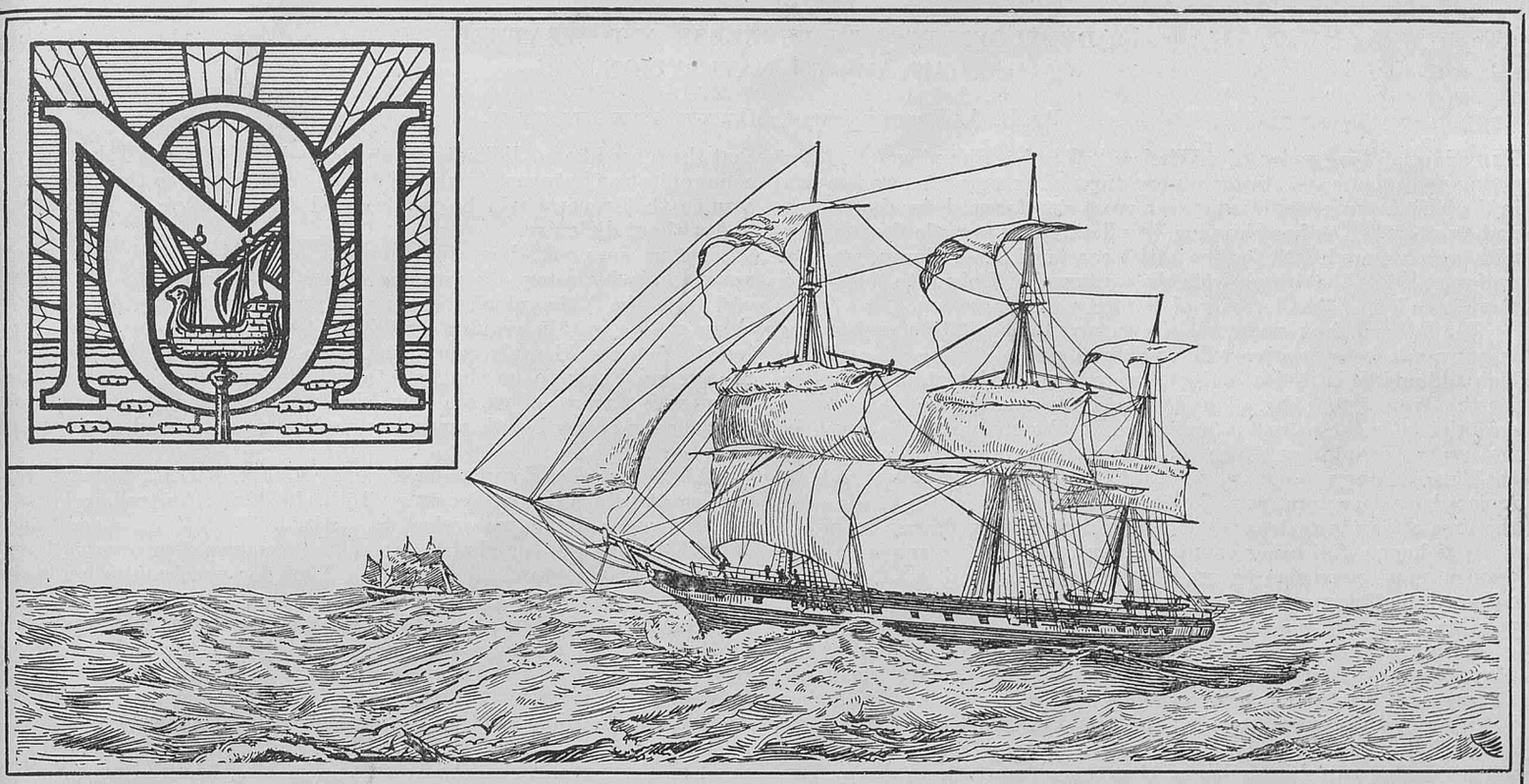

VOL. II. No. 24. THE MARINE OBSERVER. DECEMBER 1925.

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VOLUME TWO.

In our concluding Number last year we could not answer the question definitely. Have we as seamen upheld the confidence placed in us in the original "Foreword" by the Director of the British State Meteorological Service? This year we can. Seamen have made The Marine Observer, as is shown by the names of contributors appearing over articles and remarks, as well as supplying the data from which most of the remaining information is compiled.

It fills the place intended, we are widely told, and the following extract from a letter from a Captain upon the receipt of Volume One, bound, is one of many of these expressions of approval.

"It is only when one sees this book that one realises the amount of work involved in the course of twelve months in producing such a useful, successful, and excellent publication.

"The Meteorological Committee and others responsible for The Marine Observer deserve the best congratulations and thanks from the officers of the Merchant Service for anticipating their requirements and superseding the Monthly Charts by The Marine Observer."

That it has stimulated interest in the work was shown in "Work of the Year," and that interest continues increasing. As reported, the percentage of Meteorological logs classed "excellent" from the time when The Marine Observer had reached all observers until the end of last financial year, had increased to 33·6 per cent.; from then until to-day that percentage has been no less than 46·7.

Thus it may be fairly claimed that our Journal is attaining its objects, and we intend with the help of Marine Observers that it shall continue to do so. With this intention in view we earnestly appeal to those afloat to contribute more "additional remarks" and articles. More illustrations are needed, black-and-white sketches, photographs, weather charts and diagrams, all will add to the value, attractiveness, and utility of our Journal and so reflect credit to the corps of Voluntary Marine Observers.

With this number the Title-page is issued, and it contains the index which affords the key to the arrangement for binding which is as described last year.

In conclusion, we wish most heartily to thank all concerned in the production of this Volume.

Marine Superintendent.

September, 1925.

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DEVELOPMENTS IN WIRELESS AND WEATHER AN AID TO NAVIGATION.

By L. A. Brooke Smith, Marine Superintendent.

The adoption by Sweden of a Wireless " Weather Shipping " Bulletin giving reports of coast station observations of exactly similar elements in the New International Code was a great step forward, for the British and Swedish " Weather Shipping " Bulletins now provide the Mariner with synchronised data for the entire coasts of N.W. Europe upon a uniform plan so that at sea from the westward of Ireland to the Baltic there is no longer that bugbear of diversity of code.

The form of the reports was drawn up in consultation with many in active sea going service with a view to suitability for all coasts in high and middle latitudes, and with very slight modification is suitable for the Tropics too; by a small variation in one or two elements all essential information to the navigator for the coast may be given in two groups per station of the New International Code. For example the figure giving visibility to seaward from the station might well be replaced by departure from the barometer normal at the station for the time of day in regions where Tropical Revolving Storms occur.

It is hoped that other countries may follow this example so that seamen may conveniently use the valuable data direct, which is collected by telegram from nearly all coasts, with the least effort possible.

With regard to the most important of all the requirements for the advancement of Meteorology in seamanship—to wit, ships' reports—a number of Commanders have responded to the invitation of December last year, and the space provided at the end of the Meteorological Log in which to record standard form plain language Wireless Weather reports made to all ships indicates that though converts to this system are made slowly, yet they increase in numbers steadily.

If each of the ships which now make daily routine Wireless Weather reports when at sea to " All Ships " will persuade another to do so then success will come quicker.

The issue of the respective parts of the " Weather Shipping " Bulletin on Spark now provides ships in the North Sea with a good basis of synchronised data to work upon when unable to take in C.W., as well as ships to the southward and westward of the British Isles.

The issue of the forecasts of the original " Weather Shipping " Bulletin for the Western, Southern and Eastern Areas by the British Broadcasting Company by Wireless Telephony is a great step forward in aid of small craft.

It should be clearly understood that these Forecasts Broadcast by Telephony are not warnings, which term has been associated with them in the press. It is important that the term " storm warning " should be used only for the recognised warnings which may be issued at any time by Wireless Telegraphy and which are not routine messages as are the forecasts of the " Weather Shipping " Bulletin.

The Corps of Marine Observers, especially those in the 28 North Atlantic Liners who provide so much useful data for these forecasts, are entitled to a great deal of the credit which is due to all who have furthered this service. It will undoubtedly make for safety of life and property afloat around the British Coasts and add not a little to the fruits of the labours of Fishermen and Coastwise Seamen. And so the interests and requirements of seamen have been cared for first in post-war re-organisation. Maybe we may now be able to help all the better in other directions, while still advancing in the interests of seamanship.

On the " North Atlantic Ocean Meteorological Chart " for June, 1921, then our principal means of communicating with Marine Observers, we said we hoped that eventually there would be a combination of exchange of W/T weather reports between first, ship and shore; second, ship and ship; and third, ship and aircraft. The first is now well established and in no country better than Great Britain, the second is well on the way, and the time seems ripe for making suggestions for the third.

Towards the end of the late War we were often escorted by flying boats in the Mediterranean and communication by visual signal was a great difficulty. In those days many officers and men of the Air Force as well as the Navy and Army took passage in *Heroic*, and on one occasion on arrival at Mudros an Air General asked if there was anything that he could do, to which I replied: " Let me see for myself why your people cannot get my signals." Within half an hour from a height of 7,000 feet this was apparent. No such difficulty exists with W/T. We are told by the signal officers of the Royal Air Force that there need be no difficulty whatever in direct Wireless Telegraphy communication between airships aloft and ships at sea, so that we may assume that reports will be reciprocated direct whenever necessary and without difficulty.

Let us suppose, then, that reports are reciprocated and take an example by using observations from the Daily Weather Reports and from the Meteorological Logs and reports of ships. As no airships are as yet in regular service we shall have to exercise our imagination considerably concerning them. As ships in the Mediterranean are likely to be the first to see airships engaged in regular mercantile service let us see how Wireless Weather Telegraphy and Charts may be used with mutual advantage to ships and airships in that area.

R.M.S. *Osterley*, Commander E. P. Cameron, R.N.R., sailed from Naples at 0.15 a.m. on December 15th, 1924, for Australian Ports, via Suez; let us suppose when in Latitude 38° 57′ N., Longitude 15° 37′ E., near the Island of Stromboli the usual weather observations are made at the standard Greenwich Time for synchronisation and broadcast to all ships by Wireless Telegraphy. Reports from other ships commence to come in and by the time the ship is in the Straits of Messina data messages for Europe and North Africa have been received. With a selection from these reports Chart No. XLV. is made, from which it is seen that the Atlantic anticyclone extends eastward to Spain while another anticyclone is centred near Bucharest to the westward of the Black Sea. There is a depression to the northward of Brest and a shallow irregular depression centred near Sicily extends over the western Mediterranean which, according to the barometer tendencies reported is neither developing nor changing its position much. With the existing pressure distribution an east-south-east movement may be expected.

It will be noted that *Knight Companion* some 130 miles to the eastward of Malta reports calm, lightning and Cumulo-Nimbus cloud, while the winds reported by ships and stations and the pressure distribution shown indicate that a wide sweep of north-easterly wind from over Asia Minor and the Ægean is faced by an area of calm and south-easterly wind in the vicinity of the Malta and Port Said track between Longitude 15° E. to Longitude 23° E. Unfortunately *City of Marseilles* does not report air temperature which would be very useful compared with that reported by *Laomedon* to show if the air coming from the south-east was warmer than the north-east wind. In Chapter X. of " Wireless and Weather," Volume I., No. 10, the significance of converging winds, how instability of the atmosphere occurs, and its association with thunderstorms and squalls was dealt with. Here conditions reported are very unsettled and conducive to the development of thunderstorms and squalls. From the fact that *Knight Companion* already has lightning, thunderstorms and squalls are probable and the depression may be expected to move eastward.

Osterley will therefore expect squally weather with thunderstorms later.

According to her log a gentle breeze continued from east-south-east until after passing Cape Spartivento, when the wind freshened from east, lightning was observed during the middle watch to the eastward.

In the morning watch off the south-west coast of Greece the wind increased to the force of a gale, Cumulo-Nimbus clouds came up and there were squalls with rain.

During the forenoon of December 16th, 1924, Chart No. XLVI. is made, from which it is seen that the depression which was north of Brest has spread; the large shallow Mediterranean depression has also spread considerably; there being squalls, easterly winds with much Cumulo-Nimbus cloud, rain and some lightning south of Greece in the left advance portion of the depression, which is of still more irregular shape and probably has several lows within it. This chart tells *Osterley* that strong winds with squalls, thunderstorms and heavy rain are probable along her route for the remainder of the day.

Her actual experience was as follows:—

" December 16th, 1924, Noon Latitude 35° 30′ N., Longitude 22° 21′ E., wind easterly 7, sky overcast, Cu-Nb, squally with rain.

" 4 p.m. Wind N.E. 4. Cu-Nb 10. Orq.

" 7.16 p.m. Reduced speed; low visibility; heavy rain; wind E.S.E. 7.

"8.14 p.m. Rain moderating; increased speed.
"8.40 p.m. Very heavy rain; reduced speed.
"Midnight wind E.S.E. 6 (varying and unsteady E.S.E. to N.N.E.; very heavy rain during first watch).
"2 a.m. Vivid blinding lightning and heavy thunder. From midnight to 2 a.m. wind veered to S.W.; speed adjusted throughout to low visibility on account of heavy rain.
"4 a.m. Wind S.W. 4; barometer lowest, 1005.6.
"4.30. Rain ceased, weather cleared."

S.S. *Knight Companion*, Captain H. E. Beale, from Newport, Mon., to Port Said recorded weather on this day as follows:—

"2.20 to 3.5 p.m. Wind E.N.E.; heavy rain, squally.
"4.00 to 8 p.m. Continuous squally weather.
"5.00. Wind veers all around compass from east through south and north to east in 10 minutes.
"8 p.m. Latitude 34° 14′ N. Longitude 24° 00′ E. Wind E.N.E. 3. o l u q r."

Chart No. XLVII, on morning of December 17th, 1924, indicates that the depression is centred near Crete and that *Osterley* is outrunning it on her course S. 61° E. at 15 knots; she may therefore expect improving weather as she approaches Port Said.

As the depression appears to be deepening a continuance of fresh to strong winds with rain may be expected by ships further west.

Osterley sighted Port Said light at 10.50 p.m. at its full range in fine weather with a cloudless sky.

Supposing that during her passage through the Suez Canal it had been possible to intercept reports and make Chart No. XLVIII. it would have shown her that on the morning of December 18th, 1924, the depression she had outrun was still approaching the Levant and that on entering the Gulf of Suez she would have the usual fresh winter N.N.W. wind now reported by *Manipur*.

All the foreknowledge which wireless weather reports plotted on Charts Nos. XLV. to XLVIII. could have given Captain Cameron would have been useful, particularly as to the heavy rain and reduced visibility he experienced on December 16th, 1924, but how much more useful—indeed, indispensable—wireless weather reports will be to airships commanders, may be gauged to some extent with the same charts and one more chart made with land observations only.

Now suppose that an airship is in Latitude 48° 53′ N., Longitude 1° 00′ E., indicated by **A**, on Chart No. XLVa, at 7 a.m. on December 15th, 1924, bound for Ismailia and that for reasons including load she does not wish to fly at a great height and that she has only been able to obtain the same surface land reports as *Osterley*. Chart No. XLVa is made from these only, from which it appears that there are light winds all over the Mediterranean basin and that there is no indication of thunder; further, by shaping a course to pass well to the westward of Sardinia and thence on a rhumb line to Ismailia she will avoid high land and expect, from the information she has, to have fair and light surface winds for nearly the whole of her passage.

Proceeding at a speed over the ground of 40 knots (which is moderate) she would be abeam of *Osterley* at about midnight, December 16th. But, on the other hand, had she been able to receive reports by long-range wireless telegraphy from ships in the Mediterranean just as we have supposed *Osterley* did, she would have all the information given on Chart XLV. which shows the probability of squally weather and thunderstorms in the vicinity of Crete.

Now it seems that with the exception of a Tropical Revolving storm there are few things which may be more dreaded by airships than thunderstorms, for apart from the danger of lightning there are tremendous vertical air currents associated with them. Of the atmospheric conditions which prevailed at the time of airship disasters we hope to be able to publish information later.

Possibly with this fuller information airship **A** would shape more southerly courses and prefer to increase her distance by passing over the African coast and so avoid the area of great atmospheric instability with its thunder clouds, lightning and squalls of both horizontal and vertical winds, for in December the desert is cool and so "bumpiness" in the air less than in summer when it is a source of difficulty to the airman.

We have a great deal to learn, but one thing seems certain, that if airship navigation is developed over the oceans ships' weather reports synchronised for time will be necessary for their safety and comfort at shorter intervals than once or twice a day both direct and through centres for collection and distribution.

It will be noted that we have only been able to chart the apparent direction of upper clouds logged by *Oxfordshire* and *Kaisar-i-Hind*, from all the logs and reports in the Mediterranean on the days used; these observations, if taken, will be especially valuable for they give some indication of the upper winds.

It must be clearly understood that what follows is for the purpose of obtaining the views of shipping and seamen and that, just as with the proposed Douglas Sea and Swell scale, no alteration in the present system should be made until a decision has been arrived at.

Some Considerations as to Time of Observation and transmission of Wireless Weather Reports, Range and Utility.

In the examples we have given all the observations do not actually synchronise. Those for the land stations from Brest and Lisbon to Odessa, Athens and Ben Ghazi were taken at 0700 G.M.T., the fixed times for observation for Weather Telegraphy in Europe and North Africa being G.M.T. 0100, 0700, 1300 and 1800. Those for the land stations from Matruh to Limassol and Cairo were taken at 8 a.m. local time, equivalent to 0600 G.M.T., the time of observation for Weather Telegraphy in Egypt.

The ships' observations were logged at 8 a.m. Ship's Time (usually apparent) and therefore according to the longitude of the past or coming noon as each ship shifts her clock; also subject to equation of time.

On these days the difference of time in observation probably did not materially affect the information, but we have given examples in Chapter IV, Time, "Wireless and Weather," Volume I, No. 3, where observations not synchronising for time produced misleading results. If this is so for ships with speed not exceeding 27 knots, error will be multiplied for aircraft with their terrific speeds and to whom the weather is of the greatest significance.

As was stated in the Chapter referred to above the present standard times of observation were fixed ashore before communication by wireless at sea was established, and therefore while these are in vogue ships are asked to make observations for wireless weather reports at the same time of the nearest country, so that within certain areas as many reports as possible may give synchronised data. The more wireless and weather advances and extends at sea where observations have always to be considered in relation to position, course and speed the more important will this question of synchronising for time become.

Then there are the questions of range, traffic, and utility.

Take the case of our imaginary airship **A** to give an illustration.

Before she proceeded from England she would require information compiled from the latest reports of observations at points along her projected route, from positions on either side of it and from the North Atlantic Ocean whence mostly weather systems approach Europe.

For this purpose just as in the case of Forecasts and Storm Warnings for shipping, reports are required at central collective and distributive centres. Hence ships' reports will be required as the system is developed both in aid of navigation and aerial navigation at such centres as Malta, Ismailia and Aden.

These reports combined in synoptic data messages will also enable the airship to make on board, when on passage, at least a daily weather chart for a very large area of the earth's surface, just as at present the Eiffel Tower message repeating as it does ships' reports from the Atlantic and reports from America enables ships at sea to make a weather chart of a very large portion of the Northern Hemisphere. Then as ships are approached, passed, and left astern en route, while within range these same reports will be of far greater value if received direct because less time will elapse from time of actual observation.

Thus in the practical application of wireless and weather both shipping and aircraft have points of mutual interest and benefit.

Now if and when airships do work over the Oceans a definite plan is necessary if they are to reap full benefit from the co-operation of Marine Observers. From time to time Marine Observers have made suggestions and the following is outlined upon those suggestions with a view to obtaining the views of all interested and their support when an extension of the Voluntary Work of the Corps of Marine Observers is desired for the purpose of aerial navigation in combination with improved information for mariners. This outline is tendered as a suggestion presenting principles; details will have to be worked

out when a plan is adopted. It is intended to obtain synchronization for observation, to reduce wireless traffic and to make information reported by selected ships at sea of the widest possible utility to shipping, aircraft, and the shore community.

Observation Times.

G.M.T. 0000 0600 1200 1800. In all Longitudes.

By fixing observation at four equidistant times in the 24 hour day, not only may synchronization be effected, but during sun up or in waking hours ships and observing stations may observe without undue inconvenience on at least two occasions in the day.

If for special purposes four reports are insufficient additional observations could be made at

G.M.T. 0300 0900 1500 2100.

but at least two of the four main observation times should always be used and when two are used they should be equidistant.

Transmission Times.

The times of observation being fixed for all longitudes, transmission by reporting ships will jam unless governed by time and position. The general movement of the world's shipping is more from east to west and west to east than it is from north to south and *vice versa*. Zones may be better limited by longitude than latitude.

Zones for transmission during fixed intervals which do not overlap S.O.S. lookout time are suggested as follows :—

Zones and Times for Transmission.

Ships detailed as reporters to transmit :—

Zone. Long.	Between (minutes after observation Time (G.M.T.))	and (minutes after observation Time (G.M.T.))
0° to 15° W.	18	32
15 ,, 30	33	45
30 ,, 45	48	60
45 ,, 60	18	32
60 ,, 75	33	45
75 ,, 90	48	60
90 ,, 105	18	32
105 ,, 120	33	45
120 ,, 135	48	60
135 ,, 150	18	32
150 ,, 165	33	45
165° to 180° W.	48	60
180E.,, 165 E.	18	32
165 ,, 150	33	45
150 ,, 135	48	60
135 ,, 120	18	32
120 ,, 105	33	45
105 ,, 90	48	60
90 ,, 75	18	32
75 ,, 60	33	45
60 ,, 45	48	60
45 ,, 30	18	32
30 ,, 15	33	45
15E.,, 0	48	60

For example : There are at 0600 G.M.T. on a certain day 7 fully-equipped observing ships in the Mediterranean; 4 of these ships are at different positions between Longitude 0° and 15° E. and 3 between Longitude 15° and 30° E. It is desired that weather reports should be received at the Malta Meteorological Office and by ships and airships direct.

The 3 ships in Longitude 15° and 30° E. each in turn make the call sign of Malta W.T. station G.H.A. and CQ (all ships) followed by their weather report between 0633 G.M.T. and 0645 G.M.T. on a certain wave length. The next 3 minutes is occupied in S.O.S. lookout. The 4 ships in Longitude 0° and 15° E. follow the same procedure between 0648 and 0700 G.M.T. With such a system, when well organised, by devoting only about 24 minutes two or three times a day to ships' wireless weather report reception, it is thought that all ships would benefit by the observation and report of the Corps of Voluntary Marine Observers along all ocean routes, and not only would traffic for this purpose be reduced but there would be greater benefit from wireless installations and tested instruments, and Meteorological Offices and aircraft would receive more and better information than at present at reduced cost.

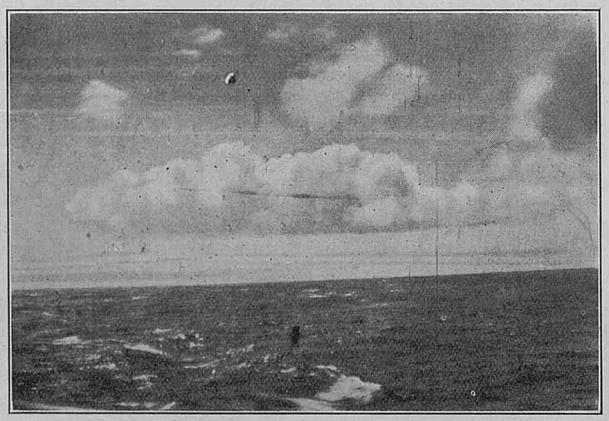
Ships reporting under this system would be restricted in number by limiting their number in the main trades to those specially equipped for meteorological observation. The best disposal would be obtained by selection according to shipping schedules, just as we have obtained such accurate regular and well-disposed observations reported by wireless from the Trans-North Atlantic Services.

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.

CLOUD PHOTOGRAPH.



The accompanying photograph has been received from S.S. *Port Hacking*, Captain R. Williams, Cape Town to Melbourne, taken by Mr. H. Pinkney, 2nd Officer, the following remarks being given :—

" 3rd December, 1924, 2 p.m. Latitude 44½° S. Longitude 53½° E. Cu. from westward. Wind, W.S.W., force 6. Swell, westerly heavy. Weather bc."

CURRENT.

Pacific Ocean.

The following report has been received from the Director of the Apia Observatory, Western Samoa, through the Hydrographer of the Navy.

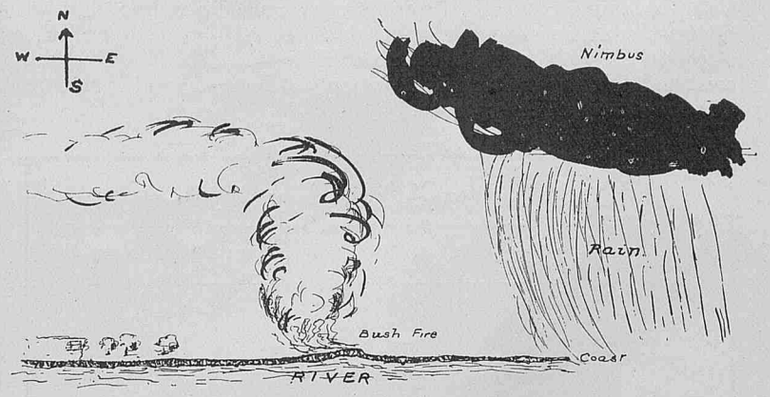
" You may be interested in the following information in regard to the Pacific Ocean. It was obtained from Captian H. G. Wigsten, of the schooner *Honoipo*. I examined his log book and found that Captain Wigsten had taken care in observing and computing, and the positions given by him are probably correct within three miles both as to latitude and longitude.

" On his last cruise from San Francisco to Pago Pago, he found the north-east trade wind to set in 26° 50′ N. and 132° 12′ W. on December 16th, 1924. Without any region of calm, south-east trade set in, in Latitude 3° 42′ N. Longitude 154° 48′ W. on December 30th.

" A strong easterly counter current flowing at the rate of 2·5 miles per hour was encountered in Latitude 4° 45′ N. Longitude 153° 39′ W. Just south of this on January 1st, 1925, there was a north-east current of 2 knots. This north-east current persisted to the Equator."

TORNADO WIND.

THE following account has been received from Lieutenant H. E. TURNER, R.N., H.M.S. *Endeavour*, Captain J. D. NARES, D.S.O., R.N.



" Freetown, Sierra Leone, December, 1923. This rather interesting effect was observed from the Mount Oriel Hospital on the south side of the Sierra Leone River. The diagram is intended to show the northern shore during the approach of the tornado. Observer's height 800 feet (approx.).

" The tornado, as frequently happens, took the line of least resistance and approached the anchorage by coming down the river from an easterly direction.

" A large bush fire was burning on the northern shore at the time. This shore felt the effect of the tornado before the southern shore. The smoke from the bush fire, which was very heavy, was ascending in an absolutely perpendicular direction, there being no wind. It continued to do this until the advancing Nimbus cloud was (or appeared to be) almost vertically over it. Then the top portion of the smoke was cut off sharply at right angles and could be seen to be travelling in the same direction as the cloud. The position at which the smoke was cut off in this manner became gradually lower and lower as the cloud advanced until, finally, the heavy rain extinguished the fire shortly after the smoke was blowing along the ground.

" From this it would appear that the extreme front edge of one of these storms is considerably higher than the sea level, the air in the lower levels being retarded possibly by the friction of the earth's surface.

" The whole front is not dissimilar to the sectional diagram of an idealised cyclone expounded by J. BJERKNES."

ABNORMAL CURRENT.

Approaching Cuvier Island, New Zealand.

THE following is an extract from the Meteorological Log of S.S. *Pakeha*, Lieutenant-Commander W. P. CLIFTON MOGG, R.N.R., Southampton to New Zealand *via* Panama. Observer, Mr. R. K. VANDERVARD, 2nd Officer.

" December 16th, 1924, while approaching Auckland Harbour (New Zealand), an excessively strong current was experienced which if not allowed for and the weather not clear, would become a considerable source of danger.

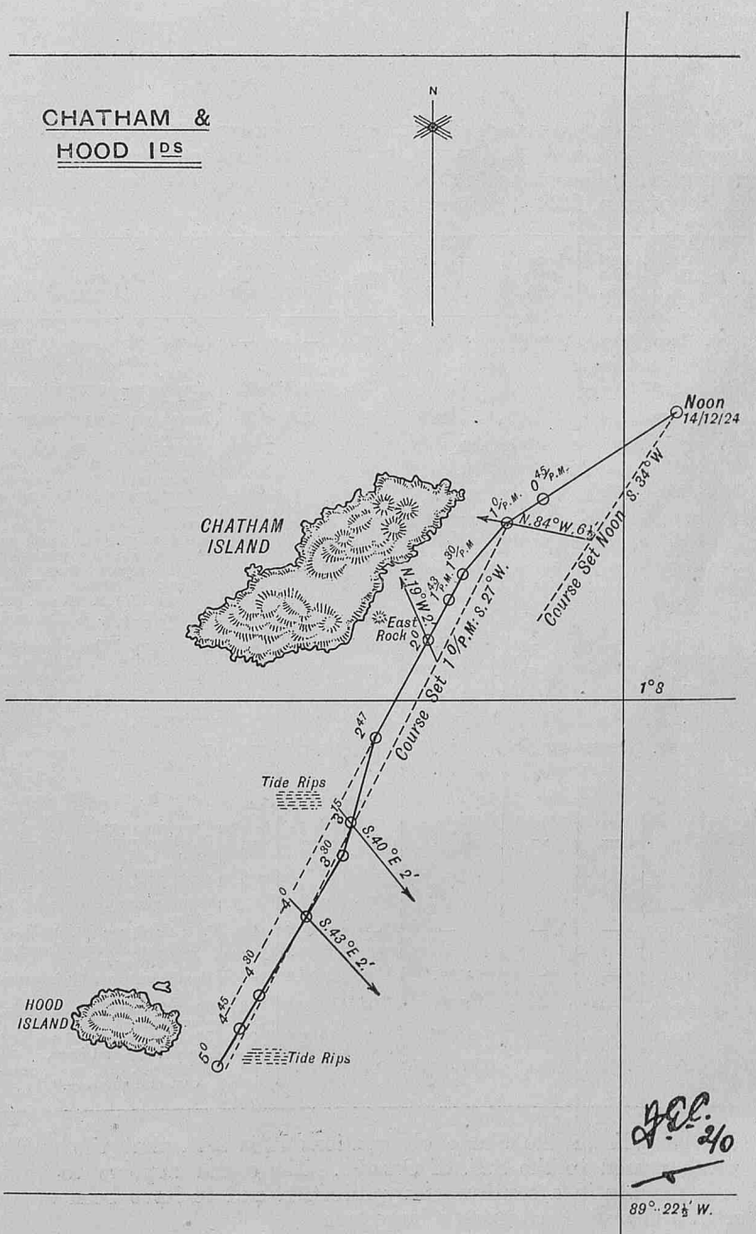
" On December 14–15th (Antipodes day) a fix was obtained by simultaneous observation of sun and Venus at noon, placing the ship in Latitude 35° 26′ S., Longitude 179° 17′ E., after which a mean course of 249½° was steered for 170 miles where Cuvier Island Light was observed to bear 150° distant 8 miles, thus showing the existence of a current setting 291° a distance of 15·5 miles in 13·8 hours. High water at Great Barrier Island was at 9.31 p.m. on the 15th December, so that on approaching Cuvier Island the ship should have experienced the ebb tide setting approximately 90°."

CURRENT.

Vicinity, Chatham Islands, South Pacific.

THE following is an extract from the Meteorological Log of S.S. *Dorset*, Captain C. R. KETTLEWELL, Colon to New Zealand; Observer, Mr. F. G. CAPON, 2nd Officer.

" December 14th, 1924. During forenoon watch (8 a.m.–Noon) when vessel was steering for a position 10 miles south of Hood Island, frequent tide rips were encountered. At 10.9 a.m. Chatham Island was observed, the tops of the mountains at the southern end being covered with heavy Cu. Vessel's position was determined at noon by solar observations and verified by terrestrial bearings, course then being set (S. 34° W.) to pass 5 miles off Eastern point of Hood Island. Between noon and 1 p.m., vessel experienced an abnormal set, N. 84° W. 6½ miles. Course was altered at 1 p.m. to counteract current and at 2 p.m. vessel was found to be set N. 19° W. 2½ miles. Bearings between 2 p.m. and 3.15 p.m. showed current setting S. 40° E. 2 miles. After 3.15 p.m. practically no current was noticed, but frequent tide rips were encountered. The temperature, and specific gravity of sea water was taken at short intervals and found constant."



TIDE RIP.

At Edge of Gulf Stream.

THE following is an extract from the Meteorological Log of C.S. *Colonia*, Captain V. CAMPOS, O.B.E., New York to Cuba, Observer Mr. A. S. MUIR.

"Tuesday, 30th December, 1924, at 4.30 p.m. A.T.S. in Latitude 37° 28′ N. Longitude 72° 00′ W. ship passed through a well-defined tide line which could be seen extending for miles in an E. by S. and W. by N. direction. A temperature was taken a few minutes before entering the line when temperature was 54° F. Immediately on crossing the line another temperature was taken when it was found to be 68°—a rise of 14° within four minutes. The cable being paid out over the stern immediately showed a N.E. set of 10° which was immediately allowed for. While the temperature of the water is a good indication of Gulf Stream on entering the Stream from northwards, we found it no guide to the southward as the temperature of the water remained the same as in the Stream a long time after we had passed out of the Stream."

CYCLONE IN THE SOUTH INDIAN OCEAN, DECEMBER, 1924.

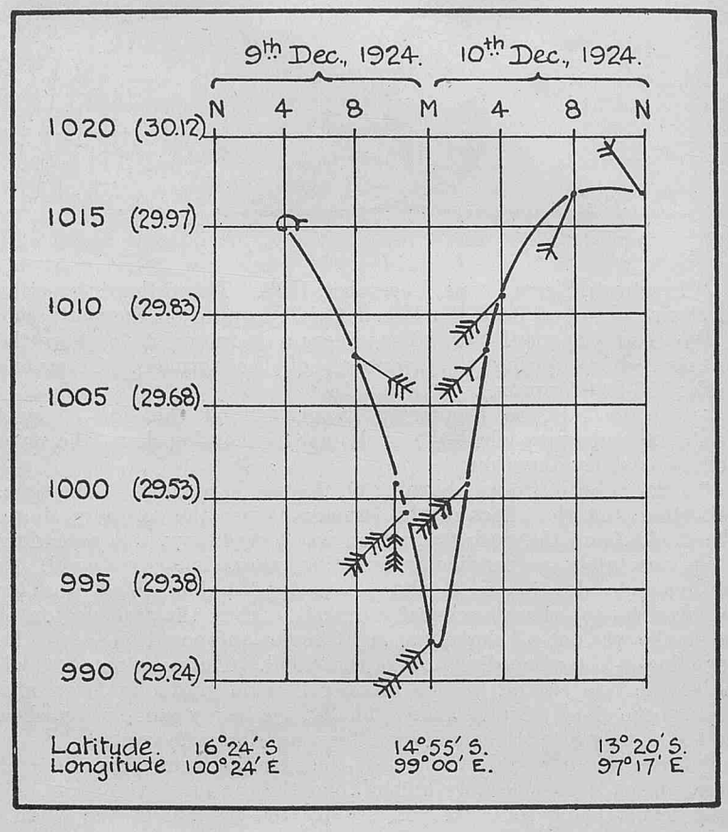
THE following is a report of a tropical cyclone experienced by R.M.S., *Orcades*, Captain A. L. OWENS, in the South Indian Ocean when on passage from Fremantle to Colombo in December, 1924, by Lieutenant H. SCHOFIELD, R.N.R., Observing Officer.

Date	Time.	Latitude (S).	Longitude (E).	Wind (True).	Force.	Bar. (corr.).	Temp. (air).	Remarks.
"Dec. 9th	Noon	16° 24′	100° 24′	S.E.	5	—	—	Course 318°, speed 13.2 knots, rough sea, fine and clear.
	4 p.m.	—	—	Var.	2	1014.9	80	Rough sea overcast and gloomy.
	8 p.m.	—	—	S.E. by E.	6	1007.8	79	Rough sea, heavy confused swell, gloomy sky with heavy rain. Everything secured about decks and watertight doors closed. Weather rapidy becoming worse, wind and sea increasing in force.
	10 p.m.	—	—	S.	10	1000.7	78	Wind veered to South in violent squall. Obtained W/T report from the Cocos Islands:—Barometer 1011.8. Temp. 92. Wind S.S.W. 5, fine and clear.
	10.30 p.m.	—	—	S.W.	12	—	—	10.30 p.m. Wind veered to S.W. force 12, 10.40 p.m. Ship refused to answer helm or steer. Hove to on port tack. Ship's Hd. S. 60° W. approx., steering by engines.
	Midt.	14° 55′	99° 00′	S.W.	12	992.2	77	High sea, heavy confused swell, terrific squalls, ship rolling and pitching heavily, visibility practically nil. Broadcasted cyclone warniug.
Dec. 10th	1 a.m.	—	—	S.W.	12	—	—	Terrific squalls of wind and rain, vessel labouring heavily, visibility nil owing to spray and rain. Barometer commenced to rise.
	2 a.m.	—	—	—	—	1000.7	78	Wind and sea slightly less 2.30 a.m. resumed course 318° full speed.
	3 a.m.	—	—	S.W.	8	1008.1	—	Conditions rapidly improving.
	4 a.m.	—	—	S.W.	6	1011.2	78	Rough sea, slight rain, overcast.
	8 a.m.	—	—	S.S.W.	3	1016.9	79	Moderate confused sea and swell, fine and clear.
	Noon	13° 20′	97° 17′	N.W. by N.	3	1016.9	80	Slight sea, S.E. swell, overcast and showery."

Note.—From the above observations it is seen that the storm centre passed to the S.E. of *Orcades*. The storm appears to have been moving in a south-westerly direction and to have been of an intense character, covering a large area.

At 10 p.m. on the 9th the weather at Cocos Island (then bearing N. 36° W. distant 205 miles from *Orcades*) was affected by the cyclone, reporting a fresh S.S.W. wind instead of a steady trade which would exist normally.

The cyclone warning broadcast by *Orcades* at midnight of the same day was picked up by R.M.S. *Orama*, Captian H. G. STAUNTON, bound for Fremantle and then bearing N. 45° W. distant 562 miles from *Orcades*. *Orama's* weather at this time gave no indication of the cyclone, but from noon on the 10th to midnight on the 11th the ship steaming S. 41° E. 13 knots, experienced a falling glass with wind freshening and veering from south through west to E.N.E. as she crossed the outer storm field in rear of centre. The following graph shows the fall of barometer and direction and force of wind experienced by *Orcades* when in the cyclone.



A LINE SQUALL.

Vicinity of Ceylon.

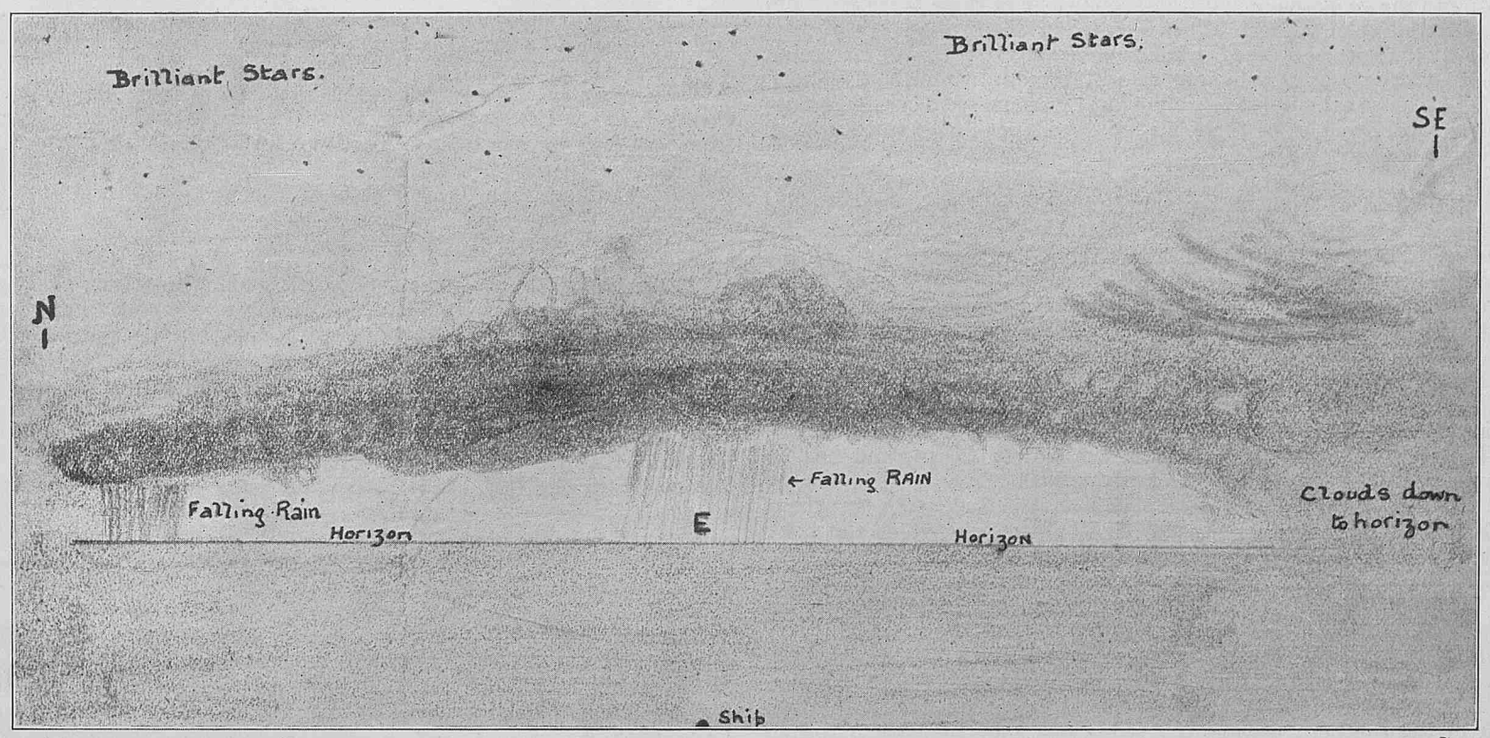
THE following was received with the Meteorological Report of S.S. *Auditor*, Captain W. T. OWEN, Liverpool to Calcutta. Observer, Mr. T. E. STEEL, 3rd Officer.

"On 24th December, 1924, at 8 p.m. A.T.S. (2.48 p.m. G.M.T.), when in Latitude 5° 57′ N., Longitude 78° 06′ E., barometer 29.82 (corrected), temperature of air 78° F. Wind north-east, force 4, clouds—Cumulus 2, I observed bright lightning to the eastward; at 8.55 p.m. dense black Nimbus clouds, rising and working up towards the vessel, from the eastward; 9.00 p.m. observed cloud formation as per enclosed rough sketch. At 9.10 p.m. the wind veered east and the air temperature fell three degrees; 9.18 p.m. wind veered to south-east; 9.24 p.m. heavy torrential rain—line-squall cloud overhead, in a north-east and south-west direction; barometer 29.87 corrected—a rise of .05 of an inch—9.30 p.m. the rain ceased, the line-squall cloud having passed over the vessel, and the wind dropped. 9.45 p.m. light N'ly breeze and at 9.49 p.m. a bright flash of lightning, accompanied by a loud peal of thunder (western horizon dense black).

"10.00 p.m. the wind veered to north-east and at midnight experienced a freshening north-east breeze, barometer 29.86 (corrected).

"During the short period that the line-squall cloud was overhead the sky on each side of it was perfectly clear and the stars were brilliant."

A Line Squall.



NOTES ON FREQUENCY OF GALES : ALL OCEANS.

Prepared in the Marine Division by H. Keeton,
Principal Clerical Assistant.

In the quarterly charts showing the Percentage Frequency of Gales for all oceans, in 5-degree squares, published in the March, June and September numbers, and in the current number of this Journal, the term gale has been taken as denoting all winds which reach a force of 8 or above of the Beaufort Scale. The information was collated from the various Pilot Charts published by the U.S. Hydrographic Office, and is based on observations for a considerable number of years. The information for the Mediterranean was worked up in the Meteorological Office, and is for a period of 15 years.

Though the data on these charts are of a generalised character and have been dealt with by *seasons*, instead of by months, a careful examination of them will disclose a good deal of useful and interesting information.

If we exclude the North Indian Ocean and the China Sea, the most striking features of the charts are, that, broadly speaking, over all the oceans, irrespective of season, the frequency of gales within the Tropics is practically nil; and that outside these limits, gale frequency increases with increasing latitude. Latitude is not, however, the only factor affecting gale frequency, and the following notes, based upon a detailed study of the charts, ocean by ocean, briefly indicate and explain where and how this broad generalisation is modified.

Due caution should be exercised in the use of these charts; the percentage frequency of gales where shown as 0 does not mean to say that no gales will be experienced there, but that the proportion of gales *recorded* is less than half per cent. Moreover, in some areas off the main trade routes, the numbers of observations available were necessarily restricted, and the resulting percentages are thus less reliable.

Northern Hemisphere.

North Atlantic Ocean.—The information for this Ocean is incomplete, there being no available data between the parallels of 5° N. and 20° N.

The region of greatest gale frequency extends in a north-easterly direction from the United States coast, between Latitude 30° N. and 40° N. This is a feature of all four charts and marks the broad path followed by depressions from the North American continent traversing the North Atlantic. Thus while the gale frequency in Latitude 35° to 40° N. off the Portuguese coast, in winter, is only 3 per cent., on the American side in the same latitude it is between 20 and 23 per cent. The maximum frequency of gales over the ocean ranges from 6 per cent. in summer to 32 per cent. in winter.

In summer there are practically no gales (that is the frequency is less than 1 per cent.) between Latitude 30° N. and the Equator, except in the region of West Indian Hurricanes; the season for which extends from July to November, but which chiefly occur in August, September and October. As these storms occur during what is normally the fine weather season, and their duration in any particular area is comparatively short, their influence on the figures of gale frequency is not so marked as one might expect. On the June to August chart the frequency of gales in the hurricane area is only 1 per cent., and on the September to November chart it only reaches 3 per cent.

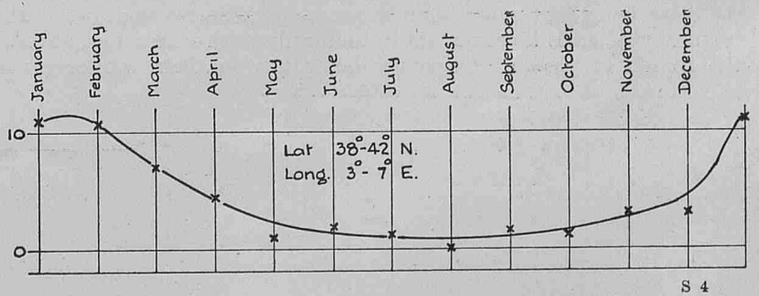
These hurricanes, after recurving, frequently follow the American coastline as far as Newfoundland, or travelling across the ocean, become merged in the weather systems of the middle latitudes, adding to the gale frequency of those areas.

Mediterranean.—The charts show that the frequency of gales in the Mediterranean is less than in other parts of the Northern Hemisphere of the same latitude. The period of gales is practically confined to the winter months, when the general pressure distribution favours the passage of depressions from the Atlantic. At this period various parts of the Mediterranean are also subject to violent local winds such as the " Mistral " and " Bora."

The maximum frequency of gales shown on the charts is 8 per cent., which occurs during December to February, in the area, Latitude 38° to 42° N., Longitude 3° to 7° E., but the following curve for this area, worked on *monthly* values, shows that the 3 months of maximum frequency are actually January, February and March.

Annual Variation in Gale Frequency.

Mediterranean Sea.



S 4

North Indian Ocean and Southern Portion of China Sea.—Owing to the geographical position, conditions in these areas are more complicated than in any other ocean; in the Indian Ocean particularly the normal order of things is reversed, the period of maximum gale frequency occurring in summer instead of in winter.

These areas are subject to well defined seasonal winds or monsoons; and tropical cyclones or typhoons are experienced over some part or other throughout the year.

In the Indian Ocean the South-West Monsoon usually begins about the end of April or beginning of May, and reaches its height during July, when it blows with considerable strength, and frequently reaches force 8 or above, especially over the western half of the Arabian Sea. This is reflected in the chart for June to August, where the maximum frequency of gales reaches as much as 20 per cent. in Latitude 10° to 15° N., Longitude 55° to 60° E. As a general rule the monsoon dies down about September the change of monsoons occurring in October.

In the China Sea, west of Longitude 120° E., the South-West Monsoon also sets in about April or May, and continues to September. It is not so strong, however, as in the Indian Ocean, and has no appreciable effect on the figures of gale frequency.

The North East Monsoon sets in over the Indian Ocean about October and continues to March. It is not so violent as the S.W. Monsoon, and seldom if ever attains gale force.

In the China Sea, however, the N.E. Monsoon, which reaches its height in December and January, blows very strongly, reaching gale force at times.

Tropical cyclones occur over the Arabian Sea and Gulf of Aden from April to July and from September to November. In the Bay of Bengal the season for these storms is from April to December; and in the southern part of the China Sea they may occur during any month of the year, but are most frequent during July to November.

North Pacific Ocean.—As regards gale frequency this Ocean presents features similar to the North Atlantic, inasmuch as the region of maximum frequency, in all seasons, trends in a north-easterly direction from the China Coast to Alaska or British Columbia marking the tracks of depressions across the Ocean. The maximum frequency over the whole Ocean is less, however, than in the North Atlantic, being only 4 per cent. in the summer, and 23 per cent. in the winter.

South of Latitude 30° N. the percentage frequency of gales is very small, except on the western side, in winter, when the depressions follow more southerly tracks than in summer. In summer and autumn, between the Mexican coast and Honolulu, the figures are affected by the tropical hurricanes occurring in this region from July to October; and on the western side by the typhoons to the eastward and northward of the Philippines.

Southern Hemisphere.

Conditions in the Southern Hemisphere, especially in high latitudes, are very different from those in the northern hemisphere, owing to the absence of the great continental land masses which split up the wind systems of the northern hemisphere. South of 40° S. there is a belt of westerly winds practically continuous around the globe, and gales are prevalent throughout the year; these latitudes in consequence having earned the name of " Roaring Forties." For meteorological purposes the whole of the Southern Ocean, south of Latitude 40° S. can be treated as one.

South Atlantic Ocean, North of 40° S.—This ocean is the only one which is free from tropical revolving storms; and as the S.E. trade wind is of moderate strength, and seldom if ever reaches gale force, the number of gales recorded between the Equator and Latitude 25° S. is negligible; the maximum frequency throughout the year being not more than 2 per cent. Thence southward the frequency of gales increases fairly uniformly with increasing latitude, the season of greatest frequency being the southern winter (June to August) when it reaches 24 per cent. between Latitude 35° and 40° S., Longitude 40° and 50° W.; and the season of least frequency, the southern summer (December to February), the maximum percentage during this season being 9, between Latitude 35° and 40° S., Longitude 45° and 50° W.

Gales may be experienced throughout the year in the Cape of Good Hope district, " South-Easters " being particularly prevalent from October to April and north-westerly gales from April to October.

Off the Argentine coast, between Latitude 30° and 40° S. " Pamperos " are sometimes experienced, generally from July to September.

South Indian Ocean.—The south east trade wind blows throughout the year from the west coast of Australia nearly to the east coast of Madagascar, and from Latitude 5° S. to as far as Latitude 25° or 30° S. according to season. It is most regular during the period of the S.W. monsoon (of the North Indian Ocean) and in the middle of the Ocean particularly, strengthens to gale force at times. Thus, on the June to August chart, between Latitude 15° and 20° S. Longitude 75° and 85° E., the percentage frequency of gales is 5, due solely to the S.E. trade, as cyclones are absent during these months.

The season for cyclones in the South Indian Ocean is from November to May, the area specially affected by them being situated between Latitude 10° and 30° S. Longitude 40° and 70° E. An average of 7 or 8 cyclones occur each year.

South of Latitude 30° S. the frequency of gales increases rapidly, especially during the southern winter, the percentage along the parallels of 35° to 40° S. ranging generally from 15 to 22 per cent. In the southern summer along the same parallels the frequency ranges between 4 and 9 per cent.

South Pacific Ocean. — Between the Equator and Latitude 25° S. the percentage frequency of gales recorded on the charts is very low throughout the year, with the exception of the area between Latitude 15° and 20° S. Longitude 160° and 170° W. during the southern winter, where it reaches 5 to 6 per cent. Severe hurricanes sometimes occur between the Tuamotu Archipelago and the Australian coast, from December to March, but the chart for December to February shows no sign of these off the Queensland coast as far east as 180° E.; hence the need for the caution given at the commencement of these notes.

Southward from 25° S. the frequency of gales increases with latitude, until between Latitude 35° and 40° S. it reaches 18 per cent. in mid Pacific in the Southern winter, and 7 per cent. off the Victorian coast in summer.

Southern Ocean.—South of Latitude 40° S. is a region of cyclonic depressions moving in a general easterly direction, sometimes persisting completely round the globe. These depressions often succeed each other at short intervals, and are the cause of the frequent gales of these latitudes, which are experienced throughout the year.

The gales associated with the passage of these depressions (when their tracks pass to the southward of the observer) commence from the N.W. accompanied by thick weather and heavy rain. The N.W. gale sometimes lasts 2 or 3 days, when the wind shifts into a S.W. quarter with the passage of the trough, blowing harder than before, and the weather clears. The south-westerly gale gradually moderates, and may be followed by a few days of fine weather, after which the same sequence is repeated with the approach of another depression.

In the Southern summer these depressions follow a more southerly track than in winter, in consequence of which the percentage of gales recorded on the shipping tracks is not so high, the maximum frequency between Latitude 45° and 50° S. being 16 per cent. in the Indian Ocean, as against 25 per cent. during the Southern winter.

South of Latitude 50° S. in the region of Cape Horn the frequency of gales is very high in all seasons except the Southern summer, reaching as much as 30 per cent. in the autumn and winter seasons and 26 per cent. in the spring.

HINTS FOR KEEPING THE SHIP'S METEOROLOGICAL REPORT FORM 911.

For full instructions as to observation the "Marine Observers' Handbook," third edition, with corrections to September, 1922, should be referred to; the following hints for writing up Form 911 will, however, be of assistance.

These forms are for use with the ship's instruments in ships appearing upon the list of Voluntary Observing Ships published in The Marine Observer. They are also used with Meteorological Office instruments in ships specially detailed for reporting to the Office in Code by Wireless Telegraphy.

By this means some 2,000 completed forms 911 are returned to the Marine Division with observations from all Ocean routes a year, which is sufficient for present requirements

Columns 1 and 2.—Month and day require no explanation.

Column 3.—Gives the time of observation, ship's time 8 a.m. and 8 p.m., against which should be noted A.T.S. or local standard, which ever is being kept, also the difference from G.M.T. in the "Remarks" column.

Columns 4 and 5.—Latitude and longitude of position at which the observations were made. These should be entered with the usual care and accuracy used in the ship's own log book.

Columns 6 and 7.—The *True* direction and force of the wind. In this case the word "True" is not only used to indicate the True compass, but also the True wind. In short, don't look up at the funnel and think that the smoke will give you the direction and force of the wind when under way. The sea surface will give you the best indication as to both force and direction, *see* pages 38 to 42, "Marine Observers' Handbook" (third edition).

Column 8.—Always enter the uncorrected reading of the barometer in this column whether you intend to give the correct pressure or not. If a mercurial instrument and pumping, take the mean level of the top of the mercury as judged by eye in much the same way as you would take the draught of your ship when there is a lop.

Column 9.—Enter the reading of the thermometer attached to the barometer which is to give the temperature of that instrument and not of the air; this is not required when an aneroid is used.

Column 10.—Having ascertained the Index error of your barometer before going to sea, either by means of the *blue postcard* which you have previously sent in to the Meteorological Office, or in the manner explained in Chapter II of "Wireless and Weather," pages 22 and 24, reduce the observed reading to correct pressure for sea level in the manner described in Chapter II, referred to, or see pages 16 to 20 of the "Marine Observers' Handbook." If your instrument is an aneroid only, apply correction for index error and height. Do not fail to enter the particulars of your barometer required at the bottom of the form before completing it. By making this little calculation twice daily and entering the result in Column 10, you will be assisting in the furtherance of the use of your observations and in some measure reducing the cost of the work to the State.

Column 11.—Enter the temperature of the air as measured by a thermometer unaffected by the sun's direct rays, spray, rain, or artificial heat—that is to say, the temperature of the free air over the sea as near as you can get it.

Column 12.—Sea surface temperature, a small canvas bucket, ballasted at the bottom with sand or small shot, will enable you to obtain a sample of sea water from overside even if steaming at high speed. Care is necessary to draw water forward of all outlets. An ordinary air thermometer placed in a copper case, with a receptacle at the bottom sufficient to keep the bulb covered with water while being read, is recommended.

Columns 13, 14 and 15.—Clouds: Types and Amount.—Great care should be taken in entering the types of clouds observed in their columns, Upper or Lower. The total amount of clouds of all types visible both upper and lower is required. Thus if there was 1/10th of the sky covered by Cirrus high in the sky and 3/10ths covered by Cumulus lower in the sky, the amount would be 4/10ths. The movement of the Upper clouds should be given whenever possible in the remarks column. The velocity being indicated as follows:—

0 Stationary.
1 Slow movement.
2 Moderate speed.
3 Fast.

The direction *from* should be given true, remembering that the speed of your ship may alter the apparent movement. As regards types, the following abbreviations should be used:—

In the column for upper clouds—

Ci., Ci-St., Ci-Cu., A-St., A-Cu.

In the column for lower clouds—

Cu., St., Nb., St-Cu., Cu-Nb., Fr-Nb., Fr-Cu., Fr-St.

A compound name such as Strato-Cumulus should always be written as St-Cu., with a hyphen between the two parts to distinguish it from St/Cu., Stratus and Cumulus.

If Stratus and Cumulus are both present they should be denoted thus: St/Cu., with a vertical stroke between them.

Such terms as St. Cu. without a hyphen or stroke should never be used, as it is not evident whether Stratus and Cumulus are both present, or Strato-Cumulus only.

Particular attention should be paid to the observation and record of Cirrus, *particularly in Tropical Cyclone regions.*

Column 16.—The Beaufort notation is given upon the back of the form.

Columns 17, 18, 19, 20 and 21.—Also the visibility, sea and swell scales.

Column 22.—Remarks on any feature of the weather which is not adequately described in the preceding columns, especially the time of commencement and ending of fog, rain, etc., also visibility when making landfall. Avoid repetition, but make your record as complete as possible by using this column. The time and distance off salient points of land should be entered. Additional remarks in manuscripts which may be pasted to the form describing unusual phenomenon and specially interesting experiences will be much appreciated. Sketches and photographs will contribute to the success of this Journal.

Ocean current observations.—Overleaf are provided columns which explain themselves to any navigator. The notes which frequently appear on the back of the ice chart will provide sufficient hints for this branch of observation.

Remember Captain Toynbee's advice: "A blank space is preferable to a doubtful observation."

These forms are now classed upon receipt in the Marine Division and it is hoped that a high percentage of "Excellents" may be obtained each year. "Work of the Year," usually published in the June Number, gives information of the number and classing of ships' meteorological reports contributed by Marine Observers. Individual acknowledgment is made monthly in the list of Voluntary Observing Ships.

Marine Superintendent.

Marine Division,
Meteorological Office,
London.
September, 1925.

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

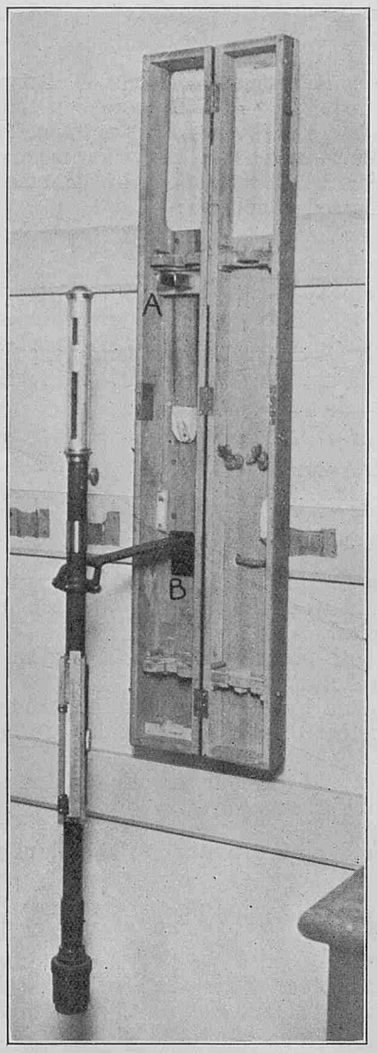


Fig. 1.

A MEANS OF SECURITY FOR MARINE MERCURIAL BAROMETERS WHEN IN DOCK.

The mercury of a barometer, lent to the captain of a ship for keeping a log, was extracted by some unknown person while the ship was in dock, the screw plug in cistern showing signs that it had been removed.

The case in which the barometer is provided may be conveniently used in dock as a means of lock-up without removing the barometer from its sea position and the necessary fittings may be made by the ship's carpenter.

Figure 1 shows the case secured to bulkhead with barometer secured within it in sea position. The necessary clip A to hold barometer in stowed position, and strengthening plates at back or bottom of box, should be carefully fitted before the case is used in this manner; and the screws securing bracket socket B should pass through the bottom of case and into the supporting bulkhead; for the cases now provided are not sufficiently strong for this purpose unless these precautions are taken. A hook should be fitted to secure the lid or door open and great care is necessary to ensure that the bracket socket is exactly in place or the barometer will not top up into dock position.

Figure 2 shows the barometer in dock position with door open; the door or cover may now be closed and locked, which should provide protection from handling by unauthorised persons.

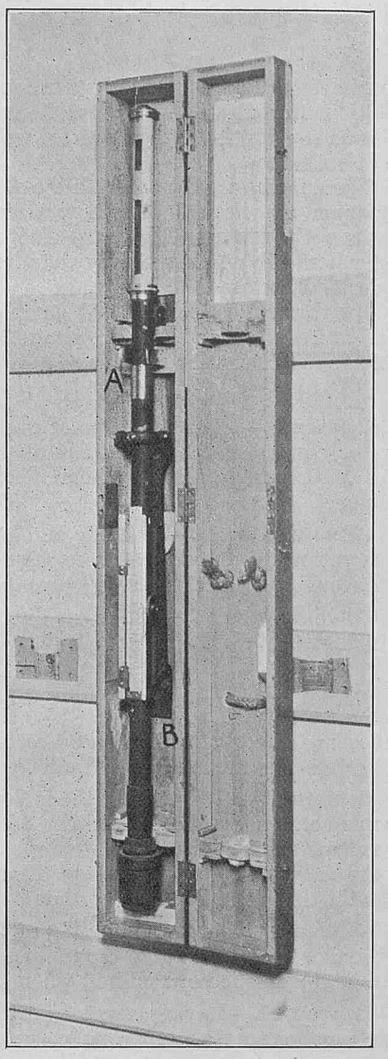


Fig. 2.

NOTES UPON AVERAGE CONDITIONS IN THE INDIAN OCEAN NORTH OF LATITUDE 35° SOUTH.

XII. December.

Pressure continues to increase over the area of highest barometer which centred over the Persian Gulf 1020 mb. (30·12 in.) and Chinese Provinces 1022 mb. (30·18 in.) occupies the north and centre of the Bay of Bengal and the whole of the Arabian Sea.

The Equatorial Low bounded by the 1010 mb. (29·83 in.) isobar has moved south since the preceding months and now covers the south of the Bay of Bengal and most of the region east of the 60th meridian between Latitudes 10° North and South. The normal difference in atmospheric pressure in a north and south direction over the western half of the North Indian Ocean is 8 mb. (·24 in.). Over the eastern half of the Ocean it is 7 mb. (·21 in.), which is a slight increase over the month of November.

The N.E. Monsoon blows steadily over the whole of the Bay of Bengal and Arabian Sea. West of Longitude 55° E. the N.E. winds continue to blow over an area extending in a south-westerly direction across the Equator to the centre of the Mozambique Channel. The mean force of the N.E. Monsoon varies between force 2 and 4, the stronger winds being found over the central part of the Arabian Sea.

East of the 55th meridian between the parallels of 5° North and South the N.E. wind gradually changes its direction to N.W., becoming what is known as the middle or cross monsoon, which is generally light, calms being not infrequent. East of the 50th meridian between the parallels of 5° and 10° South is an area of light variable winds and calms.

South of the Equatorial Low, pressure uniformly increases in a southerly direction to the centre of the anti-cyclone 1020 mb. (30·12 in.) situated in about Latitude 32° S. between the 70th and 100th meridians. The normal difference in pressure over this area is 10 mb. (·30 in.).

Between the parallels of 10° and 30° South and the meridians of the east coast of Madagascar and the west coast of Australia the S.E. trades blow with average force of between 3 and 4. On their southern border the trades are unsteady in direction, especially on the western side of the Ocean, where they may come from any point between N.N.E. and S.S.E. Off the east coast of Madagascar the general direction of the wind is from the N.E. Over the southern half of the Mozambique Channel the predominating winds are from a south-easterly direction. South of the Trade Wind zone there is a belt of variables in which north-westerly winds predominate.

Cyclonic Storms.—In the Arabian Sea, during the month of December, cyclonic storms are rare and of little intensity. In the years 1890–1912 only two storms are recorded for this month.

Bay of Bengal.—Cyclonic storms are far less frequent this month than they have been since the month of June. In the years 1877–1923 twenty-two storms were recorded, giving a percentage frequency of 6 per cent. They mostly originate in the south of the Bay between the coast of Ceylon and the Andaman Islands. Some of the storms move in a W.N.W. direction and strike the Madras coast, while others recurve to the N.E. and move to the head of the Bay or cross the Arrakan coast.

South Indian Ocean.—During the years 1848–1917 fifty-eight storms are recorded in this month, giving a percentage frequency of

11 per cent. The storms form as far east as the 90th meridian and travel at first to the S.W., later recurving to the S.E. The Mozambique Channel is frequented by these storms during this month, which are noted for their prolonged tracks. For tracks of the above storms *see* Vol. I, No. 12, of this Journal.

Air Temperature.—At the head of the Arabian Sea and the Bay of Bengal the normal air temperature for the month is about 74° F., which increases gradually to the southward, being about 80° F. in Latitude 10° North. Between Latitudes 10° North and South the air temperature remains fairly constant at between 80° and 81° F., except off the African coast, where it is slightly lower. From Latitude 10° South temperature decreases with increased latitude and is about 65° F. in Latitude 35° South.

Sea Surface Temperature.—In the Arabian Sea the sea surface temperature ranges from 76° F. in the north to about 80° F. in the south, except off the S.W. coast of the Peninsula, where it is about 82° F. In the Bay of Bengal the normal sea surface temperature ranges from about 76° F. in the north to 81° F. in the south, but is slightly lower on the western side than over the centre and eastern parts of the Bay. Between Latitudes 10° North and South the sea surface temperature varies between 80° and 83° F. except off the Somaliland coast, where it is about 77° F., increasing to seaward. South of Latitude 10° South temperature decreases with increased Latitude and is about 65° F. in Latitude 35° South.

Currents.—Between Latitude 35° and 25° South the general set of the current is in an easterly direction, which, gradually turning to the westward, joins the S.E. Trade drift setting between the 25th and 8th parallels. The S.E. trade drift, on reaching the 70th meridian, gradually broadens and flows north and south of Madagascar. The stream flowing to the north of Madagascar on reaching the mainland in the vicinity of Cape Delgado turns north and south and sets up and down the African coast. The branch setting down and keeping parallel with the coast is joined by the stream flowing to the south of Madagascar and flows on around the Cape, forming the Agulhas current. The stream setting up the African coast is met by a stream setting down the coast in the vicinity of Latitude 3° S., when it turns to the eastward and flows in that direction between Latitudes 1° North and 8° South.

North Indian Ocean.—In the Arabian Sea, north of the 20th parallel there is a set to the westward, south of the 20th parallel the general set is to the S.W., but south of Latitude 10° N. eastward of the 64th meridian and along the west coast of the Peninsula the set is to the N.W. In the Bay of Bengal north of Latitude 10° N. between the east coast of the Peninsula and the Andaman Islands the current sets in a south-westerly direction. East of the Andamans the set is to the N.W. South of Latitude 10° N. the currents are variable, but there is a strong set to the southward down the east coast of Ceylon, which turns west and flows around the south of the Island.

WEATHER SIGNALS.

II. WIRELESS WEATHER BULLETINS.

SOUTH WEST AFRICA, UNION OF SOUTH AFRICA, AND PORTUGUESE EAST AFRICA.

Spark Issues.

REPORTS of weather conditions at 0630 G.M.T. at South African ports are issued daily by Coast W/T Stations in code, mainly New International, in the form :—

I_n BBBSB$_r$ DDFww VNRRR where

I_n = Indicator letters, *three in number*, of observation station (generally the station's W/T call signal).

BBB = Barometer reading, corrected, in mbs and tenths, initial 9 or 10 omitted. (*See* Table XIII, p. 16, January, 1925, MARINE OBSERVER, for conversion to inches.)

S = State of sea and swell. (*See* Table XXIV, p. 46, March, 1925, MARINE OBSERVER.)

B$_r$ = Only used for Capetown, Mossel Bay, East London, Durban, Lourenço Marques,* Beira and Mossoril,† for other stations a dash will be sent. It represents the following :—

At Capetown - -	Run, or undertow in docks, Table LV.
At Mossel Bay -	Instructions regarding anchorage, Table LVI.
At East London, Durban, Lourenço Marques, Beira, and Mossoril.	State of bar. Table LVII.

DD = Wind direction, true. (*See* Table III, p. 13, January, 1925, MARINE OBSERVER.)

F = Wind force by Beaufort Scale, Forces 9 and above reported as 9, with the actual force at the end of the particulars for each port concerned, *e.g.*, " Gale ten," " Storm eleven," " Hurricane twelve."

ww = Weather at time of observation. (*See* Table V., p. 15, January, 1925, MARINE OBSERVER.)

V = Visibility. (*See* Table VI, p. 15, January, 1925, MARINE OBSERVER.)

N = Number of tenths of sky clouded.

RRR = Rainfall in whole millimetres.

A dash (▬ ▪ ▪ ▪ ▬) will be sent should any portion of a report not be available. In the absence of a complete report from any station, the station's indicator letters followed by the words " not received " will be transmitted.

* Refers to the bar near Inyack Island.
† Refers to the bar at the Mozambique Port.

Details of Reports.

1. Transmitting station - **Walvis Bay** (Latitude 22° 58′ S.; Longitude 14° 30′ E., approx.)
   Call signal - - - VNV.
   Messages directed to - CQ.
   Wave length - - 600 m. spk.
   Times of transmission :—
   0840 G.M.T. (observations at following stations at 0630 G.M.T.).
   1300 G.M.T. (forecast for coast in plain language).
   2000 G.M.T. (forecast for coast in plain language).

2. Observation stations, 0840 report :—

Indicator Letters.	Station.	Position (approx.). Lat. S.	Long. E.
VNC	Capetown - - -	33° 56′	18° 29′
VNJ	Port Nolloth - -	29° 14′	16° 51′
VNV	Walvis Bay - -	22° 58′	14° 30′
CRM	Mossamedes - -	15° 12′	12° 09′
CRL	Loanda - - -	8° 49′	13° 13′

---

1. Transmitting station - **Capetown** (Latitude 33° 56′ S.; Longitude 18° 29′ E., approx.).
   Call signal - - - VNC.
   Messages directed to - CQ.
   Wave length - - 600 m. spk.
   Times of transmission :—
   0830 G.M.T. (observations at following stations at 0630 G.M.T.).
   1115 G.M.T. (forecasts for coasts in plain language).

2. Observation stations, 0830 report :—

Indicator Letters.	Station.	Position (approx.). Lat. S.	Long. E.
VNO	East London - -	33° 02′	27° 55′
VNQ	Port Elizabeth - -	33° 59′	25° 37′
MB	Mossel Bay - - -	34° 11′	22° 09′
VNC	Capetown - - -	33° 56′	18° 29′
VNJ	Port Nolloth - -	29° 14′	16° 51′
VNV	Walvis Bay - -	22° 58′	14° 30′

---

1. Transmitting station - **Port Elizabeth** (Latitude 33° 59′ S.; Longitude 25° 37′ E., approx.).
   Call signal - - - VNQ.
   Messages directed to - CQ.
   Wave length - - 600 m. spk.
   Times of transmission :—
   0820 G.M.T. (observations at following stations at 0630 G.M.T.).
   1130 G.M.T. (forecast for coasts in plain language).

2. Observation stations 0820 report. :—

Indicator Letters.	Station.	Position (approx.). Lat. S.	Long. E.
VND	Durban	29° 52′	31° 03′
VNO	East London	33° 02′	27° 55′
VNQ	Port Elizabeth	33° 59′	25° 37′
MB	Mossel Bay	34° 11′	22° 09′
VNC	Capetown	33° 56′	18° 29′

1. Transmitting station - **Durban** (Latitude 29° 52′ S.; Longitude 31° 03′ E., approx.).
Call signal - - - **VND.**
Messages directed to - CQ.
Wave length - - 600 m. spk.
Times of transmission :—
0810 G.M.T. (observations at following stations at 0630 G.M.T.).
1100 G.M.T. (forecast for coasts in plain language).

2. Observation stations, 0810 report :—

Indicator Letters.	Station.	Position (approx.). Lat. S.	Long. E.
CRT	Beira	19° 50′	34° 51′
CRZ	Lourenço Marques	25° 58′	32° 36′
VND	Durban	29° 52′	31° 03′
VNO	East London	33° 02′	27° 55′
VNQ	Port Elizabeth	33° 59′	25° 37′

1. Transmitting station - **Lourenço Marques** (Latitude 25° 58′ S.; Longitude 32° 36′ E., approx.).
Call signal - - - **CRZ.**
Messages directed to - CQ.
Wave length - - 600 m. spk.
Time of transmission :—
0800 G.M.T. (observations at following stations at 0630 G.M.T.).

2. Observation stations, 0800 report :—

Indicator Letters.	Station.	Position (approx.). Lat. S.	Long. E.
VNO	East London	33° 02′	27° 55′
VND	Durban	29° 52′	31° 03′
CRZ	Lourenço Marques	25° 58′	32° 36′
CRT	Beira	19° 50′	34° 51′

1. Transmitting station - **Mozambique** (Latitude 14° 57′ S.; Longitude 40° 40′ E., approx.).
Call signal - - - **CRV.**
Messages directed to - CQ.
Wave length - - 600 m. spk.
Time of transmission :—
0900 G.M.T. (observations at following stations at *0700 G.M.T.*).

2. Observation stations 0900 report :—

Indicator Letters.	Station.	Position (approx.). Lat. S.	Long. E.
CRV	Mozambique (Mossoril)	14° 57′	40° 40′
CRT	Beira	19° 50′	34° 51′
CRZ	Lourenço Marques	25° 58′	32° 36′

AUSTRALIA.

The Commonwealth Meteorological Bureau, at Melbourne, sends soon after noon (local time), daily (Sundays excepted), a report of the weather at sea and an " Ocean Forecast " to the undermentioned W/T stations, which are available for shipping upon request. When severe weather prevails or is expected, the forecasts, &c., are promptly broadcast by the W/T station nearest to the disturbed area. Wave length used in each case is 600 metres (spark) :—

W/T Station.	Position (approximate). Latitude.	Longitude.	Call Sign.
Perth	32° 02′ S.	115° 50′ E.	VIP
Darwin	12° 27′ S.	130° 48′ E.	VID
Brisbane	27° 25′ S.	153° 02′ E.	VIB
Sydney	33° 40′ S.	151° 00′ E.	VIS
Melbourne	37° 50′ S.	144° 59′ E	VIM
Hobart (Tasmania)	42° 52′ S.	147° 19′ E.	VIH
Adelaide	34° 52′ S.	138° 31′ E.	VIA
Geraldton	28° 47′ S.	114° 36′ E.	VIN
Broome	18° 00′ S.	122° 12′ E.	VIO
Wyndham	15° 27′ S.	128° 07′ E.	VIW

Every night (Sundays included) a later report of the weather at sea and an " Ocean Forecast " are broadcast successively by Sydney Melbourne, Hobart, Adelaide and Perth W/T stations.

Queensland and Coral Sea—" Ocean Forecasts."

At 0630 G.M.T. daily (Sundays excepted) from December to April, the undermentioned stations broadcast on 600 metres wave length (spark) an " Ocean Forecast Message " giving the state of the weather, direction and force of the wind, and the state of the sea at 0500 G.M.T. along the Queensland coast followed by a forecast of probable conditions during the ensuing 24 hours. On Saturdays the forecast of probable conditions will be for the ensuing 48 hours.

W/T Station.	Position (approximate). Latitude.	Longitude.	Call Sign.
Thursday Island	10° 35′ S.	142° 13′ E.	VII
Cooktown	15° 28′ S.	145° 15′ E.	VIC
Townsville	19° 15′ S.	146° 50′ E.	VIT
Rockhampton	23° 24′ S.	150° 33′ E.	VIR
Brisbane	27° 25′ S.	153° 02′ E.	VIB

NOTE.—The " Ocean Forecast Message " may be obtained upon request from any Australian W/T station.

Willis Islets W/T Station, approximate Latitude 16° 18′ S., Longitude 149° 59′ E., call sign **CGI,** broadcasts a daily meteorological report during the months November to April inclusive, on a wave length of 600 metres (spark).

NEW ZEALAND.

Wellington W/T Station, approximate Latitude 41° 16′ S., Longitude 174° 46′ E., call sign **VLW,** transmits on request, daily weather reports concerning the following localities :—Auckland, East Cape, Gisborne, Wanganui, Cape Egmont, Farewell Spit, Greymouth, Cape Campbell, Akaroa Heads and the Bluff. The wave length used is 600 metres (spark).

Auckland W/T Station, approximate Latitude 36° 51′ S., Longitude 174° 46′ E., call sign **VLD,** transmits on request similar information concerning the following localities :—Cape Maria Van Diemen, Manukau Heads, Auckland, East Cape, Cape Egmont, Wellington, Napier, Farewell Spit, Greymouth and Cape Campbell. The wave length used is 600 metres (spark).

NOTE.—Any charges involved will be debited by the Post and Telegraph Department to the ship concerned.

Awanui W/T Station, approximate Latitude 35° 05′ S. Longitude 173° 15′ E., call signs **VLA,** transmits a weather message, free of charge, at 1000 G.M.T., on a wave length of 600 metres (spark). *See also* under Apia (Samoa) below.

SOUTH PACIFIC OCEAN ISLANDS.

Samoa.

A scheme is now in operation for the exchange of weather reports between the following W/T stations and islands in the South Pacific, observations for these reports being taken at 0330 and 2030 G.M.T. :—

W/T Station.	Call Sign.	Position (approximate). Latitude.	Longitude.
Apia (Samoa)	VMG	13° 51′ S.	171° 48′ W.
Suva (Fiji Is.)	VPD	18° 09′ S.	178° 28′ E.
Nukualofa (Tonga Is.)	VSB	21° 08′ S.	175° 12′ W.
Norfolk I.	—	28° 58′ S.	168° 03′ E

Vila (New Hebrides) -	HVW	17° 44′ S.	168° 19′ W.
Noumea (New Caledonia)	HZG	22° 16′ S.	166° 27′ E.
Vavau (Tonga Is.) - -	—	—	—
Awanui (New Zealand) -	VLA	35° 05′ S.	173° 15′ E.

Procedure during the Hurricane Season, 1st November to 30th April inclusive.

Apia W/T station collects the reports from the above mentioned stations and together with its own report, broadcasts the information *en clair*, at 0830 and 2330 G.M.T. (observations of 2030 and 0330 G.M.T. respectively) on a wave length of 2,000 metres (spark).

The following is the procedure for the broadcasting of the reports by Apia W/T station, the actual message consisting of :—

Name of Station from which report emanates, *i.e.*, Apia, Suva, Nukualofa, etc.

Barometer reading (corrected for temperature and height) in inches

greater value if the observations are taken at the times laid down for shore stations, viz. :—0330 and 2030 G.M.T.

As all weather reports between shore stations, or between ship and shore stations, are made in plain language, it is possible for ships to intercept the messages and use the information which they contain for forecasting purposes. Shore stations will always transmit the latest weather report on request.

All ship and shore stations are requested to cease operations while the daily weather reports are being transmitted.

A ship or shore station may broadcast its own warning of a disturbance, if thought necessary.

Fiji Islands.

Suva W/T station, call sign VPD, broadcasts weather bulletins *en clair* twice daily, at 0200 and 0930 G.M.T. during the hurricane season (from November 1st to April 30th), besides assisting in the Apia scheme. The bulletins contain observations taken at 2100 and 0300 respectively at the under-mentioned places :—

Apia (Samoa), Nukualofa (Tonga Is.), Vila (New Hebrides), Norfolk I., Suva.

The positions of these stations are given under Samoa, p. 198.

The name of the observation station precedes each report.

The observations at Vila are taken at 2200 and 1000.

Form of Message :—

Barometer reading (corrected) in inches and hundredths. Dry and wet bulb thermometer readings (in whole degrees Fahrenheit); direction and force of wind (Beaufort scale), state of sky (scale 0–10).

Example :—2990 78 76 S.E. 5 10.

The 0200 bulletin is not sent on Saturdays, Sundays or holidays.

From May 1st to October 31st, the bulletin is only broadcast at 0930, and contains the observations taken at 2100.

NOTE.—Vessels within W/T range of the Fiji Islands are invited to transmit weather reports to Suva W/T station, especially during the hurricane season. The messages should be similar to that indicated above, preceded by the time of observation (G.M.T.) and the latitude and longitude of the ship reporting.

SPECIAL WEATHER TELEGRAPHY TABLES NOT NEW INTERNATIONAL CODE. (SOUTH AFRICA).

Table LV.

Run or Undertow (at Table Bay Docks.)

Code figure.	Meaning.
0 - - - - - -	No run.
1 - - - - - -	Slight run.
2 - - - - - -	Moderate run.
3 - - - - - -	Heavy run.

NOTE.—" Run " is a local term for the undertow, due to a heavy swell in the Bay, which causes vessels to range so heavily along the quays that it is difficult to hold them.

Table LVI.

Instructions regarding Anchorage at Mossel Bay.

Code figure.	Meaning.
1 - - -	It is recommended that vessels should anchor well up the Bay towards Seal Island in not less than 9 fathoms of water, and veer plenty of cable.
5 - - -	It is recommended that vessels should take up ordinary anchorage with beacons in line in about 7 fathoms.

Table LVII.

State of bar (at East London, Durban, Lourenço Marques, Beira and Mossoril.)

Code figure.	Meaning.
1 - - - - - -	Bar smooth.
2 - - - - - -	,, breaking slightly.
3 - - - - - -	,, rough.
4 - - - - - -	,, breaking heavily.
5 - - - - - -	,, dangerous.
6 - - - - - -	,, impassable.

NOTE.—At East London the use of 1, 2, and 3 also implies that work with lighters is possible, and 4, 5, and 6, that it is impossible.

2. Observation stations 0820 report. :—

Indicator Letters.	Station.	Position (approx.). Lat. S.	Long. E.
VND	Durban	29° 52′	31° 03′
VNO	East London	33° 02′	27° 55′
VNQ	Port Elizabeth	33° 59′	25° 37′
MB	Mossel Bay	34° 11′	22° 09′
VNC	Capetown	33° 56′	18° 29′

1. Transmitting station - **Durban** (Latitude 29° 52′ S.; Longitude 31° 03′ E., approx.).
Call signal - - - **VND.**
Messages directed to - CQ.
Wave length - - 600 m. spk.
Times of transmission :—
0810 G.M.T. (observations at following stations at 0630 G.M.T.).
1100 G.M.T. (forecast for coasts in plain language).

2. Observation stations, 0810 report :—

Indicator Letters.	Station.	Position (approx.). Lat. S.	Long. E.
CRT	Beira	19° 50′	34° 51′
CRZ	Lourenço Marques	25° 58′	32° 36′
VND	Durban	29° 52′	31° 03′
VNO	East London	33° 02′	27° 55′
VNQ	Port Elizabeth	33° 59′	25° 37′

1. Transmitting station - **Lourenço Marques** (Latitude 25° 58′ S.; Longitude 32° 36′ E., approx.).
Call signal - - - **CRZ.**
Messages directed to - CQ.
Wave length - - 600 m. spk.
Time of transmission :—
0800 G.M.T. (observations at following stations at 0630 G.M.T.).

2. Observation stations, 0800 report :—

Indicator Letters.	Station.	Position (approx.). Lat. S.	Long. E.
VNO	East London	33° 02′	27° 55′
VND	Durban	29° 52′	31° 03′
CRZ	Lourenço Marques	25° 58′	32° 36′
CRT	Beira	19° 50′	34° 51′

1. Transmitting station - **Mozambique** (Latitude 14° 57′ S.; Longitude 40° 40′ E., approx.).
Call signal - - - **CRV.**
Messages directed to - CQ.
Wave length - - 600 m. spk.
Time of transmission :—
0900 G.M.T. (observations at following stations at *0700 G.M.T.*).

2. Observation stations 0900 report :—

Indicator Letters.	Station.	Position (approx.). Lat. S.	Long. E.
CRV	Mozambique (Mossoril)	14° 57′	40° 40′
CRT	Beira	19° 50′	34° 51′
CRZ	Lourenço Marques	25° 58′	32° 36′

AUSTRALIA.

The Commonwealth Meteorological Bureau, at Melbourne, sends soon after noon (local time), daily (Sundays excepted), a report of the weather at sea and an " Ocean Forecast " to the undermentioned W/T stations, which are available for shipping upon request. When severe weather prevails or is expected, the forecasts, &c., are promptly broadcast by the W/T station nearest to the disturbed area. Wave length used in each case is 600 metres (spark) :—

W/T Station.	Position (approximate). Latitude.	Longitude.	Call Sign.
Perth	32° 02′ S.	115° 50′ E.	VIP
Darwin	12° 27′ S.	130° 48′ E.	VID
Brisbane	27° 25′ S.	153° 02′ E.	VIB
Sydney	33° 40′ S.	151° 00′ E.	VIS
Melbourne	37° 50′ S.	144° 59′ E	VIM
Hobart (Tasmania)	42° 52′ S.	147° 19′ E.	VIH
Adelaide	34° 52′ S.	138° 31′ E.	VIA
Geraldton	28° 47′ S.	114° 36′ E.	VIN
Broome	18° 00′ S.	122° 12′ E.	VIO
Wyndham	15° 27′ S.	128° 07′ E.	VIW

Every night (Sundays included) a later report of the weather at sea and an " Ocean Forecast " are broadcast successively by Sydney Melbourne, Hobart, Adelaide and Perth W/T stations.

Queensland and Coral Sea—" Ocean Forecasts."

At 0630 G.M.T. daily (Sundays excepted) from December to April, the undermentioned stations broadcast on 600 metres wave length (spark) an " Ocean Forecast Message " giving the state of the weather, direction and force of the wind, and the state of the sea at 0500 G.M.T. along t
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A scheme is now in operation for the exchange of weather reports between the following W/T stations and islands in the South Pacific, observations for these reports being taken at 0330 and 2030 G.M.T. :—

W/T Station.	Call Sign.	Position (approximate). Latitude.	Longitude.
Apia (Samoa)	VMG	13° 51′ S.	171° 48′ W.
Suva (Fiji Is.)	VPD	18° 09′ S.	178° 28′ E.
Nukualofa (Tonga Is.)	VSB	21° 08′ S.	175° 12′ W.
Norfolk I.	—	28° 58′ S.	168° 03′ E

Vila (New Hebrides) -	HVW	17° 44′ S.	168° 19′ W.
Noumea (New Caledonia)	HZG	22° 16′ S.	166° 27′ E.
Vavau (Tonga Is.) - -	—	—	—
Awanui (New Zealand) -	VLA	35° 05′ S.	173° 15′ E.

Procedure during the Hurricane Season, 1st November to 30th April inclusive.

Apia W/T station collects the reports from the above mentioned stations and together with its own report, broadcasts the information *en clair*, at 0830 and 2330 G.M.T. (observations of 2030 and 0330 G.M.T. respectively) on a wave length of 2,000 metres (spark).

The following is the procedure for the broadcasting of the reports by Apia W/T station, the actual message consisting of :—

Name of Station from which report emanates, *i.e.*, Apia, Suva, Nukualofa, etc.

Barometer reading (corrected for temperature and height) in inches and hundredths.

Thermometer, dry and wet bulb readings, in whole degrees.

Wind direction (true) and force by Beaufort scale.

State of sky and weather in Beaufort notation.

G.M.T. at which observations were taken if not in accordance with schedule.

A break sign (▬ • • • ▬) separates each report.

Example :—

Apia 3016, 80, 79 E.N.E. 3 bc (break sign).
Suva 3008, 79, 78 E.N.E. 5 or, (break sign).
Nukualofa, etc., etc.

After the reports have been broadcast by Apia W/T Station on 2,000 metres (spark) they will be repeated in a similar manner by Suva W/T Station on 600 metres.

Interchange of Reports between the various Islands and W/T Stations during the Hurricane Season.

Owing to the inability of some of the islands and stations to intercommunicate direct and having to relay through, the following routine is observed, the reports being transmitted in the form explained above.

Vila exchanges weather reports with Noumea in time to enable the former to transmit both reports to Suva, at a pre-arranged hour.

Suva passes to Apia at 2130 and 0830 G.M.T. the weather reports from Suva, Norfolk Island, Vila and Noumea, the times for Norfolk Island and Vila being arranged by Suva. Nukualofa sends its weather report, together with that of Vavau, to Apia at 2130 and 0415 G.M.T.

Awanui passes to Apia the New Zealand barometer readings, wind, and weather, at a time mutually arranged.

At Times other than the Hurricane Season.

The same procedure is followed as in the hurricane season, except that the a.m. observations and times are omitted.

Apia and Suva broadcast the information and use the wave lengths, as explained above, at 0830 G.M.T. only.

For description of wireless hurricane and storm warnings in connection with the scheme, *see under* Wireless Storm Warnings, p. 200.

Instructions to Ships, etc.

All ships within 300 miles, or within good wireless communication of any of the shore stations mentioned above, are invited to co-operate in this scheme, more particularly during the hurricane season, when low barometer readings are observed.

Reports should be similar to those sent by shore stations, but are to include in addition the geographical position of the ship and the time when the observations were taken. These reports will be of greater value if the observations are taken at the times laid down for shore stations, viz. :—0330 and 2030 G.M.T.

As all weather reports between shore stations, or between ship and shore stations, are made in plain language, it is possible for ships to intercept the messages and use the information which they contain for forecasting purposes. Shore stations will always transmit the latest weather report on request.

All ship and shore stations are requested to cease operations while the daily weather reports are being transmitted.

A ship or shore station may broadcast its own warning of a disturbance, if thought necessary.

Fiji Islands.

Suva W/T station, call sign VPD, broadcasts weather bulletins *en clair* twice daily, at 0200 and 0930 G.M.T. during the hurricane season (from November 1st to April 30th), besides assisting in the Apia scheme. The bulletins contain observations taken at 2100 and 0300 respectively at the under-mentioned places :—

Apia (Samoa), Nukualofa (Tonga Is.), Vila (New Hebrides), Norfolk I., Suva.

The positions of these stations are given under Samoa, p. 198.

The name of the observation station precedes each report.

The observations at Vila are taken at 2200 and 1000.

Form of Message :—

Barometer reading (corrected) in inches and hundredths. Dry and wet bulb thermometer readings (in whole degrees Fahrenheit); direction and force of wind (Beaufort scale), state of sky (scale 0–10).

Example :—2990 78 76 S.E. 5 10.

The 0200 bulletin is not sent on Saturdays, Sundays or holidays.

From May 1st to October 31st, the bulletin is only broadcast at 0930, and contains the observations taken at 2100.

NOTE.—Vessels within W/T range of the Fiji Islands are invited to transmit weather reports to Suva W/T station, especially during the hurricane season. The messages should be similar to that indicated above, preceded by the time of observation (G.M.T.) and the latitude and longitude of the ship reporting.

SPECIAL WEATHER TELEGRAPHY TABLES NOT NEW INTERNATIONAL CODE. (SOUTH AFRICA).

Table LV.

Run or Undertow (at Table Bay Docks.)

Code figure.	Meaning.
0	No run.
1	Slight run.
2	Moderate run.
3	Heavy run.

NOTE.—" Run " is a local term for the undertow, due to a heavy swell in the Bay, which causes vessels to range so heavily along the quays that it is difficult to hold them.

Table LVI.

Instructions regarding Anchorage at Mossel Bay.

Code figure.	Meaning.
1	It is recommended that vessels should anchor well up the Bay towards Seal Island in not less than 9 fathoms of water, and veer plenty of cable.
5	It is recommended that vessels should take up ordinary anchorage with beacons in line in about 7 fathoms.

Table LVII.

State of bar (at East London, Durban, Lourenço Marques, Beira and Mossoril.)

Code figure.	Meaning.
1	Bar smooth.
2	,, breaking slightly.
3	,, rough.
4	,, breaking heavily.
5	,, dangerous.
6	,, impassable.

NOTE.—At East London the use of 1, 2, and 3 also implies that work with lighters is possible, and 4, 5, and 6, that it is impossible.

WIRELESS STORM WARNINGS.

MADAGASCAR.

Spark Issues.

CYCLONE warnings are broadcast when necessary by the following stations on a wave length of 600 metres (spark), in each case :—

Zaudzi (Mayotta I.) : Latitude 12° 47′ S., Longitude 45° 16′ E., Call Sign **HYH.**

Majunga : Latitude 15° 43′ S., Longitude 46° 20′ E., Call Sign **HYE.**

Diego Suarez : Latitude 12° 15′ S., Longitude 49° 23′ E., Call Sign **HYD.**

The warning telegram originating at the observatory at Antananarivo will be sent out at the even hours (except between 2100 and 0300) during the probable continuance of the cyclone in the zone within range of the stations, alternately by Zaudzi and Majunga stations in the case of a cyclone affecting the region to the north-west of Madagascar or the Mozambique Channel, and alternately by the Zaudzi and Diego Suarez stations in the case of a cyclone affecting the regions to the north-east and east of Madagascar.

This telegram will be preceded and followed by the warning signal — — — — • • repeated at short intervals. If the warning signal only is sent out it will indicate that there is reason to expect the passage of a cyclone, in the absence of precise information.

During the whole of this service the Zaudzi, Majunga and Diego Suarez stations will remain on watch, outside the regular hours of working, during the first quarter of each hour, except between 2115 and 0300 G.M.T.

AUSTRALIA.

When weather conditions are severe, storm warnings issued by the Commonwealth Meteorological Bureau are broadcast by the Shore W/T Stations. The wave length used in each case is 600 metres (spark).

Australia, N.W. Coast.

Whenever a cyclone is located or expected, special storm warnings are sent to the area likely to be affected, and the warning is also broadcast by the W/T station in the following list nearest to the storm area :—

Perth, VIP.	Wyndham, VIW.
Geraldton, VIN.	Darwin, VID.
Broome, VIO.	

Queensland and Coral Sea, etc.

Arrangements have been made for the issue of cyclone warnings off the coast of Queensland from December to April. The following W/T Stations will broadcast the warnings to all ships :—

Thursday Island, VII.	Rockhampton, VIR.
Cooktown, VIC.	Brisbane, VIB.
Townsville, VIT.	

NOTE.—In special cases, information will be given indicating when the next warning will be issued.

Storm warnings are also broadcast, when necessary, by the W/T stations at :—

Sydney, VIS.	Adelaide, VIA.
Melbourne, VIM.	Hobart (Tasmania), VIH.

For approximate positions of above W/T Stations *see* p. 198.

Willis Islets W/T Station, approximate Latitude 16° 18′ S., Longitude 149° 59′ E., call sign **CGI,** broadcasts cyclone warnings during the months November to April inclusive on a wave length of 600 metres (spark).

NEW ZEALAND.

Awanui W/T Station, call sign **VLA,** broadcasts storm warnings, when necessary, immediately after the weather bulletin at 1000 G.M.T. The wave length used is 600 metres (spark). Hurricane warnings issued by the Apia (Samoa) W/T station are also repeated. *See* under Apia (Samoa) W/T storm warnings.

SOUTH PACIFIC OCEAN ISLANDS.

Samoa.

Apia W/T Station, call sign, **VMG,** broadcasts necessary information concerning hurricanes in addition to the weather bulletins, at 0830 and 2330 G.M.T. on a wave length of 2,000 metres (spark). The message is sent *en clair*, commencing with the general call to all stations (**QST**), *e.g.* :—

"Hurricane centre 200 miles N.W. of Suva at noon, 27th February, Apia time and date, travelling south."

This message is repeated by Suva (Fiji) W/T station on a wave length of 600 metres and by Awanui (New Zealand) W/T station, immediately after the routine New Zealand weather bulletin at 1000 G.M.T., on a wave length of 600 metres.

Fiji Islands.

Suva W/T Station, call sign **VPD,** broadcasts warnings during the hurricane season (from November 1st to April 30th) at 0200 and 0930 G.M.T. immediately after the weather bulletin and also at other times when necessary.

The 0200 warning is omitted from May 1st to October 31st. Each warning commences with the call sign for "All Ships" (**CQ**).

Cook Islands.

Rarotonga W/T Station, approximate Latitude 21° 12′ S., Longitude 159° 48′ W., call sign **VMR,** transmits a message to Apia W/T station, if there are indications at Rarotonga of an atmospheric disturbance, on a wave length of 600 metres (spark). The message is in similar form to the warning broadcast by Apia W/T station and explained above.

III.—WIRELESS TIME SIGNALS.

UNION OF SOUTH AFRICA.

Spark Issue.

Time signals controlled from the Cape Observatory are broadcast daily by **Capetown W/T Station,** call sign **VNC,** Latitude 33° 56′ 3·5″ S., Longitude 18° 19′ 17·8″ E., on a wave length of 600 metres (spark).

A warning signal commences at 2055 G.M.T.

The time signal consists of a series of 12 dashes each of about ¾ sec. duration, extending over half a minute and divided up into five groups, a dash commencing at each of the following times :—

G.M.T.				G.M.T.			
h.	m.	s.		h.	m.	s.	
20	59	30	Group I	20	59	48	Group IV.
		32				50	
		34		20	59	54	Group V.
20	59	38	Group II.			56	
		40				58	
20	59	44	Group III.	21	00	00	

NOTE.—Each signal may be used as indicating the exact G.M.T. recorded above; the *beginning* of the last dash of the series is exactly 21h. 00m. 00s. G.M.T.

PORTUGUESE EAST AFRICA.

Spark Issues.

Time signals controlled automatically by the Observatory are broadcast by **Lourenço Marques W/T Station,** call sign **CRZ,** Latitude 25° 58′ 05″ S., Longitude 32° 35′ 39″ E., on a wave length of 600 metres (spark).

The time signals are transmitted in accordance with the New International System, from 0757—0800 and 1857—1900 G.M.T. (*see* Fig. 1, p. 64, April, 1925, MARINE OBSERVER..

AUSTRALIAN COMMONWEALTH (Spark Issues).

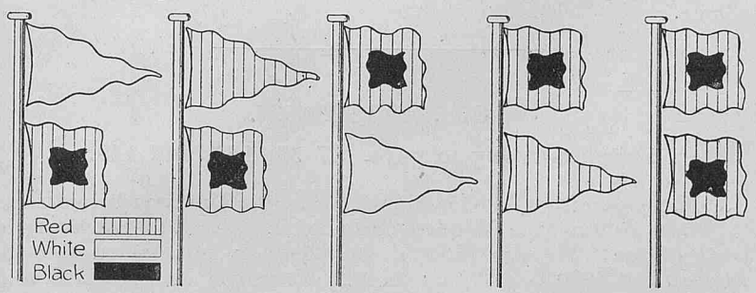
Station.	Call Sign.	Wave length (metres).	G.M.T. Times.	System.
Adelaide.				
Lat. 34° 51′ 14″ S. - - - -	VIA	600 spk.	0227–0230	Controlled by Adelaide Observatory. New International (*see* Fig. 1, p. 64, April 1925 MARINE OBSERVER).
Long. 138° 31′ 55″ E. - - - -			1427–1430	
Melbourne				
Lat. 37° 50′ 05″ S. - - - -	VIM	600 spk	0157–0200	New International. (*See* Fig. 1, as above)
Long. 144° 58′ 46″ E. - - - -			1357–1400	
Perth				
Lat. 32° 01′ 51″ S. - - - -	VIP	600 spk.	0257–0300	New International. (*See* Fig. 1, as above.)
Long 115° 49′ 31″ E. - - - -			1457–1500	

IV.—VISUAL STORM WARNINGS.

AUSTRALIA.

Victoria.

Wind warnings:—



North-westerly winds. | North-easterly winds. | South-westerly winds. | South-easterly winds. | Very severe gales.

The above signals are exhibited from the Commonwealth Weather Bureau, Melbourne.

New South Wales.

The existence of gales which are likely to endanger shipping will be signalled at the principal telegraph stations on the coast of New South Wales in the following manner, viz. :—

The signal staffs will support two yards, which cross each other at right angles in the direction of the cardinal points of the compass, the yard-arms denoting respectively North, South, East and West; midway between North and East will denote N.E., etc., etc.

Symbols used and their Meanings.

Indicates a violent squall.

Indicates a heavy sea.

Indicates a gale, with clear weather

Indicates a gale, with thick weather and rain.

The direction from which the gale is blowing will be indicated by the particular yard-arm between which and the mast-head the signal is suspended.

Place where squall or gale is blowing will be shown by the numerical flag at the mast-head.

Gales that are generally over a large portion of the coast will be indicated by the geometrical figures without the mast-head flags.

At Port Jackson the signals will be shown from South head and from Fort Phillip signal stations. The latter is near the Observatory.

Numerical Flags.—The following flags or pennants are used at the signal stations of New South Wales to indicate the place from which a vessel arrives and, in connection with storm signals, the place where a gale is blowing :—

1. Red.
2. Yellow and blue, horizontal, 2 divisions.
3. Blue, yellow, red, vertical.
4. Red and white, 4 divisions.
5. White, with 5 blue crosses.
6. Blue and yellow, 6 horizontal stripes.
7. Blue, with 7 white crosses.
8. Blue and white, 8 triangles.
9. Red and white, 10 vertical stripes.
0. Blue, white ball in centre.
   Substitute White.

Ports represented by Numerical Flags.

10. Torres Strait.	48. Corner Inlet.	80. Keppel Bay.
11. Cleveland Bay.	49. Port Phillip.	81. Port Denison.
37. Wilson Promontory.	54. Launceston.	82. Wollongong.
40. Sydney.	55. Hobart.	83. Wide Bay.
41. Moreton Bay.	56. Gulf of Carpentaria.	84. Port Curtis.
42. Clarence River.	61. Shoalhaven.	88. Port Fairy or Warrnambool.
43. Port Macquarie.	68. Richmond River.	97. Hawke's Bay.
44. Port Stephens.	70. Macleay River.	98. Kiama.
45. Newcastle.	72. Gabo Island.	99. Wallaroo.
46. Jervis Bay.	75. Manning River.	101. Port Mackay.
47. Twofold Bay.	76. Circular Head.	

NOTE.—Other numbers signify ports outside Australia from which a vessel arrives; they are not inserted as they would not be used for storm signals.

Queensland.

Storm signals are shown from the following stations in Queensland :—Cape Moreton and Cowan, Cowan Point, in Moreton bay; Sandy Cape, Goode island, Torres Strait.

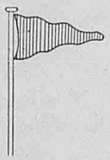
The signals are made from the quarters of the yards; the balls and cones are of large size and must not be mistaken for tidal signals, which are made from the yard-arms.

Indicates strong winds from S.S.W. or south, through S.E. to E. or E.N.E.

Indicates strong winds from W.N.W. or west, through S.W., to south or S.S.E.

Indicates strong winds from N.N.W. or north through N.E., to east or E.S.E.

Indicates strong winds from N.N.E., or north, through N.W., to west or W.S.W.



A red pennant indicates that a message has been received at the port from the Commonwealth Meteorological Bureau reporting the suspected development or existence of a dangerous storm or cyclonic disturbance. Details of such message may be obtained from the Postmaster or Harbour Officials at the port or place where this signal is displayed. A *red* light is shown at Fort Lytton *by night*.

When a vessel leaves the port of Brisbane without receiving a Cyclone warning, but observes the above signal at Fort Lytton, the Lightkeeper at the Pile Light will, if requested, transmit particulars of the message by means of semaphore, morse or megaphone.

NEW ZEALAND.

Storm signals are exhibited from Cape Maria Van Diemen, Tiri Tiri, Matangi Island, Cape Campbell, Cape Foulwind, Farewell Spit Lighthouse, Nugget Point and the lighthouse on Stephens Island. They are not to be considered as covering a distance greater than 200 miles from the place at which they are hoisted, those hoisted with the red pennant below as covering only a distance of 50 miles from the place at which they are hoisted.

Symbols used and their Meanings.

Northerly gales.

Hoisted when strong winds or gales are probable from N., that is, from about N.E., changing through North towards West.

NOTE.—This change of wind is usually followed by strong winds or gales from the Southward.

Westerly gales.

Hoisted when strong winds or gales are probable from W., that is from about N., changing through W. towards S.W.

NOTE.—After these gales have moderated the wind generally shifts to N.W. or to N.

Easterly gales.

Hoisted when strong winds or gales are probable from E., that is, from about N., changing towards E. and S.E.

NOTE.—This change of wind denotes a "black North-Easter" and an approaching cyclone.

South-easterly gales

Hoisted when strong winds or gales are probable from E., changing, through S. towards S.W.

Southerly gales.

Hoisted when strong winds or gales are probable from about W., changing, through S., towards S.E.

Unusual gales

Hoisted when strong winds or gales are probable from about S., changing through E. towards N.

MODERATE WEATHER is indicated by the International code signal, but only in reply to enquiry and if meteorological conditions admit.

NOTE.—(1) A *red* pennant hoisted below any of the above signals made between the hours of 8 a.m. and noon indicates that the signal refers to the previous day.

(2) Signals hoisted without the *red* pennant refer to the day on which they are hoisted.

(3) The red pendant, when hoisted alone, indicates that no information has been received at the station from the Meteorological Office, Wellington.

(4) When it is observed that storm signals are not being shown at a storm signal station, the Dominion meteorological forecast for the same day may be obtained by hoisting the signal ZK.

SOUTH PACIFIC OCEAN ISLANDS.

Fiji Islands.

During the hurricane season (from November 1st to April 30th) storm signals as defined below will be exhibited at the signal station, Suva, and at the Government Wharf, to denote that a dangerous depression in the atmospheric pressure appears to be approaching the group. The signals will be displayed until conditions improve.

Between sunrise and sunset : Two *black* circles disposed vertically.

Between sunset and sunrise : Two *red* lights disposed vertically.

At the Wharf, Suva, attention will be drawn to the first exhibition of the signals by a detonator being fired twice, with an interval of one minute.

GREAT BRITAIN.

Supplementary to pages 27–30, 102, and 140.

Commencing from October 4th, when Summer Time was discontinued in Great Britain, the Wireless Telephony issue of the appropriate parts of the "Weather Shipping" Bulletin is now issued through Daventry at 1030 G.M.T. and through Newcastle, Bournemouth and Liverpool between 2220 and 2235 G.M.T.

Special Notices regarding Personnel.

The Marine Superintendent will be glad to receive information of special distinctions gained and retirements, &c., of Marine Observers.

OBITUARY.

The death of Captain W. J. JENKS, Resident Governor of the Royal Merchant Seaman's Orphanage at Bear Wood, on September 26th, 1925, in his 66th year is noted with deep regret.

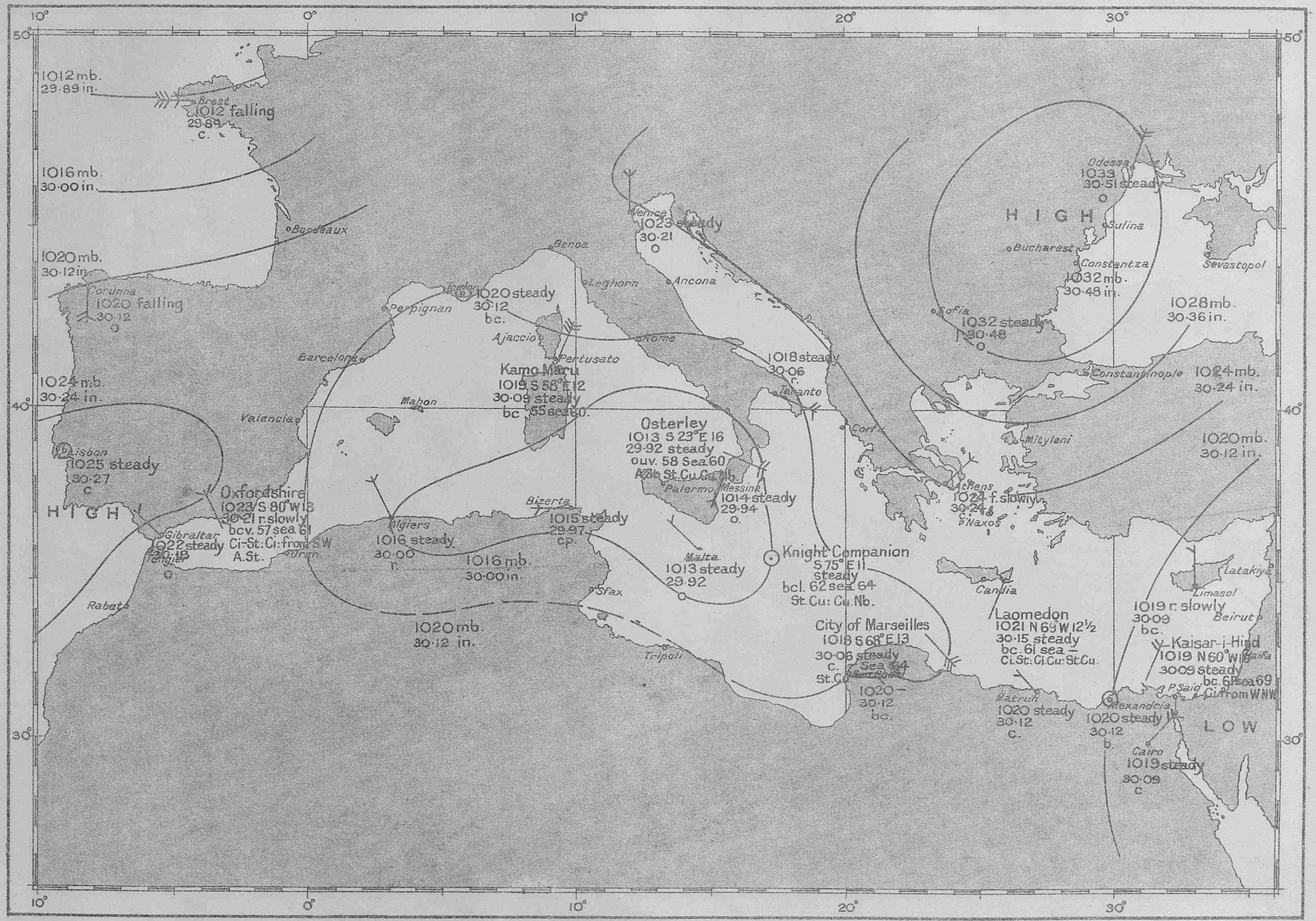
Commencing his sea career in sailing ships, Captain JENKS later entered the Pacific Steam Navigation Company's service and commanded several of their steamers in the Australian Mail Service which then ran in conjunction with the Orient Steam Navigation Company's Fleet.

Upon the Orient Line securing the new Mail Contract and greatly increasing their fleet Captain JENKS transferred from the Pacific to the Orient Company to command the *Osterley ;* for a time he was in Command of the *Otranto* but returned to the *Osterley* from which Command he retired from the sea to take over the Royal Merchant Seaman's Orphanage in 1917.

A man of great energy and perception who during his service in the Orient Line did much to encourage suitable emigration to the Commonwealth upon which subject he was an authoritative lecturer.

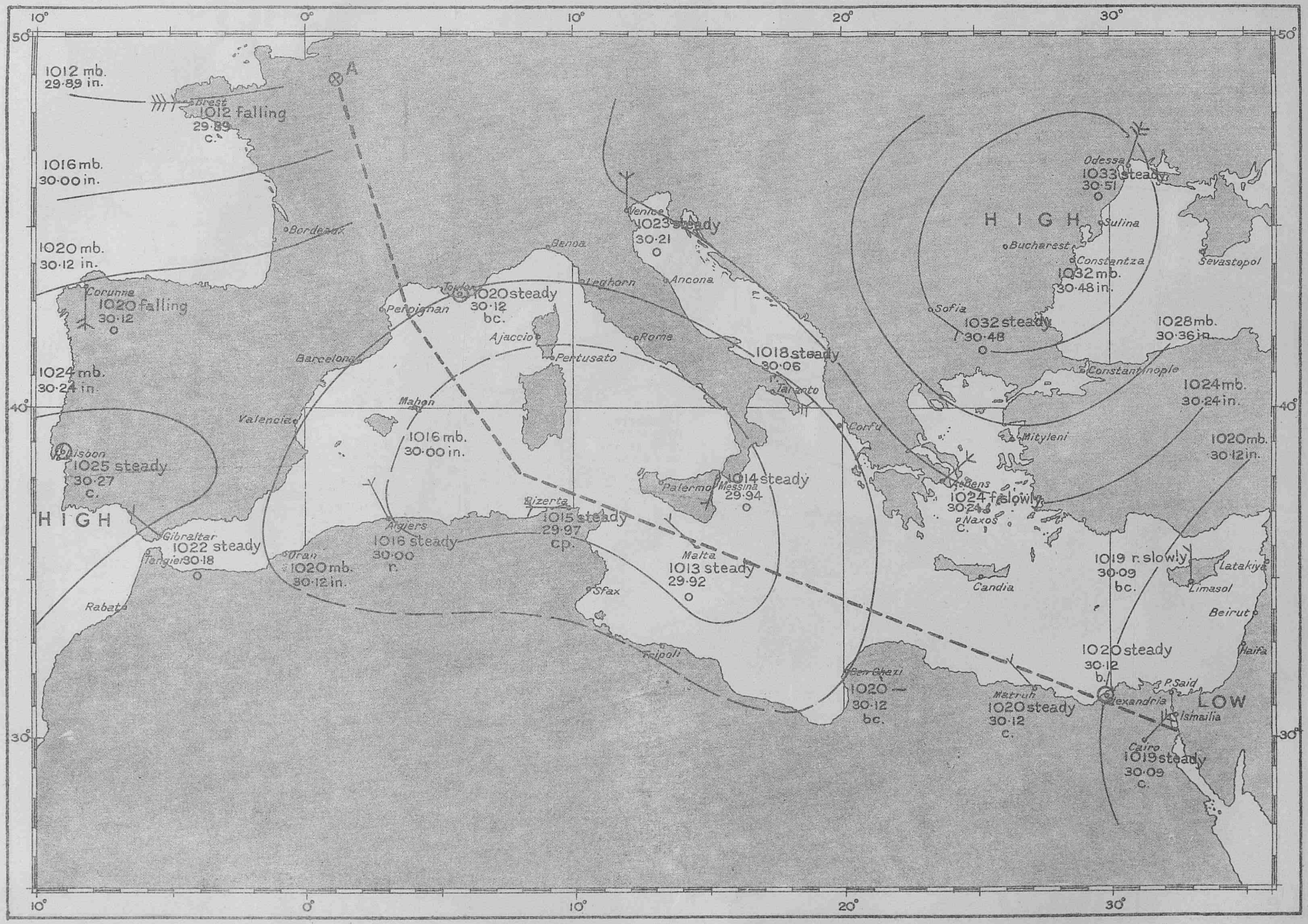
Captain JENKS was a younger Brother of Trinity House and a Member of the Corps of Voluntary Marine Observers from 1908. He contributed 23 Meteorological Logs.

MORNING OF DECEMBER 15TH, 1924.



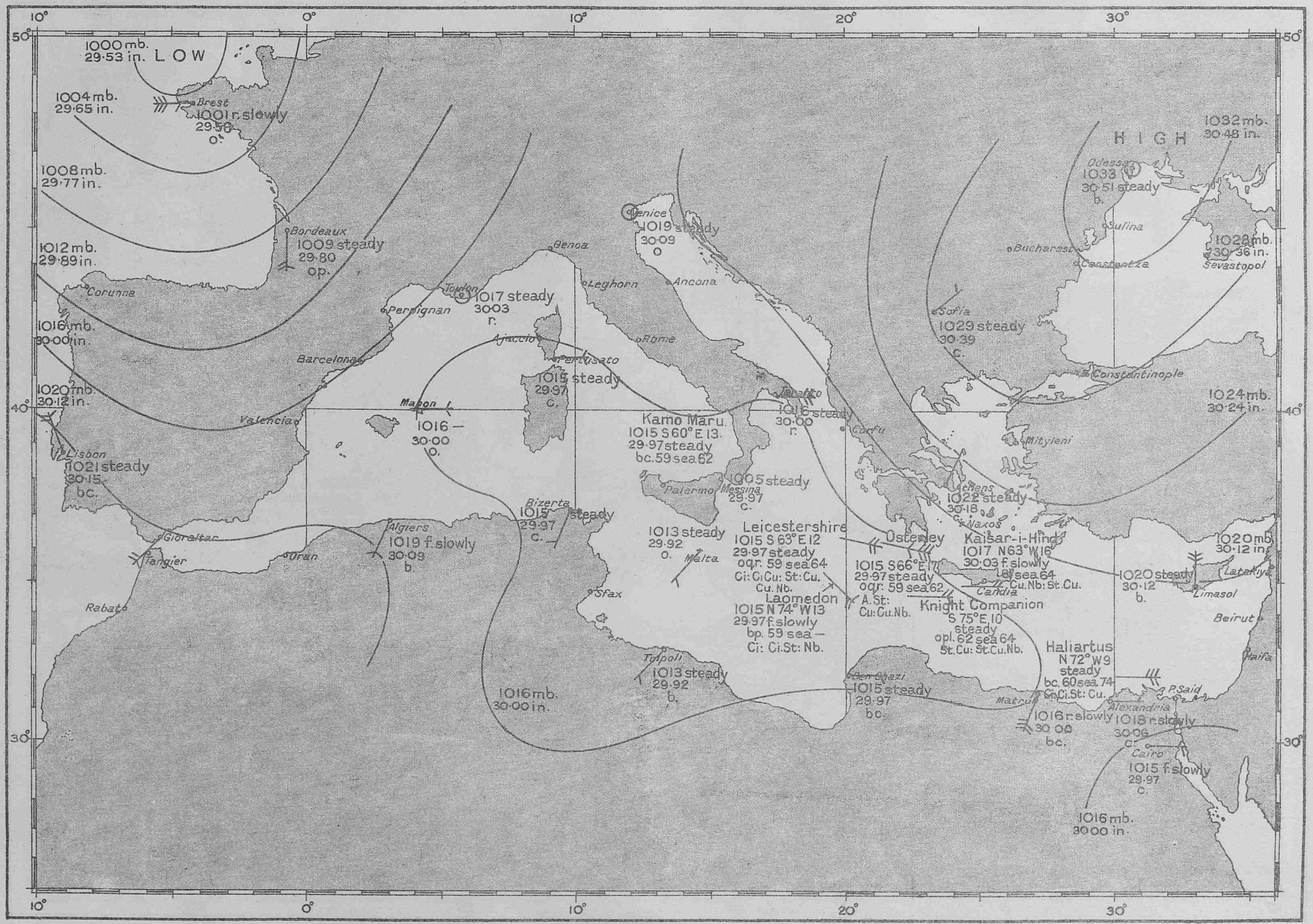
Weather Chart XLV.

MORNING OF DECEMBER 15TH, 1924.



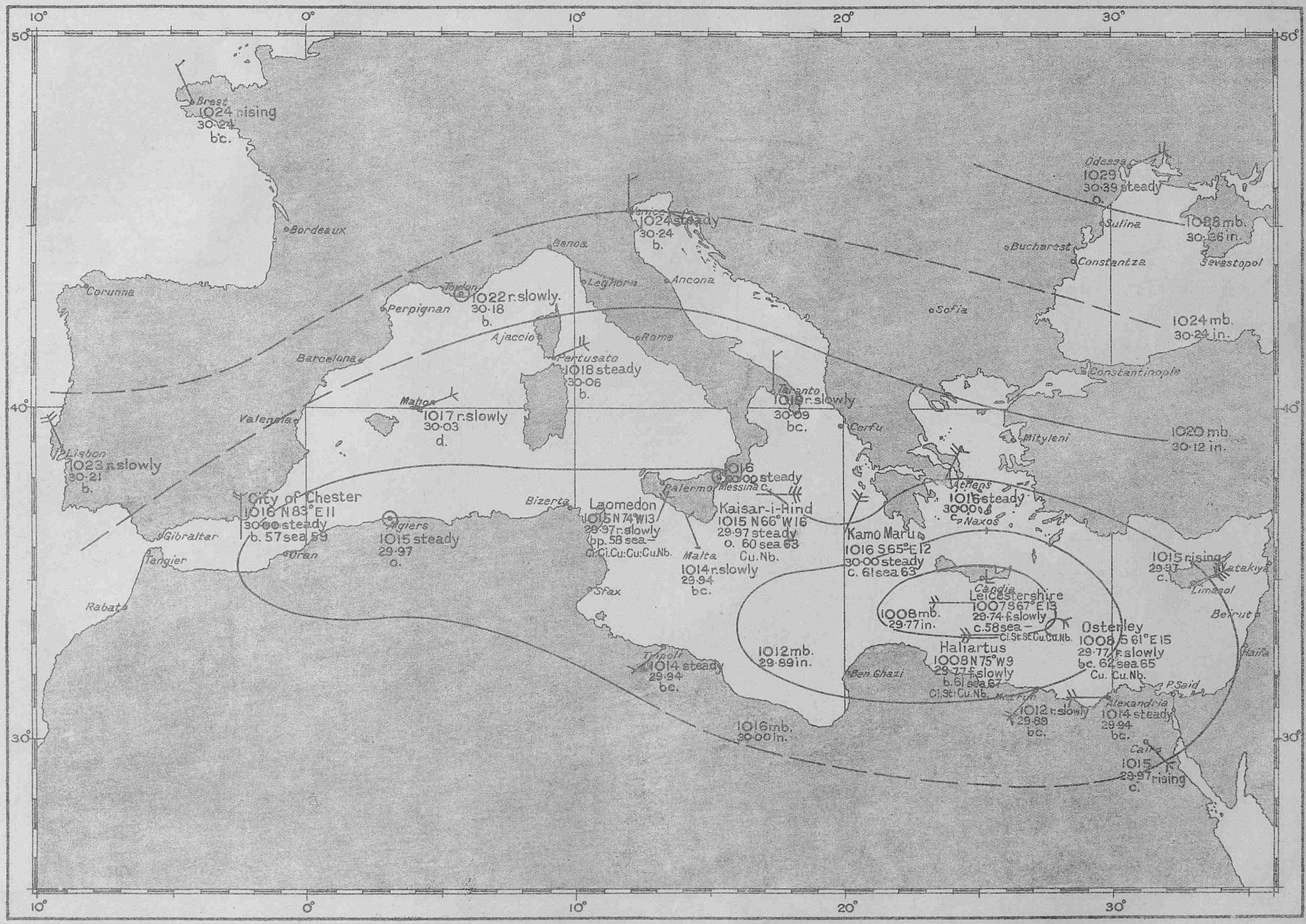
Weather Chart XLV. a.

MORNING OF DECEMBER 16TH, 1924.



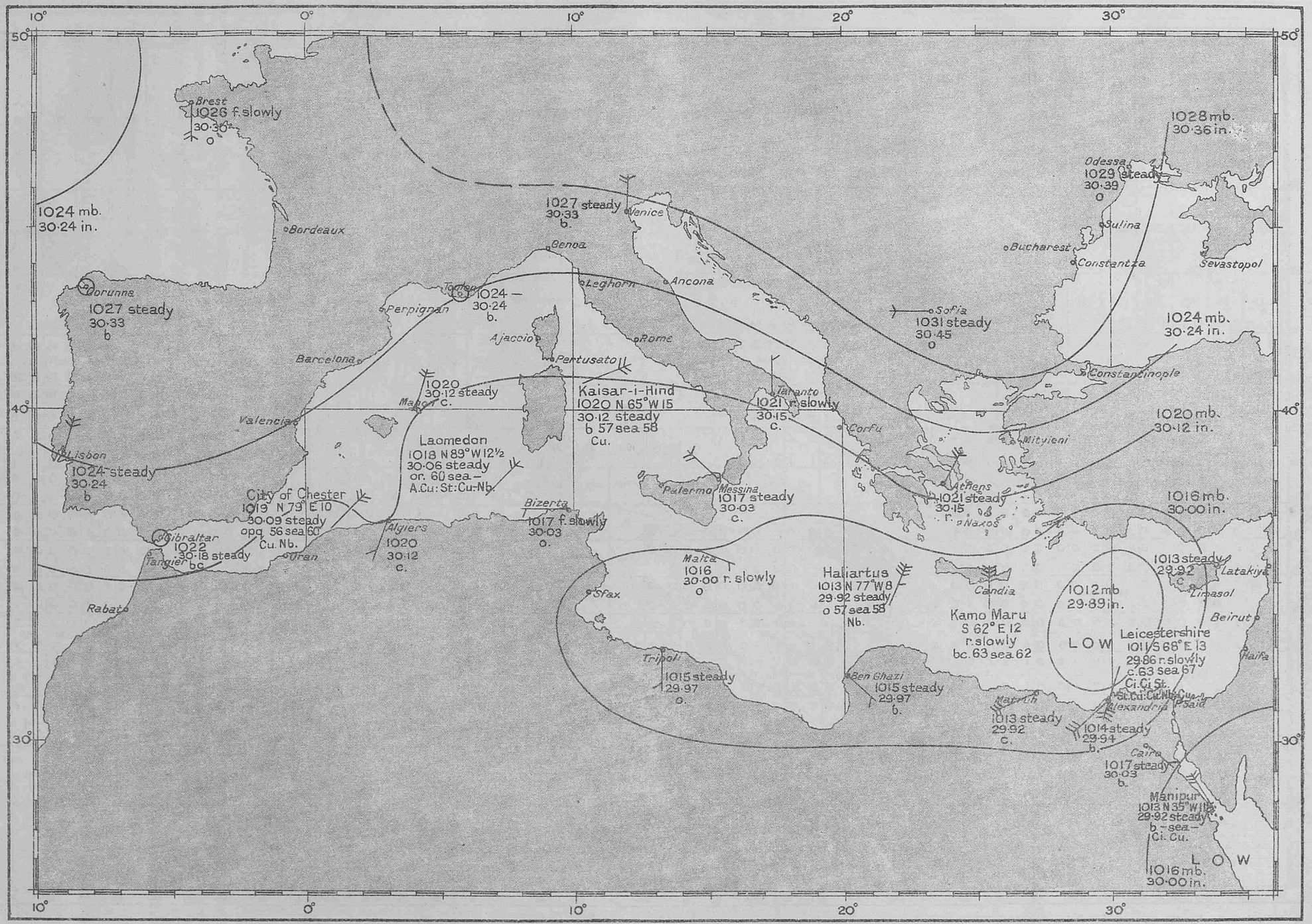
Weather Chart XLVI.

MORNING OF DECEMBER 17TH, 1924.



Weather Chart XLVII.

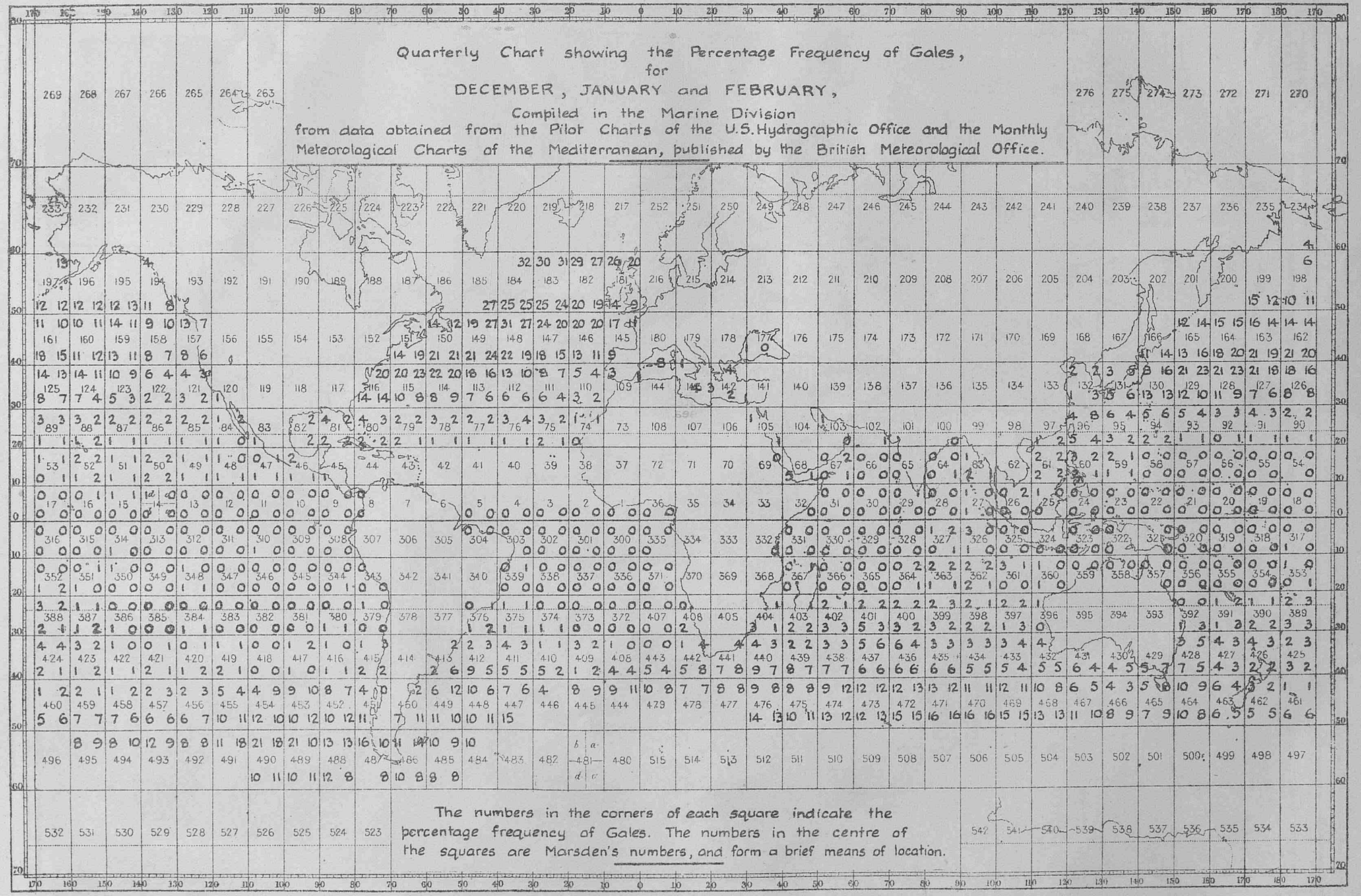
MORNING OF DECEMBER 18TH, 1924.



Weather Chart XLVIII.

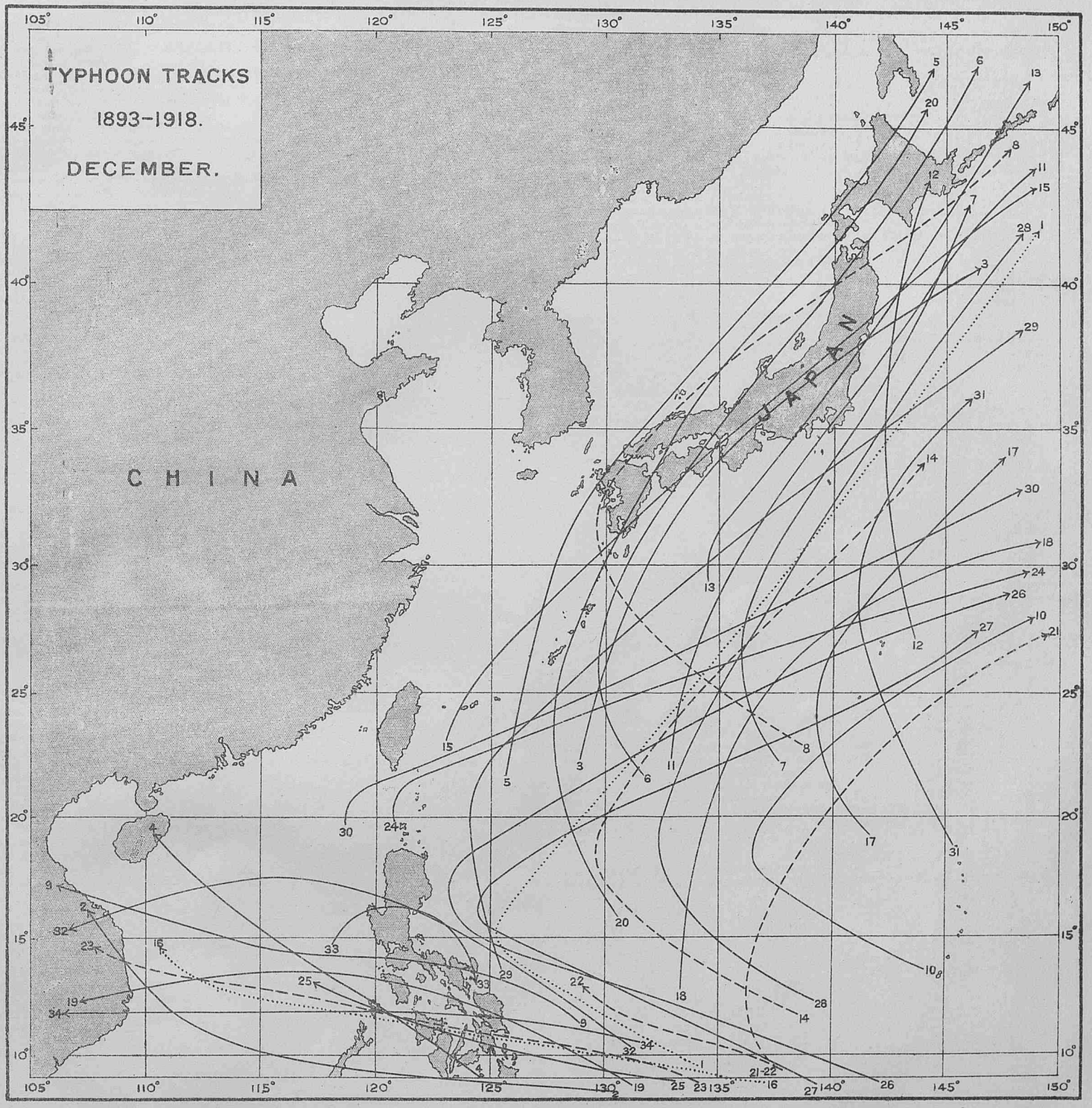
Quarterly Chart showing the Percentage Frequency of Gales, for DECEMBER, JANUARY and FEBRUARY,

Compiled in the Marine Division from data obtained from the Pilot Charts of the U.S. Hydrographic Office and the Monthly Meteorological Charts of the Mediterranean, published by the British Meteorological Office.



The numbers in the corners of each square indicate the percentage frequency of Gales. The numbers in the centre of the squares are Marsden's numbers, and form a brief means of location.

TYPHOONS IN THE FAR EAST DURING 26 YEARS.



DECEMBER — *One chart: 34 tracks; a little more than one instance every year.*

The radiating point, or birth-place of the tropical storms, appears to have a movement backwards to the East, far to the S of Guam and the S.E. of Yap. The depressions, rare now and of decreasing intensity, are scattered, in the S.W. corner of the map, between Cape Padaran and Vinh, to the S of the Gulf of Tongking. Another bundle follows the same curve as during November, between the Marianas and Japan, most of them go away on the Pacific to the N. of the Bonin group.

Very often the N.E. monsoon reaches the force of a full gale and there are records of powerful mail steamers taking five days for the run from Hongkong to Shanghai.

[From Atlas of the Tracks of 620 Typhoons, 1893-1918, by Louis Froc, S.J., Director. Zi-ka-wei Observatory, Zi-ka-wei-Chang-hai, 1920.]

H.M. Stationery Office Press, Kingsway, W.C.2.

2366/118T. wt 145A. D.10194/1286. 1300. 10/25.

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- Weather Charts, E.N. Atlantic, North Sea and Baltic, November 14–16th, 1924, Charts XLII–XLIV.
- Current Chart, Channel to Latitude of Cape St. Vincent, November, December and January, 1910–1923.
- Typhoon Tracks in the Far East, November, 1893–1918. (Two Charts, 1st and 2nd fortnights.)

After page 202, December number :—
- Weather Charts Mediterranean, December 15th–18th, 1924, Charts XLV to XLVIII
- Percentage frequency of gales, all oceans, for December, January and February.
- Typhoon Tracks in the Far East, December, 1893–1918 (one Chart).

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ERRATA.

Page, 57 April number.
Column 2, ninth line from top, *for* Chief *read* Second; tenth line from top, *for* April 25th, 1924, *read* October 7th, 1923.

Page 87, June number.
Column 1, twelfth line from top, *for* more *read* fore.

Page 89, June number.
Column 1, top line, *for* appea *read* appeal.

Page 130, August number.
Column 2, twelfth line from top, *for* sun-backed *read* sun-baked.

Page 131, August number.
Column 1, thirty-fourth line from bottom, *for* "Admiralty List of Wireless Stations," *read* "Admiralty List of Wireless Signals."

Page 160, October number.
Column 2, tenth line from bottom, *for* Barking *read* Basking.

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 sychronized times.

For full information as to ships' wireless weather signals, see pages 11—16, Vol. II., No. 13. 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* *N*70 *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.

COVER FOR MARINE OBSERVER.

Marine observers, regular recipients and subscribers to this Journal are hereby informed that a binding cover for Volume II of "The Marine Observer" may be obtained from H.M. Stationery Office, through any bookseller, price 2s.

The arrangement for assembling the numbers for binding was described in Volume I, No. 12, page 156.

It should be clearly understood that this cover is not the cover used for binding "Excellent" awards, which is far superior; but it will be found to be of good quality and a useful means of preserving the yearly numbers, for which a title page is issued with each December number.

INVITATION TO MARINE OBSERVERS.

The Marine Superintendent will be pleased to see the Captains of Observing Ships or their Observing Officers when they are in London, between 10 a.m. and 4 p.m. at Room 319, Adastral House, Kingsway, W.C.2. Telephone No., Holborn 3434, Extension 421. Telegrams, Marine Superintendent, Weather, London. (Nearest Station, Temple, District Railway.)

Personal touch is not only conducive to efficient work, but by this means we may be better able to advance upon lines which will further the practice of Meteorology in Navigation and at the same time provide the most suitable data for the general needs of Meteorological Science.

Those Marine Observers who do not come to London wishing to discuss matters connected with Marine Meteorology, are asked to consult the Agents at the Ports.

The Marine Agencies in Great Britain and Ireland are visited at least once a year by the Marine Superintendent, and it is hoped by these means to further promote voluntary co-operation between ships at sea, and with the Meteorological Office.

Usually the Marine Superintendent visits the Marine Agencies as follows :—

Southampton and Cardiff, first week of March.
Liverpool, last week of May.
Dublin and Glasgow, mid October.
Leith, North Shields and Hull, mid November.

Marine Agencies are given about two weeks notice of exact dates.

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.

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.

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.

Clarke City
Anticosti
Heath Pt. Lt. V.
Fame Pt.
Father Pt.
GULF OF ST LAWRENCE
NEWFOUNDLAND
C. Ray
Magdalen Is.
Grindstone I.
St Paul
Grosse I.
Quebec
Prince Edward Is
Sydney
Montreal
St John
NOVA SCOTIA
Lurcher Lt V.
C. Sable
Sable Is.
Boston
New York
Nantucket Lt V.
St. Pierre
C. Race
St. Johns
Virgin Rocks
C. Norman
P. Amour
Battle Hr.

VCL VCN VAR VCO VDR VCU VCT VCS VCE HYS

Limit of Ice reported to the Meteorological Office December 1901-24.

Attention is drawn to the tracks which owing to distortion are slightly out of position on this chart. See pages 35-36, Vol. II No 13.

PHENOMENAL DRIFTS OF ICE.

Date.	Ship or Source of Report.	Position. Lat.	Position. Long.	Remarks.
Déc. —, 1903	S.S Lord Antrim ...	42°—'N.	55°—'W.	——
„ 22, 1915	S.S. Carolyn	42°53'N.	57°39'W.	Large berg.
„ 16, 1920	S.S. Oriana	43°53'N.	44°39'W.	Berg.

Reports of Ice sighted between October 1st and October 31st, 1925, which have been received by the Meteorological Office, are shown by the Symbols plotted in the position reported, the figures indicating the day of the month.

2356/1187. Wt. 1454. D.10194/P.F.1286. 1125. 10/25.

 H.M.S.O. Press, Kingsway, W.C.2.

MARINE METEOROLOGY.

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 Journal, January, 1925 Number (*see* pages 11 and 12). 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.

Marine Agencies and Port Meteorological Officers.

LIVERPOOL ..	(Port Meteorological Office), Lieut.-Commander M. Cresswell, R.N.R., Dock Office. *Telephone No.: Bank 8959.*
CARDIFF	Captain T. Johnston, Technical College.
LEITH	Captains G. Black and C. G. Bonner, V.C., D.S.C., Leith Salvage and Towage Co., Ltd., 2, Commercial Street.
THE CLYDE ..	Captain M. C. Corrance, Board of Trade Surveyor's Office, 73, Robertson Street, Glasgow.
HULL	Captain Geo. B. Sturdy, c/o Mr. W. Hakes, Commercial Road.
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.
DUBLIN	Captain M. H. Clarke, Chief Surveyor, Ministry of Industry and Commerce, Marine Department, 27, Eden Quay.
HONG KONG ..	Lieut.-Commander C. R. H. Harvey, O.B.E., R.N., Superintendent, Admiralty Chart and Chronometer Depôt.
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:—

SYDNEY	Captain G. D. Williams, D.S.O., Customs House.
MELBOURNE .	Captain L. J. Bolger, Electricity Commissioners Building, 22, William Street.
FREMANTLE ..	Captain J. J. Airey, Dalgety's Buildings.

LATE PRESS.

DERELICTS AND FLOATING WRECKAGE.

Date.	Position. Latitude.	Position. Longitude.	Description.
	BALTIC.		
13.10.25	54°59′N.	12°47′E.	Wreck on fire.
18.10.25	62°— N.	20°— E.	Water-logged lighter.
	NORTH SEA.		
8.10.25	54°05′N.	3°45′E.	Believed to be wreck of schooner with two masts 6 feet above water.
	MEDITERRANEAN.		
10.10.25	37°26′N.	6°06′E.	Submerged wreck, dangerous to navigation.
	NORTH ATLANTIC.		
1.10.25	35°44′N.	74°38′W.	Heavy log.
2.10.25	40°17′N.	70°33′W.	Log, 20 ft. long, 1 ft. square.
2.10.25	37°30′N.	74°38′W.	Log, 25 ft. long, 2 ft. diameter.
3.10.25	51°57′N.	16°49′W.	Wreckage about 15 ft. square, dangerous to navigation.
3.10.25	40°15′N.	73°21′W.	Buoy flying a flag.
5.10.25	44°30′N.	8°30′W.	Partly submerged object 60 ft. long.
7.10.25	33°54′N.	77°05′W.	Spar attached to submerged wreckage.
8.10.25	37°10′N.	74°22′W.	Heavy wreckage, apparently end of a pier.
10.10.25	50°27′N.	9°20′W.	Small conical buoy, apparently red, with short iron staff marked *C 4* on one side and *6* on the other.
11.10.25	40°32′N.	70°08′W.	U.S. Coastguard cutter *No. 128* abandoned.
11.10.25	38°27′N.	74°28′W.	Large section of a barge awash.
11.10.25	38°18′N.	74°30′W.	Deckhouse marked *Marion Chappell*, showing about 8 ft. out of water, apparently attached to submerged wreckage.
12.10.25	46°24′N.	23°18′W.	Floating whistle buoy.
12.10.25	46°50′N.	6°57′W.	Drifting spar about 40 ft. long, dangerous to navigation.
12.10.25	40°43′N.	69°31′W.	Motor vessel *CG 134*, water-logged.
12.10.25	37°23′N.	74°54′W.	Barge awash, large pieces, one mile to the westward.
13.10.25	48°24′N.	5°27′W.	Abandoned boat, probably fishing boat.
13.10.25	37°05′N.	75°07′W.	2 fishing boats about 30 ft. long made fast together, one partly submerged.
13.10.25	43°43′N.	61°45′W.	British schooner *Emily*.
14.10.25	50°05′N.	23°20′W.	Large gas and whistling buoy in fair condition, light 20 ft. above sea level.
17.10.25	41°25′N.	10°26′W.	Large object, apparently floating wreckage, dangerous to navigation.
	NORTH PACIFIC.		
3.10.25	41°14′N.	124°37′W.	Tree, about 60 ft. long and 6 ft. in diameter, with branches.
3.10.25	47°11′N.	124°53′W.	Log about 35 ft. long 5 ft. diameter, showing about 3 ft. out of water.
5.10.25	44°41′N.	124°23′W.	2 logs, about 35 ft. long and 4 ft. diameter.

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 Mercurial; 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 16.10.25.	Date Received.
Aba	Hughes, J. ...	G. Pugh Williams, R. Wilkinson, W. L. James.	M.L.	Elder Dempster ...	Met. Log. 2.4.25 to 5.7.25 ...	10.7.25.
Abinsi	Wright, J. B. ...	E. Kingan	No. A.	,, ,, ...	Form 911 19.8.25 to 26.9.25 ...	28.9.25.
Achilles ...	Melling, C. F. ...	O. V. Jones	,, A.	A. Holt ,, ...	,, 15.7.25 to 27.7.25 ...	17.8.25.
Actor	Haylett, E. ...	W. Rennie	M.L.	Harrison	,, 22.8.24 to 6.9.24 ...	7.10.24.
Adda	Toft, J. T.	W. Borrows	No. M.	Elder Dempster ...	,, 6.8.25 to 10 9.25 ...	22.9.25.
50 *Adriatic* ...	Beadnell, F. E., Capt., R.N.R.	J. Collins, A. C. I. Anson, R. G. Roberts.	W.T.	White Star	W.T.Reg. 31.8.25 to 19.9.25 ... Form 911 30.8.25 to 19.9.25 ...	22.9.25. 22.9.25.
Aeneas ...	Wallace, W. K. ...	... ...	No.	A. Holt	... ...	...
Agapenor ...	Ramsay, J. ...	A. T. Gillard	,, A.	,, ...	Form 911 11.8.25 to 30.9.25 ...	6.10.25.
Alban	Torrible, R. H. ...	G. E. Freeman	,, A.	Booth	,, 15.6.25 to 28.6.25 ...	3.7.25.
Albania ...	Gronow, S.	L. Harper	,, A.	Cunard	,, 29.8.25 to 22.9.25 ...	24.9.25.
Algerian Prince ...	Shaw, D. C. ...	G. Potts	,, A.	Prince	,, 17.3.25 to 31.3.25 ...	6.4.25.
Alipore ...	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.
Almanzora ...	Mackenzie, G. A. ...	E. Sandys, E. Hewitt ...	,, M.	R.M.S.P.	,, 8.8.25 to 21.9.25 ...	24.9.25.
Alondra ...	Prendergast, J. J. ...	H. Peters	,, A.	Yeoward	,, 30.8.25 to 19.9.25 ...	22.9.25.
Ampetco ...	Vandenkerckhone, A.	A. Aspeslagh	,, A.	American Petroleum...	,, 3.9.25 to 19.9.25 ...	5.10.25.
Antilochus ...	Wilkinson, H. ...	E. T. Bayes	,, A.	A. Holt	,, 1.6.25 to 26.7.25 ...	7.9.25.
Aorangi ...	Crawford, R. ...	R. B. Denniston, D. Rollo, G. Eustace, R. Blampied, A. Lansley.	M.L.	Canadian-Australasian	Met. Log. 3.1.25 to 28.5.25 ...	27.6.25.
Appam ...	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.
30 *Aquitania* ...	Charles, Sir J. T. W., K.B.E., C.B., R.D., Commodore, R.N.R.	J. L. Croasdaile, J. Locke, L. T. Simpson.	W.T.	Cunard ...	W.T. Reg. 20.9.25 to 5.10.25 ...	7.10.25.
62 *Arabic* ...	Davies, J.	... ...	,,	White Star	... ...	...
Arafura ...	Gordon, A. S. ...	R. Lloyd Harry	No. M.	Eastern and Australian	Form 911 17.8.24 to 18.10.24...	15.12.24.
Archimedes ...	Taylor, F. C. ...	F. W. Johnson	,, A.	Lamport & Holt ...	,, 7.6.25 to 8.7.25 ...	9.7.25.
Armadale Castle...	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.
Arracan ...	Willis, M.	R. McInnes, M. S. Stuart, A. McCullum.	,,	P. Henderson ...	,, 28.2.25 to 30.525 ...	4.6.25.
Arundel ...	Short, H.	Mr. Hill	C.C.	Southern Rly. ...	Telegraphic Report 15.10.25 ...	15.10.25.
Arundel Castle ...	Hague, J. W., Commr., R.N.R.	G. Blaiklock, C. Williams, F. Granger.	M.L.	Union Castle ...	Met. Log. 17.1.25 to 10.5.25 ...	20.5.25.
Assyria ...	Donald, D. R. ...	A. Middleton.	No. A.	Anchor	Form 911 16.8.25 to 7.9.25 ...	9.9.25.
Astronomer ...	Booth, W. M. ...	L. Harriman, H. Thomas, E. Shatton.	M.L.	Harrison	Met. Log. 16.3.25 to 17.7.25 ...	1.8.25.
Athenic ...	Davies, E.	W. Hill	No. A.	White Star	Form 911 15.8.25 to 29.8.25 ...	18.9.25.
Atreus	Salter, G. H. ...	W. Anderson	,, A.	A. Holt	,, 24.6.25 to 8.9.25 ...	9.9.25.
Atsuta Maru ...	Furuhashi, M. ...	S. Mizoguchi	,, A.	Nippon Yusen Kaisha	,, 7.6.25 to 6.7.25 ...	4.8.25.
Auditor ...	Owen, W. T. ...	T. E. Steel	,, M.	Harrison	,, 15.7.25 to 27.8.25 ...	31.8.25.
Auldmuir ...	Ramsay, J. D. ...	J. A. S. Adams	,, A.	Glen & Co.	,, 11.10.24 to 27.10.24	11.11.24.
Ausonia ...	Gibbons, G., R.D., Commr., R.N.R.	E. R. B. Freeman ...	,, A.	Cunard	,, 14.6.25 to 5.7.25 ...	15.7.25.
Author	Kinloch, R. ...	... ...	,, M.	Harrison	... ...	...
Avon	Nicholson, M. L. ...	E. N. Hatchard, J. A. Jephson Jones.	,, M.	R.M.S.P.	Form 911 25.7.25 to 7.9.25 ...	14.9.25.
Balfour	Rothwell, A. ...	... ...	No.	Canadian Pacific ...	... ...	...
51 *Baltic* ...	White, E. R. ...	J. Law, F. Patchett, H. R. Wilkinson.	W.T.	White Star	W.T. Reg. 14.9.25 to 3.10.25 ... Form 911 13.9.25 to 4.10.25 ...	6.10.25. 5.10.25.
Bambra ...	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.
Bampton Castle ...	Hutchings, A. H. ...	M. J. Castle	,,	Union Castle ...	,, 2.5.25 to 21.8.25 ...	2.9.25.
Banffshire ...	Wynne, R. H. ...	J. M. Bowie	No. M.	Turnbull Martin ...	Form 911 21.6.25 to 11.7.25 ...	24.8.25.
Barpeta ...	Beedle, T. S. ...	W. G. E. Rawlingson ...	,, M.	British India ...	,, 15.7.25 to 15.8.25 ...	7.9.25.
Baychimo ...	Cornwall, S. A. ...	R. J. Summers	,,	Hudson's Bay Co. ...	... ...	...

Name of Vessel.	Captain.	Observing Officers.	Official Meteorological Equipment.	Line.	Last Log, Register, or Report Contributed. Received up to 16.10.25.	Date Received.
Beaufort ...	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 *Belgenland* ...	Bradshaw, J. ...	C. J. Murray, J. M. Appleby, W. E. Hesketh.	W.T.	Red Star	W.T. Reg. 6.9.25 to 24.9.25 ...	26.9.25.
					Form 911 5.9.25 to 24.9.25 ...	28.9.25.
Benalder ...	Cole J. H., D.S.C....	W. M. Webster	No. A.	Ben Line	,, 1.8.25 to 8.9.25 ...	9.9.25.
Bendigo ...	Nicholl, R. N. C. ...	J. K. Crane	,, M.	P. & O. Branch ...	,, 25.6.25 to 28.8.25 ...	14.10.25.
Bengloe ...	McCorquodale, A. ...	G. M. Duff	,, A.	Ben Line	,, 12.8.25 to 29.8.25 ...	30.9.25.
31 *Berengaria* ...	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. 6.9.25 to 21.9.25 ...	23.9.25.
					,, 28.9.25 to 12.10.25	14.10.25.
Bernini ...	Evans, W. ...	H. L. Rudd	No. A.	Lamport & Holt ...	Form 911 21.11.24 to 31.1.25...	16.2.25.
Berrima ...	Townshend, W. P.	H. C. Slinn	,, M.	P. & O. Branch ...	,, 2.6.25 to 29.7.25 ...	5.8.25.
Berwyn	McCombie, J. ...	... ...	,,	Canadian Pacific ...	... ...	...
Bintang ...	Morzer Bruyns, M. F.	A. A. H. Blankestyn ...	,, M.	Nederland ...	,, 22.9.25 to 5.10.25 ...	14.10.25.
Bogota ...	Dunn, R. E., O.B.E.	T. R. Thomas	,, A.	R.M.S.P. Co. ...	,, 13.7.25 to 31.7.25	3.9.25.
Bolingbroke ...	Jones, D. C ...	C. A. Mott	M.L.	Canadian Pacific ...	Met. Log. 19.11.24 to 27.5.25...	27.6.25.
Borda	Holland R. ...	... ...	No. M.	P. & O. Branch ...	Form 911 12.2.25 to 19.6.25 ...	25.6.25.
Bothwell ...	Murray, M. F. ...	S. W. Keay	,, A.	Canadian Pacific ...	,, 23.8.25 to 1.9.25 ...	4.9.25.
Brandon ...	Mc. Combie, G.F.G. McQueen, D. S.	H. W. S. Coughlan ...	,, A.	,, ,, ...	,, 20.8.25 to 16.9.25 ...	21.9.25.
Brecon ...	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.
Brenda ...	Murdoch, R. G. ...	F. R. Ness	No. A.	Scottish Fishery Board	Form 911 1.9.25 to 30.9.25 ...	3.10.25.
Brighton ...	Hill, A.	Mr. Munton	C.C.	Southern Railway ...	Telegraphic Report 16.10.25 ...	16.10.25.
British Advocate	Taylor, R. J. ...	C. J. Metcalf	No. M.	British Tankers ...	Form 911 13.8.25 to 12.10.25...	14.10.25.
British Engineer...	Joures, T. W. ...	M. J. Grieves	,, M.	,, ,, ...	,, 7.5.25 to 13.7.25 ...	24.7.25.
Browning ...	Connorton, C. A. ...	W. E. Johnston	,, A.	Lamport & Holt ...	,, 17.11.25 to 6.2.25 ...	23.2.25.
Bruyere ...	Denson, W. ...	C. E. Legg	,, A.	,, ,, ...	,, 7.7.25 to 31.7.25 ...	22.9.25.
Cambria C.S. ...	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.
Cambria ...	Telfer, J.E. ...	V. S. Phillips	C.C.	L.M. & S. Rly. ...	Telegraphic Report 15.10.25 ...	15.10.25.
Camito... ...	Scantamore, 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.
Canada ...	Jones, T. ...	A. Thompson	No. M.	White Star-Dominion	Form 911 19.9.25 to 10.10.25...	12.10.25.
Canadian Importer	Wallace, C. ...	C. W. Gilding	,, A.	Canadian Govt. Mercantile Marine.	,, 1.6.25 to 7.7.25 ...	24.7.25.
Canadian Inventor	Roberts, R. P. ...	T. Edgar	,, A.	,, ,, ,,	,, 22.7.25 to 24.8.25 ...	25.9.25.
Canadian Miller	McConechy, W. T.	B. D. Ranns	,,	,, ,, ,,	... ...	...
Canadian Raider	Dixon. C C. ...	C. J. Carp	,, A.	,, ,, ,,	Form 911 16.3.25 to 22.4.25 ...	5.5.25.
Canadian Scottish	Forson, A. ...	S. Fieldhouse	,, A.	,, ,, ,,	,, 8.1.25 to 24.1.25 ...	9.2.25.
Canadian Skirmisher.	Millar, W. H. ...	C. W. Crofts	,, A.	,, ,, ,,	,, 26.4 25 to 6.8.25 ...	31.8.25.
Canadian Winner	Hocking, N. P. ...	R. Girling	,, A.	,, ,, ,,	,, 5.6.25 to 10.7.25 ...	25.7.25.
Carlow Castle ...	Whitfield, G. J. ...	J. W. Kirby	,, A.	Union Castle ...	,, 8.5.25 to 2.6.25 ...	8.6.25.
35 *Carmania* ...	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. 7.9.25 to 26.9.25 ...	29.9.25.
					Form 911 6.9.25 to 26.9.25 ...	30.9.25.
34 *Caronia* ...	Hossack, W. H., R.D., Capt., R.N.R.	R. F. Bovey. R. Cambell, D. M. MacLean.	,,	,, ...	W.T. Reg. 19.9.25 to 10.10.25...	15.10.25.
					Form 911 20.9.25 to 10.10.25...	15.10.25.
Cassandra ...	Mitchell, W. E. ...	G. M. Sime	No. A.	Anchor Donaldson ...	,, 8.10.24 to 16.12.24...	18.12.24.
52 *Cedric* ...	Hickson, V. W. ...	A. E. Weller, H. J. Yates, V. Evans.	W.T.	White Star	W.T. Reg. 6.9.25 to 27.9.25 ...	30.9.25.
					Form 911 9.8.25 to 30.8.25 ...	3.9.25.
53 *Celtic* ...	Berry, G. ...	J. W. Allingham, J. W. Peters, R. H. Shaw.	,,	,, , ...	W.T. Reg. 21.9.25 to 11.10.25...	14.10.25.
					Form 911 20.9.25 to 11.10.25...	14.10.25.
Centaur ...	Rose, A. F. ...	L. Johnstone	No. M.	A. Holt & Co. ...	,, 3.7.25 to 16.8.25 ...	22.9.25.
Ceramic ...	Trant, E. L., R.D., Commr., R.N.R.	A. E. Harvey	,, A.	White Star	,, 9.4.25 to 13.5.25 ...	19.5.25.
Changsha ...	Gambrill, F. C. ... Thomas, R. D. ...	A. M. Frame, F. G. Stratford, H. Lishman, L. A. Bailie, W. Bailey.	M.L.	Yuill & Co.... ...	Met. Log. 25.4.24. to 2.10.24...	10.3.25.
China	Short, E. E. ...	G. C. Case	No. M.	P. & O.	Form 911 26.6.25 to 15.7.25 ...	10.8.25.
Chindwara ...	Brisley, P. L. ...	W. Welch	,, M.	British India ...	,, 28.7.25 to 10.8.25 ...	14.9.25.
Chindwin ...	Esslemont, C. ...	J. Summers, W. Wilson. J. G. Walker.	M.L.	P. Henderson ...	Met Log 18.4.25 to 5.7.25 ...	20.7.25.
City of Alexandria	Bedford, G. B. ...	T. Tellesson	No. M.	Ellerman	Form 911 14.3.25 to 7.4.25 ...	5.5.25.
City of Baroda ...	Houghton, W. ...	A. Beaton, J. Cook, H. N. Jones.	M.L.	,, ...	Met. Log. 27.5.25 to 13.8.25...	17.8.25.
City of Batavia ...	Nancollas, H. E. ...	S. J. Nash	No. A.	,, ...	Form 911 27.12.24 to 25.1.25...	9.3.25.
City of Benares ...	Wyper, J. ...	C. G. Inglis	,, A.	,, ...	,, 16.8.25 to 2.9.25 ...	21.9.25.
City of Brisbane...	Seaborne, F. O., D.S.C.	W. E. Fletcher	,, A.	,, ...	,, 3.8.25 to 4.9.25 ...	12.10.25.
City of Canterbury	Bremner, D. M. ...	A. M. Hamilton	,, A.	,, ...	,, 3.4.25 to 24.6.25 ...	29.6.25.
City of Chester ...	Letton, F. W. ...	F. C. Wilson, E. Garner, D. B. Carson, J. Shearer.	M.L.	,, ...	Met. Log. 4.12.24 to 27.4.25 ...	4.5.25.
City of Dunkirk...	Jinks, J. W. ...	... ...	No.	,, ...	... ...	...
City of Edinburgh	Spencer, H. ...	J. D. MacDonald	,, M.	,, ...	Form 911 4.6.25 to 2.7.25 ...	18.8.25.
City of London ...	Martin, D. ...	J. J. McTigue	,, A.	,, ...	,, 11.5.25 to 5.6.25 ...	8.6.25.
City of Marseilles	Brown, G. ...	W. A. MacAdams, G. F. L. Coates.	,, A.	,, ...	,, 5.9.25 to 28.9.25 ...	1.10.25.
City of Rangoon...	Dunning, F. W. ...	... ...	M.L	,, ...	... ...	...
City of Valencia...	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.
City of Yokohama	McDonald, W. D. ...	R. Moloney	,, A.	,, ...	,, 28.8.25 to 19.9.25 ...	12.10.25.
Clan Cumming ...	McLean J. G. ...	S. M. Werrey Easterbrook ...	,, A.	Clan	,, 25.12.24 to 29.1.25...	9.3.25.
Clan Lindsay ...	Willits, J., Commr.	G. H. Johnson	,, A.	,, ...	,, 12.7.25 to 2.8.25 ...	1.9.25.
Clan Macbeth ...	Young, A. H., R.D., Lieut.-Commdr., R.N.R.	J. T. Bell...	,, A.	,, ...	,, 25.6.25 to 6.9.25 ...	18.9.25.
Clan Macfadyen	Stenson, F. J., R.D., Capt., R.N.R.	... ...	,,	,, ...	... ...	...
Clan Macgillvray	West, W. F. ...	P. G. de Gruchy	,, A.	,, ...	Form 911 19.6.25 to 3.8.25 ...	8.9.25.
Clan Macindoe ...	Law, A. ...	F. G. Darnborough ...	,, A.	,, ...	,, 3.8.25 to 1.9.25 ...	3.9.25.
Clan Mackellar ...	Scotland, A. ...	D. McAllister	,, A.	,, ...	,, 18.7.25 to 26.8.25 ...	28.9.25.
Clan Mackenzie ...	Young, G. ...	W. G. Arthur, F. B. Fairweather.	,, A.	,, ...	,, 7.11.24 to 21.11.24...	12.12.24.
Clan Mackinnon	Mackie, R. W. ...	T. V. Wilson, C. Jones, W. F. Isaac.	M.L.	,, ...	Met. Log. 27.1.25 to 9.5.25 ...	15.5.25.
Clan Macphee ...	Gourlay, J. B. ...	D. S. Rae, A. W. Jones, J. J. Millar.	,,	,, ...	,, 28.12.24 to 24.7.25...	4.8.25.
Clan Macnaughton	Thomson, W. ...	A. J. Storkey	No. A.	,, ...	Form 911 29.7.25 to 15.9.25 ...	22.9.25.
Clan Mactaggart...	Gray, J. N. ...	W. J. Henderson	,, A.	,, ...	,, 31.7.25 to 25.8.25 ...	5.10.25.
Clan Macvicar ..	Phillips, G. P ...	L. S. Murrin	,, A.	,, ...	,, 14.7.25 to 2.8.25 ...	24.8.25.
Clan Morrison ...	Porterfield, W. M....	G. Morren	,, A.	,, ...	,, 21.7.25 to 13.10.25...	15.10.25.

Name of Vessel.	Captain.	Observing Officers.	Official Meteorological Equipment.	Line.	Last Log, Register, or Report Contributed. Received up to 16.10.25.	Date Received.
Clan Murdoch ...	Pagan, J. C. ...	C. W. Thomas	No. A.	Clan	Form 911 10.1.25 to 5.2.25 ...	2.3.25.
Clan Ranald ...	Openshaw, L. G. ...	T. E. Woodall	,, A.	,, ...	,, 6.8.25 to 8.9.25 ...	9.9.25.
Clan Ross ...	Jones, R. C. ...	G. Short	,, A.	,, ...	,, 2.8.25 to 21.8.25 ...	7.10.25.
Clan Sinclair ...	Neill, G. A. ...	J. Brittain	,, A.	,, ...	,, 10.3.25 to 29.7.25 ...	5.8.25.
Clan Urquhart ...	Gibb, A. F. W. ...	T. G. Mitchell	,, A.	,, ...	,, 4.7.25 to 9.8.25 ...	12.8.25.
Colonia, C.S. ...	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.
Colonian ..	Gittins, R. P. ...	T. A. Schofield-Miller ...	No. A.	Leyland	Form 911 13.8.25 to 7.9.25 ...	18.9.25.
Columbia ...	Erskine, R. ...	C. L. Seaman	,, A.	Anchor	,, 28.6.25 to 19.7.25 ...	27.7.25.
Concordia ...	Morris, J. ...	T. Philip, J. McIntosh, J. Davies.	M.L.	Anchor Donaldson ...	Met. Log. 7.3.25 to 30.6.25 ...	20.7.25.
Comino ...	Nuttall, E. L. ...	J. Woodward	No. A.	Furness Withy ...	Form 911 3.5.25 to 21.7.25 ...	18.8.25.
Copenhagen ...	Kerr, J. J. ...	... ...	,,	Glen & Co.	... ...	...
Corinthic ...	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.
Cornwall ...	Haines, F. P. ...	Mr. Maltby, Mr. Ray ...	No. A.	Dowie, J., & Co. ...	Form 911 4.7.25 to 13.8.25 ...	21.9.25.
Crawford Castle ...	Morgan, A. O., R.D., Commr. R.N.R.	G. Montgomery	,, A.	Union Castle ...	,, 4.7.25 to 3.8.25 ...	11.8.25.
Culebra ...	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.
Cuthbert ...	Barlow, F. P. ...	S. G. Edwards	No. A.	Booth	Form 911 26.8.25 to 4.9.25 ...	30.9.25.
Cyclops ...	Cosker, W. ...	A. Brotherton	,, A.	A. Holt	,, 4.6.25 to 28.8.25 ...	31.8.25.
Dardanus ...	Williams, D. T. ...	W. K. Kerr	,, A.	,, ...	,, 15.8.25 to 8.10.25 ...	12.10.25.
Darian... ...	Masters, W. ...	A. S. Holland	,, A.	Leyland	,, 21.9.25 to 30.9.25 ...	10.10.25.
Darro	Smith, W. E., D.S.O., R.D., Capt., R.N.R.	F. W. M. Drew	,, M.	R.M.S.P. Co. ...	,, 26.6.25 to 23.8.25 ...	31.8.25.
Daytonian ...	Walker, C. J., D.S.C.	... ...	,, A.	Leyland	,, 30.3.25 to 13.5.25 ...	21.5.25.
Demerara ...	Willan, F. C. L. ...	A. Nicholls	,, M.	R.M.S.P. Co. ...	,, 10.8.25 to 3.10.25 ...	12.10.25.
Demosthenes ...	Williams, W. J. ...	... ...	,, M.	Aberdeen	... ...	...
Deseado ...	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.
Desna	Huff, G. F. ...	W. S. Thomas	,, M.	,, ...	,, 25.7.25 to 19.9.25 ...	28.9.25.
Deucalion ...	Findlay, J. ...	L. E. Brown	,, A.	A. Holt	,, 13.8.25 to 1.10.25 ...	12.10.25.
Dieppe... ...	Marmery, S. ...	Mr. Parsons	C.C.	Southern Railway ...	Telegraphic Report 29.9.25 ...	29.9.25.
Dimboola ...	Roy, C. M. ...	G. A. Molyneux	No. A.	Melbourne S.S. Co. ...	Form 911 21.8.25 to 1.9.25 ...	5.10.25.
Discoverer ...	Ling, J. T. ...	H. Hall	,, M.	Harrison	,, 25.3.25 to 27.8.25 ...	15.9.25.
Discovery, R.R.S.	Stenhouse, J. R., D.S.O., D.S.C., O.B.E., R.D., Commr. R.N.R.	... ...	M.L.	Discovery Expedition	... ...	...
Dogra	Hartock, L. ...	E. C. Akers	No. M.	Asiatic S.N. Co. ...	Form 911 27.12.24 to 12.1.25...	2.2.25.
Domala, M.V. ...	Buswell, W. ...	C. E. Merchant	,, M.	British India ...	,, 27.9.25 to 8.10.25 ...	15.10.25.
61. *Doric* ...	S.Bolton, D.S.C., R.D., Commr., R.N.R.	W. A. Calway	W.T.	White Star ...	,, 30.8.25 to 19.9.25 ...	21.9.25.
Doric Star ...	Thomas, R. T. ...	T. Williams	No. M.	Blue Star	,, 1.8.25 to 15.9.25 ...	16.9.25.
Dorset ...	Kettlewell, C. R. ...	F. G. Capon, L. Cann, D. M. Lambert.	M.L.	New Zealand S.S. Co.	Met. Log. 24.11.24 to 20.4.25...	27.4.25.
Dorsetshire ...	Adamson, B. W. ...	C. H. Griffiths, W. A. Kent, R. Cuming.	,,	Bibby	,, 31.5.25 to 27.8.25 ...	31.8.25.
Dromore Castle ..	Vincent, E. S., R.D., Commr. R.N.R.	S. S. Smith	No. A.	Union Castle ...	Form 911 2.4.25 to 8.7.25 ...	4.8.25.
Dryden ...	Major, T. W. ...	A. Hewitt	,, M.	Lamport & Holt ...	,, 1.9.25 to 17.9.25 ...	7.10.25.
Dundrum Castle...	Kershaw, H. J. ...	R. May	,, A.	Union Castle ...	,, 3.5.25 to 28.5.25 ...	12.6.25.
Duenates ...	Pape, E. R. ...	D. P. Morgan	,, M.	Pacific S.N. Co. ...	,, 22.11.24 to 24.12.24	29.12.24.
Duffield ...	King A.	T. S. Robertson	,, A.	Hunting & Sons ...	,, 10.11.24 to 9.12.24...	16.12.24.
Dunrobin ...	Ramsay, J. D. ...	M. M. Ramsay	,, A.	Glen & Co.	,, 14.8.25 to 4.9.25 ...	18.9.25.
Duquesa ...	Ellis, F., D.S.C. ...	C. P. Lane	,, M.	Furness Withy ...	,, 28.6.25 to 6.8.25 ...	31.8.25.
Durenda ...	Wilson, W. ...	W. H. Creese	,, M.	British India ...	,, 31.1.25 to 28.4.25 ...	12.5.25.
Edinburgh Castle	Strong, H., R.D., Commr., R.N.R.	A. Parker, T. Goldstone, C. S. Kean.	M.L.	Union Castle ...	Met. Log. 1.5.25 to 23.8.25 ...	5.9.25.
El Cordobes ...	Noton, F. G. ...	J. W. Ekins	No. A.	British & Argentine S.N. Co.	Form 911 23.6.25 to 3.9.25 ...	9.9.25.
Elmina ...	Millson, H. E. ...	G. D. Simpson, C. Cryer, R. Griffiths.	M.L.	Elder Dempster ...	Met. Log. 26.3.25 to 16.8.25 ...	5.9.25.
El Paraguayo ...	Smith, F. C. ...	W. E. Williams	No. M.	Houlder Bros. ...	Form 911 1.7.25 to 19.8.25 ...	21.8.25.
Elpenor ...	T. W. Hannay ...	R. L. Phillips, R. Harries, C. Shaw, W. Rankin, G. Houchin.	M.L	A. Holt	Met. Log. 25.5.25 to 24.9.25 ...	28.9.25.
Empress of Asia...	Douglas, L. D., R.D., Lt.-Commr., R.N.R.	G. H. Blyth, R. H. Foley, R. Dobbin, L. Johnston.	,,	Canadian Pacific ...	,, 6.2.25 to 18.5.25 ...	26.6.25.
Empress of Australia.	Hailey, A. J. ..	C. Critchley, R. A. Leicester, A. B. Smith.	,,	,, ,, ...	,, 6.11.25 to 10.5.25 ...	3.6.25.
Empress of Canada	Robinson, S., C.B.E., R.D., Commr., R.N.R.	W. S. Hallidav, L. C. Barry .. L. M. Goddard.	,,	,, ,, ...	,, 15.11.24 to 11.5.25...	26.6.25.
Empress of France	Griffiths, E. ...	O. Pennington, E. Roberts, A. W. Patrick.	,,	,, ,, ...	,, 31.12.24 to 3.6.25 ...	12.6.25.
Empress of Russia	Hosken, A. J. ...	J. Reid, D. F. McNeill ...	,,	,, ,, ...	,, 20.12.24 to 5.6.25 ...	17.7.25.
Empress of Scotland	Gillies, J., C.B.E. ...	B. Grant, S. C. Fox, D. Loram, L. W. Akerman, W. J. Phillips.	,,	,, ,, ...	,, 26.4.24 to 29.10.24...	11.12.24.
Endeavour ...	Commr. S. A. Geary-Hill, D.S.O., R.N.	M. L. Harrison, E.V.B. Baker, E. H. B. Baker, J. Torlesse.	,,	His Majesty's Ship ...	,, 26.5.25 to 24.6.25 ...	13.7.25.
Essequibo ...	Duncan, E. E. ...	G. Pattison	No. M.	R.M.S.P. Co. ...	Form 911 18.6.25 to 30.6.25 ...	7.9.25.
Eumaeus ...	Read, J. W. ...	W. E. Steer	,, A.	A. Holt	,, 26.7.25 to 9.8.25 ...	14.9.25.
Euripides ...	Collins, P. J., O.B.E.	H. S. Cox, G. R. Fisher, A. J. Terry.	M.L.	Aberdeen	Met. Log. 27.2.25 to 18.6.25 ...	29.6.25
Eurybates ...	Carnon, C. G. ...	C. Napier	No. A.	A. Holt	Form 911 9.5.25 to 24.5.25 ...	9.7.25.
Explorer ...	Lamont, A. ...	Scientific Staff	M.L.	Scottish Fishery Board	Met. Log. 20.6.24 to 27.9.24 ...	24.10.24.
Ferndale	Daniel, F.	D. Jones	No. M.	Leopold Walford ...	Form 911 15.8.25 to 20.9.25 ...	28.9.25.
Fitzroy... ...	Silk, H. V., Lt.-Commr, R.N.	M. E. Welby	M.L.	His Majesty's Ship ...	Met. Log. 16.4.25 to 24.8.25 ...	4.9.25.
Flandria ...	Veldkamp, G. J. ...	T. Doornbosch	No. M.	Holland Lloyd ...	Form 911 26.6.25 to 15.8.25 ...	18.8.25.
Flinders ...	Henderson, D. A., Lt.-Commr., R.N	H. E. Turner	M.L.	His Majesty's Ship ...	Met. Log. 16.4.25 to 7.8.25 ...	22.9.25.
Francisco ...	Williams J. C ...	J. C. Nettleship	No. A.	Ellerman Wilson ...	Form 911 15.7.25 to 23.8.25 ...	28.8.25.
Freya	Angus, W. ..	J. H. Hennessey, J. Murray	,, A.	Scottish Fishery Board	,, 23.7.25 to 12.9.25 ...	14.9.25.
Gallic	Summers, F. P., 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.
Galtymore ...	Ledsome, J. S. ...	N. Goubrough	,, M.	Furness Withy ...	Form 911 5.3.25 to 15.3.25 ...	18.3.25.

Name of Vessel.	Captain.	Observing Officers.	Official Meteoro-logical Equipment.	Line.	Last Log Register, or Report Contributed. Received up to 16.10.25.	Date Received.
Garoet	Visser, C. W. ...	C. J. Vandenboom	No. M.	Rotterdam Lloyd ...	Form 911 11.7.25 to 17.9.25 ...	8.10.25.
Gascoyne ...	Mills, A.	P. G. Collins	,, A.	Dalgety & Co. ...	,, 21.10.24 to 1.2.25 ...	9.3.25.
Gelria	Kolkman, J. M. ...	K. H. Schilp	,, M.	Holland Lloyd ...	,, 10.4.25 to 28.5.25 ...	2.6.25.
Glenamoy, M.V. ...	Angier, J. ...	R. H. Bishop	,, A.	Glen Line	,, 25.7.25 to 12.8.25 ...	8.9.25.
Glenapp, M.V. ...	Griffith, J. E. ...	S. W. Bell	,, A.	,, ...	,, 8.3.25 to 18.3.25 ...	22.6.25.
Glenluce, M.V. ...	Barkley, E. ...	J. D. Richards	,, A.	,, ...	,, 22.2.25 to 24.3.25 ...	30.3.25.
Glenshane ...	Bennett, J. H. ...	R. A. Dale	,, A.	,, ...	,, 10.8.25 to 20.8.25 ...	31.8.25.
Gloucestershire ...	Robin, E. ...	M. W. Simmons	,, A.	Bibby	,, 18.7.25 to 27.9.25 ...	1.10.25.
Gorgon... ...	Hughes, J. W. ...	W. Simpson	,, A.	A. Holt & Co. ...	,, 2.8.25 to 14.9.25 ...	12.10.25.
Gourko... ...	Montgomery, H. ...	N. J. Donovan	M.L.	Ellerman Wilson ...	Met. Log. 12.11.24 to 2.4.25 ...	24.4.25.
Haliartus ...	Marsh, L. V. ...	W. H. Upton	No. A.	R. P. Houston ...	Form 911 13.6.25 to 10.7.25 ...	1.8.25.
Harmonides ...	Hughes, W. J. ...	D. L. Roberts	,, A.	,, ...	,, 1.3.25 to 16.3.25 ...	30.4.25.
Harmony, Auxy.	Jackson, J. C. ...	A. W. Bush	,, A.	Moravian Mission ...	,, 29.6.25 to 25.8.25 ...	14.9.25.
Hatarana ...	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.
Hauraki, M.V. ...	Frew, J. D. ...	A. K. Champion	No. M.	Union S.S. Co., N.Z....	,, 3.7.25 to 25.7.25 ...	16.9.25.
Henry Holmes, C.S.	Bicker Caarten, A.	R. J. M. Pearce	,, M.	W. I. & Panama Telegraph Co.	,, 7.7.25 to 5.9.25 ...	23.9.25.
Herald	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.
Herefordshire ...	Stanley, W. ...	J. E. Cullen, G. Whitworth, P. S. Cooper, H. G. Walton	,,	Bibby	,, 28.3.35 to 13.9.25 ...	8.10.25.
Herschel ...	Davies, G. W. ...	J. M. Edgar	No. A.	Lamport & Holt ...	Form 911 19.7.25 to 20.9.25 ...	30.9.25.
Hibernia ...	Tanner, E. B. ...	R. Woodall	C.C.	L.M. & S. Rly. ...	Telegraphic Report. 26.9.25 ...	26.9.25.
Highland Enterprise	Pond, R. H. ...	J. H. Titton	No. A.	Nelson	Form 911 31.1.25 to 26.4.25 ...	12.5.25.
,, *Glen* ...	Jones, T. J. ...	C. M. Best	,, A.	,, ...	,, 20.7.25 to 12.9.25 ...	24.9.25.
,, *Heather*	Powell, G. A. ...	J. H. Cables, F. Jeyes ...	M.L.	,, ...	Met. Log. 10·12·24 to 1·6·25 ...	16.6.25.
,, *Laddie*...	Alford, C. ...	G. L. Goodman	No. A.	,, ...	Form 911 28.5.25 to 19.7.25 ...	22.7.25.
,, *Piper* ...	Collings, D. ...	A. S. Jones, J. S. Collins, W. T. Breen.	M.L.	,, ...	Met. Log. 6.1.25 to 25.5.25 ...	10.6.25.
,, *Pride* ...	Robinson, R. H. ...	F. Falconer, R. R. Soanes, G. E. Leech.	,,	,, ...	,, 13.3.25 to 3.8.25 ...	17.8.25.
Rover ...	Ashby Graves, F. ...	F. W. Harvey, H. Thomas, F. Abbott.	,,	,, ...	,, 2.7.25 to 29.8.25 ...	17.9.25.
,, *Warrior*	Robinson, R. H. ...	G. I. Evans	No. M.	... ...	Form 911 1.6.25 to 29.7.25 ...	10.8.25.
Hildebrand ...	Maddrell, J. ...	R. S. H. Goodier	,, A.	Booth	,, 18.3.25 to 1.5.25 ...	4.5.25.
Hobsons Bay ...	Kydd, O. J. ...	J. E. Williams, O. J. Edwards, M. P. Pearce.	M.L.	Commonwealth Govt.	Met. Log. 2.12.24 to 12.3.25 ...	8.4.25.
Holbein ...	Gough, W. A. ...	G. P. Kitto, E. King ...	No. M.	Lamport & Holt ...	Form 911 25.5.25 to 25.7.25 ...	1.8.25.
54 *Homeric* ...	Holme, A. ...	A. E. Dyer, A. Griffiths, S. A. Jones.	W.T.	White Star	W.T. Reg. 17.9.25 to 2.10.25 ...	5.10.25.
Honorius ...	Samuels, C. ...	J. E. Martin, W. G. Iddes ...	No. A.	R. P. Houston ...	Form 911 27.7.25 to 27.8.25 ...	31.8.25.
Hororata ...	Haines, F. P. ...	... ...	,, M.	New Zealand S.S. Co.	... ...	...
Hubert... ...	Buck, R. H. ...	G. H. Jordan	,, A.	Booth	Form 911 6.8.25 to 28.8.25 ...	14.9.25.
Hurunui ...	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.
Ibex	Langdon, C. ...	... ...	C.C.	G.W. Railway ...	Telegraphic Report. 19.3.25 ...	19.3.25.
Iceland, Auxy. Brigantine.	Worsley, F.A., D.S.O., O.B.E., Commr., R.N.R.	... ...	M.L.	Algarsson Polar Expedition.	... ...	...
Ikala	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.
Ingoma ...	Barrow, R. K. ...	O. Stanhope	,, A.	Harrison	,, 19.7.25 to 31.8.25 ...	2.9.25.
Intaba	Gibbings, W. A. ...	A. M. Hughes	,, A.	,, ...	,, 23.8.25 to 5.10.25 ...	10.10.25.
Iris, C.S. ...	Hughes, H. R. ...	... ...	,, M.	Pacific Cable Board ...	... ...	...
Iroquois ...	Jackson, A. L., Commr., R.N.	A. K. Baxendell	M.L.	His Majesty's Ship ...	Met. Log. 19.4.25 to 16.8.25 ...	28.9.25.
Ixion	Reed, G. C. ...	A. R. Cook	No. A.	A. Holt	Form 911 19.5.25 to 10.8.25 ...	12.8.25.
Jervis Bay ...	Chaplin, W. R. ...	R. W. Laycock	,, M.	Commonwealth Govt.	,, 23.7.25 to 9.10.25 ...	15.10.25.
John Pender, C.S.	Smythe, T. W., O.B.E.	A. G. Watts	,, A.	Eastern Tel. Co. ...	,, 6.5.25 to 12.5.25 ...	8.6.25.
Junin	Benson, C. W. ...	A. Beharrel	,, A.	Pacific S.N. Co. ...	,, 16.5.25 to 5.6.25 ...	17.6.25.
Kaikoura ...	McNish, R. ...	H. E. Reilly, H. Neagle, D. Glegg, S. Toyne.	M.L.	New Zealand S.S. Co.	Met. Log. 26.1.25 to 8.8.25 ...	26.8.25.
Kaisar-i-Hind ...	Manley G. ...	G. R. Baker	No. M.	P. & O.	Form 911 8.8.25 to 29.9.25 ...	10.10.25.
Kamo Maru ...	Shiratori, S. ...	F. Takaku	,, A.	Nippon Yusen Kaisha	,, 8.8.25 to 8.9.25 ...	9.9.25.
Kangaroo ...	Norris, H. C. ...	R. J. Sinclair, V. J. Denton, V. Gilbert, J. Egglestone.	M.L.	State Service Australia	Met. Log. 27.8.24 to 11.3.25 ...	25.5.25.
Kashmir ...	Stringer, R. H., O.B.E., R.D., Commr. R.N.R.	F. Hopkins	No. M.	P. & O.	Form 911 24.8.24 to 8.9.24 ...	18.11.24.
Kathlamba ...	Mordue, J. A. ...	... ...	,,	Ellerman Bucknall ...	... ...	...
Kellett	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.
Kenilworth Castle	Millard, L. A. ... George J., O.B.E.	A. E. Denn, W. M. Tomkins — May.	,,	Union Castle ...	,, 16.5.24 to 25.1.25 ...	6.2.25.
Khiva	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.
Khyber... ...	Collyer, R. M. M., R.D., Commr., R.N.R.	J. C. Davies	No. M.	,, ...	Form 911 25.3.25 to 10.5.25 ...	14.5.25.
Kia Ora ...	McIntosh, A. ...	A. E. Lockhart	,, A.	Shaw Savill & Albion	,, 28.4.25 to 10.9.25 ...	25.9.25.
Kildonan Castle...	Wilford, T.H. ...	G. H. Pickering	,, A.	Union Castle ...	,, 19.6.25 to 9.8.25 ...	11.8.25.
Kitano Maru ...	Gotoh, M.	M. Hara	,, A.	Nippon Yusen Kaisha	,, 16.7.25 to 6.8.25 ...	14.9.25.
Knight Companion	Beale, H. E. ...	J. J. Daniel, A. M. Hunter...	,, M.	A. Holt	,, 8.7.25 to 23.7.25 ...	24.8.25.
Kovno ...	Casson, D. H., R. D., Commr., R.N.R. Brown, A. M. ...	L. Griffiths, J. Sanders, J. Marshall, T. Tindell, N. W. Glendinning, F. T. Shaw.	M.L.	Ellerman Wilson ...	Met. Log. 26.7.24 to 20.4.25 ...	24.4.25.
Kyogle... ...	Coalstad, C. ...	C. B. Odman, E. W. Hughes	No. A.	Commonwealth Lighthouse Service.	Form 911 13.11.24 to 13.12.24	19.1.25.
Lady Denison Pender, C.S.	West, G. W. ...	F. Lawrence	,, A.	Eastern Tel. Co. ...	,, 2.7.25 to 14.8.25 ...	15.9.25.
Laguna ...	Pape, E. R. ...	W. P. Boon	,, A.	Pacific S.N. Co. ...	,, 16.8.25 to 31.8.25 ...	21.9.25.
Lalande ...	Taylor, G. C. ...	H. Phillips	,, A.	Lamport & Holt ...	,, 24.4.25 to 13.5.25 ...	6.7.25.
Lancashire ...	Beckett, F. W. ...	W. M. S. Higginson ...	,, A.	Bibby	,, 9.5.25 to 19.7.25 ...	14.8.25.
36 *Lancastria* ...	... ...	... ...	W.T.	Cunard	... ...	...
Laomedon ...	Blues, A. ...	H. Howe...	No. A.	A. Holt	Form 911 21.6.25 to 11.7.25 ...	9.9.25.
La Paz, M.V. ...	Ross, J.	A. Davies	,, M.	Pacific S.N. Co. ...	,, 14.6.25 to 18.7.25 ...	23.7.25.
Laplace ...	Shaw, W. ...	W. Boyde, R. B. Langley ... R. E. Wiggins.	,, A.	Lamport & Holt ...	,, 19.4.25 to 19.7.25 ...	18.8.25.
55 *Lapland* ...	Howell, T. ...	B. Harries, E. Cornellie, F. Good.	W.T.	Red Star	W.T. Reg. 20.9.25 to 8.10.25 ...	12.10.25.
					Form 911 19.9.25 to 8.10.25 ...	10.10.25.

Name of Vessel.	Captain.	Observing Officers.	Official Meteoro-logical Equipment.	Line.	Last Log, Register, or Report Contributed. Received up to 16.10.25.	Date Received.
Lassell, M.V. ...	Hickman, V. T. ...	F. J. Durrant	No. A.	Lamport & Holt ...	Form 911 4.5.25 to 7.8.25 ...	8.9.25.
Leicestershire ...	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.
Leighton, M.V. ...	Lindesay J. M. ...	... ...	No. A.	Lamport & Holt ...	... ...	...
Leitrim ...	Robertson, A. ...	E. F. C. Higgins	,, A.	Dowie, J., & Co. ...	Form 911 14.7.25 to 4.8.25 ...	16.9.25.
Llanstephan Castle	Owen, S. H. ...	J. B. M. Reynolds... ...	,, A.	Union Castle ...	,, 20.9.24 to 25 11.24...	29.11.24.
Loch Katrine ...	Shillittoe, B. ...	C. Noakes, C. N. Hatchard	,, M.	R.M.S.P. Co. ...	,, 15.3.24 to 12.6.25 ...	18.6.25.
London Commerce	Young, H. J., D.S.C.	H. P. Longland	,, A.	Furness Withy ...	,, 1.8.25 to 2.9.25 ...	4.9.25.
London Importer ..	Williamson, J. M. ...	G. Lusty	,, A.	,, ,, ...	... ...	...
Loriga, M.V. ...	Barkley, E. ...	W. N. Anders	,, A.	Pacific S.N. Co. ...	,, 22.5.25 to 6.8.25 ...	25.8.25.
Losada, M.V. ...	Meldrum, G. W. ...	A. H. Turner	,, M.	,, ,, ...	,, 29.6.25 to 9.9.25 ...	14.9.25.
Macedonia ...	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.
Macharda ...	Cochran, G. ...	W. Moore	,, A.	Brocklebank ...	,, 6.9.24 to 24.11.24 ...	5.12.24.
Mahana ...	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.
Maharaja ...	Perry, C. R. ...	C. B. Miller, D. M. Swaine...	,, M.	Asiatic S.N. Co. ...	,, 18.5.25 to 7.6.25 ...	6.7.25.
Maihar ...	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.
Maimyo ...	Richardson, T. ...	P. Yates...	No. A.	,, ...	Form 911 31.5.25 to 21.6.25 ...	1.8.25.
Maine	Seymour, H. ...	A. S. Smith	,, A.	Atlantic Transport ...	,, 20.4.25 to 26.5.25 ...	15.6.25.
58 *Majestic* ...	Metcalfe, G. R. ...	L. Thompson, W. Pearson, W. T. Poustie, J. A. Macnaughton.	W.T.	White Star	W.T. Reg. 3.9.25 to 17.9.25 ...	21.9.25.
					Form 911 24.9.25 to 8.10.25 ...	12.10.25.
Makambo ...	Brown, T. M. ...	F. C. Vogelmann ...	M.L.	Burns Philp ...	Met. Log. 5.3.25 to 19.7.25 ...	1.9.25.
Makura ...	Brown, A. Worrall, L. C. H. ...	J. D. Lundie, D. Todd, A. R. Noble.	,,	Canadian-Australasian	,, 11.3.25 to 2.7.25 ...	21.9.25.
Malakuta ...	Maugham, J. W. ...	... ...	No. M.	Brocklebank ...	... ...	...
Malancha ...	Whitham, F. ...	A. Hill	,, M.	,, ...	Form 911 4.9.25 to 4.10.25 ...	7.10.25.
Malda	Gray, T. N. ...	R. F. Wetherseed	,, M.	British India ...	,, 19.7.25 to 20.8.25 ...	14.9.25.
Manchester Corporation.	Everest, J. E. ...	W. L. Lavers	,, A.	Manchester Liners ...	,, 13.9.25 to 21.9.25 ...	28.9.25.
Manchester Hero	Riley, J. E. ...	... ...	M.L.	,, ,, ...	... ...	...
Manchester Merchant.	Barclay, J. ...	R. A. Walker	No. A.	,, ,, ...	Form 911 31.7.25 to 10.9.25 ...	15.9.25.
Manchester Shipper	Dormer, A. E. ...	... ...	M.L.	,, ,, ...	... ...	...
Manhattan ...	Hutchison, J. G. ...	R. Day	No. A.	Atlantic Transport ..	Form 911 10.11.24 to 18.12.24	22.12.24.
Manipur ...	Scurr, T. W. ...	H. Willington...	,, M.	Brocklebank ...	,, 20.6.25 to 23.9.25 ...	25.9.25.
Manistee ...	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.
Mantua ...	Butler, G. E. ...	J. Paice	No. M.	P. & O.	Form 911 14.8.25 to 26.8.25 ...	1.10.25.
Manzanares ...	Henderson, J. N. ...	H. E. Lees	,, A.	Elders & Fyffes ...	,, 7.7.25 to 7.8.25 ...	12.8.25.
29 *Marburn* ...	... ...	... ...	W.T.	Canadian Pacific ...	... ...	...
Marella ...	Mortimer S. ... Donaldson, A. ...	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.
Marengo ...	Wilkins, J. ... Collins, T.	F. Eglin, J. E. Stott, J. Donovan.	,,	Ellerman Wilson ...	,, 14.3.25 to 5.9.25 ...	9.10.25.
Margha ...	Milne, A. R., R.D., Commr., R.N.R.	J. Strachan, P. Wright, H. E. Evans, B. Paul.	,,	British India ...	,, 15.2.25 to 12.5.25 ...	20.5.25.
Marglen ...	Griffiths, J. N. ...	E. Eastley	No. A.	Canadian Pacific ...	Form 911 19.2.25 to 9.4.25 ...	14.4.25.
Maryland ...	Hutt, F. C. ...	A. C. Clay	,, A.	Atlantic Transport ...	,, 16.1.25 to 18.2.25 ...	24.2.25.
Matakana ...	Thurston, H. P. ...	A. Chrystal	,, A.	Shaw, Savill & Albion	,, 1.2.25 to 30.5.25 ...	5.6.25.
Mataram ...	Hillman, E. J. ...	K. L. Thompson	,, A.	Burns Philp & Co. ...	,, 18.6.25 to 18.7.25 ...	31.8.25.
Matheran ...	Columbine, F. F. ...	J. A. Embley, J. Robertson, R. E. Gartside.	M.L.	Brocklebank ...	Met. Log. 21.3.25 to 13.6.25 ...	16.6.25.
Mathura ...	Hanna, R. G. ...	H. H. Armstrong	No. M.	,, ...	Form 911 2.8.25 to 13.8.25 ...	24.8.25.
Matiana ...	Langlands, D. H. ...	G. Hopkins	No. M.	British India ...	,, 26.8.25 to 1.10.25 ...	5.10.25.
Maunganui ...	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.
32 *Mauretania* ...	Rostron, A. H., C.B.E., R.D., A.-d.-C., Capt., R.N.R.	R. Allen, E. R. Taylor, A. Mackellar.	W.T.	Cunard	W.T. Reg. 13.9.25 to 27.9.25 ...	29.9.25.
Media	Maughan ...	... ...	No.	T. & J. Brocklebank...	... ...	...
56 *Megantic* ...	Trant, E. L., Commr. R.N.R.	F. A. Billiald, J. Clarke, N. E. Banks.	W.T.	White Star ...	W.T. Reg. 5.9.25 to 26.9.25 ...	29.9.25.
22 *Melita*	Clews, A. H. ...	J. McLennan, D. Dunn, R. Jackson.	,,	Canadian Pacific	,, 2.8.25 to 19.8.25 ...	21.8.25.
					Form 911 29.8.25 to 16.9.25 ...	21.9.25.
Memnon ...	Evans, D. I. ...	R. D. Baird	No. A.	A. Holt	,, 25.4.25 to 18.7.25 ...	8.9.25.
Menominee ...	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.
Mercian ...	Gardner, J. ...	R. Hughes	,, A.	Leyland	,, 12.9.25 to 20 9.25 ...	23.9.25.
21 *Metagama* ...	Henderson W. ...	W. F. Reid, A. Mansey, E. Laurence.	W.T.	Canadian Pacific ...	W.T. Reg. 2.8.25 to 17.9.25 ...	21.9.25.
Miami... ...	Makepeace, S. ...	H. Dunning, W. E. Grant ...	No. A.	Elders & Fyffes ...	Form 911 28.7.25 to 29.8.25 ...	2.9.25.
Minderoo ...	Richardson, E. ...	B. J. Bennie, W. J. McPhedron, J. H. Oxton.	M.L	West Australia Nav. Co.	Met. Log. 27.11.24 to 16.5.25...	15.7.25.
Minna ...	Mackenzie, G. G. ...	D. Rattray	No. A.	Scottish Fishery Board	Form 911 30.7.25 to 7.9.25 ...	9.9.25.
23 *Minnedosa* ...	Notley, A. H., R.D., Commr., R.N.R.	D. S. Loram	W.T.	Canadian Pacific ...	W.T. Reg. 12.9.25 to 30.9.25 ...	12.10.25.
Minnetonka ...	Gates, T. F., C.B.E.	H. E. McCartney	,, M.	Atlantic Transport ...	Form 911 14.9.25 to 3.10.25 ...	6.10.25.
Minnewaska ...	Claret, F. ...	W. S. Mackie	,, M.	,, ,, ...	,, 13.9.25 to 19.9.25 ...	22.9.25.
Mirror, C.S. ...	Gibson, L. ...	C. E. F. St. John	,, M.	Eastern Tel. Co. ...	,, 2.4.25 to 29.5.25 ...	30.6.25.
Mississippi, M.V.	Wylie, J. T. J. ...	H. K. Cockerill	,, A.	Atlantic Transport ...	,, 17.5.25 to 28.5.25 ...	3.6.25.
Moena ...	Morzer Bruyns. M. F.	G. H. Vander Roest ...	,, M.	Nederland	,, 18.12.24 to 6.2.25 ...	10.2.25.
Moldavia ...	Burleigh, C. W., D.S.O., Capt. R.N.R.	... ...	,, M.	P. & O.	... ...	...
Mongolian Prince	Durrant, G. D. ...	P. F. Owens	,, A.	Prince	Form 911 22.2.25 to 11.4.25 ...	15.4.25.
Monkbarns, Ship	Davies, W. ...	R. Baise	,, A.	J. Stewart & Co. ...	,, 17.7.25 to 12.9.25 ...	14.10.25.
24 *Montcalm* ...	Sibbons, H. ...	H. McFadyen	W.T.	Canadian Pacific ...	W.T. Reg. 6.9.25 to 24.9.25 ...	28.9.25.
25 *Montclare* ...	Webster, G. S., R.D., Commr., R.N.R.	R Fegan, W. Phillips, H. S. Knight.	,,	,, ,, ...	,, 12.9.25 to 1.10.25 ...	3.10.25.
					Form 911 12.9.25 to 1.10.25 ...	3.10.25.
Montferland ...	Van Noppen, C. D.	Van der Mast	No. M.	Holland Lloyd ...	,, 23.7.25 to 12.8.25 ...	13.10.25.
27 *Montnairn* ...	Turnbull, J., C.B.E., R.D., Capt., R.N.R.	F. E. Williams, J. Shearer, A. Piggott.	W.T.	Canadian Pacific ...	W.T. Reg. 19.9.25 to 8.10.25 ...	12.10.25.
Montoro ...	Donaldson, A. ...	K. Morris	No. A.	Burns, Philp & Co. ...	,, 3.7.25 to 16.8.25 ...	3.10.25.
26 *Montrose* ...	Landy, E. ...	T. Beck, C. Clarke, A. Mansey	W.T.	Canadian Pacific ...	W.T. Reg. 14.7.25 to 16.7.25 ...	20.7.25.
					Form 911 26.6.25 to 17.7.25 ...	20.7.25.

Name of Vessel.	Captain.	Observing Officers.	Official Meteoro-logical Equipment.	Line.	Last Log, Register, or Report Contributed. Received up to 16.10.25.	Date Received.
20 *Montroyal* ...	Latta, R. G. ...	J. H. Tudor, A. K. Benham	W.T.	Canadian Pacific ...	W.T. Reg. 1.8.25 to 20.8.25 ...	24.8.25.
Moresby ...	Edgell, J. A., O.B.E., Capt. R.N.	... ...	M.L.	His Majesty's Ship ...	... ...	
Mulbera ...	Steadman, W. R. ...	H. W. Norris	No. M.	British India ...	Form 911 8.8.25 to 26.8.25 ...	14.9.25.
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.	,, 5.9.25 to 22.9.25 ...	5.10.25.
Nardana ...	Moth. F. L. ...	S. C. T. Smith	,, M.	British India ...	,, 16.6.25 to 20.7.25 ...	7.9.25.
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. ...	A. S. Watts, T. D. Roseburgh	,,	Hudson's Bay Co. ...	,, 16.6.24 to 17.10.24...	23.10.24.
Nellore... ...	Hignett, A. H., R.D., Lt. - Commr. R.N.R.	F. Squire	No. M.	P. & O.	,, 25.7.25 to 24.8.25 ...	14.9.25.
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. 12.9.24 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.
Nore	Parker, J. W. ...	R. W. Mackie, C. B. Roche, G. Haughey, C. W. Maine.	M.L.	P. & O.	Met. Log. 9.7.25 to 8.10.25 ...	14.10.25.
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. Pearse, J. A. Prosser.	M.L	Western Tel. Co. ...	Met. Log. 16.2.25 to 1.9.25 ...	28.9.25.
Norseman, C.S. {	Barter, H. O. ...					
Nubian ...	Watmough, T. M. ...	H. R. Gaskill	No. A.	Leyland	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* ...	Matthews, G. P. ...	P. M. Burrell, R. W. Stoney, Jennings.	W.T.	R.M.S.P. Co. ... {	W.T. Reg. 14.9.25 to 1.10.25 ...	5.10.25.
					Form 911 13.9.25 to 1.10.25 ...	5.10.25.
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. 11.9.25 to 24.9.25 ...	26.9.25.
					Form 911 10.9.25 to 24.9.25 ...	28.9.25.
Orama... ...	Staunton, H. G., C.B.E., R.D., Commr, R.N.R.	L. J. Vesty, F. Butler, M. C. Lester, J. S. Metcalf.	M.L.	Orient	Met. Log. 8.3.25 to 10.6.25 ...	15.6.25.
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. ...	B. C. Dodds, H. G. Whittle, H. M. Rennie, H. Baylis.	W.T.	R.M.S.P. Co. ... {	W.T. Reg. 21.9.25 to 12.10.25 ...	15.10.25.
					Form 911 20.9.25 to 13.10.25...	15.10.25.
Orcoma ...	Dominy, R. H., C.B.E., Commr. R.N.R.	G. B. Wardale, L. Jones, W. Billington.	M.L.	Pacific S.N. Co. ...	Met. Log. 21.5.25 to 3.8.25 ...	13.8.25.
41 *Orduna* ...	Le Brecht, H. A. ...	J. Vivian, W. Lowe, R. Hey	W.T.	R.M.S.P. Co. ... {	W.T. Reg. 7.9.25 to 27.9.25 ...	30.9.25.
					Form 911 7.9.25 to 27.9.25 ...	30.9.25.
Oriana... ...	Mander, T. ...	R. E. Skellorn, R. D. Eckford, T. H. McGill.	M.L.	Pacific S.N. Co. ...	Met. Log. 12.5.25 to 20.7.25 ...	1.8.25.
Orita	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.
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... ...	Simner, G. L., R.D., Commr., R.N.R.	A. O. H. O'Bryen, 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.	,, 17.9.25 to 28.9.25 ...	2.10.25.
Oxfordshire ...	Crumplin, W. E. ...	F. C. Brooks	,, A.	Bibby Bros. ...	,, 1.8.25 to 30.8.25 ...	28.9.25.
Pacific Shipper M.V.	Newman, G. W. A.	R. S. Smith	,, A.	Furness Withy ...	,, 25.12.24 to 12.1.25...	14.4.25.
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 Rly. ...	Telegraphic Report. 6.6.25 ...	6.6.25.
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.
Peshawur ...	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.
Philadelphian ...	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 & Dominion.	Met. Log. 5.2.25 to 11.6.25 ...	17.6.25.

Name of Vessel.	Captain.	Observing Officers.	Official Meteorological Equipment.	Line.	Last Log, Register, or Report Contributed. Received up to 16.10.25.	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* ...	Renaut, F. A. ..	T. Copeland, E. Fenton, C. Chamberlin.	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. ...	E. T. N. Lawrey ...	,, A.	,, ,, ,,	,, 27.6.25 to 5.8.25 ...	16.9.25.
,, *Denison* ...	Ferris, J. ...	W. H. Sadler, J. C. Goddard	,, M.	,, ,,	,, 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. ...	... ...	,,	,, ,, ,,	,, ...	...
,, *Pirie* ...	Higgs, W. G. ...	H. C. Jeffery, W. G. Jones, J. T. Nicholson, E. G. L. Jones.	,,	,, ,, ,,	,, 12.2.25 to 29.6.25 ...	11.7.25.
,, *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. ...	... ...	...
President Jackson	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 1.7.25 to 31.7.25 ...	8.9.25.
Pyrrhus ...	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. 26.4.25 to 3.10.25 ...	7.10.25.
Reindeer ...	Mulhall, W. ...	... ...	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 27.3.25 to 28.6.25 ...	6.7.25.
Rimutaka ...	Hemming, 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.
Risaldar ...	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.	,, 13.9.25 to 2.10.25 ...	5.10.25.
Royal Transport...	Dove, J.	C. Feaver	,, A.	Houlder Bros. ...	,, 29.7.25 to 28.8.25 ...	14.9.25.
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 ...	Form 911 24.12.24 to 20.6.25...	27.6.25.
St. Albans ...	Pilcher, E.	W. McIntyre	,,	Eastern and Australian	,, 10.9.24 to 18.11.24...	19.1.25.
St. Helier ...	Mulhall, W. ...	C. Bell	C.C.	G.W. Railway ...	Telegraphic Report 30.9.25 ...	30.9.25.
St. Julien ...	Langdon, C. H. ...	C. Joy	,,	,, ...	,, ,, 15.10.25 ...	15.10.25.
St. Patrick ...	Bearpark, E. W. ...	J. Hill	No. A.	Rankin Gilmour ...	Form 911 27.6.25 to 7.8.25 ...	26.8.25.
Salaga	Sola, P., D.S.O. ...	G. E. Dutton	,, A.	Elder Dempster ...	,, 16.8.25 to 31.8.25 ...	28.9.25.
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. 22.8.25 to 11.9.25 ...	22.9.25.
					,, 19.9.25 to 10.10.25...	13.10.25.
					Form 911 21.8.25 to 10.10.25...	13.10.25.
Saxoleine ...	Biddick, E. ...	B. Johnsen	No. A.	Hunting & Son ...	,, 31.8.25 to 19.9.25 ...	14.10.25.
Saxon	Owen, S. H. ...	F. O. Wilbraham	,, A.	Union Castle ...	,, 17.7.25 to 7.9.25 ...	8.9.25.
Scholar ...	McCullum, J. ...	J. D. Grieves	,, M.	Harrison	,, 1.4.25 to 20.6.25 ...	2.7.25.
Scindia ...	Caithness, J. B. ...	R. S. Paton	,, A.	Anchor	,, 8.6.25 to 10.7.25 ...	14.7.25.
Scotia	Prichard, S.D. ...	O. W. L. Jones	C.C.	L.M. & S. Rly. ...	Telegraphic Report 3.10.25 ...	3.10.25.
Scottish Bard ...	McDonnell, S. ...	S. W. Watts	No. M.	Tankers Ltd. ...	Form 911 30.8.25 to 18.9.25 ...	21.9.25.
Scottish Strath ...	French, A. L. ...	W. Black	,, M.	,, ...	,, 9.11.24 to 14.12.24...	3 1 25.
33 *Scythia* ...	Prothero, W. ...	T. Parry, J. C. Munro, J. W. Caunce.	W.T.	Cunard	W.T. Reg. 21.9.25 to 12.10.25...	15.10.25.
					Form 911 21 9.25 to 12.10.25...	15.10.25.
Sheaf Mount ...	Groves, C. V. ...	C. A. Goold	No. A.	W. A. Souter ...	,, 4.9.25 to 22.9.25 ...	10.10.25.
Sheaf Spear ...	Whitfield G. A., O.B.E.	W. H. Grisewood, N. Thompson.	M.L.	,, ...	Met. Log. 7.12.24 to 16.7.25 ...	19.8.25.
Sicilia	Davis, H. C., D.S.C., R.D., Commr., R.N.R.	G. C. Bateman	No. M.	P. & O.	Form 911 17.2.25 to 16.3.25 ...	21.4.25.
Socrates ...	Bibby, A. R. ...	W. E. Jordan	,, A.	Lamport & Holt ...	,, 11.8.25 to 9.9.25 ...	24.9.25.
Soekaboemi ...	Lap, J.	W. N. de Wijn	,, M.	Rotterdam Lloyd ...	,, 14.4.25 to 13.5.25 ...	19.5.25.
Somerset ...	Barnett, H. ...	J. J. Youngs	,, M.	N.Z.S. Co.	,, 27.6.25 to 16.7.25 ...	24.8.25.
Somersetshire ...	De Legh, P. ...	P. Hawkins, R. C. Lietch, M. Simmons.	M.L.	Bibby	Met. Log. 20.3.25 to 21.6.25 ...	4.7.25.
Somme... ...	Spriddell, F. G. ... Miles, F. R., Commr., R.N.R. ...	K. W. Simpton, H. Chamberlian, V. Hill, C. C. Prosser.	,,	R.M.S.P. Co. ...	,, 16.2.24 to 29.9.24 ...	18.11.24.
Songster ...	Jackson, J. ...	W. Weatherall, W. Wilford, L. Bull.	,,	Harrison	,, 6.3.25 to 16.5.25 ...	29.5.25.
Spectator ...	Harding, C. H. J. ...	D. Fraser, J. G. F. Betson ...	No. A.	,, ...	Form 911 10.5.25 to 11.9.25 ...	1.10.25.
Spero	French, H. E. ... Rowntree, G. ...	W. Harbord, R. O. Otley	M.L.	Ellerman Wilson ...	Met. Log. 15.8.24 to 16.5.25 ...	12.6.25.
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	,, 24.2.25 to 7.4.25 ...	28.4.25.
Stockwell ...	Kershaw, R. W. ...	... ...	No.	Brocklebank ...	... ...	...
Stuart Prince ...	Durrant, G. D. ...	W. C. Freeman	,, A.	Prince	Form 911 17.6.25 to 29.7.25 ...	4.8.25.
Surrey	Field, H. G. B. ...	C. P. Jackson, C. H. Landfield.	M.L.	Federal	Met. Log. 2.11.24 to 28.3.25 ...	14.4.25.
Sussex	Upton, E. C. S. ...	W. A. Ewington	No. A.	... ...	Form 911 28.10.24 to 13.11.24	15.12.24.
Tainui ...	Hartman, W. H. ...	P. S. Horwood	,, A.	Shaw, Savill & Albion	,, 18.7.25 to 23.8.25 ...	3.10.25.
Tuiroa	Summers, W. G. ...	S. A. Bannister	,, A.	,, ,, ,,	,, 2.7.25 to 10.8.25 ...	12.10.25.

Name of Vessel.	Captain.	Observing Officers.	Official Meteorological Equipment.	Line.	Last Log, Register, or Report Contributed. Received up to 16.10.25.	Date Received.
Tahiti ...	Aldwell, B. L. ...	G. F. C. Mugford	No. A.	Union S.S. Co. of N.Z.	Form 911 24.7.25 to 4.9.25 ...	14.10.25.
Taiyuan ...	Hamilton, H. E. ... Thomas, R. D. ...	W. Bailley	M.L.	Yuill & Co. ...	Met. Log. 20.12.24 to 5.5.25 ...	6.7.25.
Talthybius ...	Lloyd, R. ...	P. Elder	No. A.	A. Holt	Form 911 2.7.25 to 16.7.25 ...	11.8.25.
Tanda ...	Pilcher, E. ...	... ...	M.L.	E. & A. S.S. Co. ...	... ...	...
Tambora ...	Huisman, N. ...	H. Van Manen	No. M.	Rotterdam Lloyd ...	,, 18.6.25 to 6.8.25 ...	22.8.25.
Teiresias ...	Holden, W. R. F. ...	R. S. Young	,, A.	A. Holt	,, 8.1.25 to 28.1.25 ...	2.2.25.
Teucer	Nixon, R.	A. Lightbody	,, A.	,, ...	,, 4.8.25 to 2.9.25 ...	28.9.25.
Themistocles ...	Jermyn, W. M. ...	W. F. Sargent	,, M.	Aberdeen	,, 20.6.25 to 30.7.25 ...	4.9.25.
Theseus ...	Batt, A. E. ...	J. T. Fettes	,, A.	A. Holt	,, 1.9.25 to 14.9.25 ...	21.9.25.
Titan	Wilkinson, T. G. ...	S. C. Tinmouth, J. Morris, N. L. Thompson.	M.L.	,, ...	Met. Log. 19.4.25 to 11.9.25 ...	6.10.25.
Tolmie, 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.
Trematon ...	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.
Tuscania ...	Bone, D. W. ...	J. W. Cherry	No. A.	Anchor	Form 911 13.7.25 to 12.9.25 ...	21.9.25.
Tyndareus ...	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.
Ulimaroa ...	Wyllie, W. J. ...	J. Gilbertson	No. M.	Huddart Parker, Ltd.	Form 911 17.10.24 to 23.11.24	19.1.25.
Ulysses ...	McHutcheon, W. ...	T. R. Phillips	,, A.	A. Holt	,, 19.8.25 to 5.10.25 ...	9.10.25.
Umvolosi ...	Barnes, E. W. ...	R. L. Jefferson	,, A.	Bullard King ...	,, 27.6.25 to 26.7.25 ...	24.8.25.
Valacia ...	Doyle, M. ...	N. Grayson	,, M.	Cunard	Form 911 19.7.25 to 18.8.25 ...	22.8.25.
Valdura ...	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.
Vardulia ...	Murchie, P. A., R.D., Commr., R.N.R.	A. Bridgewater	No. A.	Cunard	Form 911 15.8.25 to 27.8.25 ...	31.8.25.
Vasconia ...	Inch, F.	L. Hunter	,, A.	,, ...	,, 15.6.25 to 24.6.25 ...	10.7.25.
Vellavia ...	Fear, E. T. C. ...	J. E. Deans	,, A.	,, ...	,, 26.3.25 to 6.4.25 ...	14.4.25.
Ventura de Larrinaga.	Keay, W. S. ...	H. J. Kay	,, A.	Larrinaga	,, 3.12.24 to 28.3.25 ...	19.5.25.
Verbania ...	Pooley, T. S. M. ...	J. G. Wiseman	,, A.	Cunard	,, 23.5.25 to 26.6.25 ...	29.6.25.
Verentia ...	Jones, R. D. ...	A. F. Watts	,, A.	,, ...	,, 6.7.25 to 12.8.25 ...	18.8.25.
Vigilant	Simpson, E. S. S. ...	J. Hunter	,, A.	Scottish Fishery Board	,, 22.7.25 to 9.9.25 ...	14.9.25.
Waiotapu ...	Davey, A.	R. N. Turner.	,, A.	Canadian-Australasian	,, 18.5.25 to 21.8.25 ...	14.9.25.
Walmer Castle ...	Kerbey, J. H. ...	H. A. Deller	,, M.	Union Castle ...	,, 10.7.25 to 31.8.25 ...	14.9.25.
Wangaratta ...	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.
Warfield ...	Steel, R.	H. Coffey	No. A.	,, ,, ...	Form 911 3.8.25 to 30.8.25 ...	21.9.25.
War Nizam ...	Moncrieff, R. ...	D. Beaumont	,, A.	British Tankers ...	,, 21.8.25 to 17.9.25 ...	21.9.25.
Welshman ...	Rollerson, W. ...	W. A. Fletcher	,, M.	White Star-Dominion	,, 31.7.25 to 24.8.25 ...	1.9.25.
White Heather, Ketch	Glenister, S. L. ...	F. R. Smith ...	,,	S. L. Glenister ...	... ...	...
Winifredian ...	Harrocks, W. ...	G. P. Boyle	,, M.	Leyland	,, 9.7.25 to 11.8.25 ...	25.8.25.
Woodarra ...	Reilly, J. V. ...	L. D. Graham, G. Hyland ... L. C. Comber, J. Wallace.	M.L.	British India ...	Met Log. 7.3.25 to 19.8.25 ...	26.8.25.
Yorkshire ...	Millson, G. C. ...	E. E. Jones	No. A.	Bibby	Form 911 23.5.25 to 2.8.25 ...	4.8.25.
Zeeland ...	Thomas, A. J. ...	J. N. Lee	,, M.	Red Star	,, 11.9.25 to 2.10.25 ...	5.10.25.
Conway 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.
Pangbourne Nautical College.	Tracy, A. F. G., Commr., R.N.	,, ...	,,	... ...	Cadets' Met. Log. 10.5.25 to 24.7.25	30.7.25.
Worcester, 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.
Abaco	... ...	The Keepers	Lighthouse Register.	... ...	Lighthouse Register 15.1.25 to 30.6.25	14.10.25.
Cay Lobos ...	... ...	,, ...	,,	... ...	Lighthouse Register 1.7.24 to 31.12.24	9.3.25.
Double Headed Shot	... ...	,, ...		... ...	Lighthouse Register 1.7.24 to 31.12.24	9.3.25.
Inagua... ...	... ...	,, ...	,,	... ...	Lighthouse Register 19.1.25 to 30.6.25	14.10.25.
Sombrero ...	... ...	,, ...	,,	... ...	Lighthouse Register 1.1.25 to 30.6.25	7.8.25.
Watling Island ...	... ...	,, ...	,,	... ...	Lighthouse Register 8.1.25 to 12.7.25	14.10.25.
Cape Pembroke (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 30.9.25.	Date Received.
Herschel	Davis, T. J.	T. Lester Guy	Lamport & Holt ...	Water Samples	...
Hildebrand	Maddrell, J.	H. Welch	Booth	,, ,, ...	3.9.25.
Holbein	Gough, W. A.	G. P. Kitto	Lamport & Holt ...	,, ,, ...	15.8.25.
Manzanares	Henderson, J. N. ...	H. E. Lees	Elders & Fyffes ...	,, ,, ...	26.9.25.
Miami	Makepeace, S.	H. H. Dunning ...	,, ,, ...	,, ,, ...	8.9.25.

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