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THE MARINE OBSERVER

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COVER PHOTOGRAPH: Flock of Northern Gannets (*Sula bassana*) photographed from the *Cirolana* in position 50° 03'N, 04° 11'W on 7 January 1992, by Captain B.A. Chapman.

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EXCELLENT AWARDS 1992

The general process of assessment of meteorological logbooks includes selection of those for the annual Excellent Award nominations: the business of selecting 100 or so logs to receive book awards, from the 834 received in 1992, has become increasingly difficult. The total includes 95 logs received from co-operating oil rigs and platforms using Ship Code, leaving a net total of logs far less than we were receiving five years ago. This reflects a certain decline in the volume and standard of voluntary observing undertaken by the ships recruited on that understanding. The Fleet List contained in this edition highlights large numbers of Selected Ships which have not submitted a log for three years or more: indeed, some ships, which we know have the time and opportunity to do so, have not transmitted or mailed any recorded observations for eight years or more. If there **are** any ships which carefully record and transmit the coded observations, but do not send in completed logbooks to Bracknell, they are advised to mail them to the Marine Division as soon as possible. Not only are the records of inestimable use in long term climatology, but they may qualify for awards.

However, we have as usual made concessions to those on special work in smaller craft, or coasting for instance, giving extra credit wherever possible to maintain a just distribution of the awards. In acknowledgement of their greater participation and the continuing need for their unique contribution from Home Waters, twelve officers, three more than usual, on MARID ships, have been nominated this year.

As in past years, 100 each of Masters, Principal Observers and Radio Officers are listed to receive book awards for their 1992 co-operation, and our congratulations to them. For their logs received in Bracknell after 31 December, there will be some whose names have been carried forward to next year.

The ships submitting meteorological logbooks of the highest quality in 1992 are as follows:

1. m.v. *Benavon*, Benmarine Ltd, Captain F.G.J. Anderson, Principal Observer R.G.C. Noble and Marconi Radio Officer R.A.M. Lynn.
2. m.v. *Flinders Bay*, P&O Containers Ltd, Captain D.K. MacCorquodale and Principal Observer F.N. Cambra.
m.v. *West Moor*, Jeppesen Heaton Ltd, Captains J.M. Campbell and D. Johnstone, and Principal Observers N.C. Horner and A. Lomas.
m.v. *Wiltshire*, Bibby Line Ltd, Captain P.S. Bytheway, and Principal Observer I.G. MacNeil.
3. m.v. *Pacific Sandpiper*, James Fisher & Sons, Captain D. Marr.
m.v. *Mairangi Bay*, P&O Containers Ltd, Captains P.D. Davies and B. Graham.
m.v. *British Steel*, Furness Withy (Shipping) Ltd, Captains I.B. Middleton and R.G. Gibbons.
4. m.v. *British Success*, BP Shipping Ltd, Captain R.A.W. Jarrett.
m.v. *Remuera Bay*, P&O Containers Ltd, Captains J.H. Hutson and A.J. Fee.
m.v. *City of Ipswich*, Denholm (IOM) Ltd, Captains G.M. Railson and R.H. Nightingale.
m.v. *Resolution Bay*, P&O Containers Ltd, Captains C.R. Short and R.T. Wood.



Photo. by courtesy of P&OCL

Flinders Bay (P&O Containers Ltd) Captain D.K. MacCorquodale.



Photo. by courtesy of Jeppesen Heaton Ltd

West Moor (Jeppesen Heaton Ltd) Captains J.M. Campbell and D. Johnstone.



Photo. by courtesy of Skyfotos

Wiltshire (Bibby Line Ltd) Captain P.S. Bytheway.

**THREE OF THE SHIPS WHICH GAINED THE HIGHEST MARKS FOR
THEIR METEOROLOGICAL LOGBOOKS DURING 1992**

5. m.v. *Moreton Bay*, P&O Containers Ltd, Captains D.S. Hughan and C.D. Croall.
m.v. *Nickerie*, Wallem (IOM), Captain C.J.B. Trinick.
m.v. *Maersk Cadet*, Maersk (IOM) Ltd, Captains A.K. Froggatt and N. Vause.
m.v. *Baltic Breeze*, Mann Motorships Ltd, Captains Omar Bin Ali and L.K. Huat.
m.v. *Pacific Teal*, James Fisher & Sons, Captains J.M. Miller and M.J. Stares.

As Ben Line have regrettably sold their ships, we hope to be able to contact the former *Benavon* staff by other means, and meanwhile we publish photographs of the next three ships listed. For the book awards we have chosen Cassell's *Concise English Dictionary*, *Philip's International World Atlas* and BBC Enterprises' *Pole to Pole* by Michael Palin. Duplication of book type sent to recipients is avoided from year to year.

Letters of advice are even now on their way to advise nominees of their awards. If anyone sees their name in the accompanying list but has not received a letter advising them of the fact, they are invited to contact us, enclosing his or her name and forwarding address, as well as Discharge Book or Seaman's Book number, via the Marine Superintendent, Meteorological Office, Met O (OM), Scott Building, Eastern Road, Bracknell, Berks RG12 2PW. There are several unclaimed awards from previous years and these are shown at the end of the list following.

Excellent Awards (Year ended 31 December 1992)

CAPTAIN	COMPANY	CAPTAIN	COMPANY
F.G.J. Anderson.....	Benmarine Ltd	J.-A. Holst.....	Denholm Ship Management (I.O.M.) Ltd
P.R. Anderson.....	BP Shipping Ltd	L. Holtschmidt.....	Denholm Ship Management (I.O.M.) Ltd
R. Arkless.....	Texaco Overseas Tankships Ltd	L.K. Huat.....	Mann Motorships Ltd
C.C. Baines.....	Andrew Weir Shipping plc	D.S. Hughan.....	P&O Containers Ltd
N.J. Barr.....	Concordia Marine Co. Ltd	J.H. Hutson.....	P&O Containers Ltd
A.D.G. Bell.....	A/S Havtor Management	R.A.W. Jarrett.....	BP Shipping Ltd
D.G. Browne.....	Bibby Line Ltd	T.L. Jeffery.....	F.T. Everard & Sons Ltd
P.S. Bytheway.....	Bibby Line Ltd	D. Johnstone.....	Jeppesen Heaton Ltd
T.D. Callaghan.....	Jardine Ship Management (U.K.) Ltd	C.S. Kingston.....	Cunard Ellerman Shipping Services Dept
J.M. Campbell.....	Jeppesen Heaton Ltd	A.G. Lacey.....	James Fisher & Sons plc
R. Carr.....	Souter Shipping Ltd	K.G.E. Lawrence.....	BP Shipping Ltd
M.W. Carruthers.....	Scottish Office Agri. & Fish. Dept	S.J. Lawrence.....	British Antarctic Survey
B.A. Chapman.....	Minst. of Agriculture, Fisheries & Food	I.C. Ligertwood.....	London Ship Managers Ltd
B.V. Chipperfield.....	P&O Containers Ltd	A.J. Lockwood.....	BP Shipping Ltd
M.J. Cole.....	British Antarctic Survey	D.K. MacCorquodale.....	P&O Containers Ltd
J. Conn.....	Souter Shipping Ltd	H.A. MacKenzie.....	Scottish Office Agri. & Fish. Dept
C.D. Croall.....	P&O Containers Ltd	P.J.R. Manson.....	P&O Containers Ltd
P.D. Davies.....	P&O Containers Ltd	D. Marr.....	James Fisher & Sons plc
A.F. Devanney.....	Shell Ship Managers Ltd	W.A. Mason.....	Benmarine Ltd
A.J. Fee.....	P&O Containers Ltd	K.L. McCrory.....	Mobil Shipping Co. Ltd
S. Foster.....	The Maersk Co. (I.O.M.) Ltd	A.C. McCulloch.....	P&O Containers Ltd
J.R. French.....	Minst. of Agriculture, Fisheries & Food	N.E. McInnes.....	Scottish Office Agri. & Fish. Dept
A.K. Froggatt.....	The Maersk Co. (I.O.M.) Ltd	R. McVeigh.....	BP Pet. Dev. (U.K.) Ltd
A. Gatt.....	Chelston Ship Management Ltd	I.B. Middleton.....	Furness Withy (Shipping) Ltd
J.S. Gavin.....	Bibby Line Ltd	J.M. Miller.....	James Fisher & Sons plc
R.C. Gibbons.....	Furness Withy (Shipping) Ltd	S.K. Mohan.....	Wallem Shipmanagement (H.K.) Ltd
M.J.R. Godbehear.....	P&O Containers Ltd	A.D. Moos.....	Wallem Shipmanagement (H.K.) Ltd
B. Graham.....	P&O Containers Ltd	C.R. Mundy.....	Blue Star Ship Management Ltd
K. Greest.....	Souter Shipping Ltd	K.W. Newman.....	A/S Havtor Management
B.A. Hall.....	Scottish Office Agri. & Fish. Dept	J.B. Nichols.....	Marr Vessel Management Ltd
B.F. Hawkins.....	Logbridge Ltd	R.H. Nightingale.....	Denholm Ship Management (I.O.M.) Ltd
L.J. Hesketh.....	P&O Ship Management Ltd	D.R. Norman.....	The Astrid Trust

Excellent Awards (contd)

CAPTAIN	COMPANY	CAPTAIN	COMPANY
Omar Bin Ali	Mann Motorships Ltd	M.J. Stares	James Fisher & Sons plc
K.E. Peacock	BP Shipping Ltd	D.C.J. Still	Shell Ship Management Ltd
L.C. Pink	F.T. Everard & Sons Ltd	R. Tanguy	A/S Havtor Management
G.M. Railson	Denholm Ship Management (I.O.M.) Ltd	G.W.H. Tennant	Scottish Office Agri. & Fish. Dept
D.J. Robinson	Marine Management (I.O.M.) Ltd	C.O. Thomas	Bibby Line Ltd
P.E.T. Robinson	P&O Containers Ltd	P.C. Thompson	Benmarine Ltd
R. Ross	F.T. Everard & Sons Ltd	A.R. Timbs	Square Sail Pacific
J.G. Ruffell	Shell Ship Management Ltd	C.J.B. Trinick	Wallem Shipmanagement (I.O.M.) Ltd
R.A. Shopland	P&O European Ferries (Portsmouth) Ltd	N. Vause	The Maersk Co. (I.O.M.) Ltd
C.R. Short	P&O Containers Ltd	J.W. Welch	P&O Containers Ltd
D.T. Simpson	Kvaerner Shipping A/S	I.R. Wemyss	Ropner Shipping Services Ltd
A.M. Smart	Chelston Ship Management Ltd	D.S. Winsor	London Ship Managers Ltd
J.A. Smeeton	P&O Ship Management Ltd	G. Watson-Wood	Graig Shipping plc
J.C. Smith	London Ship Managers Ltd	R.T. Wood	P&O Containers Ltd
S.D. Smith	P&O Containers Ltd	B. Yelland	Frigomaris Shipping (GmbH)
P.G.H. Stapleton	Andrew Weir Shipping plc		

PRINCIPAL OBSERVING OFFICER	COMPANY	PRINCIPAL OBSERVING OFFICER	COMPANY
A.F. Afghani	Wallem Shipmanagement (I.O.M.) Ltd	K. Henderson	Souter Shipping Ltd
J.S. Anderson	P&O Containers Ltd	D.J. Hinson	P&O Containers Ltd
W. McC. Axon	P&O Containers Ltd	N.C. Horner	Jeppesen Heaton Ltd
D.J. Ayling	Chelston Ship Management Ltd	E.A. Isla	London Ship Managers Ltd
I.C. Bacon	Shell Ship Management Ltd	R.O. Jolliffe	Minst. of Agr. Fisheries & Food
C.A. Bates	James Fisher & Sons plc	V. Kapur	P&O Ship Management Ltd
M.L. Bechley	P&O European Ferries (Portsmouth) Ltd	T.T. Latio	BP Shipping Ltd
D.E. Beresford	P&O European Ferries (Portsmouth) Ltd	J.P. Laycock	Scottish Office Agri. & Fish. Dept
L. Bermejo	Wallem Ship Management (H.K.) Ltd	P. Lloyd	Chelston Ship Management Ltd

A.S.T. Beveridge.....	A. Lomas	Jeppesen Heaton Ltd
K. Bimpeh.....	L.G. Mackenzie	P&O Containers Ltd
C.W. Blacker	D.I. MacKinnon	Bibby Line Ltd
N.J. Blacker	I.G. MacNeil	Bibby Line Ltd
K. Bradshaw	A.D. Macpherson.....	Denholm Ship Management (I.O.M.) Ltd
R.J.A. Brearley	C. Macsweeney.....	Souter Shipping Ltd
D.J. Buckley	P.J. Mahoney	James Fisher & Sons plc
F.N. Cambra	S. Maqsood	Shell Ship Management Ltd
N. Campbell.....	C.R. Merry	P&O Containers Ltd
P.N.W. Collings.....	R.C. Mitcheson.....	James Fisher & Sons plc
T. Collins	C.L. Molina	London Ship Managers Ltd
P. Compton.....	R. Moore.....	Furness Withy (Shipping) Ltd
S.A. Crow	G.C. Morgan.....	British Antarctic Survey
R. Cyabyab	T.D. Morrison	P&O Containers Ltd
R.W. Dalton.....	F.T.G. Mulrooney	The Maersk Co. (I.O.M.) Ltd
A. Davidson.....	R.G.C. Noble.....	Benmarine Ltd
P.W.R. Davidson	I.C. Oke	Mann Motorships Ltd
M.A. Davies.....	T.D. Oliver.....	P&O Containers Ltd
C.K. Devries	W.N. Oo.....	Mann Motorships Ltd
J. Dionio	R.S. Payne	Shell Ship Management Ltd
J.F. Dobson	O. Power.....	Marine Management (I.O.M.) Ltd
D.L. Dodsworth.....	Y. Puzaev	Wallem Shipmanagement (H.K.) Ltd
M.P. Donnelly	T.K. Ramroop.....	Bibby Line Ltd
W.R. Durrans.....	J.M. Read.....	Texaco Overseas Tankships Ltd
M. Dvornik	R.H. Roemmele	Denholm Ship Management (I.O.M.) Ltd
M.K. Elson.....	D. Rogers	P&O Containers Ltd
A.B. Escaner.....	N.C. Rollorata.....	A/S Havtor Management
R.J. Gabutin	J.V. Sedonio.....	Graig Shipping plc
V.B. Gacosta.....	A. Shakeel.....	P&O Containers Ltd
D.E. Ginder.....	D.M. Sharp	BP Shipping Ltd
R.B. Gonzales.....	C.S. Shaw	Souter Shipping Ltd
R. Gulati	A.J. Skingley	P&O Containers Ltd
R.I. Guzman.....	A. Somerton.....	Marr Vessel Management Ltd
C. Hall.....	M.B. Styles.....	Scottish Office Agri. & Fish. Dept
S.J. Hamer	M.C.P. Sutcliffe.....	P&O Containers Ltd
G.C. Harwood.....	D.W. Temple.....	Scottish Office Agri. & Fish. Dept
G.B. Haynes.....	S.A. Vertudazo	A/S Havtor Management
Scottish Office Agri. & Fish. Dept		
Wallem Shipmanagement (I.O.M.) Ltd		
Mobil Shipping Co. Ltd		
Kvaerner Shipping A/S		
P&O Containers Ltd		
Benmarine Ltd		
BP Shipping Ltd		
P&O Containers Ltd		
Denholm Ship Management (I.O.M.) Ltd		
BP Shipping Ltd		
Scottish Office Agri. & Fish. Dept		
The Astrid Trust		
Cunard Ellerman Shipping Services Dept		
Logbridge Ltd		
The Maersk Co. (I.O.M.) Ltd		
Bibby Line Ltd		
P&O Containers Ltd		
BP Pet. Dev. (U.K.) Ltd		
Furness Withy (Shipping) Ltd		
Andrew Weir Shipping plc		
Concordia Marine Co. Ltd		
P&O Containers Ltd		
Scottish Office Agri. & Fish. Dept		
James Fisher & Sons plc		
Ropner Shipping Services Ltd		
P&O Containers Ltd		
A/S Havtor Management		
Frigomar Shipping (GmbH)		
Andrew Weir Shipping plc		
Andrew Weir Shipping plc		
Jardine Ship Management (U.K.) Ltd		
P&O Ship Management Ltd		
London Ship Managers Ltd		
Square Sail Pacific		
Denholm Ship Management (I.O.M.) Ltd		
F.T. Everard & Sons Ltd		
BP Shipping Ltd		

Excellent Awards (contd)

PRINCIPAL OBSERVING OFFICER	COMPANY	PRINCIPAL OBSERVING OFFICER	COMPANY
S.I. Wallace	British Antarctic Survey	M.P. Willis.....	P&O Containers Ltd
P.M. White.....	The Maersk Co. (I.O.M.) Ltd	E.K. Andoh-Wilson	F.T. Everard & Sons Ltd
G.L. Williams	Blue Star Ship Management Ltd		

RADIO OFFICER	COMPANY	RADIO OFFICER	COMPANY
N.M. Abbott.....	Curnow Shipping Ltd	T.S. Ilkov	Graig Shipping plc
A. Adovas.....	Jardine Ship Management (U.K.) Ltd	P.W. Jackson*	Denholm (I.O.M.) Ltd
A. Alaba.....	Logbridge Ltd	M. Kearney*	Andrew Weir Shipping plc
S.R. Allaker*	Denholm Ship Management (I.O.M.) Ltd	P.F. Kelly	E.B. Communications (G.B.) Ltd
J. Allen.....	Marconi International Marine Co. Ltd	N.B. Lamberte	Concordia Marine Co. Ltd
E.G. Arciaga	Bibmark International Shipping	G. Laversuch.....	Cunard Ellerman Shipping Services Dept
D.J. Atkinson	Shell Ship Management Personnel	L. Lim	C.F. Sharp, Manilat
J.G.L. Baker.....	Marconi International Marine Co. Ltd	B. Lyall.....	F.T. Everard & Sons Ltd
R.M. Banzon.....	Frigomar's Shipping (GmbH)	R.A.M. Lynn.....	Marconi International Marine Co. Ltd
R. Baty	Minst. of Agr. Fisheries & Food	A. MacCallum*	Scottish Office Agri. & Fish. Dept
M. Bell.....	Blue Star Ship Management Ltd	K.M. MacDonald*	Scottish Office Agri. & Fish. Dept
J.K. Bhadra	P&O Ship Management Ltd	J.M. Manalo	A/S Havtor Management
K. Bingham.....	Boston Putford Ltd	L.V. Mascarenhas	Wallem Shipmanagement (H.K.) Ltd
P. Birt.....	GEC Marconi Communications Ltd	N. Mathews.....	P&O Containers Ltd
P. Body	Marconi International Marine Co. Ltd	P.A. Mathews	P&O Containers Ltd
C.P. Brockbank.....	James Fisher & Sons plc	M.J.A. McKenny	P&O Containers Ltd
R.A. Browne	P&O Containers Ltd	S. Merin	Graig Shipping plc
C. Bush	F.T. Everard & Sons Ltd	B.C. Miller.....	P&O Containers Ltd
D.J. Busveids	The Maersk Co. (I.O.M.) Ltd	D.D. Napa.....	Blue Star Ship Management Ltd

I. Campbell	Scottish Office Agri. & Fish. Dept	B. Neary	Harrisons (Clyde) Lt
C.S. Carver	P&O Containers Ltd	U.K. Nyunt	Mann Motorships Ltd
B. Casey	Atlantic Marine Ltd	C. Pearce	Boston Putford Ltd
M. Chapman*	Boston Putford Ltd	C.I. Pegg	P&O Containers Ltd
S.R. Cloutte	P&O Containers Ltd	P.N. Pouchet	Bibby Line Ltd
C.N. Curran	GEC Marconi Communications Ltd	D.C. Ray*	P&O European Ferries (Portsmouth) Ltd
J.I. D'Souza	V.Ships (U.K.) Ltd	N.H. Read	James Fisher & Sons plc
A.P. Daff	GEC Marconi Communications Ltd	R.B. Redhead	P&O Containers Ltd
J.V. De La Cruz	Bibmark International Shipping	R.I. Robson	Shell Ship Management Ltd
P.A. Dews	GEC Marconi Communications Ltd	T. Searle	P&O Containers Ltd
M.D. Diosana	Columbia Shipmanagement Ltd	E.L. Sevilla	Bibmark International Shipping
R.C. Earle	Marconi International Marine Co. Ltd	M.W.R. Sheehy	Marconi International Marine Co. Ltd
J. Ebdy*	Scottish Office Agri. & Fish. Dept	M.D. Smyth	Dorchester Maritime Ltd
M. Erceg	Ropner Shipping Services Ltd	M.G. Spencer	BP Shipping Ltd
G.C. Evans	Shell Ship Management Ltd	T.V. Sutton	A/S Havtor Management
P.W. Ferguson	P&O Containers Ltd	C.K. Thornalley*	P&O Containers Ltd
W. Fernando*	London Ship Managers Ltd	C.M. Toner*	The Astrid Trust
D.W. Fletcher	London Ship Managers Ltd	R.P. Vallejo	A/S Havtor Management
B.J. Foley	Bibby Line Ltd	C. Wade	Bibby Line Ltd
K.J. Forbes	INROC	J.M. Webster	P&O European Ferries Ltd
K.J.J. Gaughan	P&O Containers Ltd	S.R. Whalley	Scottish Office Agri. & Fish. Dept
M. Geti	Delta Marine Personnel Services Ltd	B.G. Wilkinson	P&O Containers Ltd
M.E.P. Gloistein	British Antarctic Survey	I. Wilson	Marconi International Marine Co. Ltd
H.O.C. Grattan	P&O Containers Ltd	R.A. Wilson	Curnow Shipping Ltd
C.J. Griffiths	Marine Management (I.O.M.) Ltd	D.R. Woods	Marconi International Marine Co. Ltd
J.C. Gunson	Andrew Weir Shipping plc	D. Worthy	Atlantic Marine Ltd
M.R.T. Hannan	P&O Containers Ltd	L.P. Yadav	Karnataka (Bombay)
W.T. Heaslip	Marconi International Marine Co. Ltd	J.C. Yates	S.T. & C. International
B.G.J. Hughes	P&O Containers Ltd	D. Zovko	Ropner Shipping Services Ltd

‘MARID’ SHIPS†

OBSERVERS	COMPANY
Captain N. Powell; Deck Officers B.D.S. Wilson, N.D. Paine* Captains R. Spalding, A. Preece; Deck Officer H. Elliott* Captain R.W. Noakes; Deck Officers T.J. Lowe, J. Pykett* Captain R.W. Hemming; Deck Officers T. Williams, B. Davies*	Esso Petroleum Co. Ltd Esso Petroleum Co. Ltd Esso Petroleum Co. Ltd United Marine Dredgers Ltd

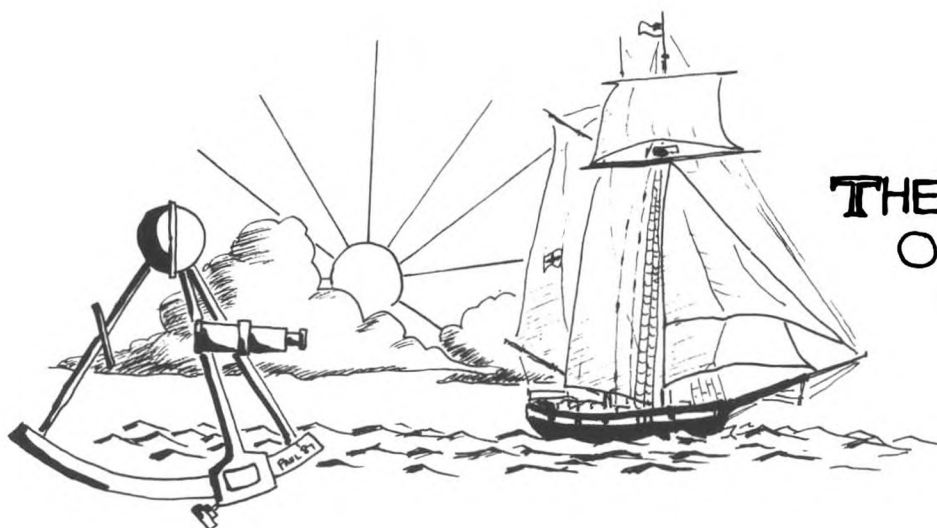
* Deck Officers carrying out duties of Radio Officer.

† Vessels recruited for the purpose of observing and transmitting sea temperatures with non-instrumental observations in the North Sea.

The following have still not claimed their Excellent Awards for the year 1991:

Captains A. Falconer and E. Tanwoi. Principal Observers P. Bartlett, B.J.V. Cook, E. Gilon, Leu Kon Man, B.A. Ryan, H. Sachs, M. Sayab and A. Seragon. Radio Officers M. Albrow, P.J. Appleyard, N.N. Barik, S.C. Benstead, G.A. Coutts, A.G. Fielding, S. Joshi, J.A. Laplana, A.S. Reuben, D.W. Tucker and R.B. Villarin.

Any person knowing how any of the above may be contacted is kindly asked to notify the Marine Division.



THE MARINE OBSERVERS' LOG

July, August, September

The Marine Observers' Log is a quarterly selection of observations of interest and value. The observations are derived from the logbooks of marine observers and from individual manuscripts. Responsibility for each observation rests with the contributor. The standard international unit for barometric pressure is the hectopascal (hPa) which is numerically equivalent to the millibar (mb).

TROPICAL STORM 'JANIS'

East China Sea

m.v. *Regina Oldendorff*. Captain A. Lasek. At Kagoshima. Observers: the Master, Mr K.S. Chabba, 2nd Officer and ship's company.

7 August 1992. Whilst discharging alongside at Kagoshima information was received that tropical storm Janis would pass very close to the port and so it was decided to move to anchorage in order to ride out the storm. At 0700 the vessel moved to anchorage with 9 shackles in the water and the following observations were made (the position of the storm was obtained via television reports).

Date and time (UTC)		Wind Dir'n	Force	Pressure (mb)	Position of storm
7th	1100	E	4/5	1002.0	
	1500	E×S	5/6	997.0	29° 50'N, 129° 20'E
	1600	SE	9	994.5	30° 00'N, 129° 25'E
	1700	ESE	10/11	990.0	30° 20'N, 129° 30'E
	1800	ESE	11	987.0	30° 30'N, 129° 35'E
	1900	SE	12+	981.0	30° 57'N, 129° 43'E
	2000	SE	12+	976.0	31° 05'N, 129° 55'E
	2100	SE	12+	976.0	31° 25'N, 129° 55'E
	2200	S	11	979.0	31° 40'N, 130° 00'E
	2300	SSW	10	985.0	
8th	0000	WSW	7	992.0	
	0200	W×S	7	995.5	
	0300	W×S	6	997.0	

The storm centre passed less than 40 n.mile to the west of the ship which rode out the storm with engines used at Slow Ahead and Half Ahead. There were two other vessels also at anchor with the *Regina Oldendorff* and all dragged anchor when the wind speed increased to more than force 12. One vessel which apparently did not use her engines dragged and grounded on Kan Se Shoal about 8 cables astern.

The wind, though predicted to reach a maximum speed of 80 knots near the centre of the storm, rose in occasional gusts to 100 knots, and a sustained wind speed of 90 knots was recorded on the vessel's anemometer between 1830 and 2000. Though in sheltered waters, the sea state was very rough, and torrential rain was experienced until 2300 on the 7th. When the storm centre passed the observers' latitude, the wind speed decreased rapidly enabling the ship to pick up anchor and change position by 0000 on the 8th.

Position of ship: 31° 33'N, 130° 36'E.

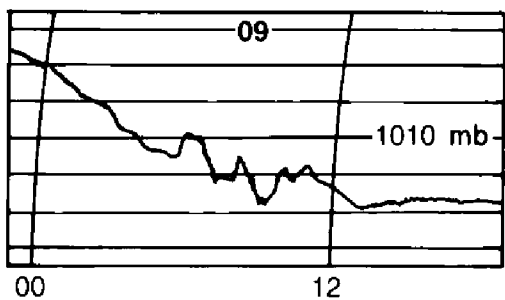
Note. The American publication and sister to this journal, *Mariners Weather Log*, reported that, 'Janis maintained typhoon strength until the 9th. Its extratropical remnants caused some weather problems to shipping on the 10th when its 995-mb center moved across the southern Ryukyus. After moving northward through the Sea of Okhotsk, it moved through the Bering Sea as a weak Low.'

PASSAGE OF SQUALL

North Sea

m.v. *Drupa*. Captain A.J. Howe. At anchor, Dogger Bank. Observers: the Master and Mr J. M. Bastone, 2nd Officer.

9 August 1992. At 0445 UTC whilst awaiting orders weather and sea conditions were noted as: pressure 1009.7 mb, wind E'ly, force 4, sky cloudy but not overcast, light sea with no swell. Shortly afterwards occasional thunder was heard and lightning was seen astern (the vessel's heading being 054°) and at 0455 the wind was noted to veer and increase to force 6 with gusts to 30 knots. The cloud cover changed to 8 oktas of stratus, the pressure rose vertically, being 1010.1 mb



at 0500, there was constant heavy rain which severely restricted visibility while continuous thunder and lightning (sheet and forked) was observed. These conditions lasted for 15–20 minutes and at 0518 the rain ceased, the wind decreased to W'ly, force 3–4 while the thunder and lightning became distant and sporadic. The sea was still light, but the vessel was now rolling slightly to a moderate south-westerly swell.

During the heaviest rain the radars showed a dense cloud running in a north/south direction; it was 4–5 n.mile wide and about 25 n.mile long, completely engulfing the vessel (good old *Drupa*, right in the wrong place again). At 0540 the

pressure was falling vertically, reading 1008.9 mb at 0545 and behaving like a yo-yo, the wind was N'ly, force 3, and there was moderate rain falling from 8 oktas of cloud. Thunder was again present at and around the vessel as lightning was observed to strike the sea 120–150 m away from it, rather too close for comfort.

Apart from the observers, the ship's company apparently slept through the entire event.

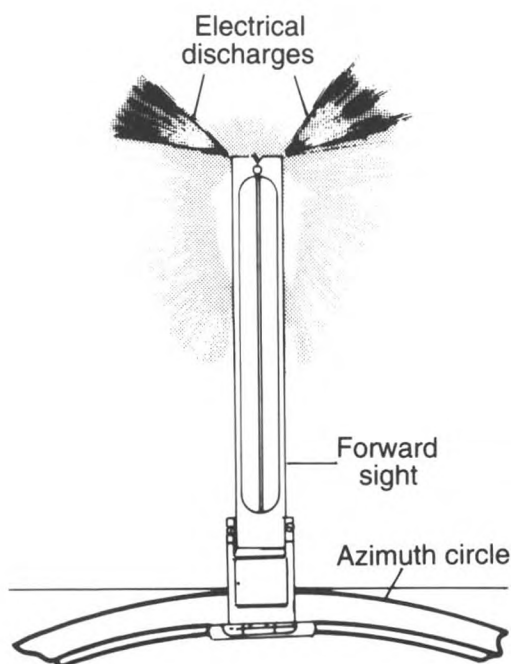
Position of ship: 54° 30'N, 02° 18'E.

CORPOSANTS

North Pacific Ocean

m.v. *BP Argosy*. Captain M.A. Watson. Yanbu to Honolulu. Observers: the Master, Mr A.M. Largan, 3rd Officer, Mr G. Maneja, A.B. and members of ship's company.

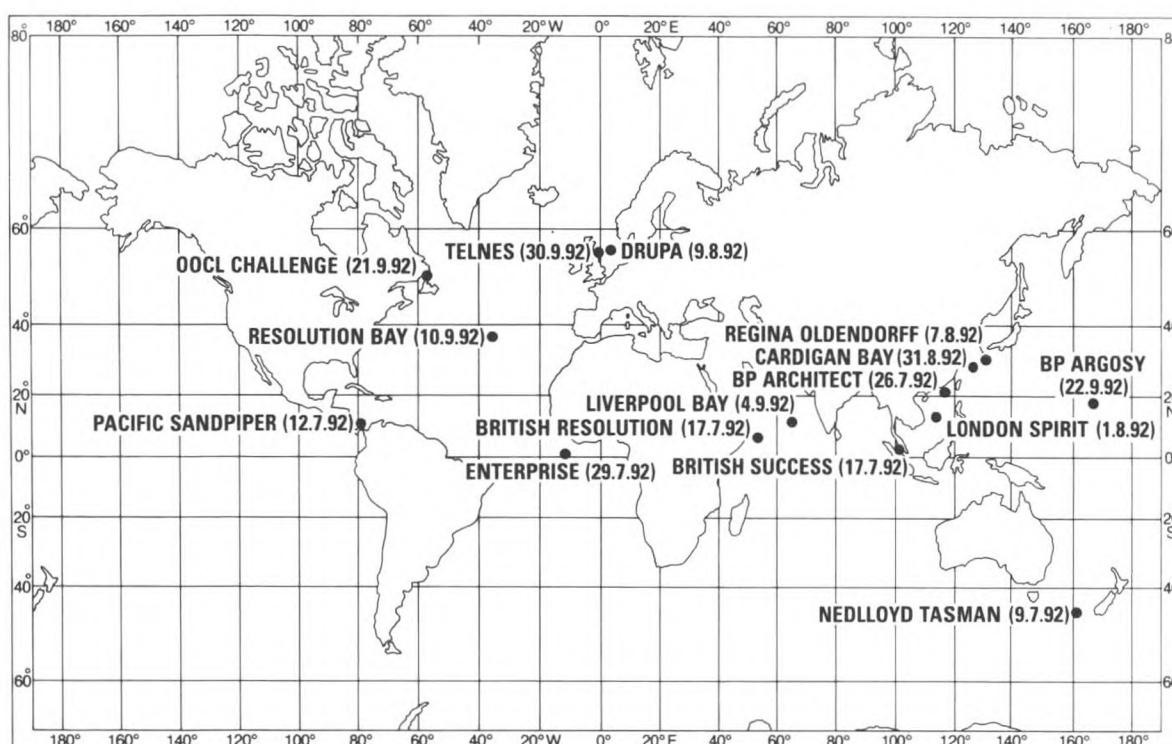
22 September 1992. At 1030 UTC the vessel was on an easterly course when approaching Wake Island. Approximately 26 n.mile from the island a blue, electrical, brush-shaped discharge was observed being emitted from the forward sight on the azimuth circles (on the bridge wing gyro compass repeaters), see sketch. On closer inspection a distinct 'buzzing' sound could be heard. All other



aerials on the ship had small faint electrical discharges with similar characteristics as already described, and only the tips of the aerials were glowing. The vessel had passed through an electrical storm during the previous 30 minutes during which time lightning had been very close although no thunder was audible. Following its detection, the phenomenon lasted for 10–15 minutes but it was not known for how long it had already been there .

Weather conditions were: air temperature 27.0 °C, wet bulb 26.0°, pressure 1012.3 mb, wind E×N'ly, force 5, heavy rain showers.

Position of ship: 19° 36'N, 166° 17'E.



Position of ships whose reports appear in *The Marine Observers' Log*.

CURRENT RIP

Indian Ocean

m.v. *British Resolution*. Captain J.E. Perry. Das Island to St Lucia. Observer: Mr E.R. Davis, 2nd Officer.

17 July 1992. At 0225 UTC a current rip was observed. It was initially detected by radar at a range of 10 n.mile and, on passage through the disturbed water which marked the rip, the vessel's bow was pushed to port, causing the heading to change by 30° before the autopilot was able to counteract effectively. The area of disturbed water was approximately 100 m wide and stretched to the horizon on bearings of 315° and 135°.

Prior to entering the current rip, the vessel was steering 197° to make 207°; on clearing the rip, the course was set to 222° to make 207°.

Position of ship: 07° 47'N, 52° 51'E.

South China Sea

m.v. *BP Architect*. Captain J.Y. MacAlpine. Mizushima to Hong Kong. Observers: the Master, Mr A.M. Lakey, Chief Officer and Mr E. Padua, O.S.

26 July 1992. At about 2258 UTC the vessel was starting to pass through a series of what appeared to be tide rips of extraordinary ferocity. The first rip was orientated 240°/060° and pushed the vessel off course by 20° to port and then 25° to starboard about one minute later. The autopilot could not react sufficiently and so manual steering was necessary. This band was approximately one ship's length (i.e. 180 m) wide, and wave heights within it were about 1 m, whereas the water either side of it was almost perfectly calm.

A second band was encountered roughly 1.5 n.mile further on, and once more the vessel had to be put into hand steering in order to cope. Wave heights within this band were 0.5–0.75 m. Yet another band lay about 2.5 n.mile after the second one, and again helm orders in the region of 20°–25° were required to maintain any semblance of course. The wave heights were again approximately 1 m, and all three bands lay in the same direction.

The vessel was loaded and on a course of 280°, speed 15.3 knots, draught 9.93 m even keel. Weather conditions were: air temperature 28.8 °C, wet bulb 27.2°, sea 29.0°, pressure 1011.7 mb, wind SSE'ly, force 3.

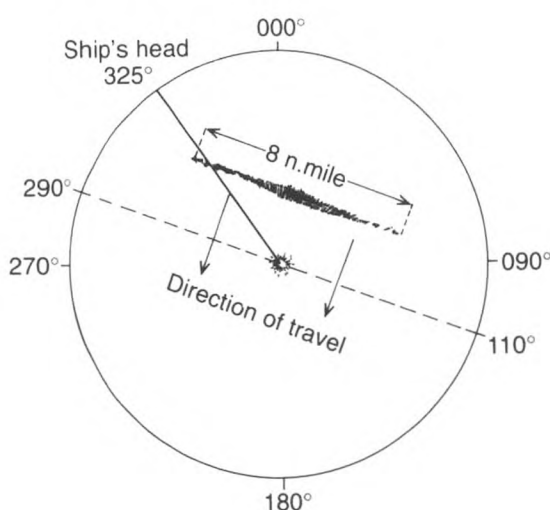
Position of ship at 2258 UTC: 21° 46'N, 116° 34'E.

RADAR ECHO

Equatorial Atlantic

m.v. *Enterprise*. Captain P.C. Harris. Saldanha Bay to Las Palmas. Observer: Mr N. Sumpton, 3rd Officer.

29 July 1992. At 1930 UTC a bold linear echo was suddenly noted on the radar screen, as if from a singular, large swell wave running along a line bearing approximately 290°–110° and moving towards the ship in a south-south-westerly direction, see sketch. Although it was night-time, it was light enough to determine visually at a distance of about 1 n.mile, that it was not a large swell wave. At 1947



the vessel was passing through the echo which extended out to 4 n.mile on either side of it and, on observing the water around the ship with the aid of an Aldis lamp, it was noted that there was a great deal of turbulence present. The *Enterprise*, fully laden with iron ore, suddenly veered 6° to port of her heading of 325°, indicating the strength of the turbulence. The sea prior to this point was only slightly rippled by a light SW'ly wind, force 1–2. The band of turbulence was approximately 20 m wide and the sea beyond it was once again only slightly rippled.

Position of ship: 00° 33'N, 10° 37'W.

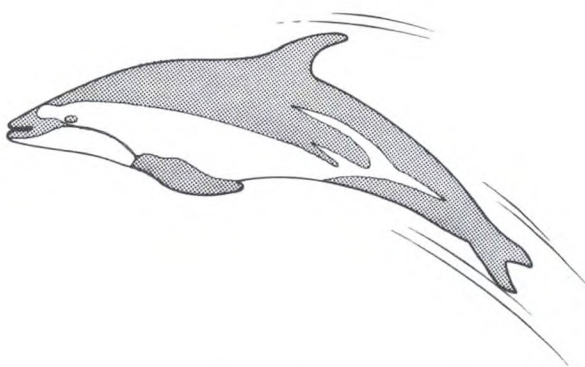
CETACEA

Tasman Sea

m.v. *Nedlloyd Tasman*. Captain I.S. Grant. Port Chalmers to Melbourne. Observers: Mr G.H. Smith, 3rd Officer and Mr P. Mohan, SM1.

9 July 1992. At 1155 UTC the Third Officer was about to take the sea-surface temperature and the gangway illumination lights had been turned on to assist. As he was taking the temperature 10–15 dolphins were spotted jumping and playing in the pool of light provided. After consulting literature held on board, they were identified as Dusky Dolphins.

The dolphins were about 2 m long with a black body and a white/yellow 'camouflage' pattern on their flanks and belly, see sketch.



They stayed with the vessel for about 10 minutes before diving and disappearing. It is possible that the dolphins were attracted by the 'food' illuminated by the light or by the light itself on an otherwise black night. At the time of observation the wind was SE'ly, force 6 and there was a following heavy sea and swell.

Position of ship: 44° 43'S, 161° 26'E.

FISH

North Atlantic Ocean

m.v *Resolution Bay*. Captain C.R. Short. Cristobal to Zeebrugge. Observers: Mr M. Grimshaw, 1st Officer and Mr D.J. Andrews, Chief Engineer Officer.

10 September 1992. At 1900 UTC six very large 'tuna-type' fish were observed repeatedly crashing into a shoal of much smaller fish. The tuna were coming clear of the water and falling onto their sides. They were only about 270 m away from the vessel and did not seem to mind its presence. The fish were approximately 3 m long and were deep bodied with silver undersides and metallic-blue upper parts.

Position of ship: 37° 24'N, 35° 48'W.

Note. Dr F. Evans, of the Dove Marine Laboratory, University of Newcastle on Tyne, comments:

'From the size of these remarkable fish, six of them each 3 m long, they could only have been Blue-fin Tunny (*Thunnus thynnus*). It is surprising to learn that a group of such big tunny has survived the very high fishing pressure that now takes place. Tunny feed on crustaceans and shoals of small fish, as in this case. Their life-span is said to be up to 30 years. At first, they grow very quickly, up to 1.5 m in the first six years. Surprisingly, unlike most fish, they are warm-blooded which requires a heat exchange system for the blood passing to the gills, to prevent unacceptable energy loss.'

BIRDS

North Sea

m.v. *Telnes*. Captain A. Gatt. U.K. coastal passage. Observer: Mr D.J. Ayling, 2nd Officer.

30 September 1992. During the vessel's run up the north-east coast from Cromer to anchoring off the Tyne it played host to a number of birds. A juvenile cuckoo was observed on the foredeck along with a pair of Mistle Thrushes and a pair of Meadow Pipits. However, in and around the accommodation a pair of Robins, a pair of Goldcrests, one Wren, a Brambling and a pair of Chaffinches made themselves very much at home. One Goldcrest actually landed on the Mate's head (a good head of hair). The Chaffinches spent much of their time in the accommodation, particularly in the duty mess where they could be approached to within 0.5 m as they helped themselves to sugar, breadcrumbs and a drink from the sink.

During the whole period the vessel was in thick fog with the visibility less than 1 n.mile, and the wind was S'ly to SE'ly, force 3.

Position of ship: 54° 54'N, 00° 24'W.

Arabian Sea

m.v. *Liverpool Bay*. Captain B. Cushman. Singapore to Southampton. Observers: the Master, Mr R.J. Hughes, 1st Officer, Mr P.W.R. Davidson, 3rd Officer, Mr P. Fitcher, Chief Engineer Officer and ship's company.

4–15 September 1992. A youngish Sooty Tern was found on the fo'c'sle head at 0200 UTC and was found to have a seriously broken wing. The Chief Engineer Officer eventually succeeded in catching the bird and it was then brought up to the bridge in a box where it was left to settle down. The observers on the bridge decided to see if there was anything they could do, but it was difficult from the word 'go' as nobody on board had the slightest idea about birds of the feathered variety. A leather gauntlet-clad First Officer held the bird, now named 'Winston', on his back while the Third Officer attempted to clean his wound and the Master played the role of Theatre Nurse. There was a hole about the size of a 10p piece in the underside of what passed as Winston's left shoulder and two broken bones were clearly visible. The wound was swabbed with cotton-wool soaked in a solution of warm water and Dettol and then, after numerous attempts, the observers succeeded in putting a sterile gauze dressing with antiseptic cream between Winston's wing and body before putting a bandage around him to immobilise both wings. During the 'operation' Winston was quite content to savage the First Officer's fingers with his vicious-looking beak, and afterwards he was placed in a box padded out with cotton-wool and an old towel, to convalesce. A few hours later Winston was offered tinned sardines and water which he flatly refused seeming more interested in trying to take lumps out of the Third Officer's fingers.

Twenty-four hours later Winston seemed to have settled down a little but he still refused food and water. It was then decided to clean all the blood from his head and around his beak, which he allowed quite willingly until the time came to dry him off with cotton-wool when the finger-biting festivities began again. He did then seem quite happy looking out of the bridge window, so from then on he kept the 8–12 watch as extra lookout. That same night the Third Officer tried Winston with water again by holding him slightly above a mug; he all but dived into it and

drank like it was going out of fashion, managing to wriggle out of his bandage in doing so. He objected quite strongly to having it replaced and so was put to bed at midnight without it.

The next morning Winston was placed in a large square biscuit tin full of warm sea water, it was not his idea of a good time but the salt water may have helped to heal his wound, and he needed the bath anyway. After his bath and 'drip dry' Winston had his first real meal of fresh haddock and tiger prawns. He was eating better than the ship's company. The Chief Engineer held Winston's beak open while the Third Officer popped the food in; again this was not Winston's idea of fun but he had to eat and that was that. He had a bath on the next couple of mornings until the ship reached the Suez Canal, but spent a night and a day in a cabin during the canal transit so he would not be harassed by activity on the bridge.

Winston was now bordering on friendly; he let the Third Officer stroke his back and tickle his chest and chin without trying to skewer the hand, but for some reason did not like his head being stroked. He was also relatively friendly towards the Chief Engineer but took a distinct dislike towards the Second Mate; it was he who thought the bird should have been put out of its misery, Winston must have heard him.

After the canal, baths were stopped as conditions were noticeably cooler. Winston was becoming more and more alert and chirpy, being allowed to wander round on the bridge wings to stretch his legs and have a breath of fresh air. Quite often he tried to fly, which was sad to watch as his left wing hung down, dragging alongside and completely useless, but he preferred that to the bandage. A few days before arrival in Southampton the Master sent the arrival telex and requested, among other things, the Royal Society for the Protection of Birds to attend. As it happened, the RSPB were unable to help, but the RSPCA agreed to attend on arrival, and were on board before the Customs Officers, taking Winston away to a local vet.

On arrival in Southampton, Winston had been on board for 11 days, he ate and drank regularly but became very restless during the last few days of the passage. It was unlikely that he would ever fly again, but perhaps he could be patched up ('Frankentern'?). He seemed well enough when he left the ship and had been a very efficient watchkeeper, tapping his beak once for starboard and twice for a ship to port.

Position of ship at 0200 UTC on the 4th: 09° 59'N, 65° 59'E.

INSECTS

Strait of Malacca

m.v. *British Success*. Captain R.A. Jarrett. At Port Dickson. Observer: Mr T.T. Latto, 2nd Officer.

17 July 1992. During the late afternoon whilst the vessel was discharging cargo, a large brightly-coloured moth was found underneath the pipework on the main deck. It was gently caught and taken inside for photographing (see page 127) and later released. The specimen had a large rust/red coloured body and was very hairy with two short and hairy feelers protruding from its head.

Position of ship: 02° 31'N, 101° 47'E.

Panama Canal

m.v. *Pacific Sandpiper*. Captain D. Marr. Tokai to Cherbourg. Observers: Mr W.R. Durrans, 3rd Officer, Mr D. Murphy, Steward and members of ship's company.

12 July 1992. Whilst on a northbound transit of the Panama Canal a medium-sized butterfly was found on one of the vessel's after decks by the Steward. It had a wing-span of 14 cm and a body length of 2.5 cm; its wings were mainly brown with a striking pink stripe running from top to bottom, fading out and returning to brown before reaching the edges. Interesting also were the small black spots, one on the end of each of the upper wings, and the small white semicircles of which there were two on each side. All of the wing features were bordered by clearly-marked black lines.

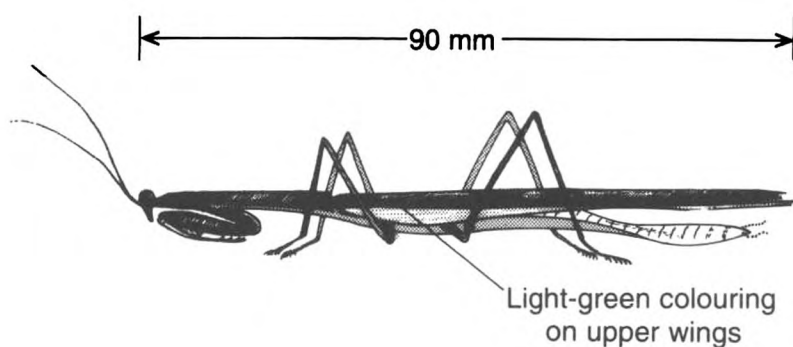
Position of ship: approximately 09° 01'N, 79° 45'W.

Editor's note: Mr Durrans kindly forwarded the actual specimen which revealed itself to be a moth and not a butterfly, and a life-size photograph of it appears on page 130.

East China Sea

m.v. *Cardigan Bay*. Captain A.J. Leslie. Tokyo to Hong Kong. Observer: Mr B.G. Ball, 3rd Officer.

31 August 1992. Whilst on passage the praying mantis shown in the sketch was discovered clinging to a section of handrail. It measured 90 mm in length and was predominantly of a light-brown to gold colour; however, there was a distinctive green stripe of approximately 60 mm running the length of the outer wings.



At the time of the sighting the vessel was in the vicinity of Okinawa Island while typhoon 'Polly' was centred over the Formosa Strait and, although weakening rapidly, was still giving rise to SE'ly winds of force 6–7. It was thought that the mantis, which probably originated from one of the many islands in the region, was blown off course by the strong winds. During the next 24 hours the mantis died and was re-discovered on deck close to the point of the original sighting.

The weather at the time was overcast with continuous light drizzle.

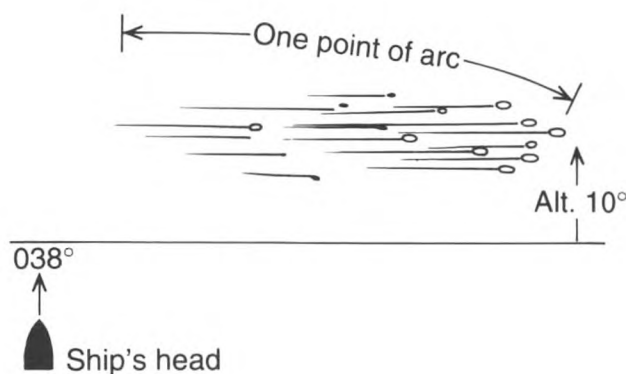
Position of ship: 28° 24'N, 128° 12'E.

METEORITES

South China Sea

m.v. *London Spirit*. Captain D.S. Wyllie. Singapore to Richmond, Ca. Observer: Mr M.A. Wright, 3rd Officer.

1 August 1992. At 1626 UTC on a clear night with a cloudless sky and no moon, a narrow horizontal band of yellow light appeared right ahead at approximately 10° altitude and two fingers' width in length. It moved rapidly to starboard while both lengthening and broadening until it covered an arc of a full point from right ahead to 1 point to starboard. At its broadest, as shown in the sketch, it consisted of at least 18 individual points of white light with trailing yellow tails.



The phenomenon lasted a full minute before fading, and its movement was apparently horizontal although the horizon was not visible. Course of ship was 038° , speed 15 knots.

Position of ship: $13^\circ 17'N$, $114^\circ 44'E$.

AURORA BOREALIS

North Atlantic Ocean

m.v. *OOCL Challenge*. Captain T.N. O'Driscoll. Montreal to Felixstowe. Observers: Mr S. O'Mara, 3rd Officer and Mr P. Ivory, Cadet.

21/22 September 1992. At 0100 UTC whilst passing through the Strait of Belle Isle, an auroral display began with a rayed band appearing to the north. Over the next hour it began to spread both eastwards and to the west until the ends were bearing 270° through to 070° respectively. It then became a rayed arc, and throughout the display it appeared as a grey-whitish colour. At around 0200 it began to fade so that only occasional shadows were visible.

At the time of the display some interference was noted on VHF radio reception. The wind was SW'ly, force 4–5, the sky was clear and visibility was excellent.

Position of ship: $51^\circ 31'N$, $56^\circ 27'W$.

John Smeaton, Civil Engineer*

On 28th October [1992] was celebrated the bicentenary of the death of the great civil engineer John Smeaton.

The man

He was born on 8th June 1724 at Austhorpe Lodge, Whitkirk four miles east of Leeds. His career embraced philosophy, instrument making and engineering. His list of engineering works is impressive. In the period 1753 to 1790 alone he had executed to his plans no fewer than six windmills, 46 watermills and eleven other mills or winding engines and 13 steam engines mainly for pumping or blowing in collieries or foundries.

Vast responsibilities

Of his principal engineering works, Eddystone Lighthouse constructed between 1756 to 1759 comes to mind and more of this will appear later. Smeaton was also responsible for the design and construction of the Calder and Hebble Navigation, the foundations of London Bridge of 1763, St Ives Harbour of 1767–70, Ramsgate Harbour including basins and sluices, advanced pier and dry dock and other canal work such as the Forth and Clyde Navigation, bridges in Perth, Coldstream, Hexham, Cardington and Hull and harbours at Eyemouth, Rye, Portpatrick and Peterhead. He also built Spurn Lighthouse, designed in 1767 and constructed from 1771 to 1776 at a cost of £8,000.

Eddystone Lighthouse was constructed at a cost of £16,000 and Smeaton's resident engineer was Josias Jessop.

At Eddystone the tower of Rudyerd which was completed in 1708 was destroyed by fire in December 1755. Mariners were naturally anxious to have the light replaced as soon as possible and Trinity House placed a lightvessel to guard the position.

By 1755 a Mr Weston had succeeded Colonel Lovett as the chief proprietor of the Eddystone lease and he immediately applied to the President of the Royal Society for advice as to who should be entrusted with the building of a third lighthouse. The engineer recommended was John Smeaton. He had been destined by his father, an attorney, for the same profession, but from early youth had been interested in engineering experiments and by 1750 was actually carrying on business as a mathematical instrument maker with an interest in engineering as a sideline, so to speak. But he was highly esteemed by the Royal Society and, as it proved, no better choice could have been made. Those urging Smeaton to accept the commission had such faith in him that he was told 'Thou art the man'.

Determination

Smeaton frankly admits that until he had examined Winstanley's and Rudyerd's plans he was a total stranger to these structures, but he soon decided that the building must be of stone and carried his point against strong opposition which held that a stone structure would be broken off by the force of the waves while a wooden one would, as it were, be more elastic and be preserved by yielding to the seas. Smeaton was determined that the seas should yield to the tower.

*Reproduced from *Flash* — December 1992 by kind permission of Trinity House.

His first act was to design an elaborate method of dovetailing every stone into the next, even before he visited the rock to prospect a new site. In April 1756 he made eight attempts to land but only twice was he successful and on the first occasion he could remain only two hours. The model of the structure was made with his own hands and occupied two months and he himself fixed the centre of the building and laid out the lines on the rock on 3rd August 1756.

Great difficulties encountered

The 13 mile sea passage from Plymouth had of course always to be covered by sailing vessels: the stones, some weighing 2½ tons, most of them one ton, were each accurately cut and dovetailed and fitted into their places in the workshop on shore before being sent off, so as to leave as little work as possible to be done at the rock itself. Each stone was numbered and a model made of it in wood, so that if any stone were lost overboard another of its exact size and shape could at once be made to replace it. Smeaton had considerable trouble, as his predecessors had had, through his men being seized by press-gangs and Trinity House had a special silver medal struck for each of them to wear with a representation of the tower on it and the motto 'In salutem omnium'.

Even in fair weather often only six hours work a day was possible on the rock and late in the season only two hours. The first season was occupied in cutting out recesses in the rock to receive the foundation stones. On their last return journey that season the builders' ship was driven towards the Bay of Biscay and could not make Plymouth for four days. The winter saw important experiments to determine the best kind of cement which would set hard under water. During 1757 much progress was made, the ninth course having been laid by the autumn. Throughout the work, whenever there was anything especially hazardous afoot for his men, Smeaton himself stepped forward and took the dangerous 'post of honour' as he called it. This winter was so stormy that the temporary lightship stationed about two miles from the reef broke adrift, but the next May Smeaton, to his joy and relief, found that the battering of the tempests had not shifted a single stone of his handiwork.

By October 1758 the solid part of the structure had been completed and passed with the laying of the 29th course. The solid portion extended to 35 feet above the base.

In 1759 it was not until July that work could be restarted but then it proceeded apace. The outer walls of the rooms were over two feet thick and by mid-August the column had reached the planned height of seventy feet, above which the lantern extended another 28 feet, making a total height of just on 100 feet.

Commissioning

The light was first shown on the 16th October 1759 and was provided by 24 candles in a two-tier chandelier. Oil lamps had been decided against because the smoke clouded the lantern panes. A special contrivance in the lighthouse clock sounded a gong every half-hour to warn the keeper on watch to snuff the candles. This clock (see below) was for many years an historic treasure in Trinity House until the building was destroyed by an incendiary raid in December 1940.

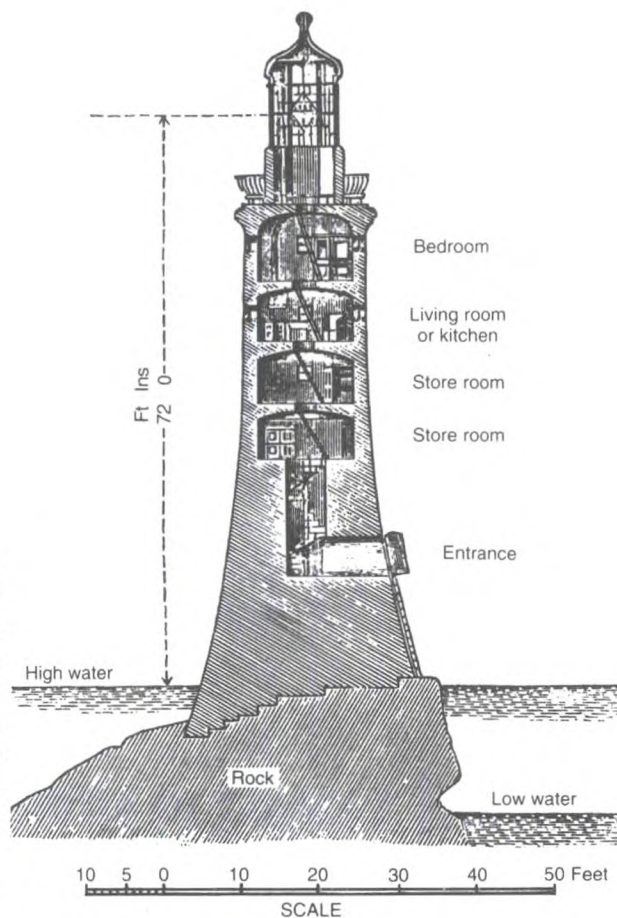
In 1810 the candles were finally replaced by 24 oil lamps with reflectors, while in their turn these were superseded in 1845 by a dioptric (refracting) lens with a single oil light in the centre.

Smeaton's chandelier of 1759 showing the 24 candles.



A section through Smeaton's tower of 1759 from *A Narrative of the Building and a Description of the Construction of the Edystone* Lighthouse with Stone* by John Smeaton, Civil Engineer, FRS as abridged by T Williams. This drawing with that of the chandelier was published in *The Eddystone Lighthouses (new and old)* by E Price Edwards published by Simpkin, Marshall & Co. London in 1882.

* This spelling is from Smeaton's own journal.



Nearly 1,000 tons of stone went to the erection of this famous tower. Around the interior of the upper store-room was inscribed the text 'Except the Lord build the house, they labour in vain that build it.'

'My ideas', Smeaton had said, 'of what the tower's duration should be were not confined within the boundary of one Age or two but extended themselves to look towards a possible Perpetuity'. This monument to his name stood for 120 years and reminds one of Longfellow's graphic simile:

'A new Prometheus, chained upon the rock
Still grasping in his hand the fire of Jove'.

But 'Saepe cadendo gutta cavat lapidem' runs the old proverb, and if by constant dripping the water-drop can hollow the stone, how much more can the currents and eddies by incessant swirling undermine even the hardest rock. In the course of the ages that is what happened at the Eddystone tower. It was as if an enemy, hurled back from direct assaults on an impregnable castle, resorted in desperation to tunnelling operations against the very foundations. As early as 1818 on one of his English Lighthouse Tours Robert Stevenson had written that if he was connected with the charge of this highly important structure he must confess he would not feel easy for its safety. From then onwards the rock was carefully watched and in 1877 the Elder Brethren finally decided that a new tower must be erected on another part of the reef.

De-commissioning

A proposal to blow up the rocks was rejected on the grounds of prohibitive cost (seven times that of a new lighthouse) of removing two million tons of rock, but also because a guiding light in this position was deemed of incalculable benefit to shipping. And so a new light was begun in 1878 and commissioned in 1882. Smeaton's tower was dismantled and re-erected on Plymouth Hoe as a monument to the builder. The stump of Smeaton's tower still stands on the original rock. There has been much interest in Smeaton down the years particularly with regard to his work both on Eddystone Lighthouse and in establishing the profession of civil engineering in this country. Of his chandelier it is understood from *Trinity House from within* by Captain Thomas Golding (published for private circulation 1929) that each wax candle weighed a half pound. One of the remaining candles is on display in Trinity House, London.

As for Smeaton's career as a scientific instrument maker, up until the losses of the blitz in 1940 the Corporation of Trinity House possessed two clocks made by him. One was an alarm clock without any case which bore an inscription on the back plate and the other a long case clock of simple design made for the Eddystone Lighthouse on 8th October 1759. In Smeaton's book on the building of the Lighthouse there was the following reference 'This time-piece by a simple contrivance being made to strike a blow every half hour would thereby warn the keepers to snuff the candles.'

Record North Atlantic Low

BY IAN SHAW

(Meteorological Officer, OWS Cumulus)

On the morning of Saturday 9 January 1993, Met. Office Ocean Weather Ship *Cumulus* was preparing for the return passage to home port of Greenock for replenishment and crew change, having completed four weeks over Christmas and New Year in the vicinity of former station 'Lima' (57°N, 20°W).

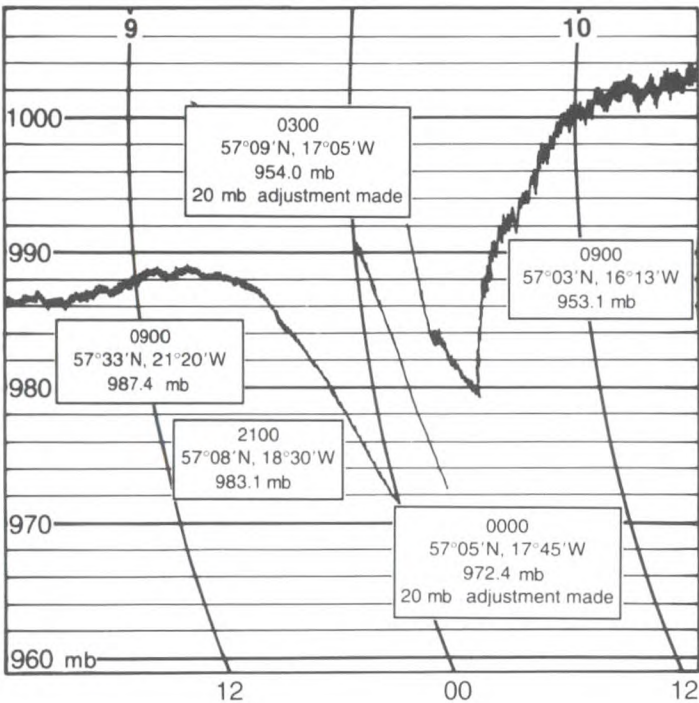
The synoptic situation showed a developing depression with central pressure of 998 mb, centred near 47°N, 38°W and moving quickly north-east and deepening rapidly. This would cause the depression to pass close to the ship's eastward course the following day.

The Met. Office high seas weather forecast for the south East Northern Section of the North Atlantic, issued at 1200 UTC on the 9th, predicted strong SW'ly winds to increase to storm 10 to hurricane force 12 and become cyclonic for a time, accompanied by rain and squally showers.

By noon on the 10th the low was 958 mb, located near 56°N, 23°W, about 150 n.mile west-south-west of *Cumulus*. With the pressure still plummeting, down to 972.4 mb by midnight, the barograph trace was adjusted 20 mb upwards.

Southerly winds increased steadily and continued to back SE'ly. Gusts to 78 knots were recorded during the next few hours in continuous moderate to heavy rain. At 0300, with the pressure at 954.0 mb and still falling rapidly, a further 20-mb adjustment to the barograph trace was necessary. The largest 3-hour fall of 24.3 mb was recorded between 0100 and 0400 on the 10th.

At about 0430 a front passed over the ship, veering to 200° and briefly reducing the wind speed to 39 knots. The rain ceased and the barograph 'kicked' briefly,



then resumed its fall, but at a less precipitous rate. Just before 0600 the barograph ‘kicked’ again, having recorded the lowest pressure experienced, 939.2 mb. The wind then veered W’y and rapidly increased. Squally, wintry showers replaced the rain and added to the high mean winds — see Table 1. *Cumulus* was hove-to at this time.

Table 1 — Winds experienced during passage of depression

DATE	TIME (UTC)	WIND		MAXIMUM GUST (LAST HOUR)	REMARKS
		DIR'N (°)	SPEED (KNOTS)		
10th	0000	170	45	67	Continuous rain
	0100	170	48	66	"
	0200	150	48	70	"
	0300	150	51	73	"
	0400	150	53	78	"
	0500	200	39	60	Frontal passage; rain ceases.
	0600	270	66	89	Lowest pressure, 939.2 mb.
	0700	270	70	105	Showers
	0800	250	63	90	"
	0900	230	58	80	Max. sea, 11 m.
	1000	260	63	94	Showers
	1100	270	60	91	"
	1200	280	55	87	"
	1300	280	54	90	"
	1400	270	54	73	"
	1500	280	50	74	"
	1600	280	57	75	"
	1700	270	50	78	"
	1800	280	55	78	"
	1900	260	50	88	"

By 0700 visibility was reduced to ≥ 50 m, with blowing spray and a mean wind of 70 knots, raising phenomenal seas, recorded at a height of 11 m. The highest gust recorded during the 0600–0700 synoptic hours was 105 knots. The ship's anemograph was temporarily isolated to prevent damage to the instrument, as the pen-arm was seen to be crashing the 'stops'. The anemometer, graduated to a maximum of 90 knots, has the 'double scale' facility and remained functional throughout. The barograph trace was now rising rapidly.

Very high winds and phenomenal seas continued throughout the day, with showers of snow and hail observed from a steady procession of densely-packed cumulonimbus cells. By 1900 the conditions had moderated to the extent that *Cumulus* was able to resume passage towards Greenock.

Throughout the passage of this very deep depression, believed to have become the deepest on record to affect the U.K., *Cumulus* continued to provide hourly surface synoptic observations and 6-hourly upper air (balloon) ascents to the Met. Office at Bracknell.

Editor's note. The depression did indeed continue to deepen after its encounter with *Cumulus*, but just failed to create a new record for the North Atlantic. Central Forecast Office charts show that the central pressure eventually equalled the record of 916 mb set on 15 December, 1986. (See *The Marine Observer*, July 1986, pp.122–127.)

Meet the Port Met. Officers

In the first of a series of items about our seven Port Met. Officers based around the British Isles, we feature the two officers who have the longest Met. Office service, 64 years between them to be precise.

Scotland and Northern Ireland

In common with all Marine Division permanent staff, the Port Met. Officer for Scotland and Northern Ireland, Captain Stuart Norwell, is a qualified Master Mariner. He is based, together with one Scientific Officer assistant, in the Clyde estuary port of Greenock, about 20 miles downriver from Glasgow. His territory covers all ports in Scotland, and Northern Ireland. In liaison with HQ, shipowners and agents, he attends about 600 observing ships and marine shore establishments each year in his area, providing equipment, stationery and advice. He also pays visits to associated marine and training establishments and boards ships of overseas observing fleets where assistance can be given. The latter is a vital link in ensuring international co-operation in accordance with World Meteorological Organization concepts.

He travels as far afield as Aberdeen where he meets with officers of some of the offshore supply vessels observing; besides inspecting the Met. Office equipment on loan to deep sea container, tanker and general cargo ships and coasters, other unusual co-operating ships visited include fishery protection vessels of the Scottish Office, inter-island ferries and sail training vessels.

Stuart Morison Norwell was born in May 1939 and for two years trained for the sea at H.M.S. *Conway*, ending in 1956 when he joined the Donaldson Line. Following three years' apprenticeship he entered the Met. Office Ocean Weather Ship Service in December 1959, serving first on OWS *Weather Observer*, one of the original four 'Flower' class corvettes converted for the purpose on the

founding of the North Atlantic Ocean Stations after World War II. Apart from brief periods of qualifying cargo ship service and RNR training, he remained with OWS until his appointment as Port Met. Officer in Glasgow. His qualifying sea time included nine months with Shaw Savill & Albion (*Lismoria* and *Ceramic*) and United Baltic.

After serving as a junior officer in the Weather Ships, and gaining his Master's Certificate in May 1965, he held the posts of Chief Officer and Master during the ten-year period to 1978, in the later conversions of RN frigates OWSs *Weather Adviser*, *Weather Reporter* and *Admiral Beaufort*. The last-named was the former *Weather Monitor* and one of the two 'Castle' class which were refitted in 1977 thus extending their useful lives until they were withdrawn in 1982. Stuart Norwell was later Shore Captain during this period, when he ably fulfilled the demanding job as the man in charge of the Greenock OWS base. He had a staff of 34 to assist him in administering the four Weather Ships then in commission.

He became Port Met. Officer in September 1978, then based at the Weather Centre in Glasgow. In January 1984 the office was transferred to the Navy Buildings in Greenock where Captain Norwell is still in residence. His scientific assistant, Alastair Reid, apologises for the plant which appears to be growing from his boss's head, in the Port Met. Office portrait (see photograph) which he took for the occasion. Captain Norwell's wife Anne, and his two daughters are all in the nursing profession.



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Captain Stuart M. Norwell, Port Meteorological Officer (Scotland and Northern Ireland), based in Greenock.

South-west England

Captain Douglas McWhan covers his area of operation from newly-built offices in Southampton, to which he moved from that port's Weather Centre in 1992, as PMO for South-west England. His territory stretches from the Channel port of Newhaven in the east to the north Devon port of Ilfracombe, adjoining Cardiff's area. He therefore travels widely, often having to visit ships berthed at less accessible wharves in such ports as Fawley, Par or laid-up in Falmouth. By contrast he services the observing needs of many of the great cruise liners, ferries and container ships (see photograph) on their Southampton calls. He also calls upon harbour offices, shipowners or operators and training establishments, making upwards of 600 visits annually around the south and south-west of England.

Douglas Ross McWhan was born in December 1934, and took his pre-sea training at Glasgow Technical College in 1950 before 'serving his time' with Donaldson Line: when that company's west coast U.S.A. and Canada trade and ships were sold to Blue Star Line in 1954, he transferred to the latter company, all between 1951 and 1955. Then, and after obtaining his successive Certificates of Competency, he became an experienced voluntary weather observer on such fine ships as *Empire Star* and *Napier Star*. On passing his Master's Certificate in November 1960 he joined the Met. Office and sailed in OWS *Weather Watcher*, another 'Flower' class corvette, in January 1961, being promoted through the ranks via *Weather Monitor*, *Adviser* and *Reporter* (all 'Castle' class) to become Master of the Weather Ships in 1967.



Crown Copyright

Captain Douglas R. McWhan, Port Meteorological Officer (South-west England), based in Southampton.

Captain McWhan provides vivid memories of life aboard these converted naval ships. 'Accommodation was very cramped,' he says, 'although the "Castles" were a vast improvement over the "Flowers"'. They were still fitted with their original engines, quadruple expansion, steam reciprocating machinery with a resultant high fuel consumption of about 10 tons per day when stopped in the water. It was therefore imperative to drift as much as possible when on North Atlantic station (within prescribed limits) and we did not normally heave-to until it was blowing a force 9 gale. In fact the latter action was usually instigated by the ship's cook who would come charging up to the bridge, scattering soup and dire threats over all and sundry. Things would not have proceeded thus far with one OWS Master who enjoyed a good night's sleep and whose "night orders" read "Steam for comfort whenever necessary".

'The Ocean Stations which we manned were "Alpha", "India", "Juliett" and "Kilo", in North Atlantic positions west of the United Kingdom. Winter weather experienced at the three most northern stations was mainly rather grim, although I can recall spending the Christmas and New Year of 1962/63 on Station "India" (59°N, 19°W) in flat calm conditions, due to an intense anticyclone over Scandinavia with a ridge extending westwards over the ship's position: meanwhile, England and Wales were experiencing atrocious conditions. Normally Station "Kilo" (45°N, 16°W) was manned by French weather ships, but when we did our occasional stint there it was considered a tropical voyage.

'For many of the junior ratings a weather ship voyage was their introduction to the sea and naturally these 'first trippers' were subjected to the usual pranks by the older crew members. The favourite trick was to tell the new boy that a boat would be alongside at a certain time to take crew members ashore to the cinema, and at the appointed hour the lad could be seen, dressed in his shore-going gear, standing on the lee side of the upper deck in a force 8 gale.

'During my seven years in weather ships there were three occasions on which we were required to carry out the operation which was one of the prime purposes of our existence, air/sea rescue operations: however, I was not directly involved in any of these. My wife, eldest son and I gained the dubious distinction of being mentioned in a book entitled *Gap of Danger* by John D. Drummond, published by W.H. Allen in 1963. This was the result of the voyage the author made with me on the OWS *Weather Monitor*.'

In April 1968, Captain McWhan came ashore on appointment to the Bracknell office to start up the new Ship Routeing Service, together with the present Marine Superintendent, Captain Gordon Mackie, and from their beginnings the service has become METROUTE, with the World's oceans monitored by five Master Mariners.

Captain McWhan became PMO at Southampton, based at the Office's Southampton Weather Centre, in September 1971, from where he conducted his ship servicing operations with the help of a Scientific Officer until 1987, when he continued to maintain the service on his own, with assistance from the meteorologists at other Port Met. Offices when necessary. He lives with his wife, Sally, in a village near Southampton and they have three married sons and three grand-daughters.

Obs ode again

The following ditty by Michael Squibbs, 3rd Officer of Blue Star's *Saxon Star*, was first published in *The Marine Observer* in April 1957, but is just as relevant to 1993.

An Ode to the Principal Observing Officer

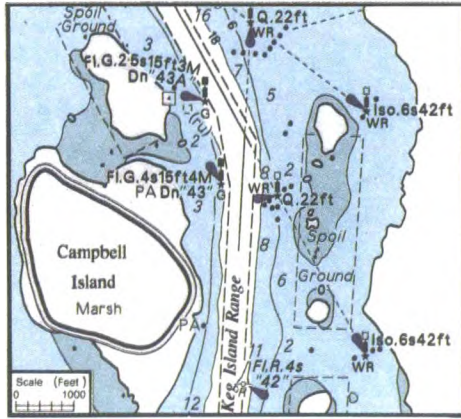
Please remember, don't forget,
Always keep the wet-bulb wet.
When the reservoir is filled,
Don't forget to use distilled,
And please suspend the screen to wind
Otherwise, my friend, you've sinned —
No doubt you will wonder why
Your dew-point is a little high.
Another small but helpful trick-
'Change the muslin and the wick
Every week' — to quote the book;
If you doubt me take a look.
Lastly friend I've one request,
In which, no doubt, you'll do your best
Amongst your countless other jobs —
Please don't forget another obs.

Ungulates in the swim

During July 1991 the *Olivebank* (Andrew Weir Shipping plc) was engaged on coastal passages on the eastern seaboard of the United States of America and observations of interest were recorded in the logbook's Additional Remarks pages, as usual. Passing through areas where whaling was once carried out, the observers on board were not unduly surprised to see Humpback Whales and even two Blue Whales on the 28th; meteors also came and went in observations lasting mere seconds. So, at the end of the month, the *Olivebank* could hardly have expected a summary of her observations to read like this: Humpback Whales, Blue Whales, meteor, another meteor, deer — deer?

On 30 July at 2243 UTC, deer were added to the lists of whales, seals, turtles, jellyfish, birds and insects received by the Observations (Marine) Branch when four were encountered in the Cape Fear River as *Olivebank* was under pilotage from Wilmington. Captain C.C. Baines and Mr D.J. Miller, Extra 3rd Officer recorded this 'first' for *The Marine Observer*, and a section of Admiralty Chart 3688 shows the approximate site.

The Pilot called attention to something in the water when the vessel was near Buoy 43. It turned out to be two adult deer with two young, all swimming from port to starboard; they travelled in tight formation with the two youngsters swimming between the adults. As the vessel closed the deer the Pilot hoped that



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Section of Admiralty Chart No. 3688 showing the area around Buoy No. 43.

they would not try to cross ahead, but they were clearly anxious. They started to swim around in circles and the vessel passed clear by only 20 m or so. The deer tried to continue immediately but seemed to sense the danger of the turbulence left by the propeller and waited until the wake died down before trying again. After setting off once more they were watched until they were about 20 m from the shore on the starboard side and were then lost from sight. Only once before had the Pilot seen deer crossing in this way, and the Editor of this journal expects hundreds of reports to be filed in logbooks before something similar occurs again.

SCENE AT SEA



Moth photographed on board *British Success*, see page 114.

Photo. by T.T. Latta



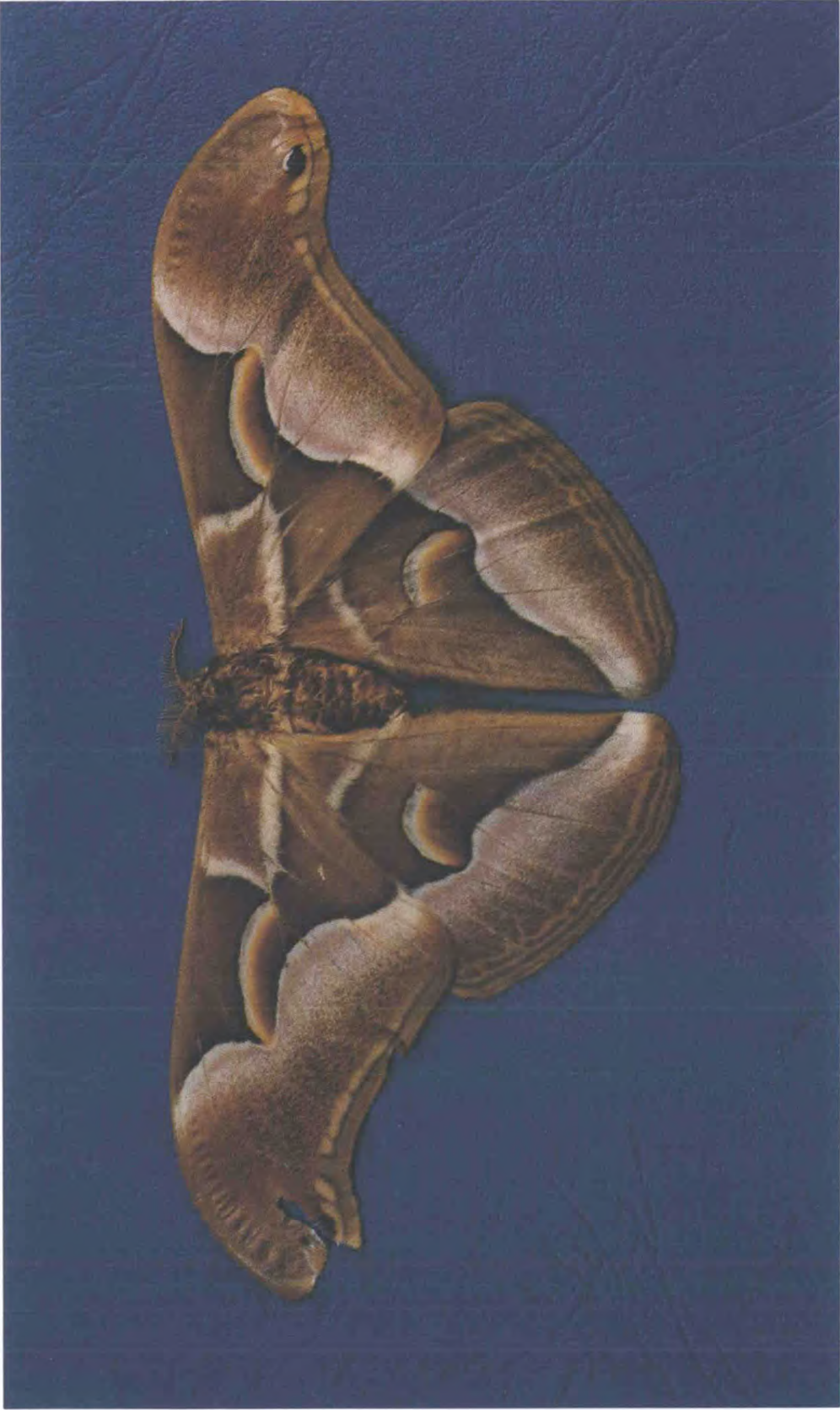
Photo. by Captain D. Tracy

White Stork (*Ciconia ciconia*) on board *Providence Bay* at 1700 UTC on 12 September, 1992 while the vessel was *en route* from Suez to Algeciras.



Photo. by A.J. Gladman

Cumulus with strong vertical development and associated precipitation photographed from *Geestport* at 2200 UTC on 12 July, 1988 while in St Georges, Grenada.



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Moth (shown actual size) found on board *Pacific Sandpiper*, see page 115.

AURORA NOTES JULY TO SEPTEMBER 1992

By R.J. LIVESY

(Director of the Aurora Section of the British Astronomical Association)

In Table 1 are listed the observations received to date from mariners for the period concerned. We are very grateful to Mr Freckleton, Senior Meteorological Officer and his staff on the Ocean Weather Ship *Cumulus* for maintaining the tradition of auroral observing on a succession of British weather ships over the years. In particular, *Cumulus* continues its own history of auroral observing which began when it wore the Dutch ensign and was operated by the Royal Dutch Meteorological Institute. Thank you for your continued support of the auroral programme.

Table 1 — Marine aurora observations July to September 1992

DATE	SHIP	GEOGRAPHIC POSITION	TIME (UTC)	FORMS IN SEQUENCE
22/23 Aug.	<i>Cumulus</i>	57° 00' N, 20° 00' W	2200	RR
28/29	<i>Cumulus</i>	60° 50' N, 16° 30' W	0210–0445	qHA.qR.R.R.B.aB.p ₁ HB

KEY: a = active, p₁ = flaming, q = quiet, A = arc, B = band, G = glow, H = homogeneous, R = Ray, RR = ray bundle, R.R = long rays.

Looking at Table 1 readers might have the impression that the aurora has not been very active, but this is not so. The summer twilight in north-west Europe does hinder observing but on the American continent as the Earth's magnetic field bends down into more southerly, darker skies, it is not surprising to find the bulk of the land observations coming from these parts. In Table 2 are listed the dates upon which daily magnetic index A_p reached or exceeded a value of 20. It will be seen from this table that the magnetic field became progressively more disturbed as we moved away from quiet midsummer to an active autumnal equinox.

Table 2 — Dates on which daily magnetic index A_p equalled or exceeded 20.

MONTH	DATES and A _p VALUE
July	22(34)
August	7(26), 22(39), 23(73)
September	3(48), 4(33), 5(22), 7(22), 9(84), 10(88), 11(32), 17(93), 29(62), 30(35)

Magnetic and visual aurora observations detected an auroral storm on 22/23 August comprising active ray structures that were seen in the U.S.A., eastern Canada and the British Isles, similar storms took place on 4/5 and 9/10 September. The storm of 16/17 September was covering the whole sky in North Dakota but was not reported from the British Isles. The activity of 17/18 September was reported from Denmark and North Dakota but was not seen by British observers although the A_p index was standing at a value of 93, the highest for the period under review.

Sufficient data has now come to hand to be able to calculate for 1992 the frequency with which auroral light could have been seen at various British ports given cloud-free conditions and freedom from light pollution, and these are shown

in Table 3. In these cases the event might only have been a glow low down on the horizon, the tops of rays at the peak of an auroral storm taking place below the horizon or a full-blown storm with rayed arcs, bands and possibly a coronal structure.

Table 3 — Number of nights on which aurora could have been observed at British ports in 1992.

DOVER			HULL			LEITH		
LONDON			HARTLEPOOL			PETERHEAD		
BOSTON			BERWICK			WICK		
1	6	9	14	17	20	35	48	74

A proportion of the auroral activity observed in the region of the Pentland Firth by the Meteorological Offices at Kirkwall, Fair Isle and Wick forms the quiet events comprising only glows or homogeneous arcs. In 1992 about 36 per cent of all aurorae in that region were of the quiet form. Data from the American National Aeronautics and Space Administration suggests that the sun's activity changed from a more explosive transient type in the early part of the year when a number of big auroral storms took place particularly in February. In the second half of the year the activity has shown an upsurge in the quieter continuous streams of particles emanating from zones in the sun's outer atmosphere, called coronal holes, where the solar magnetic field is weak and the energetic particles are able to escape from the sun. The coronal hole activity is most evident during the declining period of the sunspots and results in the quieter, more northerly aurorae that may appear for a night or two with the whole sequence recurring some 27 days later after one rotation of the sun.

Having tried to show that the aurora is still active I look forward to receiving more observations from our marine colleagues.

LETTERS TO THE EDITOR

(Letters to the Editor, and books for review, should be sent to the Editor, *The Marine Observer*, Meteorological Office, Scott Building, Eastern Road, Bracknell, Berkshire RG12 2PW, U.K.)

Fireball over Limassol

A fireball was seen from a point 8 kilometres east-north-east of Limassol, on 18 August 1992, at 2351 Cyprus Summer Time, 2051 UTC.

The object was orange/yellow in colour although the surrounding area of roads, buildings and open land was bathed with brilliant blue/green light; this may have had something to do with the ambient lighting at the time.

The duration of the visible fireball was less than 1 second and the object left a white trail which seemed to be lit rather than glowing. The trail started at RA 20h 22m, declination -09 degrees to 18h 00m, declination -24 degrees 30 minutes; it was 4 minutes to 5 minutes wide for its first two-thirds and about half that width for the remainder. The trail persisted for about one minute, but may have been seen for longer than this from a remote mountain site with less pollution.

No sound was heard. The end was clean. There seemed to be no fragmentation.

The site is the balcony of an apartment at Lordos Kantara Village 2, Ayios Tychonas, Limassol, Cyprus. It is 2 kilometres west-south-west of the ancient site of Amathus. The co-ordinates are: latitude $34^{\circ}.709\ 778$ North, longitude $33^{\circ}.122\ 317$ East. The height is 30 metres. The sea is 150 metres distant. The site is registered with the International Committee for Space Research, COSPAR No. 2004, name LIMAS.

The day had been one of the hottest and most humid that I remember in 34 years of visiting the island. At the time of the fireball I had ceased observing Earth satellites for the night. My wife and myself were sitting on the balcony with a reading light on. There was sufficient street lighting on the Old Nicosia Road below and in the east a 20-day old gibbous moon had risen.

Taking these points into consideration, I would put the magnitude of the fireball at -13 , possibly -14 .

Using a program intended for reducing satellite observations, I ran the above co-ordinates back and conclude that the object could well have been a late Perseid. The program is not intended to accurately take a great circle over so great an angular distance, and more appropriate computation may be more conclusive.

Ivor R. Stotte, FRAS, Northwood.

Japanese Earthquake

At approximately 1108 UTC on 15 January 1993, the ship experienced very heavy vibrations of about ten seconds' duration. The ship was in a water depth of more than 1,000 m, no great alteration of course had just been made and all below was working normally, so that at the time the cause of the vibrations was a mystery.

The mystery appeared to be solved shortly afterwards when some ship's officers were watching a Japanese TV programme, which was interrupted with the announcement that an earthquake had occurred south of the island of Hokkaido. At the time the ship was 60 n.mile south of Kushiro, a fishing port on the south-east coast of Hokkaido. In a copy of the magazine *Asiaweek*, dated 27 January, a small article mentioned the earthquake, which had measured 7.5 on the Richter Scale. It was estimated its epicentre was about 20 n.mile south of Kushiro, 150 miles below the seabed.

Vibrations of various sorts are normally experienced aboard ship, but these were heavier than usual and certainly not normally experienced during a deep sea passage, unless something is wrong. At the time of the earthquake the ship was on passage from Long Beach to Hong Kong in position $42^{\circ}\ 02'\text{N}$, $144^{\circ}\ 02'\text{E}$.

Captain S.J. Ivey, Master, and ship's company of m.v. *OOCL Fidelity*.

Cetacean Enthusiast

I have long been interested in birds and wildlife, particularly marine life, and as a diver I have been conducting a study of a local underwater reef for the last 15 years. Meteorology has also been of keen interest to me since my Fleet Air Arm aircrew days in the early 1940s.

I started collecting information about cetaceans four or five years ago when Dr Nick Tregenza, Chairman of the Cornwall Trust for Nature Conservation, asked me if I would be interested in helping to form a Dolphin Group within the Trust, to try to find the reasons for the absence of live dolphins around our Cornish

coast, compared with the population 20 or 30 years ago, and the reason for so many dolphin carcasses on our beaches and rocky shores. We set up shore and sea watches, and living in Newlyn I was able to collect information from some of the Skippers of the Fishing Fleet and from other ships like m.v. *Scillonian III* [an active ship of the Voluntary Observing Fleet], also Trinity House vessels that work from Penzance.

We examine carcasses and carry out autopsies on some cetaceans to ascertain the cause of death and have been able to divide them into groups, e.g. old age, toxins, pneumonia, net-related death etc. The offshore species such as Common Dolphin seem to be there in relatively good numbers but the Harbour Porpoise, which was once one of the commonest local species, seems to be in grave danger. It is now rarely seen, yet most of the carcasses have been offshore species such as Common, Striped or Bottlenosed Dolphins, and by far the greatest cause of death has been net-related. The study continues, but I doubt that this would be of great interest to your observers.

The information we collect was originally intended for our own project but we discovered that others were interested in what we are doing and had asked for information as it is collected, e.g. the Cornwall Biological Records Unit, the Marine Conservation Society and Dr Peter Evans of International Dolphin Watch.

I will make some inquiries to find out who might be able to help Mr Denis McBrearty with the identifications and comment upon observing ships' cetacean reports, and contact you again. Meanwhile thank you for the copies of *The Marine Observer*, which although a specialist publication I am sure it is avidly read by lay persons like myself.

Mr Raymond Dennis, Newlyn, Cornwall.

Editor's note. We originally contacted Mr Dennis with a view to asking for his help as a cetacean expert, looking towards the time when our present correspondent on the subject could no longer give his time to provide the stimulating comment we have become accustomed to receiving from him. To date we have not heard from any suitable correspondent to assist in this way.

A Tribute

CAPTAIN P.P.O. HARRISON (1908–1991)

Captain Harrison was the complete seafarer and a man of many parts, and following his death at the age 83 in 1991, we had intended to publish a suitable obituary to an enthusiastic observer of all that he found of interest at sea. Insufficient material was available earlier, but Captain Harrison's son, Mr Paul Harrison, of Farnborough, Hampshire, kindly agreed to send us for safe keeping all his father's post-war observing records from his time in command with the New Zealand Shipping Company. These are the most meticulous and complete records that have ever been received in the Marine Division. Mr Harrison Jun. also provided most of the following biographical information about his father.

Paul Patrick Ormsby Harrison was born in Milton-next-Gravesend in June 1908 and educated at St Joseph's College, West Norwood, London. His first ship after becoming apprenticed to Furness Withy & Co. in 1922 was thought to be the *North-Western Miller* on the Novia Scotia-East Coast U.S. run. After obtaining his

Second Mate's Certificate in 1927 he joined the British India Steamship Company, spending the next four years on the coasts of continental India. On his return to the U.K. for leave in 1931 he obtained a job with the Ideal Homes Building Group, where he stayed until volunteering for sea service on the outbreak of World War II, and was selected by the New Zealand Shipping Company. He was torpedoed in the Atlantic when on the *Huntingdon* in 1941, but all the crew were picked up from the sea within a matter of hours and returned home.

He obtained his Master's Certificate in 1944 and was selected to remain in the N.Z.S.Co., despite having no pre-war service with them, a decision that was certain to be of great worth to the company. Captain Harrison was promoted Chief Officer on the 'meat and butter' run to Australia and New Zealand. His first command followed in 1953 when he was appointed Captain of the *Kent* (a cargo ship of the Federal Line which was a partner of the N.Z.S.Co. in the P&O Group). It is from this ship that the first of 15 'Excellent' meteorological logbooks, compiled between this time and 1960, was received from Captain Harrison, for which he received Excellent Awards in almost every year. We lost sight of his first class work after he was in command of *Cumberland* in 1960, but his son explains that he was thereafter in command of the company's new tanker, also named *Kent*, running between the U.K. and the Persian Gulf, but not an observing ship. He remained in that ship until retirement in June 1965, shortly after which he was elected to membership of the Honourable Company of Master Mariners.

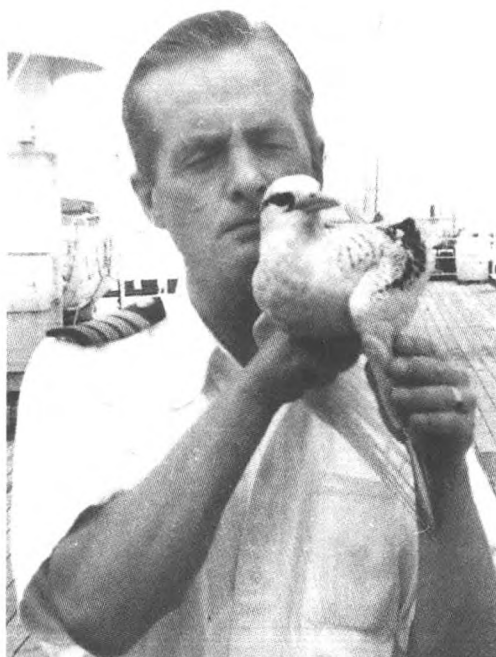


Photo. supplied by P. Harrison

Captain Harrison with a White-tailed Tropicbird on board the *Kent* on 10 October, 1955.

The papers sent to us by his son constitute Captain Harrison's remarkable record of marine phenomena that he maintained between 1953 and 1961. He kept originals of all his reports, letters and postcards received from the U.K. and N.Z. Met. Offices and acknowledgements from others with whom he obviously corresponded regularly, such as the Institute of Oceanographic Sciences at Wormley and the Institute of Navigation before it received its Royal Charter; he even cut out all the entries of his reports copied in the journal, which were many.

He reported everything he saw that could possibly be of interest, and, after noticing that the first 'additional remarks' page of a meteorological log about to be landed as he joined a ship in London had the entry 'Nothing of interest to report' for a four-month New Zealand round voyage, he cajoled his officers to follow his commendable and enthusiastic practices.

In addition to seabirds, he seemed to be particularly fascinated by optical phenomena and he made many a record of solar halo complexes with complete diagrams; he frequently tinted his sketches with water colours giving them a unique character, though unfortunately in his day it was not possible to reproduce them in all their glory in *The Marine Observer*. On two consecutive five-month voyages between London and New Zealand in 1954/55 he submitted 45 and 50 closely typewritten pages, reporting everything from flying fish to phosphorescent wheels and moths to meteorites, all most meticulous in their detail. One of the more unusual was not published in *The Marine Observer*:

26 March 1957. Noon. Whilst waiting for the sun to reach the meridian I looked over the ship's side. Immediately below me about half a dozen squid 'jetted' from the water. They 'flew' about 12 to 15 feet and left behind them jets of milky white fluid. The creatures were about 6 inches long. The fluid remained as long as they were airborne. I have never seen such a thing in 35 years experience. Position 36° 15'S, 179° 24'E.

In an acknowledgement dated 21 November 1957, Commander L.B. Philpott, Nautical Officer at the Met. Office HQ, then at Harrow, said:

Regarding the flying squids of 26th March, we hear from the Natural History Museum that flying squids are by no means uncommon and there are several species. The most likely ones observed by Captain Harrison would be either *Onychoteuthis Banksi* or *Ommastrephes Bartrami*.

When Captain Harrison was Social Chief Officer of the liner *Ruahine* in 1951 he was sometimes asked by passengers for bird identifications, and, often being unable to identify the birds, he started on a life-long interest in seabirds. From 1956 he was a dedicated member of the Royal Naval Birdwatching Society, and he became one of its most experienced and valuable recorders of bird life at sea. Apart from articles which he wrote for publication in the Society's annual journal *Sea Swallow*, he had his own book published by the RNBWS, *Sea Birds of the South Pacific*, which he described as a handbook for passengers and seafarers. The book is now out of print but many copies are still in circulation: the RNBWS is considering re-publication of the book, updating classification as necessary, as it remains a unique guide to seabirds to be seen on the run from New Zealand to Panama, by one who must have observed more than most.

One of Captain Harrison's other interests was knotting and in 1964 he produced *The Harrison Book of Knots*, published by Brown, Son & Ferguson of Glasgow. He made a bellrope for Rochester Cathedral in 1962, but later found it had been stolen. On providing a replacement bellrope Captain Harrison greatly appreciated the remark of the cathedral canon that it would be interesting to meet such a passionate admirer of fine ropework that he would steal from a cathedral.

Following his retirement from the New Zealand Shipping Company in June 1965 he continued living at his house in Margate, from where both he and his wife were supporters of 'The Watch Ashore', until he passed away on 2 November 1991 and his wife four months later.

Met. Office College celebrates 21 years

The Met. Office College, Shinfield Park near Bracknell, England, celebrated its 21st birthday on 26 March 1993, with plans to extend its courses to industry and commerce.

The College, situated between Shire Hall and a body closely associated with the Meteorological Office itself, the European Centre for Medium Range Weather Forecasting, has trained around 8,000 students in everything from frontal analysis to computer programming. Shinfield Park is the centre for the residential training of the 2,400 staff of the Met. Office who attend a course about every five years, but more than 500 of the students came from over 70 countries overseas.

The College is marking its coming-of-age by extending its courses externally. New courses for weather presenters are already proving highly successful. Siân Lloyd, the weather presenter on ITV for Carlton, was the first student to pass, enabling her to speak on air more authoritatively. Plans are also in hand for specialist seminars to advise industry about the impact of the weather on their business and to help education. Initial audiences may include the offshore and marine markets, aviation, schools and colleges.

Facilities at Shinfield Park range from a TV studio to a computer system with links to the super-computer network at the Meteorological Office headquarters in Bracknell. Indoor social activities focus on the Lodge, an early 19th century residence and wartime R.A.F. Officers' Mess with later extensions. Here and in the grounds there is a wide range of sports facilities. Further details can be obtained from: The Registrar, Met. Office College, Shinfield Park, Reading, Berks RG2 9AU. Telephone: 0344 855205. Telex: 849801 WEABKA G. Facsimile: 0344 855410.

Notices to Marine Observers

FACSIMILE CHARTS FROM BRACKNELL

As from 1 July 1993 the transmission of facsimile upper-air charts from GFA Bracknell will be excluded, thereby confining this channel to surface analysis and prognosis charts, of particular use to mariners. To further increase the marine content on this channel, the once-daily transmission of sea temperature analysis for United Kingdom waters will be transferred to GFA from GFE.

This change follows a review of all the charts transmitted from GFA, when it was found that upper air charts accounted for over 60 per cent of the total on the daily schedule. The reduced content will allow more time to be devoted to the remaining transmissions on GFA and will thus lead to an improvement in quality.

PUBLICATIONS NEWS

1. For the February 1993 reprint of the *Ship's Meteorological Logbook*, a new vertical line has been inserted in the Weather Group 12 between W_1 and W_2 to remind observers that these are two separate code figures. Also, observers are again requested to insert the GMT in the first column of the right-hand page of the log, as well as in Group 1, ignoring any instruction that this particular column is

'for office use only'. This will save our quality controllers endless time in having to enter this column manually for the benefit of the computer operators whose sole mission in life is to key in what they see.

2. The *Sea Surface Temperature and Weather Reports* form was revised in March. MARID ships that provide sea temperature observations from U.K. coastal waters (plus present wind and weather when in the North Sea) were instructed to change the order in which the MARID message groups were transmitted, to make them receiver/computer legible. The order of elements should now be: indicator, call sign, GMT(UTC), latitude, longitude, sea temperature, (total cloud, wind direction and speed, visibility, weather). These must always be coded with the word MARID as the first group, as follows:

MARID D...D GGL_aL_aL_a L_oL_oL_oT_sT_s (Nddff VVwwW)

Shipowners, operators and Masters are advised that further volunteers are still needed for this branch of the Met. Office marine observing network, and existing recruits are particularly encouraged to record and transmit MARID observations whenever convenient. The messages are of great value in preparing forecasts for the benefit of shipping, particularly in connection with the forecasting of fog, and in certain cases the presence of sea ice.

3. A revised edition of our brochure *Weather Services for Shipping* was produced in January 1993 for publication in the Spring. In addition to being the first all-colour publication produced for the Marine Division by our Graphics Office, new material in the brochure includes reference to GMDSS and INMARSAT, an update on BT's coast station organization, information about the Met. Office Library and Archive and the recently-introduced MetFAX service, a finder's list of suggested publications and an enhanced commercial services section.

Copies of the brochure can be obtained from U.K. Port Met. Officers, Weather Centres or by telephoning 0344 855656.

4. The following amendments to the section 'Winter Fishing Fleet Forecasts — HM Coastguard' on page 14 of the above-mentioned brochure, *Weather Services for Shipping* — January 1993, should be noted:

SOUTHERN NORTH SEA — Sea areas Tyne, Dogger, German Bight, Humber and Thames, by **Humber** Coastguard at **0910** UTC and repeated at **2110**.

SOUTH WESTERN APPROACHES — Sea areas Plymouth, Fastnet, Shannon, Sole and Finisterre, by **Falmouth** Coastguard at **0945** UTC and repeated at **2145**.

Also on the record card inserted inside the back cover, the frequencies for Radio 3 on the 'plotter' should be amended by deletion of the Medium Wave, 1215 kHz (247 m), which no longer applies.

Fleet Lists

Fleet Lists

GREAT BRITAIN (Information dated 12.3.93)

The following is a list of British ships which have been equipped with instruments and which voluntarily co-operate with the Marine Division of the Meteorological Office. The names of the Masters, Observing Officers and Senior Radio Officers are given as ascertained from the written returns received. The date of receipt of the last return is given in the second column. An asterisk indicates a new recruitment who has not yet sent in a logbook, or a ship from which no logbooks have been received for three years.

All returns received from observing ships will be acknowledged, direct to the ship, by the Marine Superintendent of the Meteorological Office.

The Port Meteorological Officers will make personal calls on the Masters and Observing Officers as opportunity offers, or on notification from the ship at any time when their services are desired.

Excellent Awards are made at the end of each calendar year. The names of the Masters, Principal Observing Officers and Radio Officers gaining these awards are published each July in *The Marine Observer*.

It is requested that prior notification of changes of service, probable periods of lay-up, transfer of Master or other circumstances which may prevent the continuance of voluntary meteorological service at sea, may be made to a Port Meteorological Officer or to the Marine Superintendent of the Meteorological Office at Bracknell.

Masters and Officers are invited to point out any errors or omissions which may occur in the list.

Selected and Supplementary Ships

NAME OF VESSEL	LAST RETURN RECEIVED	MASTER	OBSERVING OFFICERS	SENIOR RADIO OFFICER	OWNER/MANAGER
Abbey	22.9.92	R. A. Whistler	P. M. Newman, J. N. Balkwill, O. N. Eginlioglu	S. Sundaraman	Furness Withy (Shipping) Ltd
Aberdeen Bay	11.1.93	W. Elson	J. H. Clark, A. A. Buenaventura, J. E. Subradil	A. F. Dela Cruz	P&O Containers Ltd
Aberhaw Fisher	12.3.92	M. Nicholson	B. A. Hoyle, G. Sumner, H. Cassidy	P. C. Knightley	James Fisher & Sons Plc
Adviser	25.1.93	G. S. Laird	W. I. G. Mair, A. C. Dunning, P. B. Murphy	M. Saleem	Denholm (I.O.M.) Ltd
Al Rayyan	17.6.92	S. Y. Shah			United Arab Shipping Co. (S.A.G)
Al Samidoon	*				Kuwait Oil Tanker Co.
Alcides	31.12.92	A. C. Fialho	R. T. B. Fonseca, P. S. Dighe, D. G. Bancroft	R. C. Earle	Mobil Shipping Co. Ltd
Aldington	11.1.93	P. Johnson	P. Hilbert, P. Dawson, S. C. Dixon		Stephenson Clarke Shipping Ltd
Aleri	23.10.92	P. Bennet	A. M. Feltham, A. W. Reader, M. F. Cross	A. R. Carr	BT (Marine) Ltd
Alliance	26.10.92	J. Holst	N. Campbell, S. Hamer, A. Thomson	S. Flannigan	Denholm (I.O.M.) Ltd
Almeda Star	22.1.93	P. Buckley	A. B. Barredo, S. R. Pridmore, N. Tolero	D. Napa	Concordia Marine Co. Ltd
Ambra Beluga	7.7.92	L. L. Lobo	J. Joseph, M. Hasan, E. P. Oraca	S. A. Irani	Wallem Ship Management (H.K.) Ltd
Ambra Grey	20.11.92	A. Mehrotra	V. I. Puzhaev, A. V. Popov, V. Mikhaylyuk	C. J. Dias	Wallem Ship Management (H.K.) Ltd
Ambra Stresa	31.12.92	R. O. M. Wilson	I. I. Mulla, J. T. Dela Victoria	K. Sathanaryan	Wallem Ship Management (H.K.) Ltd
Andes	4.2.93	I. Middleton	D. Bowman, J. L. McCorquodale, D. B. Hargrave	P. D. Hyde	Furness Withy (Shipping) Ltd
Anro Adelaide	2.11.92	Soo Seng Quek	Amar Singh, Lim Keng Hock	Koek Cheng Kwee	Neptune Ship Management Services (Pte) Ltd
Antwerpen	4.1.93	J.-P. Hasselle	J. De Pyper, M. Walgraave, B. Van Rossen	H. Stevens	Johnson Stevens Agencies Ltd
Appleby	17.6.92	K. Milburn	R. Kastell, D. L. Coe, N. J. Manger	M. Erceg	Ropner Shipping Services Ltd
Arctic Corsair	*	P. Wheeldon	L. Gadman	A. Spencer	Boyd Line Ltd
Arctic Ranger	*	A. W. Walker	A. L. Jennings	J. D. Lester	Boyd Line Ltd
Arctic Universal	7.7.92	M. F. Colley	W. K. B. Kumara	S. N. Gurusinghe	Jardine Ship Management (U.K.) Ltd
Argentina Star	11.1.93	N. D. T. Johnson	L. Colam, E. A. White	W. J. Ashley	Blue Star Ship Management Ltd
Astrid	26.1.93	M. Kemmis-Betty	C. M. Toner	A. Brooke	The Astrid Trust

<i>Atlantic Conveyor</i>	26.10.92	P. F. Wright.....	A. Peden, S. A. Crow.....	A. G. Manacap.....	Cunard Line Ltd
<i>Atlantic Universal</i>	16.2.93	I. C. Ligertwood.....	F. Dimacutha, A. Belay, R. Sapida.....	P. Candelaria.....	London Ship Managers Ltd
<i>Auckland Star</i>	27.1.93	P. Mathews.....	M. D. Ramos, E. Alvarez, J. Bermudeo.....	C. Moors.....	Blue Star Ship Management Ltd
<i>Author</i>	18.6.92	R. J. Smith.....	D. Kynaston, A. C. Dunning, D. J. Czerar.....	J. Raymond.....	Denholm (I.O.M.) Ltd
<i>Avelona Star</i>	3.9.92	K. Lumby.....	D. Cappal, R. Reniero, D. Johnston.....	R. H. Smith.....	Concordia Marine Co. Ltd
<i>Ava II</i>	19.11.92	M. W. Slayman.....	A. M. Baker, H. J. Hernandez, A. G. Ortiz.....	P. Clemence.....	Cardiff Ship Management Ltd
<i>BP Admiral</i>	27.1.93	J. Ronald.....	P. D. Walker, M. Murphy.....	B. Brycki.....	BP Shipping Ltd
<i>BP Advocate</i>	4.1.93	B. Wardman.....	M. H. Stott, J. Dabrowski, N. K. Price.....	J. Sech.....	BP Shipping Ltd
<i>BP Architect</i>	9.11.92	J. Y. MacAlpine.....	A. M. Lakey, W. J. Kulawczyk, M. Wasiaik.....	S. V. Ranadive.....	BT Shipping (London) Ltd
<i>BT Nautilus</i>	14.11.91	H. G. Gray.....	K. B. Sinha, C. S. Santillan.....	J. Mendonca.....	BT Shipping (London) Ltd
<i>BT Navarin</i>	18.11.92	P. H. Morgan.....	J. W. Gilbert, M. De Felipe, P. K. Sinha.....	M. Y. Choudhary.....	BT Shipping (London) Ltd
<i>BT Navigator</i>	27.5.92	H. G. Gray.....	B. J. O'Brien.....	R. B. Paul.....	BT Shipping (London) Ltd
<i>BT Neptune</i>	6.8.92	A. Stobbs.....	A. E. Sargent, A. S. Arriba, J. I. Delgado.....	M. Malakar.....	BT Shipping (London) Ltd
<i>BT Nestor</i>	11.2.92	R. B. Jones.....	G. B. Singh, E. T. Zubiri, N. S. Antido.....	U. Kyee Myint.....	V Ships (U.K.) Ltd
<i>BT Nimrod</i>	*	N. W. Shoolbraid.....	P. C. Marudo.....	J. Burley.....	Mann Motorships Ltd
<i>Bahia Express</i>	*	V. Trebelskiy.....	S. Vasilenko.....	S. Ranasinghe.....	Andrew Weir Shipping plc
<i>Baltic Breeze</i>	19.11.92	L. K. Huat.....	I. C. Oke, T. T. S. Maung.....	S. Norman.....	Andrew Weir Shipping plc
<i>Baltic Eagle</i>	24.7.92	P. Anthony.....	J. D. R. Ghest, D. S. Sime.....	J. Allen.....	London Ship Managers Ltd
<i>Baltic Eider</i>	*	D. R. Cripps.....	P. Maynard, D. Millar, G. Pears.....	A. Willis.....	Chelston Ship Management Ltd
<i>Baltic Tern</i>	23.10.92	D. R. Cripps.....	D. Sweet, G. Armstrong, M. Kearney.....	M. E. P. Gloisten.....	East Asiatic Co. Ltd
<i>Baltic Universal</i>	12.3.92	S. Venner.....	K. Molloy, A. C. Del Pilar, C. L. Molina.....	R. O. Ball.....	Boston Putford Ltd
<i>Barbara E</i>	25.1.93	D. A. Peden.....	I. D. Coombs.....	D. A. Richards.....	British Antarctic Survey
<i>Barra Head</i>	21.1.93	C. E. Harvey.....	M. Horridge, D. E. Aylott, M. P. A. Stephen.....	D. Worthy.....	BP Shipping Ltd
<i>Benarty</i>	3.9.92	W. A. Mason.....	S. Polson, N. Walker.....	N. P. Marshall.....	BP Shipping Ltd
<i>Blue Flame I</i>	5.6.91	F. J. Powdrill.....	B. V. Grint, H. Blake.....	D. W. Bone.....	BP Shipping Ltd
<i>Bora Universal</i>	9.11.92	S. J. Turner.....	S. P. Harris, R. F. Demerin, M. Hasan.....	R. J. Maule.....	BP Shipping Ltd
<i>Bransfield</i>	18.6.92	S. J. Lawrence.....	A. M. T. Reading, J. R. Harper, G. C. Morgan.....	M. G. Spencer.....	BP Shipping Ltd
<i>British Adventure</i>	27.1.93	K. E. Peacock.....	C. C. Gault, C. M. Dineley, I. G. Davies.....	D. P. Riddle.....	BP Shipping Ltd
<i>British Argosy</i>	21.1.93	M. A. Watson.....	A. Drew, N. G. Hawkes, A. M. Largon.....	M. Glendinning.....	BP Shipping Ltd
<i>British Esk</i>	7.12.92	S. M. Duncan.....	H. Strachan, C. Winterbottom, C. Henrickson.....	J. Ferson.....	Furness Withy (Shipping) Ltd
<i>British Ranger</i>	4.2.93	M. Pocklington.....	A. Hilliard, T. R. Stringer, J. H. Donne.....	M. Geti.....	BP Shipping Ltd
<i>British Reliance</i>	26.1.93	C. R. Shoolbraid.....	K. M. McGregor, M. J. Walker, P. M. Thompson.....	P. J. Gould.....	BP Shipping Ltd
<i>British Renown</i>	9.9.92	P. St. Lawrence.....	D. M. Sharp, T. J. Radford.....	M. Saunders.....	BP Shipping Ltd
<i>British Revolution</i>	16.2.93	N. E. Hannam.....	S. Petley, L. M. McEvan, J. Gutowski.....	W. Lexniewski.....	Denholm (I.O.M.) Ltd
<i>British Resource</i>	7.1.93	J. O. Bailey.....	N. J. Collins, W. Olanian, R. M. Miller.....	V. Meghani.....	Johnson Stevens Agencies Ltd
<i>British Skill</i>	18.9.92	P. Seaman.....	V. Williams, R. C. Stewart, E. M. Salmon.....	F. Limbaga.....	POETS Fleet Management Ltd
<i>British Spirit</i>	7.1.93	J. Smith.....	A. Parkinson, A. J. Glass, P. B. Hawkin.....		CAM Shipping Ltd
<i>British Steel</i>	10.11.92	D. G. Olley.....	I. Woolard, N. Hamlett, R. Moore.....		CAM Shipping Ltd
<i>British Success</i>	31.12.92	R. A. Jarrett.....	J. N. Gregson, T. T. Lallo, R. W. Bold.....		
<i>British Tamar</i>	12.10.92	M. Roberts.....	T. Cullen, A. Hurst, A. Olbromski.....		
<i>British Trent</i>	11.8.92	S. R. Montague.....	J. Harris, A. Chylak, M. Murphy.....		
<i>Broompark</i>	4.1.93	A. J. C. Braganza.....	R. I. Sait, P. A. Mathew, S. Javed.....		
<i>Brussel</i>	11.1.93	J. P. Hasselle.....	S. Laloux, S. Realigue, M. Menddach.....		
<i>Buffalo</i>	4.2.93	K. P. Riley.....	J. Murray, C. G. Collard, M. E. Ingham.....		
<i>CAM Defender</i>	23.3.90	M. Lightfoot.....	M. Lightfoot.....		
<i>CAM Retriever</i>	27.11.90	G. E. Drewery.....	A. Edwards, R. Shirley.....		

Selected and Supplementary Ships (contd)

NAME OF VESSEL	LAST RETURN RECEIVED	MASTER	OBSERVING OFFICERS	SENIOR RADIO OFFICER	OWNER/MANAGER
CAM Supporter.....	12.3.92	R. Clapham.....	S. C. Upcraft.....	V. Vals.....	CAM Shipping Ltd
CMB Ebony.....	*	I. G. Juvalle.....	R. Jamdar, K. D'Essa, S. Vellangi.....	J.-P. De Meersman.....	ASECO (Antwerp) Ltd
CMB Menting.....	17.2.93	W. Dubart.....			Antwerp Technical Services N.V.
CMB Plantin.....	*	J. Bertin.....	J. Lemal, W. Buysse, P. Blanquaert.....		Antwerp Technical Services N.V.
Cableman.....	*	R. D. Andrews.....	J. Sutcliffe, C. McMeekin, C. Eason.....		P&O Tankships Ltd
Cable Venture.....	6.4.90	E. J. Turner.....	M. Barrass, M. Jubb.....	S. O. J. Broadly.....	Cable & Wireless (Marine) Ltd
Canberra.....	28.5.92	B. N. Jones.....	K. Torto-Rockson, E. S. Boye.....	P. Mutia.....	P&O Cruises Ltd
Canmar Ambassador.....	29.1.93	P. Moore.....	P. Bland, S. Galthena, Q. R. De Alwis.....	M. S. Irfan.....	Celtic Pacific (U.K.) Ltd
Canmar Europe.....	4.2.93	W. Manien.....	P. H. Mercenier, T. Van Hoeteghem.....	Y. Rahbarshahir.....	OOCL Ltd
Canmar Triumph.....	16.2.93	I. Donaldson.....		S. Ghose.....	Canada Maritime Agencies GmbH
Canmar Victory.....	26.10.92	J. P. H. Simcox.....	J. S. Parker, M. T. R. Buddhadasa.....	D. K. Weerasekara.....	Canada Maritime Agencies GmbH
Canterbury Star.....	11.1.93	G. W. Bryson.....	P. U. Urbien, A. B. Giron, F. T. Serrano.....	G. Astraquillo.....	Blue Star Ship Management Ltd
Cardigan Bay.....	4.2.93	C. D. Croall.....	P. J. Flanagan, K. C. Riddick, S. Nicholls.....	P. Pegg.....	P&O Containers Ltd
Caribbean Universal.....	*				London Ship Managers Ltd
Cartagena.....	*				Dole Fresh Fruit International Ltd
Castilla de Oro.....	25.1.93	S. Kocherla.....	J. Ilarde.....	E. Gravador.....	Jardine Ship Management (U.K.) Ltd
Cavendish.....	30.4.92	C. Cleverley.....	A. D. Dawson, J. R. Hollamsy, O. N. Eginlioglu.....	M. Sebastian.....	Furness Withy (Shipping) Ltd
Celtic Challenger.....	25.1.93	V. F. R. Moorman.....	A. P. MacLean, W. G. Tait.....		C.M. Willie & Co. (Shipping) Ltd
Celtic Crusader.....	*	J. Boruta.....	J. Alwin, H. Gawinek.....		C.M. Willie & Co. (Shipping) Ltd
Celtic Warrior.....	*	J. Wanczyk.....	R. Jamro, A. Adamczyk.....		C.M. Willie & Co. (Shipping) Ltd
Challenger.....	2.3.92	P. H. P. Maw.....	P. A. Evans, S. S. Sykes, J. Sanderson.....	J. G. L. Baker.....	Natural Environment Research Council
Charles Darwin.....	19.11.92	P. J. MacDermott.....	P. W. Newton, R. A. Warner, R. M. Atkinson.....		Natural Environment Research Council
Cheryl-C.....	*	I. Ritchie.....	R. Frith.....		Carisbrooke Shipping plc
Cheshire.....	29.4.92	P. Dony.....	V. Veys, L. Bauters, B. Van Meensele.....	M. Bougard.....	Bibby Line Ltd
Chilham Castle.....	*				Kuwait Oil Tanker Co. Ltd
Chiquita Baracuta.....	*				Logbridge Ltd
Chiquita Bari.....	3.9.92	O. G. Keen.....	N. G. V. Soriano, L. Tarroza, N. Panganiban.....	F. Balondo.....	Logbridge Ltd
Chiquita Belgie.....	13.8.92	R. N. Cumbers.....	C. I. Kitchen, R. Reoyan, R. S. Gret.....	I. L. Guinoo.....	Logbridge Ltd
Chiquita Boxas.....	26.1.93	D. Jackson.....	L. T. Marolland, R. D. Basilio, H. D. Descuatan.....	M. Esquerria.....	Logbridge Ltd
Chiquita Bremen.....	*				Logbridge Ltd
Chiquita Burica.....	*				Logbridge Ltd
Chiquita Deutschland.....	6.10.92	E. R. Bruce.....	P. D. Enriquez, M. R. Lovibond, E. B. Cuasay.....	A. Sacy.....	Logbridge Ltd
Chiquita Frances.....	4.2.93	B. F. Hawking.....	A. W. Barr, N. I. Umbania, R. M. Hidalgo.....	A. R. De La Cruz.....	Logbridge Ltd
Chiquita Nederland.....	26.1.93	C. Bunt.....	A. Henley, D. P. Aquino, F. M. Vidallon.....	D. T. Manalo.....	Logbridge Ltd
Chiquita Scandinavia.....	*				Logbridge Ltd
Ciradana.....	26.10.92	M. L. Kinnear.....	P. J. Brown, D. P. Aquino, D. H. Hermogino.....	M. D. Diosana.....	Logbridge Ltd
Ciraduna.....	9.9.92	B. A. Chapman.....	R. O. Jolliffe.....		Ministry of Agriculture, Fisheries & Food
City of Durban.....	15.2.93	R. M. Herring.....	B. P. Murphy, A. Hutchinson, M. Proud.....	D. A. K. Bamford.....	P&O Containers Ltd
City of Plymouth.....	19.11.92	S. H. Duckworth.....	H. Fowler, A. G. Richard.....	A. Hutchinson.....	Denholm (I.O.M.) Ltd

<i>Clachmore</i>	*	N. W. Martin.....	W. A. Moodie, S. Robertson, K. Elder.....	D. MacDonald.....	Caledonian MacBrayne Ltd
<i>Clidebank</i>	27.11.91	P. J. Elder.....	P. S. Chase, B. W. Townsend, A. W. Robertson.....	P. M. Haslam.....	Andrew Weir Shipping plc
<i>Colindale</i>	3.2.92	D. Jeffcock.....	B. A. Y. Mukadam, E. S. Gonzales, J. A. Santos.....	D. J. Alva.....	V Ships (U.S.A.) Ltd
<i>Coppename</i>	6.10.92	D. Bunyan.....	E. D. Lyon, M. Solfranco, W. C. Eleria.....	B. N. Iyengar.....	Marine Management Services Ltd
<i>Corbella</i>	*				Mar Vessel Management Ltd
<i>Comorian Arrow</i>	*				Gearbulk Ltd
<i>Concelis Verdelne</i>	4.2.93	J. F. Stokart.....	R. O. Jolliffe.....	A. Renard.....	Johnson Stevens Agencies Ltd
<i>Corvistes</i>	23.7.92	J. R. French.....	P. J. Heasman, A. Ahmed, J. White.....		Ministry of Agriculture, Fisheries & Food
<i>Cotinga</i>	12.6.91	M. J. Dennis.....	I. W. Colhoun, S. F. Ahmed.....	L. D. Potnis.....	F. T. Everard & Sons Ltd
<i>Cotswold</i>	19.11.92	S. B. Tudor.....	P. J. Milton, E. E. Telmo, S. M. Fitzgerald.....	H. G. Moran.....	P&O Ship Management Ltd
<i>Cotica</i>	27.1.93	D. J. Robinson.....	R. D. Spooner, J. Andzies, G. D. Gibbins.....	R. Selkirk.....	Marine Management Services Ltd
<i>Dallington</i>	28.2.92	W. McNaughton.....			Stephenson Clarke Shipping Ltd
<i>Dana Anglia</i>	7.1.93	J. Jensen.....	J. C. Patterson, R. P. Coghlan, S. M. Richman.....	A. D. Moore.....	DFDS (U.K.) Ltd
<i>Darwin</i>	8.11.91	N. E. Hannam.....	S. McClane, P. Knights.....	W. R. Smith.....	Furness Withy (Shipping) Ltd
<i>Dawn Blazer</i>	7.1.93	W. A. E. Smith.....	F. Nottingham, K. Bingham, M. Chapman.....		Boston Purford Ltd
<i>Dawn Patrol</i>	10.12.92	S. McClane.....	P. Degraeve, G. Somers, J. Rimbart.....		Boston Purford Ltd
<i>Dawn Shore</i>	8.9.92	C. M. Pearce.....		S. Malatestinic.....	Boston Purford Ltd
<i>De Loris</i>	13.11.91	W. Defloor.....	P. A. Evans, R. J. Chamberlain, P. Gauld.....	B. Donaldson.....	Johnson Stevens Agencies Ltd
<i>Dew-Genen-Ni</i>	*	R. A. George.....	B. Baelde, J. Bosmans, P. Wegher.....	G. Birchen.....	Mr R. A. George
<i>Discovery</i>	27.1.93	M. A. Harding.....	M. P. Willis, A. M. Lee, R. J. McLarty.....	P. A. Hughes.....	Natural Environment Research Council
<i>Discovery</i>	26.1.93	R. Verhaegen.....	C. Lewis, R. Spomer.....		BT (Marine) Ltd
<i>Discovery Bay</i>	26.1.93	J. A. Oseroff.....	J. Graham, M. Wdowikowski.....		P&O Containers Ltd
<i>Dunnington</i>	22.11.90	W. Venning.....	P. Burazer, H. Mihovilovic.....	K. Woodley.....	Stephenson Clarke Shipping Ltd
<i>Durrington</i>	*	W. Dempsey.....	J. J. Hudson, C. Snape, J. Wilson.....	D. Dalton.....	Stephenson Clarke Shipping Ltd
<i>Eastern Bridge</i>	5.1.93	C. R. Bamford.....	P. Tweddle, R. Keir, H. Quidus.....	A. Fielding.....	Ropner Shipping Services Ltd
<i>Ebalina</i>	12.4.90	R. M. Linley-Munro.....	T. Smith, S. Ather.....		Shell Ship Management Ltd
<i>Eburna</i>	22.1.93	A. D. Guillaume.....	F. A. Noronha, A. K. Bhorla.....	S. G. Joshi.....	Shell Ship Management Ltd
<i>Echoman</i>	*	K. MacDonald.....			P&O Tankships Ltd
<i>Edinburgh Fraild</i>	20.6.91	H. G. Gray.....	G. P. Metcalfe, K. N. Metcalfe, N. M. Hardy.....	M. J. Sheldon.....	Denholm Ship Management Ltd
<i>Edinburgh Satsuma</i>	*	B. Luke.....	H. Bernard, S. Freddie, J. F. Sison.....	B. McGeehan.....	Denholm Ship Management Ltd
<i>Elk</i>	28.8.92	R. Maquestiau.....	N. E. L. Taylor, P. J. Flanagan, P. B. Murphy.....	C. R. Brooks.....	POETS Fleet Management Ltd
<i>Ellen Hadig</i>	4.1.93	A. W. Ellis.....	I. H. Beange, D. S. Swain, N. G. Young.....	B. N. O. Rant.....	Johnson Stevens Agencies Ltd
<i>Encounter Bay</i>	17.2.93	R. W. Taylor.....	R. A. Ranara, D. E. Mamaril, A. G. Garfin.....	D. L. Balita.....	P&O Containers Ltd
<i>Endeavour</i>	29.1.93	N. J. Barr.....	T. A. Meharry, D. Tomlinson, A. Miles.....	A. P. Clark.....	Souter Shipping Ltd
<i>English Star</i>	27.10.92	P. C. Harris.....	J. Barrett, J. M. Towler, N. E. Blythe.....	J. H. McFarland.....	Blue Star Ship Management Ltd
<i>Enterprise</i>	31.12.92	T. Robinson.....	A. R. Parker, A. R. Proud.....	C. Curran.....	Souter Shipping Ltd
<i>Equinox</i>	29.9.92	J. A. Holton.....	S. F. Fant, M. Wisner, C. S. Shaw.....		China Navigation Co. Ltd
<i>Ereclne</i>	26.1.93	J. Conn.....	A. Hodgson, L. L. Wallace, J. H. Donaldson.....		Shell Ship Management Ltd
<i>Ervilia</i>	*	G. T. Rymer.....	M. D. MacLeod, M. Wrigley, G. Dunkley.....		Souter Shipping Ltd
<i>Explanade</i>	19.10.92	F. Cook.....	S. Holmes, P. J. Bush.....		Esso Petroleum Co. Ltd
<i>Esso Aberdeen</i>	9.12.91	L. Burne.....	A. C. McFadyen, D. Goodwin.....	J. Whatnup.....	Esso Petroleum Co. Ltd
<i>Esso Fife</i>	14.7.92				Esso Petroleum Co. Ltd
<i>Esso Milford Haven</i>	*				Esso Petroleum Co. Ltd
<i>Esso Tyne</i>	13.3.92				Shell Ship Management
<i>Euplecta</i>	*				P&O European Ferries Ltd
<i>European Clearway</i>	*	A. R. Froude.....			

Selected and Supplementary Ships (contd)

NAME OF VESSEL	LAST RETURN RECEIVED	MASTER	OBSERVING OFFICERS	SENIOR RADIO OFFICER	OWNER/MANAGER
<i>European Trader</i>	*	P. Hillman.....	R. M. Keyzor	T. O'Donovan	P&O European Ferries Ltd
<i>Exelsior</i>	*	J. M. Bullard.....	L. G. Andrews, J. O. Greig, D. Richardson.....	Souter Shipping Ltd	Souter Shipping Ltd
<i>Exemplar</i>	4.1.93	J. M. Bullard.....	J. Barrett, G. Pearce, C. MacSweeney.....	A. P. Daff	Adventure Under Sail
<i>Eye of the Wind</i>	28.8.92	A. R. Timbs	C. Hall, D. Richards	G. Borbon	Jardine Ship Management (U.K.) Ltd
<i>Falcon Arrow</i>	22.5.92	R. S. Brown	A. Quidato, R. A. Maiquez, E. Y. Paraz	P. J. Appleyard	Marr Vessel Management Ltd
<i>Falklands Desire</i>	7.1.93	A. W. Barkworth.....	R. South, A. Robinson.....	F. A. Dunn	P&O Containers Ltd
<i>Farnella</i>	21.9.92	J. B. Nichols	R. Harrison, A. Somerton, F. F. Khun	A. G. Belonte	Andrew Weir Shipping plc
<i>Flinders Bay</i>	28.8.92	D. A. Dornom.....	I. Percival, S. Bryans.....	W. L. De La Peña.....	Blue Star Ship Management Ltd
<i>Forthbank</i>	23.10.92	A. T. McGregor	G. Anticamara, O. Palenzuela	M. A. P. McKenna	Jebsens Ship Management (Bergen) A/S
<i>Francis Drake</i>	26.4.90	G. Fairhurst.....	P. Dennis, T. Coates, J. E. Feamside	N. N. Barik	Jebsens Ship Management (Bergen) A/S
<i>Fremantle Star</i>	27.5.92	M. R. Hardmeal	R. A. A. Morrison, S. S. Satwant, M. Rentero	J. Donnan.....	Denholm Ship Management (U.K.) Ltd
<i>Frines</i>	30.4.92	P. J. Barratt	J. Graham, E. N. Derby, G. J. Simpson	S. Miguel	Gardline Shipping Ltd
<i>Fulnes</i>	*			E. Bohita	The Geest Line
<i>Gal Chait</i>	9.10.91	K. B. Singh.....	B. Majumber, S. B. Ajit, S. A. Basit	J. Donnan.....	The Geest Line
<i>Gardline Locuter</i>	5.1.90	H. F. Monckton	J. Hanley, I. J. Newsome, S. K. Jones.....	S. Miguel	Jebsens Ship Management (Bergen) A/S
<i>Geestbay</i>	31.12.92	C. S. Flanagan	W. A. Boddington, C. Roe, K. Cox.....	E. Bohita	Cory Bros Shipping Ltd
<i>Geesport</i>	16.2.93	R. A. Cole	A. B. Ward, J. D. Williams, K. Cox	Haverton Shipping Ltd	Haverton Shipping Ltd
<i>General Delgado</i>	*			A. C. Angeles.....	Cardiff Ship Management Ltd
<i>General Tirana</i>	17.2.92	D. P. Marfil.....	F. B. Blanco, J. Dioxquino	T. Looney	Idwal Williams & Co. Ltd
<i>General Villa</i>	5.12.91	B. R. Ismael.....	E. V. Near, C. M. Castil		Ocean Youth Club
<i>Gold Varda</i>	*				Greenpeace Marine Division
<i>Golden Ray</i>	11.1.93	R. Wade	I. A. Pakula, F. J. Nichol, J. V. Sedonito.....	D. Wallace	Beta Maritime Services Ltd
<i>Graigwerdd</i>	18.5.90	L. Parker	H. Sterakowski, J. Haye, F. Lamy		Isles of Scilly Steamship Co. Ltd
<i>Greater Manchester</i>	19.8.92	B. Graham			Jardine Ship Management (U.K.) Ltd
<i>Greenpeace</i>	*				Marr Vessel Management Ltd
<i>Gripurion</i>	*				Bibby Line Ltd
<i>Gry Maritima</i>	16.2.93	C. T. Oteda	A. Aliviado, J. B. Hangsitang, V. Y. Igot	W. Salandy	Mobil Shipping Co. Ltd
<i>Gull Arrow</i>	*	M. Ball	A. W. Fuller, A. Hay	M. Ghadiali	A/S Havor Management
<i>H.V. Fox</i>	18.6.92	M. J. Knight.....	C. J. O'Brien, D. Wayne, S. M. Reyes	K. S. O'Sullivan	A/S Havor Management
<i>Harold La Borda</i>	9.11.92	J. M. Bell	A. D. Lott, H. K. Dhondy, S. D Souza	J. M. Manalo.....	A/S Havor Management
<i>Harrier</i>	4.2.93	R. Tanguy	S. R. Librodo		A/S Havor Management
<i>Havdrott</i>	22.8.91	K. W. Newman.....	I. F. Finlayson, J. O. Tagub	J. S. Mathers	Caledonian MacBrayne Ltd
<i>Havjarl</i>	11.8.92	K. W. Newman.....	B. Pritchard, I. F. Finlayson, S. A. Vertudazo.....	O. Poon	Kvaerner Shipping A/S
<i>Havkong</i>	*			B. McGeehan.....	Johnson Stevens Agencies Ltd
<i>Havul</i>	31.12.92	A. Morrison	M. Gardener, K. Elder	P. Yaoyao	Kvaerner Shipping A/S
<i>Hebridean Isles</i>	7.1.93	D. Simpson.....	T. Ferguson, A. Cameron, D. Pinto.....		
<i>Hekabe</i>	11.1.91	T. De Oliveira Pinto	T. Moons, P. Corveleyn, B. Baayn.....		
<i>Helen</i>	17.2.93	N. Muhsin	E. Johnsen, K. Ratcliffe, J. Penafiel		
<i>Helikon</i>					

<i>Helios</i>	*	K. Fraser.....	L. J. Trajacto, A. Del Barrio	F. Soriano.....	Kvaerner Shipping A/S
<i>Hemera</i>	2.2.93	P. R. Dew.....	K. W. Bennett, L. S. Kowalski, L. R. Boquila	L. P. Lim.....	Kvaerner Shipping A/S
<i>Hemina</i>	7.1.93	D. T. Simpson.....	J. D. Martin, N. J. Blacker, R. D. Sabillo	L. P. Lim.....	Kvaerner Shipping A/S
<i>Hemud</i>	28.5.92	P. Beresford.....	M. Yovel, N. J. Blacker, B. Bicasan	O. Okana.....	Kvaerner Shipping A/S
<i>Hexas</i>	27.10.92	A. J. B. D'Souza.....	H. B. Patel, T. A. Karim.....	S. Shaikh.....	United Arab Shipping Co. (S.A.G.)
<i>Hijaz</i>	8.9.92	D. C. Toon.....	A. Habib, S. V. Penafiel, D. P. Cruz	A. S. Padayao.....	Leif Høegh & Co. A/S
<i>Hoegh Duke</i>	13.4.92	R. O. C. Smith.....	I. K. Oxford, M. P. A. Stephen, W. Campbell	T. H. Phillips.....	Chelston Ship Management Ltd
<i>Hook Head</i>	7.1.93	A. Evans.....	D. Frost.....	P. Sahyrmurthy.....	R. Laphorn & Co. Ltd
<i>Hoo Venture</i>	*	T. W. Abbott.....	I. P. Senarillos, W. A. R. Fernando, A. A. Gutia	B. Z. Wijeysooria.....	Jardine Ship Management (U.K.) Ltd
<i>Hornwave</i>	16.2.93	J. M. Collis.....	A. R. Esguerra, A. P. Rocha, D. L. Loresto	D. Sherwood.....	Jardine Ship Management (U.K.) Ltd
<i>Hornwind</i>	6.10.92	J. A. Corcoran.....	N. R. Francis, S. Sekandar, M. A. Kadir.....	J. Bruce.....	Enron Arbross Ship Management Co. Ltd
<i>Hudson River</i>	*	M. J. Feltham.....	M. Jubb.....	J. Vaughan.....	Ocean Tramping Co. Ltd
<i>Humanist</i>	15.3.90	M. Buchanan.....	D. Darlington, N. P. Smith, J. D. F. Darbyshire	E. W. Egalla.....	United Arab Shipping Co. (S.A.G.)
<i>Iba Abdoun</i>	*	R. Walter.....	P. M. Newman, C. Jackson, F. O'Driscoll.....	J. Vasthy, T. Ahmed.....	BP Pet.Dev. (U.K.) Ltd
<i>Iba Rashid</i>	*	T. R. Barton.....	R. Foran, C. Bain, R. McLaughlin	P. Zlatko, L. A. Bermejo.....	BT (Marine) Ltd
<i>Ishtar</i>	31.12.92	J. Peacock.....	A. H. Colquhoun, R. Morrison, I. Scarr.....	G. Hobbs, M. J. S. Burgan, R. Jackson.....	Furness Withy (Shipping) Ltd
<i>Iris</i>	22.1.93	C. Billimore.....	A. D. Grant, A. Shaikat, L. Ruzangi.....	O. Power, J. P. Hughes, M. Ratue.....	Caledonian MacBrayne Ltd
<i>Ironbridge</i>	17.2.93	E. Wilkinson.....	S. S. Zadziuk, D. Butters, S. M. F. Masud	K. D. Campbell, R. K. Harding, J. V. Dilley.....	Shell Ship Management Ltd
<i>Isle of Arran</i>	24.2.92	J. Sharp.....	E. M. Pallister, A. Courtman, C. A. W. Slater	J. Henderson.....	Shell Ship Management Ltd
<i>Isle of Mull</i>	7.1.93	M. K. Chaturvedi.....	R. Avashty, T. Ahmed.....	B. McCann, V. L. Turner, R. M. Warner	Andrew Weir Shipping plc
<i>Islandia</i>	25.9.92	A. D. Moos.....	P. Zlatko, L. A. Bermejo.....	E. Grocholewicz, S. Adamczau, R. De Ocampo.....	Wallem Ship Management (H.K.) Ltd
<i>Isomeria</i>	29.7.91	N. A. Beer.....	G. Hobbs, M. J. S. Burgan, R. Jackson.....	A. S. Maramon, S. O. Timajo, E. A. De Villa.....	Wallem Ship Management (H.K.) Ltd
<i>Iybank</i>	29.1.93	R. B. Hughes.....	O. Power, J. P. Hughes, M. Ratue.....	D. T. Tuico, J. A. Clewista, Z. Penamora	Natural Environment Research Council
<i>Jahre Spirit</i>	7.1.93	J. L. Peterson.....	K. D. Campbell, R. K. Harding, J. V. Dilley.....	I. S. Norris, G. Starkey, A. C. Hayton	Ocean Youth Club
<i>Jahre Spray</i>	22.9.92	M. Burne.....	J. Henderson.....	W. E. Thompson, J. Owusu-Koranteng	Marine Management Services Ltd
<i>James Clark Ross</i>	25.4.92	J. Beetham.....	B. McCann, V. L. Turner, R. M. Warner	J. R. Acquah, P. Edmund, I. K. Ackah	P&O Containers Ltd
<i>James Cook</i>	*	P. Underwood.....	E. Grocholewicz, S. Adamczau, R. De Ocampo.....	D. Johnstone, J. G. MacKay.....	Stephenson Clarke Shipping Ltd
<i>Jarikaba</i>	5.1.93	B. W. Jordan.....	A. S. Maramon, S. O. Timajo, E. A. De Villa.....	K. R. Daubner, M. J. Pearson, B. Blythe	Souter Shipping Ltd
<i>Jervis Bay</i>	16.2.93	R. I. Bennett.....	D. T. Tuico, J. A. Clewista, Z. Penamora	D. Butters, R. E. Wade, N. P. Dunn	OT Africa Line
<i>Jevington</i>	*	D. L. Batchelor.....	I. S. Norris, G. Starkey, A. C. Hayton	A. Frost, J. Horan, G. English.....	Jeppesen Heaton Ltd
<i>Jostelle</i>	2.2.93	W. Godsell.....	W. E. Thompson, J. Owusu-Koranteng		Acomant (U.K.) Ltd
<i>Kamina</i>	*	G. K. Thomson.....	J. R. Acquah, P. Edmund, I. K. Ackah		Acomant (U.K.) Ltd
<i>Kathe Sif</i>	*	T. Armstrong.....	D. Johnstone, J. G. MacKay.....		Jardine Ship Management (U.K.) Ltd
<i>Kelvin Challenge</i>	21.1.93	R. G. Savage.....	K. R. Daubner, M. J. Pearson, B. Blythe		Hays Ships Ltd
<i>Kelvin Fortune</i>	*	J. J. Millar.....	D. Butters, R. E. Wade, N. P. Dunn		P&O Containers Ltd
<i>Kiwi Arrow</i>	5.1.93	D. S. Leppard.....	A. Frost, J. Horan, G. English.....		Acomant (U.K.) Ltd
<i>Kommandor Sub Sea</i>	*	A. F. Devanney.....			Acomant (U.K.) Ltd
<i>Kowloon Bay</i>	*				Jardine Ship Management (U.K.) Ltd
<i>Kukawa</i>	11.1.93				
<i>Kumasi</i>	26.1.93				
<i>Kumasi</i>	7.1.93				
<i>Lackenby</i>	17.2.93				
<i>Lampas</i>	7.1.93				
<i>Lanka Amitha</i>	11.1.93				
<i>Lantau Trader</i>	*				
<i>Latia</i>	2.2.93				
<i>Leonia</i>	7.1.93				

Selected and Supplementary Ships (contd)

NAME OF VESSEL	LAST RETURN RECEIVED	MASTER	OBSERVING OFFICERS	SENIOR RADIO OFFICER	OWNER/MANAGER
<i>Lerna</i>	16.2.93	A. P. Morris	R. Hernandez, F. Lopez, A. Piza	R. C. Masters	Cardiff Ship Management Ltd
<i>Lina</i>	30.6.92	A. F. Devanney	U. C. Dockerty, C. M. Berkley, S. Magmood	R. I. Robson	Shell Ship Management Ltd
<i>Lionica</i>	*	J. Galbraith	D. Linfoot, D. Galloway, M. Hasan	B. J. Foley	Shell Ship Management Ltd
<i>Linchshire</i>	7.1.93	C. O. Thomas	C. A. Jackson, I. G. MacNeil, A. Henry		Bibby Line Ltd
<i>Lioness</i>	*				Wallem Ship Management (H.K.) Ltd
<i>Liverpool Bay</i>	7.12.92	J. W. Welch	L. J. Fletcher, D. Bayley, P. W. R. Davidson	B. C. Miller	P&O Containers Ltd
<i>London Spirit</i>	26.1.93	A. D. Gillie	P. A. Albury, K. G. Smith, H. Maynard	I. F. Alexander	London & Overseas Freighters plc
<i>London Victory</i>	*				Jubilee Sailing Trust Ltd
<i>Lord Nelson</i>	19.3.92	P. Wilkes	G. R. Mills	J. S. Mathers	Caledonian MacBrayne Ltd
<i>Lord of the Isles</i>	13.8.92	H. M. Sinclair	D. Malcolm, J. Robertson, C. MacLeod		Heyn Engineering & Shipping Services
<i>Lough Foyle</i>	*				Valles Steamship Co. Ltd
<i>Lucky Bulker</i>	*				P&O Ship Management Ltd
<i>Luiniere</i>	*				Crescent Shipping Co. Ltd
<i>Luminance</i>	*				Maersk Co. (I.O.M.) Ltd
<i>Maersk Captain</i>	12.10.92	S. J. Bracewell	F. A. S. Kinangula, R. W. Dalton, L. G. Power	K. J. Forbes	Maersk Co. (I.O.M.) Ltd
<i>Maersk Gannet</i>	19.11.92	J. Blake	M. Tyler, N. Barratt, C. Duffy	K. Glenn	Maersk Co. (I.O.M.) Ltd
<i>Maersk Harrier</i>	*	I. M. Brown	P. Richards, N. Campbell, P. White		Maersk Co. (I.O.M.) Ltd
<i>Maitangi Bay</i>	7.1.93	B. Graham	K. Worthington, M. C. P. Sutcliffe, J. B. McGruer	J. Thompson	P&O Containers Ltd
<i>Mar del Sur</i>	26.10.92	P. Moseley	T. T. George, S. Santy	G. Campos	Jardine Ship Management (U.K.) Ltd
<i>Mark-C</i>	*				Carisbrooke Shipping Ltd
<i>Martha II</i>	28.8.92	A. Van-Houke	I. Deback, R. P. Bandleon, E. Jacinto	F. L. Villanueva	ABC Container Line Ltd
<i>Matco Avon</i>	9.11.92	C. Kelly	N. B. Wilson, R. Hood, R. Harnett		Mobil Shipping Co. Ltd
<i>Matco Clyde</i>	12.8.92	K. Beverley	C. Oliver, P. Williams, P. R. Stephenson		Mobil Shipping Co. Ltd
<i>Matco Thames</i>	7.1.93	K. L. McCrotry	K. C. Trotter, C. W. Blacker, D. Middlemass		Mobil Shipping Co. Ltd
<i>Mediterranean Shearwater</i>	*				James Fisher & Sons plc
<i>Meltem</i>	4.2.93	P. J. Ward	N. C. Ambion	B. S. Colosino	London Ship Managers Ltd
<i>Merchant Pioneer</i>	7.1.93	F. D'Mello	T. Dator	L. Joseph	V. Ships (U.K.) Ltd
<i>Merchant Premier</i>	*				V. Ships (U.K.) Ltd
<i>Merchant Prince</i>	27.5.92	K. H. Halstrick	V. P. Singh	S. M. Joshua	V. Ships (U.K.) Ltd
<i>Merchant Princess</i>	*				V. Ships (U.K.) Ltd
<i>Merchant Principal</i>	3.9.92	C. W. Harvey	M. Krishnamurti, P. Shanmugaraja, P. J. K. Kodagoda	J. Thakur	V. Ships (U.K.) Ltd
<i>Merchant Promise</i>	2.3.92	R. C. Avenin	M. A. D'Mello, N. K. Agrawal, M. C. Oro	J. I. D'Souza	V. Ships (U.K.) Ltd
<i>Methane Princess</i>	*				Shell Ship Management Ltd
<i>Mistral</i>	26.1.93	R. J. Kendall	W. M. Laverick, N. Infante, M. M. Castillo	C. Astrero	London Ship Managers Ltd
<i>Mobil Peirel</i>	12.10.92	P. D. Kelly	D. A. Hinks, S. Proctor, B. Forsyth	T. D'Sa	Mobil Shipping Co. Ltd
<i>Monarch</i>	*	R. Longworth	M. Vanstone, D. Balthgate, C. Wood	D. Vowles	BT (Marine) Ltd
<i>Monaybank</i>	27.1.93	P. Simpson	P. S. Chase, M. Fajatin, R. T. Banas	A. Sadiasa	Andrew Weir Shipping plc
<i>Moreton Bay</i>	15.2.93	G. J. H. Peaston	P. R. Kaye, N. P. Barrington, G. H. Smith	E. B. Stephenson	P&O Containers Ltd

Selected and Supplementary Ships (contd)

NAME OF VESSEL	LAST RETURN RECEIVED	MASTER	OBSERVING OFFICERS	SENIOR RADIO OFFICER	OWNER/MANAGER
<i>Phelas</i>	11.1.93	T. D. Faithfull.....	A. M. Huntington, D. J. King, D. Billington.....	D. A. C. MacRae.....	Coe-Metcalf Shipping Ltd
<i>Pole Star</i>	*	W. J. Field.....	L. T. Simpson, P. N. Ratcliffe.....		Northern Lighthouse Board
<i>Pride of Cherbourg</i>	17.6.92	R. A. Shupland.....	N. J. P. Carter, D. C. Ray, J. M. Webster.....		P&O European Ferries (Portsmouth) Ltd
<i>Pride of Hampshire</i>	31.12.92	D. Pearce.....	P. N. Ratcliffe, J. E. Hutchins, S. D. Bell.....	D. Atkinson.....	P&O European Ferries (Portsmouth) Ltd
<i>Pride of Le Havre</i>	17.2.93	D. Kirkwood.....	N. Whittaker, P. R. Marriott, W. Langton.....	R. P. R. Sibley.....	P&O European Ferries (Portsmouth) Ltd
<i>Pride of Suffolk</i>	23.10.92	A. F. Bonehill.....	D. L. Pereira, J. W. Tricket, G. R. Green.....	E. Scott.....	P&O European Ferries (Felixstowe) Ltd
<i>Pride of Winchester</i>	27.10.92	M. Madsen.....	S. B. Olsen.....		P&O European Ferries (Portsmouth) Ltd
<i>Prince of Scandinavia</i>	7.1.93	D. Tracey.....	C. N. Hallam, A. H. Abid, L. J. Cheesbrough.....	B. G. Hughes.....	DFDS (U.K.) Ltd
<i>Providence Bay</i>	26.1.93	A. M. Walsh.....	R. M. Thomas, L. Rodrigues, G. Anticamara.....	A. Parikulam.....	P&O Containers Ltd
<i>Puerto Cortes</i>	13.4.92	H. T. Jones.....	P. Brookes, A. M. Leech.....	W. B. Campbell.....	V-Ships (U.K.) Ltd
<i>Puma</i>	19.8.92	D. F. Heaselden.....	R. A. Hawkins, M. K. Alam.....	A. Cordeiro.....	POETS Fleet Management Ltd
<i>Pythley</i>	19.11.92	R. A. Woodall.....	R. J. Bridge, P. Lightfoot, J. McKie.....	A. W. Holmes.....	P&O Ship Management Ltd
<i>Queen Elizabeth 2</i>	27.10.92	D. R. MacKillop.....	W. F. Mazo, S. G. Notorio, D. P. Dospueblos.....	S. D. Malmis.....	Cunard Line, Ltd
<i>Queensland Star</i>	20.11.92	D. Johnstone.....	R. M. Collins, M. H. Bakir.....	F. Forde.....	Blue Star Ship Management Ltd
<i>Rafnes</i>	26.3.92	R. J. A. Copeland.....	A. Kocjanec.....	V. Devic.....	Chelston Ship Management Ltd
<i>Ravensraig</i>	26.1.93	D. N. Chawla.....	A. Ang.....	J. M. Tanna.....	Ropner Shipping Services Ltd
<i>Red Sea Entrust</i>	28.1.93	L. M. Ortega.....	A. Rag, V. Dyk, M. Teodoro.....	Sin Sien Goh.....	CMB (U.K.) Ltd
<i>Reefers Jumba</i>	13.8.92	H. Martin.....	T. Whittaker, S. Bryans.....	C. D. Talinio.....	Sembawang Shipping Co. (Pte) Ltd
<i>Regina Oldendorff</i>	26.1.93	J. H. Hulson.....	M. J. Trafford, N. R. Hart.....	D. Ray.....	Egon Oldendorff (H.K.) Ltd
<i>Remuera Bay</i>	17.2.93	A. J. Leslie.....	S. R. Paine, R. E. Kenington.....		P&O Containers Ltd
<i>Repulse Bay</i>	*	R. T. Wood.....	P. R. Hunt, M. H. Bakir.....	C. Thornalley.....	Orient Ship Management Ltd
<i>Repulse Bay</i>	17.2.93	A. Falconer.....	I. Appleby, S. Proctor, M. I. Proctor.....	D. Allen.....	P&O Containers Ltd
<i>Resolution</i>	*	D. B. Douglas.....	H. Mouat, D. J. Wheeler, J. S. Duncan.....		Gardline Shipping Ltd
<i>Revolution Bay</i>	31.12.92	D. C. Gray.....	R. Hone, J. Harrison, N. R. Mogg.....		P&O Containers Ltd
<i>Retriever</i>	*	D. N. R. Roberts.....	S. M. Hornby, R. Guevarra, A. Pasechnic.....		Cable & Wireless (Marine) Ltd
<i>Risnes</i>	19.11.92	R. G. Murdi.....	A. Chepets, S. Demisenko, A. Shnerkh.....		Chelston Ship Management Ltd
<i>Rocknes</i>	*	Y. Yeremov.....	D. Pascoe, M. Mitchell, P. Crawford.....		Thorstone Ship Management Ltd
<i>Royal Princess</i>	*	C. P. Row.....			P&O Cruises Ltd
<i>SC Lancer</i>	*				Schahin Cury
<i>Sachem</i>	15.2.93				Mobil Shipping Co. Ltd
<i>Sagacity</i>	*				F.T. Everard & Sons Ltd
<i>St Clair</i>	7.1.93				P&O Scottish Ferries Ltd
<i>St Helena</i>	19.8.92				Cumow Shipping Ltd
<i>Samoan Reefer</i>	*				Mermaid Marine Management Ltd
<i>Santa Marta</i>	*				Dole Fresh Fruit International Ltd
<i>Santos Express</i>	30.6.92				V-Ships (U.K.) Ltd
<i>Santos Star</i>	*				Concordia Marine Co. Ltd
<i>Satucket</i>	*				Mobil Shipping Co. Ltd
<i>Scillanian III</i>	*				Isles of Scilly Steamship Co. Ltd

<i>Scirocco Universal</i>	22.9.92	A. J. McMaster.....	A. Morgan, R. La Victoria, R. S. Abents.....	A. Campbell.....	London Ship Managers Ltd
<i>Scotia</i>	*	P. R. R. Ramsay.....	A. Jagger, G. Jack.....	J. Morena.....	Marr Vessel Management Ltd
<i>Scotch Star</i>	19.11.92	P. Holtby.....	J. Panghulan, D. Pablo, D. A. Rivera.....		Blue Star Ship Management Ltd
<i>Sea Falcon</i>	*				Anglo-Eastern Ship Management Ltd
<i>Sea Pride</i>	30.4.92	K. N. Deboo.....	A. B. Athulye, A. Rodrigues.....	S. S. Mendes.....	P&O Cruises Ltd
<i>Sea Princess</i>	18.6.92	C. Sample.....	T. Clark, B. Wilson, M. Hepburn.....	F. Turner.....	Gardline Shipping Ltd
<i>Sea Profiler</i>	29.9.92	H. F. Monckton.....	R. Marbanianc, R. S. James, K. S. Ahmed.....		Gardline Shipping Ltd
<i>Sea Searcher</i>	*				Seaboard Offshore Ltd
<i>Seaboard Invincible</i>	22.5.92	A. J. Hughes.....	J. A. MacKinnon, C. H. Marsden, K. Potterton.....		BP Shipping (SWOPS)
<i>Seatlum</i>	16.2.93	D. Tobin.....	R. Cox, M. A. Davies, J. W. Sellick.....	B. Cameron.....	F.T. Everard & Sons Ltd
<i>Selectivity</i>	27.1.93	T. L. Jeffery.....	G. C. Harwood.....		European Marine Contractors Ltd
<i>Semac 1</i>	*				F.T. Everard & Sons Ltd
<i>Seniority</i>	7.12.92	I. Anderson.....	G. Ralph, C. Bush, P. Branagan.....	I. W. Barnes.....	Mobil Shipping Co. Ltd
<i>Shabonee</i>	17.6.92	P. J. Walters.....	B. Forsyth, M. Dent, D. Goulding.....		Shell U.K. Ltd
<i>Shell Explorer</i>	*	P. Johnson.....	N. Wright.....		Tidewater Marine Service
<i>Shetland Service</i>	15.2.93	T. Fox.....	I. Ferguson.....	R. I. Robson.....	Shell Ship Management Ltd
<i>Siliquea</i>	*	D. Inverarity.....	D. Copeland, H. Mamood, R. Irvine.....	C. Davis.....	Cable & Wireless (Marine) Ltd
<i>Sir Eric Sharp</i>	22.4.92	W. Marr.....	R. J. Taylor, B. K. Goodsir, N. J. Coghlan.....	R. Banzon.....	Frigomaris Shipping (GmbH)
<i>Snow Crystal</i>	28.1.93	B. Yelland.....	E. L. Francia, J. H. Clapp.....	E. C. Dela Cruz.....	Frigomaris Shipping (GmbH)
<i>Snow Drift</i>	7.7.92	G. W. Weaver.....	R. G. Murch, D. D. Mamsay, M. R. Roquid.....	P. J. Cambonga.....	F.T. Everard & Sons Ltd
<i>Snow Flower</i>	25.9.92	M. Baker.....	G. A. W. Fink, E. Francia, R. Mellis.....		Blue Star Ship Management Ltd
<i>Sociality</i>	*	I. Clark.....	J. Mann.....	M. Bell.....	BT (Marine) Ltd
<i>Southland Star</i>	19.3.92	D. Craddock.....	S. Kurupiah, D. Goberman.....		F.T. Everard & Sons Ltd
<i>Sovereign</i>	*	C. Knight.....	R. Poole.....		F.T. Everard & Sons Ltd
<i>Speciality</i>	*	I. H. Whalley.....	D. Robb, C. Odle.....		Bibby Line Ltd
<i>Stability</i>	*	L. Franke.....	W. Navakowski, M. Zetiriski.....		Univan Ship Management Ltd
<i>Staffordshire</i>	17.2.93	J. R. Hughes.....	D. P. J. Smyth, D. F. Morton, D. I. Mack.....	J. M. Cardoz.....	Texaco Overseas Tankship Ltd
<i>Star Jasmine</i>	24.4.92	R. V. Crasto.....	P. Uday, M. Sardesai, A. K. Soe.....	D. Wollan.....	Texaco Overseas Tankship Ltd
<i>Star Pembroke</i>	*	J. Legg.....	J. Clary, P. Wardhan, R. Pressler, M. Bailey.....	C. A. Evans.....	Texaco Overseas Tankship Ltd
<i>Star Westminster</i>	23.10.92	B. Orman.....	F. J. Routledge, J. M. Reid.....	C. M. Dunwoody.....	Siena Sealink Ltd
<i>Star Windsor</i>	6.1.93	A. R. James.....	P. A. Hughes, D. Slade, M. R. Bailey.....		Siena Sealink Ltd
<i>Stena Britannica</i>	*			K. Torr.....	Siena Offshore Ltd
<i>Stena Constructor</i>	*	M. Grant.....	B. Wells, M. Porter, D. Vann, T. A. Forrest.....		Siena Sealink Ltd
<i>Stena Felicity</i>	*	P. Evans.....	P. Lewis, M. Salmon, R. Weale.....		Siena Sealink Ltd
<i>Stena Normandy</i>	11.2.92	R. Forsyth.....	A. J. Burtt, M. G. Dexter, J. E. Birdsall.....		Siena Offshore Ltd
<i>Stena Seawell</i>	*				Stolt Nielsen (U.K.)
<i>Stolt Birchwood</i>	22.4.92	M. A. Whittle.....	P. H. Voisin, R. T. Watson, M. Odell.....		Stolt Nielsen (U.K.)
<i>Stolt Cedarwood</i>	*				Stolt Nielsen (U.K.)
<i>Stolt Falda</i>	*				Stolt Nielsen (U.K.)
<i>Stolt Oakwood</i>	*				V-Ships (U.K.) Ltd
<i>Strider Isis</i>	*	K. H. Van Pander.....	K. Vetub, N. Gellegani.....	M. K. Prabhu.....	Caledonian MacBrayne Ltd
<i>Strider Juno</i>	19.10.92	R. J. Smith.....	S. S. Butalia, V. Pandey, T. Shanmugathas.....		Scottish Office Agri. & Fish. Dept.
<i>Suliven</i>	19.11.92	A. C. Free.....	W. A. Skivington, S. Hamill, G. Campbell.....		United Ship Management Ltd
<i>Sulisker</i>	29.9.92	T. Henderson.....	S. Horsburgh, I. Campbell, D. Dimock.....	H. Pereira.....	Grand Seatrade Shipping Agencies Ltd
<i>Sun Suma</i>	18.2.92	P. Shankaran.....		B. K. Dhar.....	
<i>Sunny Clipper</i>	17.2.93	J. B. A. Dourado.....	G. K. Murthy, Ye Naing, R. Ramlal.....		

Selected and Supplementary Ships (contd)

NAME OF VESSEL	LAST RETURN RECEIVED	MASTER	OBSERVING OFFICERS	SENIOR RADIO OFFICER	OWNER/MANAGER
<i>Swan Arrow</i>	*	B. Stroom	P. Punay, S. Eliason, A. H. Doromal	S. Barcourse	K. G. Jebsen Skipsrederi A/S
<i>Swan Bay</i>	7.7.92	L. E. Larsson	P. Weiland, A. C. Ghonawen, R. G. Mutiangpili	L. M. Itona	Swan Shipping A/S
<i>Swan River</i>	4.1.93	C. J. Graham	M. S. Arregto, F. S. Ramos, D. D. Salazar	R. A. Arambulo	Swan Shipping A/S
<i>Swift Trader</i>	*	J. B. Watson	K. Campbell, S. Lugg, R. R. Clunas	C. R. Brooks	Mobil Shipping Co. Ltd
<i>Table Bay</i>	29.1.93	G. P. Chapman	D. Amphlett	J. Crawshaw	International Chartering plc
<i>Tamapatcharee</i>	*	A. G. Mount	R. Everleigh, A. Nolan	K. Sridhar	P&O Containers Ltd
<i>Tamar F1</i>	*	G. Hepple	W. R. Howell, R. K. Sahana, S. Raghavan	I. J. Cameron	Seacot Ship Trading Ltd
<i>Tamathai</i>	*	A. Smart	A. McClymont, D. J. Ayling	P. S. Stewart	Falkland Island Development Co.
<i>Tankerman</i>	7.1.93	A. Pedder	I. M. Foster, J. Malham, K. Melling	T. Searle	Seacot Ship Trading Ltd
<i>Taunton</i>	19.11.92	W. Spence	J. Martinez, W. Taylor	N. Mathews	P&O Tankships Ltd
<i>Telnes</i>	*	B. Hopper	F. Brearley, A. C. Horncastle	J. A. T. Murgatroyd	P&O Ship Management Ltd
<i>Tinnes</i>	26.1.93	C. R. Ungood-Thomas	A. J. Rawlinson, F. Brearley, K. Jarvis	G. Smith	Chelston Ship Management Ltd
<i>Toisa Conqueror</i>	*	R. O. Chaplin	F. Ahmed, P. Nicholas, J. Martinez	P. N. Pouchet	Chelston Ship Management Ltd
<i>Toisa Cougar</i>	7.1.93	M. J. R. Godbehear	M. D. Moore, N. B. Huxsted, R. T. Kearns	A. Mamaparo	Sealion Shipping Ltd
<i>Toisa Lynx</i>	24.2.92	D. W. Lax	A. J. Skingley, A. F. Ure	B. Neary	Sealion Shipping Ltd
<i>Toisa Puffin</i>	22.1.93	C. G. Pogue	S. S. Zadziuk, T. J. Luke, A. E. Darlington	M. Selva	Sealion Shipping Ltd
<i>Toisa Puma</i>	11.1.93	J. L. Ross	C. Durman, G. R. Gonyou, A. Nath	D. Francois	Sealion Shipping Ltd
<i>Toisa Sentinel</i>	7.1.93	M. J. Knight	T. K. Ramroop, B. E. N. Joseph	B. Ravindran	Sealion Shipping Ltd
<i>Toisa Widgeman</i>	23.10.92	M. A. Hill	S. Rogers, A. Prasad, K. G. Joshi	E. Cass	Sealion Shipping Ltd
<i>Tokyo Bay</i>	5.1.93	R. MacDougall	G. Shaw, G. C. Hamilton, O. E. Daniloff	I. Wilson	Sealion Shipping Ltd
<i>Tor Bay</i>	*	A. Morrice	I. Galenby, M. Walsh	B. J. Foley	Sealion Shipping Ltd
<i>Trbalas</i>	22.1.93	D. L. Beveridge	J. P. Laycock, A. MacCallum, R. J. Sheldon		P&O Containers Ltd
<i>Tricula</i>	2.2.93	G. Liernan	X. Huat		P&O Containers Ltd
<i>Trinidad and Tobago</i>	23.10.92	J. Lechat	Y. Houard		Shell Ship Management Ltd
<i>Ullswater</i>	5.1.93	R. B. Reid	M. J. Walker, M. A. Amroliwala, H. Narvekar		Shell Ship Management Ltd
<i>Uruguay Express</i>	*	O. Stephenson	A. Fardo, M. Drameh		Bibby Line Ltd
<i>Vaddiva</i>	22.1.93	C. Mundy	R. Lough, J. V. Sheridan, M. W. M. Samwell		P&O Ship Management Ltd
<i>Veronica Viking</i>	20.11.92	H. Bose	N. C. Horner		Stephenson Clarke Shipping Ltd
<i>Vigilant</i>	4.2.93	S. J. Honey	R. Dakic, I. C. Gravatt, P. Vukusic		Blue Star Ship Management Ltd
<i>Ville de Canopus</i>	14.7.92	N. E. McInnes	M. B. Styles, M. A. Magee, J. Ebdy		Jeppesen Heaton Ltd
<i>Ville de Sirius</i>	23.7.92	C. H. Marsh	J. D. MacKenzie, T. H. G. Rettig, D. I. MacKinnon		Ropner Shipping Services Ltd
<i>Vine</i>	*				Scottish Office Agri. & Fish. Dept.
<i>Washington</i>	7.1.93				Bibby Line Ltd
<i>Wellington Star</i>	15.2.93				
<i>West Moor</i>	27.10.92				
<i>Western Bridge</i>	2.2.93				
<i>Westra</i>	7.1.93				
<i>Wiltshire</i>					

<i>World Light</i>	*	J. A. Cullen.....	C. S. Latchford, M. D. Sawant, R. B. Young.....	C. Thomas	World-Wide Shipping Agency Ltd
<i>World Speed</i>	7.1.93	P. Roberts	K. B. Fernies, P. C. Bhowmik, M. Hossain	R. N. Kathoke.....	Marine Nav. Co. Ltd
<i>Zenatia</i>	10.8.92	K. A. E. Biscoe	R. J. Collier, R. D. S. Arthur, R. Irvine	P. Mellett	Shell Ship Management Ltd
<i>Zetland</i>	30.6.92	M. A. Hill	R. A. Hawkins, A. K. Banerjee, A. S. Bhatia	V. Sriramulu	P&O Ship Management Ltd
<i>Zidona</i>	26.1.93	D. C. J. Still	S. J. Walker, M. R. Parsons, E. W. Jones.....	C. Evans	Shell Ship Management Ltd

‘Marid’ Ships

The following is a list of ships recruited for the observing and reporting of sea temperatures from coastal waters of Great Britain.
Masters are required to point out any errors or omissions in the lists.

NAME OF VESSEL	MASTER	OWNER/MANAGER
Arco Thames	R. Marshall.....	A.R.C. (Marine) Ltd
Ashington	A. Fraser.....	Stephenson Clarke Shipping Ltd
Authenticity	J.L. Taylor.....	F.T. Everard & Sons Ltd
BP Joustier.....	R. Wait	BP Oil Ltd
Brentwood	A. Rees	Crescent Shipping Ltd
Briarthorn	M. Jones	Coe-Metcalf Shipping Ltd
Britannia Beaver.....	P. Phillips	Britannia Aggregates Ltd
City of Bristol.....	R. Hemmings	United Marine Dredgers Ltd
Eastgate.....	B. Wilson	P&O Tankships Ltd
Emerald.....	P. Johnson	Stephenson Clarke Shipping Ltd
Exso Avon.....	L.R. Spalding	Esso Petroleum Co. Ltd
Exso Clyde.....	M.J. Halle	Esso Petroleum Co. Ltd
Exso Fawley.....	J. Donaldson.....	Esso Petroleum Co. Ltd
Exso Mersey	J. Wilson	Esso Petroleum Co. Ltd
Exso Tenby	N. Powell.....	Esso Petroleum Co. Ltd
Frederick-M.....	A.K. Ullah.....	Coe-Metcalf Shipping Ltd
Gladonia	J. Majer	Runwave Ltd
Guidesman	J.A. Souter.....	P&O Tankships Ltd
Harting	S. McCuaig	Stephenson Clarke Shipping Ltd
Helmsman	S. Floate	P&O Tankships Ltd
Irishgate	T. Frith	P&O Tankships Ltd
Jubilence	J. Cashman	Crescent Shipping Ltd
Militence	P. Sharples.....	Crescent Shipping Ltd
Norman Commodore.....	P.G. Fry.....	Commodore Ship Management Ltd
Northgate	B. Miller.....	P&O Tankships Ltd
Orionman	F.C. Craske.....	P&O Tankships Ltd
Pamela Everad.....	G. Lewis.....	F.T. Everard & Sons Ltd
Rora Head	J.A. Pretswell	Chelston Ship Management Ltd
Seaboard Illustrious.....	Seaboard Offshore Ltd
Shell Craftsman.....	R. Astridge	Shell (U.K.) Ltd
Sterna Hibernia.....	J.F. Sinnott	Sealink Stena Line
Storrington	W. McNaughton.....	Stephenson Clarke Shipping Ltd
Superiority	P. Whitehouse	F.T. Everard & Sons Ltd
Tillerman	T. Ord.....	P&O Tankships Ltd
Vibrence	B. Mills	Crescent Shipping Ltd
Waverley	S.P. Michel.....	Waverley Excursions Ltd
Welsh Piper.....	D.W. Brown	British Dredging Aggregates Ltd
Westgate	A.P. Shenton	P&O Tankships Ltd
Whitsea.....	P. Hart	J.H. Whitaker (Tankers) Ltd

Light Tower

NAME	MASTER
Royal Sovereign	V. Pearce, K. Simmonds

Oil Rigs and Platforms

NAME OF RIG OR PLATFORM	OWNERS/OPERATORS
<i>AH001</i>	Amerada Hess Ltd
<i>Beryl A</i>	Mobil North Sea Ltd
<i>Beryl B</i>	Mobil North Sea Ltd
<i>Buchan A</i>	BP Petroleum Development Ltd
<i>Cleeton</i>	BP Petroleum Development Ltd
<i>Dan Baroness</i>	Lauritzen Offshore
<i>Dan Countess</i>	Midland & Scottish Resources
<i>Deep Sea Pioneer</i>	Hamilton Brothers Oil & Gas Ltd
<i>Dunlin A</i>	Shell U.K. Exploration & Production
<i>Emerald Producer</i>	Midland & Scottish Resources
<i>Glomar Arctic 3</i>	Global Marine Drilling Co. Ltd
<i>Heather A</i>	Unocal (U.K.) Ltd
<i>Henry Goodrich</i>	Sonat Offshore Ltd
<i>John Shaw</i>	Sonat Offshore Ltd
<i>Montrose A</i>	Amoco (U.K.) Exploration Ltd
<i>Morecambe Bay (API)</i>	British Gas Exploration & Production
<i>Ocean Alliance</i>	Diamond M-Odeco Ltd
<i>Ocean Guardian</i>	Diamond M-Odeco Ltd
<i>Santa Fe 135</i>	Santa Fe Drilling Co. North Sea Ltd
<i>Santa Fe 140</i>	Santa Fe Drilling Co. North Sea Ltd
<i>Sonat Arcade Frontier</i>	Sonat Offshore Ltd
<i>Sonat DF 96</i>	Sonat Offshore Ltd
<i>Sonat DF97</i>	Sonat Offshore Ltd
<i>Sonat Rather</i>	Sonat Offshore Ltd
<i>Tartan A</i>	Texaco North Sea (U.K.) Co. Ltd
<i>Thistle A</i>	BP Petroleum Development Ltd
<i>Viking B</i>	Conoco (U.K.) Ltd
<i>Western Pacesetter IV</i>	Western Oceanic (U.K.) Ltd

BRITISH COMMONWEALTH

The following lists give the names of Selected and Supplementary Ships, and the number of Auxiliary Ships where known (i.e., those which only report in 'sparse areas'), which voluntarily co-operate with meteorological services of the British Commonwealth. Information for these lists is required by 15 March each year. Information for the January corrective lists is required by 15 September each year.

AUSTRALIA (Information dated 8.2.93)

NAMES OF VESSELS		
Selected Ships:	Selected Ships (contd)	Selected Ships (contd)
<i>Abel Tasman</i>	<i>Highland Chief</i>	<i>Nivosa</i>
<i>Al Khaleej</i>	<i>Iceberg</i>	<i>Northwest Shearwater</i>
<i>Al Kuwait</i>	<i>Iron Baron</i>	<i>Northwest Sanderling</i>
<i>Al Qurain</i>	<i>Iron Carpentaria</i>	<i>Northwest Snipe</i>
<i>Al Rayyan I</i>	<i>Iron Dampier</i>	<i>Ormiston</i>
<i>Al Yasrah</i>	<i>Iron Flinders</i>	<i>Pacific Conquest</i>
<i>Anro Australia</i>	<i>Iron Gippsland</i>	<i>Papuan Chief</i>
<i>Arafura</i>	<i>Iron Kembla</i>	<i>Pathfinder II</i>
<i>Ariake</i>	<i>Iron Newcastle</i>	<i>Portland</i>
<i>Aurora Australis</i>	<i>Iron Pacific</i>	<i>Rig Seismic</i>
<i>Australia Star</i>	<i>Iron Prince</i>	<i>River Boyne</i>
<i>Australian Achiever</i>	<i>Iron Shortland</i>	<i>River Embley</i>
<i>Australian Advance</i>	<i>Iron Spencer</i>	<i>River Torrens</i>
<i>Australian Endeavour</i>	<i>Iron Sturt</i>	<i>Roberta Jull</i>
<i>Australian Spirit</i>	<i>Iron Whyalla</i>	<i>Seacat Tasmania</i>
<i>Australian Trader</i>	<i>Island Gas</i>	<i>Sedco B.P. 471</i>
<i>Australian Venture</i>	<i>Island Seaway</i>	<i>Sitka</i>
<i>Barbican Spirit</i>	<i>Jabiru Venture</i>	<i>Southern Surveyor</i>
<i>Bass Trader</i>	<i>Joana Bonita</i>	<i>Swan Reefer</i>
<i>Brahman Express</i>	<i>Karina Bonita</i>	<i>TNT Altrans</i>
<i>Buffalo Express</i>	<i>Kelvin</i>	<i>TNT Capricornia</i>
<i>C.Y. O'Connor</i>	<i>Kelvin Endeavour</i>	<i>TNT Carpentaria</i>
<i>Canopus</i>	<i>Klang Reefer</i>	<i>Tranzas Trader</i>
<i>Cape Moreton</i>	<i>Kowulka</i>	<i>Trisha Kate</i>
<i>Coral Chief</i>	<i>Lady Jan</i>	<i>Uniceb</i>
<i>Danny F</i>	<i>Lindsay Clark</i>	<i>Wyuna</i>
<i>El Cordero</i>	<i>Maria Bonita</i>	<i>Young Endeavour</i>
<i>Fairstar</i>	<i>Mawashi Al-Gasseem</i>	<i>Zincmaster</i>
<i>Fernanda F</i>	<i>Mawashi Tabuk</i>	
<i>Frank Konency</i>	<i>Meonia</i>	Supplementary Ships:
<i>Franklin</i>	<i>Metal Trader</i>	<i>Iron Curtis</i>
<i>Fua Kavenga</i>	<i>Mobil Astral</i>	<i>Iron Monarch</i>
<i>Gordon Reid</i>	<i>Mobil Flinders</i>	<i>Kapala</i>
<i>Hanne Bakke II</i>	<i>Mosdeep</i>	

Auxiliary Ships:

Australia has 2 Auxiliary Ships currently reporting.

HONG KONG (Information dated 8.3.93)

NAMES OF VESSELS		
Selected Ships:	Selected Ships (contd)	Selected Ships (contd)
<i>Al Marijah</i>	<i>Maritime Pride</i>	<i>Ocean Strength</i>
<i>Anna</i>	<i>Maritime Success</i>	<i>Osprey Arrow</i>
<i>Asian Challenger</i>	<i>Micronesia Pride</i>	<i>Red Sea Pioneer</i>
<i>Bunga Kantan</i>	<i>Mundogas Orinoco</i>	<i>Selandia</i>
<i>Bunga Suria</i>	<i>Navios Bulker</i>	<i>Shensi</i>
<i>Delmas Bougainville</i>	<i>New Oasis</i>	<i>Talabot</i>
<i>Delmas Joinville</i>	<i>OOCL Advance</i>	<i>Tampa</i>
<i>Delmas Tourville</i>	<i>OOCL Alliance</i>	<i>Tapiola</i>
<i>Eriskay</i>	<i>OOCL Ambition</i>	<i>Texas</i>
<i>Fair Bridge</i>	<i>OOCL Applause</i>	<i>Trade Dawn</i>
<i>Fishguard Bay</i>	<i>OOCL Award</i>	
<i>Gallantry</i>	<i>OOCL Charger</i>	
<i>Golfo De Chiriqui</i>	<i>OOCL Educator</i>	Supplementary Ships:
<i>Gonosan</i>	<i>OOCL Envoy</i>	<i>Andes Challenger</i>
<i>Grand Glory</i>	<i>OOCL Executive</i>	<i>Eastern Sea</i>
<i>Hawk Arrow</i>	<i>OOCL Explorer</i>	<i>Green Era</i>
<i>Highlander</i>	<i>OOCL Exporter</i>	<i>Ivyeverett</i>
<i>Jutlandia</i>	<i>OOCL Fair</i>	<i>Maritime Faith</i>
<i>Kamaleverett</i>	<i>OOCL Faith</i>	<i>Maritime Triumph</i>
<i>Karabieverett</i>	<i>OOCL Fidelity</i>	<i>Maritime Victory</i>
<i>Kwangtung</i>	<i>OOCL Fortune</i>	<i>OOCL Charisma</i>
<i>Maersk Asia Octavo</i>	<i>OOCL Freedom</i>	<i>OOCL Fame</i>
<i>Maersk Asia Tertio</i>	<i>OOCL Friendship</i>	<i>Oriental Knight</i>
<i>Maersk Semakau</i>	<i>OOCL Frontier</i>	<i>Seafalcon</i>
<i>Marienvoy</i>	<i>OOCL Honour</i>	<i>Seamaster</i>
<i>Maritime Alliance</i>	<i>OOCL Hope</i>	<i>Seamaster I</i>
<i>Maritime Champion</i>	<i>Ocean Centaurus</i>	<i>Shaplaeverett</i>
<i>Maritime Express</i>	<i>Ocean Competence</i>	<i>Success Bulker</i>
<i>Maritime Goliath</i>	<i>Ocean Elite</i>	<i>Toba</i>
<i>Maritime Grace</i>	<i>Ocean Pearl</i>	<i>Torrens</i>
<i>Maritime Joy</i>	<i>Ocean Sincerity</i>	<i>Toyama</i>
<i>Maritime Loyalty</i>	<i>Ocean Sirius</i>	

Auxiliary Ships:

Hong Kong also has 1 Auxiliary Ship currently reporting.

INDIA (Information dated 1.3.93)

NAMES OF VESSELS		
Selected Ships:	Selected Ships (contd)	Supplementary Ships (contd)
<i>Akbar</i>	<i>Samudra Manthan</i>	<i>Aditya Usha</i>
<i>Andamans</i>	<i>State of Andhra Pradesh</i>	<i>Alaknanda</i>
<i>Arunachal Pradesh</i>	<i>State of Nagaland</i>	<i>Annapurna</i>
<i>B.R. Ambedkar</i>	<i>Vishnu Sagar</i>	<i>Lt Arun Khetrupal PVC</i>
<i>Bharatendu</i>		<i>Aurobindo</i>
<i>Bhavabhuti</i>	Supplementary Ships:	<i>Bhagat Singh</i>
<i>Harshavardhan</i>	<i>A.B. Tarapore</i>	<i>Bharat Seema</i>
<i>Jala Jyoti</i>	<i>APJ Anand</i>	<i>Chandidas</i>
<i>Jala Yamini</i>	<i>APJ Angad</i>	<i>Chennai Jaayam</i>
<i>Lokmanya Tilak</i>	<i>APJ Anjali</i>	<i>Chennai Ookkam</i>
<i>Ratna Nandini</i>	<i>APJ Priti</i>	<i>Chennai Perumai</i>
<i>Sagar Kanya</i>	<i>APJ Shalin</i>	<i>Chennai Polivu</i>
<i>Sagar Sampada</i>	<i>APJ Sushma</i>	<i>Chennai Sadhanai</i>

India (contd)

NAMES OF VESSELS

Supplementary Ships (contd)	Supplementary Ships (contd)	Supplementary Ships (contd)
Chennai Velarchi	Jala Mudra	Prabhu Gopal
Chennai Veeram	Jala Murugan	Prabhu Puni
Chatrapati Shivaji	Jala Tapi	Prabhu Satram
Continental Rose	Jala Vallabh	Rafi Ahmed Kidwai
Dadabhai Nowroji	Jala Vijaya	Rama Raghoba Rane PVC
Dakshineshwar	Jameela	Ramdas
Diglipur	Jay Laxmi	Ratna Vandana
Dweep Setu	Jay Narayan Vyas	Ravidas
FONJ Shekhan PVC	Kabirdas	Sabarimala
Ganga Sagar	Kalidas	Sagar Deep
Guru Bachlan Singh Salaria	Kanchan Junga	Sagar Samrat
Hardwar	Kanpur	Sai Nanak
Harkishan	Kolandia	Samarat Ashok
Har Govind	Lance Naik Albert Ekka	Sarojini Naidu
Har Rai	Lok Maheshwari	Satya Murti
Havildar Abdul Hamid	Lok Prakash	Skandy Surveyor
Homi Bhabha	Lok Pratima	State of Gujarat
Indian Endurance	Lok Preeti	State of Haryana
Indian Explorer	Lok Rajeshwari	State of Manipur
Indian Goodwill	Lok Vikas	State of Orissa
Indian Progress	Lok Vivek	Subhedar Joginder Singh
Indian Prosperity	MMP Wealth	Tulsidas
Indian Reliance	M.T. Jawaharlal Nehru	Tirumalai
Indian Resolve	M.T. Nandu	Uttar Kashi
Indian Resource	Maharshi Dayanand	Varanasi
Indian Renown	Maharshi Karve	Varuna Adhar
Indian Valour	Major Dhansingh Thapa PVC	Vishva Abha
INS Deepak	Mandakini	Vishva Ajay
INS Godavari	Maratha Melody	Vishva Ambar
INS Gomati	Maratha Prudence	Vishva Asha
INS Kirpan	Meghrab	Vishva Bandhan
INS Ranvir	Mizoram	Vishva Karuna
INS Trishul	Motilal Nehru	Vishva Kaumudi
INS Vikrant	Murshidabad	Vishva Madhuri
INS Vindiyagiri	Naik Jadunath Singh PVC	Vishva Mamta
Jag Jeevan	Nand Hari	Vishva Mohini
Jag Manek	Nand Kala	Vishva Nandini
Jag Pari	Nand Kavita	Vishva Pallay
Jag Prabhat	Nand Kishore	Vishva Pankaj
Jag Prakash	Nand Nidhi	Vishva Parag
Jag Preeti	Nand Rati	Vishva Parijat
Jag Skakti	Nand Smiti	Vishva Parimal
Jag Shanti	Nand Srishti	Vishva Shakti
Jag Vijay	Nanga Parbat	Vishva Shobha
Jag Vivek	Nankauri	Vishva Tarang
Jagat Samrat	Netaji Subhash Bose	Vishva Umang
Jagat Swamini/Priyamvada	Nicobar	Vishva Vikram
Jagat Vijeta	Nirvan Vishnu	Vishva Yash
Jala Bala	Nitya Amar	Vishwesharayya
Jala Gauri	Onge	Vivekananda
Jala Godavari	Patliputra	Yerawa
Jala Mohan	Prabhu Das	
Jala Mokambi	Prabhu Daya	

NEW ZEALAND (Information dated 1.2.93)

NAMES OF VESSELS		
Selected Ships:	Selected Ships (contd)	Selected Ships (contd)
<i>America Star</i>	<i>New Zealand Pacific</i>	<i>Tangaroa</i>
<i>Auckland Express</i>	<i>New Zealand Star</i>	<i>Tarahiko</i>
<i>California Star</i>	<i>Northern Transporter</i>	<i>Tasman Enterprise</i>
<i>Canterbury Express</i>	<i>Pacific Ariki</i>	<i>Tasman Venture</i>
<i>Capitaine Tasman</i>	<i>Rangitata</i>	<i>Tui Cakau III</i>
<i>Chiral</i>	<i>Rangitikei</i>	<i>Union Auckland</i>
<i>Forum New Zealand II</i>	<i>Rangitoto</i>	<i>Union Rotoiti</i>
<i>Forum Papua New Guinea</i>	<i>Søren Larsen</i>	<i>Union Rotoma</i>
<i>Forum Samoa</i>	<i>Spirit of Competition</i>	<i>Union Rotorua</i>
<i>Golden Bay</i>	<i>Spirit of Freedom</i>	
<i>Hunte</i>	<i>Swan Tide</i>	Supplementary Ships:
<i>Kotuku</i>	<i>Sydney Star</i>	<i>Arahanga</i>
<i>Kuaka</i>	<i>T.A. Mariner</i>	<i>Arahura</i>
<i>Melbourne Star</i>	<i>Taiko</i>	<i>Aratika</i>

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