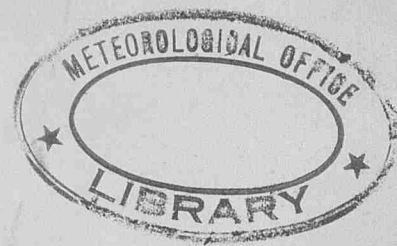


# The Marine Observer



The Review of the  
Marine Division of the Meteorological  
Office, in co-operation with Voluntary  
Marine Observers

Vol. III., 1926.

Published by the Authority of  
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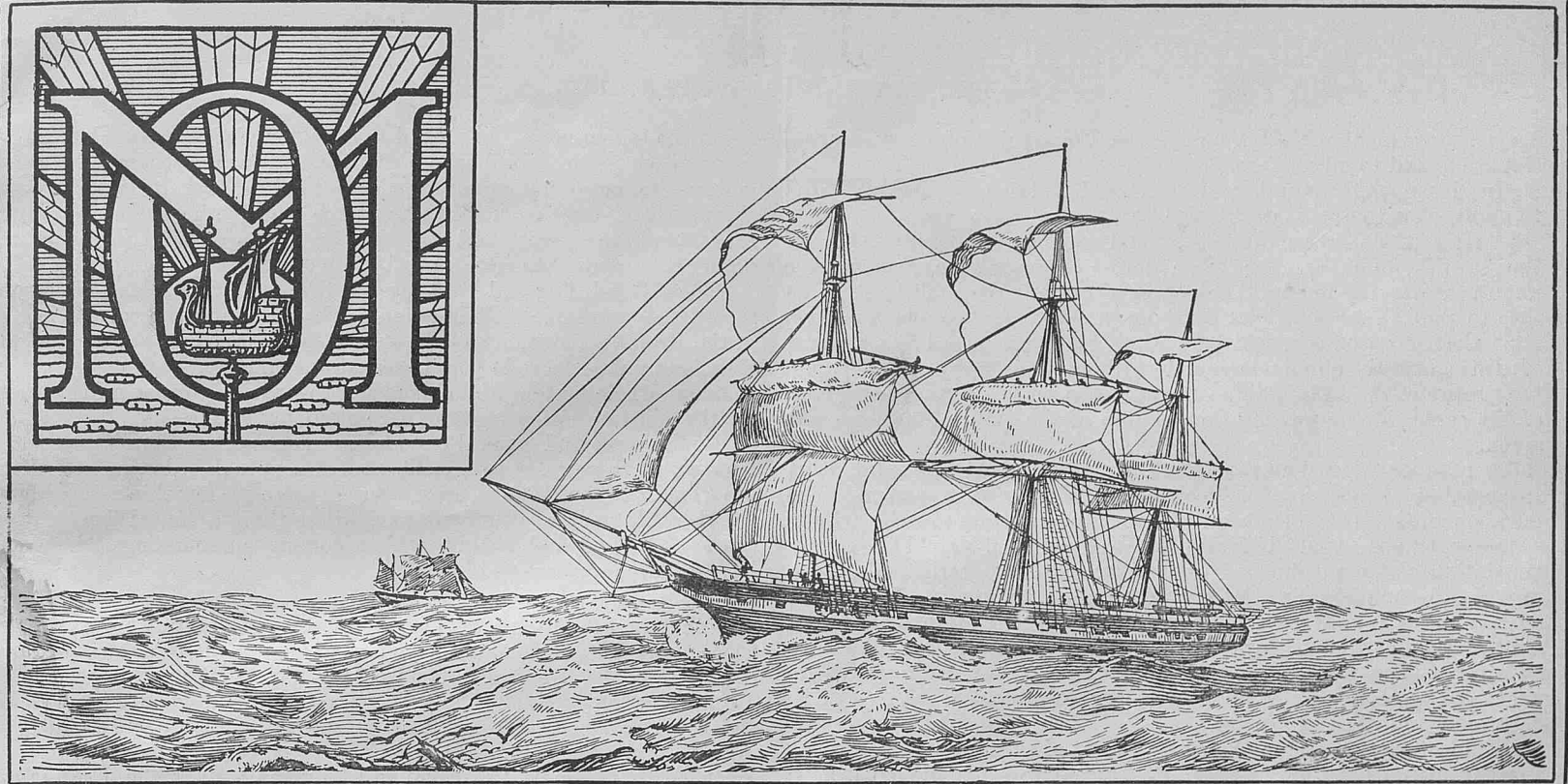
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VOL. III. No. 25.

THE MARINE OBSERVER.

JANUARY 1926.

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FOREWORD TO VOLUME III.

By DR. G. C. SIMPSON, C.B.E., F.R.S.

It is with considerable satisfaction that all interested in THE MARINE OBSERVER—Observers, Writers, Editor and Staff—can look back on another year's successful endeavour. The publication of a popular magazine is not usually associated with a Government Office, nor is it a simple matter to combine such an undertaking with more official duties. But the members of the Marine Division have taken to magazine work with surprising facility, and its Editor has proved himself as good a journalist as a sailor, but he would be the last to claim the credit. He could have done nothing without the cordial support of all his co-workers, who are still actively following their life at sea. Our thanks are gratefully given to all those who have contributed to the Magazine, by article or sketch, and not less to those observers whose literary efforts go no further than producing a fair copy of their meteorological logs—without the latter, little could be done by the former.

We, whose business it is to organise marine meteorology, have not been idle during the year. At last we have been able to meet, partly if not completely the often-expressed wish that the "Weather Shipping" Bulletin should be made available for ships unable to

receive wireless messages issued on continuous wave. The "spark" stations at Niton, Valentia, Seaforth and Cullercoats now issue appropriate extracts from "Weather Shipping," and thus much valuable information is made available for ships which are only able to receive on spark.

We also have to thank the British Broadcasting Company for making it possible for us to reach another class of shipping—the small vessels which do not carry a complete wireless outfit but are able to "listen in" to the broadcasting. We hear that the special morning "Weather Bulletin for Shipping" broadcast daily from Daventry is proving of great use to coastwise shipping and that the evening issues from Bournemouth, Newcastle and Liverpool are much appreciated.

In wishing THE MARINE OBSERVER many happy returns of its birthday, I should like to extend the greetings to all our readers in all parts of the world and to wish them a happy and prosperous New Year.

DIRECTOR.

October, 1925.



## THE MARINE OBSERVER, 1926.

PROSPERITY in the New Year to the Corps of Voluntary Marine Observers and to all sea-farers!

In this opening Number of the Third Volume, readers will like to know what to expect during the year.

Firstly, the increase of "additional remarks" contributed from the sea will, we hope, make "The Marine Observer's Log" of greater importance, and so it now takes pride of place. We shall hope to be able to publish more articles by those in active service afloat, and we hope that more officers will help us to place on record the services of distinguished commanders under whom they have served, upon their retirement; in this a fine example was set last year when a note of the career of the retiring Commodore of the White Star Line was given.

A number of technical experts have intimated their intention to contribute articles upon subjects of special interest to seamen. The members of the Marine Division will continue as before to write articles as necessary upon applied Marine Meteorology but it should be remembered that the more finished interesting material Marine Observers provide to complete THE MARINE OBSERVER, so can we devote the more time and work to the extraction and preparation of data for new Atlases of Meteorological Charts of the Oceans which are so necessary. For this reason Marine Observers are again asked to write and send in articles upon matters meteorological which will be of interest and utility to seamen.

The last section of the Quarterly Charts of Currents to the Southward from the Latitude of Cape St. Vincent to Cape Blanco will be completed during the year.

With the great assistance which our friend Lieutenant-Commander VAN RIEL, R.H.M., is giving us by supplying copies of observations recorded in Dutch ships from 1910 we intend to include Quarterly Charts of Currents for the Trans-North Atlantic track in continuation of the plan upon which we have been proceeding since the establishment of THE MARINE OBSERVER, and it is opportune to remind Marine Observers that this work is being done with a view to providing improved current charts of the entire oceans. Meanwhile, it is hoped that these quarterly charts will be of great assistance to those navigating the routes charted, and that all will study them, for they represent the vagaries of sets recorded, information of which desire has been expressed for many parts of the oceans. Vagaries of current experienced on one route may be associated with similar conditions upon another.

The Southern Ice Charts which used to appear in the monthly issue of the Indian Seas Meteorological Charts have been brought up to date, and these will be included for the information mainly of ships using the routes from the Cape to Australia, New Zealand and Cape Horn.

Tracks of Tropical Revolving Storms, to which great importance is attached, having been provided in the first two Volumes, we are now able to include Monthly Charts of Mean Sea Temperatures of the North Atlantic and Charts giving Averages of Wind and Visibility for each month of the year on the British Coasts and S.W. Approaches, the former being essential for many purposes of navigation as well as meteorology including the study of currents and the prediction of fog. The latter will supply information which has been asked for by a great many, but it must be noted that the Wind, Fog and Mist rose for the Approaches to the English, Bristol and St. George's Channels is compiled from four years, observations only. However, we are particularly glad to be able to publish these roses, for they show once

again the immense possibilities of the HOLLERITH system and as there is no place in the world where more Marine Observers are at work and where more navigators need information—for it is here that shipping converges from all parts of the world—they should at any rate stimulate interest and indicate the very real need for accurate observation and systematic record in fine weather as well as foul.

These Wind, Fog and Mist roses will remind you that unless you record the true force and direction of the wind and the correct letter of the Beaufort notation to indicate the weather as it is at observation time, and unless we code your observations and extract them correctly that our whole system of co-operation to provide correct information for the assistance of navigation becomes defective.

Comparison and general experience indicate that the observations from which these roses were made were of very high order, indeed, they are a credit to the British Corps. Surely there are few things regarding weather of greater utility to navigation than a knowledge of the chances of wind and visibility when coming on soundings where we have so often experienced a change.

The roses for the 10 coast stations are more than ever necessary now that reports of observations made at coast stations are available twice daily to all ships by Wireless Telegraphy; for these we are indebted to the Admiralty, but we may hope that now observations are so constantly used that fuller information may be compiled in the Division for British Climatology and that it may appear in this Journal in a later Volume.

"Weather Signals" as usual will be given for ships and as far as possible for each Maritime country in geographical order. We hope that Marine Observers will continue to refer for guidance to "Wireless and Weather an Aid to Navigation" in the First Volume. Possibly we may revise those chapters next year.

Such is the outline of the proposed 1926 MARINE OBSERVER. The plan is capable of expansion and no doubt many members of our corps will help to improve it by providing suitable information.

The spirit we seek to foster is that of voluntary co-operation in passing on knowledge derived from observations and experience at sea in the manner most likely to advance Marine Meteorology for the good of shipping and seamen as well as all whom it can serve ashore and in the air, and thus fulfil our Aims and Objects.

The work of the Corps of Voluntary Marine Observers has so much improved that it now becomes necessary to raise the standard of classification of Meteorological Logs and Wireless Weather Registers in order to maintain the real distinction which the "excellent" award is intended to convey. With the commencement of next financial year, April 1st, 1926, in the grant of the Meteorological Committee's "excellent" award more attention will be paid to the entry of the corrected Barometer, evidence of the practice of Wireless and Weather as an Aid to Navigation and care of official instruments, in conjunction with general observance of the rules for keeping the Meteorological Log as laid down in the "Marine Observer's Handbook," with such amplifications as are noted from time to time in this Journal.

The greatest service which Marine Observers who are so fortunate as to have Mercurial Barometers, can now perform in the general interests of Seamen, is to make Wireless Weather reports to "All Ships" of observations taken at the same Greenwich Time as those of the nearest country in the simple form given in "Weather Signals."

London,

October, 1925.

MARINE SUPERINTENDENT.

NOTE.—Plates produced by Lithographic process, including Charts and other large diagrams, will be found in each Number after "Weather Signals."



## THE MARINE OBSERVER'S LOG.

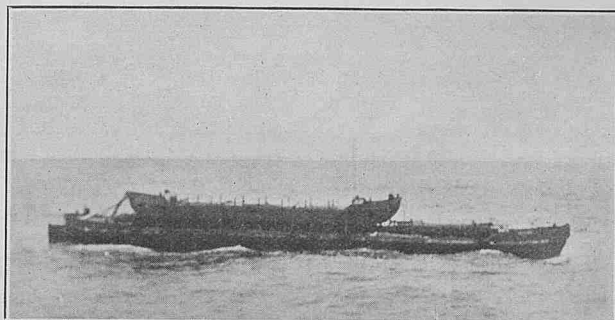
It is hoped that these pages will be filled each month with a selection of the contributions of Mariners in manuscript, or remarks from the Logs and Reports of regular Marine Observers.

Responsibility for statements rests with the Contributor.

## DERELICT BARGE.

## Drift in the South Indian Ocean.

THE accompanying photograph, taken on board S.S. *Barrabool*, and the following remarks have been received from Captain J. J. AIREY, Deputy Director of Navigation, Fremantle:—



"Captain R. BIDWELL of the S.S. *Barrabool* reports passing a derelict barge in the South Indian Ocean on 24th January, 1925, in Latitude 39° 10' S., Longitude 82° 00' E. This derelict consisted of a Dredging Hopper barge of large capacity, marked *H.A.M. 79*, painted black, with a broad white line. A smaller, but new barge, marked *H.A.M. 37*, was stowed on top of the larger craft, evidently cradled for towing purposes.

"There were broken towing wires trailing forward and from general appearances the derelict had been adrift but a comparatively short time, and was in good condition.

"The derelict was again sighted, the S.S. *Themistocles*, on February 2nd, passing it in Latitude 40° 12' S. and Longitude 85° 18' E.

"During the nine days since it was first sighted it had drifted 113° (S. 67° E.), distance 160 miles."

The following remarks have also been received from S.S. *Themistocles*, Captain W. M. JERMYN, U.K. to Australia via Cape, Observer, Mr. W. F. SARGENT, 3rd Officer:—

"At 7.29 p.m. on February 2nd, in position 40° 12' S., 85° 18' E., observed derelict barge floating perfectly upright and drawing the average amount of water considering it was laden with another barge of smaller dimensions. Unfortunately night had already cast its shadows, making the derelict little more than a silhouette against the sea. Consequently I am unable to furnish you with any details. However, a point of interest is that the S.S. *Barrabool* had at 11 a.m. on the 24th January, in position Lat. 39° 10' S. and Long. 82° 00' E., observed the same derelict. By calculation I find that from position on January 24th to position February 2nd gives a set of S. 68° E. and drift of 165.5 miles, which is about 17.76 miles per day average. Of course the above current observation is without considering the prevailing weather for the 9 days 9 hours drift, which would no doubt have considerable effect on the set had the wind been at all strong."

## ABNORMAL CURRENT IN GULF OF GUINEA.

THE following extract is from the Meteorological Report of S.S. *Abinsi*, Captain J. B. WRIGHT, West African Ports to Plymouth, Observer, Mr. W. BORROWS:—

"Attention is called to the fact that between Lagos and Sierra Leone strong westerly currents were experienced in contradiction to the usually prevalent easterly set.

"On January 16th, 1925, between Lagos Fairway Buoy and Cape St. Paul the vessel had a favourable set (W. by S.) of 2 miles per hour.

"From 18th noon, Latitude 4° 50' N., Longitude 1° 44' W., to 19th noon, Latitude 4° 26' N., Longitude 7° 03' W., a westerly set of from 15 to 20 miles in 24 hours was observed."

The following is an extract from the Meteorological Log of S.S. *Appam*, Captain H. A. YARDLEY, D.S.C.

"January 21st, 1925, 9.11 p.m. left Accra arriving at Sekondi 6.22 a.m. January 22nd. Between 9 p.m. of 21st and 6 a.m. 22nd, a westerly set exceeding  $\frac{1}{2}$  knot was experienced.

"A similar westerly set of at least  $\frac{1}{2}$  knot was experienced between Accra and Lagos 0.32 p.m. January 22nd to 9.2 a.m. of January 23rd.

"11 a.m. January 30th, 1925, to 6.22 a.m. January 31st, between Lagos and Accra a westerly set of 0.7 knots was experienced and a westerly set was also experienced between Accra and Sekondi 9.34 p.m. January 31st to 6.20 a.m. February 1st."

NOTE.—These remarks are of particular interest in that notification of the existence of abnormal currents in the Bight of Benin during the last fortnight of January, 1925, as reported by British ships had been the subject of enquiry from the French Hydrographic Department to the Hydrographer of the British Navy. Further observations are desired from ships which may have been in the vicinity at the time.

## TEMPERATURE CHANGES.

## Off Colombia, S. America.

THE following remarks from S.S. *Coronado*, Captain A. D. RISELEY, have been forwarded by the Hydrographer of the Navy.

"Later, on the morning of the 19th January, 1925, in Latitude 12° 38' N., Longitude 71° 58' W., wind fell light and hauled from East to S.E. by S., accompanied by very noticeable drop in temperature of air. At 10 a.m. temperature by standard thermometer had dropped to 73° and sea water to 70°. Below are thermometer readings for intervals since 4.0 a.m.

Wind.	Screened Thermometer.	Sea Water.
" 4.0 a.m. East strong	- Dry 77° Wet 72°	- 76° Std. Ther.
8.0 a.m. East strong	- Dry 77° Wet 72°	- 73° in shade
10.0 a.m. S.E. by S. light	Dry 76 $\frac{1}{2}$ ° Wet 72°	- 70° 73° (at 10 a.m. A.T.S.)

"Shortly after 10.0 a.m. temperature began to rise. As this drop in temperature coincides with point where Counter Current meets westerly set, presume it has a connection with meeting of two currents. Up to 10.0 a.m. had experienced a current of 1 $\frac{3}{4}$  miles per hour average, since leaving Trinidad and running about West  $\frac{1}{2}$  North."

## CLOUD CAP ON MOUNTAIN AS WEATHER SIGN IN THE AZORES.

In January, 1921, the cable ship *Amber*, Captain H. H. PARSONS, when on cable work in the Azores, recorded a series of observations upon the cloud cap which forms over the summit of O Pico, and others have remarked upon this. Recently Colonel F. A. CHAVES, Director of the Meteorological Service of the Azores, when paying us a visit, gave the following explanation which will be of interest to all marine observers sighting Pico in the Azores:—

"When an atmospheric depression approaches Pico Island, the most central of the nine islands of the Azores, owing to cyclonic winds

around the highest part of the summit of the mountain, O Pico, (7,613 feet), clouds form around it and are compressed against the peak. In these conditions the high mountain peak forms a mould upon which by compression a cloud cap ('barrete' in Portuguese) is formed on the summit with an ascensional movement.

"The cap ascends and when lifted high on the summit, clouds are freed from the cap and are transformed into lenticular cloud (Cumulo-Lenticularis) which the Azorean people call 'baleias' (whales) by reason of their shape.

"If the 'baleias' go to the Northward, towards the village of Prainha, north of Horta in the island of Fayal, they are called 'nuvem da Prainha' (the cloud of Prainha) and indicate the approach of the centre of the depression, with southerly winds which will change in a short time to west and north-west with squalls, sometimes of great force.

"If the 'baleias' go southward they indicate the coming of northerly winds with improving weather."

NOTE:—Although not a matter which concerns meteorology the origin of the silver leaf tree in the Azores will be a matter of interest to all who have visited Table Mountain at the Cape, the home of that beautiful flora. Many years ago Colonel CHAVES was engaged in magnetic work in South Africa and took with him from Table Mountain the seed of the silver leaf tree, which he planted around his observatory at the Azores. As there are few places in the world where the silver leaf tree has flourished, this fact at any rate may have some significance with regard to climate.

### VISIBILITY.

#### Off the East Coast of Australia.

THE following is an extract from the Meteorological Log of H.M.S. *Herald*, Commander J. R. HARVEY, O.B.E., R.N., surveying N.E. Australia, Observer, Lieutenant W. C. JENKS, R.N.

"January 7th, 1925. 0600. Ship in position 16 miles 105° from South Hd. at mouth of Clarence River (Lat. 29° 26' S. Long. 153° 23' E.)

"Land much obscured by banks of mist, but sharply outlined where clear of mist.

"A bright patch was seen in direction of S. Head which on examination with 6 power binoculars proved to be S. Head lit up by the sun.

"It was found possible to distinguish the most minute details with the aid of the binoculars although distant 16 miles. Each building was clearly distinguishable and quite minor details of architecture. It was especially remarkable that the flagstaff on the signal station was as clearly visible as is ordinarily the case only at comparatively small distance.

"The fact of all the surroundings being very dark and the sunlight falling on this place only is thought to be a possible explanation—assisted by a very clear atmosphere.

"Wind S.S.E. force 1. Bar. 1008.4 mbs (corrected). Dry Therm. 74° F. Wet 70° F. Sky:—A.-St/A.-Cu and St.-Cu/Cu-9. Sea temp. 76° F. Ship's course 192°, 10 kts."

### ELECTRICAL STORM.

#### Off the Brazilian Coast.

THE following has been received from S.S. *Romney*, Captain G. E. SYMS, at Santos, Observer, Mr. H. W. UNDERHILL, 2nd Officer.

"On January 18th, 1925, whilst entering port of Santos, we encountered an electrical storm.

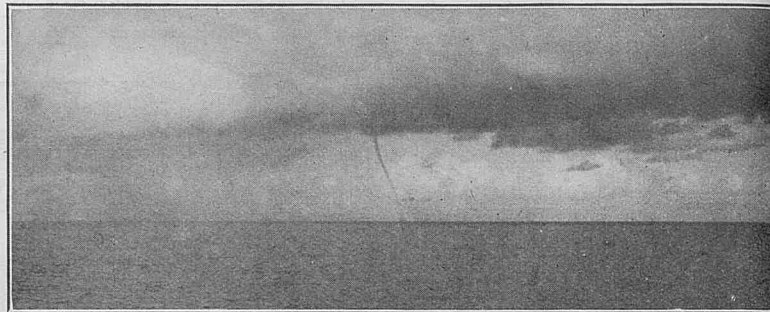
"A thunderbolt burst immediately overhead, striking the foremast and splitting the truck in halves.

"Great vibration was felt and a ball of fire was seen to strike the water seven yards on starboard beam.

"Although heavy Cu-Nb. clouds were covering sky, very little rain was experienced."

### WATERSPOUT.

#### In the West Indies.



THE above photograph has been received from C.S. *Colonia*, Captain V. CAMPOS, O.B.E., New York to West Indies, Observer Mr. A. S. MUIR. Photograph taken by Mr. G. J. H. GIRLE, 1st Wireless Operator. The following particulars have been supplied from the ship's log.

"5th January, 1925, time 11.45 a.m. A.T.S. Latitude 19° 43' N. Longitude 74° 37' W. (Off Guantanamo Bay, Cuba). Wind E.S.E., force 2, Cu-Nb. and Nb. 7. Barometer 1016.9 mb.

"The action of the waterspout, which was distant 1½ miles, was clearly visible from the ship."

### EARTHQUAKE SHOCK.

#### In the South Pacific.

THE following is an extract from the Meteorological Log of S.S. *Maihar*, Captain J. P. ROWE, Panama to Sydney, N.S.W., observer Mr. H. F. SCOINS.

"January 24th, 1925. Noon position, Latitude 33° 53' S. Longitude 178° 28' W. Course and speed 268°, 12 knots. 1.50 p.m. Distinct tremor of ship. Thought to be a small earthquake or volcanic eruption."

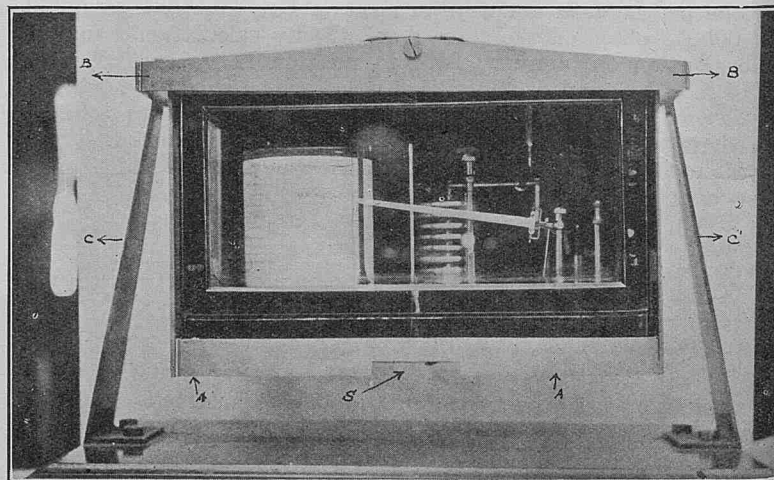
### GIMBALS FOR USE WITH BAROGRAPHS.

THE following notes are contributed by Lieutenant H. E. TURNER, R.N., of H.M.S. *Flinders*, Lieutenant-Commander D. A. HENDERSON, R.N. Marine Observers using barographs may like to experiment with improvised slings to reduce the effect of the ship's motion.

"The carriage for the barograph is divided into three parts, which when assembled together form gimbals.

"The parts consist of an inner frame A, outer frame B and the supports C, C', the whole being mounted on a heavy wooden base.

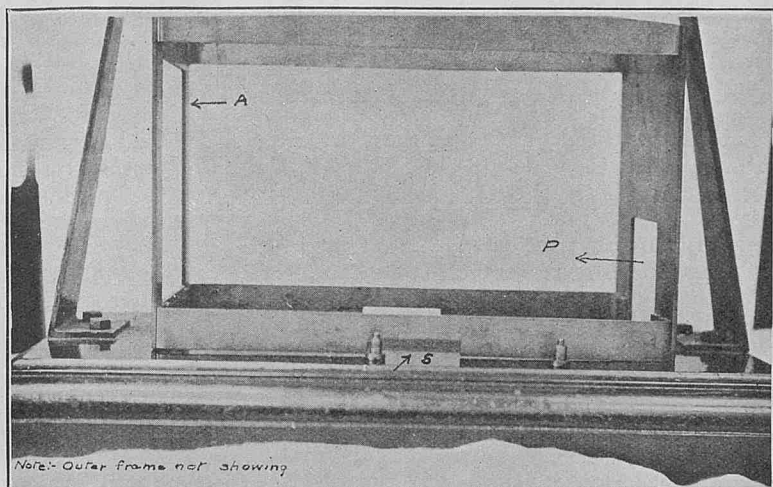
#### Gimbals Assembled.



No. 1.



Gimbals Dismantled.



No. 2.

## INNER FRAME A. FIGURE NO. 2.

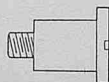
"An oblong skeleton brass frame with one end closed. The bottom parts are angled at the corners to support the barograph when in position.

"A small slot is cut in the front face to enable the lever for removing the pen from the paper to be worked.

"In the solid end a portion is cut away "P" to enable the drawer to be used and to balance the contrivance.

"In order that the frame shall be horizontal with the barograph in position when the gimbals are on a level surface, it is necessary to cut away the brasswork in the solid end until the balance is correct. With the instrument in position the clockwork is at the opposite end to the closed in end.

"The inner frame is carried in the outer frame by two supporting screws. These screws are placed midway in the front and back and form the bearings. They are shaped as shown in the sketch, and in photograph No. 2 are placed in the foreground.



## OUTER FRAME B.

"This consists of a rectangular skeleton framework carrying in the front and back the bearings for the inner frame and at each end the bearings in the supports. These latter are similar to the inner frame bearings but have in addition a nut for the threaded portion to screw into.

"Between the outer frame and the supports small slips of brass about the size and shape of a threepenny piece are fitted to minimize the bearing surface and to take up any back lash.

"It will be readily seen that these are a necessary fitting as the supports are about an inch wide at the top and would thus form a very large bearing surface.

## SUPPORTS C, C'.

"Consist of two brass arms, wide at the base and lessening in width towards the top. They are screwed into the base plate and form an angle about 70 degrees with it, in order to allow the cradle to remain steady when the ship is rolling or pitching.

## BASE.

"Consists of a heavy wooden plate mounted on six rubber legs which are screwed in with countersunk screws. It was found necessary to fit the rubber legs in order to overcome a tendency of the whole to slide about with heavy motion on the ship.

"In conclusion, although the weight of the apparatus is a very great disadvantage as regards portability the results gained with the gimbals have been quite good. Rolling and pitching unless very heavy, do not affect the trace and at their worst the effect is minimized very considerably."

## HEAVY WEATHER AND RUDDER LOST.

## Ship Steered by Stern Tow.

THE following is an abstract of Ship's Log of S.S. *Sachem*, Captain W. A. WESTGARTH, Liverpool to St. John's, Newfoundland. December 23rd, 1924 to January 7th, 1925, losing rudder in Lat. 50° 07' N. Long. 42° 22' W. and assisted to St. John's, Newfoundland, by S.S. *Manchester Hero*.

"Sailed from Liverpool at 9.0 p.m. December 23rd, 1924, vessel encountered strong variable S.W. to N.W.'ly winds, rough sea and swell, squally weather with heavy rain. Barometer and thermometer remaining in the neighbourhood of 1001 mb. and 47° F. respectively.

"At 4.0 a.m. on the 26th December, the vessel being in Lat. 51° 50' N. Long. 16° W., the weather was fine and clear, wind N.W. force 4 with heavy swell from the W.N.W., Barometer 1005 mb., thermometer 48° F., and at 5.0 a.m. the wind backed to the southward. Barometer falling fast, sky becoming heavily overcast from the S.W., having all the signs of an approaching disturbance.

"By noon in Lat. 51° 53' N. Long. 17° 52' W., the wind had increased to force 9, heavy S.W.'ly. swell with frequent violent squalls, barometer reading 985 mb. and thermometer 49° F. The barometer continued to fall, and at 8.0 p.m. it registered 974 mb. the temperature rising to 54° F., the wind having veered to the westward at 4.30 p.m. in a heavy rain squall, remained steady at force 8 or 9 and at 9.30 p.m. a violent squall with heavy rain was encountered lasting about 20 minutes, causing the barometer to fall to 969 mb. (lowest), also the temperature to 48° F., with sea rising to 8 and a very heavy swell from the westward. An hour later the weather moderated slightly, wind hauling to W.N.W., Barometer rising slowly and on the morning of the 27th, 8.0 a.m., the wind backed to the westward, increased again to force 9 (barometer falling 1.5 mb.) and remained steady from the westward and in force (9) with exceptionally high head sea and swell, until the morning of the 28th, at 7.15 a.m., when vessel had to be hove to for the next twelve hours.

"Similar weather conditions prevailed, the wind varying between W.S.W. and W.N.W. until 4.0 a.m. on the 31st December, when gale moderated to a fresh breeze from W.S.W., force 5, barometer 1001 mb., thermometer 35° F.

"During the above period, the barometer had a slow upward tendency and temperature fell from 50° F. to 35° F., except on the morning of the 28th (between midnight and 4.0 a.m.), when barometer recorded a sudden contrary movement, temp. 42° F., the wind from W.N.W. increased to a very heavy gale (force 10) violent squalls with hail, precipitous seas and very heavy swell from W.N.W., engines having to be reduced to less than half speed. Strong variable winds (6) prevailed between S.W. and N.W. from 4.0 a.m. December 31st to 8.0 p.m. January 1st, 1925, with unsteady barometer, falling temperature, rough sea and confused swell. Wind increasing to force 8, from N.W. at midnight, also sea and swell with frequent passing snow squalls. Barometer 981.5 mb., thermometer 33° F.

"At 3.30 a.m. January 2nd, wind backed to west, increasing to force 10, the vessel was hove to. Violent squalls of hail and sleet with very heavy W.N.W. seas and swell were encountered, barometer falling suddenly to 976 mbs., temperature rising slowly.

"An hour later, the wind veered to N., blowing with great force 10 to 11, frequent exceptionally violent squalls, mountainous seas and very heavy N.W.'ly. swell until 8.0 a.m., when gale commenced to moderate, sky clearing and barometer rising slowly. At 6.30 a.m. Lat. 50° 07' N. Long. 42° 22' W., 435 miles off St. John's Newfoundland, during one of the above squalls in which vessel shipped heavy seas fore and aft, doing considerable damage to deck work (rails, lifeboats, etc.) an inspection of steering gear (closed in) was ordered, the vessel having shipped an exceptionally heavy sea aft, and found Tiller broken about nine inches, forward, from Rudder Stock, the vessel being fitted with JOHN HASTIE'S engine, and MACTAGGART SCOTT'S Telemotor Gear.

"Had springs (or Buffers) and broken tiller removed from Quadrant, three turns of 3 3/4 in., manilla rope were passed round the rudder stock near the deck and with a drift of about twelve feet on either side, was set tight forward of quadrant with two strong tackles. This was found to have prevented the banging of the rudder from side to side against the rudder post, a considerable amount.



"It was now decided to suspend work, until weather moderated, and then place the steel locking pin in its place between the quadrant and the rudder stock so as to steer vessel direct from the steering engine with the assistance of strong relieving tackles, set up to the vessel's side abaft the quadrant. An opportunity for doing this occurred on the morning of the 3rd, when gale had moderated a little. The locking pin was driven well home with two heavy hammers. In a few minutes, same was sheared to bits and rudder resumed swinging from side to side.

"At 4.30 p.m. as the vessel was rolling heavily in very rough beam swell, the rudder post parted from the rudder stock at the flange, carried away the upper two gudgeons, unshipped, and was lost. The heavy sea shipped at 6.30 a.m. on the previous day must undoubtedly have strained the flange and gudgeons, also the rudder post, which was found to be bent when vessel was dry docked later in St. John's, Newfoundland.

"It was now decided to put the engines ahead. At 5.30 p.m. the vessel was doing 5 knots, with N.W.'ly wind a point on the port bow; speed increased to 10 or 11 knots as wind, sea and swell moderated. Wind backing to W. and S.W., vessel made an exceptionally steady course until 2.30 a.m. on the 5th, when engines were stopped as vessel would no longer head in a W.'ly direction, the wind having backed to S.S.W. Distance now from St. John's, Newfoundland, being 230 miles.

"On the 2nd, the S.S. *Manchester Hero* was requested to come to our assistance and as she was due on the scene that morning (5th) it was decided to wait for her. At 9.30 a.m. the S.S. *Manchester Hero* was sighted. At 10.40 a.m. she was alongside and at 11.20 a.m. commenced to connect up, all our towing gear being ready.

"Two lifebuoys were floated astern to which were attached a coil of Ratline, a coil of Pointline, a coil of 2-in. Manilla, a coil of 3½-in. Manilla, then a 6-in. mooring rope, to which our 90 fathoms of 5½-in. towing wire was made fast. Thirty fathoms of anchor cable was made fast to two bits on either side and around the mast, with ends of about two fathoms over the ship's stern. Our towing wire was passed through the two links and shackled to its own part.

"The S.S. *Manchester Hero* had no difficulty in getting hold of our lifebuoys with a boat hook and heaving our towing wire on board, to which was shackled thirty fathoms of anchor cable and same made

fast on forecastle head.

"At noon all was ready for towing (steering) and commenced to swing vessel to her course. Owing to a sudden strain, and there not being enough drift of cable between the two vessels, our towing wire parted at 0.30 p.m. At 4.30 p.m. we were again connected up in the same manner, the S.S. *Manchester Hero* now having 60 fathoms of cable shackled to our towing wire, swung vessel to her course, and speed was increased to 6 knots, the weather being fine and clear with light head winds, moderate sea and swell, the S.S. *Manchester Hero* steered us from about 3 to 4 points on our port quarter, making an average speed of 6 knots towards St. John's, Newfoundland, where we arrived at 6.15 a.m. on the 7th January.

"Three tugs were sent off from St. John's, and were made fast to our bow, the S.S. *Manchester Hero* still holding on to our stern but shortened her anchor cable to 15 fathoms. When swinging vessel for the entrance the S.S. *Manchester Hero* again parted our towing wire, proving that 90 fathoms of 5½ in. F.S. wire is useless for towing without plenty of cable to act as a spring. We proceeded through the Narrows without again connecting up to the S.S. *Manchester Hero* as we were now too close to do so.

"In conclusion, it may not be out of place to mention about one of the strongest blizzards for a number of years passed over St. John's, N.F., on the night of the 7th January. On the 6th, in fine clear weather, slight sea and swell, the wind from W.S.W., force 3 or 4, with barometer rising and temperature falling slowly to 1017.7 mbs. and 29° F. respectively at midnight. From midnight to 4.0 a.m. on the 7th, light variable N.W.'ly winds, smooth sea, stars brilliant and unusual visibility were experienced.

"At 4.0 a.m. the barometer commenced to fall, sky became overcast from N.W. at 8.0 a.m., wind increasing with passing snow flurries and continued to do so all day. At 6.0 p.m., the wind having hauled to the N.E., force 10, blew a strong blizzard with terrific squalls until 6.0 a.m. on the 8th, when gale moderated and sky commenced to clear. Owing to the heavy ground swell in the harbour we ranged heavily in our berth and broke away at 4.0 a.m., but having had let go an off-shore anchor with sufficient cable previous to mooring, we held on with the assistance of a good bow rope until gale moderated, when we again remoored at noon."

NOTE.—An account of this gale with weather Charts is given on page 10.

## WIRELESS AS AN AID TO NAVIGATION.

By COMMANDER JOHN A. SLEE, C.B.E., R.N. (retired).

DURING the past year steady progress has been made in the application of wireless direction finders as aids to navigation. The number of British ships carrying their own direction finders is growing steadily, and these instruments continue to prove themselves accurate and reliable. As a result more confidence is placed in them, they are more often used, and thus confidence in them is again increased.

Like all other forms of apparatus, increased opportunity for working means greater skill on the part of those concerned. Only practice can make perfect, and where all concerned are accustomed to the instrument and know its limitations the level of accuracy rises steadily.

Accurate working is not entirely dependent on the telegraphist. It is true that if the wireless bearing is wrongly observed in the first place there is no hope that anything useful to navigation will result, but the operation of taking a bearing presents no more difficulty to a skilled telegraphist than the operation of observing an altitude presents to a man trained to the use of a sextant, and is not more likely to be the cause of any error that may arise.

The ship's direction finder itself can only give the relative bearing—that is, the angle between the fore-and-aft line and the line joining the ship and the transmitting station. In order to obtain a position line the direction of the ship's head must be noted at the same time that the bearing is taken by wireless. If the ship's course at the moment the wireless bearing was taken is worked out as a true course (not a compass course) then it is simple enough to determine the true bearing.

It is better to work with true bearings than with magnetic bearings when using a direction finder, because the differences are often considerable—50 miles or over, the variation may well differ by a degree between two places 50 miles apart. If true bearings are used—say, N. 50° E. true—then a line drawn at this angle to the meridian through the position of the transmitting station will pass through the position of the ship, unless the distance is about 100 miles or more, in which case the curvature of the earth's surface must be taken into account and allowed for by applying the "half convergency" to the bearing. But a line running N. 50° E. magnetic through the position of a ship will not tally with a line running S. 50° W. magnetic through the transmitting station unless the variation is the same at both places, which is seldom the case—hence the preference for true bearings.

In order to make the work of translating a relative bearing into a true bearing as easy as possible, most ships which carry direction finders are nowadays provided with an instrument called a "bearing corrector," which consists of four circular scales and a pointer, all having a common centre. The first scale is marked all round in degrees, and has a small inner scale to allow for variation. The second scale has an arrow on it and is marked 0° to 90° N. to E. and W.; and S. to W. and E. It also has a small scale on its inner edge to allow for deviation. The third scale has an arrow on it and is marked 0° to 90° N. to E. and W.; and S. to W. and E. The fourth scale has an arrow on it marked "ship's head" and is marked all round in degrees.

If the arrow on the second scale is set to Variation, and the arrow on the third scale is set to Deviation, then if the pointer is lined up over the compass course (or bearing) on the third scale it will indicate the magnetic course (or bearing) on second scale and the true course (or bearing) on the first scale.

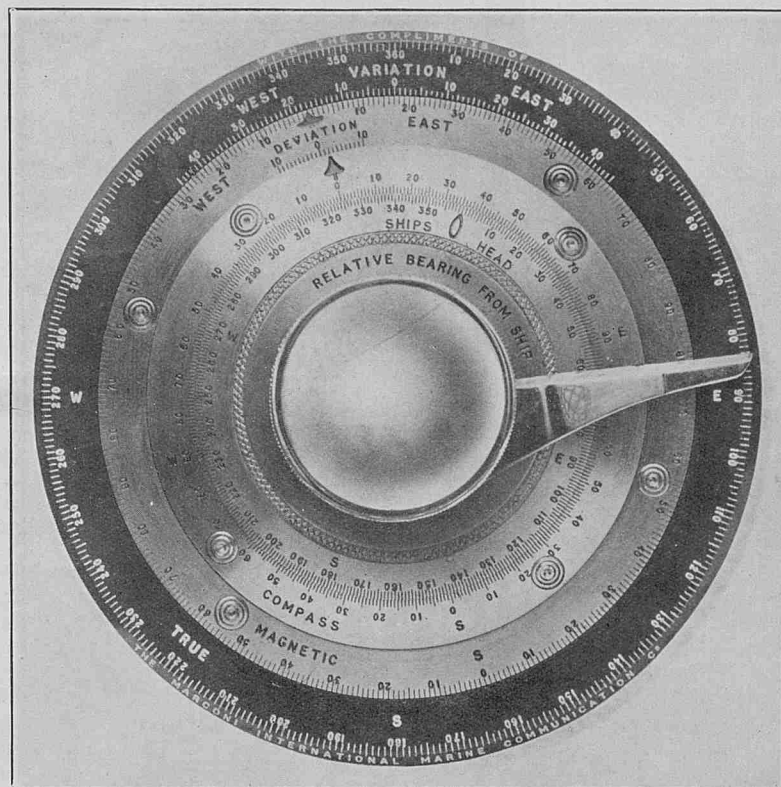
If the first three scales are set as above, and the "ship's head" arrow on the fourth scale is set to the direction of the ship's head by compass when the wireless bearing was taken, the pointer can be lined up to the wireless bearing on the fourth scale and will then indicate the true bearing on the first scale.

In most forms of the instrument the first three scales can be clamped together, leaving the fourth scale and pointer free, and if the first three scales are set up to the correct Variation and Deviation in this way it is the work of a moment to set the "ship's head" arrow to the course by compass at any time and lay the pointer over the relative bearing, when the true bearing is at once revealed on the first scale.

The instrument is very handy for all sorts of problems involving the changes from true to magnetic or compass courses, as well as for the translation of relative into true bearings.

The Beacon Station on Round Island, Scillies, continues in service and appears to be giving every satisfaction. A small number of poor bearings have been reported in the neighbourhood of  $225^\circ$  true from Round Island, where the line of bearing grazes the N.W. end of Tresco, but these reports are not very definite. Except for this narrow doubtful arc bearings seem to be good in all directions.

Recent technical improvements in the direction finder instruments have been in the direction of reducing the size of the aerials, especially in those types which employ fixed loops, and in improving the ease of observation when "sense" is required as well as "direction."



Bearing Corrector.

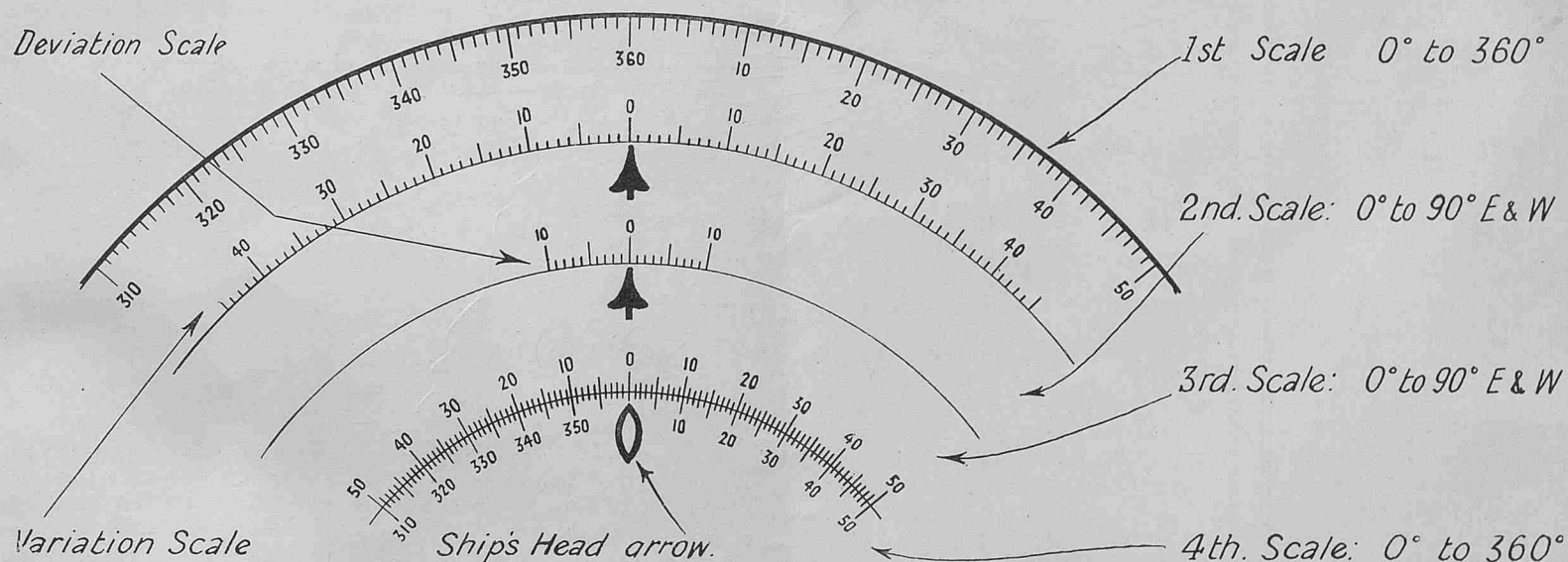


Diagram of bearing corrector scales.

The ordinary observation for direction only determines the line of bearing, say, N.  $45^\circ$  E., that is to say, it only shows that the position of the ship is on a line drawn at this angle through the position of the transmitting station, but it does not show which half of line cuts the position of the ship. She might be N.E. of the transmitting station or S.W. of it, for all the information obtained from the observation for "direction" alone.

If "sense" is also observed, then this matter is cleared up definitely and the observer is able to say which half of the bearing line cuts the position of the ship. Generally speaking, the observation for direction is very clear, definite and accurate, and should be dependable within one degree. The observation for "sense" is less clear cut and does not pretend to do more than clear up the question as to whether the bearing is in fact on, say, the starboard bow or port quarter.

In a word, the observation for "direction" gives a sharp and accurate line of relative bearing but does not show in which of two

opposite directions the transmitting station really lies. The observation for "sense" shows which end of the line of bearing is towards the transmitter and which end is away from it.

### Revolving Beam.

The greatest technical advance that has been made in the application of wireless as an aid to navigation is the further improvement in the Revolving Beam. This is not quite the same thing as direction finding as the expression is generally used, although it is a wireless method of helping a ship to find out the bearing of a fixed point of land. The system has been very fully described in several papers, but perhaps a few words stating what happens on board the ship may make the matter even more clear.

The ship is fitted with a special receiver which is tuned up for good and all to the wave of the revolving transmitter—all revolving transmitters should be the same—and the most convenient arrangement is to put the receiving box with a small loud speaker in the



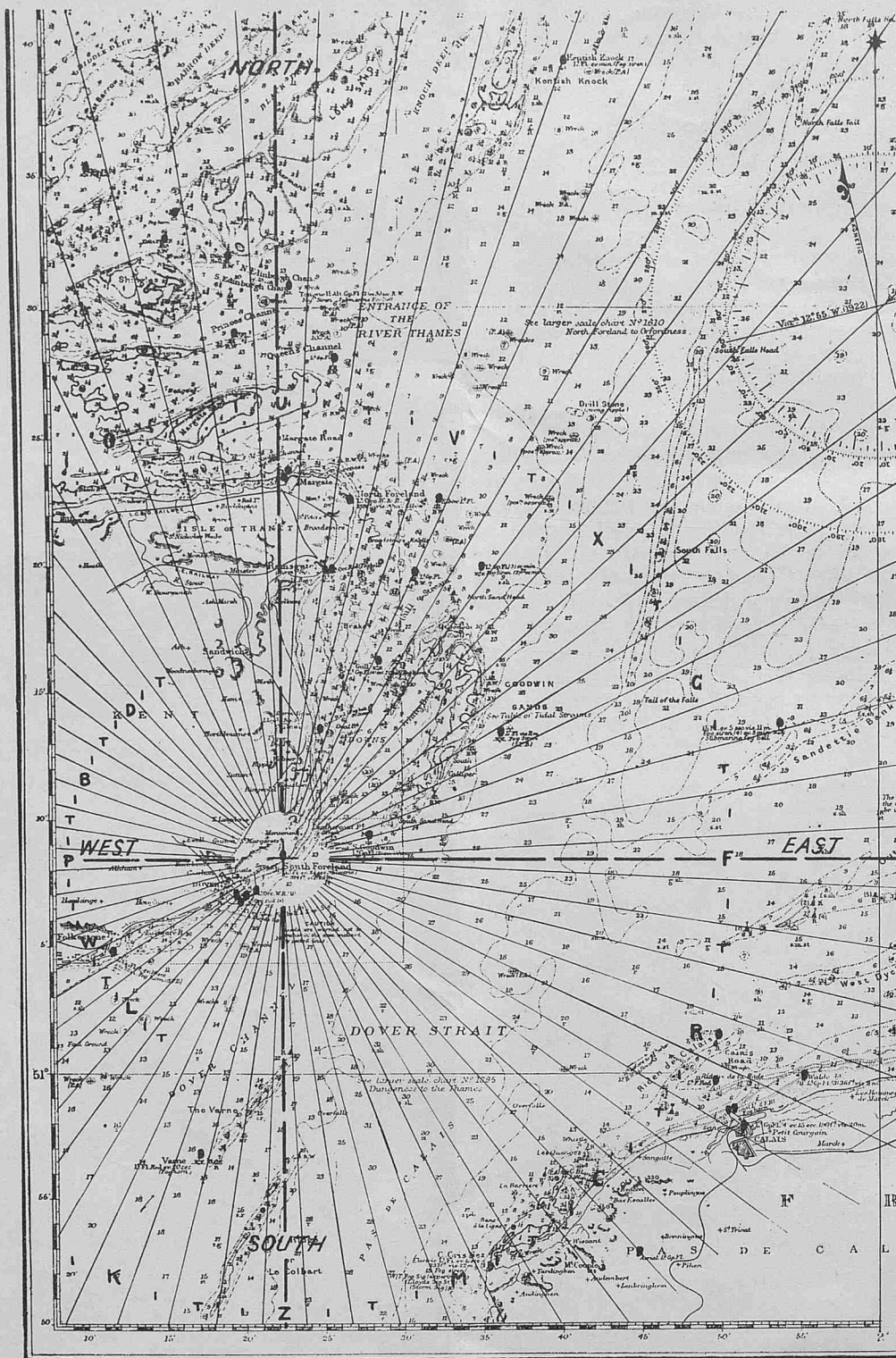


Chart cutting showing through "letter code."

chart room or wheel house. The receiver has a simple adjustment to regulate its sensitiveness.

Something of the nature of a sheet of tracing cloth ruled with a thin line every half point of the compass and a North and South and an East and West line should be dotted in for ease in placing the tracing over the chart. The letter code should be written round this tracing, the letters being written midway between the lines.

When the ship is somewhere near the revolving beam transmitter, the sheet of tracing cloth should be spread out over the chart with its centre on the position of the transmitting station and the North and South line parallel to a meridian. Then switch on the receiver and note what is heard. Once every two minutes a few morse letters will be received, the first and last of the group faintly, the middle letters more strongly. A glance at the code letters on the tracing will show whereabouts the bearing is.

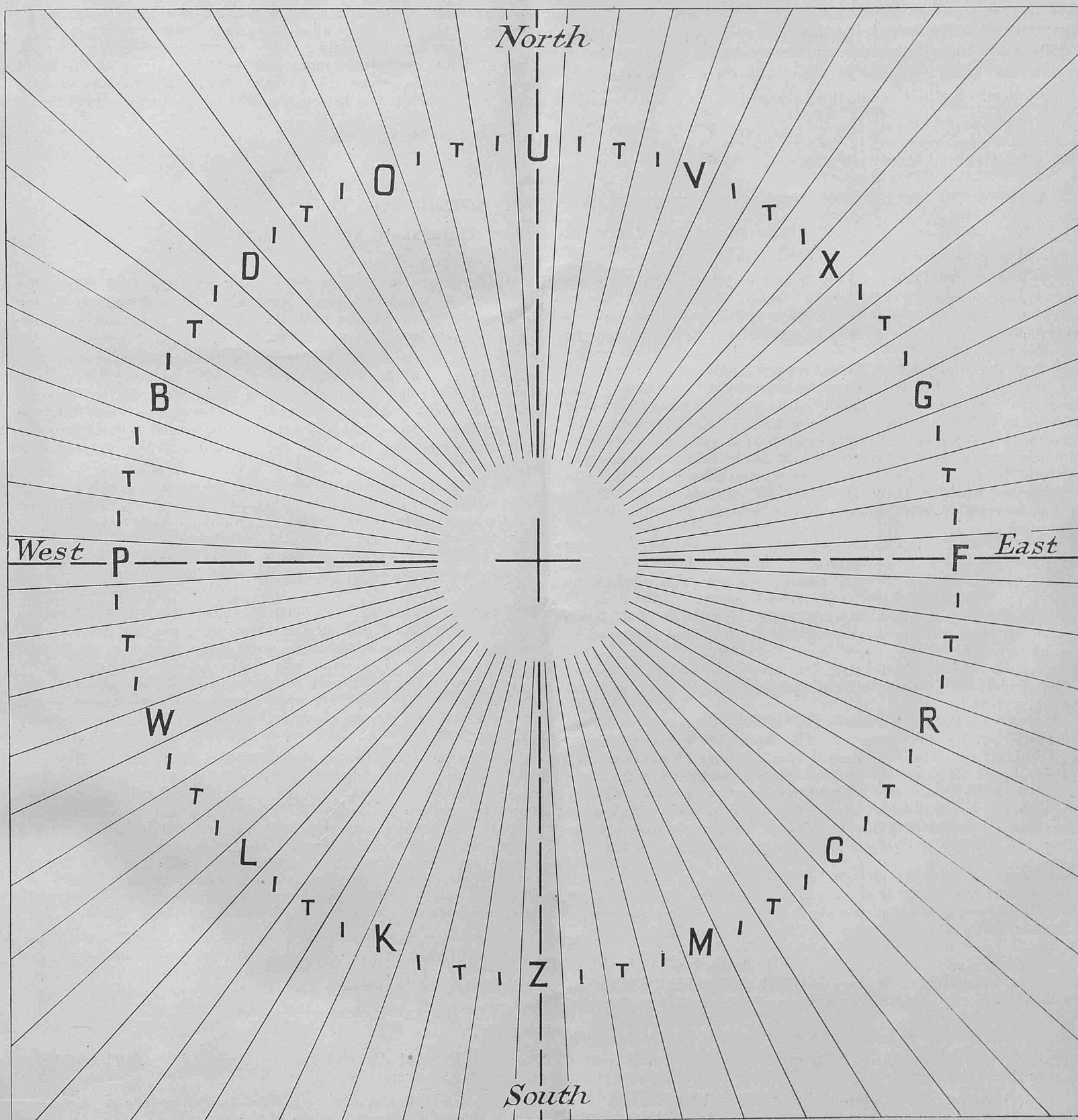
Now work the adjustment for sensitiveness until either four or five letters are heard each time. If five letters are heard, the first

and last faintly and the middle letter the loudest, then the middle letter indicates the bearing, and the lines on the tracing cloth on either side of it show the area in which the position lies. If four letters are heard, the first and last faintly and the middle letters alike, then the position will lie in the arc between the two middle letters.

The beam now at South Foreland is powerful enough to be worked with certainty as described above over 50 miles of sea, and it can be read as far up the Thames Estuary as the *Mouse Lightship*. It is rather faint at the Nore, the reduction in strength of signals being due to the intervening land.

One of the greatest advantages of this method of using wireless is that errors do not creep in due to the presence of land, or change from darkness to daylight. Such things will alter the range at which signals can be picked up, but will not alter the fact that the letter *U* is always transmitted towards the North, and so on. Nor does it make any difference if the transmitter goes round a little too fast or a little too slow. Any letters which can be heard at all will always be in their





proper directions. In a word, although the range may be less than expected—or, of course, the station might be out of action altogether—yet any bearing obtained from it will be correct.

A single revolving beam transmitter makes no pretence to indicate distance, but if two or more of them can be heard at the same time, then, of course, a fix can be obtained within the limits of accuracy of the indication of bearing. The arrangement indicated above works

out to such a degree of accuracy that the bearing cannot be more than a quarter of a point in error.

When working the receiver it is important that the sensitiveness should be reduced so that only a few letters are heard. If a large number are made audible it means that signals are unnecessarily strong and it may be possible to hear some letter transmitted very feebly in the wrong direction. The transmitter delivers the right

letter in each direction some hundreds of times more strongly than the wrong letters can be sent, but there is a possibility that if the ship is quite close to the transmitter, and her receiver is at its maximum sensitiveness, some confusion may be caused by the reception of wrong letters. But if the practice of reducing the sensitiveness of

the receiver until not more than five letters are heard in each two minutes is adhered to, then all chance of confusion is removed.

The letters are sent quite slowly and are perfectly easy to read. Even a person unskilled in morse can do it because he can pick out from the chart the letters he is likely to hear and get the idea of them in his mind, when it will be found quite easy to identify them.

## WEATHER CHARTS—WESTERN NORTH ATLANTIC.

PREPARED IN THE MARINE DIVISION BY J. HENNESSY, SENIOR  
NAUTICAL ASSISTANT.

IN "The Marine Observer's log" will be found an account from the ship's log of the loss of rudder by S.S. *Sachem*, Captain W. A. WESTGARTH, during heavy weather in the Western North Atlantic, and her subsequent stern tow for steering to St. John's, Newfoundland, by S.S. *Manchester Hero*.

During the latter half of December, and more especially from the 21st onward, the North Atlantic routes were swept by continuous and exceptionally severe westerly gales. *Sachem* leaving Liverpool bound to St. John's, Newfoundland, on December 23rd, had from the commencement of her passage to fight against head gales and seas which were particularly heavy owing to the long reach and the prevalence of the wind from the same direction across the whole Atlantic. On January 2nd, when in Latitude 50° 07' N., Longitude 42° 22' W., during a heavy blow, the ship carried away her rudder in the heavy sea then running.

Had *Sachem* been able to intercept the Arlington Weather Report (for particulars of which see Volume II, No. 21 of this Journal) and obtained an interchange of W/T weather messages with ships in the vicinity, daily weather charts could have been drawn which would have given valuable information regarding the weather likely to be experienced from day to day during the anxious time employed in working to port.

WEATHER CHARTS NOS. I to III are made from data broadcast in the Arlington Weather Bulletin and from ships' meteorological logs and reports.

WEATHER CHART I FOR 0800, JANUARY 1ST, 1925, shows *Sachem* to be situated in the S.W. quadrant of a depression, where she is experiencing strong westerly winds. It is unfortunate that on this day no Canadian or Newfoundland reports were obtainable, but from the tendencies of the ships' barometers in the vicinity of *Sachem*, allowing for course and speed, it would appear that the depression will become more intense. *Sachem* will therefore expect her barometer to continue falling, the wind to increase in strength and weather conditions to become worse.

WEATHER CHART II FOR 0800, JANUARY 2ND, 1925, shows the depression in which *Sachem* is situated to have developed during the past twenty-four hours while an anticyclone has spread over the Eastern Provinces and Newfoundland.

*Sachem's* meteorological log shows that the barometer continued to fall until 4 a.m. on this day, when it reached 976 millibars (28.82 inches). Her wind gradually increased to force 10 accompanied by frequent squalls of exceptional violence and the sea became so heavy that the ship had to be hove to. At 4.30 a.m. the wind veered to north, weather conditions remaining the same, and at 6.30 a.m. the steering gear carried away.

The barometer tendencies shown on the chart for this morning indicate that the depression is either passing over or filling in and that the anticyclone will move east. The small low centred off Norfolk will probably move north.

During the next twenty-four hours *Sachem* may expect an improvement in her weather conditions with wind backing and decreasing in strength.

WEATHER CHART III FOR 0800, JANUARY 3RD, 1925, shows the main depression to have filled in considerably during the past twenty-four hours, while the anticyclone moving east is now centred south of Newfoundland. The small low shown on yesterday's chart off Norfolk has moved north and is now centred off the coast of New Jersey. During the past twenty-four hours *Sachem's* meteorological log shows that with a rising barometer the wind and weather gradually moderated.

The barometer tendencies shown on the chart for this day give little indication of any change in the general distribution of atmospheric pressure. *Sachem* while remaining hove to will not therefore expect any change in the weather which she is now experiencing for the next twenty-four hours, but if able to proceed on her course will obtain a rising barometer with wind steady in direction but decreasing in force and improved weather conditions.

## WIND AND FOG CHARTS FOR GREAT BRITAIN AND IRELAND AND THE SOUTH-WESTERN APPROACHES.

PREPARED IN THE MARINE DIVISION BY J. HENNESSY, SENIOR  
NAUTICAL ASSISTANT.

DURING the current year each Number of this Journal will contain monthly charts showing—

- (1) Frequency of Gales on the British and Irish coasts.
- (2) Wind and Fog frequency at 10 selected stations on the British and Irish coasts.
- (3) Wind, Fog and Mist frequency at South-Western approaches to the English and Bristol Channels and Irish Sea.

### Frequency of Gales on the British and Irish Coasts.

(Left hand side of page.)

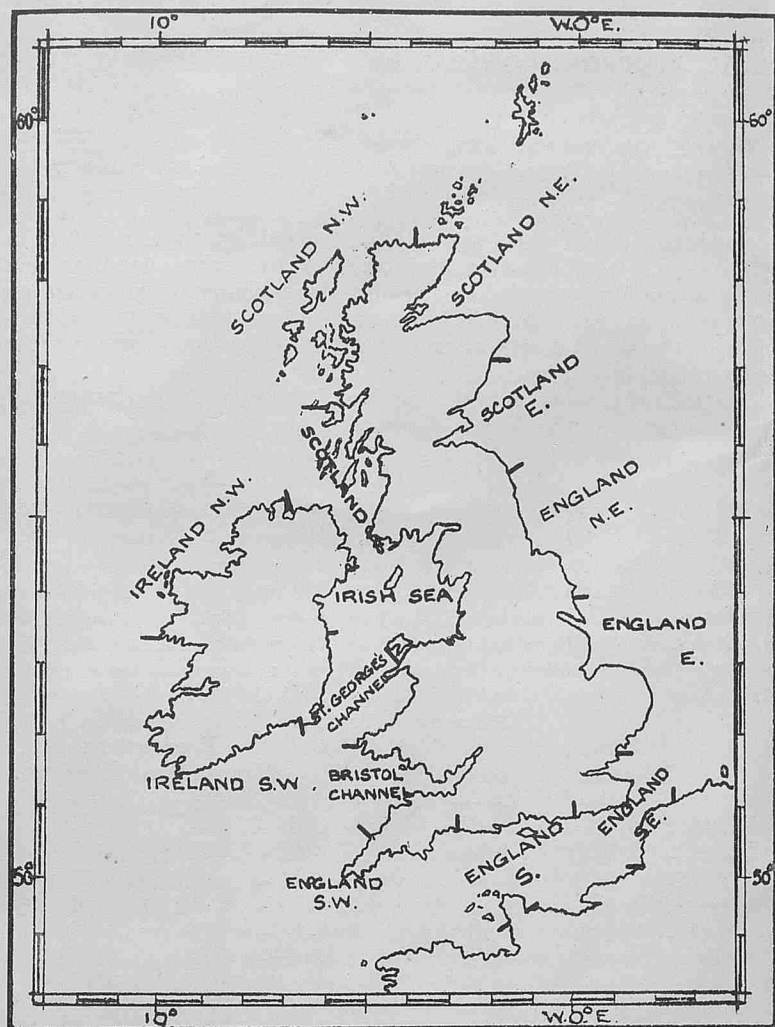
These Charts are made from those published in "The Weather of the British Coasts" (M.O. 230) from data obtained from the Meteorological Office Storm Warning Stations situated in the districts as shown on the Chartlet, p. 11, during the 40 years 1876–1915.

The districts, Scotland N.W. and Scotland N.E. include stations situated in the Hebrides and Shetlands and Orkneys respectively, and

the south England district, those at Guernsey, etc. The Districts are indicated upon the Chartlet.

On these Charts the wind roses show the percentage of gales from each of the eight principal points of the compass, N., N.E., E. S.E., S., S.W., W., and N.W. The actual percentage is indicated by the length of the dark lines, 10 per cent. being represented by a length of one-tenth of an inch, 20 per cent. by two-tenths of an inch and so on. The figure in the small centre circle indicates the percentage of cases in which no single direction could be assigned for the gale, because the wind blew from various quarters in different parts of the same district. The larger figures immediately under the wind rose show for each month and for each district the average number of Gales of all strengths (Force 8 and above). The smaller figures show the average number of the gales which were generally or partially severe. A "Generally severe" gale is one in which Force 10 or more (Beaufort scale) is reported at not less than half the stations in the





district. A "Partially Severe" gale is one in which the winds of similar strength are reported at less than half the stations in the district.

#### Wind and Fog Frequency at Ten Stations on the British and Irish Coasts. (Right hand side of page.)

The data for the construction of these Charts is taken from the "Monthly Meteorological Charts for Western Europe" published and issued by The Hydrographer of the Navy, Admiralty.

The 10 stations shown on the Charts are similar to those used for the "Weather Shipping" Bulletin with the exception of Guernsey and Wick for which Jersey and Aberdeen have been substituted.

**Wind.**—The wind roses constructed for the eight principal points of the compass are based for the most part on observations of the 20 years 1895–1914 whenever possible three observations a day were collated. The arrows flying with the wind show by their length the frequency of the wind, their thickness giving the various forces according to the Beaufort notation, thus, light winds,

forces 1–3 ———→ moderate winds, forces 4–7 ———→ gales, forces

8–12 ———. The circle supplies a scale for estimating the

frequency of winds in any direction. From the heads of the arrows to the circumference of the circle represents 5 per cent. of the total number of observations, one hundred per cent. equalling  $2\frac{1}{2}$  inches. The upper figure in the centre of the wind rose represents the percentage of calms or light variable airs.

**Fog.**—The figures at the end of the wind arrows are based upon data extending from 1888 to 1914 and give the amount of fog with wind direction per 1,000 observations. The lower figure in the centre of the wind rose gives the amount of fog with calms and light variable airs per 1,000 observations. At the bottom of the chart sheet to the right is given a table showing the mean and maximum number of days with fog experienced during the month at the different stations.

#### Wind, Fog and Mist, South-Western Approaches to Great Britain and Ireland. Latitude 48° to 52° N., Longitude 5° to 10° W.

The data for the construction of these Charts is obtained from the Meteorological Logs of Observing Ships received since the adoption of the Hollerith system of extraction and covers the years 1921–1924.

The wind rose is constructed for every second point of the compass and is enlarged in proportion to the scale of Longitude of the Chart, otherwise it is similar to the wind roses used for Chart of British Coasts above to the right.

The figures in the middle circle of the wind rose give the percentage of wind from each direction with fog and mist, for example:—In January on all occasions when a southerly wind was observed 25 per cent. of them were accompanied with fog or mist; therefore, the probability of fog or mist with a southerly wind during that month is one in four.

The upper figures in the inner circle of the wind rose refer to the total number of observations used in its construction. The middle numbers refer to the percentage of calms (*left*) and to the percentage of calms with fog and mist (*right*). The lower numbers refer to the percentage of variable winds (*left*) and to the percentage of variable winds with fog and mist (*right*). To the left is a table giving the frequency of fog and mist per thousand observations for each two points of the compass wind direction. The sum of these values divided by ten gives the percentage frequency of fog and mist for the whole area.

It must be understood that the Charts are not comparable one with the other. In the case of the "Frequency of Gales on the British and Irish Coasts" the data used for the construction of the wind roses apply, while in the case of "Wind and Fog Frequency at Ten Stations on the British and Irish Coasts" the roses are constructed from observations made at one station, the exposure of which may affect the observations of both wind and visibility from some directions.

On Chart "Wind, Fog and Mist, South Western Approaches to Great Britain and Ireland, Latitude 48° to 52° N.; Longitude 5° to 10° W" the rose is constructed from observations taken at sea over the whole area and is therefore free from those influences which affect land stations but it must be remembered that the observations used for this rose only cover four years, which is not sufficient or of long enough duration to give confidence. It will, however, bring to the notice of many Observers the need for constant care in logging the exact weather as well as the wind.

Marine Observers are invited to comment upon this form of Wind, Fog and Mist rose with a view to obtaining the most suitable means of printing statistical information for mariners regarding Coastal Waters.



## FORTNIGHT OF INTERNATIONAL METEOROLOGICAL OBSERVATIONS AT SEA.

REPORT BY MINISTRY OF PUBLIC WORKS, AERONAUTICS AND  
AIR TRANSPORT, NATIONAL METEOROLOGICAL OFFICE,  
WIRELESS SERVICE, PARIS.

### 1. The Annual Cruises of the "Jacques Cartier."

At the International conference of the Directors of the Meteorological Services which was held at Utrecht during September, 1923, it was decided to request the Meteorological Institutes of the various countries to make strenuous efforts to arrange that the greatest possible number of ships should answer the calls of the *Jacques Cartier* and regularly despatch meteorological observations to this ship.

The *Jacques Cartier* has carried out cruises for meteorological work every year since 1921. The cruises begin in the autumn and end at the beginning of the next summer. As a rule they comprise two or three outward and homeward voyages between Europe and the ports of N. America.

During the 1924-1925 cruise wireless sets with very short wavelength were installed, experimentally, on board the *Jacques Cartier*, with a view to ascertaining how far these wavelengths would be satisfactory for meteorological work. The experience gained during the first two voyages carried out between October, 1924, and April, 1925, was decisive.

By using a low-power sending set with short wavelength the *Jacques Cartier* was able to communicate direct with Paris throughout the voyage across the Atlantic, from France to the Antilles and Panama or from France to the Bermudas and the Gulf of Mexico.

In order to obtain satisfactory results certain precautions had to be taken, especially as regards the selection of the hours for transmission and the wavelengths. The information thus received in France was immediately broadcast in Europe by the Eiffel Tower. Hence the meteorological services in Europe had the benefit of the work carried out by the *Jacques Cartier* in mid-ocean.

During the first two voyages the results of this work were far more fruitful than during previous cruises. The number of ships' messages collected daily by the *Jacques Cartier* varied between 20 and 50. All these messages served on the one hand to work up forecasts on board and on the other were retransmitted practically in full to France on very short wavelengths.

The conclusion was therefore come to that it was time to make an international effort during the third voyage and to organise a fortnight's international meteorological observations at sea.

### 2. Organisation of the Fortnight's Work.

In spite of the short time available M. VAN EVERDINGEN, President of the International Meteorological Committee, in April, 1925, sent an appeal to the European Meteorological Services inviting them to induce their merchant ships to collaborate in the Meteorological work undertaken on board the *Jacques Cartier* during the first fortnight of June, 1925, on her return from the Gulf of Mexico to France. M. VAN EVERDINGEN at the same time stated the conditions under which the *Jacques Cartier* worked, both from the meteorological and the wireless telegraphy points of view, and also indicated the route to be followed on the outward voyage from Le Havre to the Gulf of Mexico, in case the circular might reach certain ships fairly early, before the *Jacques Cartier* sailed from France at the end of April.

### 3. Principal Results.

The following are the principal results obtained during this third voyage:—

On the outward voyage, between April 27th and May 8th, the *Jacques Cartier* received 483 ships' reports. In addition the ships' observations included in the Eiffel Tower and Annapolis wireless weather reports, which were heard on board the *Jacques Cartier*, brought up the number of ships' reports utilised on board for working up the forecasts to 570.

During the homeward voyage, between May 30th and June 8th, the *Jacques Cartier* received 408 ships' observations.

The *Jacques Cartier* retransmitted the majority of the observations received, either on 115 metres or on 31 metres wavelength. On the

outward voyage all the observations transmitted were received in France and broadcast over Europe. On the other hand, during the homeward voyage, the lengthening days hindered the reception of some of the weather reports on short wavelength and only two-thirds of the ships' observations retransmitted by the *Jacques Cartier* were received in Europe.

The following table gives the number of ships' messages transmitted daily to France by the *Jacques Cartier*:—

Outward Voyage.					
April 27th	-	40 observations.	May 3rd	-	60 observations.
" 28th	-	20 "	" 4th	-	52 "
" 29th	-	34 "	" 5th	-	44 "
" 30th	-	33 "	" 6th	-	46 "
May 1st	-	43 "	" 7th	-	26 "
" 2nd	-	60 "	" 8th	-	26 "
			" 9th	-	13 "

Homeward Voyage.					
Observations Transmitted.			Observations Received.		
May 29th	-	7	June 3rd	-	57
" 30th	-	15	" 4th	-	48
" 31st	-	26	" 5th	-	41
June 1st	-	38	" 6th	-	49
" 2nd	-	48	" 7th	-	39
			" 8th	-	24

It should be noted that the difference between the effectiveness of the transmissions on short wavelength on the outward voyage when it was excellent, and during the homeward voyage, when it was not nearly so satisfactory, is due to chance (the time which would have been most suitable for the short wavelength on the homeward voyage was reserved for work on long waves) and to the fact that there was a mistake about the short waves, watch being kept on 115 metres wavelength for the messages transmitted on 31 metres wavelength, on account of the fact that a message from the *Jacques Cartier* announcing this modification failed to reach the National Meteorological Office.

### 4. Possible Improvements.

There are several points to be raised with regard to the concentration of ships' observations.

(a) Few of the big mail steamers, even amongst those which normally undertake the transmission of meteorological reports answer the calls from the *Jacques Cartier* on spark or c.w. This is the more regrettable because it is from these ships that the *Jacques Cartier* might receive reports from the longest distances, *i.e.*, in places where the network of observations collected by this ship is least dense. The work undertaken by the *Jacques Cartier* is very elastic and is always adapted to the requirements and wishes expressed by the mail steamers, the wishes of the said steamers being met as regards the times of exchange of reports and selection of the wavelength for transmission of reports. The despatch of a weather observation to the *Jacques Cartier* only requires a very little time and does not disturb general wireless telegraphy traffic to any appreciable extent. Greater efforts should be made to induce the big mail steamers to help on the work undertaken by the *Jacques Cartier*.

(b) The majority of the ships which keep up a regular communication with the *Jacques Cartier* are slow cargo boats, which are keenly interested in the daily forecasts and storm warnings (the fast mail steamers are obviously not interested to the same degree).

At the end of each voyage a certain number of these cargo boats send radiograms to the *Jacques Cartier* expressing their thanks for the accuracy and importance of the forecasts issued. When they

fail to pick up the weather forecast issued at the scheduled time correctly, they never hesitate to ask for a full or partial repetition of the report. Again the *Jacques Cartier* on several occasions has heard certain ships repeat her forecasts to vessels too far away to pick them up direct. It is clear, therefore, that the *Jacques Cartier* has formed a connection amongst ships which work with this meteorological service during each voyage, and to this is due the regularity of the reports issued by the *Jacques Cartier*. The ships which already make use of the service will most likely be joined by other ships which do not as yet know the importance of the forecasts which are available and which do not realise the total absence of any formalities in connection with this service, exchange of information being entirely free of charge.

The weather observations may be transmitted by any one of the codes used at sea or even in clear language, in French or English. In order to reach the largest possible number of ships the forecasts are issued in English.

The effort needed here is to acquaint ships as yet unaware of this service of the advantages they may obtain without any expense or any formalities, by taking a share in the meteorological service carried out by the *Jacques Cartier*.

(c) Certain ships, the majority being American, have had the happy idea of collecting ships' observations themselves and retransmitting them *en bloc*. This is an excellent scheme and makes it possible to transmit a great many observations to the *Jacques Cartier* in a very short space of time, and above all, makes it possible to widen the range of the observation system by bringing in observations from ships too far away to communicate direct with the *Jacques Cartier*. This scheme should be encouraged.

(d) During the preceding cruises the *Jacques Cartier* obtained a large number of observations by day (about 1300 hrs. G.M.T.) without difficulty, but very few observations at night (about 0100 hours G.M.T.). This is easily explained, because ships only carrying one W/T operator do not listen in, in the middle of the night. However, during the last voyage of the *Jacques Cartier* the 0100 hrs. observations received were far more numerous than before. Moreover, these observations retain their interest even when transmitted with a delay of some hours, and if needs be with the following observation at 1300 hours. Certain ships carry out the four international daily observations (0100 hours, 0700 hours, 1300 hours and 1800 hours) regularly, and it would be very desirable if these ships, on getting into contact for the first time with the *Jacques Cartier*, were to transmit the whole of the observations taken by them during the previous 24 hours.

In brief the meteorological service undertaken with the merchant ships could be effectively improved :—

(a) By inviting the big mail steamers to take an active share in the work.

(b) By informing all cargo boats of the existence of this meteorological service, its advantages and simplicity.

(c) By encouraging and arranging for the prior concentration of observations by ships acting as relay stations.

(d) By recommending ships to transmit the 0100 hours observation in the same way as the 1300 hours observation, even with a delay of several hours.

## 5. Progress of Results.

The following table shows the continued progress of the results obtained from one year to another :—

April, 1922, Dunkirk-Baltimore, 99 ships' observations.  
February, 1923, Havre-Port Arthur, 130 ships' observations.  
February, 1924, Bordeaux-Martinique, 200 ships' observations.  
February, 1925, Havre-Galveston, 329 ships' observations.  
April, 1925, Havre indefinite cruise, 483 ships' observations.

## 6. Ships Collaborating.

The following is a list of ships selected from those whose collaboration with the *Jacques Cartier* was the most effective during the voyages undertaken from April to June, 1925.

<i>Antinous</i>	-	-	-	KDAX	-	-	-	America.
<i>Braddock</i>	-	-	-	KETG	-	-	-	"
<i>Reaper</i>	-	-	-	KDLG	-	-	-	"
<i>Tripp</i>	-	-	-	KIMC	-	-	-	"
<i>Deuel</i>	-	-	-	KOMD	-	-	-	"
<i>Harvester</i>	-	-	-	KDHC	-	-	-	"
<i>Effna</i>	-	-	-	KOMT	-	-	-	"
<i>Vaba</i>	-	-	-	KDIB	-	-	-	"
<i>Maiden Creek</i>	-	-	-	KIPX	-	-	-	"
<i>Colorado Springs</i>	-	-	-	KILK	-	-	-	"
<i>Ossa</i>	-	-	-	KUFZ	-	-	-	"
<i>Ryndam</i>	-	-	-	PED	-	-	-	Holland.
<i>Breedylk</i>	-	-	-	TXY	-	-	-	"
<i>Amsterdam</i>	-	-	-	PEH	-	-	-	"
<i>Loriga</i>	-	-	-	GCLM	-	-	-	Gt. Britain.
<i>San Manuel</i>	-	-	-	GJNY	-	-	-	"
<i>Waiwera</i>	-	-	-	MRV	-	-	-	"
<i>Belgian</i>	-	-	-	GCNM	-	-	-	"
<i>Scottish Maiden</i>	-	-	-	GFQW	-	-	-	"
<i>San Salvador</i>	-	-	-	GKDS	-	-	-	"
<i>Cedrie</i>	-	-	-	MDC	-	-	-	"
<i>Sunoco</i>	-	-	-	OSUA	-	-	-	Belgium.
<i>Emmanuel Nobel</i>	-	-	-	OOL	-	-	-	"
<i>Cuba</i>	-	-	-	DAK	-	-	-	France.
<i>Britannia</i>	-	-	-	FJG	-	-	-	"
<i>France</i>	-	-	-	FTZ	-	-	-	"
<i>La Bourdonnais</i>	-	-	-	UDU	-	-	-	"
<i>Pellerin de la Touche</i>	-	-	-	FGZ	-	-	-	"
<i>Espagne</i>	-	-	-	FTE	-	-	-	"
<i>Rochambeau</i>	-	-	-	FTR	-	-	-	"
<i>Flandre</i>	-	-	-	FGF	-	-	-	"
<i>Puerto Rico</i>	-	-	-	FGU	-	-	-	"
<i>Macoris</i>	-	-	-	UDI	-	-	-	"
<i>Michigan</i>	-	-	-	FQQ	-	-	-	"
<i>Montana</i>	-	-	-	FXA	-	-	-	"
<i>Basse-Terre</i>	-	-	-	FQE	-	-	-	"
<i>Missouri</i>	-	-	-	FXU	-	-	-	"

Paris,

July 23rd, 1925.



## WEATHER SIGNALS.

UNDER Weather Signals it is intended to publish particulars and concise descriptions of Signals and Codes used for reporting Weather, Ice and Time in four sections.

- I. Ships' Wireless Weather Signals.
- II. Wireless Weather Signals made from the shore to ships and Wireless Weather Signals made ashore which may be useful to ships. (Bulletins and Wireless storm, and ice warnings.)
- III. Wireless Time Signals.
- IV. Visual Weather Signals made at the Coast. (Storm warnings.)

Sections II, III, and IV will be published as far as possible in geographical order, so that the most used of these signals for all parts of the world may be as complete as possible in each year's numbers of "The Marine Observer."

Meteorological Services of Maritime countries are invited to send concise descriptions of such signals made, for which only limited space is available.

## I.

## SHIPS' WIRELESS WEATHER SIGNALS.

WEATHER Reports between ships at sea and from ships to Weather offices are of three kinds :—

- (1) Those which give information of conditions experienced during a passage or part of a passage with conditions prevailing at the time the message was drafted, no attempt being made to synchronise with other observations.
- (2) Those which are based upon observations made at arranged times so that they provide synchronised data in a standard form but *not* in code.

taken at the same time as those of the nearest land weather service. These times are given upon the accompanying Chart of the World.

## (2) Standard Form not in Code.

TIMES of observation must not be confused with times of transmission of reports. So long as the observations are taken at these fixed times transmission of reports may follow as convenient, which should be addressed to all ships.

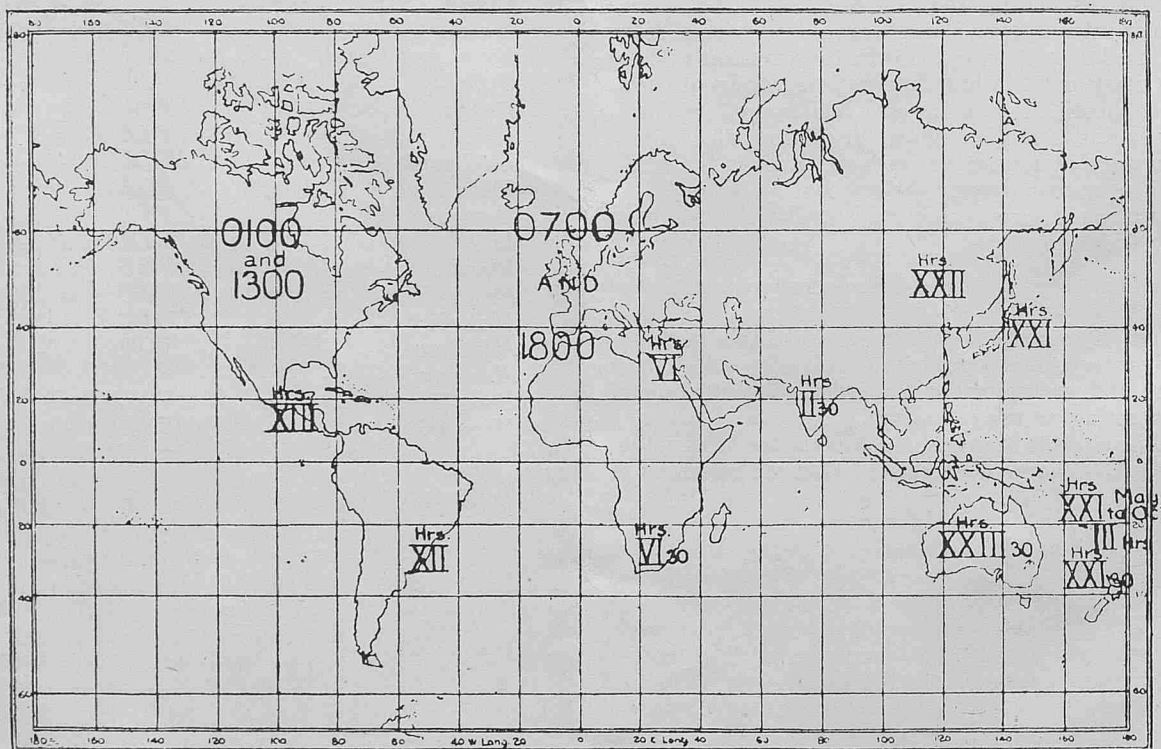
Wireless Weather Reports should always contain—

- The position at which the observations were taken,
- The corrected barometer reading,
- The direction and force of the wind,
- The present weather,\*
- The Greenwich mean time of observation,
- The date and name of ship sending.

Other information will usually be desired by receiving ships in the following order of importance :—

- Course and speed of ship during last two, three or four hours,
- Tendency or change of the barometer in the last two, three or four hours,
- Current found with latitude and longitude of positions From and To,
- Temperature of the air,
- Temperature of the sea surface,
- Swell and its direction,
- Past weather.

Chart showing Greenwich Mean Times of Shore Observations.



The Arabic figures represent Greenwich mean time at which observations are taken for Daily Weather Reports. Where observations for these reports are timed by local time, the approximate Greenwich mean time is given in Roman figures.

- (3) Those which are based upon observations made at arranged times so that they provide synchronised data *in code*.

(2) and (3) are essential for the system which was explained in "Wireless and Weather, an Aid to Navigation," Marine Observer, 1924.

Until an organised plan has been established, in order that synchronised data may be available over ocean areas, observations made for the purpose of Wireless Weather Reports should be

Without using a code, messages may be conveniently framed giving these elements briefly and concisely with sufficient standardisation to enable them to be easily read.

For this purpose the following scales are recommended :—

\* When Airships are known to be on passage it is important that exact information of cloud types and amount should be given.

The direction of movement of the Upper Clouds is of great importance.



## The Beaufort Scale of Wind Force.

Admiral Beaufort's Numbers.	Seamen's Description of Wind.	Deep Sea Criterion.	Coastal Criterion.
0	Calm		
1	Light air	Just sufficient to give steerage way with the wind free.	Sufficient to give good steerage way to fish- ing smacks with the wind free.
2	Light breeze	Well conditioned ship with all sail set in smooth water "full and by" will make 2 knots.	Fishing smacks with topsails and light can- vas "full and by" make up to 2 knots.
3	Gentle breeze	Ditto 3 to 4 knots	Smacks begin to heel over slightly; under topsails and light canvas, make up to 3 knots, "full and by."
4	Moderate breeze	Ditto 5 to 6 knots	Good working breeze. Smacks heel over con- siderably on a wind under all sail.
5	Fresh breeze	Ship "full and by" can just carry royals and light stay-sails.	Smacks shorten sail.
6	Strong breeze	Ship "full and by" can just carry topgallant sails.	Smacks double reef gaff mainsails.
7	Moderate gale - (half a gale).	Ship "full and by" can just carry whole upper topsails.	Smacks remain in har- bour and those at sea lie to.
8	Fresh gale	Ship "full and by" can just carry reefed upper topsails and whole foresail.	Smacks take shelter if possible.
9	Strong gale	Ship "full and by" can just carry lower top- sails and reefed fore- sail.	
10	Heavy gale (whole gale).	Ship "full and by" can only carry main lower topsail.	
11	Storm	Ship can only carry storm stay-sail or tri- sail.	
12	Hurricane	No canvas can stand	

## The Beaufort Notation of Weather.

b Blue sky (not more than a quarter covered).	o Overcast sky (whole sky covered).
bc Sky partly cloudy (one half covered).	p Passing showers.
c Generally cloudy (more than three quarters covered).	q Squalls.
d Drizzle, or fine rain.	r Rain.
e Wet air without rain falling.	rs Sleet, i.e., rain and snow together.
f Fog.	s Snow.
fe Wet fog.	t Thunder.
g Gloomy.	tl Thunderstorm.
h Hail.	u Ugly, threatening sky.
kq Line squall	v Unusual visibility.
l Lightning.	w Dew.
m Mist.	z Dust haze; the turbid atmo- sphere of dry weather.

The International Weather Telegraphy Barometer  
Tendency Table.

Barometer steady. (The barometer has not fallen or risen more than $\frac{1}{2}$ millibar in 3 hours).	
Do. rising slowly. (The barometer has risen 1 to $1\frac{1}{2}$ mb. (.03-.04 in.) in last 3 hours)	
Do. rising.	Do. do. 2 to $3\frac{1}{2}$ " (.06-.10 in.) do.
Do. rising quickly.	Do. do. 4 to 6 " (.12-.18 in.) do.
Do. rising very rapidly.	Do. do. over 6 " (.18 in.) do.
Do. falling slowly.	Do. fallen 1 to $1\frac{1}{2}$ " (.03-.04 in.) do.
Do. falling.	Do. do. 2 to $3\frac{1}{2}$ " (.06-.10 in.) do.
Do. falling quickly.	Do. do. 4 to 6 " (.12-.18 in.) do.
Do. falling very rapidly.	Do. do. over 6 " (.18 in.) do.

For general purposes at sea the following interpretation of the Barometer Tendency Table will be convenient and is sufficiently accurate for use between ships:—

	In 2 Hours.	In 3 Hours.	In 4 hours.
Barometer steady—The Barometer has not fallen or risen more than	3 mb. (.01 in.)	5 mb. (.01 in.)	7 mb. (.02 in.)
Barometer rising—The Barometer has risen	2 mb. (.06 in.)	3 mb. (.09 in.)	4 mb. (.12 in.)
Barometer rising very rapidly—The Barometer has risen over	4 mb. (.12 in.)	6 mb. (.18 in.)	8 mb. (.24 in.)
Barometer falling—The Barometer has fallen	2 mb. (.06 in.)	3 mb. (.09 in.)	4 mb. (.12 in.)
Barometer falling very rapidly—The Barometer has fallen over	4 mb. (.12 in.)	6 mb. (.18 in.)	8 mb. (.24 in.)

Example of Plain Language Wireless Weather Report in standard form, not in code, recommended (2).

To CQ.

Weather 4757N 1908 W Barometer corrected 2994  
NNW2 Overcast 0700 G.M.T. Fifth Course N70E10 rising  
slowly Current S59E quarter knot from 47N 24W to  
48N 20W Air 59 Sea 61 Catalina.

NOTE.—The date appears in the middle of this message, the most important elements appearing before it. If abbreviation is desired omit all after date.

## (3) North Atlantic "Decode."

THE main groups of the code used by a limited number of ships for reporting to the Meteorological Office having been internationalised, the following Decode is published for the information of ships who are able to intercept these reports.

The reports are addressed to *Weather London* (Meteorological Office, London) and to *Government Observer, Washington, D.C.* (United States Weather Bureau). Those addressed to *Weather London* are made to Devises W/T Station, call sign GKU, on a wavelength of 2,100 metres (c.w.). Those addressed to *Government Observer, Washington, D.C.*, are made to any of the following U.S. Navy radio stations at Bar Harbour, Me., call sign NBD, New York, N.Y., call sign NAH, Norfolk, Va., call sign NAM, or Charleston, S.C., call sign NAO, on a wavelength of 2,100 metres (c.w.). The respective transmissions take place as soon as possible after observation time.

Observations made between the 100-fathom line, British Isles, and 40° W. Longitude are reported to *Weather London*.

Observations made between Longitude 40° W. and a line, Belle Isle—Virgin Rocks—Sable Island—Cape Hatteras are reported to *Government Observer, Washington, D.C.*

The times of observation are:—

European land 0100, 0700, 1300 and 1800, G.M.T.

American land 0100, G.M.T. = 8 p.m. 75th Meridian Time.  
and 1300, G.M.T. = 8 a.m. 75th Meridian Time.

*Ships at Sea from the 100-Fathom Line British Isles to 40° W. Longitude.*  
0700 and 1800, G.M.T.

*Ships at Sea from Longitude 40° W. to a Line Belle Isle—Virgin  
Rocks—Sable Island—Cape Hatteras.*  
0100 and 1300, G.M.T.

ADDITIONAL reports may be made to *Weather London* eastward of Longitude 40° W., containing observations made at 0100 and 1300, G.M.T.

A message consisting of figures addressed to *Weather London* or *Government Observer, Washington D.C.*, may be decoded as follows:—

As the first four groups are international, these groups, in weather reports transmitted by wireless telegraphy to weather offices of maritime countries by ships of all nations, may usually be decoded in the same manner.

Rule up a form, a sample of which is given overleaf, and write the groups of figures and words, in the order received, in the spaces.

To save space, the groups of figures and their meanings have been inserted in the sample form, in *italics*.

Code.	Code Figures.					Distinguishing Letter.	Number of Group.	Name of Element and how to decode the Figures.	Message decoded.
	Column Numbers.								
	1	2	3	4	5				
International Weather.	4	*	*	*	*	P	1	Addressed to “ ”.	
	*	1	*	*	*	Q		Day of Week, Table I.	Wednesday.
	*	*	4	5	*	LL		Name of Latitude and Longitude, Table II.	North and West.
	*	*	*	*	8	L		Latitude, degrees.	45°.
	*	*	*	*	*			Latitude, approx. minutes (multiply code fig. by 6).	48'.
	3	0	*	*	*	ll	2	Longitude, degrees.	33°.
	*	3	8	*	*	1		Longitude, approx. minutes (multiply code fig. by 6).	48'.
	*	*	*	0	7	GG		Greenwich Mean Time to nearest hour.	07.
	2	4	*	*	*	BB		Barometer, prefix 9 or 10 to code figures and, if desired, convert to inches, Table XIII.	1024mb.
	*	*	1	6	*	DD	3	Wind direction true, Table III.	South.
	*	*	*	*	2	F		Wind force, Table IV.	2.
	1	1	*	*	*	ww		Present weather, Table V.	No change, Cloudy.
	*	*	4	*	*	v		Visibility. Table VI.	Very good.
	*	*	8	0	*	K	4	Swell. Table VII.	Slight.
	*	*	*	*	4	d		Swell—direction from, Table VIII.	South.
	0	*	*	*	*	x		Sum of Column 1, less tens.	
*	9	*	*	*	x	Sum of Column 2, less tens.			
Check.	*	<sup>+3</sup>	1	*	*	x	5	Sum of Column 3, less tens.	Check corrected.
	*	*	<sup>+4</sup>	1	*	x		Sum of Column 4, less tens.	
	*	*	*	*	1	x		Sum of Column 5, less tens.	
	2	*	*	*	*	y		Sum of Group 1, less tens.	
	*	1	*	*	*	y		Sum of Group 2, less tens.	
	*	<sup>+3</sup>	5	*	*	y	6	Sum of Group 3, less tens.	Check corrected.
	*	*	*	4	*	y		Sum of Group 4, less tens.	
	*	*	*	<sup>+4</sup>	2	y		Sum of Group 5, less tens.	
	6	*	*	*	*	C		Cloud predominating, Table IX.	Strato-Cumulus.
	*	7	*	*	*	N		Cloud amount, Table X.	Seven-tenths.
British M.O. Weather.	*	*	1	*	*	W	7	Past weather, Table XI.	Cloudy.
	*	*	*	0	*	U		Unusual phenomena, Table XII.	None.
	*	*	*	*	4	y		Sum of Group 7, less tens.	Group correct by check.
	6	8	*	*	*	TT		Air temperature, degrees.	68° F.
	*	*	6	9	*	tt	8	Sea temperature, degrees.	69° F.
	*	*	*	*	1	y		Sum of Group 8, less tens.	An error in this group.
	Space for word if wind force greater than 9.								

The message now reads — Wednesday, Latitude 45° 48' N., Longitude 33° 48' W., G.M.T. 07 hours, Barometer 1024mb, Wind south force 2, Cloudy weather, Visibility very good, slight swell from south (column check corrected) (Group check corrected), Cloud St.-Cu, amount  $\frac{7}{10}$ ths; past weather, cloudy; No unusual phenomena; (Group correct by check) Air temperature 68° F., Sea temperature 69° F. (An error in group).



Example :—The following message intercepted : *Weather London*  
41453 30807 24162 11404 09111 21542 67104 68691.

These figures having been written in the appropriate spaces, errors made in transmission may be checked by adding together the figures in each *column* of the first four groups, *neglecting the tens*. If the message has been correctly transmitted, the sums of the columns will agree with the corresponding figures of Group 5. If the sums differ, write down (under the original figures in Group 5) the numbers which must be *added* to make them agree.

NOTE.—In all adjustments of check-figures, tens and carrying figures must be disregarded entirely; thus for purposes of the check system  $9 + 4 = 3$ , not 13.

Next add together the figures in each group 1 to 5, separately (neglecting tens). These sums should agree with the figures from left to right in Group 6. If they differ, write down (under the original figures in Group 6) the numbers which must be *added* to make them agree.

Group 5 now indicates the *columns* in which there are errors with the numbers to be added to the figures which are in error.

Group 6 indicates the *groups* in which these errors occur.

In the example given we find that 0 in the second column of Group 2 should be 3, and that 4 in the third column of Group 4 should be 8.

In the remaining groups of the message a *double* check is not provided, but the fifth figure in each group will represent the sum of the first four figures, neglecting tens, and if it does not agree it will be known that one or more figures are in error.

The message is next decoded by means of the Tables and Instructions given on the Decode Form.

### Occasional North Atlantic Wireless Link.

British observing ships with mercurial barometers by making reports in Standard form (2) addressed to "all ships" will on occasions in the North Atlantic be able to contribute to Part II of the Eiffel Tower messages, p. 61, Vol. II, No. 16, without any additional effort or transmission through the good offices of the French steamship *Jacques Cartier*, call sign FTJ.

The French S.S. *Jacques Cartier* is operated by the Compagnie Générale Transatlantique, and usually trades between Havre and Gulf of Mexico ports. She has been used as a training ship for the French Mercantile Marine and is specially equipped for wireless telegraph long range communication. She transmits weather reports received or intercepted from other ships to Paris and also broadcasts weather information.

### Important.

The code messages made by regular reporting British North Atlantic liners to *Weather, London* through Devizes W/T Station and *Government Observer, Washington, D.C.*, through Bar Harbour, Me., New York, N.Y., Norfolk, Va., or Charleston, S.C. W/T Stations, may be received on occasions by *Jacques Cartier* and re-transmitted through Paris; but it is necessary that direct transmission of these reports from ships at sea should be maintained as laid down in the Register, and described on pp. 15-17 of this Number. They are re-transmitted through the Air Ministry W/T Station for the benefit of all European Weather Services.

## NEW INTERNATIONAL CODE, WEATHER TELEGRAPHY TABLES.

Table I.

P.—Day of the Week.

Code Figure.	Code Figure.
1 = Sunday.	5 = Thursday.
2 = Monday.	6 = Friday.
3 = Tuesday.	7 = Saturday.
4 = Wednesday.	

Table II.

Q.—Quarter of the Globe.

Code Figure.	Lat.	Long.	
1	N.	W.	} Barometer in millibars.
2	N.	E.	
3	S.	W.	
4	S.	E.	
5	N.	W.	} Barometer in millimetres.
6	N.	E.	
7	S.	W.	
8	S.	E.	

Table III.

DD.—Two Figure Compass. True (to nearest point).

Code Figures.	Code Figures.	Code Figures.
00 Calm.	11 S.E. by E.	22 W.S.W.
01 N. by E.	12 S.E.	23 W. by S.
02 N.N.E.	13 S.E. by S.	24 W.
03 N.E. by N.	14 S.S.E.	25 W. by N.
04 N.E.	15 S. by E.	26 W.N.W.
05 N.E. by E.	16 S.	27 N.W. by W.
06 E.N.E.	17 S. by W.	28 N.W.
07 E. by N.	18 S.S.W.	29 N.W. by N.
08 E.	19 S.W. by S.	30 N.N.W.
09 E. by S.	20 S.W.	31 N. by W.
10 E.S.E.	21 S.W. by W.	32 N.

Table IV.

F.—Wind Force.

Code Figure.	Beaufort Number.	Code Figure.	Beaufort Number.
0 = Calm - - -	Nought.	7 = Moderate gale	Seven.
1 = Light airs -	One.	(half a gale).	
2 = Light breeze	Two.	8 = Fresh gale -	Eight.
3 = Gentle breeze	Three.	9 = Strong gale -	Nine.
4 = Moderate breeze	Four.	9 = Whole gale -	Ten.
5 = Fresh breeze	Five.	9 = Storm -	Eleven.
6 = Strong breeze	Six.	9 = Hurricane -	Twelve.

When force 10, 11 or 12, figure 9 transmitted, words "gale," "storm" or "hurricane" respectively, added at end of the message.

Table V.

ww.—Present Weather Scale.

THE figures are grouped to refer to particular phenomena, for example 20 to 29, Fog or mist. In making these observations the following instruction is given to the observer :—

In selecting the appropriate number for reporting the general character of the weather, no account should be taken of phenomena which occurred more than one hour before the time of observation, but only of phenomena which occurred during the interval of one hour preceding the fixed time of observation.

In deciding on the appropriate term, observers should not be restricted to the difference between the conditions at the instant and the conditions one hour before, but should choose the term to give the best information of the changes taking place.

Code figures.	Table V.
00	Cloud has decreased.
01	No apparent change.
02	Cloud has increased.
03	Precipitation within sight.
04	With solar or lunar halo.
05	After fog or mist or dust storm.
06	After rain or drizzle.
07	After snow, sleet or hail.
08	With or after thunder and lightning in
09	After thunderstorm. [neighbourhood.





Table X.

N.—Cloud Amount.

Code Figure.	Code Figure.
0 = No cloud.	6 = Sky 6/10ths covered.
1 = Sky 1/10th covered.	7 = " 7/10ths "
2 = " 2/10ths "	8 = " 8/10ths "
3 = " 3/10ths "	9 = " 9/10ths "
4 = " 4/10ths "	*0 = " overcast.
5 = " half "	

\* Usually weather reported by Table V, will indicate which 0 applies here.

Table XI.

W.—Past Weather.

Code Figure.

Without precipitation	0 = Blue sky or blue sky and part cloudy (b or be).
	1 = Cloudy.
	2 = Overcast continuously.
	3 = Fog or mist.
Precipitation	4 = Thick fog.
	5 = Passing showers.
	6 = Rain or drizzle.
	7 = Snow or sleet.
	8 = Hail or rain and hail.
	9 = Thunderstorm.

SPECIAL WEATHER TELEGRAPHY TABLES, NOT NEW INTERNATIONAL CODE.

Table XII.

U.—Unusual Phenomena.

Code Figure.

- 0 = None of the following remarks appropriate.  
 1 = Appearances indicate that a tropical storm has formed.  
 2 = Appearances indicate that a tropical storm is forming.  
 3 = Heavy squalls during last three hours.  
 4 = Squally weather.

Code Figure.

- 5 = Barometer *falling* very rapidly (more than 2 millibars an hour).  
 6 = Barometer *rising* very rapidly (more than 2 millibars an hour).  
 7 = Wind has *increased* decidedly during the last hour.  
 8 = Wind has *decreased* decidedly during the last hour.  
 9 = Unusually red sunset (or sunrise).

Table XIII.—Conversion of Millibars to Inches.

Equivalent in Mercury Inches at 32°, and Latitude 45° of Millibars.

Mb.	In.	Mb.	In.	Mb.	In.	Mb.	In.	Mb.	In.	Mb.	In.	Mb.	In.
925	27.32	940	27.76	960	28.35	980	28.94	1000	29.53	1020	30.12	1040	30.71
926	27.35	941	27.79	961	28.38	981	28.97	1001	29.56	1021	30.15	1041	30.74
927	27.38	942	27.82	962	28.41	982	29.00	1002	29.59	1022	30.18	1042	30.77
928	27.41	943	27.85	963	28.44	983	29.03	1003	29.62	1023	30.21	1043	30.80
929	27.44	944	27.88	964	28.47	984	29.06	1004	29.65	1024	30.24	1044	30.83
930	27.46	945	27.91	965	28.50	985	29.09	1005	29.68	1025	30.27	1045	30.86
931	27.49	946	27.94	966	28.53	986	29.12	1006	29.71	1026	30.30	1046	30.89
932	27.52	947	27.97	967	28.56	987	29.15	1007	29.74	1027	30.33	1047	30.92
933	27.55	948	28.00	968	28.59	988	29.18	1008	29.77	1028	30.36	1048	30.95
934	27.58	949	28.03	969	28.62	989	29.21	1009	29.80	1029	30.39	1049	30.98
935	27.61	950	28.05	970	28.65	990	29.24	1010	29.83	1030	30.42	1050	31.01
936	27.64	951	28.08	971	28.67	991	29.26	1011	29.86	1031	30.45	1051	31.04
937	27.67	952	28.11	972	28.70	992	29.29	1012	29.89	1032	30.48	1052	31.07
938	27.70	953	28.14	973	28.73	993	29.32	1013	29.92	1033	30.51	1053	31.10
939	27.73	954	28.17	974	28.76	994	29.35	1014	29.94	1034	30.53	1054	31.13
		955	28.20	975	28.79	995	29.38	1015	29.97	1035	30.56		
		956	28.23	976	28.82	996	29.41	1016	30.00	1036	30.59		
		957	28.26	977	28.85	997	29.44	1017	30.03	1037	30.62		
		958	28.29	978	28.88	998	29.47	1018	30.06	1038	30.65		
		959	28.32	979	28.91	999	29.50	1019	30.09	1039	30.68		

## ABRIDGED KEY TO THE NEW INTERNATIONAL CODE.

In view of the extension in the use of the New International Code by weather services, the descriptions (where the New International Code is used) are now published in a concise form by using key letters. Those used for marine work are described below. Where the International Code is *not* used each group will be described in detail.

## THE KEY LETTERS AND THEIR MEANINGS.

- A = Form of *predominating cloud lowest* in the scale of cloud forms.  
 a = Form of *predominating cloud highest* in the scale of cloud forms when more than one type of cloud exists.  
 BBB = Pressure in millibars and tenths (initial 9 or 10 omitted), or millimetres and tenths (initial 7 omitted). The values refer to sea level and include all corrections for index error, temperature and gravity.

BB = Pressure in whole millibars or whole millimetres (initial 9, 10 or 7 omitted).

b = Amount of barometric tendency during the three hours preceding the time of observation expressed in half-millibars or half-millimetres. For tendencies 10–19 the *second* figure only is reported and 33 is added to the wind direction number (DD). For tendencies 20–29 the *second* figure only is reported and 67 is added to the wind direction number. Tendencies greater than 29 are reported as 29.

bb = Amount of barometric tendency during the three hours preceding the time of observation expressed in half-millibars or half-millimetres.

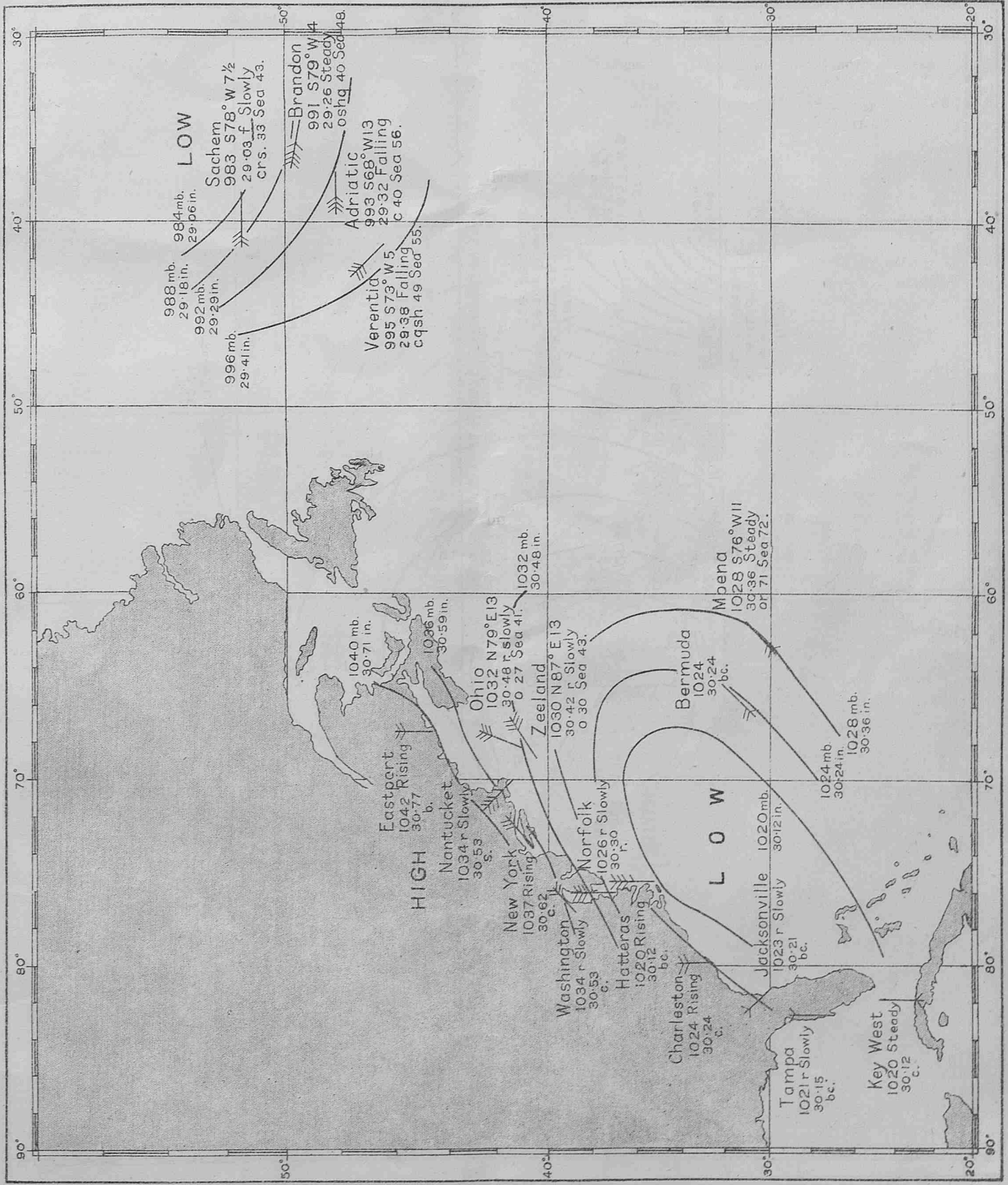
- C = Form of predominating cloud, according to the scale of cloud forms, when only one form is reported, as from ships at sea.
- c = Characteristic of barometric tendency during the period of 3 hours preceding the time of observation.
- DD = Direction of the wind near the ground on the scale (01-32) in which 08 = East, 16 = South, &c., 00 = calm.
- d = Direction from which swell comes, on scale (0-8), in which 2 = East, 4 = South, &c., 0 = no swell.
- F = Force of the wind on the Beaufort Scale. (Forces above 9 are reported as 9 in telegrams, with the actual force in a word at the end, *e.g.*, force 10 is reported at the end as "Storm ten," force 11 as "Storm eleven." Ships at sea, however, report "gale ten," "storm eleven," "hurricane twelve.")
- GG = Greenwich Mean Time of observation (01 = 1 a.m., 12 = noon, 13 = 1 p.m., 24 = midnight).
- H = Relative humidity of the air.
- h = Height of base of lowest cloud present.
- I<sub>n</sub>I<sub>n</sub> = Index number of station.
- jj = Meaning varies according to time of observation and between inland and coastal stations, as follows:—
- |                  | Inland<br>Stations. | Coastal<br>Stations. |
|------------------|---------------------|----------------------|
| At 0700 G.M.T. - | jj = mm             | jj = SV <sub>s</sub> |
| At 1800 G.M.T. - | jj = MM             | jj = SV <sub>s</sub> |
- K = The characteristic of the swell *in the open sea*.
- K' = Amount and characteristic of barometric tendency expressed by a single figure.
- L = Amount of sky (scale 0-10) covered by cloud form A and all forms of the same layer (*i.e.*, low, medium or high) as A, if "a" refers to a different layer.
- LLL = Latitude in degrees and tenths, the tenths being obtained by dividing the number of minutes by 6 and neglecting the remainder.
- lll = Longitude in degrees and tenths, the tenths being obtained as for latitude LLL.
- MM = Maximum temperature in the interval of 11 hours ending at 18 h. G.M.T. (or at one of the hours 1 h., 7 h., 13 h., 18 h. G.M.T., following not less than 4 hours after noon, local time).
- mm = Minimum temperature in the interval of 13 hours ending at 7 h. G.M.T. (or at the hour 13 hours after the time of reporting the maximum temperature).
- N = Total amount of sky covered with cloud. (Scale 0-10).
- P = Day of the week. 1 = Sunday, 2 = Monday, 3 = Tuesday, 4 = Wednesday, 5 = Thursday, 6 = Friday, 7 = Saturday. The day refers to G.M.T. and not to local time, *e.g.*, Sunday means the period from 00h. to 24 h. on Sunday at Greenwich.
- Q = Quarter of globe in which ship is situated.
- RR = Rainfall (at 7 a.m. for preceding 13 hours and at 6 p.m. for preceding 11 hours).
- R = Amount of rainfall for the preceding 24 hours.
- r = Time of commencement of precipitation.
- S = State of the sea and swell (coast stations).
- TT = Temperature of the air in whole degrees Fahrenheit or Centigrade (50 added to negative values).
- tt = Temperature of the sea (surface water) in whole degrees.
- TTT = Temperature of air in degrees and tenths Fahrenheit or Centigrade (500 added to negative values).
- ttt = Temperature of the sea (surface water) in degrees and tenths.
- V = Visibility or distance at which objects can be seen in day-light (or at which lights can be seen at night).
- v = Visibility at sea from ships at sea.
- V<sub>s</sub> = Visibility towards the sea (from coast stations).
- W = The weather in the interval since the preceding time of report. This interval is 5, 6 or 7 hours for stations reporting 4 times daily.
- ww = The actual weather at the time of observation with which is combined, whenever possible, the general character of the weather.
- w<sub>1</sub> = The initial figure of the code ww, thus indicating the general state of the weather.
- YY = Day of month.

In publishing "Weather Signals" in the Numbers which follow throughout the year for the maritime countries of the world every endeavour is made to make the information accurate and up to date, at the same time giving it as tersely and conveniently as possible for mariners from the many available sources.

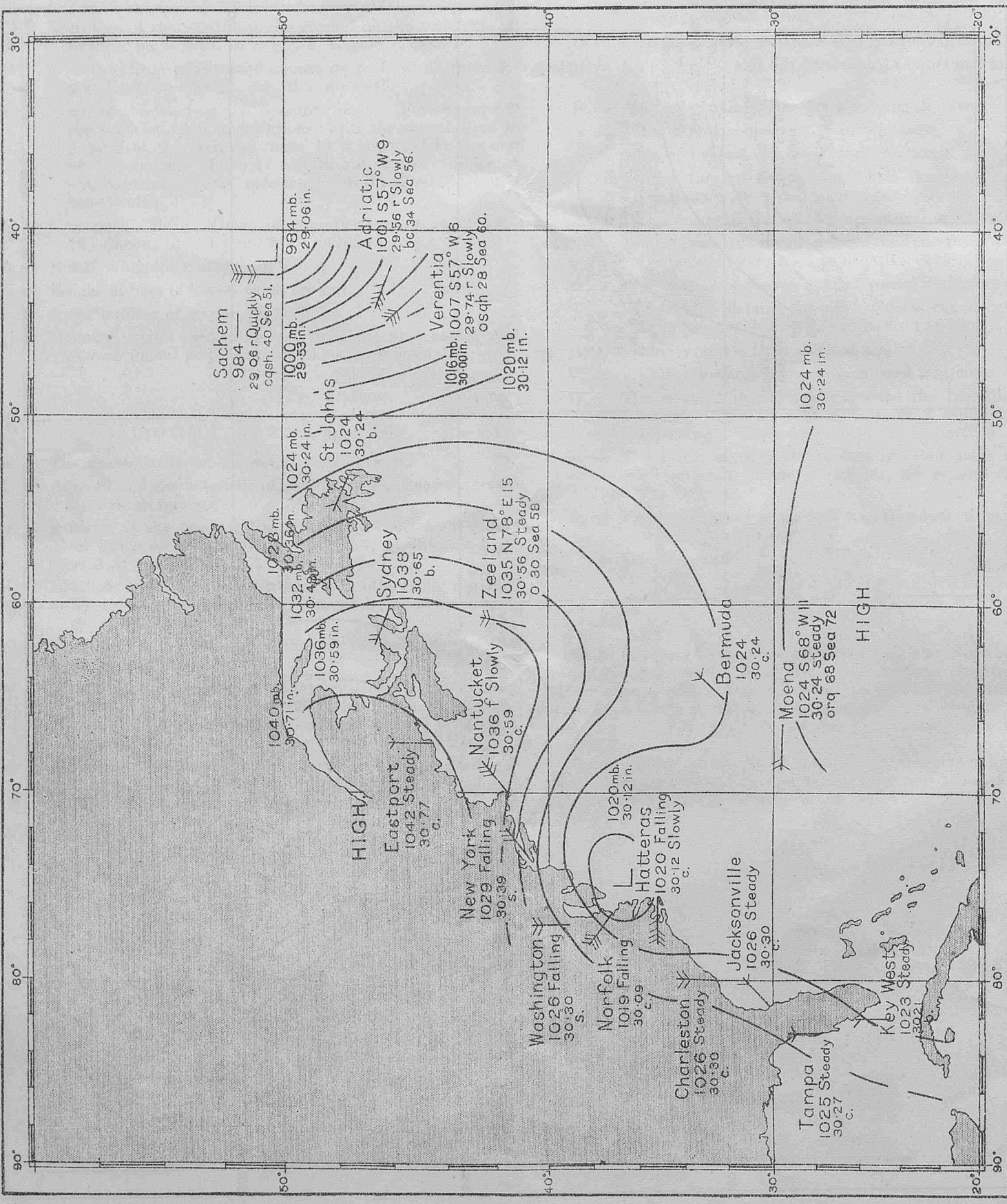
Every effort is made to guard against error, and Marine Observers are asked to write in and point out any errors which may appear to them.



MORNING OF JANUARY 1ST 1925.



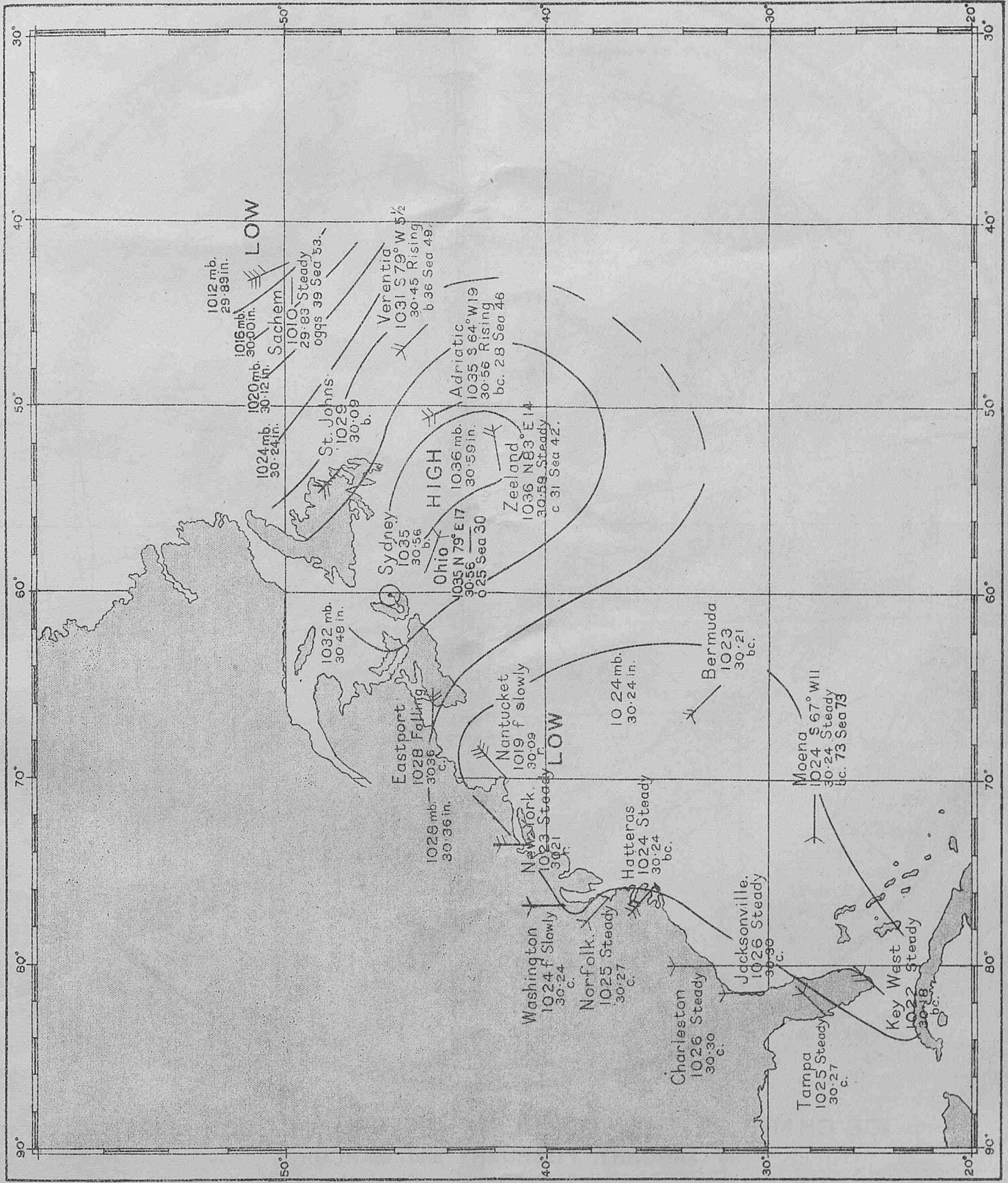
MORNING OF JANUARY 2<sup>ND</sup> 1925.



WEATHER CHART II.



MORNING OF JANUARY 3RD 1925.





## ICE CHART OF THE SOUTHERN HEMISPHERE, 1902—1925. JANUARY, FEBRUARY and MARCH.

### EXPLANATION.

The symbols used to distinguish the records of each of the three months represented during the period 1902—1924, are as follows:—January, bergs  $\Delta$ , pack ice  $\sim$ ; February, bergs  $\square$ , pack ice  $\sim$ ; March, bergs  $\circ$ ; pack ice  $\sim$ . Ice reported during 1925 is shown by the following symbols:—January,  $\blacktriangle$ ; February,  $\blacksquare$ ; March,  $\bullet$ . Extreme limits are given thus:—January, ———; February, ———; March, ———; these include ice reported since 1772.



[illegible]

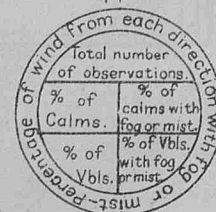
## S.W. APPROACHES TO GREAT BRITAIN AND IRELAND.

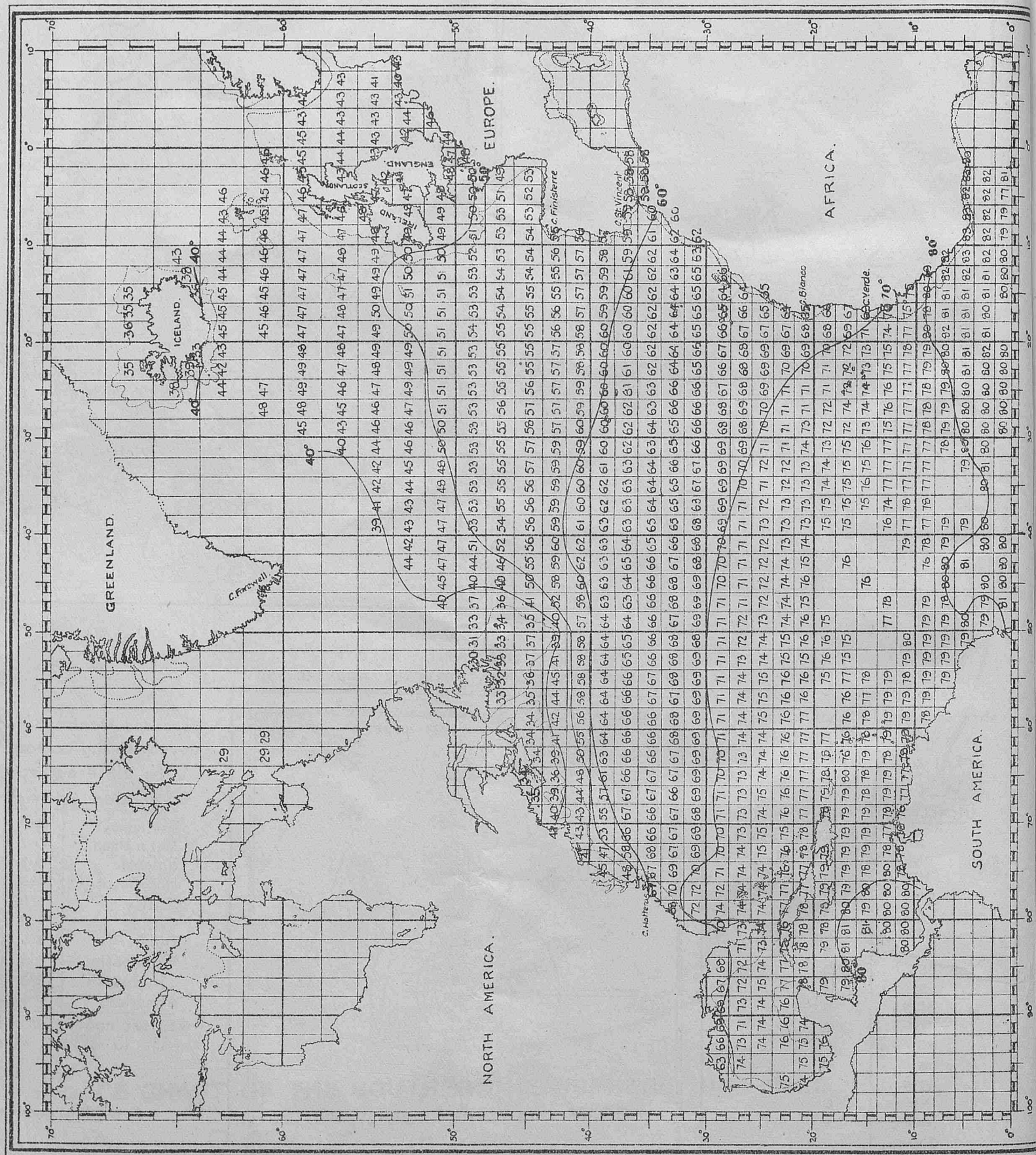
N	0
NNE	0
NE	0
ENE	0
E	0
ESE	0
SE	0
SSE	0
S	18
SSW	11
SW	18
WSW	21
W	21
WNW	7
NW	0
NNW	4
Calm	0
Var.	0
Total	100

Map of the Scilly Islands region showing wind rose data for 1921-1924. The map includes latitude (48°N to 52°N) and longitude (5°W to 10°W) coordinates. The Scilly Islands are labeled, including 'Fastnet' and 'Smalls'. A circular wind rose diagram is centered on the islands, with radial bars indicating wind frequency and a central circle labeled '280'. A scale bar at the bottom indicates distances from 0 to 40%.

Station.	Mean.	Max.
Stornoway	0·2	2
Malin Head	0·7	4
Valencia	0·3	2
Holyhead	2·9	13
Scilly	1·8	5
Jersey	3·5	10
Dungeness	3·5	9
Yarmouth	7·5	22
Tynemouth	2·2	7
Aberdeen	0·5	3

Key to numbers in rose,  
S.W. Approaches.







## NOTICES.

### IMPORTANT.

With a view to promoting the interest and usefulness of this Journal, Marine Observers are requested to send in when possible accounts of interesting experiences, remarks upon special phenomena observed, and matters of interest, especially those which affect navigation.

A page for additional remarks will be found at the end of the Meteorological Log, or these can be made separately in manuscript.

Photographs, sketches and weather charts will be most welcome.

### ILLUSTRATIONS FOR THE MARINE OBSERVER.

When making sketches, charts or plans, Marine Observers will give us great assistance if they will give consideration to reproduction in "The Marine Observer."

The size of any chart or drawing should not, if possible, exceed that of a page of "The Marine Observer," and if charts and drawings of all kinds are made with Indian Ink upon white drawing paper their reproduction will be greatly facilitated.

When photographs are sent in it would give us great assistance if they are accompanied by the plate or film, which will be returned if desired.

### THE MARINE OBSERVER. DISTRIBUTION AND PRESERVATION.

A number of requests have been received from Commanders of regular observing ships to which copies of "The Marine Observer" have been sent each month, for certain numbers.

In several cases Commanders have stated that these copies have been inadvertently mislaid or have not been received in the ship.

Upon investigation it was found that all numbers had been posted to the ship in accordance with the published "Postal Arrangements" to which special attention is invited. Each ship upon the list is supplied with a copy of "The Marine Observer" addressed to her Captain, which it is desirable should be preserved in the ship.

Personal copies of individual numbers are sent to Captains and observing officers whose special contributions appear in them.

In future "Excellent" awards will mainly consist of bound volumes of the previous year's numbers of "The Marine Observer."

### POSTAL ARRANGEMENTS.

"The Marine Observer" is published, when circumstances permit, on the first Wednesday of the month previous to that to which the number refers.

If captains of observing ships will forward to the Office the particulars required hereunder, endeavour will be made as far as mails permit to post the latest number for use on their homeward passage.

S.S. .... Captain.....  
Port of Call.....  
Date of Homeward Departure.....  
Postal Address.....

When this information is not given "The Marine Observer" is addressed to the Commanding Officer, s.s. ....  
c/o the owners, and captains are requested to make their own arrangements for forwarding.

## Wireless and Weather an Aid to Navigation.

Advance in any subject or movement can only be truly attained from within, and therefore advancement of meteorology as a branch of seamanship will be the surer if seamen take the initiative, hence in the chapters under the above heading, published in the 1924 numbers, we made suggestions based upon experience at sea for the promotion of the application of Wireless Weather Telegraphy to seamanship, and in the concluding chapter an invitation was given to ships, equipped with reliable instruments, to report to "all ships," observations made at synchronized times.

For full information as to ships' wireless weather signals, see pages 14—20 of this Number. A sample message is reproduced below.

### Plain Language Wireless Weather Report in standard form recommended.

To C.Q.

*Weather 4757 N 1908 W Barometer corrected  
2994 NNW 2 Overcast 0700 G.M.T. Fifth  
Course N70 E 10 rising slowly Current S 59 E  
quarter knot from 47 N 24 W to 48 N 20 W  
Air 59 Sea 61 Catalina.*

NOTE.—The date appears in the middle of this message, the most important elements appearing before it. If abbreviation is desired omit all after date.

### ICE REPORTS.

Commanders of ships in the Trans-North Atlantic and Southern Ocean Trades are earnestly requested to have the Ice Report Form 912 completed and returned at the end of each passage. A nil return is desired if no ice is seen.

These forms are supplied with "The Marine Observer" each month to regular observing ships in these Trades.

### CONVERSION TABLE.

To Convert Inches into Millibars.

Inch.	mb.	Inch.	mb.	Inch.	mb.
27.50	931.2	28.65	970.2	29.85	1,010.8
27.55	932.9	28.70	971.9	29.90	1,012.5
27.60	934.6	28.75	973.6	29.95	1,014.2
27.65	936.3	28.80	975.3	30.00	1,015.9
27.70	938.0	28.85	976.9	30.05	1,017.6
27.75	939.7	28.90	978.6	30.10	1,019.3
27.80	941.4	28.95	980.3	30.15	1,021.0
27.85	943.1	29.00	982.0	30.20	1,022.7
27.90	944.8	29.05	983.7	30.25	1,024.4
27.95	946.5	29.10	985.4	30.30	1,026.1
28.00	948.2	29.15	987.1	30.35	1,027.7
28.05	949.9	29.20	988.8	30.40	1,029.4
28.10	951.6	29.25	990.5	30.45	1,031.1
28.15	953.2	29.30	992.2	30.50	1,032.8
28.20	954.9	29.35	993.9	30.55	1,034.5
28.25	956.6	29.40	995.6	30.60	1,036.2
28.30	958.3	29.45	997.3	30.65	1,037.9
28.35	960.0	29.50	999.0	30.70	1,039.6
28.40	961.7	29.55	1,000.7	30.75	1,041.3
28.45	963.4	29.60	1,002.4	30.80	1,043.0
28.50	965.1	29.65	1,004.0	30.85	1,044.7
28.55	966.8	29.70	1,005.7	30.90	1,046.4
28.60	968.5	29.75	1,007.4	30.95	1,048.1
		29.80	1,009.1		



# ICE CHART. WESTERN NORTH ATLANTIC.

LETTERS OF TRANSATLANTIC TRACKS INDICATE

- (C) From 1st September to 31st January, inclusive.
- (E) From 15th November to 14th February, inclusive.

These routes are liable to alteration when, owing to abnormal ice conditions, it is considered advisable by the steamship lines who are parties to the Track agreement.

## ROUTE NOTICES.

For latest information re Tracks see pages 35-36, March, 1925, "Marine Observer."

## SYMBOLS USED ON THE CHART.

- Iceberg.
- Floeberg.
- Growler.
- Field Ice, Floe Ice, Pack Ice, Hummocky Ice, Bay Ice.
- Drift Ice, Brash Ice, Sludge Ice.
- Pancake Ice.
- Indicates W/T Ice.
- Warning Station.

## PHENOMENAL DRIFTS OF ICE.

Date.	Ship or Source of Report.	Lat.	Long.	Remarks.
Jan. 14, 1896	H.M.S. Cove...	40°55'N.	55°50'W.	2 bergs.
" 9, 1913	S.S. Oritani...	48°37'N.	34°42'W.	Berg 40ft. high, 400 ft. long.
" 27, 1916	S.S. Rio Verde	33°24'N.	70°32'W.	Hummock 2 ft. high, 30 ft. in circumference.

Reports of Ice sighted between November 1st and November 30th, 1925, which have been received by the Meteorological Office, are shown by the Symbols plotted the position reported, the figures indicating the day of the month.

## LATEST ICE REPORT FROM CANADA.

The following cablegram, dated 12th November, 1925, was received from the Superintendent, Canadian Signal Service, Quebec:—

"Belle Isle some bergs in sight, all other points report 'no ice in sight.'"



## Co-operation of Shipowners, Masters and Mates.

The Director of the Meteorological Office is authorised to lend tested Instruments to Captains of British-owned ships who undertake to make 4 hourly observations and keep Meteorological Logs for the Office.

The instruments supplied for this purpose are one barometer, four thermometers with screen, two hydrometers and in some cases a Barograph and rain gauge is added to the equipment.

Tested instruments are also lent to a number of British Atlantic Liners which make special coded W/T weather reports to the Office.

The number of ships co-operating with the M.O. using official tested instruments on loan is limited.

Vessels observing regularly for the Meteorological Office to which office instruments are not lent, keep Form 911, Ships Meteorological Report, using the ship's instruments, the barometer being compared with Standards. The number of ships regularly contributing approved forms of all descriptions to the Marine Division is limited to 500.

Captains and Officers who wish to co-operate with the Meteorological Office should apply by letter to The Director, Meteorological Office, Air Ministry, Kingsway, London, W.C.2; or in person between the hours of 10 a.m. and 4 p.m., to the Marine Superintendent at the same address or to any of the gentlemen whose names and addresses are given below acting as agents at the respective ports. A waiting list is kept of the names of ships whose commanders have offered to regularly co-operate.

Marine Observers (i.e., Captains and Officers who regularly observe for the Meteorological Office) will greatly assist if they will send in Meteorological Logs immediately on completion through the Port Meteorological Officer or Agent, at the same time notifying him of any possible instrumental defects.

Defective instruments will then be replaced and new Log Books, etc., provided.

In London and at base ports where there is not an Agency, notification of defects should be sent to headquarters on arrival, with the Meteorological Log.

Vessels making voyages of less than two months' duration are requested to retain their logs until nearly filled up.

W/T Registers and Forms 911 should in all cases be sent directly to the Meteorological Office, London. The Port Meteorological Officer at Liverpool and the Visiting Officer in London board vessels co-operating with the Meteorological Office, and the agents visit ships at their ports when circumstances permit.

Postage abroad incurred on behalf of the Meteorological Office in returning logs will be refunded. Postage from British Empire ports need not be prepaid, if the envelope is marked O.H.M.S., and addressed to the Director, Meteorological Office, London.

Captains and Officers whether they observe regularly for the Meteorological Office or not are urged to report exceptional phenomena in air or sea. Reports of weather experienced in or near Tropical Cyclones or hurricanes, also abnormal currents are specially desired.

Masters who wish to assist in developing the rapid interchange of Meteorological information and Weather Forecasting at sea can do so by using the standard form, not in code, of W/T Weather Report suggested in "Weather Signals," given in this Number (see pages 14 and 15). For this purpose a mercurial barometer of which the index error has been ascertained is essential.

"The Marine Observer" is sent monthly to all ships regularly contributing Logs, Forms and W/T Registers to the Meteorological Office. It is hoped that each ship will preserve all her copies. Personal copies of Numbers are sent to those whose special contributions are published in them. A suitable cover may be obtained from H.M. Stationery Office, price 2s.

## Marine Agencies and Port Meteorological Officers.

LIVERPOOL	..	(Port Meteorological Office), Lieut.-Commander M. Cresswell, R.N.R., Dock Office. Telephone No.: Bank 8859.
CARDIFF	..	Captain T. Johnston, Technical College.
CLYDE	..	Captain M. C. Corrance, Board of Trade Surveyor's Office, 73, Robertson Street, Glasgow.
DUBLIN	..	{ Captain M. H. Clarke, Chief Surveyor, Ministry of Industry and Commerce, Marine Department, 27, Eden Quay.
HULL	..	Captain Geo. B. Sturdy, c/o Mr. W. Hakes, Commercial Road.
LEITH	..	Captains G. Black and C. G. Bonner, V.C., D.S.C., Leith Salvage and Towage Co., Ltd., 2, Commercial Street.
SOUTHAMPTON	..	Captain D. Forbes, Nautical Academy, 1, Albion Place.
TYNE	..	Commander E. S. Macleod, R.D., R.N.R., Board of Trade Surveyor's Office, North Shields.
HONG KONG	..	Lieut.-Commander C. R. H. Harvey, O.B.E., R.N., Superintendent, Admiralty Chart and Chronometer Depot.
VANCOUVER	..	T. S. H. Shearman, Esq., Room 40, Post Office Building.
AUSTRALIA	..	The Commonwealth Meteorologist.
The Deputy Directors of Navigation act as sub-agents as follows:—		
FREMANTLE	..	Captain J. J. Airey, Dalgety's Buildings.
MELBOURNE	..	Captain L. J. Bolger, Electricity Commissioners Building, 22, William Street.
SYDNEY	..	Captain G. D. Williams, D.S.O., Customs House.

## LATE PRESS.

## DERELICTS AND FLOATING WRECKAGE.

Date.	Position.		Description.
	Latitude.	Longitude.	
NORTH SEA.			
4.11.25	51°20'N.	2°26'E.	Fishing boat <i>CAL 377</i> .
6.11.25	53°46'N.	2°46'E.	Mast projecting 6 feet, apparently attached to sunken wreck.
7.11.25	51°57'N.	3°45' E.	Dangerous wreck.
ENGLISH CHANNEL.			
1.11.25	50°41'N.	0°28'E.	Drifting mast.
1.11.25	1½ m. S. of Royal Sovereign Lt. Vsl.		Big mast, floating. Dangerous to navigation.
3.11.25	50°21'N.	2°08'W.	Ketch.
6.11.25	49°18'N.	3°34'W.	Boat partly submerged, painted black <i>La Loire</i> on stern.
13.11.25	48°49'N.	4°34'W.	Large mooring buoy. Dangerous to navigation.
16.11.25	50°07'N.	1°28'W.	Torpedo, apparently with war head on. Dangerous to navigation.
21.11.25	49°52'N.	4°43'W.	Floating buoy, painted green, marked <i>Sal NDF 12 LI</i>
21.11.25	49°51'N.	2°49'W.	Floating torpedo.
IRISH CHANNEL.			
3.11.25	53°41'N.	3°48'W.	Mast attached to submerged wreckage
8.11.25	7 m. N.N.E. from Gt. Orme's Head		Motor launch awash.
MEDITERRANEAN.			
10.11.25	38°05'N.	4°52'E.	Submerged wreckage
NORTH ATLANTIC.			
1.11.25	45°07'N.	38°41'W.	Schr. <i>Era</i> , abandoned in sinking condition. Dangerous to navigation.
1.11.25	37°36'N.	70°25'W.	s.s. <i>Algiers</i> , gutted by fire and abandoned.
2.11.25	39°52'N.	72°52'W.	Large log or spar, apparently a vessel's mast.
3.11.25	51°47'N.	18°48'W.	Black conical shaped buoy. Dangerous to navigation.
6.11.25	49°40'N.	9°14'W.	Cylindrical buoy marked <i>Silva 20</i> and <i>Compa 20</i> on top, broken lamp.
7.11.25	37°27'N.	75°20'W.	Partly submerged wreckage awash, apparently part of a floating dry dock.
7.11.25	35°04'N.	75°17'W.	Log raft about 20 ft. square.
8.11.25	37°47'N.	74°52'W.	Large morticed beam about 1½ ft. square, projecting about 5 ft. out of water, apparently attached to submerged wreckage.
8.11.25	50°03'N.	8°18'W.	Obstruction.
11.11.25	35°03'N.	75°27'W.	Wreck with part of jib-boom showing above water.
12.11.25	5 m. 270° from Pendeen Watch Tower.		Black buoy, staff and ball top-mark with 2 globe lamps, adrift.
11.11.25	15°40'N.	25°— W.	Large object 10 ft. — 15 ft. above water. Dangerous to navigation.
17.11.25	44°30'N.	9°25'W.	Two-masted ketch <i>Manuel Monverio</i> , floating high in water, port list, nobody on board. Dangerous to navigation.
17.11.25	48°28'N.	9°05'W.	Two black conical cable buoys.
22.11.25	49°50'N.	10°30'W.	Large red conical buoy with small cage superstructure.
GULF OF MEXICO.			
11.11.25	24°24'N.	82°27'W.	White painted dory.
NORTH PACIFIC.			
1.11.25	43°44'N.	124°50'W.	Log about 20 ft. long and 4 ft. diameter.
5.11.25	36°58'N.	125°29'W.	Tree about 40 ft. long with branches projecting 6 ft. out of water.



# LIST OF VOLUNTARY OBSERVING SHIPS.

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The following is a complete list of ships regularly contributing observations to the Meteorological Office.

The names of the Captains and Officers, as ascertained from logs and reports received, are given with the date and description of last log, register or report received up to the time of going to press.

Marine Observers are requested to take this as complete and grateful acknowledgment for the work they have contributed, as it has been found necessary to reduce as far as possible the correspondence of the Marine Superintendent, which was largely composed of letters acknowledging logs and reports, in order that more time may be devoted to obtaining results from the data received.

Only in special cases will individual letters be sent.

Excellent awards will be made at the end of the financial year. The names of Commanders and Officers gaining these awards will be published in a special list in THE MARINE OBSERVER.

Ships not contributing logs or reports within a reasonable period will automatically be removed from the list and the free issue of THE MARINE OBSERVER discontinued; it is, therefore, earnestly requested that changes of service, probable periods of lay up or transfer of Commanders may be notified whenever possible.

A waiting list is kept of the names of vessels whose Commanders have offered to regularly co-operate.

The number of voluntary observing ships is limited to a maximum total of 500.

Commanders are requested to point out any errors which may occur in the list.

Unless otherwise stated, vessels on the following list are s.s.

M.L. = Equipped with tested Instruments for keeping Meteorological Log.

W.T. = Equipped with tested Instruments for making coded W/T reports to the Meteorological Office, London.

No. = Keeps Ship's Meteorological Report Form 911 with ship's instruments. Letter M after No. indicates ship's barometer Mercorial; A. ship's barometer Aneroid.

C.C. = Equipped with tested Instruments for making Cross Channel Telegraphic Reports to the Meteorological Office, London.

The numbers which appear before the names of ships equipped for making coded W/T reports to the Meteorological Office, London, are used for the purpose of identification when the observations are re-transmitted in synoptic messages by Wireless or Cable.

Name of Vessel.	Captain.	Observing Officers.	Official Meteorological Equipment.	Line.	Last Log, Register, or Report Contributed. Received up to 13.11.25.	Date Received.
<i>Aba</i> ...	Hughes, J. ...	G. Pugh Williams, R. Wilkinson, J. R. Jones.	M.L.	Elder Dempster ...	Met. Log. 22.7.25 to 25.10.25...	11.11.25.
<i>Abinsi</i> ...	Wright, J. B. ...	E. Kingan ...	No. A.	" " " " ...	Form 911 19.8.25 to 26.9.25 ...	28.9.25.
<i>Achilles</i> ...	Hill, R. ...	O. V. Jones ...	" A.	A. Holt " " ...	" 13.8.25 to 28.8.25 ...	2.11.25.
<i>Actor</i> ...	Haylett, E. ...	A. Frew, J. McKay, H. W. Stanley.	M.L.	Harrison ...	" 7.8.25 to 13.10.25 ...	22.10.25.
<i>Adda</i> ...	Toft, J. T. ...	W. Borrows ...	No. M.	Elder Dempster ...	" 1.10.25 to 5.11.25 ...	12.11.25.
<i>50 Adriatic</i> ...	Beadnell, F. E., Capt. R.N.R.	J. Collins, A. C. I. Anson, R. G. Roberts.	W.T.	White Star ...	W.T. Reg. 28.9.25 to 17.10.25... Form 911 28.9.25 to 17.10.25...	21.10.25. 21.10.25.
<i>Aeneas</i> ...	Wallace, W. K. ...	" " " " ...	No.	A. Holt ...	" " " " ...	" " " "
<i>Agapenor</i> ...	Ramsay, J. ...	A. T. Gillard ...	" A.	" " " " ...	Form 911 11.8.25 to 30.9.25 ...	6.10.25.
<i>Alban</i> ...	Torrible, R. H. ...	G. E. Freeman ...	" A.	Booth ...	" 15.6.25 to 28.6.25 ...	3.7.25.
<i>Albania</i> ...	Gronow, S. ...	L. Harper ...	" A.	Cunard ...	" 29.8.25 to 22.9.25 ...	24.9.25.
<i>Algerian Prince</i> ...	Shaw, D. C. ...	G. Potts ...	" A.	Prince ...	" 17.3.25 to 31.3.25 ...	6.4.25.
<i>Alipore</i> ...	Gordon, L. M. R.D., Commr. R.N.R.	F. R. W. Page ...	" M.	P. and O. ...	" 3.8.25 to 22.8.25 ...	21.9.25.
<i>Almanzora</i> ...	Mackenzie, G. A. ...	E. Sandys, E. Hewitt ...	" M.	R.M.S.P. ...	" 8.8.25 to 21.9.25 ...	24.9.25.
<i>Alondra</i> ...	Prendergast, J. J. ...	H. Peters ...	" A.	Yeoward ...	" 27.9.25 to 17.10.25 ...	26.10.25.
<i>Ampelco</i> ...	Vandenkerckhove, A. ...	A. Aspelagh ...	" A.	American Petroleum... ..	" 24.9.25 to 12.10.25 ...	19.10.25.
<i>Antiochus</i> ...	Wilkinson, H. ...	E. T. Bayes ...	" A.	A. Holt ...	" 27.7.25 to 6.10.25 ...	21.10.25.
<i>Aorangi</i> ...	Crawford, R. ...	R. B. Denniston, A. Lansley, J. W. Bray.	M.L.	Canadian-Australasian	Met. Log. 4.6.25 to 17.9.25 ...	19.10.25.
<i>Appam</i> ...	Yardley, H. A., D.S.C.	S. C. Fry, G. H. George, P. Marriott.	"	Elder Dempster ...	" 7.1.25 to 9.6.25 ...	12.6.25.
<i>30 Aquitania</i> ...	Charles, Sir J. T., W. K.B.E., C.B., R.D., Commodore, R.N.R.	J. L. Croasdale, J. Locke, L. T. Simpson.	W.T.	Cunard ...	W.T. Reg. 11.10.25 to 26.10.25	28.10.25.
<i>62 Arabic</i> ...	Davies, J. ...	R. Walker, H. G. Morgan, W. Clements.	"	White Star ...	" 13.10.25 to 5.11.25... Form 911 14.10.25 to 4.11.25...	7.11.25. 7.11.25.
<i>Arafura</i> ...	Gordon, A. S. ...	R. Lloyd Harry ...	No. M.	Eastern and Australian	Form 911 17.8.24 to 18.10.24...	15.12.24.
<i>Archimedes</i> ...	Taylor, F. C. ...	F. W. Johnson ...	" A.	Lampart & Holt ...	" 7.6.25 to 8.7.25 ...	9.7.25.
<i>Armada Castle</i> ...	Millard, L. A., Knight, A.	M. M. Tomkins, R. F. Bayer, C. H. Williams.	M.L.	Union Castle ...	Met. Log. 31.1.25 to 22.7.25 ...	8.8.25.
<i>Arracan</i> ...	Willis, M. ...	R. McInnes, M. S. Stuart, A. McCullum.	"	P. Henderson ...	" 28.2.25 to 30.5.25 ...	4.6.25.
<i>Arundel</i> ...	Short, H. ...	Mr. Hill ...	C.C.	Southern Rly. ...	Telegraphic Report 11.11.25 ...	11.11.25.
<i>Arundel Castle</i> ...	Hague, J. W., Commr. R.N.R.	G. Blaiklock, C. Lloyd, F. Granger.	M.L.	Union Castle ...	Met. Log. 24.5.25 to 7.10.25 ...	22.10.25.
<i>Assyria</i> ...	Donald, D. R. ...	A. Middleton ...	No. A.	Anchor ...	Form 911 16.8.25 to 7.9.25 ...	9.9.25.
<i>Astronomer</i> ...	Booth, W. M. ...	L. Harriman, H. Thomas, E. Shatton.	M.L.	Harrison ...	Met. Log. 16.3.25 to 17.7.25 ...	1.8.25.
<i>Athenic</i> ...	Davies, E. ...	W. Hill ...	No. A.	White Star ...	Form 911 15.8.25 to 29.8.25 ...	18.9.25.
<i>Atreus</i> ...	Salter, G. H. ...	J. C. Podmore ...	" A.	A. Holt ...	" 12.10.25 to 21.10.25 ...	28.10.25.
<i>Atsuta Maru</i> ...	Furuhashi, M. ...	S. Mizoguchi ...	" A.	Nippon Yusen Kaisha	" 6.9.25 to 4.10.25 ...	19.10.25.
<i>Auditor</i> ...	Owen, W. T. ...	T. E. Steel ...	" M.	Harrison ...	" 15.7.25 to 27.8.25 ...	31.8.25.
<i>Ausonia</i> ...	Gibbons, G. R.D., Commr. R.N.R.	E. R. B. Freeman ...	" A.	Cunard ...	" 11.10.25 to 2.11.25...	7.11.25.
<i>Author</i> ...	Kinloch, R. ...	" " " " ...	" M.	Harrison ...	" " " " ...	" " " "
<i>Avon</i> ...	Nicholson, M. L. ...	T. Bolland ...	" M.	R.M.S.P. ...	Form 911 19.9.25 to 3.11.25 ...	5.11.25.
<i>Balfour</i> ...	Rothwell, A. ...	" " " " ...	No.	Canadian Pacific	" " " " ...	" " " "
<i>51 Baltic</i> ...	White, E. R. ...	J. Law, J. Farrell, H. R. Wilkinson.	W.T.	White Star ...	W.T. Reg. 11.10.25 to 31.10.25 Form 911 11.10.25 to 1.11.25...	3.11.25. 3.11.25.
<i>Bambra</i> ...	Buckeridge, G. ...	H. W. Norris, J. E. Turner, F. Humble.	M.L.	State Service, Australia	Met. Log. 2.4.25 to 6.8.25 ...	7.9.25.
<i>Rampton Castle</i> ...	Hutchings, A. H. ...	M. J. Castle ...	No.	Union Castle ...	" 2.5.25 to 21.8.25 ...	2.9.25.
<i>Banbury Castle</i> ...	Singeisen, E. A., D.S.C., R.D., Commr. R.N.R.	" " " " ...	"	" " " " ...	" " " " ...	" " " "
<i>Banffshire</i> ...	Wynne, R. H. ...	J. M. Bowie ...	No. A.	Turnbull Martin ...	Form 911 13.9.25 to 24.10.25...	7.11.25.



Name of Vessel.	Captain.	Observing Officers.	Official Meteorological Equipment.	Line.	Last Log, Register, or Report Contributed. Received up to 13.11.25.	Date Received.
<i>Baron Cawdor</i> ...	Cairns, W. ...	A. Campbell ...	No. A.	Hogarth & Sons ...	Form 911 26.7.25 to 16.10.25...	20.10.25.
<i>Barpeta</i> ...	Denne, G. A. ...	W. G. E. Rawlingson ...	" M.	British India ...	" 26.8.25 to 26.9.25 ...	19.10.25.
<i>Baychimo</i> ...	Cornwall, S. A. ...	S. Jackson ...	" A.	Hudson's Bay Co. ...	" 18.7.25 to 6.10.25 ...	13.11.25.
<i>Beaufort</i> ...	Rice, W. V., D.S.O., D.S.C., Commr., R.N.	J. Taylor ...	M.L.	His Majesty's Ship ...	Met. Log. 16.4.25 to 13.8.25 ...	1.9.25.
59 <i>Belgenland</i> ...	Bradshaw, J. ...	C. J. Murray, J. M. Appleby, R.D., Capt., R.N.R.	W.T.	Red Star ...	W.T. Reg. 4.10.25 to 21.10.25... Form 911 3.10.25 to 21.10.25 ...	23.10.25. 23.10.25.
<i>Bennlder</i> ...	Cole J. H., D.S.C....	W. M. Webster ...	No. A.	Ben Line ...	" 1.8.25 to 8.9.25 ...	9.9.25.
<i>Bendigo</i> ...	Nicholl, R. N. C. ...	J. K. Crane ...	" M.	P. & O. Branch ...	" 29.8.25 to 28.10.25... ..	11.11.25.
<i>Benloe</i> ...	McCorquodale, A. ...	G. M. Duff ...	" A.	Ben Line ...	" 12.8.25 to 29.8.25 ...	30.9.25.
31 <i>Berengaria</i> ...	Irvine, W. R. D., R.D., Capt., R.N.R.	J. A. Myles, W. C. A. Robson, E. W. Connell.	W.T.	Cunard ...	W.T. Reg. 18.10.25 to 2.11.25... ..	5.11.25.
<i>Bernini</i> ...	Evans, W. ...	H. L. Rudd ...	No. A.	Lamport & Holt ...	Form 911 21.11.24 to 31.1.25... ..	16.2.25.
<i>Berrima</i> ...	Townshend, W. P. ...	T. Ferguson ...	" M.	P. & O. Branch ...	" 5.9.25 to 24.9.25 ...	26.10.25.
<i>Berwyn</i> ...	McCombie, J. ...	A. A. H. Blankestyn ...	" M.	Canadian Pacific ...	" 22.9.25 to 5.10.25 ...	14.10.25.
<i>Bintang</i> ...	Morzer Bruyns, M. F. ...	T. R. Thomas ...	" A.	Nederland ...	" 8.10.25 to 28.10.25... ..	5.11.25.
<i>Bogota</i> ...	Dunn, R. E., O.B.E. ...	C. A. Mott ...	M.L.	R.M.S.P. Co. ...	Met. Log. 19.11.24 to 27.5.25... ..	27.6.25.
<i>Bolinsbroke</i> ...	Jones, D. C. ...	S. W. Keay ...	No. M.	Canadian Pacific ...	Form 911 12.2.25 to 19.6.25 ...	25.6.25.
<i>Borda</i> ...	Holland, R. ...	H. W. S. Coughlan ...	" A.	P. & O. Branch ...	" 17.9.25 to 27.9.25 ...	20.10.25.
<i>Bothwell</i> ...	Jones, D. J. C. ...	"	" A.	Canadian Pacific ...	" 20.8.25 to 16.9.25 ...	21.9.25.
<i>Brandon</i> ...	McCombie, G.F.G. McQueen, D. S.	"	"	"	"	"
<i>Brecon</i> ...	Newman, J. ...	J. Mackenzie, H. C. Waters, T. J. Webster, D. Durin, N. B. Goater, T. Golby.	M.L.	"	Met. Log. 2.12.24 to 24.2.25 ...	4.3.25.
<i>Brenda</i> ...	Murdoch, R. G. ...	F. R. Ness ...	No. A.	Scottish Fishery Board ...	Form 911 1.10.25 to 31.10.25... ..	11.11.25.
<i>Brighton</i> ...	Hill, A. ...	Mr. Munton ...	C.C.	Southern Railway ...	Telegraphic Report 20.10.25 ...	20.10.25.
<i>British Advocate</i> ...	Taylor, R. J. ...	C. J. Metcalf ...	No. M.	British Tankers ...	Form 911 13.8.25 to 12.10.25... ..	14.10.25.
<i>British Engineer</i> ...	Joures, T. W. ...	M. J. Grieves ...	" M.	"	" 7.5.25 to 13.7.25 ...	24.7.25.
<i>British Judge</i> ...	Putt, R. O. ...	H. Westlake ...	No. M.	"	" 25.9.25 to 22.10.25... ..	2.11.25.
<i>Broening</i> ...	Connorton, C. A. ...	W. E. Johnston ...	" A.	Lamport & Holt ...	" 17.11.25 to 6.2.25 ...	23.2.25.
<i>Brugere</i> ...	Denson, W. ...	C. E. Legg ...	" A.	"	" 7.7.25 to 31.7.25 ...	22.9.25.
<i>Cambria C.S.</i> ...	Wightman, H. G. E., D.S.C.	E. N. L. Staples ...	M.L.	Eastern Tel. Co. ...	Met. Log. 8.7.24 to 5.10.24 ...	27.1.25.
<i>Cambria</i> ...	Telfer, J.E. ...	V. S. Phillips ...	C.C.	L.M. & S. Rly. ...	Telegraphic Report 30.10.25 ...	30.10.25.
<i>Camito</i> ...	Sudamore, J. H. H., D. S. C., R.D., Commr., R.N.R.	R. M. Cossantine, R. Sutherland, P. C. Congdon.	M.L.	Elders & Fyffes ...	Met. Log. 11.5.25 to 6.9.25 ...	10.9.25.
<i>Canada</i> ...	Jones, T. ...	A. Thompson ...	No. M.	White Star-Dominion ...	Form 911 17.10.25 to 7.11.25... ..	9.11.25.
<i>Canadian Importer</i> ...	Wallace, C. ...	C. W. Gilding ...	" A.	Canadian Govt. Mercantile Marine.	" 1.6.25 to 7.7.25 ...	24.7.25.
<i>Canadian Inventor</i> ...	Roberts, R. P. ...	T. Edgar ...	" A.	"	" 25.9.25 to 23.10.25... ..	13.11.25.
<i>Canadian Miller</i> ...	McConechy, W. T. ...	B. D. Ranns ...	" A.	"	"	"
<i>Canadian Raider</i> ...	Dixon, C. C. ...	C. J. Carp ...	" A.	"	Form 911 16.3.25 to 22.4.25 ...	5.5.25.
<i>Canadian Scottish</i> ...	Wallace, C. ...	C. W. Gilding ...	" A.	"	" 16.9.25 to 14.10.25... ..	28.10.25.
<i>Canadian Skirmisher</i> ...	Millar, W. H. ...	C. W. Crofts ...	" A.	"	" 31.8.25 to 30.9.25 ...	31.10.25.
<i>Canadian Winner</i> ...	Hoeking, N. P. ...	R. Girling ...	" A.	"	" 5.6.25 to 10.7.25 ...	25.7.25.
<i>Carlow Castle</i> ...	Whitfield, G. J. ...	J. W. Kirby ...	" A.	Union Castle ...	" 8.5.25 to 2.6.25 ...	8.6.25.
35 <i>Carmania</i> ...	McNeil, S. G. S. R.D., Capt., R.N.R.	W. M. Stewart, A. T. Hamer, W. B. Tanner.	W.T.	Cunard ...	W.T. Reg. 4.10.25 to 24.10.25... ..	27.10.25.
<i>Cassandra</i> ...	Hossack, W. H., R.D., Capt., R.N.R.	R. F. Bovey, R. Campbell, D. M. MacLean.	"	"	Form 911 6.9.25 to 26.9.25 ...	30.9.25.
<i>Cassandra</i> ...	Mitchell, W. E. ...	G. M. Sime ...	No. A.	Anchor Donaldson ...	W.T. Reg. 19.9.25 to 10.10.25... ..	15.10.25.
52 <i>Cedric</i> ...	Hickson, V. W. ...	H. J. Yates, W. Nicoll, W. Waters.	W.T.	White Star ...	Form 911 20.9.25 to 10.10.25... ..	15.10.25.
<i>Celtic</i> ...	Berry, G. ...	J. W. Allingham, J. W. Peters, R. H. Shaw.	"	"	W.T. Reg. 8.10.24 to 16.12.24... ..	18.12.24.
<i>Centauro</i> ...	Rose, A. F. ...	L. Johnstone, E. D. Potts ...	No. M.	A. Holt & Co. ...	Form 911 5.10.25 to 25.10.25... ..	28.10.25.
<i>Ceramic</i> ...	Trant, E. L., R.D., Commr., R.N.R.	A. E. Harvey ...	" A.	White Star ...	Form 911 4.10.25 to 25.10.25... ..	28.10.25.
<i>Changsha</i> ...	Gambrell, F. C. ... Thomas, R. D. ...	A. M. Frame, F. G. Stratford, H. Lishman, L. A. Bailie, W. Bailey.	M.L.	Ynill & Co. ...	W.T. Reg. 21.9.25 to 11.10.25... ..	14.10.25.
<i>Changte</i> ...	Gambrell, F. C. ...	"	"	"	Form 911 20.9.25 to 11.10.25... ..	14.10.25.
<i>China</i> ...	Cossey, W. F. ...	E. R. Chaffin ...	No. M.	P. & O. ...	" 23.8.25 to 3.10.25 ...	2.11.25.
<i>Chindwara</i> ...	Brisley, P. L. ...	W. Welch ...	" M.	British India ...	" 9.4.25 to 13.5.25 ...	19.5.25.
<i>Chindwin</i> ...	Esslemont, C. ...	J. Summers, W. Wilson, J. G. Walker.	M.L.	P. Henderson ...	Met. Log. 25.4.24 to 2.10.24... ..	10.3.25.
<i>City of Alexandria</i> ...	Bedford, G. B. ...	T. Telleson ...	No. M.	Ellerman ...	Form 911 14.3.25 to 7.4.25 ...	5.5.25.
<i>City of Baroda</i> ...	Houghton, W. ...	A. Beaton, J. Cook, H. N. Jones.	M.L.	"	Met. Log. 27.5.25 to 13.8.25... ..	17.8.25.
<i>City of Batavia</i> ...	Nancollas, H. E. ...	S. J. Nash ...	No. A.	"	Form 911 27.12.24 to 25.1.25... ..	9.3.25.
<i>City of Benares</i> ...	Wyper, J. ...	C. G. Inglis ...	" A.	"	" 16.8.25 to 2.9.25 ...	21.9.25.
<i>City of Brisbane</i> ...	Seaborne, F. O., D.S.C.	W. E. Fletcher ...	" A.	"	" 3.8.25 to 4.9.25 ...	12.10.25.
<i>City of Canterbury</i> ...	Bremner, D. M. ...	A. M. Hamilton ...	" A.	"	" 3.4.25 to 24.6.25 ...	29.6.25.
<i>City of Chester</i> ...	Letton, F. W. ...	F. C. Wilson, E. Garner, H. Asher.	M.L.	"	Met. Log. 3.6.25 to 15.10.25 ...	22.10.25.
<i>City of Dunkirk</i> ...	Jinks, J. W. ...	"	No.	"	"	"
<i>City of Edinburgh</i> ...	Spencer, H. ...	J. D. MacDonald ...	" M.	"	Form 911 4.6.25 to 2.7.25 ...	18.8.25.
<i>City of London</i> ...	Martin, D. ...	J. J. McTigue ...	" A.	"	" 27.9.25 to 18.10.25... ..	9.11.25.
<i>City of Marseilles</i> ...	Brown, G. ...	W. A. MacAdams, G. F. L. Coates.	" A.	"	" 7.10.25 to 16.10.25 ...	27.10.25.
<i>City of Rangoon</i> ...	Dunning, F. W. ...	"	M.L.	"	"	"
<i>City of Valencia</i> ...	Williamson, W. A., R.D., Lieut.-Commr. R.N.R.	C. C. Duncan ...	No. M.	"	Form 911 5.3.25 to 3.4.25 ...	2.6.25.
<i>City of Yokohama</i> ...	McDonald, W. D. ...	R. Moloney ...	" A.	"	" 28.8.25 to 19.9.25 ...	12.10.25.
<i>Clan Cumming</i> ...	McLean, J. G. ...	S. M. Werrey Easterbrook ...	" A.	Clan ...	" 25.12.24 to 29.1.25... ..	9.3.25.
<i>Clan Lamont</i> ...	McCornish, A. B. ...	"	No.	"	"	"
<i>Clan Lindsay</i> ...	Willits, J., Commr.	G. H. Johnson ...	" A.	"	" 12.7.25 to 2.8.25 ...	1.9.25.
<i>Clan Macbeth</i> ...	Young, A. H., R.D., Lieut.-Commr., R.N.R.	J. T. Bell... ..	" A.	"	" 25.6.25 to 6.9.25 ...	18.9.25.
<i>Clan Macfadyen</i> ...	Stenson, F. J., R.D., Capt., R.N.R.	"	"	"	"	"
<i>Clan Macgillivray</i> ...	West, W. F. ...	P. G. de Gruchy ...	" A.	"	Form 911 5.9.25 to 4.10.25 ...	30.10.25.
<i>Clan Macindoe</i> ...	Law, A. ...	F. G. Darnborough ...	" A.	"	" 3.8.25 to 1.9.25 ...	3.9.25.
<i>Clan Mackellar</i> ...	Scotland, A. ...	D. McAllister ...	" A.	"	" 16.9.25 to 26.10.25... ..	9.11.25.
<i>Clan Mackenzie</i> ...	Young, G. ...	W. G. Arthur, F. B. Fairweather.	" A.	"	" 7.11.24 to 21.11.24... ..	12.12.24.
<i>Clan Mackinnon</i> ...	Mackie, R. W. ...	W. F. Isaac, S. Y. Strange, S. H. Danson.	M.L.	"	Met. Log. 20.6.25 to 28.9.25 ...	22.10.25.

## LIST OF VOLUNTARY OBSERVING SHIPS

iii

Name of Vessel.	Captain.	Observing Officers.	Official Meteorological Equipment.	Line.	Last Log, Register, or Report Contributed. Received up to 13.11.25.	Date Received.
<i>Clan Macphee</i> ...	Gourlay, J. B. ...	D. S. Rae, A. W. Jones, J. J. Millar.	M.L.	Clan ...	Met. Log. 28.12.24 to 24.7.25...	4.8.25.
<i>Clan Macnaughton</i> ...	Thomson, W. ...	A. J. Storkey ...	No. A.	" ...	Form 911 29.7.25 to 15.9.25 ...	22.9.25.
<i>Clan Macgregor</i> ...	Gray, J. N. ...	W. J. Henderson ...	" A.	" ...	" 29.9.25 to 31.10.25...	3.11.25.
<i>Clan Macrae</i> ...	Phillips, G. P. ...	L. S. Murrin ...	" A.	" ...	" 14.7.25 to 2.8.25 ...	24.8.25.
<i>Clan Malcolm</i> ...	Neill, G. A. ...	S. M. Werrey Easterbrook ...	M.L.	" ...	" ...	" ...
<i>Clan Morrison</i> ...	Porterfield, W. M. ...	G. Morren ...	No. A.	" ...	" 21.7.25 to 13.10.25...	15.10.25.
<i>Clan Murdoch</i> ...	Pagan, J. C. ...	C. W. Thomas ...	No. A.	" ...	Form 911 10.1.25 to 5.2.25 ...	2.3.25.
<i>Clan Ranald</i> ...	Openshaw, L. G. ...	T. E. Woodall ...	" A.	" ...	" 6.8.25 to 8.9.25 ...	9.9.25.
<i>Clan Ross</i> ...	Jones, R. C. ...	G. Short ...	" A.	" ...	" 2.8.25 to 21.8.25 ...	7.10.25.
<i>Clan Sinclair</i> ...	Neil, G. A. ...	J. Brittain ...	" A.	" ...	" 10.3.25 to 2.7.25 ...	5.8.25.
<i>Clan Urquhart</i> ...	Gibb, A. F. W. ...	T. G. Mitchell ...	" A.	" ...	" 20.9.25 to 16.10.25...	2.11.25.
<i>Colonia, C.S.</i> ...	Garnham, S. A. ...	A. S. Muir, F. Bolingbroke, J. M. Matthews, W. Sangwine.	M.L.	Telegraph Construction & Maintenance.	Met. Log. 29.8.25 to 1.10.25 ...	9.10.25.
<i>Colonia</i> ...	Gittins, R. P. ...	T. A. Schofield-Miller ...	No. A.	Leyland ...	Form 911 25.9.25 to 20.10.25 ...	29.10.25.
<i>Columbia</i> ...	Erskine, R. ...	C. L. Seaman ...	" A.	Anchor ...	" 28.6.25 to 19.7.25 ...	27.7.25.
<i>Concordia</i> ...	Morris, J. ...	T. Philip, J. McIntosh, J. Davies.	M.L.	Anchor Donaldson ...	Met. Log. 7.3.25 to 30.6.25 ...	20.7.25.
<i>Comino</i> ...	Nuttall, E. L. ...	J. Woodward ...	No. A.	Furness Withy ...	Form 911 3.5.25 to 21.7.25 ...	18.8.25.
<i>Copenhagen</i> ...	Kerr, J. J. ...	" ...	"	Glen & Co. ...	" ...	"
<i>Corinthic</i> ...	Hart, F. ...	F. Kean, M. Bennett, F. G. Rogers.	M.L.	White Star ...	Met. Log. 4.4.25 to 18.7.25 ...	27.7.25.
<i>Cornwall</i> ...	Haines, F. P. ...	Mr. Maltby, Mr. Ray ...	No. A.	Dowie, J., & Co. ...	Form 911 4.7.25 to 13.8.25 ...	21.9.25.
<i>Crawford Castle</i> ...	Morgan, A. O., R.D., Commr. R.N.R.	G. Montgomery ...	" A.	Union Castle ...	" 4.7.25 to 3.8.25 ...	11.8.25.
<i>Culebra</i> ...	Mackay, A. S. ...	C. Wolfenden, J. W. Duncan, R. Hocken.	M.L.	R.M.S.P. Co. ...	Met. Log. 10.11.24 to 10.4.25...	4.5.25.
<i>Cuthbert</i> ...	Barlow, F. P. ...	S. G. Edwards ...	No. A.	Booth ...	Form 911 26.8.25 to 4.9.25 ...	30.9.25.
<i>Cyclops</i> ...	Cosker, W. ...	A. Brotherton ...	" A.	A. Holt ...	" 4.6.25 to 28.8.25 ...	31.8.25.
<i>Dardanus</i> ...	Williams, D. T. ...	W. K. Kerr ...	" A.	" ...	" 15.8.25 to 8.10.25 ...	12.10.25.
<i>Dorian</i> ...	Masters, W. ...	A. S. Holland ...	" A.	Leyland ...	" 18.10.25 to 27.10.25	3.11.25.
<i>Darro</i> ...	Smith, W. E., D.S.O., R.D., Capt., R.N.R.	F. W. M. Drew ...	" M.	R.M.S.P. Co. ...	" 5.9.25 to 31.10.25 ...	12.11.25.
<i>Daytonian</i> ...	Walker, C. J., D.S.C.	" ...	" A.	Leyland ...	" 30.3.25 to 13.5.25 ...	21.5.25.
<i>Demerara</i> ...	Willan, F. C. L. ...	A. Nicholls ...	" M.	R.M.S.P. Co. ...	" 10.8.25 to 3.10.25 ...	12.10.25.
<i>Demosthenes</i> ...	Williams, W. J. ...	" ...	" M.	Aberdeen ...	" ...	"
<i>Deseado</i> ...	Hannam, F. S. ...	H. B. Bennett, A. H. Phillipson	" M.	R.M.S.P. Co. ...	Form 911 17.7.25 to 2.9.25 ...	14.9.25.
<i>Desna</i> ...	Huff, G. F. ...	W. S. Thomas ...	" M.	" ...	" 25.7.25 to 19.9.25 ...	28.9.25.
<i>Deucalion</i> ...	Findlay, J. ...	L. E. Brown ...	" A.	A. Holt ...	" 3.10.25 to 14.10.25...	19.10.25.
<i>Dieppe</i> ...	Marmery, S. ...	Mr. Parsons ...	C.C.	Southern Railway	Telegraphic Report 12.11.25	12.11.25.
<i>Dinboola</i> ...	Roy, C. M. ...	G. A. Molyneux ...	No. A.	Melbourne S.S. Co. ...	Form 911 21.8.25 to 1.9.25 ...	5.10.25.
<i>Discoverer</i> ...	Ling, J. T. ...	H. Hall ...	" M.	Harrison ...	" 25.3.25 to 27.8.25 ...	15.9.25.
<i>Discovery, R.R.S.</i> ...	Stenhouse, J. R., D.S.O., D.S.C., O.B.E., R.D., Commr. R.N.R.	" ...	M.L.	Discovery Expedition	" ...	"
<i>Dogra</i> ...	Hartock, L. ...	E. C. Akers ...	No. M.	Asiatic S.N. Co. ...	Form 911 27.12.24 to 12.1.25...	2.2.25.
<i>Domala, M.V.</i> ...	Buswell, W. ...	C. E. Merchant ...	" M.	British India	" 27.9.25 to 8.10.25 ...	15.10.25.
<i>61. Doric</i> ...	S. Bolton, D.S.C., R.D., Commr. R.N.R.	W. A. Calway, O. V. Lucas, W. F. Dennison.	W.T.	White Star	W.T. Reg. 27.9.25 to 18.10.25...	20.10.25.
<i>Doric Star</i> ...	Thomas, R. T. ...	T. Williams ...	No. M.	Blue Star ...	Form 911 27.9.25 to 17.10.25 ...	20.10.25.
<i>Dorsel</i> ...	Kettlewell, C. R. ...	F. G. Capon, L. Cann, D. M. Lambert.	M.L.	New Zealand S.S. Co. ...	Met. Log. 1.8.25 to 1.9.25 ...	16.9.25.
<i>Dorsetshire</i> ...	Adamson, B. W. ...	C. H. Griffiths, W. A. Kent, R. Cuming.	"	Bibby ...	" 24.11.24 to 20.4.25...	27.4.25.
<i>Dromore Castle</i> ...	Vincent, E. S., R.D., Commr. R.N.R.	S. S. Smith ...	No. A.	Union Castle ...	" 31.5.25 to 27.8.25 ...	31.8.25.
<i>Dryden</i> ...	Major, T. W. ...	A. Hewitt ...	" M.	Lamport & Holt ...	Form 911 25.8.25 to 13.9.25 ...	30.10.25.
<i>Dundrum Castle</i> ...	Kershaw, H. J. ...	R. May ...	" A.	Union Castle ...	" 1.9.25 to 17.9.25 ...	7.10.25.
<i>Dundes</i> ...	Pape, E. R. ...	D. P. Morgan ...	" M.	Union Castle ...	" 3.5.25 to 28.5.25 ...	12.6.25.
<i>Duffield</i> ...	King, A. ...	T. S. Robertson ...	" A.	Pacific S.N. Co. ...	" 22.11.24 to 24.12.24	29.12.24.
<i>Dunrobin</i> ...	Ramsay, J. D. ...	M. M. Ramsay ...	" A.	Hunting & Sons	" 10.11.24 to 9.12.24 ...	16.12.24.
<i>Duquesa</i> ...	Ellis, F., D.S.C.	C. P. Lane ...	" M.	Glen & Co. ...	" 14.8.25 to 4.9.25 ...	18.9.25.
<i>Durenda</i> ...	Wilson, W. ...	W. H. Creese ...	" M.	Furness Withy	" 28.6.25 to 6.8.25 ...	31.8.25.
<i>Edinburgh Castle</i> ...	Strong, H., R.D., Commr. R.N.R.	A. Parker, T. Goldstone, C. S. Kean.	M.L.	British India	Met. Log. 31.1.25 to 28.4.25 ...	12.5.25.
<i>El Cordobes</i> ...	Noton, F. G. ...	J. W. Ekins ...	No. A.	Union Castle ...	" 1.5.25 to 23.8.25 ...	5.9.25.
<i>Elmina</i> ...	Millson, H. E. ...	G. D. Simpson, C. Cryer, R. Griffiths.	M.L.	British & Argentine S.N. Co. ...	Form 911 23.6.25 to 3.9.25 ...	9.9.25.
<i>El Paraguay</i> ...	Smith, F. C. ...	W. E. Williams ...	No. M.	Elder Dempster ...	Met. Log. 26.3.25 to 16.8.25 ...	5.9.25.
<i>Elpenor</i> ...	T. W. Hannay ...	R. L. Phillips, R. Harries, C. Shaw, W. Rankin, G. Houchin.	M.L.	Houlder Bros. ...	Form 911 7.9.25 to 3.11.25 ...	5.11.25.
<i>Empress of Asia</i> ...	Douglas, L. D., R.D., Lt. - Commr., R.N.R.	R. H. Foley, R. Dobbin, L. Johnston, L. C. Hogg, T. M. W. Golby.	"	A. Holt ...	Met. Log. 25.5.25 to 24.9.25 ...	28.9.25.
<i>Empress of Australia</i> ...	Hailey, A. J. ...	C. Critchley, R. A. Leicester, A. B. Smith.	"	Canadian Pacific ...	" 28.5.25 to 9.9.25 ...	19.10.25.
<i>Empress of Canada</i> ...	Robinson, S., C.B.E., R.D., Commr., R.N.R.	W. S. Halliday, L. C. Barry, L. M. Goddard.	"	" ...	" 6.11.25 to 10.5.25 ...	3.6.25.
<i>Empress of France</i> ...	Griffiths, E. ...	O. Fennington, E. Roberts, A. W. Patrick.	"	" ...	" 15.11.24 to 11.5.25...	26.6.25.
<i>Empress of Russia</i> ...	Hosken, A. J. ...	J. Reid, D. F. McNeill ...	"	" ...	" 31.12.24 to 3.6.25 ...	12.6.25.
<i>Empress of Scotland</i> ...	Latta, R. G. ...	B. Grant, D. Loram, W. Bacon, K. Hutchings, F. G. Hutchings.	"	" ...	" 20.12.24 to 5.6.25 ...	17.7.25.
<i>Endeavour</i> ...	Commr. S. A. Geary-Hill, D.S.O., R.N.	M. L. Harrison, E. V. B. Baker, E. H. B. Baker, J. Torlesse.	"	" ...	" 3.5.25 to 7.10.25 ...	3.11.25.
<i>Essequibo</i> ...	Duncan, E. E. ...	G. Pattison ...	No. M.	His Majesty's Ship ...	" 26.5.25 to 24.6.25 ...	13.7.25.
<i>Eumaeus</i> ...	Read, J. W. ...	W. J. Ryan, E. R. Pritchard	" A.	R.M.S.P. Co. ...	Form 911 18.6.25 to 30.6.25 ...	7.9.25.
<i>Euripides</i> ...	Collins, P. J., O.B.E.	H. S. Cox, G. R. Fisher, A. J. Terry.	M.L.	A. Holt ...	" 15.8.25 to 15.10.25...	23.10.25.
<i>Eurybates</i> ...	Carnon, C. G. ...	C. Napier ...	No. A.	Aberdeen ...	Met. Log. 27.2.25 to 18.6.25 ...	29.6.25.
<i>Explorer</i> ...	Lamont, A. ...	Scientific Staff ...	M.L.	" ...	Form 911 9.5.25 to 24.5.25 ...	9.7.25.
<i>Ferdale</i> ...	Daniel, F. ...	D. Jones ...	"	Scottish Fishery Board	Met. Log. 20.6.24 to 27.9.24 ...	24.10.24.
<i>Fitzroy</i> ...	Silk, H. V., Lt.-Commr. R.N.	M. E. Welby ...	No. M.	Leopold Walford ...	Form 911 15.8.25 to 20.9.25 ...	28.9.25.
<i>Flandria</i> ...	Veldkamp, G. J. ...	T. Doornbosch ...	No. M.	His Majesty's Ship ...	Met. Log. 16.4.25 to 24.8.25 ...	4.9.25.
<i>Flinders</i> ...	Henderson, D. A., Lt.-Commr. R.N.	H. E. Turner ...	M.L.	Holland Lloyd ...	Form 911 28.8.25 to 15.10.25...	19.10.25.
<i>Francisco</i> ...	Williams, J. C. ...	J. C. Nettleship ...	No. A.	His Majesty's Ship ...	Met. Log. 16.4.25 to 7.8.25 ...	22.9.25.
				Ellerman Wilson ...	Form 911 10.9.25 to 15.10.25...	22.10.25.



Name of Vessel.	Captain.	Observing Officers.	Official Meteorological Equipment.	Line.	Last Log, Register, or Report Contributed. Received up to 13.11.25.	Date Received.
<i>Freya</i> ...	Angus, W.	J. H. Hennessey ...	No. A.	Scottish Fishery Board	Form 911 16.9.25 to 14.10.25...	20.10.25.
<i>Gallie</i> ...	Summers, F. F., R.D., Commr. R.N.R.	W. G. O. Jones ...	" A.	White Star ...	Met. Log. 3.8.24 to 9.12.24 ...	12.12.24.
<i>Galtymore</i> ...	Ledsome, J. S.	N. Goubrough ...	" M.	Furness Withy	Form 911 5.3.25 to 15.3.25 ...	18.3.25.
<i>Garret</i> ...	Visser, C. W.	C. J. Vandenoorn ...	" M.	Rotterdam Lloyd	Form 911 11.7.25 to 17.9.25 ...	8.10.25.
<i>Gascoyne</i> ...	Rutt, W. N.	R. Simpson ...	" A.	Dalgely & Co.	" 9.8.25 to 17.9.25 ...	2.11.25.
<i>Gelria</i> ...	Bakker, T. J.	K. H. Schilp ...	" M.	Holland Lloyd	" 11.9.25 to 28.10.25...	31.10.25.
<i>Glenamoy, M.V.</i> ...	Angier, J.	R. H. Bishop ...	" A.	Glen Line ...	" 23.8.25 to 3.11.25 ...	12.11.25.
<i>Glenapp, M.V.</i> ...	Roberts, W. E.	S. W. Bell ...	" A.	" ...	" 25.8.25 to 17.9.25 ...	2.11.25.
<i>Glenluce, M.V.</i> ...	Barkley, E.	J. D. Richards ...	" A.	" ...	" 22.2.25 to 24.3.25 ...	30.3.25.
<i>Glenishane</i> ...	Bennett, J. H.	R. A. Dale ...	" A.	" ...	" 22.8.25 to 12.9.25 ...	23.10.25.
<i>Gloucestershire</i> ...	Robin, E.	M. W. Simmons ...	" A.	Bibby ...	" 18.7.25 to 27.9.25 ...	1.10.25.
<i>Gorgon</i> ...	Hughes, J. W.	W. Simpson ...	" A.	A. Holt & Co.	" 2.8.25 to 14.9.25 ...	12.10.25.
<i>Gourko</i> ...	Montgomery, H.	N. J. Donovan ...	M.L.	Ellerman Wilson	Met. Log. 12.11.24 to 2.4.25 ...	24.4.25.
<i>Haliartus</i> ...	Marsh, L. V.	W. H. Upton ...	No. A.	R. P. Houston	Form 911 12.9.25 to 10.10.25...	19.10.25.
<i>Harmonides</i> ...	Hughes, W. J.	D. L. Roberts ...	" A.	" ...	" 1.3.25 to 16.3.25 ...	30.4.25.
<i>Harmony, Auxy.</i> ...	Jackson, J. C.	A. W. Bush ...	" A.	Moravian Mission	" 29.6.25 to 25.8.25 ...	14.9.25.
<i>Hatarana</i> ...	Woodget, H. T.	J. L. Durkee, F. Wells, H. Harrison, H. J. O'Donohoe.	M.L.	British India	" 7.10.24 to 22.4.25 ...	4.5.25.
<i>Hauraki, M.V.</i> ...	Frew, J. D.	A. K. Champion ...	No. M.	Union S.S. Co., N.Z....	" 3.7.25 to 25.7.25 ...	16.9.25.
<i>Henry Holmes, C.S.</i> ...	Bicker Caarten, A.	R. J. M. Pearce ...	" M.	W. I. & Panama Telegraph Co.	" 7.7.25 to 5.9.25 ...	23.9.25.
<i>Herald</i> ...	Harvey, J. R., O.B.E., Commr. R.N.	W. C. Jenks ...	M.L.	His Majesty's Ship	Met. Log. 1.2.25 to 27.5.25 ...	27.7.25.
<i>Herefordshire</i> ...	Stanley, W.	J. E. Cullen, G. Whitworth, P. S. Cooper, H. G. Walton	"	Bibby ...	" 28.3.35 to 13.9.25 ...	8.10.25.
<i>Herschel</i> ...	Davies, G. W.	J. M. Edgar ...	No. A.	Lampert & Holt	Form 911 19.7.25 to 20.9.25 ...	30.9.25.
<i>Hiernia</i> ...	Tanner, E. B.	R. Woodall ...	C.C.	L.M. & S. Rly.	Telegraphic Report, 7.11.25 ...	7.11.25.
<i>Highland Enterprise</i> ...	Pond, R. H.	J. H. Tilton ...	No. A.	Nelson	Form 911 31.1.25 to 26.4.25 ...	12.5.25.
" <i>Glen</i> ...	Jones, T. J.	C. M. Best ...	" A.	" ...	" 20.7.25 to 12.9.25 ...	24.9.25.
" <i>Heather</i> ...	Powell, G. A.	J. H. Cables, F. Jeyes ...	M.L.	" ...	Met. Log. 10.12.24 to 1.6.25 ...	16.6.25.
" <i>Laddie</i> ...	Alford, C.	R. Simpson ...	No. A.	" ...	Form 911 14.8.25 to 12.10.25	3.11.25.
" <i>Piper</i> ...	Collings, D.	A. S. Jones, J. S. Collins	M.L.	" ...	Met. Log. 6.1.25 to 25.5.25 ...	10.6.25.
" <i>Pride</i> ...	Robinson, R. H.	W. T. Breen, F. Falconer, R. R. Soanes, G. E. Leech.	"	" ...	" 13.8.25 to 3.8.25 ...	17.8.25.
" <i>Rover</i> ...	Ashby Graves, F.	F. W. Harvey, H. Thomas, F. Abbott.	"	" ...	" 2.7.25 to 29.8.25 ...	17.9.25.
" <i>Warrior</i> ...	Robinson, R. H.	G. I. Evans ...	No. M.	" ...	Form 911 1.6.25 to 29.7.25 ...	10.8.25.
<i>Hildebrand</i> ...	Maddrell, J.	A. Allan ...	" A.	Booth ...	" 16.9.25 to 29.10.25...	4.11.25.
<i>Hobsons Bay</i> ...	Kydd, O. J.	J. E. Williams O. J. Edwards, M. P. Pearce, J. Scott, G. M. Coote.	M.L.	Commonwealth Govt.	Met. Log. 31.3.25 to 11.7.25 ...	5.11.25.
"	"	"	"	"	" 28.7.25 to 31.10.25...	5.11.25.
<i>Holbein</i> ...	Gough, W. A.	H. L. Rudd ...	No. A.	Lampert & Holt	Form 911 21.8.25 to 22.10.25...	3.11.25.
<i>54 Homeric</i> ...	Holme, A.	A. E. Dyer, A. Griffiths, S. A. Jones.	W.T.	White Star ...	W.T. Reg. 8.10.25 to 23.10.25...	26.10.25.
<i>Honorius</i> ...	Samuels, C.	J. E. Martin, W. G. Idles ...	No. A.	R. P. Houston	Form 911 27.7.25 to 27.8.25 ...	31.8.25.
<i>Hororata</i> ...	Haines, F. P.	" ...	" M.	New Zealand S.S. Co.	" ...	"
<i>Hubert</i> ...	Buck, R. H.	G. H. Jordan ...	" A.	Booth ...	Form 911 6.8.25 to 28.8.25 ...	14.9.25.
<i>Hurunui</i> ...	Burton Davies, J.	J. C. Tuckett, C. D. Watt, F. Pover, G. R. Hogg.	M.L.	New Zealand S.S. Co.	Met. Log. 20.11.24 to 17.5.25...	9.6.25.
<i>Ibez</i> ...	Langdon, C.	" ...	C.C.	G.W. Railway	Telegraphic Report. 19.3.25 ...	19.3.25.
<i>Iceland, Auxy, Brigantine.</i> ...	Worsley, F.A., D.S.O., O.B.E., Commr. R.N.R.	" ...	M.L.	Algarsson Polar Expedition.	" ...	"
<i>Ikala</i> ...	Meetham, J. T.	E. Lightfoot, C. W. Smithurst	No. A.	J. H. Welsford & Co.	Form 911 22.5.25 to 5.6.25 ...	16.7.25.
<i>Ingoma</i> ...	Barrow, R. K.	O. Stanhope ...	" A.	Harrison ...	" 24.9.25 to 6.11.25 ...	9.11.25.
<i>Intaba</i> ...	Gibbings, W. A.	A. M. Hughes ...	" A.	" ...	" 23.8.25 to 5.10.25 ...	10.10.25.
<i>Iris, C.S.</i> ...	Hughes, H. R.	" ...	" M.	Pacific Cable Board	" ...	"
<i>Iroquois</i> ...	Jackson, A. L.	A. K. Baxendell ...	M.L.	His Majesty's Ship	Met. Log. 19.4.25 to 16.8.25 ...	28.9.25.
<i>Izion</i> ...	Reed, G. C.	A. R. Cook ...	No. A.	A. Holt ...	Form 911 19.5.25 to 10.8.25 ...	12.8.25.
<i>Jervis Bay</i> ...	Chaplin, W. R.	R. W. Laycock ...	" M.	Commonwealth Govt.	" 23.7.25 to 9.10.25 ...	15.10.25.
<i>John Pender, C.S.</i> ...	Smythe, T. W., O.B.E.	A. G. Watts ...	" A.	Eastern Tel. Co. ...	" 6.5.25 to 12.5.25 ...	8.6.25.
<i>Junin</i> ...	Benson, C. W.	A. Beharrel ...	" A.	Pacific S.N. Co. ...	" 16.5.25 to 5.6.25 ...	17.6.25.
<i>Kaikoura</i> ...	McNish, R.	H. E. Reilly, H. Neagle, D. Glegg, S. Toynne.	M.L.	New Zealand S.S. Co.	Met. Log. 26.1.25 to 8.8.25 ...	26.8.25.
<i>Kaisar-i-Hind</i> ...	Manley G.	G. R. Baker ...	No. M.	P. & O. ...	Form 911 8.8.25 to 29.9.25 ...	10.10.25.
<i>Kamo Maru</i> ...	Shiratori, S.	F. Takaku ...	" A.	Nippon Yusen Kaisha	" 8.8.25 to 8.9.25 ...	9.9.25.
<i>Kangaroo</i> ...	Norris, H. C.	R. J. Sinclair, V. Gilbert, J. Egglestone.	M.L.	State Service Australia	Met. Log. 11.4.25 to 20.9.25 ...	2.11.25.
<i>Kathlamba</i> ...	Mordue, J. A.	" ...	"	Ellerman Bucknall	" ...	"
<i>Kellett</i> ...	Maxwell, P. S. E., Commr. R.N.	D. G. V. Williams...	M.L.	His Majesty's Ship	Met. Log. 15.4.25 to 28.7.25 ...	11.8.25.
<i>Kenilworth Castle</i> ...	Millard, L. A.	A. E. Denn, W. M. Torekins	"	Union Castle	" 16.5.24 to 25.1.25 ...	6.2.25.
"	George J., O.B.E.	— May.	"	"	"	"
<i>Khiva</i> ...	Randall, H.W.R.D., Capt. R.N.R.	L. Fraser, K. H. Cummins, G. K. Fox.	"	P. & O. ...	" 24.10.24 to 31.1.25...	5.2.25.
<i>Khyber</i> ...	Collyer, R. M. M., R.D., Commr. R.N.R.	J. B. Child ...	No. M.	" ...	Form 911 4.7.25 to 29.10.25 ...	7.11.25.
<i>Kia Ora</i> ...	McIntosh, A.	A. E. Lockhart ...	" A.	Shaw Savill & Albion	" 28.4.25 to 10.9.25 ...	25.9.25.
<i>Kildonan Castle</i> ...	Wilford, T.H.	G. H. Pickering ...	" A.	Union Castle	" 21.8.25 to 24.10.25	27.10.25.
<i>Kidano Maru</i> ...	Gotoh, M.	M. Hara ...	" A.	Nippon Yusen Kaisha	" 12.9.25 to 6.10.25 ...	13.11.25.
<i>Knight Companion</i> ...	Beale, H. E.	J. J. Daniel, A. M. Hunter...	" M.	A. Holt ...	" 8.7.25 to 23.7.25 ...	24.8.25.
<i>Kovno</i> ...	Dosser, W. A.	J. Marshall, T. Tindell, J. J. Collier, F. T. Shaw.	M.L.	Ellerman Wilson	Met. Log. 26.4.25 to 3.10.25 ...	10.11.25.
<i>Kyogle</i> ...	Brown, A. M.	" ...	"	"	"	"
"	Coalstad, C.	C. B. Odman, E. W. Hughes	No. A.	Commonwealth Light-house Service.	Form 911 13.11.24 to 13.12.24	19.1.25.
<i>Lady Denison Pender, C.S.</i> ...	West, G. W.	F. Lawrence ...	" A.	Eastern Tel. Co. ...	Met. Log. 28.8.25 to 6.10.25 ...	30.10.25.
<i>Laquila</i> ...	Pape, E. R.	W. P. Boon ...	" A.	Pacific S.N. Co. ...	" 16.8.25 to 31.8.25 ...	21.9.25.
<i>Lalande</i> ...	Hamill, H.	" ...	" A.	Lampert & Holt	" 28.6.25 to 3.9.25 ...	31.10.25.
<i>Lancashire</i> ...	Beckett, F. W.	W. M. S. Higginson	" A.	Bibby ...	" 14.8.25 to 22.10.25 ...	27.10.25.
<i>36 Lancastria</i> ...	Brown, F. G.	P. J. Robinson, L. Harper...	W.T.	Cunard ...	W.T. Reg. 12.10.25 to 1.11.25...	5.11.25.
"	"	"	"	"	Form 911 11.10.25 to 1.11.25...	4.11.25.
<i>Laomedon</i> ...	Blues, A.	H. Howe...	No. A.	A. Holt ...	" 12.7.25 to 11.10.25...	26.10.25.
<i>La Paz, M.V.</i> ...	Ross, J.	F. T. Gale ...	" M.	Pacific S.N. Co. ...	" 13.9.25 to 1.10.25...	12.11.25.
<i>Laplace</i> ...	Shaw, W.	W. Boyde, R. B. Langley ... R. E. Wiggins.	" A.	Lampert & Holt	" 19.4.25 to 19.7.25 ...	18.8.25.

## LIST OF VOLUNTARY OBSERVING SHIPS

v

Name of Vessel.	Captain.	Observing Officers.	Official Meteorological Equipment.	Line.	Last Log, Register, or Report Contributed. Received up to 13.11.25.	Date Received.
55 <i>Lapland</i> ...	Howell, T. ...	E. Cornellie, F. Good, — Flett.	W.T.	Red Star ...	W.T. Reg. 13.10.25 to 7.11.25... Form 911 17.10.25 to 7.11.25...	9.11.25. 9.11.25.
<i>Lassell, M.V.</i> ...	Hickman, V. T. ...	F. J. Durrant ...	No. A.	Lamport & Holt	Form 911 30.8.25 to 18.9.25 ...	29.10.25.
<i>Leicestershire</i> ...	English, G. L. ...	J. Ineson, P. H. Potter, D. Y. Sharrock, J. Tradewell.	M.L.	Bibby ...	Met. Log. 20.6.25 to 30.8.25 ...	1.9.25.
<i>Leighton, M.V.</i> ...	Lindesay J. M. ...	H. A. Bolding, T. O. Jones	No. A.	Lamport & Holt	Form 911 13.9.25 to 2.10.25 ...	7.11.25.
<i>Leitrim</i> ...	Robertson, A. ...	E. F. C. Higgins ...	" A.	Dowie, J., & Co.	Form 911 14.7.25 to 4.8.25 ...	16.9.25.
<i>Loch Katrine</i> ...	Shillitoe, B. ...	C. Noakes, K. Whitaker ...	" M.	R.M.S.P. Co.	" 18.7.25 to 16.10.25 ...	26.10.25.
<i>London Commerce</i> ...	Young, H. J., D.S.C.	H. P. Longland ...	" A.	Furness Withy	" 13.9.25 to 13.10.25 ...	20.10.25.
<i>London Importer</i> ...	Williamson, J. M. ...	G. Lusty ...	" A.	"	"	"
<i>Loraga, M.V.</i> ...	Barkley, E. ...	W. N. Anders ...	" A.	Pacific S.N. Co.	" 22.5.25 to 6.8.25 ...	25.8.25.
<i>Losada, M.V.</i> ...	Meldrum, G. W. ...	A. H. Turner ...	" M.	"	" 29.6.25 to 9.9.25 ...	14.9.25.
<i>Macedonia</i> ...	Potter, H. W., R.D., Commr. R.N.R.	E. R. Bodley ...	" M.	P. & O. ...	" 22.8.25 to 12.9.25 ...	21.9.25.
<i>Macharda</i> ...	Cochran, G. ...	W. Moore ...	" A.	Brocklebank	" 6.9.24 to 24.11.24 ...	5.12.24.
<i>Mahana</i> ...	Kershaw, W. A. R.	F. M. Smith, J. C. K. Rogers	" A.	Shaw, Savill & Albion	" 2.7.25 to 22.8.25 ...	26.8.25.
<i>Maharaja</i> ...	Perry, C. R. ...	R. A. Spears ...	" M.	Asiatic S.N. Co.	" 5.8.25 to 8.10.25 ...	9.11.25.
<i>Maihar</i> ...	Rowe, J. P. ...	C. Shaw, H. T. Scoins, R. G. Widdon.	M.L.	Brocklebank	Met. Log. 15.8.24 to 29.4.25 ...	7.5.25.
<i>Maimyo</i> ...	Richardson, T. ...	P. Yates ...	No. A.	"	Form 911 23.7.25 to 13.10.25...	3.11.25.
<i>Maine</i> ...	Seymour, H. ...	A. S. Smith ...	" A.	Atlantic Transport	" 20.4.25 to 26.5.25 ...	15.6.25.
58 <i>Majestic</i> ...	Metcalfe, G. R. ...	L. Thompson, W. Pearson, W. T. Poustie, J. A. Macnaughton.	W.T.	White Star ...	W.T. Reg. 15.10.25 to 29.10.25 Form 911 24.9.25 to 8.10.25 ...	31.10.25. 12.10.25.
<i>Makambo</i> ...	Brown, T. M. ...	F. C. Vogelmann ...	M.L.	Burns Philp	Met. Log. 5.3.25 to 19.7.25 ...	1.9.25.
<i>Makura</i> ...	Brown, A. ...	J. D. Lundie, D. Todd, A. R. Noble.	"	Canadian-Australasian	" 11.3.25 to 2.7.25 ...	21.9.25.
<i>Malakuta</i> ...	Maugham, J. W. ...	A. Hill ...	No. M.	Brocklebank	Form 911 4.9.25 to 4.10.25 ...	7.10.25.
<i>Malancha</i> ...	Whitham, F. ...	H. Butler ...	" M.	British India	" 9.9.25 to 14.10.25 ...	26.10.25.
<i>Malda</i> ...	Gray, T. N. ...	W. L. Lavers ...	" A.	Manchester Liners	" 10.10.25 to 19.10.25	31.10.25.
<i>Manchester Corporation</i> ...	Everest, J. E. ...	"	"	"	"	"
<i>Manchester Hero</i> ...	Riley, J. E. ...	"	M.L.	"	"	"
<i>Manchester Merchant</i> ...	Barclay, J. ...	R. A. Walker ...	No. A.	"	Form 911 31.7.25 to 10.9.25 ...	15.9.25.
<i>Manchester Shipper</i> ...	Dormer, A. E. ...	"	M.L.	"	"	"
<i>Manhattan</i> ...	Hutchison, J. G. ...	R. Day ...	No. A.	Atlantic Transport	Form 911 10.11.24 to 18.12.24	22.12.24.
<i>Manipur</i> ...	Scurr, T. W. ...	H. Willington ...	" M.	Brocklebank	" 20.6.25 to 23.9.25 ...	25.9.25.
<i>Manistee</i> ...	Isaacson, J. M. ...	A. M. Houghton, F. R. Inch, L. Dobson.	M.L.	Elders & Fyffes	Met. Log. 2.5.25 to 30.8.25 ...	4.9.25.
<i>Mantua</i> ...	Butler, G. E. ...	J. Palce ...	No. M.	P. & O. ...	Form 911 12.9.25 to 30.9.25 ...	24.10.25.
<i>Manzanares</i> ...	Maxwell Brown, W. E.	G. S. Gracie ...	" A.	Elders & Fyffes	" 30.9.25 to 14.10.25 ...	7.11.25.
29 <i>Marburn</i> ...	Stewart, A. ...	R. Biggs, W. R. Thorburn ...	W.T.	Canadian Pacific	W.T. Reg. 11.10.25 to 29.10.25 Form 911 10.10.25 to 30.10.25	2.11.25. 2.11.25.
<i>Marella</i> ...	Mortimer S. ...	D. Pemberton, W. McBride, A. M. Hill, A. Campbell, W. Middleton.	M.L.	Burns Philp	Met. Log. 18.4.24 to 18.2.25 ...	11.5.25.
<i>Marengo</i> ...	Wilkins, J. ...	F. Eglh. J. E. Stott, J. Donovan.	"	Ellerman Wilson	" 14.3.25 to 5.9.25 ...	9.10.25.
<i>Margha</i> ...	Collins, T. ...	J. Strachan, P. Wright, H. E. Evans, B. Paul.	"	British India	" 15.2.25 to 12.5.25 ...	20.5.25.
<i>Margha</i> ...	Milne, A. R., R.D., Commr. R.N.R.	"	"	"	"	"
<i>Marglen</i> ...	Griffiths, J. N. ...	E. Eastley ...	No. A.	Canadian Pacific	Form 911 19.2.25 to 9.4.25 ...	14.4.25.
<i>Maryland</i> ...	Hutt, F. C. ...	A. C. Clay ...	" A.	Atlantic Transport	" 16.1.25 to 18.2.25 ...	24.2.25.
<i>Matakana</i> ...	Thurston, H. P. ...	A. Chrystal ...	" A.	Shaw, Savill & Albion	" 1.2.25 to 30.5.25 ...	5.6.25.
<i>Makaram</i> ...	Hillman, E. J. ...	K. L. Thompson ...	" A.	Burns Philp & Co.	" 18.6.25 to 18.7.25 ...	31.8.25.
<i>Matheran</i> ...	Columbine, F. F. ...	J. A. Embley, R. E. Gartside, G. T. Hogg, D. Newton.	M.L.	Brocklebank	Met. Log. 14.7.25 to 13.10.25...	2.11.25.
<i>Mathura</i> ...	Hanna, R. G. ...	H. H. Armstrong ...	No. M.	"	Form 911 14.8.25 to 30.10.25...	3.11.25.
<i>Maitana</i> ...	Langlands, D. H. ...	G. Hopkins ...	No. M.	British India	" 26.8.25 to 1.10.25 ...	5.10.25.
<i>Maunganui</i> ...	Worrall, L. C. H. ...	A. R. Noble ...	" M.	Union S.S. Co. of N.Z.	" 8.8.25 to 3.9.25 ...	28.9.25.
<i>32 Mauretania</i> ...	C.B.E., R.D., Capt. R.N.R.	R. Allen, E. R. Taylor, A. Mackellar.	W.T.	Cunard ...	W.T. Reg. 4.10.25 to 18.10.25... " 25.10.25 to 8.11.25...	12.11.25. 12.11.25.
<i>Media</i> ...	Maughan ...	"	No.	T. & J. Brocklebank...	"	"
56 <i>Megantic</i> ...	Trant, E. L., Commr. R.N.R.	F. A. Billiard, J. Clarke, N. E. Banks.	W.T.	White Star	W.T. Reg. 4.10.25 to 24.10.25...	27.10.25.
22 <i>Melita</i> ...	"	J. McLennan, D. Dunn, J. Mackenzie.	"	Canadian Pacific	Form 911 26.9.25 to 14.10.25... " 26.9.25 to 14.10.25...	19.10.25. 19.10.25.
<i>Memnon</i> ...	Evans, D. L. ...	L. S. Evans ...	No. A.	A. Holt	" 25.8.25 to 18.10.25...	28.10.25.
<i>Menominee</i> ...	Pollard, W. F., D.S.O., R.D., Capt. R.N.R.	C. F. Hicks ...	" A.	Atlantic Transport	" 14.2.25 to 19.3.25 ...	23.3.25.
<i>Mercian</i> ...	Gardner, J. ...	R. Hughes ...	" A.	Leyland	" 12.9.25 to 20.9.25 ...	23.9.25.
21 <i>Metagama</i> ...	McQueen, D. ...	R. Walker, A. Mansey ...	W.T.	Canadian Pacific	W.T. Reg. 27.9.25 to 15.10.25...	19.10.25.
<i>Miami</i> ...	Makepeace, S. ...	A. F. Woodhouse, W. E. Grant	No. A.	Elders & Fyffes	Form 911 8.9.25 to 11.10.25...	20.10.25.
<i>Minderoo</i> ...	Richardson, E. ...	B. J. Bennie, W. J. McPhedron, J. H. Oxtan.	M.L.	West Australia Nav. Co.	Met. Log. 27.11.24 to 16.5.25...	15.7.25.
<i>Minna</i> ...	Mackenzie, G. G. ...	D. Rattray ...	No. A.	Scottish Fishery Board	Form 911 24.9.25 to 23.10.25...	28.10.25.
23 <i>Minnedosa</i> ...	Griffiths, J. N. ...	R. Antrobus ...	W.T.	Canadian Pacific	W.T. Reg. 10.10.25 to 29.10.25	2.11.25.
<i>Minnetonka</i> ...	Gates, T. F., C.B.E.	H. E. McCartney ...	No. M.	Atlantic Transport	Form 911 12.10.25 to 31.10.25	3.11.25.
<i>Minnawaska</i> ...	Claret, F. ...	J. W. Grier ...	" M.	"	" 10.10.25 to 17.10.25	24.10.25.
<i>Mirror, C.S.</i> ...	Gibson, L. ...	C. E. F. St. John ...	" M.	Eastern Tel. Co.	" 2.4.25 to 29.5.25 ...	30.6.25.
<i>Mississippi, M.V.</i> ...	Wylie, J. T. J. ...	H. K. Cockerill ...	" A.	Atlantic Transport	" 17.5.25 to 28.5.25 ...	3.6.25.
<i>Moena</i> ...	Morzer Bruyns, M. F.	G. H. Vander Roest ...	" M.	Nederland ...	" 18.12.24 to 6.2.25 ...	10.2.25.
<i>Moldavia</i> ...	Burleigh, C. W., D.S.O., Capt. R.N.R.	"	" M.	P. & O. ...	"	"
<i>Mongolian Prince</i> ...	Durrant, G. D. ...	M. Gibson ...	" A.	Prince	Form 911 13.9.25 to 15.10.25...	26.10.25.
<i>Monkbarns, Ship</i> ...	Davies, W. ...	R. Baise ...	" A.	J. Stewart & Co.	" 17.7.25 to 12.9.25 ...	14.10.25.
24 <i>Montclair</i> ...	Sibbons, H. ...	H. McFadyen ...	W.T.	Canadian Pacific	W.T. Reg. 4.10.25 to 23.10.25...	26.10.25.
25 <i>Montclair</i> ...	Webster, G. S., R.D., Commr. R.N.R.	R. Fegan, W. Phillips, H. S. Knight.	"	"	Form 911 10.10.25 to 29.10.25	31.10.25.
<i>Montferland</i> ...	Van Noppen, C. D.	Van der Mast ...	No. M.	Holland Lloyd	" 10.10.25 to 29.10.25	31.10.25.
27 <i>Monthairn</i> ...	Turnbull, J., C.B.E., R.D., Capt. R.N.R.	F. E. Williams, R. Jackson, A. G. Harrison.	W.T.	Canadian Pacific	W.T. Reg. 22.9.25 to 17.10.25...	22.10.25.
<i>Montoro</i> ...	Donaldson, A. ...	K. Morris ...	No. A.	Burns, Philp & Co.	" 3.7.25 to 16.8.25 ...	3.10.25.
26 <i>Montrose</i> ...	Landy, E. ...	T. Beck, C. Clarke, A. Mansey	W.T.	Canadian Pacific	W.T. Reg. 14.7.25 to 16.7.25 ... Form 911 26.6.25 to 17.7.25 ...	20.7.25. 20.7.25.



Name of Vessel.	Captain.	Observing Officers.	Official Meteorological Equipment.	Line.	Last Log, Register, or Report Contributed. Received up to 13.11.25.	Date Received.
20 Montroyal Moresby	Latta, R. G. ... Edgell, J. A., O.B.E., Capt. R.N.	J. H. Tudor, A. K. Benham ... ... ..	W.T. M.L.	Canadian Pacific ... His Majesty's Ship ...	W.T. Reg. 1.8.25 to 20.8.25 ... ... ..	24.8.25.
Morvada	Mills, T. L., O.B.E., R.D., Commr., R.N.R.	... ..	No.	P. & O. ...	... ..	...
Mulbera	Steadman, W. R. ...	H. W. Norris, H. E. Brown ...	No. M.	British India ...	Form 911 27.8.25 to 3.11.25 ...	12.11.25.
Nagara	Purvis, A. ...	E. N. Giller ...	" M.	R.M.S.P. Co. ...	" 26.6.25 to 2.9.25 ...	7.9.25.
Nagoya	Davis, H. C. ...	P. Haworth ...	" M.	P. & O. ...	" 22.9.25 to 7.10.25 ...	2.11.25.
Nardana	Moth, F. L. ...	S. C. T. Smith ...	" M.	British India ...	" 15.9.25 to 25.10.25 ...	31.10.25.
Nariva	Buret, T. J. C. ...	E. Delahay, E. I. Fletcher, R. S. Wooley, H. Trenchard, W. Hughes.	M.L.	R.M.S.P. Co. ...	Met. Log. 1.5.25 to 24.6.25 ...	8.7.25.
Nascopie	Smellie, T. F. ...	R. A. B. Hardwick ...	"	Hudson's Bay Co. ...	" 25.6.25 to 28.10.25 ...	5.11.25.
Nellore	Hignett, A. H., R.D., Lt. - Commr., R.N.R.	F. Squire ...	No. M.	P. & O. ...	" 14.9.25 to 13.10.25 ...	19.10.25.
Nestor	Owen, R. D., O.B.E.	W. H. Newby, R. Wilks, F. J. Silva.	M.L.	A. Holt ...	Met. Log. 22.3.25 to 23.7.25 ...	5.8.25.
Nevasa	Swanson, C. J. ...	D. Lorrie ...	No. A.	British India ...	Form 911 21.2.25 to 12.5.25 ...	19.5.25.
Newby Hall	Kendall, J. W. ...	A. Martin ...	M.L.	Ellerman ...	Met. Log. 22.9.25 to 10.1.25 ...	27.1.25.
Niagara	Showman, A. C. ...	T. A. Macpherson, J. Dawson, A. P. Cousin.	"	Canadian-Australian ...	" 7.5.25 to 20.8.25 ...	10.9.25.
Ningchow	Wilson, C. A. ...	F. A. Brown ...	No. A.	A. Holt ...	Form 911 6.5.25 to 22.6.25 ...	25.6.25.
Norna	Wright, J. ...	T. Mather ...	No. A.	Scottish Fishery Board	Form 911 5.8.25 to 9.9.25 ...	2.10.25.
Norseman, C.S.	Douglas, W. ...	R. Forrest, E. Pearce, J. A. Prosser.	M.L.	Western Tel. Co. ...	Met. Log. 16.2.25 to 1.9.25 ...	28.9.25.
Nubian	Barter, H. O. ...	...	...	...	...	...
Nubian	Watmough, T. M. ...	H. R. Gaskill ...	No. A.	Ley and ...	Form 911 19.9.25 to 3.10.25 ...	14.10.25.
Nyanza	Carpendale, F. W. J.	R. H. Hand, R. G. Freeman, J. Metcalfe.	M.L.	P. & O. ...	Met. Log. 14.6.25 to 3.9.25 ...	8.9.25.
Oaklands Grange	Routledge, R. ...	E. A. Insley ...	No. A.	Houlder Bros. ...	Form 911 18.10.24 to 2.2.25 ...	19.2.25.
42 Ohio	Parker, W. H., C.B.E., R.D., Capt. R.N.R.	P. M. Burrell, R. W. Stoney, L. D. Jennings.	W.T.	R.M.S.P. Co. ...	W.T. Reg. 14.9.25 to 1.10.25 ... Form 911 12.10.25 to 36.10.25 ...	5.10.25. 9.11.25.
Olympia	Caldwell, R. ...	D. R. Urquhart, G. Lynas, W. Proudfoot.	M.L.	Anchor ...	" 26.6.25 to 12.9.25 ...	17.9.25.
57 Olympic	Marshall, W., C.B., D.S.O., R.D., Capt., R.N.R.	H. J. C. Day, C. J. Warltire, W. Fitzgerald.	W.T.	White Star ...	W.T. Reg. 1.10.25 to 15.10.25 ... Form 911 1.10.25 to 15.10.25 ...	19.10.25. 19.10.25.
Orama	Staunton, H. G., C.B.E., R.D., Commr., R.N.R.	L. J. Vesty, F. Butler, F. L. Hubbard, T. L. Shurrock ...	M.L.	Orient ...	Met. Log. 28.6.25 to 30.10.25 ...	3.11.25.
Oranian	Hoskins, W. ...	R. H. Theaker ...	No. A.	Leyland ...	Form 911 16.8.25 to 3.9.25 ...	17.9.25.
Orari	Robinson, F. W. ...	F. Longheed, C. Wilkinson, W. Tarr.	M.L.	New Zealand S.S. Co.	Met. Log. 7.3.25 to 11.8.25 ...	15.8.25.
40 Orbita	Warner, G. E., R.D., Commr. R.N.R.	B. C. Dodds, H. G. Whittle, H. M. Rennie, H. Baylis.	W.T.	R.M.S.P. Co. ...	W.T. Reg. 19.10.25 to 9.11.25 ... Form 911 17.10.25 to 10.11.25 ...	12.11.25. 12.11.25.
Orcoma	Dominy, R. H., C.B.E., Commr. R.N.R.	G. B. Wardale, R. H. Sissons, W. Billington.	M.L.	Pacific S.N. Co. ...	Met. Log. 20.8.25 to 4.11.25 ...	13.11.25.
41 Orduna	Le Brecht, H. A. ...	J. Vivian, W. Lowe, R. Hey, J. Horan.	W.T.	R.M.S.P. Co. ...	W.T. Reg. 5.10.25 to 25.10.25 ... Form 911 5.10.25 to 25.10.25 ...	28.10.25. 28.10.25.
Oriana	Mander, T. ...	W. Pearce, R. D. Eckford, T. H. McGill.	M.L.	Pacific S.N. Co. ...	Met. Log. 11.8.25 to 19.10.25 ...	28.10.25.
Orila	Splatt, W. A. ...	J. G. Harvey, T. R. Scott, D. W. Hutchinson, C. P. D. Dean.	"	" " ...	" 19.12.24 to 29.5.25 ...	12.6.25.
Ormonde	Knowles, C. H., D.S.O., Commr., R.N.	A. M. Hughes ...	"	His Majesty's Ship ...	" 10.5.25 to 3.9.25 ...	28.9.25.
Ormonde	Shelford, W. S., Lt.- Commr., R.N.R.	N. A. Whinfield, W. A. Wickham, A. H. Dyer.	"	Orient ...	" 4.1.25 to 7.4.25 ...	15.4.25.
Ormuz	O'Sullivan, J. ...	...	"	" ...	" ...	"
Oronsay	Owens, A. L., R.D., Lt. Commr., R.N.R.	J. C. K. Dowding, P. R. Murphy, R. K. Rogerson.	"	" ...	" 15.6.25 to 6.7.25 ...	24.8.25.
Oroya	Pearce, A. ...	S. Lewis ...	No. M.	Pacific S.N. Co. ...	Form 911 28.7.25 to 6.10.25 ...	13.10.25.
Orsova	Matheson, C. G., D.S.O., R.D., Commr., R.N.R.	A. J. Croft Cohen, C. V. Dodgson, C. Fox.	M.L.	Orient ...	Met. Log. 5.4.25 to 8.7.25 ...	11.7.25.
Ortega	Pleignier, H. S. ...	C. Leatherbarrow ...	No. M.	Pacific S.N. Co. ...	Form 911 9.12.24 to 16.2.25 ...	25.2.25.
Orvieto	Sinner, G. L., R.D., Commr., R.N.R.	A. O. H. O'Brien, Hawker, A. H. Dyer.	M.L.	Orient ...	Met. Log. 4.5.25 to 4.8.25 ...	8.8.25.
Osterley	Cameron, E. P. ...	H. Tanner, J. E. Goldsworthy, G. L. Carter.	"	" ...	" 31.5.25 to 31.8.25 ...	16.9.25.
Othello	Montgomery, H. ...	G. Binks ...	No. A.	Ellerman Wilson ...	Form 911 19.4.25 to 28.7.25 ...	12.8.25.
Otira	Elford, H. E. ...	J. H. Fuller ...	" M.	Shaw, Savill & Albion	" 13.6.25 to 2.7.25 ...	10.8.25.
Ovid	Groom, A. C. B. ...	...	" A.	Shakespear Shipping Co	Form 911 3.10.25 to 20.10.25 ...	2.11.25.
Oxfordshire	Crumplin, W. E. ...	F. C. Brooks ...	" A.	Bibby Bros. ...	" 11.9.25 to 10.10.25 ...	19.10.25.
Pacific Shipper	Newman, G. W. A.	H. G. Dupont ...	" A.	Furness Withy ...	" 20.8.25 to 16.9.25 ...	19.10.25.
M.V. Pakeha	W. P. Clifton Mogg	R. K. Vandervard, E. T. Baker, R. James.	M.L.	Shaw, Savill & Albion	Met. Log. 22.4.25 to 20.8.25 ...	26.8.25.
Paparoa	Dowse, F. ...	G. Mathieson ...	No. M.	New Zealand S.S. Co.	Form 911 20.5.25 to 21.6.25 ...	22.7.25.
Pareora	Evans, J. O. ...	R. F. Hillings ...	" A.	Hain S.S. Co. ...	" 17.8.25 to 29.8.25 ...	8.9.25.
Paris	Cook, C. L. ...	Mr. Biles ...	C.C.	Southern Ry. ...	Telegraphic Report. 30.10.25 ...	30.10.25.
Patia	Bostock, R. J. ...	W. McIlwaine ...	No. A.	Elders & Fyffes	Form 911 4.7.25 to 8.8.25 ...	12.8.25.
Patrol, C.S.	Welsh, T. K. ...	W. H. S. Clark, H. F. P. Albrecht, W. G. MacBryde, A. T. Morrell.	M.L.	Eastern Extension (A. & C.) Telegraph Co.	Met. Log. 1.10.24 to 12.1.25 ...	16.4.25.
Persic	Bulman, J. B. ...	H. G. Morgan ...	No. A.	White Star ...	Form 911 8.2.25 to 19.6.25 ...	23.6.25.
Peshawar	Hester, C. W., R.D., Commr., R.N.R.	D. G. Baillie, E. J. R. North, R. D. Whyte-Mackay.	M.L.	P. & O. ...	Met. Log. 22.1.25 to 30.5.25 ...	5.6.25.
Pharos	Ewing, T. N. ...	A. McLachlan ...	No. A.	Northern Lighthouse Board.	Form 911 29.6.25 to 14.8.25 ...	18.8.25.
Philadelphun	Baker, J. A. ...	W. T. Godwin ...	" A.	Leyland ...	" 14.8.25 to 27.8.25 ...	9.9.25.
Polycarp	Evans, T. G. ...	S. E. Adam ...	" A.	Booth ...	" 18.7.25 to 12.8.25 ...	16.9.25.
Polyphemus	Hatfield, J. ...	R. E. Wilkes ...	" A.	A. Holt ...	" 1.2.25 to 23.2.25 ...	25.2.25.
Port Adelaide	Hayter S W. ...	E. Catchpole, E. Rogerson, C. Hodson.	M.L.	Commonwealth & Do- minion.	Met. Log. 5.2.25 to 11.6.25 ...	17.6.25.

## vii

Name of Vessel.	Captain.	Observing Officers.	Official Meteorological Equipment.	Line.	Last Log, Register, or Report Contributed. Received up to 13.11.25.	Date Received.
Port Albany ...	Robinson, C. A. ...	E. A. Leavett, A. G. Newbury, W. Eastoe, J. L. Richardson.	M.L.	Commonwealth & Dominion.	Met. Log. 16.5.25 to 28.9.25 ...	12.10.25.
" Auckland ...	Durham, R. S. ...	R. B. Stannard ...	No. A.	" " "	Form 911 15.5.25 to 26.7.25 ...	4.9.25.
" Caroline ...	Renauf, F. A. ...	T. Copeland, E. Fenton, C. Chamberlain.	M.L.	" " "	Met. Log. 24.1.25 to 13.6.25 ...	22.7.25.
" Curtis ...	Van den Bergh, C. ...	W. H. Miles ...	No. A.	" " "	Form 911 14.12.24 to 25.4.25 ...	2.6.25.
" Darwin ...	Sawbridge, I. R. ...	F. T. N. Lawrey ...	" M.	" " "	" 27.6.25 to 5.8.25 ...	16.9.25.
" Denison ...	Ferris, J. ...	W. H. Sadler, J. C. Goddard ...	" A.	" " "	" 15.6.25 to 14.8.25 ...	21.9.25.
" Hacking ...	Williams, R. ...	Rowland Hill ...	" A.	" " "	" 3.11.24 to 17.12.24 ...	26.1.25.
" Hunter ...	Cottell, S. C. ...	A. Cooper, C. F. Post, J. T. Weldin.	M.L.	" " "	Met. Log. 2.4.25 to 13.9.25 ...	29.9.25.
" Melbourne ...	Kearney, F. J. ...	D. G. H. Bradley, J. A. Fairbairn, A. G. Starkey.	"	" " "	" 26.4.25 to 7.9.25 ...	10.9.25.
" Nicholson ...	Jack, J. ...	H. C. Jeffery, W. G. Jones,	"	" " "	" 12.2.25 to 29.6.25 ...	11.7.25.
" Pirie ...	Higgs, W. G. ...	J. T. Nicholson, E. G. L. Jones.	"	" " "	"	"
" Sydney ...	Lea, W. H. ...	A. W. Sams, C. Groves, A. M. Stanton.	"	" " "	" 13.12.24 to 19.5.25...	25.5.25.
" Victor ...	Swan, L. H. ...	E. G. Fullick, W. Howe, W. Renouf.	"	" " "	" 5.4.25 to 14.8.25 ...	22.8.25.
President Cleveland	Yardley, W. ...	J. E. Murphy ...	No.	Dollar S.S. Co. ...	" 25.5.25 to 25.7.25 ...	17.9.25.
President Griffith, J. ...	Griffith, J. ...	E. E. Henry ...	" A.	Pacific Mail S.S. Co....	Form 911 25.5.25 to 25.7.25 ...	17.9.25.
President Jefferson	Nichols, F. R. ...	C. H. Moen ...	" A.	Admiral Oriental Line ...	" 14.8.25 to 28.8.25 ...	5.10.25.
President McKinley	Carey, R. E. ...	L. C. Leeds ...	"	"	"	"
President Pierce...	January, G. T. ...	A. F. Jones ...	"	Dollar S.S. Co." ...	"	"
President Wilson	Nelson, H. ...	A. M. Quinlan ...	"	"	"	"
Protea, H.M.S.A.S.	Woodhouse, A. F. B., Lt.-Commr., R.N.	F. J. S. Scott-Stokes ...	" A.	South African Naval Service.	Form 911 1.8.25 to 29.8.25 ...	12.11.25.
Pyrhus ...	Elford, W. J. ...	W. Owen ...	" A.	A. Holt ...	" 13.5.25 to 1.8.25 ...	6.8.25.
60 Regina ...	Smith, R. G. ...	G. W. Couch ...	W.T.	White Star-Dominion	Met. Log. 11.10.25 to 1.11.25...	7.11.25.
Reindeer ...	Mulhall, W. ...	C.C. ...	C.C.	G.W. Railway ...	Telegraphic Report. 28.5.25 ...	28.5.25.
Rhodesian Transport.	Fowler, W. H. ...	W. Heritage ...	No. A.	Houlder Bros. ...	Form 911 24.7.25 to 14.10.25...	27.10.25.
Rimutaka ...	Henning, F. A. ...	H. Horwood, R. S. Cox O. M. Watts.	M.L.	New Zealand S.S. Co.	Met. Log. 12.10.24 to 1.4.25 ...	6.4.25.
Risaladar ...	Park, G. ...	B. Walsh, P. A. Handforth, T. E. Ward.	"	Asiatic S.N. Co. ...	" 13.10.24 to 14.4.25...	20.5.25.
Romney ...	Syms, G. ...	D. Knox ...	No. A.	Lamport & Holt ...	Form 911 10.8.25 to 29.8.25 ...	4.9.25.
Rotorua ...	Hunter, J. B. ...	C. A. H. Landfield ...	" M.	N.Z.S. Co. ...	" 27.6.25 to 1.8.25 ...	13.8.25.
Royal Fusilier ...	Dawson, J. ...	J. Fraser ...	" A.	London & Edinburgh S.S. Co.	" 4.10.25 to 22.10.25...	26.10.25.
Royal Transport...	Dove, J. ...	R. Martin ...	" A.	Houlder Bros. ...	" 14.9.25 to 13.10.25...	7.11.25.
Ruapehu ...	McKellar, A. W., R.D., Capt., R.N.R.	E. P. Aslin, J. D. Tooms, A. J. Webb, E. Russel.	M.L.	New Zealand S.S. Co.	Met. Log. 2.5.25 to 1.10.25 ...	7.10.25.
Sachem...	Westgarth, W. A. ...	C. Waldron, E. Sainty, G. R. Watson.	"	Furness Withy ...	Met. Log. 24.12.24 to 20.6.25...	27.6.25.
St. Albans ...	Pilcher, E. ...	W. McIntyre ...	"	Eastern and Australian	Form 911 10.9.24 to 18.11.24...	19.1.25.
St. Helier ...	Mulhall, W. ...	C. Bell ...	C.C.	G.W. Railway ...	Telegraphic Report 10.11.25 ...	10.11.25.
St. Julien ...	Langdon, C. H. ...	C. Joy ...	"	"	" 24.10.25 ...	24.10.25.
St. Patrick ...	Bearpark, E. W. ...	J. Hill ...	No. A.	Ranger Gilmour ...	Form 911 29.8.25 to 2.10.25 ...	2.11.25.
Salaga ...	Sola, P., D.S.O. ...	G. E. Dutton ...	" A.	Elder Dempster ...	" 1.9.25 to 24.10.25 ...	31.10.25.
Samaria ...	Horsburgh, G., O.B.E., R. D., Commr., R.N.R.	D. Macmillan ...	" A.	Cunard ...	" 9.9.25 to 26.9.25 ...	1.10.25.
Sandown Castle ...	Jackson, C. R. ...	E. H. de Heaume ...	" A.	Union Castle ...	" 17.7.25 to 14.9.25 ...	17.9.25.
10 Saturnia ...	Mitchell, W. ...	D. Macqueen ...	W.T.	Anchor Donaldson ...	W.T. Reg. 17.10.25 to 6.11.25 ...	11.11.25.
Saxoleine ...	Biddick, E. ...	B. Johnsen ...	No. A.	Hunting & Son ...	Form 911 16.10.25 to 7.11.25 ...	11.11.25.
Saxon ...	Owen, S. H. ...	F. O. Wilbraham ...	" A.	Union Castle ...	" 26.9.25 to 16.10.25 ...	29.10.25.
Scholar ...	McCullum, J. ...	J. D. Grieves ...	" M.	Harrison ...	" 17.7.25 to 7.9.25 ...	8.9.25.
Scindia ...	Matthews, W. ...	R. S. Paton ...	" A.	"	" 1.4.25 to 20.6.25 ...	2.7.25.
Scotia ...	Prichard, S.D. ...	O. W. L. Jones ...	C.C.	Anchor & S. Rly. ...	" 12.8.25 to 26.10.25	31.10.25.
Scottish Bard ...	McDonnell, S. ...	S. W. Watts ...	No. M.	Tankers Ltd. ...	Telegraphic Report 12.11.25 ...	12.11.25.
Scottish Strath	French, A. L. ...	W. Black ...	" M.	"	Form 911 30.8.25 to 18.9.25 ...	21.9.25.
33 Seythia ...	Prothero, W. ...	T. Parry, J. C. Munro, J. W. Caunce.	W.T.	Cunard ...	Form 911 9.11.24 to 14.12.24... W.T. Reg. 19.10.25 to 9.11.25 ...	3.1.25. 13.11.25.
Sheaf Mount ...	Groves, C. V. ...	C. A. Goold ...	No. A.	W. A. Souter ...	Form 911 18.10.25 to 9.11.25 ...	13.11.25.
Sheaf Spear ...	Whitfield G. A., O.B.E.	W. H. Grisewood, N. Thompson.	M.L.	"	Met. Log. 23.9.25 to 10.9.25 ... 7.12.24 to 16.7.25 ...	31.10.25. 19.8.25.
Sicilia ...	Davis, H. C., D.S.C., R.D., Commr., R.N.R.	G. C. Bateman ...	No. M.	P. & O. ...	Met. Log. 7.12.24 to 16.7.25 ...	19.8.25.
Socrates ...	Bibby, A. R. ...	W. E. Jordan ...	" A.	Lampart & Holt ...	Form 911 17.2.25 to 16.3.25 ...	21.4.25.
Soekaboemi ...	Z. W. Flach ...	C. van Reenen ...	" M.	"	" 17.2.25 to 16.3.25 ...	21.4.25.
Somerset ...	Barnett, H. ...	J. J. Youngs ...	" M.	"	" 11.8.25 to 9.9.25 ...	24.9.25.
Somersetshire ...	De Legh, P. ...	P. Hawkins, R. C. Leitch, H. G. Walton.	M.L.	Rotterdam Lloyd ... N.Z.S. Co. ... Bibby ...	" 28.9.25 to 2.11.25 ... 27.6.25 to 16.7.25 ... 24.7.25 to 7.11.25 ...	7.11.25. 24.8.25. 11.11.25.
Somme...	Spriddell, F. G. ... Miles, F. R., Commr., R.N.R.	K. W. Simpton, H. Chamberlain, V. Hill, C. C. Prosser.	"	R.M.S.P. Co. ...	Met. Log. 24.7.25 to 7.11.25 ...	11.11.25.
Songster ...	Jackson, J. ...	W. Weatherall, W. Wilford, L. Bull.	"	Harrison ...	Form 911 16.2.24 to 29.9.24 ...	18.11.24.
Spectator ...	Harding, C. H. J. ...	D. Fraser, J. G. F. Betson ...	No. A.	"	" 6.3.25 to 16.5.25 ...	29.5.25.
Spero ...	French, H. E. ... Rowntree, G. ...	W. Harbord, R. O. Otley ...	M.L.	Ellerman Wilson ...	Form 911 10.5.25 to 11.9.25 ...	1.10.25.
Stephan C.S.	Carlton, G. F., O.B.E., Commr., R.N.R.	F. B. Bolingbroke, W. E. Allen, T. J. Horan.	"	Telegraph Construction & Maintenance	Met. Log. 15.8.24 to 16.5.25 ...	12.6.25.
Stockwell ...	Kershaw, R. W. ...	W. Baxter ...	No. A.	Brooklebank ...	" 24.2.25 to 7.4.25 ...	28.4.25.
Stuart Prince ...	Durrant, G. D. ...	W. C. Freeman ...	" A.	"	Form 911 20.9.25 to 9.10.25 ...	21.10.25.
Surrey ...	Field, H. G. B. ...	C. P. Jackson, C. Welch, H. Harris.	M.L.	Federal ...	Met. Log. 9.5.25 to 22.10.25 ...	26.10.25.
Sussex ...	Upton, E. C. S. ...	W. A. Ewington ...	No. A.	"	Met. Log. 9.5.25 to 22.10.25 ...	26.10.25.
Tainui ...	Hartman, W. H. ...	P. S. Horwood ...	" A.	Shaw Savill & Albion	Form 911 28.10.24 to 13.11.24	15.12.24.
Tairoa ...	Summers, W. G. ...	S. A. Bannister ...	" A.	"	" 18.7.25 to 23.8.25 ...	3.10.25.
Tahiti ...	Aldwell, B. L. ...	G. F. C. Muford ...	No. A.	Union S.S. Co. of N.Z.	" 2.7.25 to 10.8.25 ...	12.10.25.
					Form 911 24.7.25 to 4.9.25 ...	14.10.25.



Name of Vessel.	Captain.	Observing Officers.	Official Meteorological Equipment.	Line.	Last Log, Register, or Report Contributed. Received up to 13.11.25.	Date Received.
<i>Talthybius</i> ...	Ireland, T. R. ...	P. Elder ...	No. A.	A. Holt ...	Form 911 19.9.25 to 26.10.25...	2.11.25.
<i>Tanda</i> ...	Pilcher, E. ...	H. Jeans, C. G. Holdaway, J. Kean, S. Quinn, E. Livingston, R. Lloyd Harry.	M.L.	E. & A. S.S. Co. ...	Met. Log. 23.2.25 to 20.7.25 ...	28.10.25.
<i>Tambora</i> ...	Huisman, N. ...	H. Van Manen ...	No. M.	Rotterdam Lloyd ...	Form 911 18.6.25 to 6.8.25 ...	22.8.25.
<i>Teiresias</i> ...	Holden, W. R. F. ...	R. S. Young ...	" A.	A. Holt ...	" 8.1.25 to 28.1.25 ...	2.2.25.
<i>Telamon</i> ...	Beswick, W. ...	" ...	No.	" ...	" ...	" ...
<i>Teucer</i> ...	Hodgson, R. N. ...	A. Lightbody ...	" A.	" ...	" 5.9.25 to 7.9.25 ...	2.11.25.
<i>Themistocles</i> ...	Jernyn, W. M. ...	W. F. Sargent ...	" M.	Aberdeen ...	" 20.6.25 to 30.7.25 ...	4.9.25.
<i>Theseus</i> ...	Batt, A. E. ...	J. T. Fettes ...	" A.	A. Holt ...	" 1.9.25 to 14.9.25 ...	21.9.25.
<i>Titan</i> ...	Wilkinson, T. G. ...	S. C. Timmouth, J. Morris, N. L. Thompson.	M.L.	" ...	Met. Log. 19.4.25 to 11.9.25 ...	6.10.25.
<i>Tolmie</i> , S.F.Bqtne.	Stewart, J. C. ...	E. F. Collins ...	No. A.	B. C. Mills, Tug and Barge Co.	Form 911 1.11.24 to 24.12.24...	2.3.25.
<i>Trematon</i> ...	Evans, B. ...	S. Smith, C. Mayberry, J. Bell.	M.L.	Hain S.S. Co. ...	Met. Log. 21.10.24 to 16.7.25...	11.8.25.
<i>Tuscania</i> ...	Gemmell, W. J. ...	G. H. Squires ...	No. A.	Anchor ...	Form 911 3.10.25 to 11.10.25...	20.10.25.
<i>Tyndareus</i> ...	Slater, H. N. ...	C. Broad, A. C. H. Jones, S. A. Beith.	M.L.	A. Holt ...	Met. Log. 23.4.25 to 2.7.25 ...	4.8.25.
<i>Ulimaroa</i> ...	Wyllie, W. J. ...	J. Gilbertson ...	No. M.	Huddart Parker, Ltd.	Form 911 17.10.24 to 23.11.24	19.1.25.
<i>Ulysses</i> ...	McHutcheon, W. ...	T. R. Phillips ...	" A.	A. Holt ...	" 19.8.25 to 5.10.25 ...	9.10.25.
<i>Umvolsi</i> ...	Barnes, E. W. ...	R. L. Jefferson ...	" A.	Bullard King ...	" 27.6.25 to 26.7.25 ...	24.8.25.
<i>Valacia</i> ...	Doyle, M. ...	N. Grayson ...	" M.	Cunard ...	Form 911 19.7.25 to 18.8.25 ...	22.8.25.
<i>Valdura</i> ...	Mitchell, A. ...	H. J. Maughan, J. Anderson, A. M. S. Well.	M.L.	Gow Harrison ...	Met. Log. 19.6.24 to 20.11.24...	8.12.24.
<i>Vardulia</i> ...	Hughes, W. ...	A. Watts ...	No. A.	Cunard ...	Form 911 14.9.25 to 21.10.25...	26.10.25.
<i>Vasconia</i> ...	Inch, F. ...	G. Watts ...	" A.	" ...	" 5.10.25 to 16.10.25...	28.10.25.
<i>Vellavia</i> ...	Fear, E. T. C. ...	J. E. Deans ...	" A.	" ...	" 26.3.25 to 6.4.25 ...	14.4.25.
<i>Ventura de Lar-rinaga</i> .	Keay, W. S. ...	H. J. Kay ...	" A.	Larrinaga ...	" 3.12.24 to 28.3.25 ...	19.5.25.
<i>Verbania</i> ...	Pooley, T. S. M. ...	W. Bradley ...	" A.	Cunard ...	" 29.9.25 to 29.10.25...	2.11.25.
<i>Verentia</i> ...	Jones, R. D. ...	A. F. Watts ...	" A.	" ...	" 6.7.25 to 12.8.25 ...	18.8.25.
<i>Vigilant</i> ...	Simpson, E. S. S. ...	J. Hunter ...	" A.	Scottish Fishery Board	" 10.9.25 to 14.10.25...	19.10.25.
<i>Waioapu</i> ...	Davey, A. ...	R. N. Turner ...	" A.	Canadian-Australasian	" 18.5.25 to 21.8.25 ...	14.9.25.
<i>Walmer Castle</i> ...	Kerbey, J. H. ...	H. A. Deller ...	" M.	Union Castle	" 10.7.25 to 31.8.25 ...	14.9.25.
<i>Wangaratta</i> ...	Scutt, W. ...	T. W. Wordingham, W. C. Cripps, K. M. Morrison, N. A. Pope.	M.L.	British India	Met. Log. 21.1.25 to 19.7.25 ...	20.7.25.
<i>Warfield</i> ...	Steel, R. ...	H. Coffey ...	No. A.	" ...	Form 911 26.9.25 to 10.10.25...	29.10.25.
<i>Welshman</i> ...	Rollerson, W. ...	W. A. Fletcher ...	" M.	White Star-Dominion	" 10.9.25 to 6.10.25 ...	20.10.25.
<i>White Heather</i> , Ketch	Glenister, S. L. ...	F. R. Smith ...	"	S. L. Glenister	" ...	" ...
<i>Winifredian</i> ...	Harrocks, W. ...	G. P. Boyle ...	" M.	Leyland ...	" 9.7.25 to 11.8.25 ...	25.8.25.
<i>Woodarra</i> ...	Reilly, J. V. ...	L. D. Graham, G. Hyland ...	M.L.	British India	Met "Log. 7.3.25 to 19.8.25 ...	26.8.25.
<i>Yorkshire</i> ...	Millson, G. C. ...	L. C. Comber, J. Wallace.	No. A.	Bibby ...	Form 911 29.8.25 to 5.10.25 ...	9.11.25.
<i>Zeeland</i> ...	Thomas, A. J. ...	E. E. Jones ...	" M.	Red Star ...	" 9.10.25 to 30.10.25...	2.11.25.
<i>Conway</i> H.M.S.	Broadbent, H. W., R.D. Capt., R.N.R.	The Senior Cadets...	Cadets' M.L.	"	Cadets' Met. Log. 3.5.25 to 25.7.25	31.7.25.
<i>Pangbourne</i> Nautical College.	Tracy, A. F. G., Commr., R.N.	"	"	"	Cadets' Met. Log. 10.5.25 to 24.7.25	30.7.25.
<i>Worcester</i> , H.M.S.	Sayer M. B., O.B.E., R.D., Capt., R.N.R.	"	"	"	Cadets' Met. Log. 8.5.25 to 29.7.25	3.9.25.
<i>Abaco</i> ...	"	The Keepers	Lighthouse Register.	"	Lighthouse Register 15.1.25 to 30.6.25	14.10.25.
<i>Cay Lobos</i> ...	"	"	"	"	Lighthouse Register 1.1.25 to 30.6.25	9.11.25.
<i>Double Headed Shot</i> ...	"	"	"	"	Lighthouse Register 1.1.25 to 30.6.25	9.11.25.
<i>Inagua</i> ...	"	"	"	"	Lighthouse Register 19.1.25 to 30.6.25	14.10.25.
<i>Sombrero</i> ...	"	"	"	"	Lighthouse Register 1.1.25 to 30.6.25	7.8.25.
<i>Walling Island</i> ...	"	"	"	"	Lighthouse Register 8.1.25 to 12.7.25	14.10.25.
<i>Cape Pembroke</i> (Falkland Is.).	"	"	"	"	Lighthouse Register 1.1.25 to 30.6.25	9.9.25.

LIST OF SHIPS CO-OPERATING THROUGH THE METEOROLOGICAL OFFICE WITH THE MINISTRY OF AGRICULTURE AND FISHERIES (FISHERIES LABORATORY, LOWESTOFT) IN THE COLLECTION OF WATER SAMPLES, ETC.

Name of Vessel.	Captain.	Observing Officer.	Line.	Last Case of Water Samples, Reports, etc., Received up to 31.10.25.	Date Received.
<i>Herschel</i> ...	Davis, T. J. ...	T. Lester Guy ...	Lamport & Holt	Water Samples	15.10.25.
<i>Hildebrand</i> ...	Maddrell, J. ...	H. Welch ...	Booth	"	3.9.25.
<i>Holbein</i> ...	Gough, W. A. ...	G. P. Kitto ...	Lamport & Holt	"	27.10.25.
<i>Manzanares</i> ...	Henderson, J. N. ...	H. E. Lees ...	Elders & Fyfes	"	26.9.25.
<i>Miami</i> ...	Makepeace, S. ...	H. H. Dunning	"	"	19.10.25.

January M.O., 1926.