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# The Marine Observer

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Met. O. 1017

# THE MARINE OBSERVER

A QUARTERLY JOURNAL OF MARITIME METEOROLOGY PREPARED BY THE MARINE DIVISION OF THE METEOROLOGICAL OFFICE

**VOL. 65** **No. 330** **OCTOBER 1995**

CONTENTS



COVER PHOTOGRAPH: Waterspout in the Gulf of Mexico photographed during the evening of 10 December 1994, from the *Helios*. (See, Letters to the Editor, page 201.)



Letters to the Editor, and books for review should be addressed to the Editor, *The Marine Observer*, Met. Office (OM), Scott Building, Eastern Road, Bracknell, Berks RG12 2PW.

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# EXCELLENT AWARDS 1994

Last year's exercise of carrying forward the publication of names of recipients of the annual 300 Excellent Awards, from the July to the October edition of the journal, proved beneficial as it spread both the Editors' work and evened out the content of the two issues.

Meteorological logbooks received from all types of observing ship during 1994 were as usual assessed on their merits, taking into consideration the opportunity and ability of the available Bridge (and where carried, Radio Room) staff to make and transmit regular observations during the year. As the requirement for dedicated Radio Officers to transmit the weather messages reduces, so we would expect more Navigating Officers to be nominated for awards for carrying out all parts of the observing and message-sending procedure, justly maintaining the number of books we may offer annually as rewards for their efforts, which continue to be welcomed and much appreciated. (Navigating Officers rewarded for the transmission element are marked with an asterisk* in the list that follows).

Amongst the many ships which submitted logs received by the Marine Division between 1 January and 31 December 1994, and assessed as Excellent, the following merit special mention as being in the top bracket:

1. m.v. *Leonia*, Shell International Trading and Shipping Co. Ltd; Captain A.F. De Vanney and Principal Observing Officer (P.O.O.) K. Mahmood.
2. m.v. *Taunton*, P&O Bulk Shipping Ltd; Captain L.J. Hesketh, P.O.O. S. Panwar and Radio Officer (R/O) K. Sridhar.
   m.v. *Moreton Bay*, P&O Containers Ltd; Captains C.C. Woodward and G.J.H. Peaston, P.O.O.s D. Stevens, M. Williamson and B.G. Ball, and R/Os S.J. Braithwaite, S.R. Cloutte and N. Matthews.
   m.v. *Maersk Gannet*, The Maersk Co. Ltd; Captain A. Waller, P.O.O. R.I. Sime and R/O F.P. Wight*.
3. m.v *Resolution Bay*, P&O Containers Ltd; Captain R.T. Wood and P.O.O. M. Williamson.
   m.v. *Pacific Teal*, owned by Pacific Nuclear Transport plc and managed by James Fisher and Sons plc; Captain J. Miller and P.O.O. P.R.S. Cutler.
   m.v. *Barbara 'E'*, Jeppesen Heaton Ltd; Captain M. Smith, P.O.O. I.C. Oke, R/O V. Javier*.
4. m.v. *Pacific Pintail*, (see *Pacific Teal)*; Captain B.D. Miller, P.O.O. R.C. Mitcheson, R/O C.P. Brockbank.
   R.R.S. *Bransfield*, British Antarctic Survey; Captain M.J. Cole, P.O.O. G.R. Adnitt and R/O C. Waddicor.
   m.v. *Hermod*, Kvaerner Shipping, Oslo; Captain G. Phillips, P.O.O. N.J. Blacker and R/O A. De Rama.
   m.v. *West Moor*, Jeppesen Heaton Ltd; Captains E. Sierks, R. Phillips and D. Johnstone, P.O.O. N.C. Horner and R/Os G. Mangubat* and F.S. Servento*.

*Leonia*

*Taunton*

*Maersk Gannet*

Three of the top ships for meteorological logbooks in 1994.
*(Clockwise from the top: Photographs by courtesy of Shell International Trading and Shipping Co. Ltd; P&O Bulk Shipping Ltd; The Maersk Co. Ltd.)*

The three books in hardback selected for awards are *Sea Power — A Global Journey* by Luc Cuyvers (reviewed in July), *Philips' World Atlas and Gazetteer* and Cassell's *Concise English Dictionary*.

It would help in tracing addressees if any queries are sent to the Marine Division together with full name, Discharge Book or Seaman's Book number and forwarding address for books. Names of the many for whom awards for earlier years are still awaiting claimants are shown on page 165, at the end of the list of the recipients for 1994 that follows.

## Excellent Awards (Year ended 31 December 1994)

| Captain | Company |
|---|---|
| C.R. Bamford | Ropner Shipping Services Ltd |
| M.R. Banon | MOL Tankship Management plc |
| G. Bates | James Fisher & Sons Ltd |
| N.A. Beer | British Antarctic Survey |
| A.K. Birley | Dorchester Maritime (I.O.M.) Ltd |
| L.P. Bridges | Ropner Shipping Services Ltd |
| A.J. Brown | Blue Star Ship Management Ltd |
| B.A. Chapman | Ministry of Agriculture, Fisheries & Food |
| A.J. Clarke | Tidewater Marine (U.K.) Ltd |
| C.A. Cleverley | Furness Withy (Shipping) Ltd |
| J.A. Coffin | Idwal Williams & Co. Ltd |
| M.J. Cole | British Antarctic Survey |
| P.J. Creber | Furness Withy (Shipping) Ltd |
| C.D. Croall | P&O Containers Ltd |
| A. Crofts | Ropner Shipping Services Ltd |
| R.J. Cropper | Furness Withy (Shipping) Ltd |
| J. Davies | Marr Vessel Management Ltd |
| A.F. DeVanney | Shell Marine Personnel (I.O.M.) Ltd |
| P.R. Dew | Kvaerner Shipping A/S |
| C.R. Elliott | British Antarctic Survey |
| D.J. Elson | A/S Havtor Management |
| A.J. Fee | P&O Containers Ltd |
| P.A. Furneaux | P&O Containers Ltd |
| J.S. Gavin | Bibby Line Ltd |
| D.E. Ginder | Andrew Weir plc |
| J.N. Gregson | Dorchester Maritime (I.O.M.) Ltd |
| B.A. Hall | Scottish Fisheries Protection Agency |
| P.C. Harris | Souter Shipping Ltd |
| W.J. Harwood | Logbridge Ltd |
| G. Hatcher | London Ship Managers Ltd |
| D.F. Heaselden | P&O Bulk Shipping Ltd |
| G. Hepple | P&O Bulk Shipping Ltd |
| L.J. Hesketh | P&O Bulk Shipping Ltd |
| T.S. Hoksas | Kvaerner Shipping A/S |
| J.A. Holst | Denholm Ship Management (U.K.) Ltd |
| P. Holtby | Columbia Shipmanagement Ltd |
| C.P. Howard | Kuwait Oil Tanker Co. |
| D.S. Hughan | P&O Containers Ltd |
| F.D. Hugo | Shell Marine Personnel (I.O.M.) Ltd |
| P.W. Hutchinson | Blue Star Ship Management |
| P.W. Jackson | Denholm Ship Management (U.K.) Ltd |
| R.C. Jackson | Britannia Aggregates Ltd |
| T.L. Jeffrey | F.T. Everard & Sons Ltd |
| D. Johnstone | Jeppesen Heaton Ltd |
| J.N. Kelleher | P&O Containers Ltd |
| B.J. Kirtley | P&O Bulk Shipping Ltd |
| J.H. Lacey | P&O Bulk Shipping Ltd |
| S.J. Lawrence | British Antarctic Survey |
| D.R. Lewis | Dorchester Maritime (I.O.M.) Ltd |
| M.R. Lovibond | Logbridge Ltd |
| J.L. Lundberg | James Fisher & Sons plc |
| I.D. Mackenzie | Mobil Shipping Co. Ltd |
| A.C. McCulloch | P&O Containers Ltd |
| P.J.R. Manson | P&O Containers Ltd |
| D. Marr | James Fisher & Sons plc |
| K. Milburn | Ropner Shipping Services Ltd |

## Excellent Awards *(contd)*

| Captain | Company |
|---|---|
| B.D. Miller | James Fisher & Sons plc |
| J.M. Miller | James Fisher & Sons plc |
| R. Monkman | CAM Shipping Ltd |
| M.J.F. Moulin | P&O Cruises Ltd |
| B.L. Mullenger | Andrew Weir plc |
| J.A. Oscroft | P&O Containers Ltd |
| G.R. Paxton | London Ship Managers Ltd |
| G.J.H. Peaston | P&O Containers Ltd |
| D.A. Peden | Jeppesen Heaton Ltd |
| J.L. Peterson | P&O Containers Ltd |
| G.R. Phillips | Kvaerner Shipping A/S |
| R. Phillips | Jeppesen Heaton Ltd |
| L.C. Pink | F.T. Everard & Sons Ltd |
| D.L. Rattray | Scottish Fisheries Protection Agency |
| R.B. Reid | P&O Bulk Shipping Ltd |
| Z. Rizwani | Kuwait Oil Tanker Co. |
| M.C. Roberts | Dorchester Maritime (I.O.M.) Ltd |
| R. Robinson | MOL Tankship Management Ltd |
| A. Ruszczynski | Logbridge Ltd |
| P.F. St Lawrence | Dorchester Maritime (I.O.M.) Ltd |
| T. Schofield | Marine Management Services Ltd |
| C.A. Sheffield | Kuwait Oil Tanker Co. |
| E.Sierks | Jeppesen Heaton Ltd |
| J.A. Smeeton | P&O Bulk Shipping Ltd |
| M. Smith | Marine Management Services Ltd |
| E.D. Somes | Acomarit (U.K.) Ltd |
| M.J. Stares | James Fisher & Sons plc |
| A.P. Talbot | P&O Containers Ltd |
| P. Venvell | Kvaerner Shipping A/S |
| R.B. Wade | Idwal Williams & Co. Ltd |
| A.B. Waller | The Maersk Co. (I.O.M.) Ltd |
| B.C. Watkins | London & Overseas Freighters (U.K.) Ltd |
| J.W. Welch | P&O Containers Ltd |
| P.L. Whitehouse | F.T. Everard & Sons Ltd |
| J.K. Wilkinson | Logbridge Ltd |
| W. Wilmott | Valles Steamship Co. Ltd |
| R.T. Wood | P&O Containers Ltd |
| P.A. Woods | Kuwait Oil Tanker Co. |
| C.C. Woodward | P&O Containers Ltd |
| A. Wormald | Stephenson Clarke Shipping Ltd |
| K.N. Young | James Fisher & Sons plc |

| Principal Observing Officer | Company |
|---|---|
| G.R. Adnitt | British Antarctic Survey |
| A. Aldeen | Kuwait Oil Tanker Co. |
| J. Bagoo | Bibby Line Ltd |
| B.G. Ball | P&O Containers Ltd |
| C. Bettison | Marr Vessel Management Ltd |
| D.F. Black | Furness Withy (Shipping) Ltd |
| N.J.G. Blacker | Kvaerner Shipping A/S |
| D. Bonetta | MOL Tankship Management Ltd |
| P. Branagan | F.T. Everard & Sons Ltd |
| F.N. Cambra | P&O Containers Ltd |
| N. Campbell | Denholm Ship Management (U.K.) Ltd |

## Excellent Awards *(contd)*

| Principal Observing Officer | Company |
|---|---|
| M.D. Caulian | Kvaerner Shipping A/S |
| L.J. Cheesebrough | P&O Containers Ltd |
| D.C. Collins-Williams | P&O Containers Ltd |
| I.D. Coombs | Jeppesen Heaton Ltd |
| N. Coombs | F.T. Everard & Sons Ltd |
| P.R.S. Cutler | James Fisher & Sons plc |
| N.P.F. D'Souza | P&O Bulk Shipping Ltd |
| M.M. de Leon | Acomarit (U.K.) Ltd |
| R.R. Dabucol | Logbridge Ltd |
| H.J. Davey | P&O Containers Ltd |
| A.R. Davidson | Scottish Fisheries Protection Agency |
| B.E. Diana | Logbridge Ltd |
| M.P. Donnelly | Scottish Fisheries Protection Agency |
| D.P. Dospueblos | Logbridge Ltd |
| K.S. Dowden | Ropner Shipping Services Ltd |
| L.C. Durante | Logbridge Ltd |
| W.R. Durrans | James Fisher & Sons plc |
| E.M. Esinduy | P&O Containers Ltd |
| A. Gatti | British Antarctic Survey |
| G.E. Gellatly | London & Overseas Freighters (U.K.) Ltd |
| J. Gunson | Andrew Weir plc |
| S. Gupta | P&O Bulk Shipping Ltd |
| D.P. Hadfield | James Fisher & Sons plc |
| L. Hadfield | Marr Vessel Management Ltd |
| M. Haidar | Kuwait Oil Tanker Co. |
| A.H.A. Hamdy | Kuwait Oil Tanker Co. |
| N.L. Hampao | Kvaerner Shipping A/S |
| G.C. Harwood | F.T. Everard & Sons Ltd |
| W.A. Heffernan | Furness Withy (Shipping) Ltd |
| D.M. Hopkin | Mobil Shipping Co. Ltd |
| N.C. Horner | Jeppesen Heaton Ltd |
| H.J. Jalos | Blue Star Ship Management Ltd |
| B. James | Bibby Line Ltd |
| B.A. Jolly | Dorchester Maritime (I.O.M.) Ltd |
| K.C. Joshi | P&O Bulk Shipping Ltd |
| J.H. Lafferty | P&O Containers Ltd |
| J. Laird | Marr Vessel Management Ltd |
| T.T. Latto | Dorchester Maritime (I.O.M.) Ltd |
| A.M. Lee | P&O Containers Ltd |
| N.R. Lingo | London Ship Managers Ltd |
| L.G. Mackenzie | P&O Containers Ltd |
| G.A. McPhee | British Antarctic Survey |
| A.D. MacPherson | Andrew Weir plc |
| K. Mahmood | Shell Marine Personnel (I.O.M.) Ltd |
| P.J. Mahoney | James Fisher & Sons plc |
| F.I. Man-Ay | A/S Havtor Management |
| J.S. Manhas | Valles Steamship Co. Ltd |
| J.I.N. Marsham | James Fisher & Sons plc |
| D.A. Mendis | Ropner Shipping Services Ltd |
| R.P.C. Mitcheson | James Fisher & Sons plc |
| R.C. Mitra | Marine Management Services Ltd |
| M.L. Mullins | P&O Containers Ltd |
| R.J.C. Neale | P&O Containers Ltd |
| S.K. Nixon | Souter Shipping Ltd |
| I.C. Oke | Marine Management Services Ltd |
| J. Paiwas | MOL Tankship Management Ltd |

## Excellent Awards *(contd)*

| Principal Observing Officer | Company |
|---|---|
| S. Panwar | P&O Bulk Shipping Ltd |
| E. Parrot | Shell Marine Personnel (I.O.M.) Ltd |
| P.H. Phillips | Britannia Aggregates Ltd |
| O. Power | Furness Withy (Shipping) Ltd |
| T.C.A. Ramsey | Petroleum Shipping Ltd |
| R.D. Reoyan | Columbia Shipmanagement Ltd |
| P.A. Rock | Denholm Ship Management (U.K.) Ltd |
| J.V. Sedonio | Idwal Williams Co. Ltd |
| R. Sethi | P&O Bulk Shipping Ltd |
| N. Sheard | Tidewater Marine (U.K.) Ltd |
| R.I. Sime | The Maersk Co. (I.O.M.) Ltd |
| S. Singh | P&O Bulk Shipping Ltd |
| C.A. Spain | P&O Containers Ltd |
| B. Standerline | Stephenson Clarke Shipping Ltd |
| D. Stevens | P&O Containers Ltd |
| M. Stewart | P&O Containers Ltd |
| S.S. Street | P&O Cruises Ltd |
| M.C.P. Sutcliffe | P&O Containers Ltd |
| J.S. Tamayo | Blue Star Ship Management Ltd |
| B.R.G. Tasker | Denholm Shipmanagement (U.K.) Ltd |
| K.C. Townley | Ropner Shipping Services Ltd |
| L.L. Ubaldo | London Ship Managers Ltd |
| S.C. Upcraft | CAM Shipping Ltd |
| D.J. Vickery | P&O Containers Ltd |
| M.J. Walker | Dorchester Maritime (I.O.M.) Ltd |
| I.J. Wardhaugh | Jeppesen Heaton Ltd |
| R. McK. Watt | James Fisher & Sons plc |
| A.M. Webb | Dorchester Maritime (I.O.M.) Ltd |
| M. Williamson | P&O Containers Ltd |
| G.Wilson | Adventure Under Sail |

| Radio Officer | Company |
|---|---|
| T.A. Andrews* | Kvaerner Shipping A/S |
| J.H. Ansari | P&O Containers Ltd |
| A.D. Atkinson | Dorchester Maritime (I.O.M.) Ltd |
| B. Auman | Logbridge Ltd |
| R. Balasubramanium* | P&O Bulk Shipping Ltd |
| R.M. Banzon | Norman International AB |
| A. Baria | Blue Star Ship Management Ltd |
| B.J. Bartlett* | Logbridge Ltd |
| C. Beaton* | Dorchester Maritime (I.O.M.) Ltd |
| I. Beaton* | Scottish Fisheries Protection Agency |
| R.C. Bernal | Blue Star Ship Management Ltd |
| J.K. Bhadra | P&O Bulk Shipping Ltd |
| M. Bhuyian* | Valles Steamship Co. Ltd |
| H. Bond* | F.T. Everard & Sons Ltd |
| S.J. Braithwaite | P&O Containers Ltd |
| C.P. Brockbank | James Fisher & Sons plc |
| R.A. Browne | P&O Containers Ltd |
| V.L. Cajayon | Kvaerner Shipping A/S |
| E.S. Cass | Blue Star Ship Management Ltd |
| P.J. Clery | Blue Star Ship Management Ltd |
| S.R. Cloutte | P&O Containers Ltd |
| T. Collins* | Scottish Fisheries Protection Agency |

## Excellent Awards *(contd)*

| Radio Officer | Company |
|---|---|
| C.Y. Constantinou | P&O Containers Ltd |
| J.J. Cooney | P&O Containers Ltd |
| D.J. Crasto | P&O Bulk Shipping Ltd |
| M.F. D'Silva | P&O Bulk Shipping Ltd |
| A. De Rama | Kvaerner Shipping A/S |
| G.J. Davies* | Dorchester Maritime (I.O.M.) Ltd |
| M.D. Diosana | Logbridge Ltd |
| E.W. Egalla | Furness Withy (Shipping) Ltd |
| M. Esguerra | Logbridge Ltd |
| M. Fabrero | Logbridge Ltd |
| A.R. Farthing* | P&O Containers Ltd |
| F.C. Favilaran | Logbridge Ltd |
| I.G.C. Ferguson* | Tidewater Marine (U.K.) Ltd |
| A.W. Fuller* | Marr Vessel Management Ltd |
| J.T. Gamas | Kvaerner Shipping A/S |
| B. Garcia | Blue Star Ship Management Ltd |
| F. Gemudiano | Blue Star Ship Management Ltd |
| M.E.P. Gloistein | British Antarctic Survey |
| D. Gold* | Adventure Under Sail |
| G.C. Gove* | P&O Scottish Ferries Ltd |
| A.N. Grant | Marine Management Services Ltd |
| M.R.T. Hannan | P&O Containers Ltd |
| C.B. Hardie | P&O Containers Ltd |
| S. Hills | P&O Cruises Ltd |
| M.K. Hiscott* | Britannia Aggregates Ltd |
| A. Hodgson* | Petroleum Shipping Ltd |
| V. Javier* | Marine Management Services Ltd |
| G. Jones | Denholm Ship Management (U.K.) Ltd |
| C. Knights* | Boston Putford Offshore Safety Ltd |
| M. Langford* | P&O Containers Ltd |
| R. Lao | Kuwait Oil Tanker Co. |
| T.J. Leonen | Logbridge Ltd |
| L.P. Lim | Kvaerner Shipping A/S |
| A.H. Macan | Kuwait Oil Tanker Co. |
| R.M. Maclure | Stephenson Clarke Shipping Ltd |
| A. Mamparo | P&O Ship Management Ltd |
| J.M. Manalo | A/S Havtor Management |
| G. Mangubat* | Jeppesen Heaton Ltd |
| M.W. Miranda | P&O Bulk Shipping Ltd |
| N. Matthews | P&O Containers Ltd |
| S.J. Mee | British Antarctic Survey |
| P.L. Michael | Marine Management Services Ltd |
| R. Miller* | Dorchester Maritime (I.O.M.) Ltd |
| M.W. Miranda | P & O Bulk Shipping Ltd |
| P. Moraes | Ropner Shipping Services Ltd |
| D.R. Peel* | P&O Containers Ltd |
| C.R. Pfenninger* | The *Astrid* Trust |
| M. Pickles* | P&O Scottish Ferries Ltd |
| L. Potmis | P&O Bulk Shipping Ltd |
| J.L. Raymundo | Columbia Ship Management Ltd |
| T. Rozek | Bibby (I.O.M.) Ltd |
| G. Scullion | P&O Containers Ltd |
| F.S. Servento* | Jeppesen Heaton Ltd |
| D.A. Simcox | Dorchester Maritime (I.O.M.) Ltd |
| G.S. Simpson* | Denholm Ship Management (U.K.) Ltd |
| P.S. Sinclair | Denholm Ship Management (U.K.) Ltd |

## Excellent Awards *(contd)*

| Radio Officer | Company |
|---|---|
| P.C. Sinha* | P&O Bulk Shipping Ltd |
| J.G. Smith | Dorchester Maritime (I.O.M.) Ltd |
| T.J. Smith | P&O Containers Ltd |
| K. Sridhar | P&O Bulk Shipping Ltd |
| R.J. Stevens | Souter Shipping Ltd |
| J. Tetteh* | F.T. Everard & Sons Ltd |
| L.P. Tipo | Blue Star Ship Management Ltd |
| A.Y. Villarubia | Logbridge Ltd |
| C.A. Waddicor | British Antarctic Survey |
| C. Wade | Bibby Line Ltd |
| S.I. Wallace* | British Antarctic Survey |
| S. Waterman | Marr Vessel Management Ltd |
| A.R. Watt | James Fisher & Sons plc |
| P.A. Whyley | P&O Containers Ltd |
| R. Whyte* | Scottish Fisheries Protection Agency |
| F.P.Wight* | The Maersk Co. (I.O.M.) Ltd |
| A.J. Williams | P&O Cruises Ltd |
| I.R. Williams | Souter Shipping Ltd |
| A.W. Willis | London Ship Managers Ltd |
| D. Worthy | Dorchester Maritime (I.O.M.) Ltd |

## 'MARID' SHIPS†

| Observers | Company |
|---|---|
| Captain D. Griffiths; Deck Officers I. Ellarby, D.E. Stevenson* | Arc Marine Ltd |
| Captain J.A. Dunlop; Deck Officers J.A. Aspinall, D. Fox* | Petro Shipping Ltd |
| Deck Officers D. James, K. Thomas, I. Hoey* | British Dredging Aggregates |

* Deck Officers with Radio Officers' duties.
† Vessels recruited primarily to observe and transmit sea temperatures with non-instrumental observations from the North Sea and coastal waters.

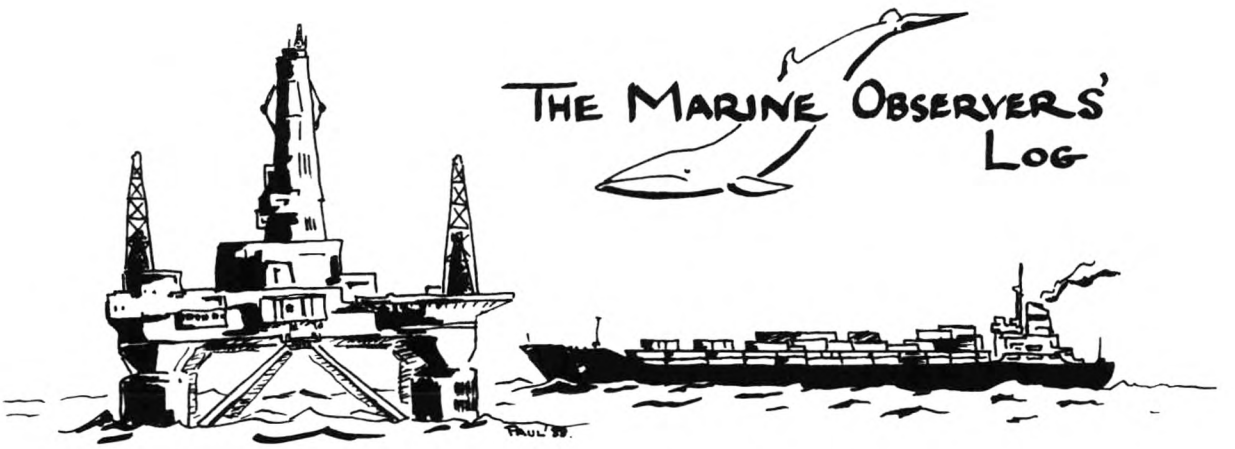
## Unclaimed Excellent Awards for 1993

Our records show that the following observers have not yet claimed their awards for 1993. We would be pleased to hear from them.

Captain: M. Bernis; H. Böse; N.P. Kelly; D.M. Kissane; W.G. Lockie; W. Marien.

Principal Observing Officer: M.K. Alam; A.S.T. Beveridge; R.C. Burn; A.C. Horncastle; M.O. Khan; O. Krnski; P.H. Mercenier; B.G. Rajan; M. Roquid; N. Siegue; W.G. Tait; F. Watt.

Radio Officer: E.G. Arciaga; C.R. Brooks; P. Candelaria; A.P. Clarke; C. Dobbelar; D. Fernandez; A. Gregario; B.N. Iyengar; R. Maestrado; J.G. Minogue; S.C. Parambath; F.R. Patel; Y. Rahbarshahir; J. Ranasinghe; A.J. Rawlinson; N. Ro; S. Sech; M.D. Smyth.




# October, November, December

*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. All temperatures are Celsius unless otherwise stated. The standard international unit for barometric pressure is the hectopascal (hPa) which is numerically equivalent to the millibar (mb).

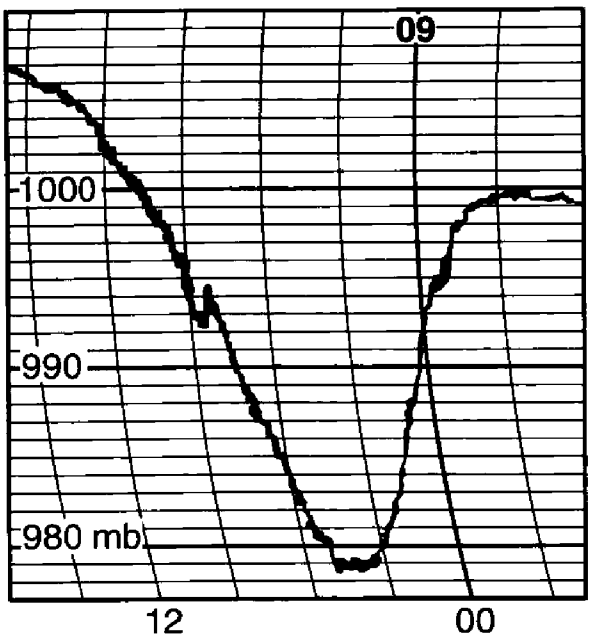
## TYPHOON 'SETH'

### East China Sea

m.v. *OOCL Hope*. Captain S.J. Ivey. Tokyo to Kaohsiung. Observers: the Master and ship's company.

9–10 October 1994. Whilst on passage the vessel encountered the effects of typhoon Seth. The following observations and barograph trace describe the conditions experienced when the vessel was off the north coast of Taiwan. All times are UTC.

| Date and time | Temperature Air | Wet-bulb | Pressure (mb) | Wind Dir'n | Force | Remarks |
|---|---|---|---|---|---|---|
| 9th 0800 | 26.0° | 25.0° | 1008.6 | E | 6 | Course 245° at 21.5 knots. Pitching mod'ly to moderate SW'ly swell. |
| 1200 | 26.0° | 25.0° | 1004.9 | ENE | 7 | Pitching and rolling mod'ly at times. Typhoon position by Navtex: 24.2°N, 123.6°E heading 320° at 13 knots. |
| 1400 | 25.0° | 24.0° | 1000.7 | ENE | 7 | Pitching and rolling mod'ly at times. Shipping spray on starboard side. |
| 1500 | 24.5° | 24.0° | 997.2 | ENE | 10 | Rolling heavily at times; pitching mod'ly. Shipping water overall. Typhoon position by Navtex: 24.7°N, 123.4°E heading 320° at 13 knots. |
| 1530 | — | — | — | — | — | Wind veered ESE'ly, force 11 and pressure started to rise very rapidly, climbing 2 mb by 1600. |
| 1600 | 24.5° | 24.0° | 994.6 | NE×E | 11 | Rolling and pitching heavily at times. Shipping light seas overall. Pressure falling once more. |




| | | | | | | |
|---|---|---|---|---|---|---|
| | 1800 | 23.5° | 23.5° | 982.6 | NE | 11 | Rolling and pitching mod'ly. Shipping light seas overall. |
| | 1900 | 23.5° | 23.5° | 982.4 | NE | 11 | At alter course position but cannot alter because vessel starts rolling more. Typhoon position by Navtex: 25.6°N, 123.1°E heading 320° at 10 knots. |
| | 2000 | 23.5° | 23.0° | 980.5 | NNE | 11 | Course 240° at 20.9 knots. Rolling mod'ly. Shipping light seas overall. |
| | 2200 | 23.0° | 23.0° | 981.6 | NW | 12 | Course 230° at 17.8 knots. Rolling easily. Coming under the lee of northern tip of Taiwan. |
| 10th | 0000 | 23.0° | 23.0° | 991.0 | NW | 11 | Rolling easily. Shipping light seas overall. Typhoon position by Navtex: 25.8°N, 122.8°E heading 320° at 7 knots. |
| | 0200 | 23.5° | 22.5° | 999.2 | N×W | 8 | Course 211° at 21.8 knots. Moving easily. |

Unfortunately, owing to the usual darkness when these things seem to occur, it was not possible to ascertain the direction of the swell but it can be assumed that it was coming from the centre of the typhoon. This was why conditions improved somewhat when the vessel came into the lee of the island.

Position of ship at 1200 UTC on the 9th: 27° 18′N, 125° 00′E.

Position of ship at 0000 UTC on the 10th: 25° 18′N, 121° 12′E.

## TROPICAL CYCLONE

### Bay of Bengal

m.v. *Zenatia*. Captain R.A.H. Lawson. Singapore to Madras. Observers: the Master, Mr N.A. Doyle, 3rd Officer and ship's company.

29–31 October 1994. At 1200 UTC on the 29th a tropical depression centred at 10.5°N, 84.5°E was moving in a north-westerly direction. By 1200 on the 30th the depression had developed into a cyclonic storm and intensified further. It was in position 12.3°N, 81.0°E with a central pressure of 994 mb and was predicted to pass over the Tamil Nadu coast, close to Madras.

On the 29th the vessel was anchored 4 n.mile off Madras harbour and was experiencing overcast skies with intermittent rain; the wind was NE×N'ly, force 3 while the pressure was 1012 mb. At 0630 on the 30th the wind was NE'ly, force 6, the pressure was 1011 mb and there were heavy, squally rain showers. During the afternoon the wind backed slowly to N×E at 1330 whereupon it began to veer and increase in strength, the pressure falling to 1008.7 mb (corrected). Between 1530 and 1730 the following observations were made:

| Time | Wind Dir'n | Force | Weather | Sea (m) | Swell (m) | Visibility (n.mile) | Pressure (mb) | Dry bulb |
|---|---|---|---|---|---|---|---|---|
| 1530 | NE×N | 6 | Overcast. Heavy rain and squalls. | 4/5 | 6 | 5/6 | 1009.6 | 25.0° |
| 1630 | NE×E | 8 | " | 5 | 6 | 6 | 1008.6 | |
| 1730 | ENE | 9 | " | 5/6 | 6 | 5 | 1007.9 | |

At this point Madras Port Control issued a warning that the cyclone was due to pass over Madras in the early hours of the 31st. It was then considered prudent to leave the anchorage as the E'ly winds had created a lee shore. The following observations were made over the next few hours:

| Time | Pos'n of ship | Wind Dir'n | Force | Weather | Sea (m) | Swell (m) | Pressure (mb) |
|---|---|---|---|---|---|---|---|
| 1930 | 13° 05'N, 80° 26'E | NNE | 10 | Continuous heavy rain. | 7 | 5 | 1002.0 |
| 2030 | 13° 04'N, 80° 27'E | ESE | 7 | " | 7 | 5/7 | 993.5 |
| 2130 | 13° 04'N, 80° 27'E | ESE | 8/9 | " | 7 | 7 | 994.5 |
| 2230 | 13° 04'N, 80° 29'E | ESE | 9 | " | 7 | 5/7 | 995.8 |
| 2330 | 13° 05'N, 80° 32'E | SSE | 9 | " | 7 | 7 | 998.6 |

(By 2300 the cyclone was centred over Madras)

From 0030 on the 31st the wind continued to veer and decrease such that by 0230 the wind was S'ly, force 7 while the pressure was 1009.2 mb. By 0830 the weather had abated sufficiently for the vessel to return to the anchorage.

Much chaos was caused within the harbour while one vessel outside lost both anchors and grounded, and a tug parted both her tow lines. Onshore, 26 people were killed; of these, 15 were in Madras including a family of 7 killed by a collapsing wall.

Position of ship on the 29th: 13° 07'N, 80° 23'E.

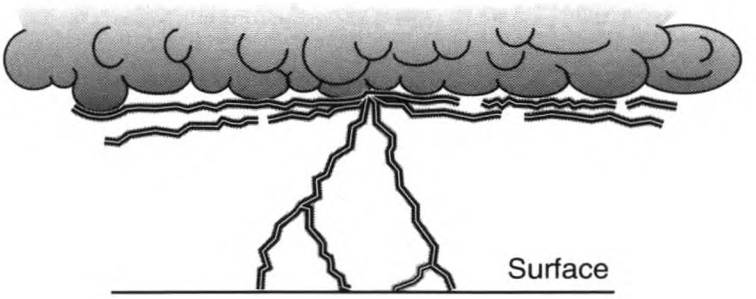
## THUNDERSTORM

### Red Sea

m.v. *Flinders Bay*. Captain A.E. Spencer. Suez to Fremantle. Observers: the Master and ship's company.

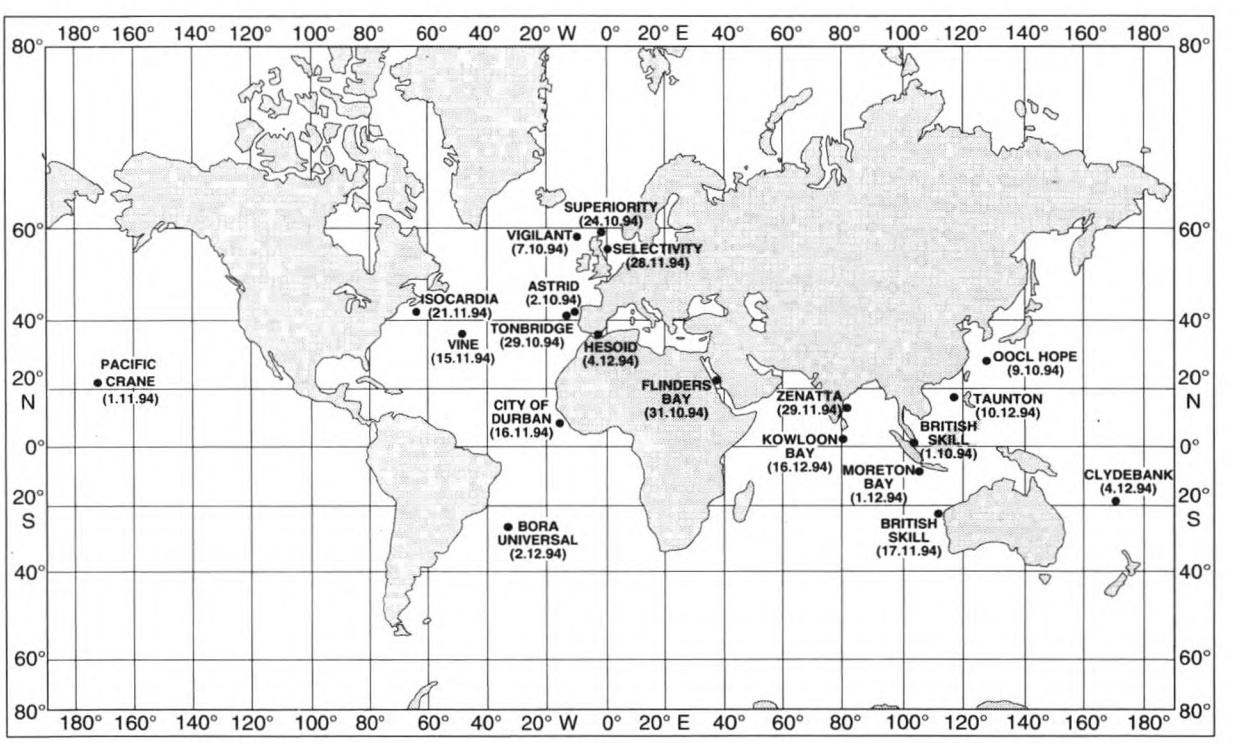
31 October 1994. At 1800 UTC an intense electrical storm was observed crossing from west-north-west to east-south-east. At first, the bulk of the lightning was concentrated on the starboard beam, with occasional distant thunder being heard. Frequent bursts of forked lightning gave a spectacular display; sometimes forks appeared to radiate outwards from one central point, some hugging the cloud base whilst others descended to connect with the sea surface, see sketch.

As the storm neared the vessel, the wind (which appeared to be NW'ly) began to increase, and reached a maximum of force 8–9 at 1930, causing the vessel to heel 4° to port while difficulty was experienced in maintaining course. With the increase in wind speed came a steady increase in rainfall such that by 1930 the visibility was reduced to 1 n.mile.




When the storm was directly overhead occasional loud claps of thunder could be heard. From 2000 onwards, the wind began to ease and the rain lessened as the storm moved on towards the east-south-east. The lightning activity between 1800 and 2020 was virtually continuous and of sufficient luminosity to light up the night sky and surrounding sea. No corposants were observed.

Position of ship: approx. 21° 48′N, 38° 06′E.



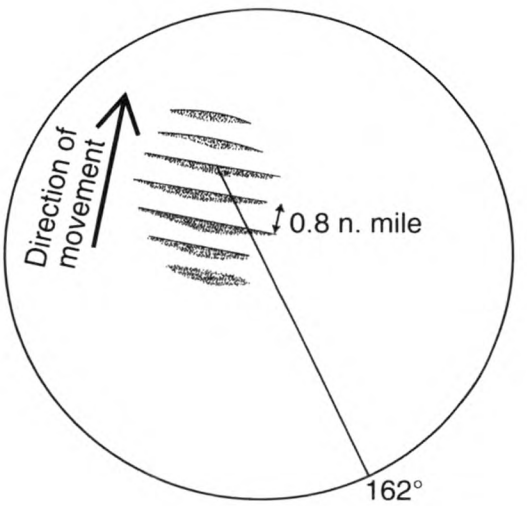

Position of ships whose reports appear in *The Marine Observers' Log*

## RADAR ECHOES

### Eastern North Atlantic

m.v. *City of Durban*. Captain R.M. Herring. Le Havre to Cape Town. Observers: the Master, Mr A. Hutchison, 2nd Officer and Mr A. Deans, 3rd Officer.

16 November 1994. At 2230 UTC the observers noted on both the 3-cm and 10-cm radars, as well as visually, a wave or band-like phenomenon shown as a succession of 'bands' approximately 4 n.mile long with a uniform separation of about 0.8 n.mile, see sketch.




12 – n. mile range

The bands appeared as if they were precipitation but on passing through one of them nothing was observed nor were any other particles, seeing as the vessel was off the west African coast at the time. The bands themselves caused a rippling effect on the sea surface of roughly 150 m wide, giving an otherwise calm sea a black appearance beneath them on what was a well moonlit night. Although the phenomenon looked like rain bands, the observers could not give an otherwise definite solution for it.

The ship was heading 162° and the bands approached from a southerly direction for a duration of about two hours during which time the visibility was good, pressure steady at 1012 mb while the wind was SSE'ly, force 1–2. The cloud cover was 8 oktas of cirrostratus.

Position of ship: 10° 22′N, 17° 16′W.

## CETACEA

### North Atlantic Ocean

m.v. *Isocardia*. Captain P.J. Bowden. Braefoot Bay to Newington. Observers: the Master and ship's company.

21 November 1994. At 1800 UTC whilst the vessel was on a heading of 280° a school of approximately 160 dolphins gathered from different directions and were evidently heading east with quite a few jumping clear of the water while others just skimmed the surface. The dolphins appeared to be heading towards the ship and soon came closer. The first clue to identification was a dark-coloured back changing abruptly to light in a 'figure of 8' pattern associated with the Common Dolphin. As they moved closer still, the colours were easily identifiable as grey on

top, then about half-way down the colours changed from grey to cream, with tan and yellow also visible. The dorsal fin was quite large with a long smooth curve turning into a sharp point. The dolphins played around the ship and in the bow wave for about 15 minutes before apparently becoming bored and drifting aft. By using a Dolphin Survey Project identification chart, the dolphins were confirmed as Common Dolphins.

At about 1840 a small group of perhaps four whales were seen blowing about 1 km off the port beam. Although only the spouts were visible they were deemed to belong to whales owing to their size. At about 1940 six more whales were spotted around 0.5 n.mile off the starboard beam. They were blowing and although one clearly broke the surface, it was impossible to identify it from that range. Later at about 2000 a lone whale passed the vessel at about 30 m off, heading north. It was breaking the surface from slightly forward of the blowhole to just forward of the dorsal fin. When it dived below the surface the dorsal fin appeared and was very small but the tail never left the water. The whale was very slender behind the dorsal fin especially in comparison to the area around the blowhole. At the same time, a school of about 30 dolphins was sighted heading north-east; these were seen about 400 m off the starboard bow but were not identified.

During the period of observation the sky was overcast and the wind was S'ly, force 2.

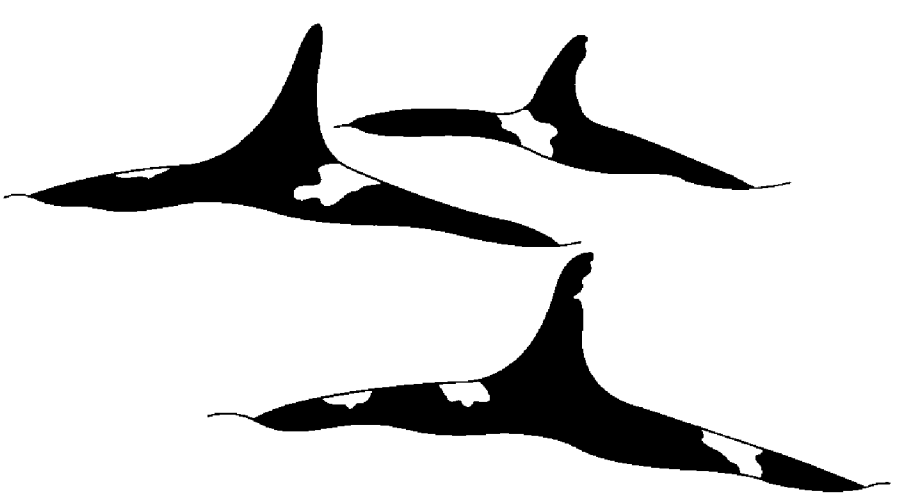
Position of ship: 42° 25'N, 65° 13'W.

## Indian Ocean

m.v. *Kowloon Bay*. Captain D. Robertson. Singapore to Colombo. Observers: the Master, Mr B. Argent, Chief Officer, Mr D. Pritchard, 2nd Officer, Mr M. Hayes, 3rd Officer and members of ship's company.

16 December 1994. At 0630 UTC just as the Third Officer was handing over to the Second Officer they noticed what looked like a group of palm-frond fish trap markers in the water about half a mile ahead and slightly to port. Having recently transitted the Strait of Malacca where such things are common, little attention was paid to it until a Killer Whale jumped at least 2 m clear of the surface and what proved to be two other whales started to play.

As shown in the sketches the dorsal fins of two whales were all scarred but the tallest fin was the most distinctive at about 1.8 m high. The ship passed no more



than 20 m from the whales but because they were heading in oppposite directions to the vessel, the only time the observers had to watch them was about six minutes from first sight to last.

Each of the observers had, at some time or other, made the Cape Town to Australia, and New Zealand to Cape Horn voyages where Orca sightings are not uncommon. However, this was the first occasion when any of them had seen Killer Whales in such equatorial waters.

The vessel was on a heading of 269° at 24 knots, the sea was slight and the visibility very good.

Position of ship: 05° 50.1′N, 81° 13.4′E.

*Editor's note.* The references held in our offices state that the Great Killer Whale (*Orcinus orca*) occurs in all parts of all oceans, being limited only by the edge of the icepack. They prefer coastal areas and cooler water but have been known from deep equatorial waters long distances from land.

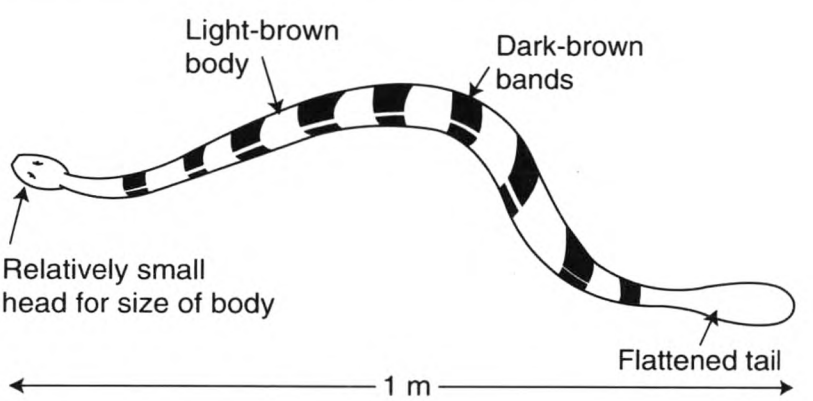
## SEA SNAKE

### Indian Ocean

m.v. *British Skill.* Captain G.M. Hallett. At anchor off Saladin Terminal W.A. Observers: Mr T.T. Latto, 2nd Officer, and Mr C. Gomez, O.S.

17 November 1994. At 2249 UTC a large sea snake was observed close to starboard of the vessel. As described in the sketch, it was light-brown in colour with darker brown bands.

Its length was estimated to be about 1 m and was the biggest sea snake seen by the observers. The snake had a small head in relation to the size of its body whilst a flattened tail could be seen as it moved in the sea.




As the snake was close to the ship, the Second Officer's camera was readied and an attempt to photograph it was made but unfortunately by the time the Boat Deck had been reached, the snake had dived and was not seen again.

Position of ship: approx. 21° 23′S, 114° 54′E.

## BIRDS

### North Atlantic Ocean

f.p.v. *Vigilant.* Captain H.A. MacKenzie. At anchor, St Kilda. Observers: the Master and Mr A. MacCallum, Chief Officer.

7–9 October 1994. During the evening, two storm petrels came on board the vessel whilst at anchor in Village Bay. They were found by the Master who

'rescued' them (see photograph on page 181) and placed them in a cardboard box with some water. In the morning, another one was found on deck and was also taken to the cardboard box; the first two birds were offered the chance to escape, one left and one opted to stay.

The vessel left St Kilda that morning, taking the two hostages along. They appeared to be very young and weak. On the morning of the 9th, after accusations on the bridge about who was wearing a woman's 'musk' scent, it was decided to release the captives some 30 n.mile north of Sula Sgeir. With a little persuasion they were launched skywards and the observers hoped they would survive.

Position of ship: approx. 57° 48'N, 08° 31'W.

*Note.* Captain P.W. Chilman, of the Royal Naval Birdwatching Society, comments:

'These were either British Storm Petrels (*Hydrobates pelagicus*) or Leach's Storm Petrels (*Oceanodroma leucorhoa*), the photograph does not show the details necessary to identify them for certain. I would say that they were probably Leach's Storm Petrels from the size of the bird in the hand and the length of the wing. The musky smell is a feature of these birds and can sometimes be very noticeable. The Leach's Storm Petrel breeds on St Kilda but the British Storm Petrel breeds on other Scottish Islands.

'The observers say the birds looked very young and weak; adults and juveniles cannot readily be distinguished from each other. They are very poor walkers, usually pushing themselves along on their bellies. Unless they are obviously damaged or waterlogged, I believe it is best to launch them overboard so that they can feed. Leach's Storm Petrel has quite a strong flight but the British Storm Petrel looks as if it can scarcely keep airborne, although it looks much the same in a gale or a calm.'

## Indian Ocean

m.v. *Moreton Bay*. Captain G.J.H. Peaston. Fremantle to Singapore. Observers: Mr J.G. Swindlehurst, Chief Officer and Mr D. Ewing, Watchkeeper.

1 December 1994. At 0415 UTC two frigatebirds were observed flying past the vessel in a south-south-easterly direction. Roughly the same size as each other, their only difference appeared to be in the colour of the plumage on the throat and chest area, and on the lower abdomen. The leader had a white throat and chest with dark plumage over the rest of the body whilst the other one had the white plumage in the lower abdominal area. Reference to Harrison's *Seabirds of the World* indicated that the latter was an adult male Christmas Frigatebird and that the former was then likely to be a female. It was assumed they were a breeding pair.

Later in the day, at 1040, a mainly white-plumaged bird was observed to fly rapidly along the length of the vessel and attempt to land on the upper radar scanner. It seemed to be rather shocked and surprised to find at the last instant that the scanner was actually turning at the time, and narrowly avoided a collision. It subsequently flew off to the foremast where it settled on the yard arm, perhaps to smooth its somewhat ruffled feathers.

Whilst in flight, the bird was noted to be of the gannet family: reference to *Seabirds of the World* showed that no gannets are known to frequent the area, so a booby was identified. A more positive identification was achieved through the pictures in the book, which showed the Masked Booby to be the only predominantly white member of this family. When flying towards the foremast, the bird was observed to scratch its left ear with a leg; the observers, never having seen this before, were somewhat 'gobsmacked'.

Position of ship at 0415 UTC: 09° 34'S, 106° 03'E.

*Note.* Captain Chilman comments:

'The first observation certainly sounds like the Christmas Frigatebird (*Fregata andrewsi*), although at this date not necessarily a breeding pair as the breeding dates are reported to be April to June. The only known breeding colony is at Christmas Island where there are said to be less than 2000 pairs. Little is known about their dispersal but they regularly occur along the coast of Java and Sumatera and up into the Andaman Sea, Java Sea and possibly as far as the Gulf of Siam.

'As suggested, the second observation is very likely to be the Masked Booby (*Sula dactylatra*) but I think the Red-footed Booby (*Sula sula*) is also possible. Both breed in the area of the report and range widely. I have seen them scratching their heads in flight, quite a feat, sometimes they stall and drop with some confusion.'

## MOTH

### Strait of Malacca

m.v. *British Skill.* Captain G.M. Hallett. At Lalang Terminal, Sumatera. Observers: the Master, Mr T.T. Latto, 2nd Officer, Mr C.G. Vernon, 3rd Officer, Mr M.G. Spencer, Radio Officer and Mr A.J. Slater, Cadet.

11 October 1994. Whilst the vessel was loading cargo, a butterfly [sic.] was found flying around the bridge. As shown in the photograph on page 181, its wing-span was about 15 cm, it was dark-grey to black in colour with diagonal white stripes on its wings, and white tips on its 'swallow-tails' were also noted. After being photographed it was coaxed outside the bridge. During the loading, it could be seen flying around the lights outside the bridge but on sailing from Lalang Terminal it sadly was found dead at the back of the bridge.

Position of ship: 01° 11.6′N, 102° 13.2′E.

*Note.* Dr R. Goodden, Director of Worldwide Butterflies, Compton House, Sherborne, comments:

'The moth is the Rain Moth, *Nyctalemon* Species (Uraniidae), almost certainly *N. patroclus*. It is one of the largest species in the world, usually but not always nocturnal. The moths are sometimes seen after the rains, feeding at damp places. They are also encountered at rest by day in places where lighting has attracted them. The range extends from Malaysia, across the Philippines to New Guinea.'

## BIOLUMINESCENCE

### Eastern North Atlantic

s.t.s. *Astrid.* Captain F.R.M. Scott. Lisbon to Madeira. Observers: the Master and all of Aft Port Watch.

2 October 1994. At 2205 UTC whilst the ship was heading south down the Portuguese coast at 6 knots, under power. Very bright and sparkling bioluminescence developed over a period of 30 minutes. Three dolphins were then sighted bowriding by Lookouts, being detected by their luminous wakes — better than the Red Arrows' smoke displays!.

The phenomenon persisted for about an hour but became less pronounced after 20 minutes when the bioluminescence suddenly faded.

Position of ship: 41° 50′N, 09° 32′W.

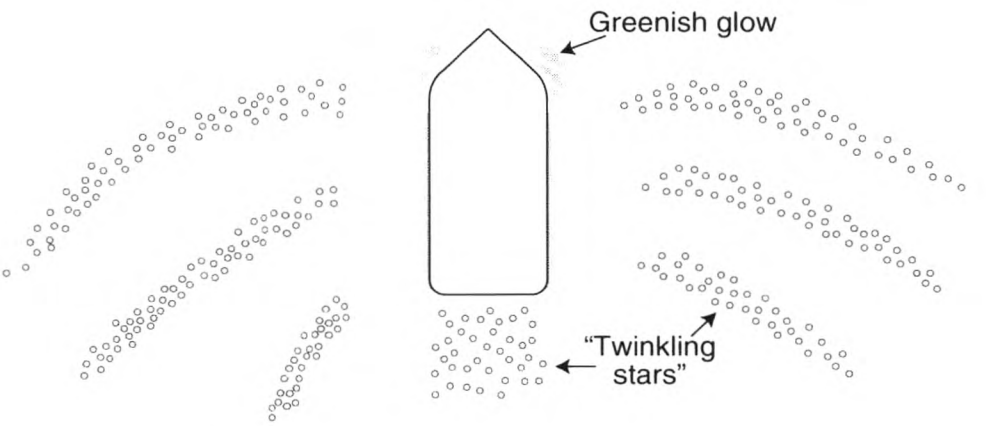
*Note.* Dr P.J. Herring, of the Institute of Oceanographic Sciences, Deacon Laboratory, comments:

'Anyone fortunate enough to see dolphins in luminescent waters is always impressed. They are indeed the marine equivalent of the Red Arrows! They produce luminescence by the thin turbulent layer over their bodies, and luminous dinoflagellates are the usual organisms involved.'

## Western Mediterranean

m.v. *Hesiod*. Captain A.S. Tennant. Yuzhnyy, Black Sea to Jorf Lasfar, Morocco. Observers: the Master, Mr K.P. Ratcliffe, 2nd Officer and Mr B. Murnin, 3rd Officer.

4–5 December 1994. Between 1930 UTC on the 4th and 0500 on the 5th, the vessel passed through very large patches of bioluminescence which appeared almost continuous. A greenish glow was observed, being extremely luminous and seeming to be activated by the disturbance of the bow wave, see sketch.




Large patches were seen with lines down the ship's side, and all around the vessel side at the water-line the sea took on a continuous green glow which dulled and brightened as larger patches were crossed. Astern of the vessel the sea surface had the appearance of stars 'twinkling' in the night. Additionally, on looking out in all directions from the vessel, long lines of luminescence stretched as far as the eye could see, sparkling again like the twinkling of stars at night. Another vessel, overtaking the *Hesiod*, appeared to have a continuous glow at its bow.

During the period of observation the vessel was proceeding through calm seas with the pressure falling from 1031 mb to 1030 mb and the dry-bulb temperature remaining at about 17° throughout.

Position of ship at 1930 UTC on the 4th: 36° 25′N, 02° 44′W.

*Note*. Dr P.J. Herring comments:

'I am sure that this was a particularly dense patch of dinoflagellates. I have encountered the species *Noctiluca* in the same region of the Mediterranean and it gave some of the brightest luminescence I have ever seen. It is obvious from the visibility of the other ship by its glowing bow why the navies of the world spend a lot of effort studying the distribution and causes of bioluminescence.'

# RAINBOW

## North Atlantic Ocean

m.v. *Vine*. Captain G. Hepple. Rotterdam to Newport News. Observers: the Master and Mr B.G. Hardy, Chief Officer.

15 November 1994. At 2105 UTC a ghostly-pale arc became distinctly visible across the vessel's bows. This proved to be a 'moonbow', and over the next few minutes it intensified to the point where the colours of the spectrum became visible to the naked eye. The moon bore 098° at altitude 30° 15′ and the bow

extended from 20° on the port bow to 45° on the starboard bow while its zenith was about 15° above the horizon. The phenomenon lasted for about 10 minutes before fading away but it reappeared with less intensity some 30 minutes later.

The wind was NNE'ly, force 6, pressure 1012.0 mb, air temperature 17.5°, wet bulb 16.5° and the cloud cover was 6 oktas of stratus fractus and cumulus fractus.

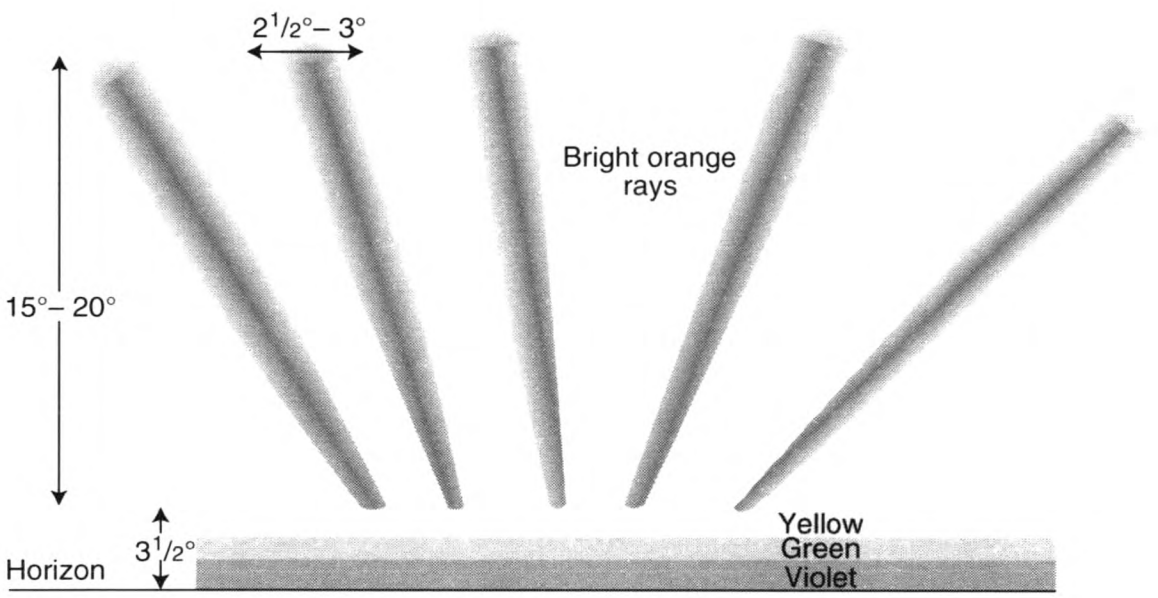
Position of ship: 37° 47′N, 48° 45′W.

## CREPUSCULAR RAYS

### South China Sea

m.v. *Taunton*. Captain J.A. Smeeton. Kakogawa to Singapore. Observer: Mr P. Dagupta, 3rd Officer.

10 December 1994. At 1000 UTC, about 30 minutes after sunset, bright-orange coloured rays diverging from each other were seen radiating upwards from the horizon in the western sky, see sketch.




The colouration just above the horizon was in horizontal bands; firstly a deep violet slowly fading, then a thin green band with a yellow band on top, slowly fading. These bands extended to about 8½° above the horizon whilst the orange rays lay between 15° and 20° altitude, being about 2½° to 3° wide at their widest point. A slight orange haze was also present. The phenomenon lasted for roughly 20 minutes.

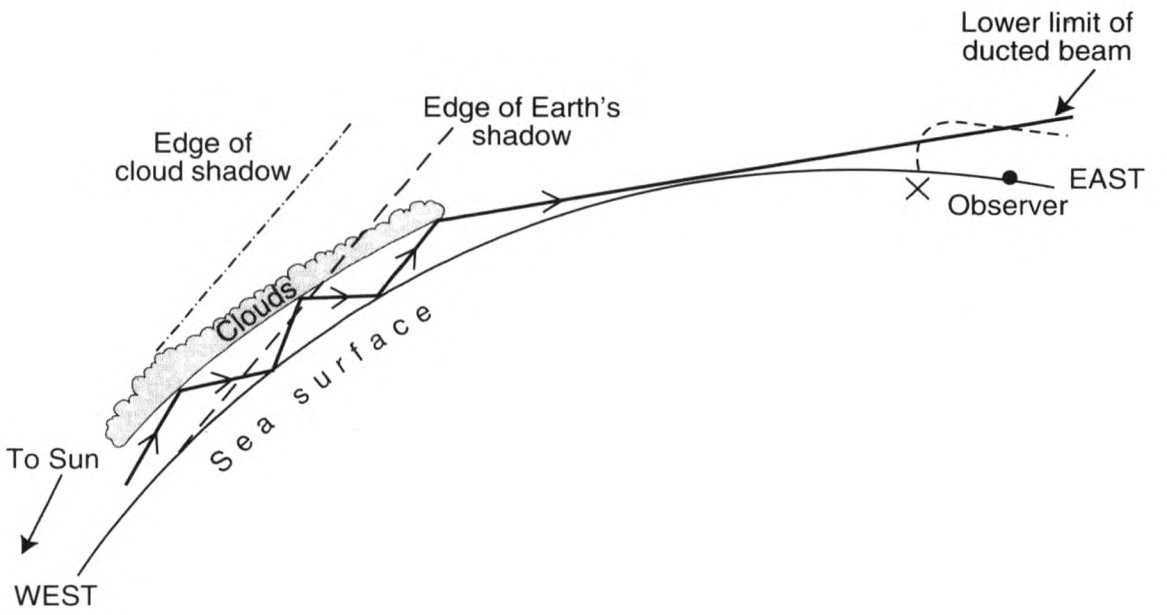
Weather conditions at the time were: air temperature 26.5° wet bulb 23.0°, pressure 1010.5 mb, wind SSE'ly, force 2.

Position of ship: 18° 02′N, 118° 54′E.

*Note*. Dr R. White, Director of Theoretical Research, Institute for Research in Meteorological Optics, comments:

'To deal with the easy bit first. Yes, this is a display of crepuscular rays, though really the crepuscular rays ( which are presumably of a fairly normal sky colour, though this is not stated) are the parts between the orange "rays" shown. In this case they are probably the shadows of clouds far to the west (sometimes mountains can act similarly but this is unlikely here since by the atlas it seems that the nearest land was over 500 miles away).

'Now for the tricky bit, the bands of colour parallel to the horizon. I must confess I have never seen a report quite like this one and I am a little puzzled, though I do know a few possible parallels. One possibility as to what is going on is suggested by the presence of the clouds which the crepuscular rays imply.




'In the absence of the clouds, the only light the observer can receive (even indirectly) from the sun is that from parts of the atmosphere above the edge of the Earth's shadow. This is the orange light shown in the observer's sketch, and has traversed a long path through the atmosphere including a stretch very near the Earth's surface so that the preferential scattering of blue has left so little of that end of the spectrum in the direct light that even the light scattered from it now contains a preponderance from the red end of the spectrum. This fades coming away from the western horizon as the sun's rays pass up into the atmosphere no longer thick enough to scatter so much, and the path length of the observer's line of sight through the relevant layers gets shorter, and there is less light left in the beam at the observer's end to be scattered. Where there are cloud shadows, the primary scattered light still remains blue because it is scattered from a beam of light that contains a much reduced preponderance from the red end of the spectrum, having passed for a shorter distance and less deeply through the atmosphere (but of course, because it is in much less dense air, there is less scattering so the blue sky is quite dark).

'I think we may possibly explain the bright band along the horizon in terms of the western edge of the area of cloud being just about where the sun was just setting. This would allow for the injection of the maximum amount of sunlight under the cloud base and this could then be, in effect, "ducted" by successive reflections at cloud base and sea surface a considerable distance further east than light of this intensity would be in the absence of the conditions. The reflection at cloud base is diffuse, of course, and that at the sea surface is probably substantially so unless it is exceptionally calm.

'We still have a problem with the colours of the bright strip along the horizon. I am making the assumption that what was seen was a spectral violet (i.e., it really depends on what the observer means by "violet") and that in particular the intensity of spectral red did not increase near the horizon.

'Apart from that, the main difficulty is that whether we assume that these colours are the result of refraction or of scattering, they run in the reverse order from that which would be expected. The only way round this which I can think of which seems to me to be at all convincing, is to invoke some kind of "screen", for which the "haze" in the report seems the best candidate. The haze would need to have an at least partially horizontal boundary reaching the sea surface between the vessel and the nearest cloud, perhaps as indicated at "X" in my diagram. Then the yellow band would be light scattered from the "ducted" beam's intersection with the region of haze.

'I have even wondered whether we could dispense with the ducting altogether, making the top of the yellow band the ordinary twilight arch: however, it would not be normal for crepuscular rays to be seen above this, and I cannot see how the apparent "masking" of the crepuscular rays by the yellow light which is illustrated could arise in that case. A possible query is why the ducted light has not encountered more dust on its longer path than that between the crepuscular rays, and has not so become

even redder. Part of the answer may be that the air under the cloud has been "cleaned" of dust by rain falling through it as compared with the air above the cloud, but more importantly the blue light preferentially scattered off by the air would be remixed with the primary light in a ducting process involving diffuse radiation.

'What about the green band below the yellow? If we try to interpret this as overlap of the violet and the yellow, we would need the violet to be as bright as the yellow (the reference to "deep violet" makes this doubtful) but also some quite independent source for the violet would have to be sought: it would have to have a sharp upper boundary, meaning that it could not have arisen from general scattering off the yellow. If the violet is much less bright than the yellow, we can safely explain it as the result of ordinary preferential scattering of short wavelengths from that yellow (no remixing beyond the duct) by the air, and not producing any noticeable effects by overlap. In that case the green band would almost certainly arise by refraction (and as with the yellow, subsequent scattering off the haze "screen" to the observer), and moist air as expected under the clouds would very likely enhance the greens.

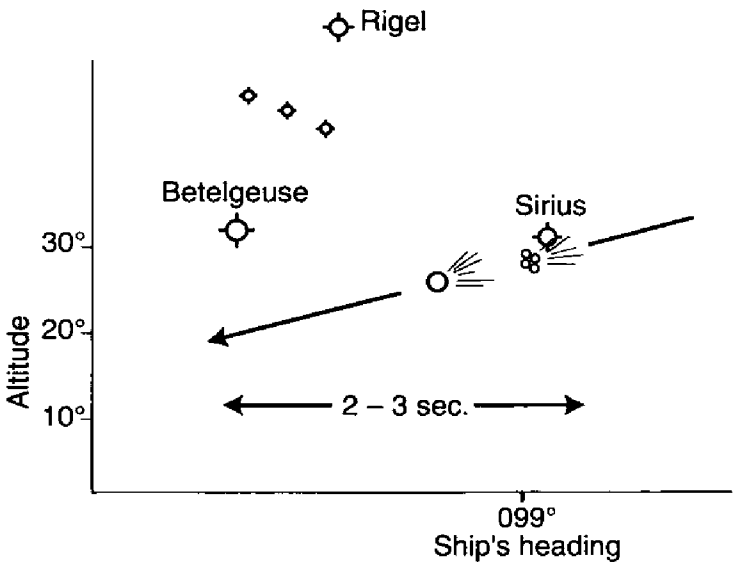
'On second thoughts, it might not even be too difficult to explain a concentration of red near the horizon mixing with blue to give a "violet" that was really a purple (if that was what was seen). This would be an ordinary twilight effect (really the redder, brighter bottom of the orange seen) which would probably not be interrupted in any way by the cloud.'

## METEORS

### South Atlantic Ocean

m.v. *Bora Universal.* Captain R.J. Kendall. Paranagua to Durban. Observer: Mr A. Oginski, 3rd Officer.

2 December 1994. At 2350 UTC whilst on a course of 099°, a group of meteors was sighted in the proximity of Sirius and consisted of one large meteor which was white in colour and apparently of the magnitude of Sirius, followed by three or four smaller ones, also white.




As shown in the sketch, the initial altitude of the meteors was about 30° and they disappeared at an altitude of 17°. The sky was clear and cloudless and the meteors were visible for 2–3 seconds.

Position of ship: 27° 56'S, 31° 49'W.

### Eastern North Atlantic

m.v. *Tonbridge*. Captain I. Kaye. Tranmere to Kuwait. Observer: Mr A.H. Hamdy, 3rd Officer.

29 October 1994. At 2150 UTC a large, bright meteor was sighted on the port side of the vessel. Appearing to fall from Aldebaran, or between Bellatrix and Aldebaran, it proceeded to travel for 4–5 seconds towards Menkar.

During the period the head of the meteor was obviously white in colour and was noted to be brighter than any other star, having a magnitude of about −1.6, the same as Sirius; there was also a golden-yellow coloured tail making not less than about 2° of arc.

Position of ship: 41° 07′N, 11° 16.4′W.

*Note*. Mr H. Miles, Director of the Artificial Satellite Section, British Astronomical Association, comments:

'The phenomenon was typical of that produced by an average fireball, generated when a small fragment of interplanetary material entered the atmosphere and decayed.'

## AURORA BOREALIS

### North Sea

m.v. *Superiority*. Captain P. Whitehouse. Uddevalla to Wicklow. Observer: the Master.

24/25 October 1994. Between 1915 and 1945 UTC a short auroral display was seen. It commenced at 1915 as a homogeneous arc lying from 290°–035° at an elevation of about 15° but contracted to about 320°–020° at 1945. At this point some rays were visible at the western end of the arc.

Position of ship: 58° 15′N, 02° 12′W.

m.v. *Selectivity*. Captain T.L. Jeffery. United Kingdom east coast passage. Observer: Mr I.A. Marson, Chief Officer.

28/29 November 1994. The vessel was proceeding on a northerly course up the north-east coast of England on an exceptionally clear night with very little cloud (1 okta cirrus to the south-west) and stars visible to within 5° of the horizon when, at 0220 UTC, a pale glow was observed on a true bearing of 000°–025° at an altitude of 10°–15°. This glow was identified as an auroral patch as shown in the *Marine Observer's Handbook*. The patch showed no colours and stars were visible through it. From time to time the patch doubled in size but this was not so much a pulsating enlargement however, it was suddenly bigger and then just as suddenly smaller again. The patch finally disappeared at about 0300.

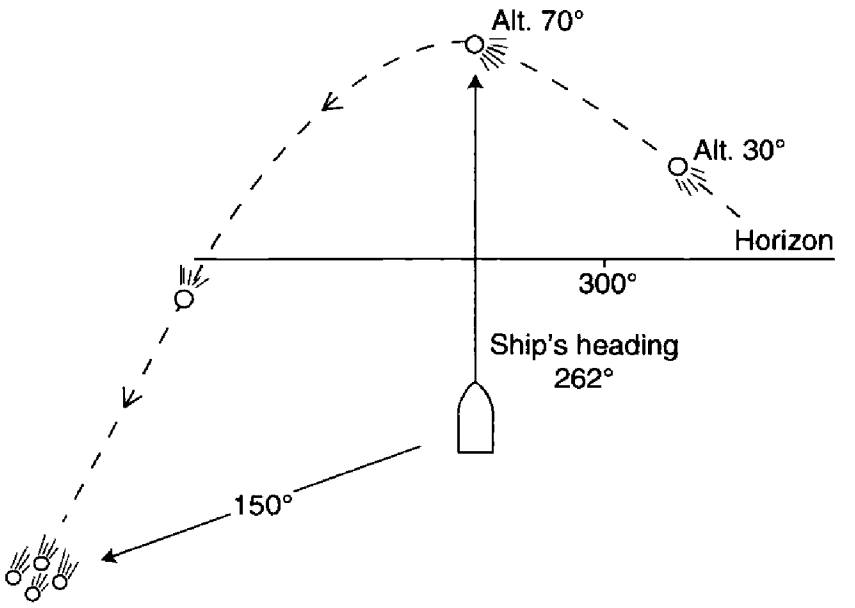
Position of ship: 55° 30′N, 01° 30′W.

## UNIDENTIFIED LIGHT

### North Pacific Ocean

m.v *Pacific Crane*. Captain G. Dodsworth. Panama to Japan. Observer: Mr T. Bannister, 2nd Officer.

1 November 1994. At 1257 UTC a very high intensity light appeared bearing 300°, altitude 30°. It rapidly crossed ahead of the vessel, gaining height to reach an altitude of about 70° as it passed the ship's heading of 262°, see sketch.




The object, which had a long white tail visible throughout the event, branched into four during the final 30 seconds of the sighting and disappeared at 1259 on a bearing 150°. The sky cover was 5 oktas of stratocumulus but the phenomenon was highly visible through the cloud.

Position of ship: 21° 39.6′N, 169° 54.4′W.

## VOLCANIC DEBRIS

### South Pacific Ocean

m.v. *Clydebank*. Captain D.E. Ginder. Lautoka to Noumea. Observers: the Master, Mr A.D. MacPherson, Chief Officer and members of ship's company.

4 December 1994. Whilst on a heading of 245° at 16.5 knots numerous streaks and patches were observed all around the vessel between 0000 UTC and 0100. On transiting these patches it was seen that they were made up of volcanic debris such as pumice dust and what was assumed to be sulphurous remains. The streaks were distinctly yellow in colour (hence the assumption that it was sulphur) and aligned themselves along the wind direction giving a 'greasy' texture to the sea surface and a worried look to the faces of the engineers.

The wind was SE×S'ly, force 3 and two distinct swells were predominant, the first being 150°, period 6 seconds, height 2 m while the second was 200°, period 12 seconds, height 3 m but the swell was definitely a little confused. A report of the sighting was sent to Auckland Radio for their information.

Position of ship: 19° 55′S, 172° 39′E.

*Photo. by A. MacCallum*

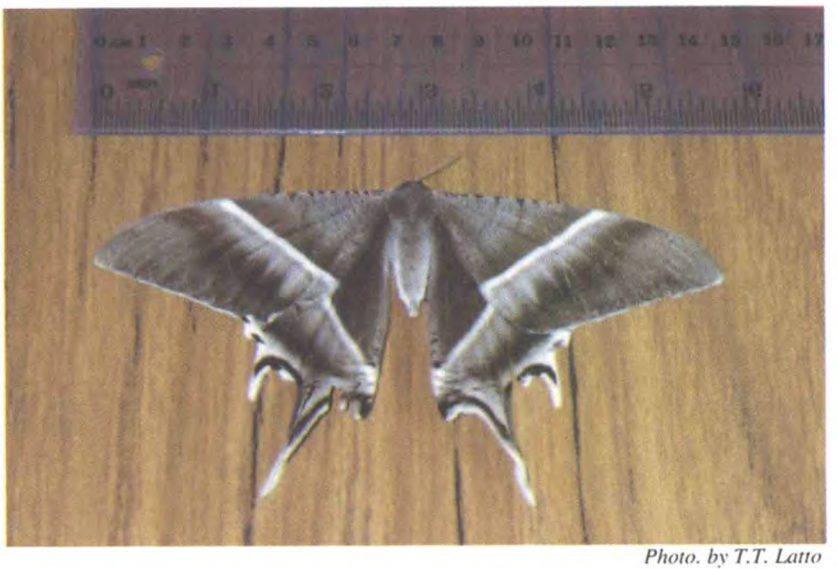


*Photo. by T.T. Latto*

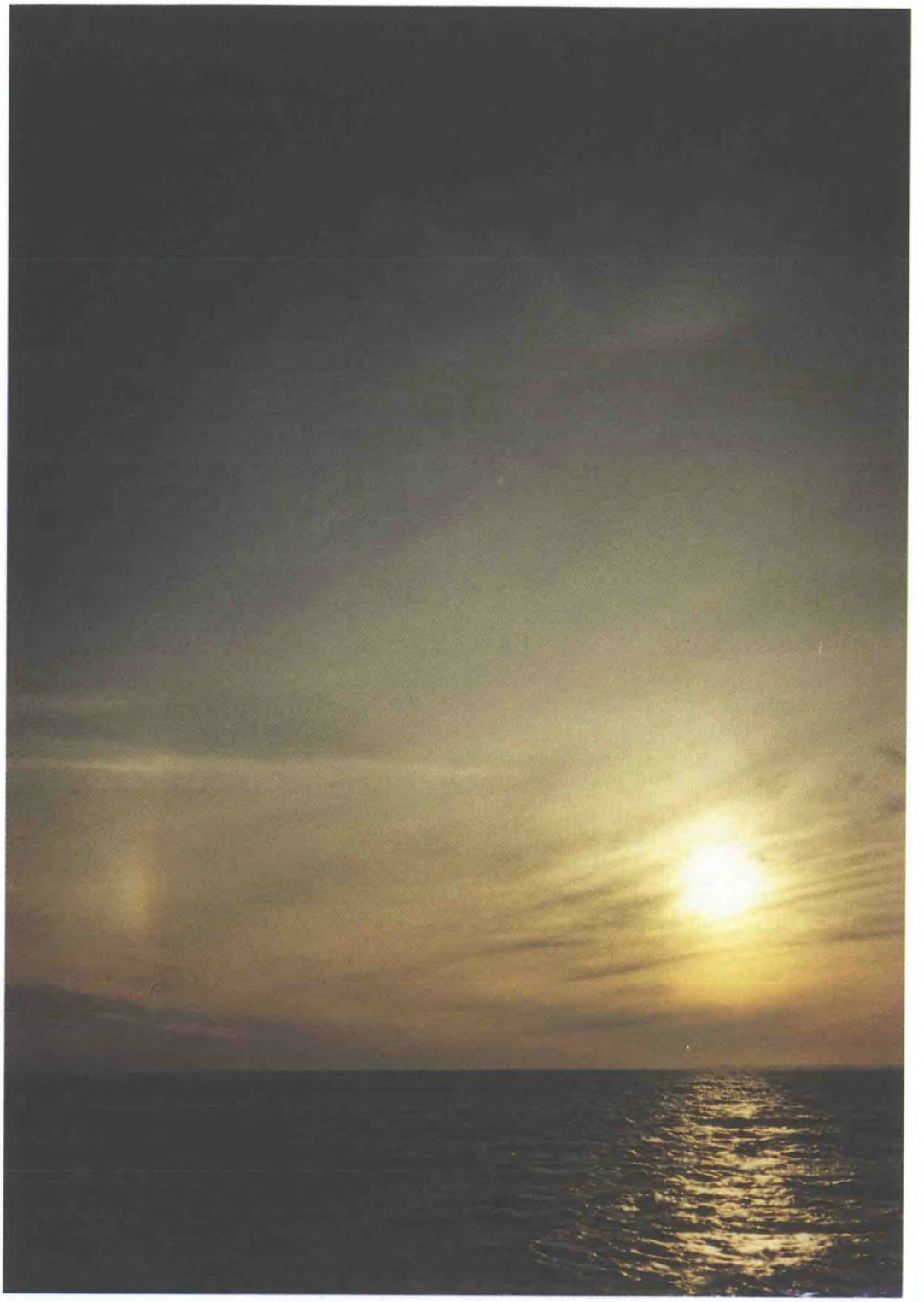
Above: Leachs' Storm Petrel and Captain H.A. MacKenzie on board the *Vigilant*.
(See page 172.)

Left: Rain Moth on board the *British Skill*.
(See page 174.)

Below: Raft and liferaft from the *Morro de Puercos* as found by the *Lincolnshire*.
(See page 191.)

*Photo. by G.J. Simpson*

# SCENE AT SEA



*Photographer unknown*

Solar halo photographed from the *Selectivity* on 24 September 1994.
Dr R. White, of the Institute for Research in Meteorological Optics, noted this interesting observation and said that the increased colour above the sun is due to those ice crystals that tend to keep their hexagonal cross-section vertical (through being elongated at right-angles to this). The colour to the side is due to those crystals that tend to keep this cross-section horizontal (through being thin at right-angles to it) due to aerodynamic forces.

## SCENE AT SEA *(contd)*

*Photo. by Captain P.W. Jackson*

Cirrus cloud showing cross-wind striation at two levels, with a fog-bank below. Pictured from the *Seki Cedar* whilst off Cape Finisterre at 0800 UTC on 19 November 1994.

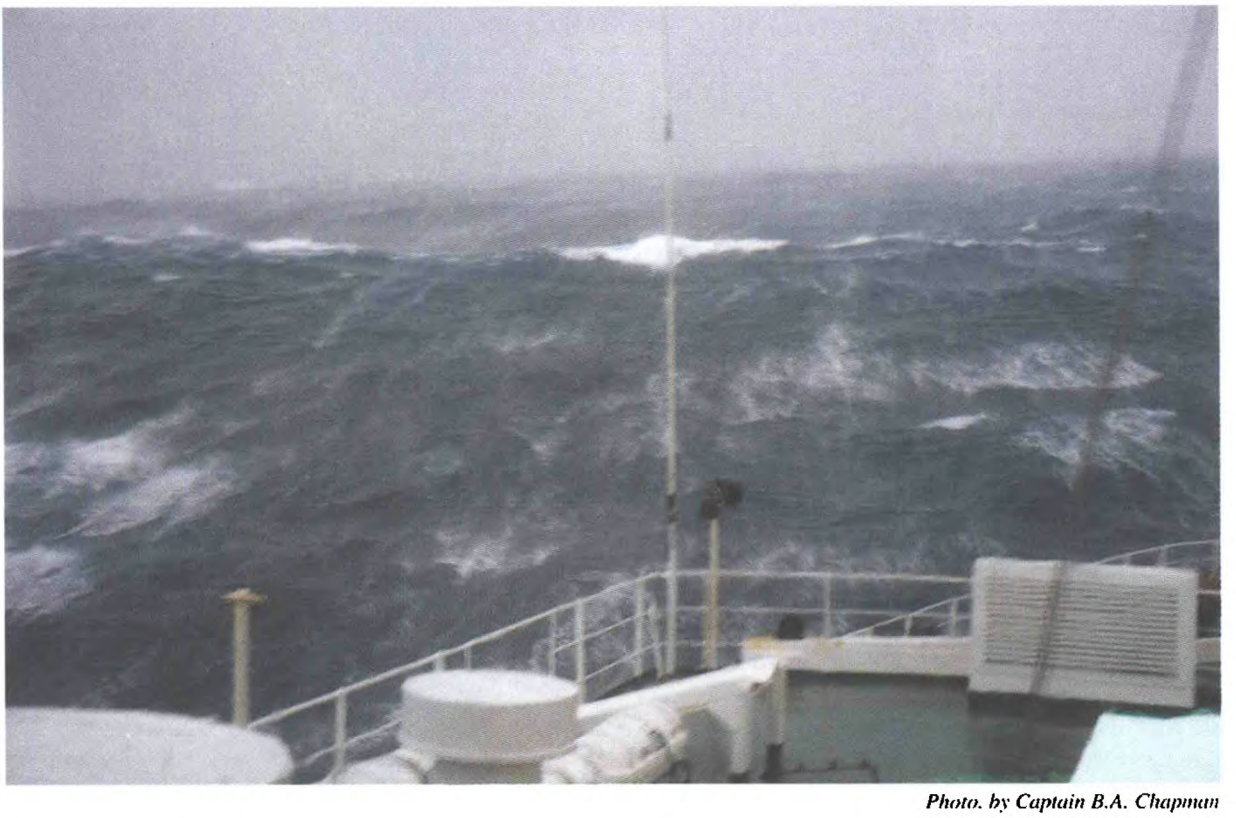


*Photo. by Captain B.A. Chapman*

Very rough sea with swell waves of 9m or more from trough to crest experienced by the *Cirolana* in 50-knot winds at 1100 UTC on 13 November 1994 in position 59° 32.5'N, 01° 43.4'E. Height of eye 10.6 m.

## SCENE AT SEA *(contd)*

(a)

(b)

(c)

(d)

Birds photographed from the *Barabara E* during October and November 1994 whilst *en route* between the Falkland Islands, Ascension Island and Tenerife:

(a) Wandering Albatross (*Diomedea exulans*)
(b) Northern Giant Petrel (*Macronectes halli*)
(c) Pintado Petrel (*Daption capense*)
(d) Masked Booby (*Sula dactylatra*)

e) Sleeping visitor thought to be a South American Sea Lion

(e)

*Photos. by I.C. Oke*

# Current Practices

In the second of our short series of articles on the practice of ocean current observing, we reprint the final section of an article published ten years ago, the first part of which was published in the previous edition. In later editions we will discuss today's methods and look into the crystal ball to try and divine the future for obtaining reliable ocean current data.

# The Reliability of Surface Current Observations II*

By G.E. Venendaal§

For more than a century and a quarter ships' crews of the voluntary observing fleet have made meteorological and surface current observations. Those observations recorded in the ships' logbooks are the backbone of the Marine Archive now held in the Meteorological Office, Bracknell, U.K. Much use is made of computer processing for providing suitable statistical data which form the basis of maps and current roses. This article outlines the method of processing used in the Netherlands, illustrating various situations the observer at sea may encounter. The supposition that the use of modern navigation equipment could hamper the making of current observations is discussed, and situations that could cause the reduction of accuracy and reliability of current mean values are mentioned. In essence: how reliable are surface current observations from ships collected in the past few years, and particularly those that will be collected in years to come?

## 5. Representativeness

In the foregoing situations it is clearly possible to deduce the mean current affecting the vessel over a distance between the two fixes when the DR plot was started and finished. The ideal current observation would represent the purely non-tidal movement of water at a single point at a given time, the absolute current velocity (which will be examined later). Such an observation has not been made in practice from a ship on passage but departure from the ideal does not usually decrease the value of the results to a serious extent so long as certain terms, conditions and limitations are heeded.

*Course.* In determining the Sea-position it is important that the course or courses should be corrected for leeway so that the difference between Sea-position (or DR position) and fix is not due to a combination of wind and current effects. The course is corrected by adding the estimated leeway-angle when the wind is coming in from the port side, and by subtracting that angle when the wind is coming in from the starboard side. If doubt should arise about the appropriate allowance for leeway (during gales), an observation should not be recorded. The use of modern electronic navigation equipment could be of great advantage in that position accuracy increases considerably. In the case, however, that Satnav, Loran, Decca, radar and the like are sensors in an integrated navigation system interfaced to an adaptive autopilot, the observation data cannot be used. Such a system is very well capable of keeping a ship on a preset ground track but corrections are

*Reprinted from *Journal of Navigation*, May 1985, by courtesy of the Editor.
§Netherlands Maritime Information Centre, Royal Netherlands Maritime Institute.

not noted or recorded. At best the total deviation or course correction can be presented, but the value represents the resultant of all offset-causing influences like wind, current, Coriolis force, evasion, give-way manoeuvring, etc., sometimes distinguishing between course offsets caused by the ship and those caused by the weather. An example of such a ship's plotted track is shown in Figure 7. Course corrections are automatically put in by the navigation equipment and executed by the autopilot.

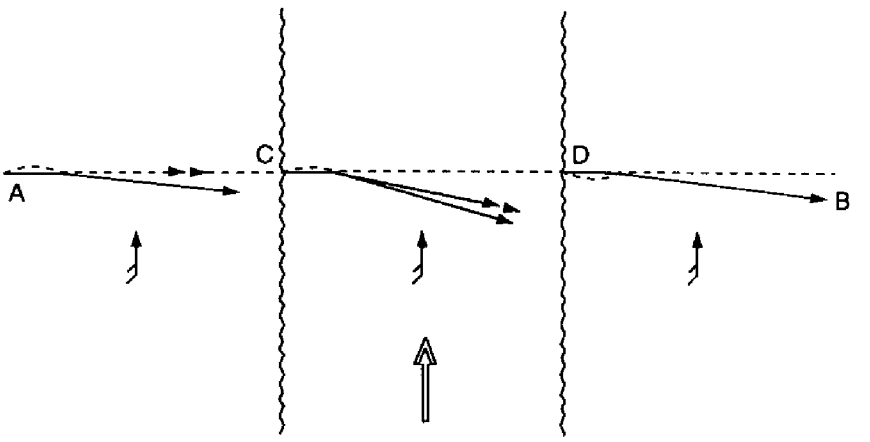



Figure 7.

*Speed and distance.* As important as correcting the course is the accurate recording of speed through the water. All observations with speed or distances measured with respect to the sea bottom are unsuitable for processing. This could be the case when a distance was recorded with:

(a) A distance-meter as part of satellite or inertial navigation equipment (distance made good).

(b) The aforementioned integrated navigation systems interfaced to an adaptive steering gear or an 'intelligent' autopilot.

(c) A Doppler log on 'bottom track'. One can imagine a ship being at anchor with a zero-indicating Doppler log, and a watchkeeping officer paying out the chain just to prevent the anchor from dragging due to a 3 knot tidal current.

Even the data from a Doppler log in the 'water track' mode can be less reliable because the set and drift of the reflecting layer are not known. Besides, this layer can be positioned from 6 to 24 fathoms (or more) beneath the ship's keel, not necessarily indicating the surface current.

*Absolute current velocity.* It has been suggested[2] that the measurement of the horizontal water velocity can be accomplished by means of newly developed shipboard acoustic profilers. The principle of operation of an acoustic profiler is based on the Doppler shift measurable in the acoustic back-scatter return from zooplankton in the upper ocean[3]. If the returned signal is due to zooplankton alone, then the Doppler shift is a measure of the velocity of the water relative to the ship. But when Navstar GPS is used by that ship for navigation and position fixing, then the measured water velocity is relative to an Earth-fixed coordinate reference. In other words, an observation made by an acoustic profiler in conjunction with Navstar GPS produces an absolute current velocity, which looks more like an Eulerian method of current measurement than a Lagrangian one. Ocean current mean values of the latter, represented in atlases, maps and current charts, contain the deviation of the observing platforms caused by the often

neglected Coriolis force. One should bear in mind that an 18 knot VLCC experiences a drift angle of 1.8° at 45° latitude, resulting in a drift of 14 n.mile per 24 hours, exclusively caused by the Coriolis force[4]. When the speed of that vessel is reduced to 2 knots, the drift angle increases to 5.3°. The Eulerian method, on the contrary, applies to fixed points where current vectors are (mostly simultaneously) measured by fixed current meters.

## 6. Conclusion

Ships are nowadays equipped with modern electronic navigation systems, Doppler logs, adaptive autopilots and so on. The advent of advanced electronic equipment benefits the (questionable) economic need for fuel saving by steering a ship along the shortest distance between two points, at the same time phasing out the possibility of obtaining data of the vessel's movement with respect to the water. Navstar GPS, for instance, with its 30 yards positioning accuracy, has the 'advantage' that corrections can be applied continually to compensate for any set to one side or another of the intended course. *In the decade to come it will be almost impossible for the voluntary observer at sea to collect the correct data for current observations.*

*This said, one could question the reliability, or representativeness, of the surface current observations from ships on passage, collected in the last few years, and even more so those that will be collected in the future.*

The Marine Archive has been mentioned. Observations have been collected over a long period of time; yet the number available is not large enough, particularly in view of the fact that seasonal (or even shorter periods of time) changes in the pattern of currents occur in some areas. There is a need for observations of currents over comparatively short distances to show local variations. The World Meteorological Organization intends to prepare a climatological atlas for the whole world, based on observation data over the period 1961–1990, stored in the Marine Archive. Ocean current data will be included 'for the benefit of shipping' provided that reliable observations can be made in the years to come.

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3. Mohan, S.N. *J. Astronaut. Sci.*, **31**. p.281, 1983.
4. Venendaal, G.E. *De Zee* (in Dutch), **10**. p.193, 1981.

# Services to the Marine Community*

By Captain G.V.Mackie

For the majority of modern city dwellers, the impact of what we call bad weather has little more than nuisance value. Raining? Turn on the windscreen wipers. Very cold? Turn up the central heating another notch. Very hot? Check that the air-conditioning is working.

Previous generations were more vulnerable to local vagaries in the weather than we are today. The food in their mouths depended on the weather in their particular district, and they became very knowledgeable in predicting for that district just what might be expected to happen to the weather in the next few hours or days. If the crops could be brought in before the heavy rain came, that was a matter of life and death to the smaller, more isolated communities of our ancestors. Modern transport and communications have reduced human vulnerability to the vagaries of weather and climate. However, there are still groups which are continually vulnerable to the effects of adverse weather, and for whom avoidance of heavy weather is still ultimately a matter of life and death. Mariners form one such group.

All of us know what the weather is doing here and now. But mariners have a need to know what the weather will be doing *there* (where they intend to be) and *then* (when they expect to get there). Knowing what the weather is doing *there* and *now* might give them very strong indications that *there* will not be a pleasant place to be by *then* and *elsewhere* would be much better.

It is therefore not surprising that mariners were among the first to set up national and international weather services, seizing upon the opportunities offered by the invention of the electric telegraph: at last there was an opportunity to know what the weather was doing *there* to predict from the facts what it was likely to do *here* — and take action accordingly. While rural communities had always had their legendary weather lore, meteorology as a science had previously been the province of private individuals studying for their own interest and satisfaction.

Lieutenant Maury of the U.S. Navy was one such individual, and when he was appointed to the Department of Charts and Instruments in Washington D.C. in 1841, he made the most of his opportunities to collect data on winds and ocean currents to advance his studies. As well as using archive data, he prevailed on vessels of the navy and mercantile marine to make abstracts of weather conditions from their deck logbooks. Using these data he was able to compile and issue a trade winds and current chart for the New York to Rio de Janeiro passage. His only condition for issuing the chart was that he should receive weather information from the vessels' logs. The value of his charts became apparent when the average passage time to Australia was reduced from 124 to 97 days. The very beginnings, perhaps, of what today we call *Weather Routeing?*

In 1853, the U.S.A. called a conference of western maritime nations in Brussels in order to consider the benefits of co-operation and the establishment of uniform systems of observing, reporting and instrumentation. This conference was convened for the express purpose of improving navigation and led directly to the setting up of national weather services in all the participating countries by 1858, namely the U.S.A., Britain, France, Belgium, The Netherlands, Portugal, Norway, Sweden and Denmark.

*Summary of a paper presented by the Met. Office Marine Superintendent to the Intergovernmental Oceanographic Commission at WMO Headquarters, Geneva, in March 1995.

The U.K. Meteorological Office was established in 1854 as part of the Board of Trade by Admiral FitzRoy. Incidentally, the word 'forecast' appears to have been invented by Admiral FitzRoy. Like Lieutenant Maury, Admiral FitzRoy had always had a great interest in weather as it affected ships and navigation.

The single factor that enabled both these gentlemen to realise at least some of their ambitions, was the invention of the electric telegraph. This allowed messages to be received on a daily basis from widely separated areas and a clearer picture to be obtained of weather systems. By 1861 Admiral FitzRoy was able to record that '22 reports are now received each morning (except Sundays) and ten each afternoon besides five from the Continent' and during that same year the vessel storm warning cone system was devised, which was regarded as a great step forward in the utilisation of meteorological knowledge. That system of storm cones was to continue in the U.K. for well over 120 years.

Ever since the time of Lieutenant Maury and Admiral FitzRoy, the range of meteorological services offered to mariners has been steadily expanding. Every advance in communications seems to have been utilised as it became available: W/T weather reports were first transmitted to shore by transatlantic liners in 1909, the International Ice Patrol was introduced in 1912 following the loss of the *Titanic*, and in 1919 after the end of the World War I, broadcasting of weather shipping bulletins was started.

The following decade saw the introduction of defined areas in the weather bulletins for shipping such as those first broadcast for U.K. waters in January 1924. These areas were later redefined to accommodate the need for shipping forecasts to cover a wider area — the high seas forecast. Both the transmission mode, W/T by Morse Code, and the areas changed little until 1979, when the International Maritime Organisation (IMO) resolved to make use of the latest developments in marine communications, in particular satellite communications, and at the same time reflect a greater level of international co-operation between maritime nations of the world. This saw the establishment of the Inmarsat Organisation. On the initiative of the IMO, member states of all interested bodies, the International Hydrographic Organisation and the WMO adopted the Global Maritime Distress and Safety System (GMDSS) in 1988, establishing a worldwide search and rescue plan with its supporting communications networks as its central theme. The promulgation of meteorological warnings and forecasts to shipping forms part of the GMDSS. The new communications equipment now required on board ships for GMDSS depends not on their tonnage as previously but on the sea areas in which they sail. In general terms this means that the further from coastal waters a vessel ventures, the more comprehensive must be her communications equipment. The GMDSS network permits the automatic receipt on board ship of navigational and weather information relating to ship safety by radio telex, telephony and satellite communications. Under the GMDSS the requirement to carry a radio officer ceases. The formal introduction of GMDSS took place on 1 February 1992 and the gradual introduction of the system means that full compliance by all ships will be required by 1 February 1999.

The GMDSS is an example of how international shipping has responded to the concern of governments; this is reflected in international treaties and hence in national legislation concerned with improved safety of life at sea, safe navigation, and effective control of marine pollution and damage to the environment. There is at the same time pressure to operate ships more effectively and economically. The trend towards large ships sailing with reduced crews will continue. It is therefore

imperative that the various types of information presented to the Master and his Officers visually and automatically, are clear and unambiguous and in presentation do not require further interpretation or extrapolation, whilst recognising their professional competence and training.

Whilst it was over a century ago that our primary efforts were directed to enhancing the safety of ships in transit on the open oceans, it has since become obvious that we must, to an extent, redirect our emphasis to the main ports and harbours and coastal environs. It is here that the superships, which are designed to cope with high seas conditions successfully, are most vulnerable to small variations in meteorological and oceanographic conditions, and to errors of judgement by harbour pilots and shipmasters. There is a perceptible change in approach to the provision of essential forecasts, and warnings of meteorological and oceanographic conditions.

It is widely known that superships are taxing all aspects of ports and harbour developments around the world. Very high expenses are associated with ships waiting their turn to navigate shallow and narrow channels; when underway in close confines the costs of small errors in judgement become enormous. The threat of a major disaster also grows enormously, whether it be by collision, fire, a spill of toxic substances, flooding or other marine casualty; the resultant regulatory burden becomes even heavier.

This seminar is focusing on a specific element of data capture which it is envisaged will form part of environmental information required by a port equipped with modern facilities. These services may be defined as:

1. A real-time observing and reporting system that provides a continuous stream of meteorological and oceanographic parameters.
2. Precise mesoscale analyses and forecasts of weather and water conditions in channels, fairways, docking areas and anchorages.
3. A central facility in which the continuously acquired data are evaluated, processed and prepared for dissemination.
4. A near-real-time forecast and warning data dissemination system that ensures continuous delivery to the users in minimum elapsed time.

These port services will necessarily have to deal primarily with current conditions, but they will also routinely provide outlooks to 12 and 24 hours. Harbour Masters, pilots, dock superintendents, disaster control officials, shipping companies will all demand a steady stream of this type of information, which will be processed by a knowledgeable team of environmental experts, including oceanographers: a system to be developed, much like the aviation industry's air traffic control centres, where all aspects of the marine environment will be directed to the safe, efficient and rapid conduct of marine business in confined conditions. Surface-based radars must play a significant part in the provision of the required data.

It is interesting to note that the first recorded application of weather phenomena detected by radar was made in the Royal Naval ship H.M.S. *Nigeria* in 1942. Frontal precipitation was detected on a wavelength of 7.5 metres, but the information, though valuable, was uncertain, and it was only with the later development of sets operating on centimetre wavelengths that more definite results were obtained.

As one moves farther from the shore, the density and diversity of marine activities become correspondingly reduced. Nevertheless safety, economy and

efficiency are primary objectives of the offshore oil and gas industries. Dissemination systems and forecast updating requirements are perhaps more critical for services to the offshore industries, as it is appreciated that an offshore operator must take into account the extended outlooks so that he may plan intelligently.

In conclusion, we should recognise that the user-community which we serve also constitutes a vital part of the surface meteorological and oceanographical observation programme, which is essential to the production of forecasts and warnings, especially in maritime coastal regions. The data acquisition and process system necessary to support the services to ports and harbours, shipping and the offshore industry must therefore be an essential component of the total programme. It should become a fully shared and mutually beneficial enterprise.

# Search and Rescue activities and current observations on board the *Lincolnshire*

(By A.B. Fleming, Principal Observing Officer, m.v. *Lincolnshire*)

The first account details the activities of the vessel (Master, Captain R.A.F. Edwards) during a Search and Rescue situation on 23 December 1994, and also comments on the current experienced during the incident. On 31 January further observations of current behaviour were made in the western Caribbean.

Whilst on passage from Stockton CA. to Panama the vessel was 12 n.mile south of the Panamanian coast, just outside the Gulf of Panama, when at 0340 Local Time the vessel was contacted by the U.S. Air Force by Satcom phone and informed about a vessel in distress in position 06° 57.8'N, 79° 22.5'W. Five persons had been reported to have taken to a liferaft and that a flare had been sighted in the area by a U.S. aircraft. The raft was equipped with flashing strobe lights. After the Master was informed, the decision was taken to alter course to the position given by the U.S. Air Force.

The following are extracts from the log of the vessel. All times are Local (UTC-5).

0342: *Morro de Puercos* bearing 327° × 11.7', a/c to 098° to proceed to given position.
0610: RCC (USCG Panama) in contact and give vessel a computer predicted position for which to proceed. This position 06° 50'N, 079° 27'W. v/l a/c to 140°.
0653: Vessel on scene of distress, commence Expanding Square Search Pattern.
0728: RCC Panama in contact and inform that helicopter assistance is 'on the way'.
0824: Sat Fix 06° 54.5'N, 079° 31.8'W, a/c to 047°.
0857: Vessel now back at original calculated position and commences a modified search pattern, (as described below).
0907: USCG helicopter arrives on scene.
1207: U.S. Air Force aircraft whilst rocking its wings crosses ahead of vessel heading on a course of 154°. Vessel a/c to 154° and follows the aircraft.

1231: Liferaft sighted ahead at a distance of 4'.
1245: Vessel informed by RCC Panama that 4 survivors have been picked up from liferaft, and that 3 persons are still missing. Vessel instructed to circle liferaft and to proceed to initial position given by USCG.
1600: Vessel clear of initial search area and released to proceed on passage to Balboa.

On arrival at the scene the vessel commenced an 'Expanding Square Search Pattern' as described in the *Merchant Ship Search and Rescue* manual (MERSAR). After some time this search pattern was improved upon by a modified 'Lateral North-South Zig-zag' search pattern taking into account the wind and current being experienced at the time, the former of which was Northerly, force 4/5. The current was later believed to be in the region of 3 knots.

It was commented that the wind would have had a greater effect on the liferaft than the current but according to the MERSAR manual, the liferaft would be expected to drift at a rate of approximately 1.2 knots. Assuming that the initial position where the survivors took to the raft was correct, the raft had drifted at a rate of 4.2 knots. One reason for the inaccuracy of the USCG position may be that when the raft was located, the ship's rescue boat/liferaft was secured to it (see photograph on page 181), and there is always the possibility that the boat would be more susceptible to effects from currents rather than the wind.

According to the NP 7 (*South America Pilot Volume III*) the current flows northwards along the western Colombian coast and into the Gulf of Panama where it rotates in an anti-clockwise direction and then outward and back into the Pacific Ocean. From observations made during this incident, the current must flow north very close along the coast and then expand out from the Gulf of Panama, from a westerly to a south-westerly direction, as shown in the diagram opposite. The Admiralty Pilot is quoted as saying that the current flows strongly along the western side of the Gulf of Panama particularly in the dry season, and has been recorded at up to 2 knots on the ebb tide from Balboa.

Following the search and rescue operation the *Lincolnshire* continued her passage to Balboa and, on 31 December while stopped and drifting for gas freeing operations *en route* from Panama to Pajaritos, more observations of currents were made in a position south-east of the Yucatan Channel in the western Caribbean.

During previous passages through the Yucatan Channel the vessel had always experienced large amounts of set and the vessel's speed often exceeded 19 knots on a westbound passage, the usual speed being 16.5 knots.

The vessel was stopped for a total of 43 hours and during such time drifted a distance of 103 miles, which would give a drift rate of 2.4 knots. As described in the diagram on page 194, the drift apparently occurred in three stages.

At 2030 Local Time on 31 December the vessel was stopped in 17° 25'N, 81° 30'W (position A); over the next 18.5 hours it drifted to 17° 38'N, 82° 06'W (position B), a distance of 36 miles and setting 291° at a rate of 1.9 knots. From this position at 1500 Local Time on 1 January 1995 the vessel set 268° at a rate of 2.6 knots for 17.4 hours to be in 17° 36.4'N, 82° 58.1'W (position C). The vessel then got under way at 1530 from 17° 32'N, 83° 21'W (position D) to which she had set 258° at a rate of 3 knots over 7.1 hours.

The wind throughout the stoppage was E'ly to NE'ly, force 3–4. Sea temperature was 27° and the weather was good with a maximum of 4 oktas of cloud at any one time.

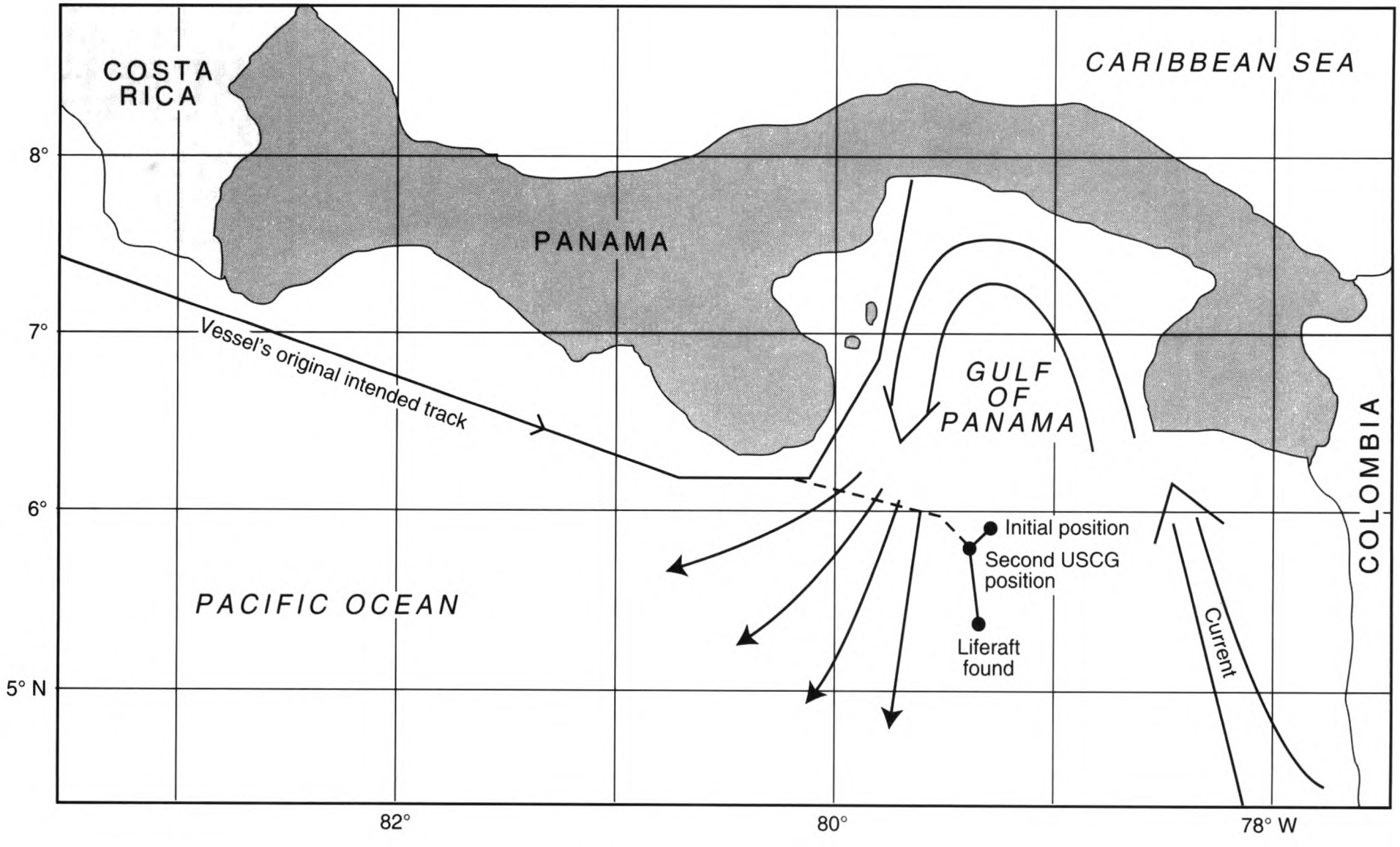
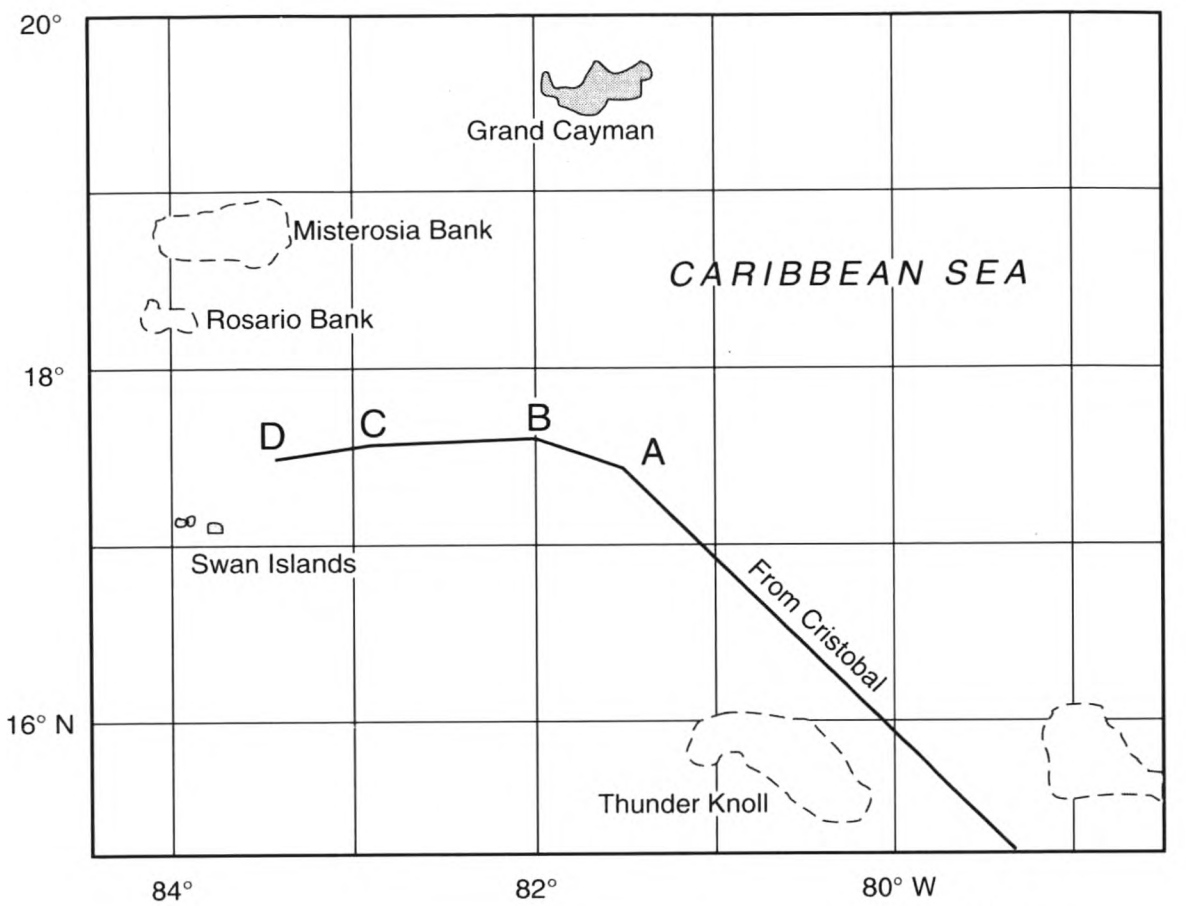



Diagram showing the track of the *Lincolnshire*, position of the liferaft from the *Morro de Puercos*, and the supposed current flow in the Gulf of Panama.




| | | SET | DRIFT | |
|---|---|---|---|---|
| Position A : 17° 25'N, 81° 30'W | Between A and B | 291° T | 1.9 kts | 36 miles |
| Position B : 17° 38'N, 82° 06'W | Between B and C | 268° T | 2.6 kts | 46 miles |
| Position C : 17° 36.4'N, 82° 58.1'W | Between C and D | 258° T | 3.0 kts | 21 miles |
| Position D : 17° 32'N, 83° 21'W | Average Drift : 2.4 kts | Total Distance 103 miles | | |

Set and drift of the *Lincolnshire* whilst stopped between 31 December 1994 and 1 January 1995.

According to the NP69A (*East Coasts of Central America and Gulf of Mexico Pilot*) the prevailing current in the Caribbean is the Equatorial Current which flows up from the north-east coast of Brazil and westwards through the Caribbean. It weakens somewhat by the time it reaches Jamaica but strengthens again once it comes up to the Yucatan Channel. After passing through here, it takes various routes through the Gulf of Mexico where it eventually joins up once more south of the Florida coast to become the Gulf Stream.

# Readers' Survey analysis

By Captain J.F.T. Houghton, Deputy Editor

## Introduction

During 1993 it was decided to conduct a survey of readers' views, for the first time since the inception of *The Marine Observer* in January 1924. The Met. Office Marketing Information and Research Unit (MIRU), in liaison with the Marine Superintendent and staff of the journal, conducted the survey and produced their report in the form of a Post Questionnaire Analysis, published internally in March 1995.

Specially prepared questionnaires were distributed with 510 copies of the October 1994 edition of *The Marine Observer*. This represented 30% of the copies published, and the questionnaires were randomly distributed to readers at sea and on land, including subscribers, asking for them to be returned by 1 February 1995: this date was subsequently extended by one month. The questions asked in the survey document ranged from the company position of the reader, how the journal was used and stored, satisfaction with its contents and layout, and suggestions for readers' and alternative contributions for possible publication.

**Extracts from the MIRU Report**

The aim of the research was to find information concerning reader satisfaction about the journal and its contents. Fifty-seven questionnaires were returned completed, giving a response rate of 11.0%, but not all respondents answered all the questions. The low response rate may not reflect the true distribution of satisfaction levels, as respondents having stronger feelings are more likely to reply than those with indifferent feelings.

*The Marine Observer* is considered an interesting and excellent journal. It is also deemed invaluable as reference material in the education, training and welfare of seafarers, and as a source document. The journal is received regularly by almost all readers and takes an average of approximately 3-4 weeks to arrive. Nearly three-quarters of respondents stated the journal was held for library purposes and regular reference.

Generally, the majority of readers were satisfied with the content and layout of the journal. A few readers however, felt that the Fleet Lists were not updated quickly enough, that they contained occasional mistakes with ships and personnel names, and that the lists should be published more frequently. The majority of respondents were satisfied with the layout although some thought that the style of writing could be more simple and illustrative.

A high percentage of respondents felt that more colour photographs should be included in the journal, which in turn would encourage them to submit photographs if they knew there was a chance of publication. As to content, more comments by experts was suggested and articles on observational hints, technical reviews and how logs are processed were requested. Some respondents felt that too much space was devoted to the Presentation of Barographs and that the Retirements section should be omitted. More space should be given to items about Oil Industry involvement. One respondent suggested that a journal that opened flat would be an asset on board ship. Several readers mentioned that a little more humour by way of anecdotes or topical cartoons could be included.

**Editorial comment**

We were gratified to note the mainly favourable response to questions of satisfaction with most aspects of *The Marine Observer*, despite the very disappointing return rate of survey forms, although replies were received from most classes of reader, both afloat and ashore. With hindsight we now believe we should have resisted the recommendation of MIRU to limit distribution of survey forms to 30% of copies, and asked for a full distribution. We might then have had upwards of 200 readers' views out of a total print run of 1700 copies. As it is, the level of response recorded is seen as not fully representative of the readership as a whole, and we comment accordingly.

All suggestions from respondents will be considered and, unless mentioned in the comments which follow, action will be taken to enhance the journal in accordance with their views. Governing all our operations there are restraints upon the time and resources available to us in the publication of the journal.

On close examination of many of the suggestions, it is clear that the remedy lies with the readers themselves, particularly shipboard correspondents. We have always tried to stress the point that *The Marine Observer* is primarily a journal for and about the active participants of the Voluntary Observing Fleet, and we do our best to make acceptable selections from all the marine observational material that we receive from ships' staff. Naturally only some of this is suitable for publication and a considerable amount of editorial time is spent in editing and compilation to present the items in an acceptable format for final publication. This applies to all input, be it humour, cartoons, technical items and hints on observing. We believe it is the observers at the sharp end who have the most to impart to their colleagues, and this is clear from many responses in the survey, showing that the items most enjoyed are those directly contributed by or related to observers. Needless to say, we always welcome articles of any length, short items and readers' letters for publication.

One of the restrictions imposed upon us in the matter of content is that colour photography is limited to four pages per issue: however, it may come as a surprise to readers to find that we are not often able to fill those four pages to the maximum with acceptable, good quality photographs, either from contributors or sometimes to enhance articles of our own choosing. We realise the difficulties in obtaining photographs at sea which will turn out to be sufficiently clear and interesting when developed, and we never intend nor would we be thanked for publishing photographs where the subject is indistinguishable or so distant as to be almost invisible, no matter how interesting the subject matter. Unfortunately polaroid prints are rarely suitable for publication. In order of preference for printing, transparencies are best closely followed by prints. Clearly the better quality the prints, the greater chance there is that they will be of publishable quality. However, it should be remembered that **any** photograph is better than none at all if it is purely for expert identification and comment, and therefore we ask contributors to continue to send us all their prints of interesting marine sightings for scientific study and comment, which in itself is demanded by readers. All photographic material will always be returned to the senders when requested.

On the matter of Fleet Lists, we will do our best to reduce our errors to a minimum in compiling a long and difficult table. The conditions for the compilation of the main Fleet List are clearly laid out at the head of the list in each July edition. We publish only the details entered (normally by the Principal Observing Officer) in the most recent log to be received from each ship during the previous twelve months, out of the 900 or so logs submitted annually. We strongly recommend Masters to check all the main details in the log, before adding his signature inside the last page and sending it off or handing it over to a Port Met. Officer. In this way, ships can ensure that the details published are as accurate as possible. We do not think it is useful to publish the names of officers on ships they were in more than twelve months prior to the current Fleet List. We have carefully considered requests for Fleet Lists to be published more frequently to provide more up-to-date entries. Once again, unfortunately the time and manpower resources available to us do not permit us to publish the complete list more than once annually: however, we have decided to include an updated list of new

recruits every quarter when the full list is not published, as from January 1995. Thus, the full list will continue to be published in July, and the list of new recruits in January, April and October. Information for these lists will still be needed about 3½ months in advance of publication.

Like our readers, we would prefer to have more expert comment for publication alongside the mariners weather log reports, as well as for provision to the ships concerned for their interest. In some cases, such as for whales and dolphins, also for insects generally, despite our continuing efforts we have been unable to find replacement correspondents for those that have given up doing this for us. If readers could help us in finding suitable experts in the fields mentioned above, who would be prepared to receive regular reports and voluntarily analyse and comment upon them, we would be delighted to hear of them. As with most aspects of compiling elements for the journal, we do not have a budget from which we can offer fees or monetary rewards to contributors.

On the subject of retirements, we were somewhat chastened to read one comment that there was no interest in reading about 'old men' receiving barographs or retiring. We wonder whether the 'young man' who wrote this has now realised that he will one day be an 'old man' himself, and that it is precisely for the good work he is doing now that he may deserve this type of recognition in his later days, as well as to give encouragement to today's young men.

We are most grateful to all those who took the trouble to provide us with food for thought, which is certain to be acted upon and will hopefully improve the journal. I for one will feel that my twelve years as Deputy Editor, most ably assisted by Mrs Jan Freeman, our experienced Sub-editor, whose knowledge as a Scientific Officer is invaluable to the veracity of the publication, will have been worthwhile if even only one of the comments received will have helped to create a better, brighter publication.

Although I will be helping to provide input to a few subsequent issues of *The Marine Observer*, this will be the last edition to be published before my retirement at the end of 1995. May the journal continue to flourish with your help for many long voyages to come.

## Corposants in the Channel

m.v. *Pride of Hampshire*, P&O European Ferries (Portsmouth), Captain E. Banks and Principal Observer S. Ohene, was on her regular return crossing to Portsmouth from Cherbourg on the night of 27/28 July 1994, when the following unusual phenomenon was experienced.

Between 0330 and 0400, as the ship was off Dunnose Head, Isle of Wight, in approximate position 50° 18′N, 01° 06′W, thunder was heard and a blue electric discharge was observed from the port bridge wing dodger. When the area was approached, observers' hair was electrically charged, and when hands were held above the dodger (which is constructed of plastic material), blue electrical discharges up to 65 mm long, similar to a Bunsen burner flame, were seen to come from finger tips. The WNW'ly wind, force 4, appeared to be carrying the electrical charge from the direction of the thunder heard on the port side. Both bridge VHF sets were put out of action whilst this phenomenon lasted. The weather at the time was overcast with 8 oktas of cumulonimbus cloud, the air temperature was 17.1° and sea temperature 15.5°. This phenomenon was enjoyed by Second Officer D. Nixon, Technical Officer R. Nobel and SG1A W. Moore.

# AURORA NOTES OCTOBER TO DECEMBER 1994

By R.J. Livesey

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

Reports of auroral sightings made by mariners during the period under review are summarised in Table 1.

**Table 1 — Marine aurora observations October to December 1994**

| Date | Ship | Geographic Position | Time (utc) | Forms in Sequence |
|---|---|---|---|---|
| 24/25 Oct. | *Superiority* | 58° 15'N, 02° 12'W | 1915–1945 | HA.HA+RR. Max. alt. 15°. |
| 28/29 Nov. | *Selectivity* | 55° 30'N, 01° 30'W | 0220–0300 | P.Alt. 10°–15°. |

KEY: HA = homogeneous arc, P = patch, RR = rayed.

There were no major mid-latitude auroral storms during the period. There was an aurora on the night of 3/4 October which was reported from Scotland through to mid-Canada, and another aurora on 29/30 October that was strong in Canada and the United States. That of 30/31 October was observed from the Isle of Man through to North Dakota in the United States. The October aurorae while lying on the 27-day repeat cycle for coronal-hole generated storms, were also associated with a transient shock-wave in the particle stream arriving at the Earth from the sun and could well have accounted for the stronger auroral activity. This shock-wave compressed the Earth's magnetic field such that the GOES-7 satellite, normally lying in orbit within the field, found itself outside the field as the field boundary contracted to within the satellite's orbital radius.

A further aurora in mid-latitudes was observed on 26/27 November from the Moray Firth through to eastern Canada, and there was another similar aurora on 5/6 December. From October to December in British waters there were in all some 24 event nights. These consisted mostly of quiet glows, quiet homogeneous arcs and sometimes rays. On ten nights auroral light was observed down to the latitude of Portpatrick and equatorwards. On a further nine nights aurora was visible at the Moray Firth from Banff to R.A.F. Kinloss, while on the remaining nights auroral light was observed from Fair Isle and Sumburgh Airport. On most nights of the period some Canadian or American meteorological stations reported the presence of aurora somewhere in North America, the lowest latitude at which it was recorded on any night depending upon the strength of the magnetic and auroral activity as generated by the sun.

In the last year or so there has been a reduction in the number of ships reporting on auroral sightings. At the sunspot minimum in 1976, some 20 ships submitted 70 reports. At the next minimum, in 1986, about 21 ships sent in 50 reports. In 1994, close to the coming sunspot minimum, so far 7 ships have made 10 reports. During the sunspot maximum of 1989, a total of 44 ships sent in 111 reports but these figures were enhanced by the great aurora of 13/14 March which was observed by ships as far south as the Caribbean Sea and as far north as Madagascar.

To examine the pattern of marine auroral observing, the annual number of individual ships and the total of reports received were calculated for the years 1976-1994. The results are given in Figure 1. It was noted that there are no longer

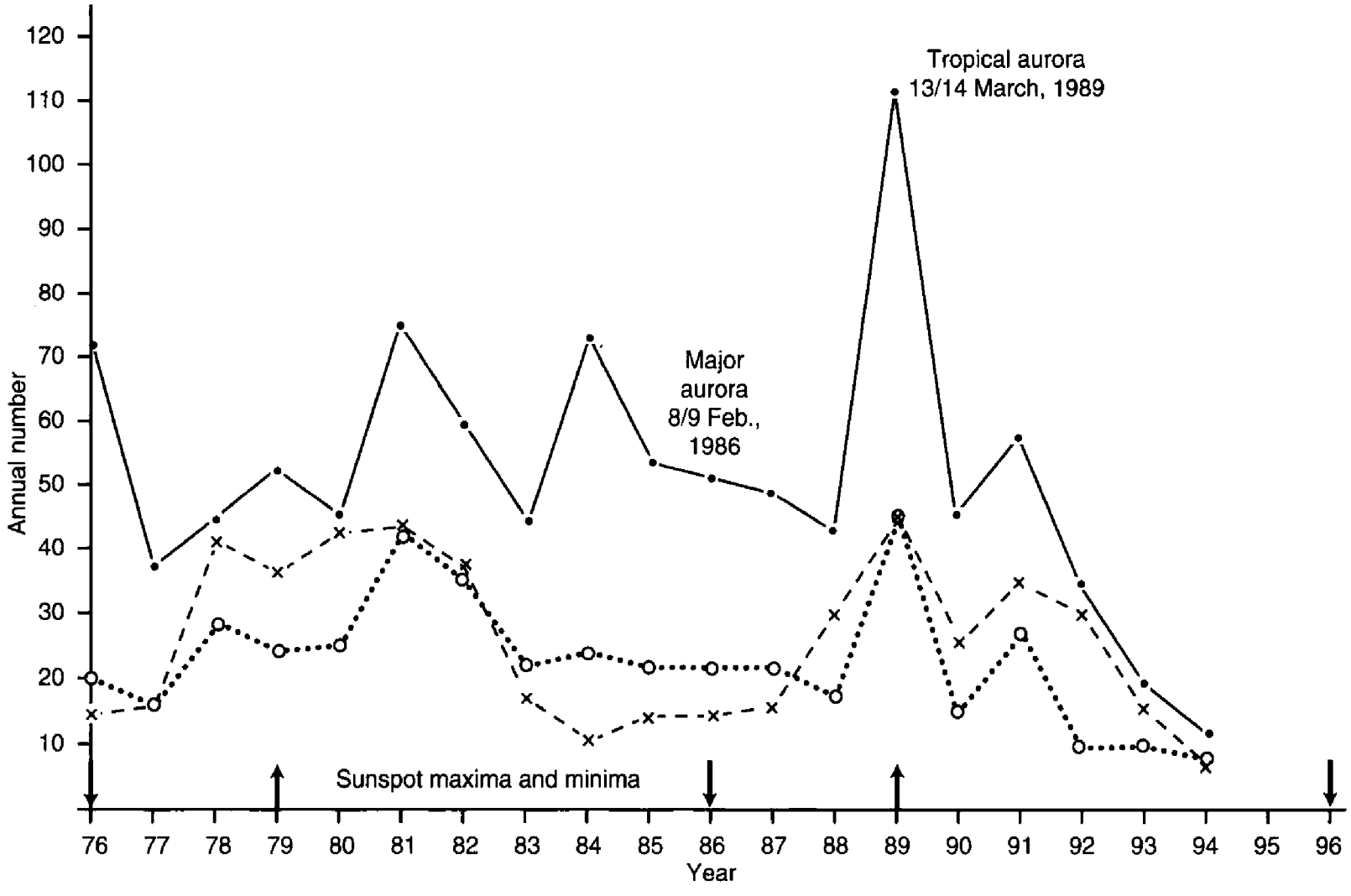



Figure 1. Annual number of ships and the total number of auroral reports 1976-1994.
KEY: x----x Shock magnetic events. ● — ● Marine auroral reports. o·····o Ships making reports.

deep-sea trawlers reporting from the region of the Barents Sea, and some well-known observing ships have not appeared in the lists in recent years. For example, the *Atlantic Causeway* was lost in the Falklands War, sadly. There has thus been evidence of some decline in the number and distribution of ships available to observe the aurora.

Looking now at solar and auroral activity, there is some suggestion in British and American land-based auroral records that as total activity fell from 1989 to 1993, the quiet aurorae comprising glows and homogeneous arcs without rays or movement, remained generally active, for example at the latitude of Orkney, with an upturn in 1994. This could mean that the quieter aurorae being generated by the solar coronal holes prevalent this last year or so, may have been missed by ships that mainly recorded the more active events that were declining in numbers.

As a test of this supposition, the annual frequency of magnetic storm sudden-commencements was determined and added to Figure 1. These magnetic events are associated with shock-waves in the particle stream arriving from the sun, and have a statistical correlation with more active aurorae which spread down into lower latitudes. The correlation between storm sudden-commencements and the number of ships reporting aurora in any year is not exact but it is worth noting.

## LETTERS TO THE EDITOR

### Does the moon influence the weather?

I have not recorded any detailed data relating severity of the weather, the state of the tide, and the phase of the moon. However, for about ten years I have always considered there is a greater risk of severe weather occurring at spring tides, near full or new moon, and for the few days after that period, than there is at neap tides, near half moon and the few days afterwards.

At first this was noticed while trading to tidal ports, where it was imperative to arrive on spring tides for reasons of draft. Invariably, if we were arriving at a time when springs were falling and we were already tight for time, we would always find that the weather would further exasperate our chances of arriving on time. For many years I have joked about the weather being worse at full and new moon, but now I begin to wonder if there is perhaps a pattern.

During the last year I have taken a mental note on each occasion when returning to U.K. waters. Studying the weather maps and using my own experience, I find that, when taking into consideration the phase of the moon, I can usually predict if an Atlantic depression or family of depressions, will deepen and accelerate, or fill and/or occlude itself to a stop. I have found myself expecting Force 10–11 when only Force 8–9 has been forecast with unerring accuracy. Also I have expected only Force 6–8, again when Force 8–9 has been predicted.

My theory works like this. From around full moon up to nearly a week afterwards, assume any low will deepen. From around half moon up to nearly a week afterwards, assume that any low will fill. This is not to imply that the weather cannot be good at full moon, or bad at neaps and half moon, but it is useful for prediction ahead of the weather conditions at that time.

Recently I have had good reason to believe there is some substance to the above theory, and intend to continue to note more closely its accuracy. The effect is most

noticeable at full moon, or a little after, and less obvious at the new moon period.

I would be keen to know if anyone else has noticed any similar trend, or if such a trend is used at all by the Met. Office in forecasts.

Captain H.J. Norton, Master of the *Celtic Challenger*, C.M. Willie & Co, Cardiff.

*Editor's note.*

1. Captain Norton's fascinating theory was received with interest by Mr Martin Stubbs, Head, Central Forecasting Office, who responds as follows:

'Many people have felt that there is some correlation between the phases of the moon and the development of the atmosphere. Several years ago, before the use of computers in the forecasting of the weather, attempts were made by meteorologists to establish useful rules based on the phases of the moon. But when subjected to rigorous scientific examination the evidence was weak. Nowadays the Met. Office prepares its forecasts by using the information provided by ships, satellites and other observing platforms to generate an analysis of the state of the atmosphere at a particular time, and then by computing how that state of the atmosphere changes due to the effects of heating, moisture content and the wind flow. The gravitational forces due to the moon in this process are very small and are considered not to have a significant effect.'

2. In ancient times the moon featured very prominently in weather lore, and in many civilisations it was held to have godly powers. The following rhyming proverb is thought to be little more than a mere 100 years old and its message, so quaintly put, is largely correct. For all practical purposes, the moon has no influence on the Earth's weather:

*The moon and the weather*
*May change together*
*But change of the moon*
*Does not change the weather.*
*If we'd no moon at all,*
*And that may seem strange*
*We still would have weather*
*That's subject to change.*

## Initiation by waterspout

After a discussion with the Master about waterspouts and how I had never witnessed one, I was extremely happy to receive a call from him on this evening [10 December 1994, the day before arrival New Orleans.]. I arrived on the bridge to see a waterspout on the starboard side at a range of about 4 miles, it could be clearly seen but was too distant to photograph. Thinking the spectacle was over, I was ready to leave the bridge when I noticed a disturbance on the surface of the sea close on the port bow. I readied my camera to find the disturbance became a fully-formed waterspout in less than a minute. The 'spout formed from what appeared to be a disturbance of the sea surface, with the cloud base forming a point directing to the sea. The 'cloud pointer' continued to elongate to the disturbance which by now had moved to the port beam at a range of 400 m, at most. The waterspout could clearly be seen to rotate in a clockwise direction and as it passed close by, we on the bridge wing were soaked by the water it had drawn up. I am pleased that my first significant meteorological observation of unusual phenomena was so spectacular and so near as to provide this photograph. [See front cover.]

Mr D.A. McCracken, *Helios*, Kvaerner Shipping A/S, Oslo.

# Book Reviews

*A review of High Speed Craft — a Practical Guide for Deck Officers* by Paul Owen, FNI. 210 mm × 285 mm, pp., *illus*. The Nautical Institute, 202 Lambeth Road, London SE1 7LQ. Tel: 0171 928 1351. Fax: 0171 401 2817. Price: £15.00 Members, £21.43 Non-members, Airmail Europe £4.00, rest of the World £6.00.

One of the main problems of a new start-up fast ferry operator is finding the right sort of deck officer to drive your craft. In this country, for most of the time, only the highest marine qualification is acceptable to the authorities. This usually means years of slow steaming across the ocean with very defined duties onboard. This is a world away from the modern day environment of fast ferries.

This excellent monograph provides the deck officer with an easy read of what is involved in transferring across to high speed craft. The author, well known to this reviewer, is well qualified to write this as he has made a very successful transition across this divide from deep sea P&O to very high-tech hydrofoils.

The monograph takes the reader in a well-structured route through basic designs of craft, classification and certification, maintenance, safety, navigation and training. The author quite rightly uses his experience in Hong Kong both as an operator and as a fast ferry administrator to emphasise his views on navigation (night vision, in particular), collision avoidance and Type Rating Certification. It is quite clear that initial comprehensive training and refresher courses are required for high speed craft deck officers to operate their craft with safety.

This is a useful monograph and an easy reference for any deck officer contemplating this side of the marine business. In particular I like the author's view that the job for a high speed craft deck officer is a whole lot more rewarding if he is involved in and understands some of the basic workings of his craft.

C.W.P. Hunt, Technical & Operations Manager — Hovercraft, Hoverspeed Ltd, Dover.

*The Remarkable Life of Victoria Drummond, Marine Engineer* by Cherry Drummond (Baroness Strange). 150 mm × 210 mm, 384 pp., *illus*., ISBN 0-907206-54-9. The Institute of Marine Engineers, 76 Mark Lane, London EC3R 7JN. Tel: 0171 481 8493. Fax: 0171 488 1854. Price: £21.00.

This book was published in 1994, celebrating the centenary of the birth of a woman who was a God-daughter of Queen Victoria and who died on Christmas Day 1980 at the age of 86.

*Institute of Marine Engineers*

Victoria Drummond (right) as Chief Engineer of s.s. *Eastern Med* (built 1909), London to Famagusta, 1948.

When she joined her first ship as a marine engineer in 1922, Victoria Drummond started a career lasting 40 years but which was considered entirely unsuitable for a lady.

Reconstructed from her diaries and memoirs by her niece, this is the life story told in the first person of a remarkable woman, the first to qualify as a marine engineer in the Merchant Navy, and rewarded for her wartime courage and skill with the M.B.E. and Lloyd's War Medal for Bravery at Sea. It was the Blue Funnel Line that initially took her to sea as an Assistant Engineer and after a short period with British India she sailed the rest of her career in foreign flag tonnage, mainly because of prejudice against women engineers by British companies.

The book is a wonderful record of life at sea during a long and unique career, highlighting the tenacity of the woman and the ways in which she surmounted the many difficulties and obstacles she encountered to remain at sea until she retired in 1962 at the age of 68 after completing 49 voyages.

*Giants of the Sea — Whales, Dolphins and their Habitats* by Gaetano Cafiero and Maddalena Jahoda. 255 mm × 360 mm, 360 pp., *illus.*, ISBN 1-85310-511-2. Swan Hill Press/Airlife Publishing Ltd, 101 Longden Road, Shrewsbury, Shropshire SY3 9EB. Tel: 01743 235651. Fax: 01743 232944. Price: £19.95.

The colour photography work in this book is so stunning that it tends to overshadow the worthwhile text and lengthy captions, all of which give a new understanding to the world of the cetaceans. To gain more knowledge about the largest and most intelligent creatures on the planet should help in our total understanding of the complex interactions of all life on Earth.

The artwork alone makes the book worth its price, and with their scientific and journalistic lineage, the two professional authors based in Italy have provided a work which should appeal to students of all ages as well as any enquiring adult reader.

*The Rise and Fall of British Shipbuilding* by Anthony Burton. 160 mm × 240 mm, 272 pp., *illus.*, ISBN 0-09-472920-4. Constable & Co., 3 The Lanchesters, 162 Fulham Palace Road, London W6 9ER. Tel: 0181 741 3663. Fax: 0181 748 7562. Price: £16.95.

Continuing his prolific output, the publisher and author presents a detailed analysis of the rise and decline of the once world leader in shipbuilding. From early Victorian times onwards he charts the gradual displacement of Britain as the epitome of ship constructors, painting a somewhat sombre picture of today's position compared to the heyday of the industry at the beginning of the nineteenth century. Ship construction from the early days of wooden vessels to the present is all included in coherent and well illustrated style, and it is a book sure to be absorbing to any reader with an interest in shipping and shipbuilding.

J.F.T.H.

# Personalities

*Crown Copyright*

Retirement presentation by the Marine Superintendent to Captain Archie Ashton at his Port Met. Office, Cardiff, on 5 April 1995. Left to right: Captain Stuart Norwell, Deputy Marine Superintendent; Captain Austin Maytham, Port Met. Officer elect; Captain Ashton; Captain Gordon Mackie, Marine Superintendent. (See *The Marine Observer*, April 1995, page 89.)

*Crown Copyright*

Presentation following his retirement to former Port Met. Officer for South-east England, Captain Clive Downes (left) by the Marine Superintendent at Scott Building on 6 April 1995. (See *The Marine Observer*, April 1995, page 90.)

# Notices to Marine Observers

## WEATHER BULLETINS FOR SHIPPING, BBC — SCHEDULE CHANGES

The following advice was received from the BBC just in time for going to press with this edition, but no sooner.

As from 0045 clock time on Tuesday 3 October 1995, the schedule for the late night weather bulletins for shipping broadcast on BBC Radio 4, will be changed as required by the BBC as follows:

| *Bulletin* | *Old time* | *New time* |
|---|---|---|
| Coastal waters | 0033 | 0045 |
| Inshore waters | 0038 | 0050 approx. |

These bulletins will be broadcast on BBC Radio 4 frequencies, including 198 kHz, 1515 m Long Wave. The change is made to enable BBC Radio 4 to broadcast a new late night readings strand, which the BBC hope may appeal to many of those already listening to the weather and shipping services. Any queries about this change should be addressed to the Chief Assistant, BBC Radio 4, Broadcasting House, London W1A 1AA.

## TRADE WINDS ROUND THE WORLD CRUISING RALLY

Almost two years after the germination of an idea for a yacht rally around the world, the R.A.F. Yacht Club Trade Winds Rally commences in October 1995. Commodore and Chairman Malcolm McLaren writes in the sixth edition of the rally broadsheet *Trade Winds* that he wishes the fifty or so participants a safe, happy and momentous voyage after more than eighteen months of preparation for the adventure of a lifetime. Dr McLaren will accompany the boats on their circumnavigation in his boat *Malmac*, as Commodore of the Trade Winds Rally.

After leaving the U.K. in July, the boats, about fifty in number, ranging in length from 30 to over 60 feet and crewed by upwards of two people, will complete several weeks of preparation in Gibraltar with a final fortnight of briefings and social events, before departing westwards on 23 October towards Tenerife, where they are due to stay from 31 October to 15 November. Then on 6 December they are due to arrive in Antigua, where they will remain as guests of two different harbours until 2 January 1996. After the New Year festivities they will continue westwards through the Caribbean, ultimately for the Panama Canal and the Pacific crossing.

*En route* they will be attending yachting, cultural, trade and social events and they are sponsored by the Mercantile International Group. Their weather and forecasting consultant is Jim Allen, retired Met. Office scientist and former Head of the Gibraltar Met. Office, who has written special words of advice for the rally yacht people in the current issue of their magazine. The boats also carry Ocean Vigil marine life identification and recording packs issued by the Marine Conservation Society. Several of the yachts are also equipped with Met. Office VOF equipment and stationery in order to record the weather *en route* whenever possible.

This is not a race but a rally in company, and most of the boats are skippered or owned by R.A.F. Yacht Club members.

# METEOROLOGICAL OFFICE - MARINE SERVICES

**Chief Executive:** Professor Julian C.R. Hunt, MA, PhD, FIMA, FRS

## MARINE DIVISION — MET O (OM)

| | Telephone | *Facsimile* |
|---|---|---|
| **Headquarters:** Met. Office, Observations (Marine), Scott Building, Eastern Road, Bracknell, Berks RG12 2PW. Telex: 849801 WEABKA G. | 01344 420242 | *01344 854412* |
| Captain Gordon V. Mackie, Marine Superintendent, Head, Observations (Marine). INTERNET: gvmackie@meto.govt.uk | 01344 855654 | *01344 855921* |
| Mrs Rose Howard, Personal Assistant to Head of OM | 01344 855656 | *01344 855921* |
| Captain Stuart M. Norwell, Deputy Marine Superintendent. | 01344 855913 | |
| Captain John F.T. Houghton, Nautical Officer (Deputy Editor). | 01344 855652 | |
| Nautical Officer (PMO Liaison). | 01344 855915 | |
| Mr Geoffrey Allen, Scientific Officer (Technical). | 01344 855914 | |
| Mrs Jan Freeman, Scientific Officer (Sub-Editor). | | *01935 411281* |
| **Port Meteorological Officers** | | |
| **South-east England:** Captain Edward J. O'Sullivan, PMO, Daneholes House, Hogg Lane, Grays, Essex RM17 5QH. | 01375 378369 | *01375 379320* |
| **Bristol Channel:** Captain Austin P. Maytham, PMO, Room 3.52, Companies House, Crown Way, Cardiff CF4 3UZ. | 01222 221423 | *01222 225295* |
| **South-west England:** Captain Douglas R. McWhan, 8 Viceroy House, Mountbatten Business Centre, Millbrook Road East, Southampton SO15 1HY. | 01703 220632 | *01703 337341* |
| **East England:** Captain John Steel, PMO, Customs Building, Albert Dock, Hull HU1 2DP. | 01482 320158 | *01482 328957* |
| **North-west England:** Captain James A. Williamson, PMO, Room 313, Royal Liver Building, Liverpool L3 1JH. | 0151 236 6565 | *0151 227 4762* |
| **Scotland and Northern Ireland:** PMO, Navy Buildings, Eldon Street, Greenock, Strathclyde PA16 7SL. | 01475 724700 | *01475 892879* |
| **North-east England:** Captain Gordon Young, PMO, Able House, Billingham Reach Industrial Estate, Billingham, Cleveland TS23 1PX. | 01642 560993 | *01642 562170* |

## COMMERCIAL SERVICES

| | | |
|---|---|---|
| **Marine and Legal Consultancy Services:** Met. Office, Johnson House, London Road, Bracknell, Berks RG12 2SY. | 01344 854981 | *01344 854906* |
| Mr Jack S. Hopkins, Manager, Marine & Legal Consultancy Services. | 01344 856684 | |
| Mr Colin R. Heaton, Marine Enquiries. | 01344 854562 | |
| **International Forecasting Unit (IFU):** Met. Office, London Road, Bracknell, Berks RG12 2UR. | | |
| Mr Richard J. Young, Head of IFU. | 01344 854662 | *01344 854093* |

| | Telephone | *Facsimile* |
|---|---|---|
| **Market Sector Manager — Sea Transport:** | | |
| Captain Donald J. Hewitt, Met. Office, Johnson House, London Road, Bracknell, Berks RG12 2SY. | 01344 854982 | *01344 854906* |
| Captain Michael M. Bechley, MetROUTE Ship Routeing Unit | 01344 854904 | *01344 856521* |
| Captain Tim D. Corbett, MetROUTE Ship Routeing Unit. | 01344 854905 | |
| Captain John A. Doody, MetROUTE Ship Routeing Unit. | 01344 854904 | |
| Mr Stephen J. Johnson, MetROUTE Ship Routeing Unit. | 01344 854904 | |
| Sea Ice Unit. | 01344 856632 | *01344 854412* |

## OFFSHORE ADVISERS

| | | |
|---|---|---|
| **Offshore Observing Adviser:** Mr Iain J. Hendry, Aberdeen Weather Centre, Seaforth Centre, Lime Street, Aberdeen AB2 1BJ. Telex: AA 73446/7. | 01224 210573 | *01224 210575* |
| **Offshore Network Advisor:** Mr Stephen R. Haynes, Met. Office, Observation Provision, London Road, Bracknell, Berks RG12 2SZ. Telex 849801 WEABKA G. | 01344 854887 | *01344 856412* |

## PORT MET OFFICERS OVERSEAS

| | | |
|---|---|---|
| **AUSTRALIA — Headquarters:** Mr A.D. (Tony) Baxter, Bureau of Meteorology, Regional Office for Victoria, 26th Floor, 150 Lonsdale Street, Melbourne, Vic. 3000. Telex: AA 33195. | (03) 669 4000 | *(03) 669 4964* |
| **Fremantle:** Captain Alan H. Pickles, Port Met. Agent, Stirling Marine, 17 Mews Road, Fremantle, WA 6160. Telex: 92821. (Tel. after hours: (09) 335 66700.) | (09) 335 6670 | *(09) 335 3304* |
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| **CANADA — Superintendent:** Mr Ronald Fordyce, Supt. Marine Data Unit, Environment Canada, Port Met. Office, 100 East Port Blvd., Hamilton, Ontario L8H 7S4. | 905-312-0900 | *905-312-0730* |
| **Halifax:** Mr Randy Sheppard, Environment Canada, 1496 Bedford Highway, Bedford, Nova Scotia B4A 1E5. Telex: 01 21777. | 902-426-6703 | *902-426-5660* |
| **Montreal:** Mr Denis Blanchard, Environment Canada, 100 Alexis Nihon Boulevard, 3rd Fl., Ville St. Laurent, Quebec H4M 2N6. Telex: 05 827697. | 514-283-6325 | |
| **St. John's:** Mr Darryl Miller, PMO, Environment Canada, POB 21130, Postal Station 'B', St. John's, Newfoundland A1A 5B2. | 709-772-4798 | |
| **Toronto:** Port Met. Officer, Environment Canada, 25 St. Clair Avenue East, Toronto, Ontario M4T 1M2. Telex: 06 23601. | 416-973-5809 | |
| **Vancouver:** Mr Bob McArter, PMO, Environment Canada, Suite 700-1200, W. 73rd Avenue, Vancouver, British Columbia V6P 6H9.Telex: 04 508556. | 604-664-9136 | *604-664-9006* |

| | Telephone | *Facsimile* |
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| **DENMARK — Copenhagen**: Commander Lutz O.R. Niegsch, Danmarks Meteorologiske Institut, Lyngbyvei 100, DK-2100, Copenhagen. Telex: 27 138 metin. | 39 15 75 00 | *39 15 73 00* |
| **FALKLANDS**: Captain R. Gorbutt, Marine Officer, Fishery Protection Office, Stanley, Falkland Is. Telex: 2426 FISHDIR FK. | 27260 | *27265* |
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| **GIBRALTAR:** Principal Met. Officer, Meteorological Office, RAF Gibraltar, BFPO 52. | 53419 | *53474* |
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| **Yokohama:** Mr Masao Tomita, Director, Yokohama Local Met. Observatory, 99 Yamate-cho, Naka-ku, Yokohama 231. Telex: 222 8080. | (045)-621-1991 | |
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| **NEW ZEALAND — Wellington:** (for all New Zealand ports) Ms Julie Fletcher, Marine Met. Officer, Met. Service of New Zealand Ltd, Tahi Road Extension, POB 1515, Paraparaumu Beach 6450. Telex: NZ 30636. | (644) 297 3237. | *(644) 297 568* |
| **NORWAY — Bergen:** Mr Tor Inge Mathiesen, PMO, Norwegian Meteorological Institute, Allégaten 70, N-5007 Bergen. Telex: 40427 - 42239. | 55 23 66 00 | *55 23 67 03* |

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| **SINGAPORE:** Mr Edmund Lee Mun San, Port. Met. Supervisor, Meteorological Service, PO Box 8, Singapore Changi Airport, Singapore 9181. Telex: RS 50345 METSIN. | 5457198 | *5457192* |
| **SOUTH AFRICA — Cape Town:** Mr C. Sydney Marais, PMO, c/o Weather Office, D.F. Malan Airport 7525. Telex: 527101 METCT SA. | 021-9340450/1/8/9 ext.213 | *021-9343296* |
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| **U.S.A. — Headquarters**: Mr Vincent Zegowitz, Marine Obs. Program Leader, National Weather Service, NOAA, Room 14112, 1325 East West Highway, Silver Spring, MD 20910. | 301-713-16771 ext. 129 | *301-713-1598* |
| **Acting Editor, Mariners Weather Log:** Ms Nancy O'Donnell, NODC, 1825 Connecticut Av., NW, Washington DC 20235. | 202-606-4561 | *202-606-4586* |
| **Anchorage:** Mr Greg Matzen, Marine Program Manager, Alaska Region, NWS, 222 West 7th Avenue #23, Anchorage, AK 99513-7575. | 907-271-3507 | |
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| **Cleveland:** Mr George Smith, PMO, NWS, NOAA, Hopkins International Airport, Federal Facilities Building, Cleveland, OH 44135. | 216-265-2374 | *216-265-2373* |
| **Honolulu:** Lt Patrick Gajdys, PMO, Pacific Region, NWS, NOAA, Prince Kuhio Fed. Bldg., Room 411, PO Box 50027, Honolulu, HI 96850. | 808-541-1670 | |
| **Jacksonville:** Mr Lawrence Cain, PMO, NWS, NOAA, 13701 Fang Road, Jacksonville, Florida 32218. | 904-741-5186 | |
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| | Telephone | *Facsimile* |
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| **New Orleans:** Mr Jack Warrelmann, PMO, NWS, NOAA, International Airport, Moisant Field, Box 20026, New Orleans, LA 70141. | 504-589-4839 | |
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| **Port Everglades:** Mr Charles Henson, PMO, NWS/NOAA, 2550 Eisenhower Boulevard, Suite 312, PO Box 165195, Port Everglades, FL 33316. | 305-463-4271 | *305-462-8963* |
| **Romeoville (for Chicago):** Amy Gustafson, PMO, NWS, NOAA, 333 West University Drive, Romeoville, IL 60441. | 815-834-0600 ext. 525 | *815-834-0645* |
| **San Francisco:** See Oakland. | | |
| **Seattle:** Mr Patrick Brandow, PMO, NWS, NOAA, 7600 Sand Point Way N.E., Seattle, WA 98115-0070. | 206-526-6100 | *206-526-6094* |
| **Texas:** Mr Jim Nelson, PMO, NWS, NOAA, Houston Area Weather Office, 1620 Gill Road, Dickinson TX 77539-3409. INTERNET: jnelson@smptgate.ssmc.noaa.gov. | 713-534-2640 | *713-337-3798* |
| **Valdez:** Mr Lynn Chrystal, OIC, NWS, NOAA, Box 427, Valdez, AK 99686. | 907-835-4505 | |

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