



## Cruise Summary Report

ICES Reference Number	1996 74 013 0 0 1 1 ESOP-2 MAST III ESOP Project Office, SMR, Bergen/EC
Project Name	
Country	UK
Cruise Dates	20 Jul 1996 to 22 Aug 1996
Departure & Arrival Ports	(Grimsby to Grimsby)
Location - (Marsden Squares and IHB International Hydrographic Bureau areas):-	MSQ 181;1 181;3 216;1 217;1 217;3 253;1 253;2 253;3 253;4 287;3 287;4 288;1 288;2 288;3 288;4 IHB05 IHB23a (Cruise track chart has been supplied)
Operator	School of Environmental Sciences, University of East Anglia, (UEA)
Ship	James Clark Ross (ZDLP)
Cruise Designation & Objectives	Cr. JR14. <a href="#">report</a>
Chief Scientist(s)	A Watson
Contact Person(s)	a A Watson, UEA b T Johannessen, Geophysical Institute, University of Bergen c J-C Gascard, LODYC, Univ. Pierre et Marie Curie, Paris d E Fogelqvist, Dept. Analytical & Marine Chemistry, Gothenburg
<b>Station/Underway Observations</b>	
*H71 Surface measurements underway (T,S) *	Number of stations (or nm's etc.),... 25days Contact Person(s) (see above for key). ad Other Information: +pCO2 and fluorescence
*D90 Other physical oceanographic measurements	Number of stations (or nm's etc.),... 14tows Contact Person(s) (see above for key). a Other Information: horizontal CTD tows, t, S & pressure at 350-440m depth
*H09 Water bottle stations	Number of stations (or nm's etc.),... 30 Contact Person(s) (see above for key). a Other Information: 27 at ICES(ENQ538K) 1 with T only 24 water bottles
*H10 CTD stations	Number of stations (or nm's etc.),... 30 Contact Person(s) (see above for key). a Other Information: Data received, but rejected
*H21 Oxygen	Number of stations (or nm's etc.),... 30 Contact Person(s) (see above for key). b Other Information: 25 at ICES
*H22 Phosphate	Number of stations (or nm's etc.),... 30 Contact Person(s) (see above for key). d Other Information: 25 at ICES
*H24 Nitrate	Number of stations (or nm's etc.),... 30 Contact Person(s) (see above for key). d Other Information: 25 at ICES
*H26 Silicate	Number of stations (or nm's etc.),... 30 Contact Person(s) (see above for key). d Other Information: 25 at ICES
*H27 Alkalinity	Number of stations (or nm's etc.),... 30 Contact Person(s) (see above for key). d Other Information: 24 at ICES

*QCMXGCTX (H73)Tetrachloromethane(CCl4)	Number of stations (or nm's etc.),.... 30 Contact Person(s) (see above for key). d Other Information: 23 at ICES H73
*FR11GCTX (H73)Freon - 11	Number of stations (or nm's etc.),.... 30 Contact Person(s) (see above for key). b Other Information: 23 at ICES H73
*FR12GCTX (H73)Freon - 12	Number of stations (or nm's etc.),.... 30 Contact Person(s) (see above for key). b Other Information: 23 at ICES H73
*F113GCTX (H73)Freon - 113	Number of stations (or nm's etc.),.... 30 Contact Person(s) (see above for key). b Other Information: 23 at ICES H73
*DSF6GCDX (H73)Dissolved sulphur hexafluoride	Number of stations (or nm's etc.),.... 30 Contact Person(s) (see above for key). b Other Information: 25 at ICES H73
*TCO2CBTX (H74)Total dissolved inorganic carbon (TCO2)	Number of stations (or nm's etc.),.... 30 Contact Person(s) (see above for key). d Other Information: 24 at ICES H74
*D05 Surface drifters/drifted buoys	Number of stations (or nm's etc.),.... 1 Contact Person(s) (see above for key). c Other Information: +H74 "Carioca" pCO2 drifting buoy
*D06 Neutrally buoyant floats	Number of stations (or nm's etc.),.... 14 Contact Person(s) (see above for key). c Other Information: 8 sound-source moorings, 6 floats isobaric drifters
Time Series Observations	
*D06 Neutrally buoyant floats	Number of stations (or nm's etc.),.... 1 Contact Person(s) (see above for key). c Position :7236.8 N 00510.7 W Other Information: S14 sound-source mooring, depth 2910m
*D06 Neutrally buoyant floats	Number of stations (or nm's etc.),.... 1 Contact Person(s) (see above for key). c Position :7358.2 N 00535.9 W Other Information: S11 sound-source mooring, depth 3430m
*D06 Neutrally buoyant floats	Number of stations (or nm's etc.),.... 1 Contact Person(s) (see above for key). c Position :7541.8 N 00557.8 W Other Information: S13 sound-source mooring, depth 3283m
*D06 Neutrally buoyant floats	Number of stations (or nm's etc.),.... 1 Contact Person(s) (see above for key). c Position :7318.3 N 00009.9 E Other Information: S10 sound-source mooring, depth 3080m
*D06 Neutrally buoyant floats	Number of stations (or nm's etc.),.... 1 Contact Person(s) (see above for key). c Position :7354.6 N 00530.3 E Other Information: S09 sound-source mooring, depth 3200m
*D06 Neutrally buoyant floats	Number of stations (or nm's etc.),.... 1 Contact Person(s) (see above for key). c Position :7440.7 N 00001.5 W Other Information: S12 sound-source mooring, depth 3730m
*D05 Surface drifters/drifted buoys	Number of stations (or nm's etc.),.... 1 Contact Person(s) (see above for key). c Position :7459.9 N 00259. W Other Information: +H74 "Carioca" pCO2 drifting buoy

*D06 Neutrally buoyant floats	Number of stations (or nm's etc.),.... 1 Contact Person(s) (see above for key). c Position :7539.8 N 00436.4 W Other Information: S08 sound-source mooring, depth 3270m
*D06 Neutrally buoyant floats	Number of stations (or nm's etc.),.... 1 Contact Person(s) (see above for key). c Position :7512.5 N 00234.8 W Other Information: deployment of float 675 isobaric drifter
*D06 Neutrally buoyant floats	Number of stations (or nm's etc.),.... 1 Contact Person(s) (see above for key). c Position :7518.9 N 00159.5 W Other Information: deployment of float 679 isobaric drifter
*D06 Neutrally buoyant floats	Number of stations (or nm's etc.),.... 1 Contact Person(s) (see above for key). c Position :7505.6 N 00116.7 W Other Information: deployment of float 676 isobaric drifter
*D06 Neutrally buoyant floats	Number of stations (or nm's etc.),.... 1 Contact Person(s) (see above for key). c Position :7535.2 N 00230.6 W Other Information: deployment of float 678
*D06 Neutrally buoyant floats	Number of stations (or nm's etc.),.... 1 Contact Person(s) (see above for key). c Position :7455.96N 00903.23E Other Information: S13 sound-source mooring
*D06 Neutrally buoyant floats	Number of stations (or nm's etc.),.... 1 Contact Person(s) (see above for key). c Position :7520. N 004 0.1 W Other Information: deployment of float 677 isobaric drifter
*D06 Neutrally buoyant floats	Number of stations (or nm's etc.),.... 1 Contact Person(s) (see above for key). c Position :7450.0 N 00300.6 W Other Information: deployment of float 680 isobaric drifter