUSTODY
			LAT.	LONG.						
Plankton:	5 Aug 64	363	23°46'S	43°08'E	3027					
Vertical						200-0	0150-0209	IOSN	2891	IOBC
Vertical						200-0	0210-0231	75M25	2892	SOSC
Vertical						500-190	0240-0258	NV70	2908	SOSC
Vertical						200-0	0301-0310	NV70	2912	SOSC
Vertical						200-85	0315-0325	NV70	2913	SOSC
Vertical						100-0	0330-0338	NV70	2914	SOSC
Vertical						1000-485	0340-0418	NV70	2915	SOSC
Vertical						2000-1010	0422-0544	NV70	2916	SOSC
Plankton:	12 Aug 64	364	23°20'S	43°36'E	49					
Oblique (sample divided in two)						43-0	1143-1205	75M3	3042	SOSC
									3043	GDG
Plankton:	12 Aug 64	365	23°19'S	43°33'E	424					
Vertical						200-0	1401-1410	IOSN	2893	IOBC
Vertical						200-0	1416-1430	75M25	2894	SOSC

BIOLOGICAL LOG —— R/V ANTON BRUUN, CRUISE 7

COLLECTION	DATE	STA.	POSITION LAT.	POSITION LONG.	BOTTOM DEPTH (M)	SAMPLING DEPTH (M)	ZONE TIME	SAMP. GEAR	LABEL NO.	CURRENT CUSTODY
Plankton:		366	23°13'S	43°13'E	2286					
Vertical	12 Aug 64					200-97	0008-0016	NV70	2917	SOSC
Vertical						100-0	0024-0028	NV70	2918	SOSC
Vertical						500-187	0036-0054	NV70	2919	SOSC
Vertical						1000-480	0101-0140	NV70	2920	SOSC
Vertical						2000-1000	0144-0255	NV70	2921	SOSC
Vertical	13 Aug 64					200-0	1134-1142	IOSN	2895	IOBC
Vertical						200-0	1146-1202	75M25	2896	SOSC
Plankton:	13 Aug 64	367	22°34'S	41°16'E						
Vertical					2775	200-0	2159-2209	IOSN	2898	IOBC
Vertical						200-0	2212-2224	75M25	2897	SOSC
Vertical					2275	200-100	2230-2239	NV70	2922	SOSC
Vertical						100-0	2243-2247	NV70	2923	SOSC
Vertical						500-189	2254-2310	NV70	2924	SOSC
Vertical						1000-460	2320-2352	NV70	2925	SOSC
Vertical						2000-1003	2400-0110	NV70	2926	SOSC

BIOLOGICAL LOG —— R/V ANTON BRUUN, CRUISE 7

COLLECTION	DATE	STA.	POSITION		BOTTOM DEPTH (M)	SAMPLING DEPTH (M)	ZONE TIME	SAMP. GEAR	LABEL NO.	CURRENT CUSTODY
			LAT.	LONG.						
Plankton:	16 Aug 64	368	23°04'S	38°35'E	2961					
Vertical						200-0	0410-0422	IOSN	2962	IOBC
Vertical (Net torn)						200-0	0425-0440	75M25	2963	SOSC
Vertical						200-102	0449-0458	NV70	2927	SOSC
Vertical						100-0	0504-0518	NV70	2928	SOSC
Vertical						500-197	0522-0540	NV70	2929	SOSC
Vertical						1000-0	0551-0631	NV70	2930	SOSC
Vertical						2000-1035	0638-0800	NV70	2931	SOSC
Plankton:	17 Aug 64	369	23°48'S	36°48'E	2187					
Vertical						200-0	0105-0118	IOSN	2964	IOBC
Vertical						200-0	0410-0430	75M25	2965	SOSC
Vertical						100-0	0125-0132	NV70	2932	SOSC
Vertical						200-100	0138-0148	NV70	2933	SOSC
Vertical						500-192	0152-0210	NV70	2934	SOSC
Vertical						1000-487	0219-0254	NV70	2935	SOSC
Vertical						2000-1030	0310-0405	NV70	2936	SOSC

BIOLOGICAL LOG —— R/V ANTON BRUUN, CRUISE 7

COLLECTION	DATE	STA.	POSITION		BOTTOM DEPTH (M)	SAMPLING DEPTH (M)	ZONE TIME	SAMP. GEAR	LABEL NO.	CURRENT CUSTODY
			LAT.	LONG.						
Plankton:	17 Aug 64	370	24°19'S	35°46'E	920					
Vertical						200-0	2125-2137	IOSN	2966	IOBC
Vertical						200-0	2144-2155	75M25	2967	SOSC
Vertical						100-0	2201-2210	NV70	2937	SOSC
Vertical						200-100	2215-2229	NV70	2938	SOSC
Vertical						500-196	2232-2250	NV70	2939	SOSC
Plankton:	18 Aug 64	371	24°42'S	35°23'E	190					
Vertical						150-0	1210-1215	IOSN	2968	IOBC
Vertical						200-0	1218-1233	75M25	2969	SOSC
Vertical						150-87	1237-1245	NV70		SOSC
Vertical						100-44	1251-1256	NV70	2941	SOSC
Vertical						50-0	1304-1308	NV70	2942	SOSC
Plankton:	22 Aug 64	373	26°01'S	33°04'E	112					
Oblique						91-0	2009-2029	75M3	3044	SOSC
Plankton:	23 Aug 64	374	26°57'S	33°53'E	898					
Vertical						200-0	1115-1128	IOSN	2970	IOBC
Vertical						200-0	1131-1145	75M25	2971	SOSC
Vertical						500-194	1149-1209	NV70	2943	SOSC
Vertical						200-100	1216-1226	NV70	2944	SOSC
Vertical						100-0	1232-1237	NV70	2945	SOSC

BIOLOGICAL LOG —— R/V ANTON BRUUN, CRUISE 7

COLLECTION	DATE	STA.	POSITION		BOTTOM DEPTH (M)	SAMPLING DEPTH (M)	ZONE TIME	SAMP. GEAR	LABEL NO.	CURRENT CUSTODY
			LAT.	LONG.						
Plankton:	24 Aug 64	375	27°58'S	35°16'E	1853					
Vertical						200-0	0400-0500	IOSN	2972	IOBC
Vertical						200-0		75M25	2973	SOSC
Vertical						100-0	0554-0604	NV70		SOSC
Vertical						200-101	0606-0614	NV70	3014	SOSC
Vertical						500-198	0621-0643	NV70	3015	SOSC
Vertical						1000-500	0650-0732	NV70		SOSC
Plankton:	25 Aug 64	376	29°22'S	37°31'E	5014					
Vertical						200-0	0505-0515	IOSN	2974	IOBC
Vertical						100-0	0103-0110	NV70	3003	SOSC
Vertical						500-194	0114-0132	NV70	3004	SOSC
Vertical						200-102	0144-0159	NV70	3005	SOSC
Vertical						1000-490	0240-0322	NV70	3006	SOSC
Vertical						2000-1000	0330-0500	NV70	3007	SOSC
Plankton:	27 Aug 64	377	30°09'S	38°39'E	4841					
Vertical						200-0	0524-0533	IOSN	2680	IOBC
Vertical						200-100	0537-0550	NV70	3008	SOSC
Vertical						100-0	0559-0607	NV70	3009	SOSC
Vertical						500-197	0612-0632	NV70	3010	SOSC
Vertical						1000-500	0700-0745	NV70	3011	SOSC
Vertical						2000-972	0751-0925	NV70	3012	SOSC

BIOLOGICAL LOG —— R/V ANTON BRUUN, CRUISE 7

COLLECTION	DATE	STA.	POSITION		BOTTOM DEPTH (M)	SAMPLING DEPTH (M)	ZONE TIME	SAMP. GEAR	LABEL NO.	CURRENT CUSTODY
			LAT.	LONG.						
Plankton:	28 Aug 64	378	30°51'S	40°11'E	4797					
Vertical						200-0	0346-0358	IOSN	2681	IOBC
Vertical						100-0	0420-0426	NV70	2948	SOSC
Vertical						500-195	0435-0455	NV70	2949	SOSC
Vertical						200-113	0512-0513	NV70	2950	SOSC
Vertical						1000-503	0526-0613	NV70	2951	SOSC
Vertical						2000-1003	0617-0728	NV70	2952	SOSC
Plankton:	29 Aug 64	379	32°22'S	42°55'E	2972					
Vertical						200-0	1240-1250	IOSN	2682	IOBC
Oblique						100-0	1255-1314	75M3	2976	SOSC
Oblique						200-0	1315-1335	75M3	2977	SOSC
Oblique						500-0	1340-1405	75M3	2978	SOSC
Oblique						1000-0	1408-1544	75M3	2979	SOSC
Plankton:	30 Aug 64	380	32°58'S	43°37'E	898					
Vertical						200-0	0803-0812	IOSN	2683	IOBC
Vertical						100-0	0817-0825	NV70	2953	SOSC
Vertical						200-99	0829-0842	NV70	2954	SOSC
Vertical						500-185	0845-0910	NV70	2955	SOSC

BIOLOGICAL LOG —— R/V ANTON BRUUN, CRUISE 7

COLLECTION	DATE	STA.	POSITION		BOTTOM DEPTH (M)	SAMPLING DEPTH (M)	ZONE TIME	SAMP. GEAR	LABEL NO.	CURRENT CUSTODY
			LAT.	LONG.						
Plankton:	30 Aug 64	381	33°13'S	42°53'E	22					
Oblique						10-0	1600-1635	75M3	3002	SOSC
Plankton:	31 Aug 64	382	34°08'S	41°15'E	4884					
Vertical						200-0	1200-1212	IOSN	2685	IOBC
Vertical						500-194	1218-1235	NV70	2956	SOSC
Vertical						100-0	1244-1249	NV70	2957	SOSC
Vertical						200-100	1251-1302	NV70	2960	SOSC
Vertical						1000-488	1308-1349	NV70	2958	SOSC
Vertical						2000-0	1353-1500	NV70	2959	SOSC
Plankton:	1 Sep 64	383	34°57'S	38°49'E	5093					
Vertical						200-0	1408-1415	IOSN	3021	IOBC
Vertical						100-0	1427-1427	NV70	2947	SOSC
Vertical						200-100	1438-1445	NV70	3017	SOSC
Vertical						500-200	1453-1514	NV70	3018	SOSC
Vertical						1000-500	1521-1610	NV70	3019	SOSC
Vertical						2000-1000	1615-1735	NV70	2959	SOSC

BIOLOGICAL LOG —— R/V ANTON BRUUN, CRUISE 7

COLLECTION	DATE	STA.	POSITION		BOTTOM DEPTH (M)	SAMPLING DEPTH (M)	ZONE TIME	SAMP. GEAR	LABEL NO.	CURRENT CUSTODY
			LAT.	LONG.						
Plankton:	2 Sep 64	384	35°44'S	36°47'E	5250					
Vertical						200-0	2327-2342	IOSN	2686	IOBC
Vertical						100-0	1449-1454	NV70	2980	SOSC
Vertical						200-100	2023-2038	NV70	2998	SOSC
Vertical						500-194	2041-2101	NV70	2981	SOSC
Vertical						1000-500	2109-2158	NV70	2982	SOSC
Vertical						2000-1000	2204-2325	NV70	2983	SOSC
Plankton:	3 Sep 64	385	34°15'S	36°04'E	3134					
Vertical						200-0		IOSN	2687	IOBC
Vertical						100-0	1400-1404	NV70	2987	SOSC
Vertical						200-98	1413-1419	NV70	2988	SOSC
Vertical						500-193	1427-1445	NV70	2990	SOSC
Vertical						1000-493	1450-1529	NV70	2991	SOSC
Vertical						2000-1010	1538-1655	NV70	2989	SOSC
Plankton:	4 Sep 64	386	32°55'S	35°21'E	1370					
Vertical						200-0	1320-1329	IOSN	2688	IOBC
Vertical						100-0	1340-1346	NV70	2984	SOSC
Vertical						200-101	1411-1420	NV70	2985	SOSC
Vertical						500-210	1425-1444	NV70	2986	SOSC

BIOLOGICAL LOG —— R/V ANTON BRUUN, CRUISE 7

COLLECTION	DATE	STA.	POSITION		BOTTOM DEPTH (M)	SAMPLING DEPTH (M)	ZONE TIME	SAMP. GEAR	LABEL NO.	CURRENT CUSTODY
			LAT.	LONG.						
Plankton:	5 Sep 64	387	31°57'S	34°18'E	2770					
Vertical						200-0	1124-1136	IOSN	2689	IOBC
Vertical						100-0	-1115	NV70	2992	SOSC
Vertical						200-88	1129-	NV70	2993	SOSC
Vertical						500-186	-1237	NV70	2995	SOSC
Vertical						1000-480	1245-1330	NV70	2996	SOSC
Plankton:	6 Sep 64	388	30°45'S	32°58'E	3070					
Vertical						200-0	1129-1140	IOSN	2690	IOBC
Vertical						100-0	1144-1149	NV70	2997	SOSC
Vertical						200-94	1151-1201	NV70	2999	SOSC
Vertical						1000-485	1208-1249	NV70	3000	SOSC
Vertical						500-196	1259-1320	NV70	3001	SOSC
Plankton:	7 Sep 64	389	30°10'S	32°09'E	1370					
Vertical						200-0	1144-1155	IOSN	3024	IOBC
Oblique						1000-0	1205-1258	75M3	3040	SOSC
Plankton:	8 Sep 64	390	29°45'S	31°42'E	520					
Oblique						65-0	1205-1215	IOSN	3046	SOSC

BIOLOGICAL LOG —— R/V ANTON BRUUN, CRUISE 7

COLLECTION	DATE	STA.	POSITION		BOTTOM DEPTH (M)	SAMPLING DEPTH (M)	ZONE TIME	SAMP. GEAR	LABEL NO.	CURRENT CUSTODY
			LAT.	LONG.						
Plankton:	9 Sep 64	392	29°18'S	31°33'E	49					
Oblique						30-0	1200-1215	75M3	3045	SOSC