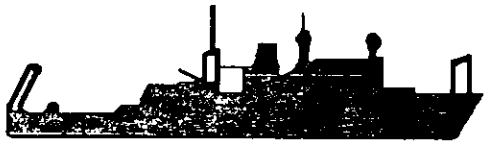
Natural Environment Research Council

R.R.S. "Charles Darwin"

Cruise No. 44/89



November 24th to December 2nd 1989

Cruise Report

Anton Edwards

Dunstaffnage Marine Laboratory

P.O.Box 3,

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December 1989

Natural Environment Research Council

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R.R.V. "Charles Darwin" Cruise 44/89

November 4th - December 2nd 1989

Cruise Report

Anton Edwards

Staff:

R. Bowers	(DML)
A. Edwards	(DML, Principal Scientist)
J. Graham	(DML)
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C. Day	(RVS)

Aims:

1). To Collect large volume water samples and CTD profiles at standard positions between the Sound of Mull and the shelf edge of the Hebrides.

2). To work the CTD stations of the Anton Dohrn Seamount section between the shelf edge and Rockall.

3). To work a CTD section West of Rockall to Porcupine Bank.

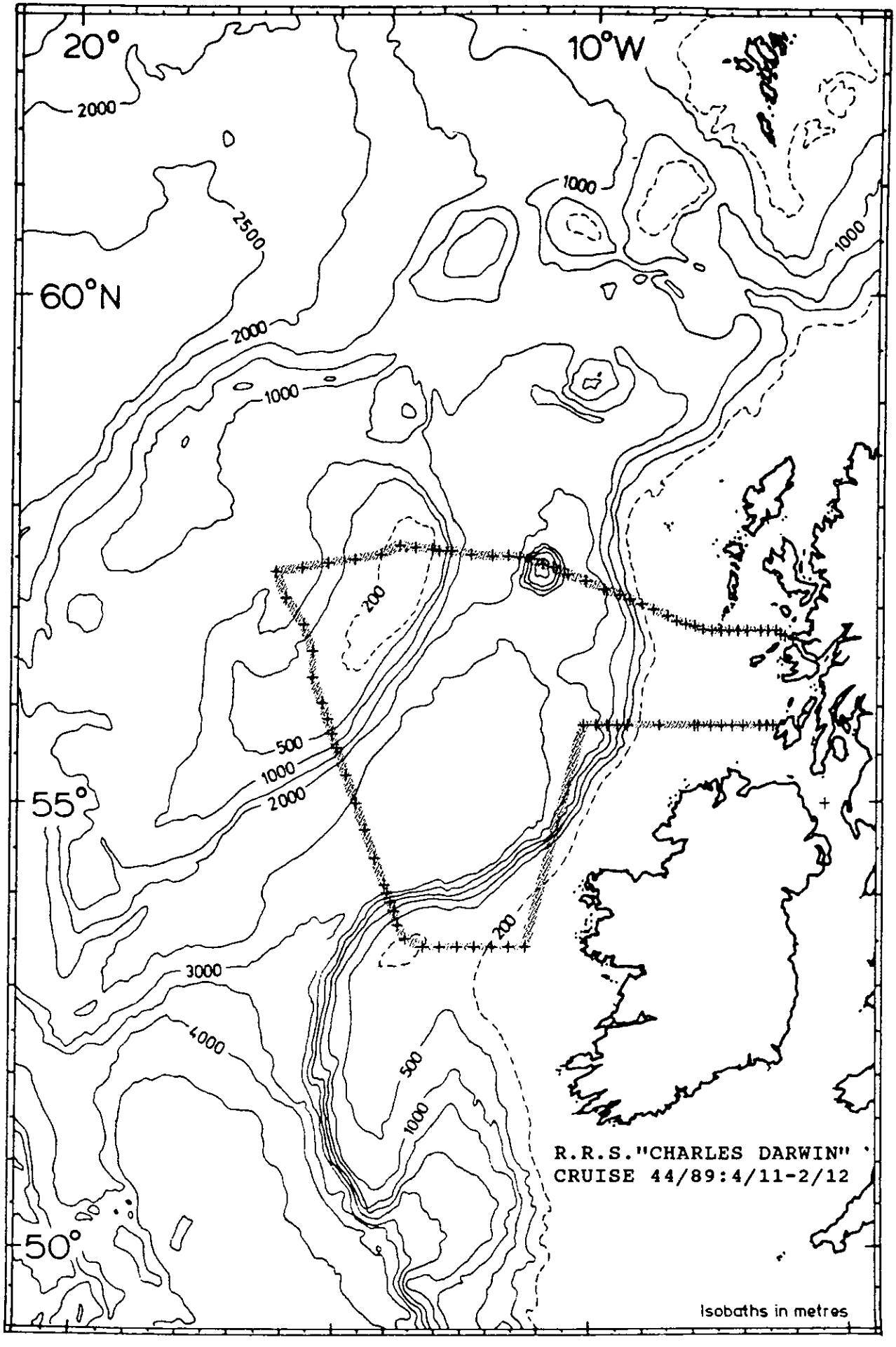
4). To work CTD sections across the shelf edge west of Ireland as time and weather permit.

Duration:

24th November (Troon) until 2nd December 1989.

Location:

North-east Atlantic Ocean and Continental shelf west of UK.


20°
10°W
60°N
55°
50°
2000
2500
1000
2000
1000
1000
200
500
1000
2000
200
3000
4000
500
1000
R.R.S."CHARLES DARWIN"
CRUISE 44/89:4/11-2/12
Isobaths in metres

Cruise Narrative:

"Charles Darwin" left Troon at 0915 on the 24th of November in calm sea conditions and light breezes and headed for station LS in the North Channel. The weather remained calm during the passage and LS was reached at about 1400. Surface samples were gathered and the opportunity was taken to test the CTD system. The ship then left for station 1G at the western end of the Sound of Mull, arriving after 0200 on the 25th to start the line of CTD and water sampling stations to the shelf edge west of Barra Head. The weather remained calm and in only light breezes the last Caesium sampling station 16G in the line was reached soon after midnight on the 26th. Cloudier weather came in the morning of the 26th but winds remained light throughout the day and the vessel made good progress in gentle swell towards Rockall Bank. The 27th dawned calm, and the PES fish was deployed immediately after station C. Rockall was sighted around noon in clear conditions, the westward line of stations was completed around nightfall and the vessel then steamed south along the line of stations RP . The 28th started calm and overcast, with only a light swell from the South as the ship steamed South south east towards Porcupine Bank.

At station RP10 in a water depth of about 2300 metres, the CTD spooling deteriorated and about an hour was spent in adjusting it. The same problem occurred again from time to time in the deep stations approaching Porcupine Bank on the 29th.

Stations RS to Slyne Head were completed by about 1400 on the 30th and "Charles Darwin" then steamed north to start the line D of stations inwards over the continental shelf. This line was worked in clear and calm weather on the 1st December and completed by midnight. The vessel then docked in clear conditions at Campbeltown at 1030 on the morning of the 2nd December, the DML party disembarked with their equipment and the vessel continued to Barry.

Results:

All scientific aims were achieved smoothly.

1). Large volume water samples and CTD profiles were successfully obtained at standard positions between the Sound of Mull and the shelf edge of the Hebrides.

2). All CTD stations of the Anton Dohrn Seamount section between the shelf edge and Rockall were successfully completed.

3). The CTD sections West of Rockall to Porcupine Bank and on to Slyne Head were successfully completed.

4). All planned CTD stations across the shelf edge west of Ireland were completed.

There were no equipment failures and all relevant ship's gear worked well, apart from a little trouble with CTD wire spooling.

Recommendations:

1). The spooling gear on the CTD winch gave some cause for concern and should be checked.

2). NERC has some responsibility for, and benefits by, the health of its ships' staff. The provision of exercise apparatus such as an exercise bicycle and a rowing machine, in suitable space, is long overdue on this ship, as on other NERC vessels.

Acknowledgements:

The careful attention of the master, Patrick McDermott, and all his personnel is gratefully acknowledged.

"Charles Darwin" Cruise 44/89 Station List:

Stat -ion	**Disc** /Dip	Date/ Time Z	Lat. °.'N	Long. °.'W	Dep- th,m	CTD	Cs Samples Sur Mid Bot
	134/						
LS	001	24/1430	54.57	5.30	147	140	50l - -
1G/C1	002	25/0240	56.40	6.08	150	144	50l 25l 25l
2G/C2	003	25/1500	56.41	6.17	37	30	50l 25l 25l
"	901	25/0519	"	"	"	-	NBIS Cal.
3G	004	25/0600	56.42	6.22	78	71	- - -
4G/C3	005	25/0646	56.44	6.27	130	125	50l 25l 25l
5G	006	25/0801	56.44	6.36	75	65	- - -
6G/C4	007	25/0910	56.44	6.45	32	25	50l - 25l
7G/C5	008	25/1035	56.44	7.00	143	135	50l 25l 25l
8G	009	25/1155	56.44	7.10	184	180	- - -
9G/C6	010	25/1308	56.44	7.20	160	155	50l 25l 25l
10G	011	25/1442	56.44	7.30	225	215	- - -
11G/C7	012	25/1557	56.44	7.40	62	55	50l 25l 25l
12G	013	25/1713	56.45	7.50	61	55	- - -
13G/C8	014	25/1809	56.47	8.00	124	120	50l 25l 25l
14G	015	25/1922	56.48	8.10	130	125	- - -
T	016	25/2021	56.50	8.20	133	125	- - -
15G/C9	017	25/2117	56.53	8.30	126	120	50l 50l
S	018	25/2305	56.57	8.47	126	115	- - -
16G/	**134/**						
C10/R	019	26/0016	57.00	9.00	133	125	50l 50l
Q	020		57.03	9.13	282	277	
P	021	26/0327	57.06	9.25	1395	1390	
O	022	26/0538	57.09	9.42	1950	1940	
O	902	26/0705	"	"	"	-	NBIS Cal.
	135/						
N	023	26/0830	57.14	10.03	2090	2060	
M	024	26/1107	57.18	10.23	2220	2200	
	136/						
L	025	26/1359	57.22	10.40	2100	2055	
K	026	26/1615	57.24	10.52	800	790	
J	027	26/1747	57.27	11.05	592	590	
I	028	26/1917	57.28	11.19	750	740	
	137/						
H	029	26/2127	57.29	11.32	2040	2020	
G	030	26/2330	57.29	11.51	1800	1760	
	138/						
F	031	27/0228	57.30	12.15	1790	1770	
E	032	27/0528	57.32	12.38	1610	1600	
D	033	27/0723	57.32	12.52	1080	1070	
C	034	27/0850	57.33	13.00	300	275	
B	035	27/1020	57.34	13.20	180	165	
	139/						
A	036	27/1143	57.35	13.38	105	95	

Stat -ion	Disc /Dip	Date/ Time Z	Lat. °.'N	Long. °.'W	Dep- th,m	CTD	
	139/						
RW1	037	27/1331	57.30	14.00	125	100	
RW2	038	27/1532	57.27	14.30	235	225	
RW3	039	27/1736	57.25	15.00	469	462	
RW4	040	27/1955	57.22	15.30	1035	1015	
RP1	041	27/2252	57.20	16.00	1140	1120	
RP2	042	28/0116	57.04	15.49	1040	1020	
	140/						
RP3	043	28/0400	56.48	15.28	628	618	
RP4	044	28/0622	56.32	15.18	373	363	
RP5	045	28/0835	56.16	15.18	225	205	
RP6	046	28/1044	56.00	15.07	273	255	
RP7	047	28/1220	55.50	15.00	448	428	
RP8	048	28/1401	55.41	14.55	1260	1230	
	141/						
RP9	049	28/1613	55.32	14.50	2048	2038	
	903	1738					
RP10	050	28/2038	55.15	14.39	2367	2362	
	142/						
RP11	051	29/0046	54.57	14.28	2701	2691	
	143/						
RP12	052	29/0527	54.40	14.17	2747	2742	
	144/						
RP13	053	29/1000	54.22	14.06	2850	2780	
RP14	054	29/1501	54.05	13.55	2365	2345	
	145/						
RP15	055	29/1738	54.00	13.52	1680	1655	
RP16	056	29/2022	53.54	13.48	1180	1160	
RP17	057	28/2155	53.48	13.44	525	510	
RP18	058	29/2345	53.39	13.39	265	250	
RP19	059	30/0144	53.30	13.30	152	130	
PS1	060	30/0324	53.25	13.10	218	200	
	146/						
PS2	061	30/0502	53.25	12.50	282	273	
PS3	062	30/0640	53.25	12.30	321	314	
PS4	063	30/0818	53.25	12.10	310	290	
PS5	064	30/1000	53.25	11.50	220	205	
PS6	065	30/1135	53.25	11.30	155	140	
PS7	066	29/1312	53.25	11.10	125	102	
	147/						
94D	067	30/0236	55.46	10.05	2251	2226	
	146/						
95D	068	30/0523	55.46	9.50	1955	1948	

Stat -ion	**Disc** /Dip	Date/ Time Z	Lat. °.'N	Long. °.'W	Dep- th,m	CTD	Cs Samples Sur Mid Bot
96D	**147/** 069	30/0812	55.46	9.38	1365	1350	
97D	**143/** 070	30/1020	55.46	9.27	777	767	
98D	071	30/1159	55.46	9.16	132	118	
99D	072	30/1423	55.46	8.40	97	82	
0D	073	30/1643	55.46	8.00	97	89	
1D	074	30/1756	55.46	7.41	75	69	
2D	**142/** 075	30/1902	55.46	7.29	49	39	
3D	076	30/1951	55.46	7.16	53	45	
4D	**143/** 077	30/2047	55.46	7.04	42	30	
5D	078	30/2133	55.46	7.55	38	30	
6D	079	30/2218	55.46	6.46	35	30	
7D	080	30/2308	55.46	6.37	50	40	
8D	**144/** 081	30/0002	55.46	6.30	20	15	