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MINISTRY OF AGRICULTURE, FISHERIES AND FOOD
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FISHERIES RESEARCH TECHNICAL REPORT No. 65

Ministry of Agriculture, Fisheries and Food,
current meter data inventory, 1979-80

S.R. JONES

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Introduction

This is the sixth inventory of current meter data obtained from current meter exercises carried out by the Ministry of Agriculture, Fisheries and Food (MAFF) and covers the years 1979 and 1980.

MAFF Fisheries Research Technical Reports Nos. 4, 7, 15, 38 and 54 are inventories of current meter data for the years 1968-71, 1971-72, 1973-74, 1975-76 and 1977-78 respectively (Baxter and Bedwell, 1972; Bedwell, 1973; Bedwell *et al.*, 1975; Medler, 1977; Jones, 1979). A description of the current meter mooring used by the laboratory is given in Technical Report No. 4; Report No. 7 describes the processing of the data recorded on the magnetic tape in the instruments. This inventory comprises Tables 1-17 with accompanying charts (Figures 1-6) which show the data obtained and the positions of the stations referred to.

For Tables 1-14 a 'P' or 'T' in the 'Notes' indicates that the meter was fitted with a pressure (P) or temperature (T) sensor. Unless otherwise stated all the meters used were of the Plessey MO21 type; any Plessey 9021 type or Aanderaa type 4 meters used are indicated alongside the meter number thus: 45(9021); 703(4). The term 'Good record' indicates that the meter performed satisfactorily for the expected length of time. For the semi-permanent stations, i.e., JONSIS* 1 and 2, Tees and South Falls (Figure 1; Tables 1-4), the position given is the nominal position of the individual station, there necessarily being slight differences from deployment to deployment. For these stations also, the water depth shown is the mean of the depths found at each deployment. For all other exercises, however, the position and water depth are those measured when the station was laid. The mean spring tidal range shown on each table is taken from the Admiralty Co-tidal and Co-range charts (Great Britain – Hydrographer of the Navy, 1974). The 'Length of record' and 'Timing discrepancy' are shown separately, to give a measure of the actual (as opposed to nominal) data interval if this should be needed.

Data shown in Tables 8 and 11 (North-east Atlantic Ocean) were recorded at hourly intervals.

Data return statistics

Tables 15-17 summarize various aspects of the use by the Fisheries Laboratory of the moored current meter data-gathering technique during the years 1979-80. They update those given in Ramster *et al.* (1976) and Jones (1979).

Data availability

Recently, the Marine Information and Advisory Service (MIAS), of the Natural Environment Research Council, was set up to co-ordinate the archive of all UK oceanographic data. Data from all MAFF moored current meter exercises are supplied to MIAS on a routine basis from year to year, but data collected in any one year are not freely available to the scientific and commercial community via MIAS until 2 years have elapsed. Hence at 1 January 1981 all data collected specifically for MAFF purposes in 1978 came into general circulation, and at 1 January 1982 the 1979 data will follow suit. These data are available from MIAS in a variety of standard formats to suit the particular customer's requirements. Details are available from MIAS, Bidston Observatory, Birkenhead, Merseyside L43 7RA. Enquiries about MAFF data not yet in general circulation should be made direct to the Fisheries Laboratory, Lowestoft, Suffolk NR33 0HT.

* Joint North Sea Information System.

Table 1 JONSIS 1, 13 December 1978-30 November 1980, (Figure 1)

Position	Water depth	Tidal range
54°14′N 00°02′E	54 m	3.7 m

Period		Meter no.	Height of meter above bottom (m)	Length of record			Timing discrepancy (min)	Notes
				days	hours	min		
32	13 Dec 1978-	62	40	–	–	–	–	Meter malfunction
	2 Feb 1979	122	8	50	23	03	– 3	Good record
33	2 Feb-	295	39	21	3	0	–10	Meter malfunction
	28 Feb	162	8	5	10	20	0	Meter malfunction
34	28 Feb-	431	38	50	4	27	+ 3	Good record (T)
	19 Apr	206	8	–	–	–	–	Meter lost
35	19 Apr-	569	40	27	9	56	+ 4	Good record
	17 May	122	8	27	9	52	–12	Good record
36	17 May-	566	40	–	–	–	–	Meter lost
	28 Jul	314	8	–	–	–	–	Meter damaged
37	28 Jul-	569	40	33	18	56	+ 4	Good record
	31 Aug	642	8	16	17	40	0	Meter malfunction (T)
38	31 Aug-	992	40	70	3	47	– 7	Good record; in two parts (T)
	8 Nov	634	8	–	–	–	–	Meter incorrectly deployed
39	8 Nov-	322	40	71	10	30	–10	Good record; in two parts (P)
	18 Jan 1980	431	8	–	–	–	–	Meter malfunction
40	18 Jan-	50	40	24	2	28	+ 2	Good record (P)
	11 Feb	523	8	3	17	50	0	Meter fouled (T)
41	11 Feb-	634	40	48	16	36	+ 4	Good record (T)
	31 Mar	143	8	15	8	0	0	Meter malfunction
42	31 Mar-	197	40	42	19	0	0	Good record (T)
	13 May	152	8	42	19	0	0	Good record
43	13 May-	143	40	–	–	–	–	Meter malfunction
	4 Jul	634	8	20	8	30	0	Meter malfunction (T)
44	4 Jul-	303	40	–	–	–	–	Tape off recording head
	3 Aug	197	8	29	20	39	– 9	Good record (T)
45	3 Aug-	862	40	–	–	–	–	Meter malfunction
	18 Sep	146	8	45	20	59	+11	Good record
46	18 Sep-	874	40	37	19	58	+12	Good record
	26 Oct	137	8	37	19	31	– 1	Good record
47	9 Nov-	50	40	20	19	56	+ 4	Good record (P)
	30 Nov	274	8	13	19	20	0	Meter damaged

Table 2 JONSIS 2, 13 December 1978-18 September 1980, (Figure 1)

Position 54°23'N 01°06'E | Water depth 41 m | Tidal range 2.7 m

Period		Meter no.	Height of meter above bottom (m)	Length of record			Timing discrepancy (min)	Notes
				days	hours	min		
32/	13 Dec 1978-	278	29	–	–	–	–	Meter lost
33	28 Feb 1979	67	8	–	–	–	–	Meter lost
34	28 Feb-	197	28	21	2	20	0	Station trawled up. Meter 197 (T)
	19 Apr	102	8	21	2	20	0	
35	19 Apr-	588	29	26	22	41	−11	Good record (P)
	16 May	493	8	26	22	51	−21	Good record
36	16 May-	436	29	–	–	–	–	Both meters lost: recovered
	28 Jul	303	8	–	–	–	–	May 1980. No usable data
37	28 Jul-	50	29	34	5	46	+ 4	Good record (P)
	31 Aug	431	8	34	5	44	+ 6	Good record (T)
38	31 Aug-	636	29	–	–	–	–	Meter lost
	10 Nov	618	8	–	–	–	–	Meter lost
39	10 Nov-	84	29	32	6	50	0	Rig interfered with (T)
	19 Jan 1980	102	8	–	–	–	–	Meter lost
40	19 Jan-	642	29	–	–	–	–	Meter malfunction
	12 Feb	997	8	24	0	21	− 1	Good record (T)
41	12 Feb-	721	29	23	15	0	0	Meter malfunction (T)
	31 Mar	877	8	48	5	52	−12	Good record
42	31 Mar-	730	29	42	19	40	0	Good record (T)
	13 May	295	8	20	22	30	0	Meter malfunction
43	13 May-	877	28	51	12	20	0	Good record
	4 Jul	137	8	51	12	10	0	Good record
44	4 Jul-	266	28	8	4	10	0	Meter malfunction
	3 Aug	155	8	7	1	10	0	Meter malfunction
45	3 Aug-	143	31	45	10	44	+ 6	Good record
	18 Sep	777	8	45	10	45	− 5	Good record (T)

Table 3 Tees, 16 May-9 November 1979, (Figure 1)

Position	Water depth	Tidal range
54°45′N 00°56.1′W	55 m	4.4 m

Period		Meter no.	Height of meter above bottom (m)	Length of record			Timing discrepancy (min)	Notes
				days	hours	min		
1	10 May 1979-	295	41	55	13	55	−195	Good record
	21 Jul	636	8	66	6	40	0	Good record
2	21 Jul-	53	41	40	14	37	+ 3	Good record (P)
	31 Aug	197	8	–	–	–	–	Meter not deployed correctly
3	31 Aug-	588	41	–	–	–	–	Meter lost
	9 Nov	162	8	45	14	0	0	Rig dragged: processed in 2 parts

Table 4 South Falls, 18 May 1979-27 January 1980, (Figure 1)

Position	Water depth	Tidal range
51°32.5′N 01°58.4′E	49 m	1.6 m

Period		Meter no.	Height of meter above bottom (m)	Length of record			Timing discrepancy (min)	Notes
				days	hours	min		
1	18 May 1979-	74 (9021)	36	5	3	50	0	Rig trawled up (T)
	18 Jul	431	8	21	19	30	0	
2	18 Jul-	322	39	–	–	–	–	Both meters fouled
	1 Sep	62	8	18	12	37	+ 13	
3	1 Sep-	523	40	35	19	0	0	Rig collapsed: processed in
	7 Nov	122	8	35	17	10	0	2 parts. Meter 523 (T)
4	7 Nov-	53	39	–	–	–	–	Meter leaked
	16 Jan 1980	274	8	71	8	53	−23	Processed in 2 parts
5	16 Jan-?	569	32	11	23	40	0	Station trawled up
		122	8	–	–	–	–	Meter lost

Table 5 Irish Sea, 18-27 March 1979, (Figure 2)

Station		Water depth (m)	Tidal range (m)	Meter no.	Height of meter above bottom (m)	Length of record			Timing discrepancy (min)	Notes
						days	hours	min		
9	54°24′N 03°33′W	20	7.2	74 (9021)	11	7	15	20	0	Good record (T)
				493	6	–	–	–	–	Meter malfunction
10	54°24′N 03°34′W	21	7.2	588	1.5	–	–	–	–	Meter malfunction
16	54°46′N 05°03′W	20	3.7	569	1.5	8	10	8	−28	Good record (P)
17	54°46′N 05°04′W	40	3.7	417	28	–	–	–	–	Meter lost
				77 (9021)	8	8	6	9	−19	Direction suspect (T)
18	54°45′N 05°05′W	105	3.7	566	1.5	–	–	–	–	Meter malfunction
19	54°45′N 05°06′W	107	3.7	53	84	7	23	18	−38	Good record (P)
				71 (9021)	8	7	21	59	− 9	Direction suspect (T)

Table 6 Benacre/Orford, 2-5 June 1979, 27 October-6 November 1979 and 22 May-1 June 1980, (Figure 1)

Station	Water depth (m)	Tidal range (m)	Meter no.	Height of meter above bottom (m)	Length of record			Timing discrepancy (min)	Notes
					days	hours	min		
June 1979									
A 52°01.3′N	26	2.5	71 (9021)	16	3	1	20	0	Good record (T)
01°52.3′E			45 (9021)	8	3	1	40	0	Good record
B 52°22.0′N	36	1.7	162	26	2	23	30	0	Good record
02°01.2′E			642	8	2	23	28	+ 2	Good record (T)
October/November 1979									
E 52°02′N	24	2.5	642	14	9	18	28	− 8	Good record (T)
01°52′E			997	12	9	18	20	+10	Good record (T)
F 02°22′N	39	1.7	295	22	–	–	–	–	Meter malfunction
02°01′E			266	8	1	9	20	0	Meter malfunction
May/June 1980									
E 52°01.6′N	26	2.5	50	14	9	11	59	+ 1	Good record (P)
01°52.3′E			132	8	1	7	50	0	Meter malfunction
F 52°21.9′N	38	1.7	274	29	9	1	40	0	Good record
02°06.0′E			158	8	9	11	37	+ 3	Good record

Table 7 Tees Bay, 21-27 July 1979, (Figure 3)

Station	Water depth (m)	Tidal range (m)	Meter no.	Height of meter above bottom (m)	Length of record			Timing discrepancy (min)	Notes
					days	hours	min		
A 54°45.0′N	43	4.4	122	36	5	19	0	0	Good record
01°04.5′W			162	8	5	19	10	0	Good record
B 54°45.1′N	43	4.4	569	36	6	0	8	− 8	Good record (P)
01°02.5′W			431	8	6	0	1	−11	Good record (T)
C 54°00.4′N	51	4.4	588	39	5	23	50	0	Good record (P)
01°00.4′W			642	8	5	23	59	+ 1	Good record (T)
D 54°45.0′N	54	4.3	50	44	5	23	18	− 8	Good record (P)
00°58.2′W			523	8	5	23	20	0	Good record (T)
E 54°47.5′N	48	4.4	295	38	4	20	39	+ 1	Good record
01°06.0′W			102	8	4	20	30	0	Good record

Table 8 North-east Atlantic Ocean, 29 June 1978-15 June 1979, (Figure 4): hourly recording meters

Station	Water depth (m)	Meter no.	Height of meter above bottom (m)	Length of record			Timing discrepancy (min)	Notes
				days	hours	min		
N6 52°27.8′N	4121	68 (4)	1050	345	14	55	+ 5	Good record (T)
17°42.0′W		472 (4)	50	–	–	–	–	Meter malfunction
F 41°00.4′N	2261	578 (4)	1050	–	–	–	–	Meter lost
27°18.6′W		954 (4)	50	–	–	–	–	Meter lost
G 41°00.1′N	2637	104 (4)	1050	343	0	3	– 3	Direction and temperature only (T)
26°26.4′W		999 (4)	50	342	23	4	– 4	Direction and temperature only (T)
H 40°59.6′N	3364	20 (4)	1050	317	19	0	*	Direction and temperature only (T)
25°47.0′W		647 (4)	50	229	9	0	*	Direction and temperature only (T)
I 41°00.2′N	3590	636 (4)	1050	–	–	–	–	Meter lost
25°20.0′W		773 (4)	50	–	–	–	–	Meter lost
J 41°00.3′N	3753	311 (4)	1050	177	3	0	*	Meter stopped (T)
24°27.1′W		855 (4)	50	80	16	0	0	Meter malfunction (T)
K 41°01.5′N	3395	72 (4)	1050	260	19	3	– 3	Meter malfunction (T)
24°04.5′W		182 (4)	50	342	19	3	– 3	Good record (T)
L 41°00.4′N	4096	824 (4)	1050	294	8	49	+ 11	Direction and temperature only (T)
23°17.8′W		960 (4)	50	342	19	7	– 7	Good record (T)

* Not working on recovery, timing discrepancy not calculated

Table 9 Southern Bight, 27 February-17 March 1980, (Figure 5)

Station	Water depth (m)	Tidal range (m)	Meter no.	Height of meter above bottom (m)	Length of record			Timing discrepancy (min)	Notes
					days	hours	min		
D 52°59.5′N	27	1.2	62	15	5	16	30	0	Meter damaged
04°02.4′E			134	5	5	17	0	0	Meter damaged
E 53°00.3′N	33	1.0	431	15	–	–	–	–	Meter lost
03°29.8′E			754	5	–	–	–	–	Meter damaged
F 52°49.9′N	29	0.9	84	17	12	19	40	0	Meter fouled (T)
03°44.5′E			162	5	7	20	22	– 2	Meter fouled
G 52°39.0′N	30	1.1	295	18	17	19	23	– 3	Good record
04°00.0′E			874	5	–	–	–	–	Meter malfunction
H 52°39.8′N	34	0.7	274	21	17	8	52	– 2	Good record
03°29.5′E			642	5	5	3	10	0	Meter stopped (T)
I 52°40.1′N	41	0.5	332	28	–	–	–	–	Meter lost
02°59.5′E			992	5	–	–	–	–	Meter lost
J 52°30.1′N	38	0.3	152	25	16	22	40	–10	Good record
03°15.2′E			158	5	–	–	–	–	Meter malfunction
K 52°20.1′N	32	0.8	197	19	8	16	20	0	Good record (T)
03°30.0′E			997	5	8	16	20	0	Good record (T)
L 52°20.9′N	36	0.5	266	26	–	–	–	–	Meter malfunction
03°00.2′E			523	5	11	12	40	0	Good record (T)

Table 10 Lowestoft, 1 April-14 May 1980, (Figure 1)

Station	Water depth (m)	Tidal range (m)	Meter no.	Height of meter above bottom (m)	Length of record			Timing discrepancy (min)	Notes
					days	hours	min		
A 52°24.6′N	32	1.8	84	17	18	0	50	0	Meter malfunction (T)
01°55.1′E			162	8	–	–	–	–	Meter lost
B 52°26.5′N	35	1.6	523	21	42	12	49	+1	Good record (T)
02°03.0′E			274	8	42	13	01	−1	Good record
C 52°25.0′N	45	1.2	997	32	13	11	40	0	Meter malfunction (T)
02°17.0′E			158	8	43	0	29	+1	Good record

Table 11 North-east Atlantic Ocean, 8 June 1979-22 June 1980, (Figure 4): provisional data from hourly recording meters

Station	Water depth (m)	Meter no.	Height of meter above bottom (m)	Length of record			Timing discrepancy (min)	Notes
				days	hours	min		
N 50°42.7′N	4754	128 (4)	770	333	7	0	0	Meter stopped (T)
17°00.8′W		543 (4)	50	365	16	59	–	Meter stopped (T). Timing discrepancy not calculated
O 49°10.4′N	4820	353 (4)	830	336	8	0	0	Good record (T)
15°44.6′W		898 (4)	50	301	11	0	–	Meter stopped (T). Timing discrepancy not calculated
P 47°59.5′N	4250	37 (4)	500	359	13	3	− 3	Good record (T)
14°06.4′W		288 (4)	50	359	13	5	− 5	Good record (T)
Q 47°13.6′N	4751	238 (4)	730	364	4	51	+ 9	Direction only (T). 54 observations missing
12°12.8′W		801 (4)	50	352	19	0	–	Tape ran out (T). Timing discrepancy not calculated
R 48°59.2′N	2099	534 (4)	550	–	–	–	–	Meter malfunction
12°52.5′W		926 (4)	50	356	8	51	–	Tape ran out (T). Timing discrepancy not calculated
S 47°04.6′N	4829	538 (4)	810	–	–	–	–	Meter lost
15°32.0′W		629 (4)	50	–	–	–	–	Meter lost
T 46°06.2′N	4760	442 (4)	710	365	5	57	+ 3	Good record (T)
17°08.7′W		490 (4)	560	365	6	0	0	Good record (T)
		703 (4)	50	310	1	59	–	Tape ran out (T). Timing discrepancy not calculated
8 46°37.3′N	4690	80 (4)	4530	–	–	–	–	Meter lost
15°24.4′W		172 (4)	3990	–	–	–	–	Meter lost
		647 (4)	3190	–	–	–	–	Meter lost
		824 (4)	1690	289	15	51	+ 9	(T) *
		960 (4)	690	289	16	8	− 8	(T) *
9 46°35.2′N	4780	176 (4)	4620	–	–	–	–	Meter lost
14°14.5′W		68 (4)	4080	–	–	–	–	Meter lost
		104 (4)	3280	289	15	4	− 4	(T) *
		311 (4)	1780	289	16	12	−12	(T) *
		855 (4)	780	58	17	0	0	Meter malfunction (T) *
N6 52°27.8′N	4124	562 (4)	3937	39	19	0	0	Meter stopped (T) *
17°42.6′W		372 (4)	3493	–	–	–	–	Meter malfunction
		500 (4)	2582	23	4	0	0	Meter stopped (T) *
		607 (4)	1077	290	19	3	− 3	(T) *
		664 (4)	50	365	11	54	+ 6	(T) *

* Near-surface buoyancy lost early on, but meters apparently operated normally afterwards supported by back-up buoyancy. Prior to buoyancy loss there was evidence of surface induced action. So the good velocity and direction data available from stations 8, 9 and N6 should be reduced from that shown by 19, 88 and 40 days respectively.

Table 12 North-east coast of England, 3 July-4 August 1980, (Figure 6)

Station	Water depth (m)	Tidal range (m)	Meter no.	Height of meter above bottom (m)	Length of record			Timing discrepancy (min)	Notes
					days	hours	min		
A 55°03.4'N	33	4.3	634	16.5	27	10	26	−6	Good record (T)
01°22.5'W			143	8	27	16	19	+1	Good record
B 55°04.0'N	50	4.3	146	37	26	15	29	+1	Good record
01°17.0'W			642	15	9	6	40	0	Meter malfunction (T)
C 55°07.0'N	90	4.0	134	78	–	–	–	–	Meter malfunction
01°01.0'W			126	30	–	–	–	–	Meter lost
D 55°14.8'N	72	3.1	436	57	21	10	30	0	Rig disturbed (T)
00°15.0'W			523	30	21	11	20	0	Rig disturbed (T)
			158	10	–	–	–	–	Meter lost
E 55°27.9'N	74	1.9	84	60	–	–	–	–	Meter lost
01°00.0'E			295	20	12	19	50	0	Meter malfunction
F 54°50.0'N	83	3.5	877	70	27	18	10	0	Good record
00°04.0'W			137	20	27	18	00	0	Good record
G 55°04.5'N	61	2.3	50	49	25	14	37	+3	Good record (P)
01°07.9'E			997	15	–	–	–	–	Meter lost
H 55°00.0'N	26	1.8	152	14	14	19	20	0	Meter malfunction
01°48.0'E									
I 54°23.0'N	42	2.5	721	30	31	2	35	+5	Good record (T)
01°47.0'E			730	8	31	2	0	0	Good record (T)
J 54°04.0'N	90	3.1	77	75	–	–	–	–	Meter lost
01°47.0'E			754	31	14	11	10	0	Meter malfunction (T)
K 53°48.0'N	38	4.3	62	22	32	1	38	+2	Good record
01°04.1'E			274	5	9	19	0	0	Meter malfunction
L 53°48.1'N	30	3.4	540	22	9	3	50	0	Meter malfunction
01°47.1'E			874	5	31	18	18	+2	Good record
M 53°10.2'N	12	5.1	140	4	7	14	0	0	Meter malfunction
01°02.1'E									

Table 13 East Yorkshire coast, 8-30 November 1980, (Figure 1)

Station	Water depth (m)	Tidal range (m)	Meter no.	Height of meter above bottom (m)	Length of record			Timing discrepancy (min)	Notes
					days	hours	min		
EY 53°48.9'N	28	5.5	143	11.5	17	11	50	0	Meter malfunction
00°11.3'E			721	9	19	4	53	−3	Meter malfunction (T)

Table 14 St Bees Head, 10-25 November 1980, (Figure 2)

Station	Water depth (m)	Tidal range (m)	Meter no.	Height of meter above bottom (m)	Length of record			Timing discrepancy (min)	Notes
					days	hours	min		
18 54°30.0′N 03°41.1′W	29	7.2	634	9.5	14	23	28	+2	Good record (T)
			134	4	12	10	20	0	Meter malfunction
19 54°29.6′N 03°40.7′W	28	7.2	146	1	–	–	–	–	Meter malfunction

Table 15 Basic data referring to scale of MAFF shelf seas moored current meter exercises and the losses incurred on each one, 1979-80

Exercise	Limits of duration (days) (a)	Mean duration (days) (b)	Number of rigs laid (c)	Number of meters used (d)	Number of meters lost (e)
1979					
JONSIS 1					
13 Dec 1978-18 Jan 1980	25-70	50	8	16	4 (2 subsequently returned)
JONSIS 2					
13 Dec 1978-19 Jan 1980	27-76	57	7	14	7
Tees					
16 May-9 Nov	41-70	60	3	6	1
South Falls					
18 May 1979-17 Jan 1980	46-70	61	4	8	2 (subsequently returned)
Irish Sea					
18-27 Mar	8-9	8	6	9	1
Benacre/Orford					
2-5 June	3	3	2	4	0
27 Oct-6 Nov	10	10	2	4	0
Tees Bay					
21-27 Jul	5-6	6	5	10	0
1980					
JONSIS 1					
18 Jan-30 Nov	24-52	38	8	16	0
JONSIS 2					
19 Jan-26 Oct	24-52	40	7	14	0
Southern Bight					
27 Feb-17 Mar	9-19	16	9	18	3
Lowestoft					
1 Apr-14 May	42-43	42	3	6	1
Benacre/Orford					
21 May-1 Jun	10	10	2	4	0
NE coast of England					
3 Jul-4 Aug	24-32	29	13	25	8 (3 subsequently returned)
E Yorkshire	23	23	1	2	0
St Bees Head	15	15	2	3	0

Table 16 Current meter losses calculated in two ways and related to the mean duration of the exercise and the number of rigs used respectively

Exercise	Mean duration, (b) of Table 15	Number of rigs used, (c) of Table 15	% loss incurred*	Gross meter losses per 100 days of potential data†
1979				
JONSIS 1	50	8	25.0	0.50
JONSIS 2	57	7	50.0	0.88
Tees	60	3	16.6	0.28
South Falls	61	4	25.0	0.41
Irish Sea	8	6	11.1	1.39
Benacre/Orford				
June	3	2	0	0
October	10	2	0	0
Tees Bay	6	5	0	0
1980				
JONSIS 1	38	8	0	0
JONSIS 2	40	7	0	0
Southern Bight	16	9	16.6	1.05
Lowestoft	42	3	16.6	0.40
Benacre/Orford	10	2	0	0
NE coast of England	29	13	32.0	1.10
E Yorkshire	23	1	0	0
St Bees Head	15	2	0	0

* From Table 15 $\frac{e}{d} \times 100$ † From Table 15 $\frac{e}{b \times d} \times 100$

Table 17 Mean losses for 1979 and 1980 calculated in terms of (a) absolute percentage, (b) meter losses per 100 days of potential data

		(a) Absolute %	(b) Meter losses/ 100 days potential data
Average losses*			
(gross)	1979	21.12	0.43
	1980	13.64	0.31
(net)	1979	15.49	0.35
	1980	10.23	0.27
Weighted means†			
(gross)	1979	–	0.57
	1980	–	0.47
(net)	1979	–	0.41
	1980	–	0.35

* Average loss rate (meters lost per 100 meter days of potential data) for each exercise = $\frac{e \times 100,}{b \times d}$

where e is net or gross numbers of meters lost, b is duration of mooring, d is number of meters used (from Table 15).

† Weighted loss rate (meters lost per 100 meter days) = $\frac{\text{Total number of meters lost (net or gross x 100}}{\text{Sum of b x d for each exercise (From Table 15)}}$

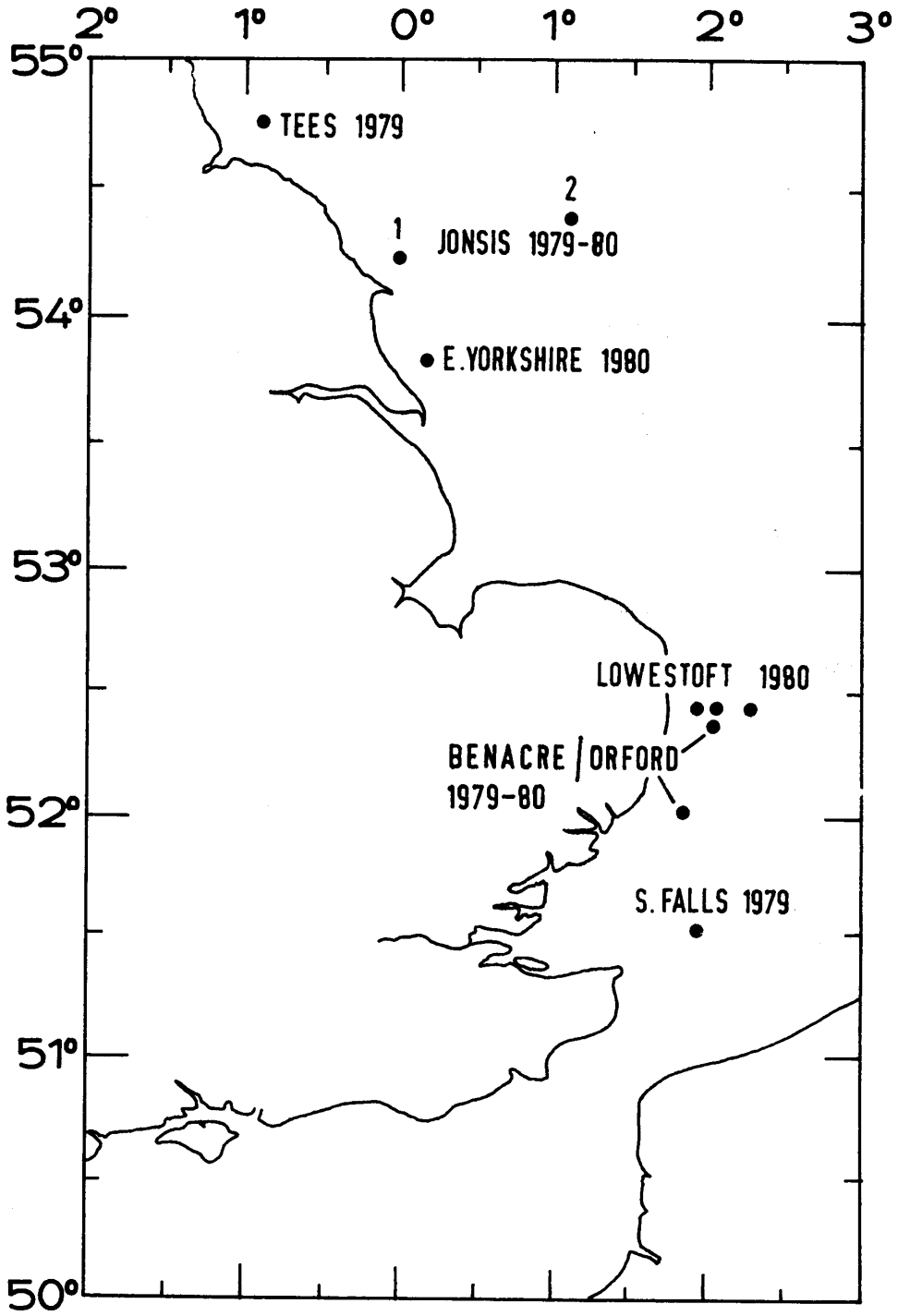

Figure 1 Some of the North Sea stations, 1979-80. (Tables 1, 2, 3, 4, 6, 10 and 13)

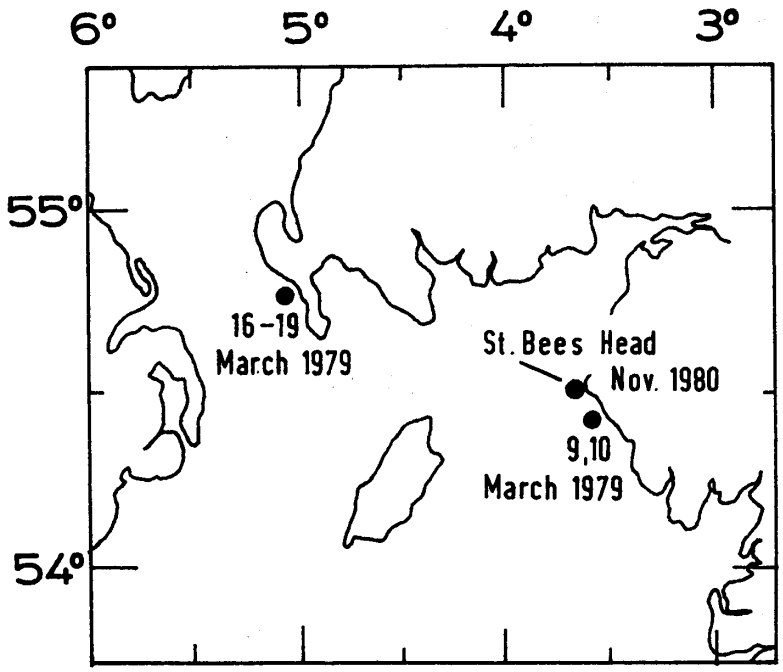

Figure 2 Irish Sea stations, March 1979 and November 1980. (Tables 5 and 14)

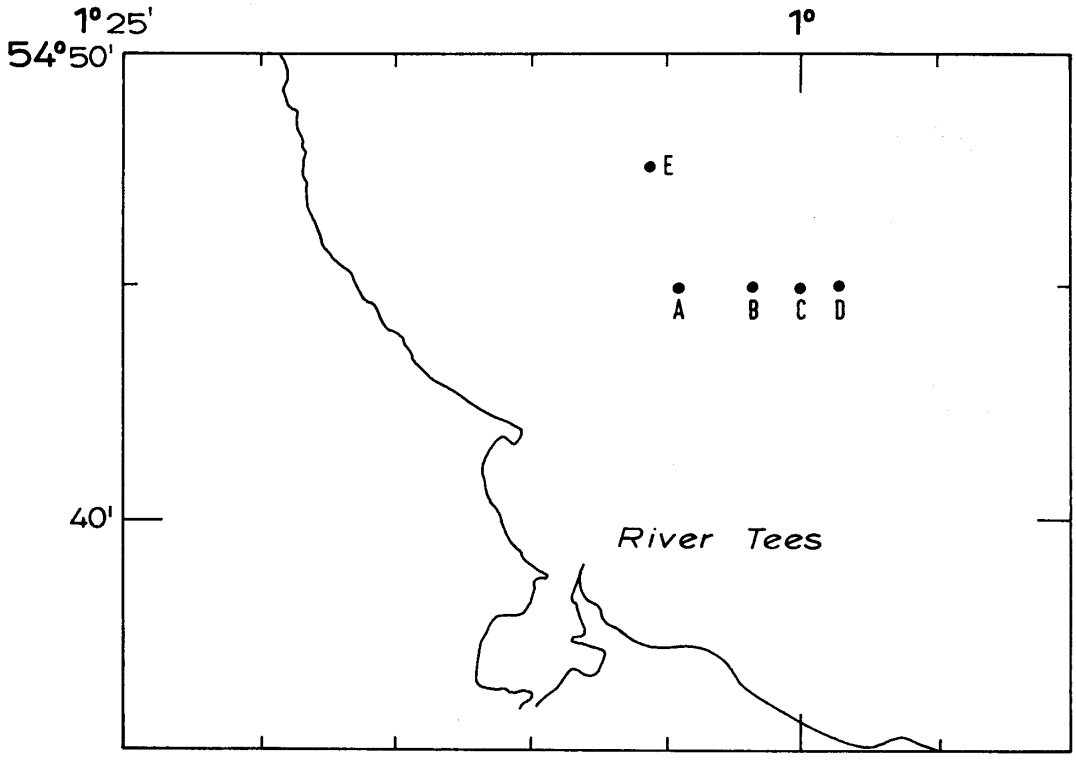

Figure 3 Tees Bay stations, July 1979. (Table 7)

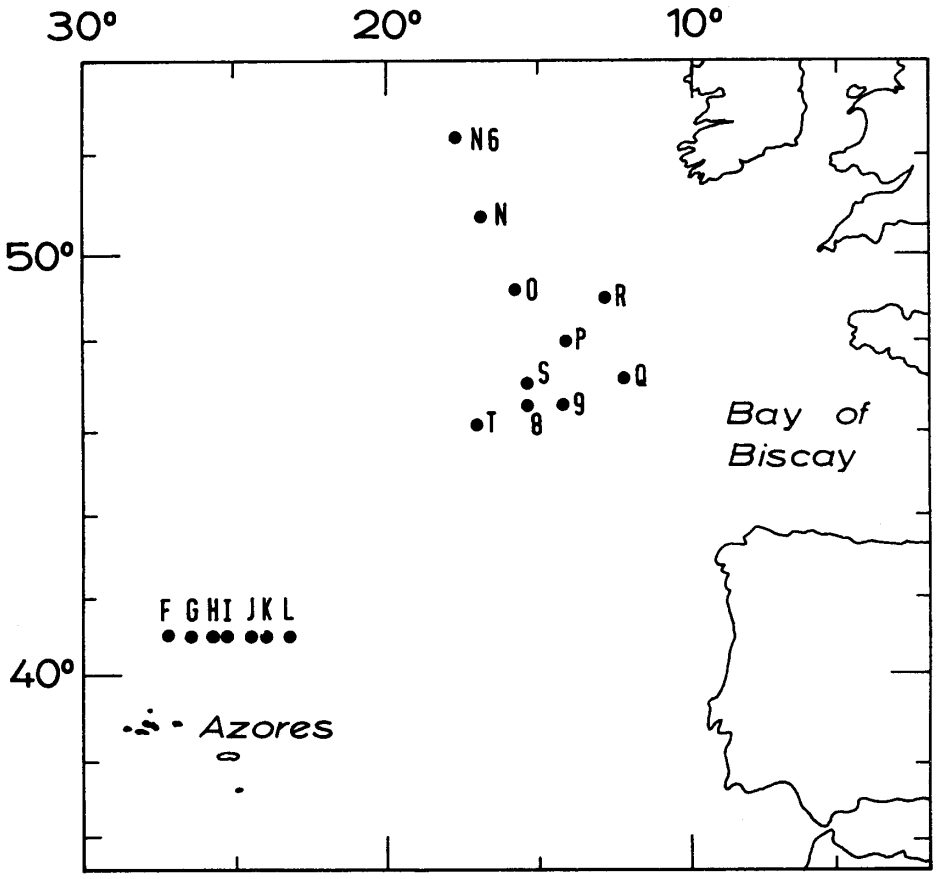

Figure 4 North-east Atlantic stations, 1979-80. (Tables 8 and 11)

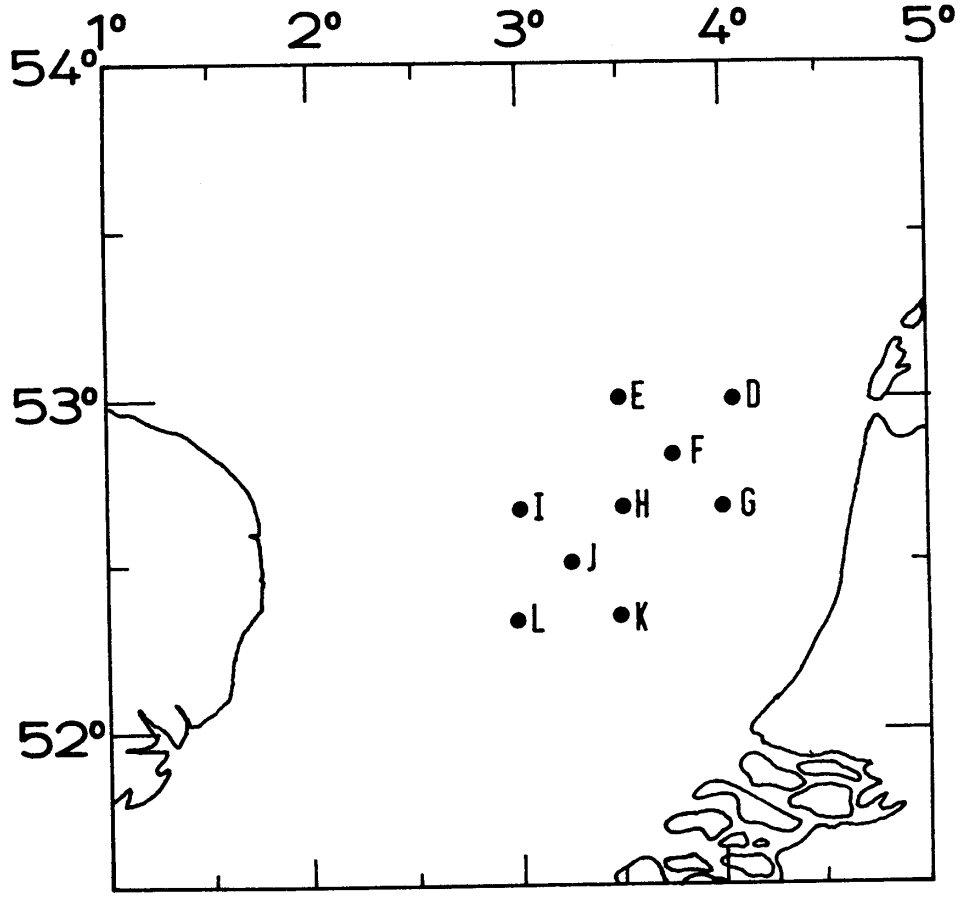

Figure 5 Southern North Sea stations, February 1980. (Table 9)

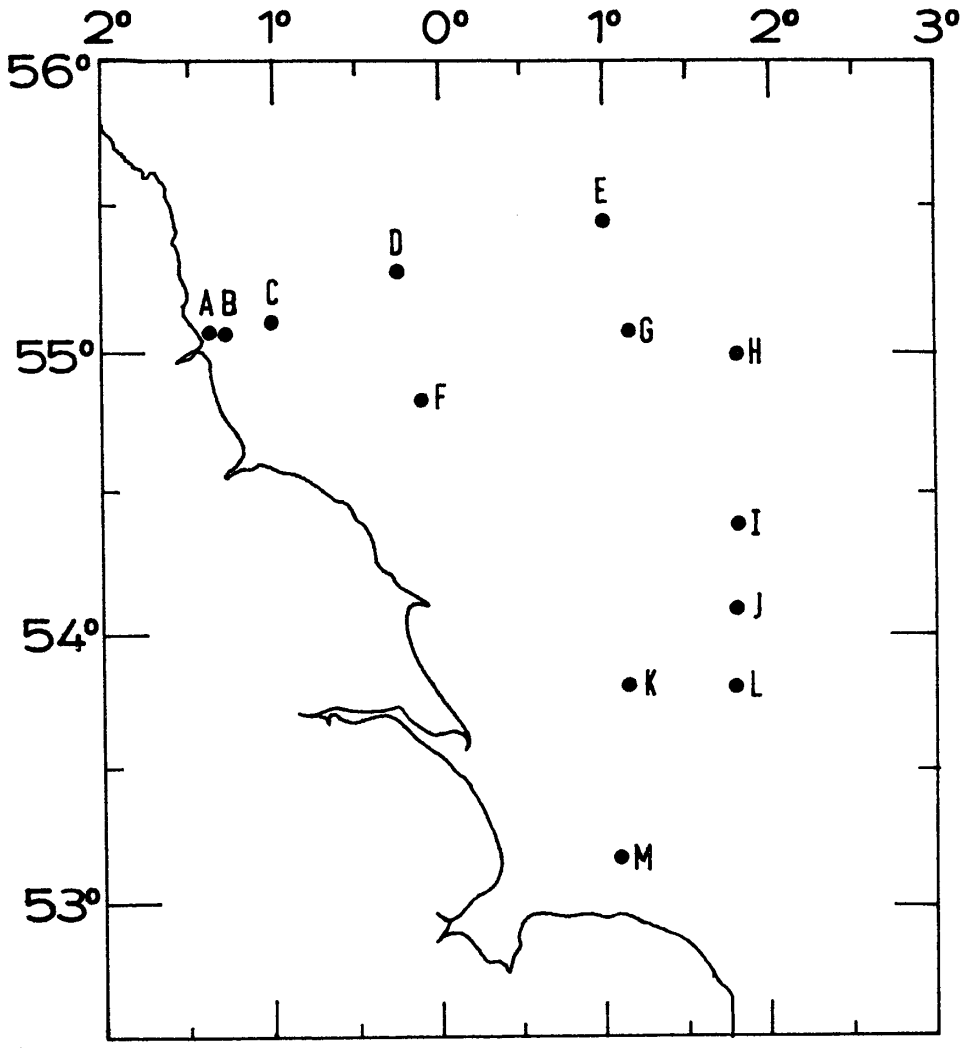

Figure 6 North-east coast of England stations, July 1980. (Table 12)

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