

SECOND ANNUAL REPORT
OF THE
METEOROLOGICAL COMMITTEE

TO THE
LORDS COMMISSIONERS OF HIS MAJESTY'S
TREASURY,

For the Year ended 31st March, 1907.

Presented to both Houses of Parliament by Command of His Majesty.



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1907.

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SUPPLEMENTARY CHARTS OF BAROMETER AND WIND FOR 8 A.M. AND 8 P.M. YESTERDAY

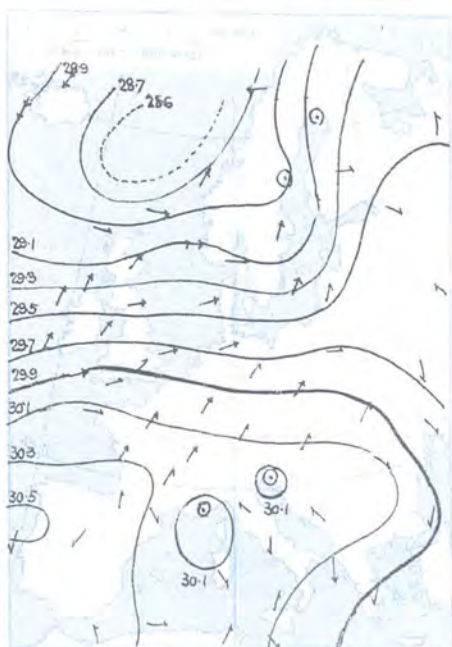
Wednesday,

WEATHER

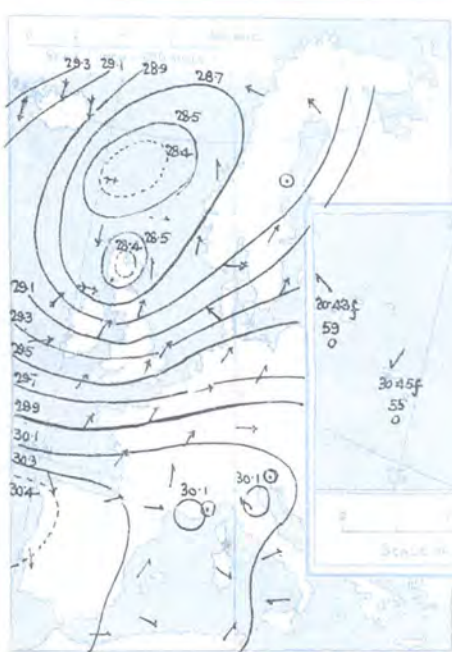
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I. BAROMETER, WIND AND SEA AT 8 A.M. TO-DAY

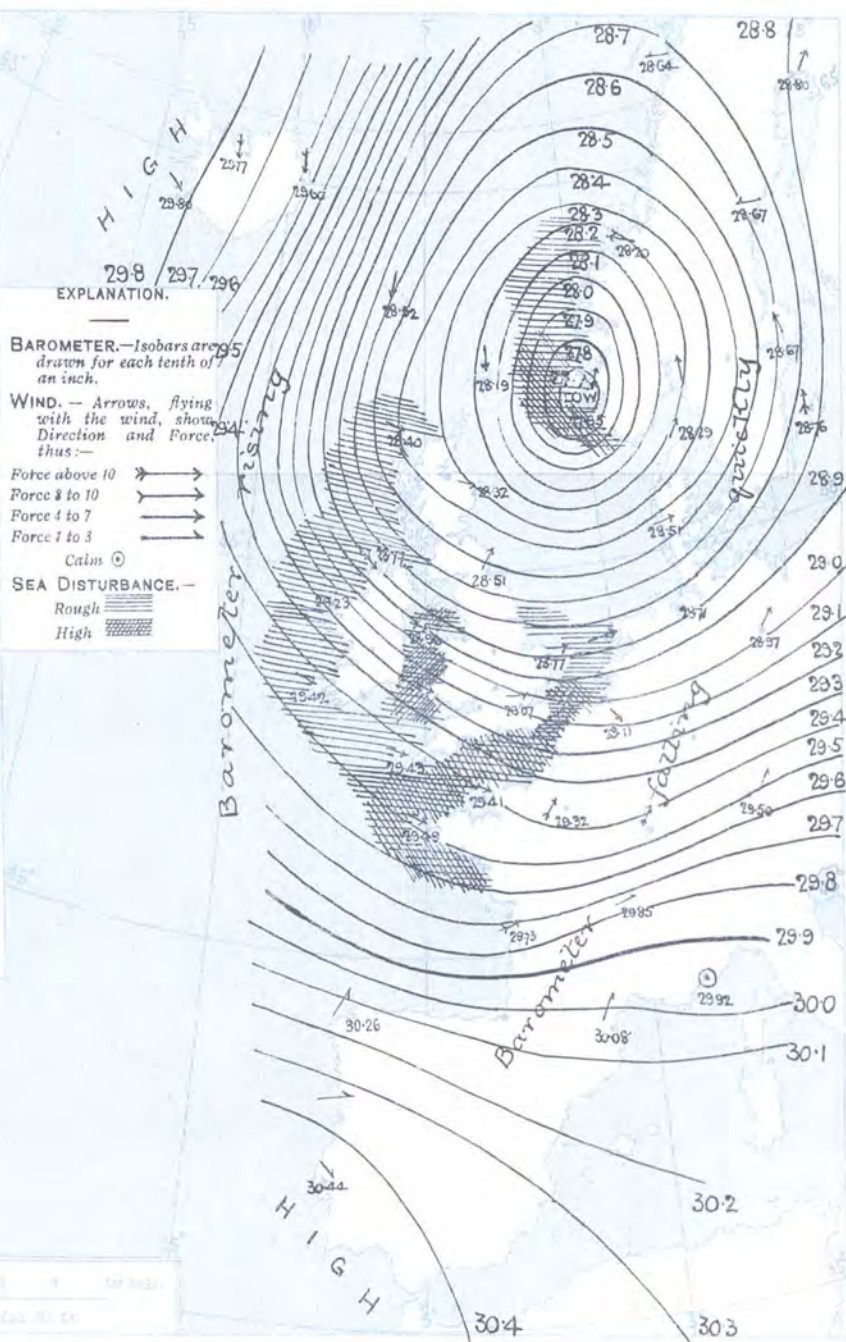
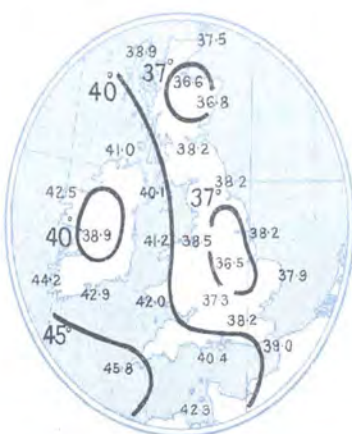
8 A.M. YESTERDAY



6 P.M. YESTERDAY



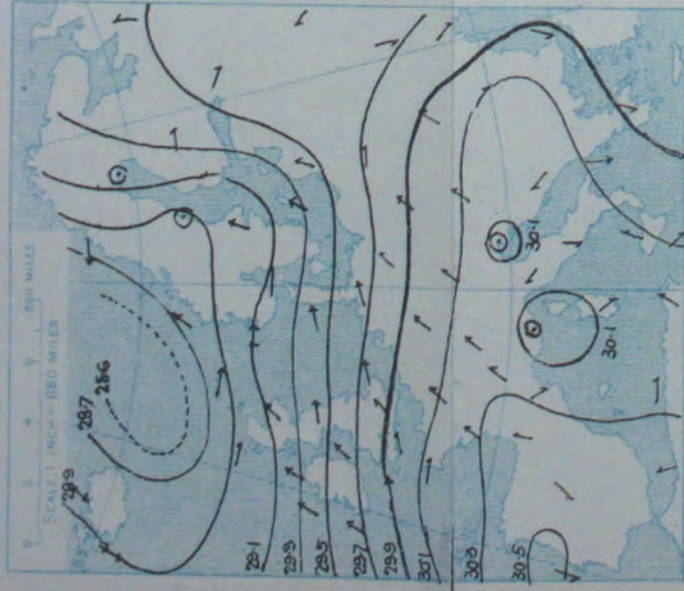
AVERAGES OF TEMPERATURE AT 8 A.M.
FOR THE MONTH OF FEBRUARY
(Derived chiefly from Observations extending over
the 35 years—1871-1905.)



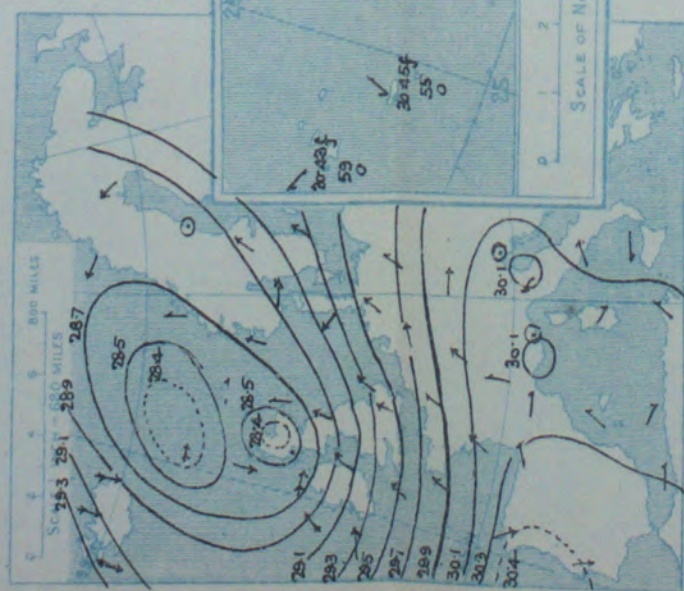
SUPPLEMENTARY CHARTS OF BAROMETER AND WIND

FOR 8 A.M. AND 6 P.M. YESTERDAY

8 A.M. YESTERDAY.

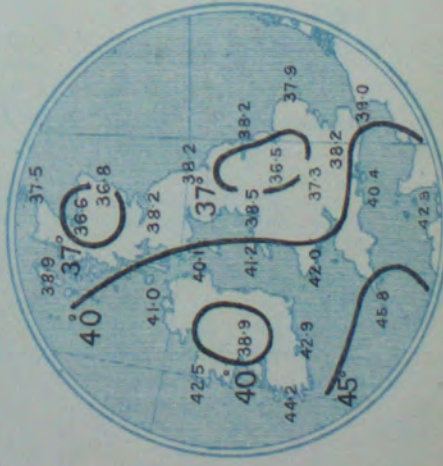


6 P.M. YESTERDAY.



AVERAGES OF TEMPERATURE AT 8 A.M. FOR THE MONTH OF FEBRUARY

(Derived chiefly from Observations extending over the 35 years—1871-1905.)

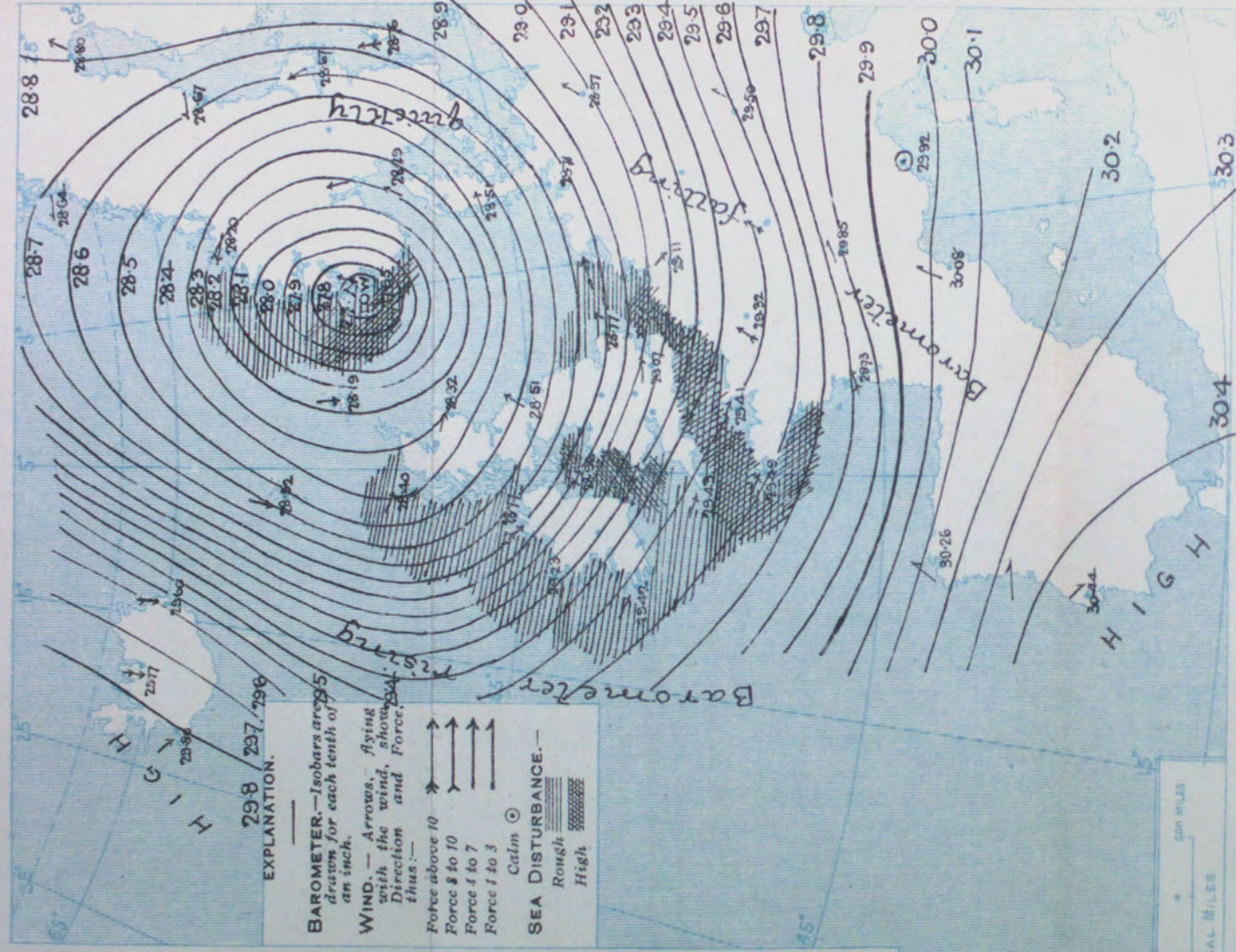


Wednesday.

WEATHER

20th Feb, 1907.

1. BAROMETER, WIND AND SEA AT 8 A.M. TO-DAY.



EXPLANATION.

BAROMETER.—Isobars are drawn for each tenth of an inch.

WIND.—Arrows, flying with the wind, showing direction and Force, thus:—

Force above 10
Force 8 to 10
Force 4 to 7
Force 1 to 3

SEA DISTURBANCE.—
Calm
Rough
High

NOTES ON THE GENERAL SITUATION AT 8 A.M.

A depression of unusual intensity now covers the whole of Northwestern Europe. The centre of the system is apparently situated off the south-east of Norway, and at Skutumpah the barometer has fallen to the exceptionally low level of 27.65 in. A very steep gradient prevails around the centre, and a steep gradient over practically the whole of our area.

A cyclonic circulation of air prevails around the baric minimum, a westerly gale being reported over Ireland, England and France, southerly winds in Denmark and Germany, a southerly gale in the south of Norway, and easterly breezes along the northern parts of the Norwegian coast. A general fall of temperature has occurred over these islands, and at many of our northern and central stations the thermometer is now only slightly above the freezing point. In France and Germany the thermometer has risen. The weather, although at present fine over the eastern part of Great Britain, is in a very unsettled state generally, snow is falling at several of our own northern stations, hail showers in the east of Ireland, and rain in the Channel Islands and many parts of France. The sea is very high at Heligoland and Brest, and high or rough or nearly all parts of our own and the French coasts.

THE METEOROLOGICAL COMMITTEE, 1906-7.

Constituted by Minute of the Lords Commissioners of H.M.

Treasury, dated 20th May, 1905.

Date of
Appointment.

April 1, 1905 ... Mr. W. N. SHAW, Sc.D., F.R.S., Director.
Chairman.

" " ... Rear-Admiral ARTHUR M. FIELD, R.N., F.R.S.,
Hydrographer to the Navy.

" " ... Captain A. J. G. CHALMERS, Professional Member
of the Marine Department, Board of Trade.
Nominated by the Board of Trade.

" " ... Mr. W. SOMERVILLE, Sc.D., Assistant Secretary
of the Board of Agriculture and Fisheries till
September 30, 1906.

Dec. 3, 1906 ... Professor T. H. MIDDLETON, M.A., M.Sc., Assist-
ant Secretary of the Board of Agriculture and
Fisheries. Nominated by the Board.

April 1, 1905 ... Sir GEORGE H. DARWIN, K.C.B., F.R.S., Uni-
versity of Cambridge. Nominated by the
Royal Society.

" " ... Professor ARTHUR SCHUSTER, F.R.S., University
of Manchester. Nominated by the Royal
Society.

" " ... Mr. G. L. BARSTOW, nominated by the Treasury.

Subject to the discretion of the authorities by which they were
respectively nominated, the members of the Committee hold
office for a period not exceeding five years, but are eligible for
reappointment.

METEOROLOGICAL OFFICE STAFF.

1906-7.

DIRECTOR.

William Napier Shaw, LL.D., Sc.D., F.R.S.

MARINE BRANCH.

Marine Superintendent... M. W. Campbell Hepworth, C.B., Com-
mander R.N.R.

Principal Assistant ... C. Harding.

Nautical Assistant ... W. Allingham.

FORECAST BRANCH.

Principal Assistant ... F. J. Brodie.

Forecast Assistants ... H. Harries, R. Sargeant.

STATISTICS AND LIBRARY BRANCH.

Superintendent ... R. G. K. Lempfert, M.A.

Principal Assistant ... T. Duncan Bell.

OBSERVATORIES BRANCH.

Principal Assistant ... R. H. Curtis.

INSTRUMENTS BRANCH.

Superintendent ... E. Gold, M.A.

Assistant ... R. F. Wallace.

CORRESPONDENCE AND ACCOUNTS.

Chief Clerk and Cashier... John A. Curtis.

Staff Clerks ... T. E. Allen, A. J. Rigby, J. Sheerman,
C. H. Thompson.

A. H. Bell, C. A. Bracey, S. Call, E. J.
Hood, W. G. James, A. R. Simpkins,
and F. W. Snell.

A. T. Bench, W. Hayes, C. W. Heine-
mann, L. H. Powers, and J. T.
Williams.

Lady Clerks ... Misses E. D. Anderson, R. E. Smith,
B. M. Smith, E. Humphreys, G. H.
Sargeant, D. W. A. Evans.

Office Keeper, 8 Boy Clerks and Probationers, 3 Messengers,
2 Boy Messengers.

Director of Experiments in connexion }
with the Investigation of the Upper } W. H. Dines, B.A., F.R.S.,
Air ... } Pyrtou Hill, Oxon.

Valencia Observatory: Superintendent J. E. Cullum.
Assistant ... J. Sugrue.

Inspector of Official Stations in }
Scotland ... }

SECOND ANNUAL REPORT

OF THE

METEOROLOGICAL COMMITTEE

For the Year ended 31st of March, 1907.

MAY IT PLEASE YOUR LORDSHIPS,

The only change that has taken place in the membership of the Committee in the past year was caused by the resignation by Dr. W. Somerville of his place as assistant secretary of the Board of Agriculture upon his appointment as Sibthorpian Professor of Rural Economy in the University of Oxford. The appointment by Your Lordships of Professor T. H. Middleton, M.A., M.Sc., Dr. Somerville's successor at the Board of Agriculture, to fill the vacancy on the Committee, took effect from December 3rd, 1906.

New Member
of Committee.

Meetings of the Committee were held on May 25th, July 4th, October 10th, and December 5th, 1906, and on February 6th, 1907.

Meetings.

The Company incorporated in the year 1891, under the name of the Meteorological Council, was wound up, in accordance with the provisions of the Companies Acts, by a resolution passed on May 25th, 1906, and confirmed on June 13th, whereby Mr. G. L. Barstow was appointed liquidator.

Meteorologi-
cal Council.

The property of the Council has been vested in the Administrative Secretary of the Treasury and the Director of the Meteorological Office, for the time being, as trustees for the Committee, under a trust deed, which was sealed on November 2nd, 1906.

Trustees
for the
Committee

There have been few changes in the staff in the course of the year. Commander Campbell Hepworth, C.B., R.N.R., continues as Marine Superintendent. Mr. Lempfert took up the duties of Superintendent of the Statistics and Library Branch on April 1st, and Mr. Gold those of Superintendent of Instruments in June. Since his appointment he has been elected to a Fellowship at St. John's College, Cambridge, but the election does not vacate his appointment.

Staff.

Mr. G. G. Francis, who had been employed in the office for 37 years, found himself obliged to resign on the ground of ill health, and a pension has been granted to him on the scale laid down by the Council.

While this report was passing through the press the Committee learned with regret of the death on May 13th of Dr. Alexander Buchan, F.R.S., who was for twenty-nine years Inspector of official meteorological stations in Scotland, and for eighteen years a member of the Meteorological Council. The Committee upon their appointment arranged that the salary paid to Dr. Buchan as inspector until 1905 should be continued in consideration of the discussion of the Ben Nevis observations upon which he was engaged. They regret that this arrangement is now terminated by the death of Dr. Buchan, and desire to place on record their appreciation of his distinguished services to the Office and to Meteorological Science.

Publications. The official publications issued by the authority of the Committee during the past year are as follows :—

Daily Weather Report.

Weekly Weather Report, with Monthly, Quarterly, and Annual Summaries and Appendices.

Monthly Meteorological Charts of the North Atlantic and Mediterranean.

Monthly Meteorological Charts of the Indian Ocean and Red Sea.

Hourly Readings of Pressure, Temperature of the Wet Bulb and Dry Bulb, the Direction and Velocity of the Wind, Rainfall and Sunshine, at the four Observatories (Aberdeen, Falmouth, Kew, and Valencia) in connexion with the Meteorological Office. Two volumes (1904 and 1905).

Meteorological Observations at Stations of the Second Order in the United Kingdom. 1902.

Meteorological Charts of the Southern Ocean between the Cape of Good Hope and New Zealand. (New Edition.)

Authority has been given for the following occasional publications, but they have not yet been completed :—

The Observer's Handbook. A Revised Edition of Dr. R. H. Scott's Instructions in the Use of Meteorological Instruments.

Hints for Observers in Tropical Africa. (Reprint.)

Further Report of Investigation of Forecast Districts.

Reports on Instruments.

Gales on the British Coasts. A revised edition of the Fishery Barometer Manual.

Meteorological Results for the western portion of the Atlantic Anticyclone, from observations of the Army Medical Department at Bermuda, Barbados, St. Lucia, Up Park Camp, and Newcastle, Jamaica, 1894-1900, prepared by Dr. R. H. Scott, F.R.S.

Seasons in the British Isles since 1878.

Cyclone Tracks in the Indian Ocean. (New edition.)

Report of the Conference of Directors at Innsbruck in 1905. (English edition.)

**Office
Premises.**

The Committee have been very glad to consider further the general arrangements for new office premises in connexion with a Post Office at South Kensington, as indicated by plans prepared by His Majesty's Office of Works and forwarded by Your Lordships for consideration with regard to the accommodation to be provided, and the charge for rent which must be borne by the Meteorological Office grant. They are glad to learn that it is possible to find suitable accommodation on the proposed site for

the present work of the Meteorological Office, with the improvements which the Committee had in view—viz., the proper housing of the library and the exhibition to the public of working instruments, together with charts and diagrams of the meteorological results obtained in the past fifty years, and other objects of general meteorological and educational interest. They are also glad to find that the structural arrangements of the building are not such as to preclude the extension of the meteorological work associated with the Office, should future extension be desired.

- With regard to the question of the rent to be paid for the new premises, the Committee desire to express their satisfaction that under the special conditions of tenure to be arranged by Your Lordships there is a prospect of their securing increased accommodation at a cost less than that which they are now called upon to pay. They will thus be in a more favourable position for meeting the increased requirements of the Meteorological Service.

With respect to the details of the arrangement of the proposed building, it will be understood that for the past forty years the work has been done in a building originally intended for ordinary domestic uses, and that in a new building a different plan must be followed, in order that the necessary facilities may be afforded to the public, and the work of the Office carried on under the most favourable conditions. This eventuality has been kept in view in making certain modifications of the arrangements in the present Office, which have been required in consequence of the appointment of an additional Superintendent.

No further progress has been made with the arrangements for the transmission of storm warning telegrams or the other outstanding questions connected with the daily weather service. The Postmaster-General has, however, seen his way to reducing the departmental charge for the compilation of daily telegrams sent from the Central Telegraph Office to Foreign Countries.

Arrange-
ments with
Post Office.

At the request of a Joint Committee of the Colonial Office and the Board of Trade, the Office undertook to prepare an exhibit representing meteorological methods and results as part of the British Government exhibit for the International Exhibition at Christchurch, New Zealand, in 1906-7. A collection was made of meteorological instruments as used in the United Kingdom, forms for preparing reports and working out results, and diagrams illustrating the results obtained. The Royal Meteorological Society, the Scottish Meteorological Society, the British Rainfall Organisation, and the Solar Physics Observatory, also contributed maps or diagrams for exhibition. On July 6th the collection was exhibited at the Office by invitation of the Director. The various charts, diagrams, instruments, &c., were displayed on 20 screens, each 12ft. by 5ft., framed to represent one-half of either side of the five screens to be erected in the Exhibition building, with suitable headings.

New Zealand
Exhibition.

The preliminary exhibition at the Office was intended primarily to enable the positions of the very numerous items, with reference to the screens, to be defined so precisely that the arrangement could be reproduced exactly in New Zealand with the aid of written directions alone. In spite of the risk of confusion arising

when so many objects of a technical character have to be arranged in this way, it would appear from photographs of the exhibit *in situ* received from New Zealand that the reproduction of the arrangement was carried out completely as planned, and the Committee have to thank Captain Atkin, the British Commissioner, and the Rev. D. C. Bates, of Wellington, who, with the sanction of the Colonial Secretary for New Zealand, kindly undertook to look after the meteorological instruments, for their assistance in this matter. They also have to thank Messrs. Negretti and Zambra, and Mr. J. J. Hicks, for the loan of instruments for the Exhibition. An introduction to the Catalogue on "Meteorological Organisation: Methods and Results" was prepared at the request of the Government Committee.

In the "Press" notices of the preliminary exhibition at the Office there occurred more than once the suggestion that provision ought to be made for a permanent exhibition in London of a similar character. The Committee are glad to think that the new premises, to which reference has been made already, will afford them the facilities for realising this suggestion. The exhibit will probably, however, require to be compiled afresh. The Committee are informed that the instruments exhibited have been purchased in New Zealand, and the charts, diagrams, &c.—many of which are original—are retained by the Commonwealth Government for exhibition in Melbourne and elsewhere.

Observations
in British
Colonies and
Dependen-
cies.

In continuation of the correspondence printed in last year's Report, pp. 48-52, respecting the organisation of meteorological work in the colonies and dependencies and the publication of the results, the Director, at the request of the Secretary of State, has prepared a memorandum setting forth the scheme of organisation which has been gradually developed by international co-operation between the countries which have established fully organised meteorological departments, with specimens of common forms for entering the results of daily observations, and of weekly, monthly and annual means and summaries. The memorandum has been embodied in a despatch by the Secretary of State.

Proposed
Meeting of
Representa-
tive Meteoro-
logists of the
British
Empire.

The Director has been in correspondence from time to time with Mr. R. F. Stupart, Director of the Meteorological Service of Canada, respecting a proposal for holding a meeting of meteorologists representing various parts of the empire to discuss matters of common interest and arrange for mutual co-operation. Such conferences are held from time to time in Europe, but for various reasons they are seldom attended by representatives of the British colonies or dependencies. At the same time the various parts of the empire are so situated that meteorological results are of exceptional importance, and co-operative arrangements are specially desirable for the promotion of meteorological science and its application to economic questions. It has been suggested that a meeting might take place at Ottawa, under the auspices of the Royal Society of Canada, and that the latter part of May, 1908, would be an appropriate time for it. The Committee recognise the advantages of personal discussion for dealing with many aspects of meteorological organisation and especially for co-operation in dealing with the wider meteorological questions which will probably prove to be of the greatest practical importance. They are of opinion too that, from many points of view, there are

special advantages in holding such meetings in the colonies, and as the daily meteorological service of Canada is worked in immediate connexion with that of the United States and the two together form the most fully developed system in the world, there are special reasons for the first meeting of this kind being held in Canada. The Committee desire, therefore, to support the suggestion as fully as they can. They have authorised the Director to represent the Office at the meeting if it should be practicable to hold it.

The Committee desire to place on record their satisfaction at Your Lordships' decision to apply to Parliament for an increase of the meteorological grant from £15,300 to £15,500 for five years, in order to enable the Office to subscribe for regular daily reports by telegram from Faerøe and Iceland, in accordance with a proposal issued by the Danish Meteorological Institute on behalf of the Danish Government. Information as to the terms of the proposal was received at the beginning of September, and subsequently the circular which is reprinted in Appendix I., p. 41, was formally communicated by Your Lordships upon the representation of the Danish Minister through the Foreign Office. Upon the first receipt of the proposal which followed closely upon the completion of the cables for the Great Northern Telegraph Company, it was apparent that the Office could not provide for the required subscription of £240 per annum out of its existing funds. After careful inquiry it was decided that it was imperatively necessary to arrange for the receipt of the information upon the terms proposed, and that an effort must be made to secure contributions from newspapers and organisations specially interested in fisheries or in the development of meteorological work, in return for special reports upon the weather in the Northern Atlantic regions. In this respect the Committee proposed to follow the precedent of the Council who, in 1880, established the evening weather service now placed free of charge at the disposal of the "Press." Originally it was provided by means of funds contributed by the "Times" exclusively and subsequently by several newspapers jointly. By personal inquiry it was elicited that the new information would be regarded as of definite commercial value, and several newspapers expressed their willingness to subscribe for the proposed reports. Your Lordships' offer to ask Parliament for so large a part of the expense made it inappropriate for the Office to proceed further with the collection of the necessary funds in the manner indicated, but the Committee none the less owe an acknowledgement to the "Daily Telegraph," "The Scotsman," "The Glasgow Herald," and "The Aberdeen Free Press" for the encouragement which they gave to the Office in the development of the service.

Telegraphic
Reports from
Iceland.

The service of telegrams from Iceland which depends upon the adhesion of a number of continental offices was not fully inaugurated until February 15th, but a provisional service of telegrams from Thorshavn in Faerøe and Seydisfjord in Iceland, at 6 p.m. daily, was initiated on October 16th, 1906, and at 8 a.m. and 6 p.m. on January 8th, 1907. The observations were included in the Daily Weather Report from January 1st onwards.

The telegrams are found to be of great advantage for the service of the Daily Report and of direct utility in the matter of storm-

warnings and forecasts. The barometric chart for February 20th is of such unusual interest both from the meteorological point of view and as representing the storm which caused the loss of the steamer "Berlin" off the Hook of Holland, that it is reproduced as a frontispiece to this Report. It is more complete than in its original form in the Daily Weather Report, because the telegraphic reports which were delayed in transmission have been added.

Wireless
telegrams
from H.M.
ships.

Further important progress has been made in the development of the Daily Weather Service through the courtesy of the Lords Commissioners of the Admiralty, who have issued a circular letter directing the officers commanding such of H.M. ships and vessels as are provided with wireless telegraphic apparatus to send meteorological reports whenever they are in appropriate positions for communicating with certain of the wireless signal stations. The desirability of arranging for reports by wireless telegraphy from the sea on the north and west of our islands has been pointed out on many occasions and notably by Sir Herbert Maxwell's Committee. The expense of such messages from Atlantic liners is prohibitive, and the Committee are therefore specially obliged to Their Lordships for allowing them to make use of the facilities belonging to the Navy.

Although information from the sea is of great importance it must not be supposed that the arrangements necessary to secure satisfactory reports are quite simple. The history of the Daily Weather Service shows the gradual development of a system for obtaining synchronous observations that can be charted because they are obtained from instruments of which the errors, if any, are accurately known, and any suspicion of error of observation or in transmission can be examined and disposed of forthwith. Any unsuspected error in messages coming from the extreme western border of our area is liable to have disastrous effects upon the Daily Weather Service. As the ships of the Navy are supplied with meteorological instruments from the Office and a complete record is kept there of the index errors of those on board every ship, the first requirement for an effective service of telegrams from the sea is already provided for in the case of H.M. ships. For the second, the avoidance or detection of errors of observation or transmission, special arrangements are required because no telegram of inquiry can be sent as in the case of inland telegraphic reports. A scheme has, however, been drawn up in consultation with the Hydrographer by which this difficulty is practically overcome. The system was brought into operation at the end of January last. The messages that have already arrived promise a valuable addition to our knowledge of the weather conditions in the neighbourhood of these islands.

Daily
Weather
Report.

These extensions of the area under observation have necessitated certain changes in the form of the Daily Weather Report which are described on p. 21. A slight further modification is contemplated. For some time past attention has been directed in the Office to the importance of examining the relation between the theoretical velocity of the wind as deduced from the distance apart and the curvature of the isobars on the map and the actual wind force as observed at the stations. In this connexion Mr. Gold has prepared a scale and series of circles to enable

the theoretical wind velocities to be read off from the charts without numerical calculation. For practical use the scale and system of circles must be adapted to the particular geographical scale used for the map, but if the scales of different maps are in the simple ratio of 2:1 the scale for wind computation can easily be graduated so as to be used for both. It happens that the scales of the two kinds of lithographed maps in the Daily Report are nearly, but not quite, one-half and one-quarter respectively of that of the original working charts used in the Office, and at the same time the scale of the working chart that has been in use for a long time (.75 inch to 100 nautical miles) hardly differs practically from 1 c.m. to 100 kilometres, a natural scale for use in the charts of continental countries. Hence, if the scales of the lithographed charts are adjusted to be one-half and one-quarter of that of the working chart, the same scale and circles can be used for determining the theoretical wind force from all our own maps and certain continental ones as well.

The matter has considerable practical bearing, for, according to the report of the jury of the competition in forecasting at Liège in 1905, the successful competitor, M. Guilbert, based his forecasts upon conclusions drawn from the study of the relation of the theoretical to the actual wind. In the Office, attention has been directed mainly to another point, namely, the application of calculation to determine the variation of wind velocity with height in connexion with the kite ascents. The modification contemplated will enable the Office also to take advantage of M. Guilbert's suggestions.

The Committee notice with satisfaction that the report on the checking of the forecasts for the year on p. 26 shows a considerable increase in the accuracy. This is the more noteworthy because there has been no definite change in the system employed nor in the method of checking. It is possible that the weather during the year may have been comparatively easy to forecast as that of 1905 was comparatively difficult. The favourable report is fully borne out by independent examination of the forecasts for the North-West district by Mr. T. G. Benn, of Rossall Beach, an experienced observer.*

Forecasts

The Committee are of opinion that the time has now arrived when the system of checking forecasts might be modified in some particulars with advantage. Hitherto it has been the practice to take the several statements in the forecast and ascertain which of them are verified and which are contradicted by the actual weather. It is proposed, as soon as suitable arrangements can be made, to arrange the checking in the converse manner, viz., to draw up a statement of the weather actually experienced in each district and note which of the items were anticipated in the forecast and which were not. The difference is not very great, but, as far as it goes, it tends towards precision in the statement of the forecasts which may fairly be regarded as the immediate object in the progress of the system.

* Mr. Benn's figures are :—

				Wind.	Weather.	Average.
Complete Success	...	...	...	76	68	72 per cent.
Partial Success	...	...	...	22	28	25 "
Failure	...	...	...	2	4	3 "

Various new forms of forecast have been under consideration. Warnings of probable high tides have been asked for from the Thames Estuary and the North Coast of Norfolk. Forecasts are not infrequently required for sea passages across the North Sea, the Channel, or the Irish Sea, and hitherto there has been no organised issue of such forecasts; they have been drawn up as required. Provision has now been made for posting on the Office screen forecasts for the state of the sea with a view to the passages of steamers and the deviation from the normal of the height of the tide on the several coasts of the British Isles. With a view to precision in regard to the relation between the weather conditions and high tides, information has been collected with reference to exceptional tides and the special conditions associated with them.

The Committee have made provision to meet the case of warnings of special occurrences such as exceptionally high tides or a calm sea passage when it is left to the Office to select the occasion upon which a forecast shall be sent. Such cases are not met by the general regulation for the supply of the current forecasts at a charge of sixpence daily in addition to the telegraphic costs. The Committee have accordingly authorised the Office to undertake to send a forecast when occasion arises at a charge of half-a-crown for each occasion, to include the cost of the telegram.

The Editor of the "Aberdeen Free Press" has asked that special forecasts for the fishing grounds in the Minch and the North Sea may be added to the Evening forecasts issued to the "Press." Provisionally, the request has been complied with, the sea off our coasts being divided into sections, as indicated on p. 49. The arrangement is provisional only because it is felt that no such scheme can be satisfactory unless there are facilities for the regular checking of the forecasts issued. At present we have no regular information about the weather over the seas off our coasts, and until some arrangement can be made for such information to be supplied either by boats associated with the fishing fleets or by the various services of passengers steamers, there can be little vitality in the practice of forecasting.

The figures for the storm warning checking for the year given on pp. 27, 28, compare somewhat unfavourably with those for past years. It may, however, be remarked that the rules for checking have been made somewhat more stringent as regards the definition of a gale as applied to a "district"; and further, by the revision of the instructions last year, the cone remains flying, generally speaking, for a single day instead of two days. With the longer period the gales occurring on the second day, although not definitely anticipated when the warning was issued, were counted among the successes; under the revised regulations they must be the subject of a separate warning.

Details as to the action taken by the Office with reference to the loan of barometers to fishing villages will be found in the report of the Instruments Branch, p. 59, but here it may be mentioned that the opinion has often been expressed that a barograph of suitable size would be in many ways more effective than the mercury barometer adopted fifty years ago by Admiral Fitzroy as

Storm
Warnings.

Fishery
Barometers.

the most suitable instrument then in the market for the use of seafaring communities. The advantage of the barograph is that it keeps its own record and does not require to be set and read by an observer. It has disadvantages in that its indications depend upon aneroid boxes, but for practical purposes the fluctuations are of more importance than the absolute value of the pressure. Opportunity was accordingly taken when the Lerwick barometer was under repair to lend a large size barograph to replace it temporarily. When the mercury barometer was repaired it was returned to Lerwick and steps taken to recall the barograph. But the harbour authorities of that port preferred to buy it and it is now their property, though they are good enough to send the traces, which are of great interest, to be preserved in the office in return for the free supply of blank forms. The purchase money has been expended upon an instrument of the same kind which may be lent on similar terms.

The Committee are disappointed with the little progress made in the negotiations with the Royal Meteorological Society and the Scottish Meteorological Society with regard to co-operation in the collection and publication of results obtained from volunteer observers in the United Kingdom in common with those of the official stations, to which reference was made in last year's report, p. 10. They have given the matter most careful consideration, and have endeavoured to promote a scheme whereby the customary payments (*see* p. 30) shall be continued to the Societies, and the meteorological results for the stations in connexion with any one of the three bodies shall be included in a regular publication, if possible, in the form of an enlarged edition of the present monthly summary of the Weekly Weather report.

Co-operation
with
Societies.

In reply to the representations on behalf of the Committee a communication promising favourable consideration was received from the Royal Meteorological Society, but the Scottish Society were of opinion that their staff was insufficient to permit their undertaking to contribute to a monthly report. As an alternative suggestion they offered reprints of the information compiled by the Society and printed by H.M. Stationery Office for the Registrar-General for Scotland as a contribution to a quarterly report. Apart from objections on technical meteorological grounds such a proposal would involve a revision of the contract made by H.M. Stationery Office with the printers, and could not be carried out for 1907. The matter was therefore necessarily postponed, and the present position is that the Committee cannot see their way to making payments for summaries of observations which have already been included in an official publication of H.M. Stationery Office, and that that part of the customary payment to the Society is in suspense until some satisfactory basis of payment can be arrived at. The Committee recognise, however, the difficulties which confront the Scottish Society in this matter, and they still hope to arrive at a conclusion which shall be satisfactory to both institutions.

A good deal of the time of the Observatory Branch has been taken up with the preparations for the press of the observations at winter quarters and on the sledge journeys of the National Antarctic Expedition. The Marine Branch has also been engaged

Discussions
and special
researches.
Antarctic
records.

upon the discussion of observations connected with the expedition. Particulars are given on pp. 20 and 37. The preliminary work of discussion is now complete and there remains only the preparation of papers on various points which arise. Papers have been undertaken by a number of gentlemen and the following have been completed :—

By Dr. C. Chree, F.R.S. On temperatures as indicated by spirit minimum and mercury minimum thermometers.

By C. T. R. Wilson, F.R.S. On the observations of Atmospheric Electricity.

By W. H. Dines, F.R.S. On temperatures in the screen and in the open air, and on aspiration psychrometer readings, &c.

By Mr. R. H. Curtis. On wind measurements.

In order to elucidate certain questions concerning the winds in the neighbourhood of Ross Island and the winter quarters of the "Discovery," a model was prepared in the Office by Miss Humphreys, representing the region in question on the scale of 6 nautical miles to the inch with an 8-fold exaggeration of the vertical scale. The model was exhibited at the *Conversazione* of the Royal Society on 8th May, 1907.

The Marine branch is still engaged with the discussion of the observations of winds, &c., over the Indian Ocean.

Indian Ocean.

Frequency of occurrence of Weekly Values.

Towards the close of the year 1906 the whole of the available staff of the Office was engaged in the preparation of the tables of weekly averages and the frequency of occurrence within the last 25 years of weekly values of accumulated temperature, rainfall and sunshine, grouped within certain numerical limits. The introduction of the consideration of frequency of occurrence into the representation of the weekly results was necessitated by the decision to give in the Weekly Weather Report a brief verbal representation of the character of the weather in successive weeks that might be useful for agricultural purposes. The difficulty of doing so, if the average or arithmetic mean value alone is referred to, is a curious one. In the case of rainfall, for example, an average season of thirteen weeks may be made up of eight "dry weeks," *i.e.*, weeks with rainfall below the average line, and five "wet weeks," *i.e.*, weeks with rainfall above the average. Such a state of things is indeed very likely to occur because a number of weeks of light or moderate rainfall are as a rule balanced, so far as the arithmetic mean is concerned, by a few weeks of heavy rainfall. Yet to call a season with eight "dry weeks" an average one seems at first sight unreasonable, and it is therefore necessary to find some plan of indicating the character of the week that will give a satisfactory result when the indications are counted. An account of the plan adopted is given in the report of the Statistical Branch, p. 31. A fuller description was given by Mr. Lempfert in the *Journal of the Board of Agriculture* for March.

Investigation of the Upper Air.

The grant of £500 for co-operation in the investigation of the upper air and the international publication of the results was continued. The work under Mr. Dines's direction was interrupted towards the close of 1906 by the removal of the station from Oxshott to more suitable quarters at Pyrton Hill, near Watlington, Oxfordshire. The arrangements at Mr. Dines's new residence were, however, completed before the close of the financial year. The plan of operation still remains the same. Mr. Dines provides

recording apparatus, &c. not only for his own ascents but also for those of Mr. C. J. P. Cave at Ditcham Park, Mr. S. H. R. Salmon at Brighton, and Mr. J. E. Petavel, F.R.S., who has succeeded Mr. G. C. Simpson in charge of the kite station at Glossop Moor in connexion with the Physical Laboratory of the University of Manchester. A new feature of the year's work has been a number of experiments with pilot balloons sent up without instruments, but watched from below with the aid of a theodolite. If only one theodolite is used the height of the balloon at any time has to be assumed by supposing it to rise with a uniform ascensional velocity of a certain definite amount depending upon the size of the balloon and the amount of gas introduced. If, however, two theodolites are employed, the height can be determined from the observations and the assumption can be justified. In these ways information has been obtained as to the variation of the motion of the air at different heights above the surface, which is of great meteorological interest and has proved to be of practical utility.

Mr. Gold has been engaged upon the preparation of a number of diagrams to show the variation in temperature, wind velocity, and humidity at successive stages in the height of the atmosphere as derived from the kite and balloon experiments in this country, and published in the Weekly Weather Report. The observations are discussed and some of the diagrams are reproduced in a paper contributed by the Director to the Journal of the Aeronautical Society of Great Britain for January 1907.

The investigation, which gives results of a remarkably interesting character, has been continued, particularly with reference to the variation of wind velocity with height and its relation to the distribution of pressure. Upon the hypothesis of the ordinary motions of air being based upon such a relation, Mr. Gold has deduced by a well known mathematical process a satisfactory explanation of the characteristic difference between the motion of air in the interior region of a cyclone and of an anticyclone respectively.

A report upon this work is in preparation and will be completed before Mr. Gold leaves to take up his duties at Cambridge as Reader in Meteorology (*see* p. 17).

In connexion with the investigation of the upper air Mr. Dines, at the request of the Committee, attended the fifth meeting of the International Commission for Scientific Aerostation held at Milan in September, 1906. It was then arranged that a special series of ascents for the purpose of international cooperation should take place this year, and arrangements for them are now in progress. The Committee are informed that for the series of ascents in July arrangements have been made for observations to be undertaken at sea by two ships of the German Navy in two parts of the Atlantic, by the Italian Navy in the Mediterranean, by the Prince of Monaco in the far North, and by M. Teisserenc de Bort over the Equatorial portion of the Atlantic.

For the Presidential address of Section III (Physics, Chemistry and Biology) of the Congress of the Royal Sanitary Institute held at Bristol in July, 1906, two diagrams of a new type were prepared,

Miscellaneous
Papers.

They showed the meteorological data as regards temperature, rainfall and sunshine in relation to topographical features by means of a "meteorological section" across the country from North to South (Sumburgh Head to Hastings), and from East to West (Valencia to Margate) respectively. The original diagrams were included in the exhibit sent to the New Zealand Exhibition. A diagram of a similar character has been recently prepared to show the remarkable variation in the daily range of temperature between the coast and inland stations during a few days of nearly cloudless weather at the end of March. The diagram is reproduced here, Plate II. A diagram was also prepared from data compiled in the Observatories Branch showing the average diurnal variation of humidity at the four official observatories, Kew, Falmouth, Aberdeen, and Valencia. The most striking features of the results are the remarkably high humidity at Kew in the night hours of November and the great dryness in the day hours of May. The address to the Royal Sanitary Institute is published in the Journal of the Institute, vol. 27, under the title of "Climate and Health."

Other papers contributed to scientific journals are "An apparent periodicity in the yield of Wheat in Eastern England, 1885-1905," by the Director, published in the Cambridge Agricultural Journal, and "The Line Squall of February 8, 1906," by Mr. Lempfert, published in the Quarterly Journal of the Royal Meteorological Society, vol. 32. This last has received favourable notice on the Continent as an important contribution to the study of the phenomena associated with the sudden rise of barometric pressure, known in France as the "Crochet d'Orage," and in Germany as the "Gewitternase," which is characteristic of thunderstorms and summer showers. It appears that the phenomena travelled from the North in such a regular manner that a passenger by railway from York to London might, under favourable circumstances, have been accompanied by a thunderstorm throughout the journey.

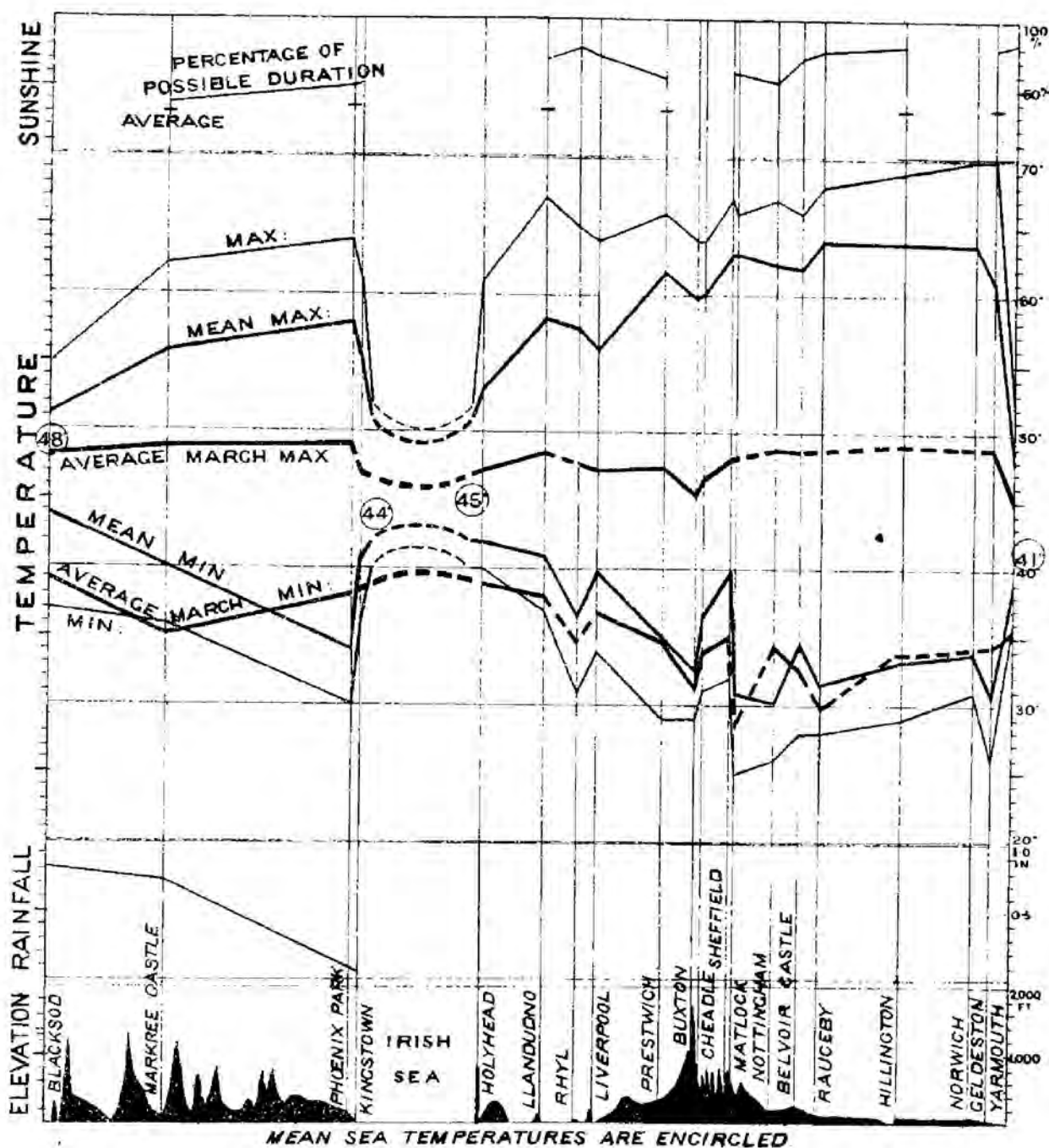
Wind Values
for the
Anemograph
stations.

It is a matter of regret that no time has yet been found for the discussion of the results from the numerous anemograph stations in connexion with the Office. The matter has not been left entirely out of sight, and latterly provision has been made for summarising each month's tabulations of the records as soon as they are completed so that the discussion may be facilitated. The summaries for 1906 are complete, and a diagram has been prepared to represent the results in the form of frequency curves for wind velocities, arranged in certain groups, at the several stations. This first attempt at the discussion of wind values is reproduced here (Plate III). It is interesting as shewing a characteristic difference between two types of stations dependent obviously upon the greater or less freedom of exposure.

Minor
fluctuations
of atmos-
pheric
pressure.

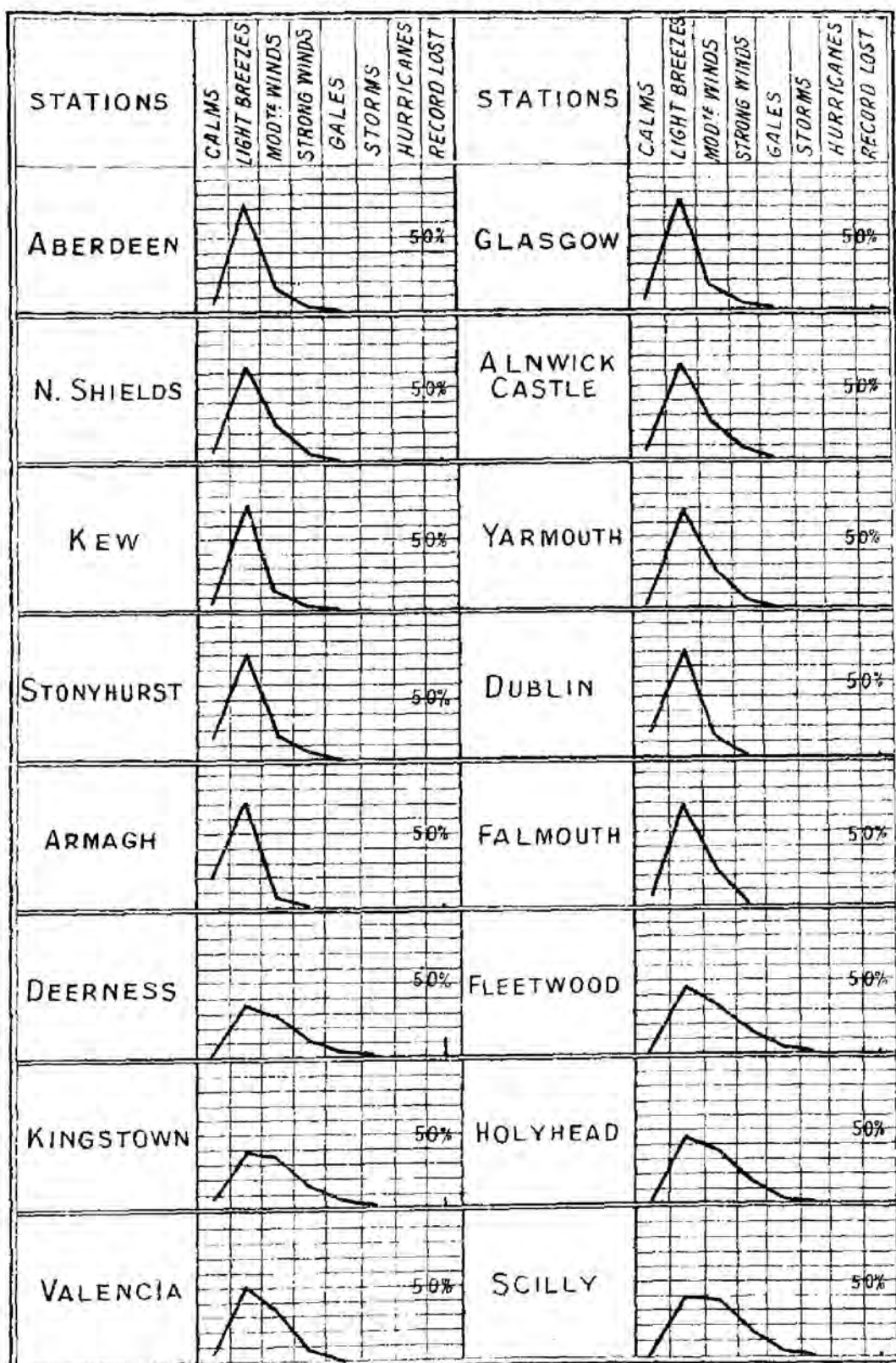
At the beginning of January, 1906, Mr. Travis Rimmer, M.Sc., 1851 Exhibition Scholar of the University of Manchester, commenced work at the Office as Honorary Assistant, after spending one year of his exhibition at the Meteorologisches Institut of Vienna. Mr. Rimmer undertook the comparison and discussion of the records obtained by the microbarographs installed at the Office and at South Kensington. In order to complete some work upon the measurement of solar radiation commenced in Austria,

SECTION WEST TO EAST SHOWING
TEMPERATURE AND SUNSHINE
DURING CLOUDLESS WEATHER.
MARCH 24 - 30, 1907.



SECOND ANNUAL REPORT OF THE METEOROLOGICAL COMMITTEE.

FREQUENCY OF WIND VELOCITY OF DIFFERENT STRENGTHS
RECORDED AT ANEMOMETER STATIONS IN THE UNITED KINGDOM.
DURING THE YEAR 1906.



The curves in the diagram show, for the entire year, the percentage of winds blowing with various degrees of strength. Winds classified as "Calms" are those blowing with a mean hourly velocity of less than 2 miles; "Light breezes" with a velocity of 2-12 miles; "Moderate breezes" 13-23 miles; "Strong winds" 24-37 miles; "Gales" 38-55 miles; "Storms" 56-75 miles; "Hurricanes" above 75 miles. In the last column the percentage of record lost owing to various causes is shown by a perpendicular line. At Deerness the instrument was dismantled on Aug. 24, and was not re-started until Oct 15.

arrangement was made for him to divide his time between the Office and Kew Observatory where facilities are available for the measurement of radiation.

In response to an invitation from the University of London, the Director gave a course of four lectures intended for a general audience at the University, South Kensington, in May, 1906, upon "The Atmospheric Circulation and its Relation to Weather." This was followed by an offer on the part of the University to establish a Readership in Meteorology provided the Director would undertake the duties of the office. The offer was accepted, and the appointment made by the Senate of the University on January 23rd. A course of lectures upon Dynamical Meteorology intended for academic students was commenced at University College, Gower Street, on February 22nd, but subsequent lectures had to be postponed to the following term on account of ill-health.

Educational.
University of
London.

The Committee attach much importance to the promotion of the study of Meteorology as a normal part of the University curriculum, and they consider that close association between the Office and the University teachers is in every way desirable. They look forward, therefore, to the development of the movement thus initiated in the University of London, and the speedy foundation of a permanent and independent post.

In this connexion it may be mentioned that the Director in the course of correspondence with the Fishmongers' Company represented the urgent necessity of provision for the study of Meteorology in the Universities, and that the Company has recognised the appeal by making a contribution of fifty guineas to a fund for the purpose.

It is also with pleasure that the Committee place on record the establishment, by means of funds contributed by one of their own number, of a Readership in Dynamical Meteorology for the promotion of the application of Mathematics to Meteorological research. On December 5, 1906, Dr. Arthur Schuster offered £350 a year for three years as a stipend for a readership to be awarded by the Committee in accordance with regulations making provision for :—

Readership in
Dynamical
Meteorology.

- (1) A course of lectures at the University of Manchester, or some other University in the United Kingdom, one term's residence per year being required at the University.
- (2) A report to the Office on methods of conducting or reducing meteorological observations.
- (3) Researches to be undertaken by the reader, and the publication of results.

The offer was accepted with thanks; regulations were formulated and approved, and public notice given of the intention to award the Readership.

After careful consideration the Committee have agreed to appoint to the Readership Mr. Ernest Gold, M.A., Fellow of St. John's College, Cambridge, Superintendent of Instruments at the Office. Mr. Gold has elected, with the assent of the University, to hold the Readership at the University of Cambridge, and will commence his duties there on October 1, 1907.

Meetings at the Office for the discussion of Meteorological papers.

The open meetings at the office initiated last year for the discussion of important contributions to meteorological literature were resumed in the winter months. The attendance at the meetings continues to be good. Among those who took part in the discussions in addition to members of the Office staff were—Mr. W. W. Bryant, Mr. C. J. P. Cave, Dr. C. Chree, F.R.S., Mr. W. Ellis, F.R.S., Dr. C. H. Lees, F.R.S., Dr. W. J. S. Lockyer, Mr. E. W. Maunder, Dr. H. R. Mill, Principal Skinner, Professor D'Arcy W. Thompson, C.B., and Captain A. S. Thomson, C.B., of the Trinity House.

A course of two lectures was given by the Director at the Royal Institution on January 17th and 24th upon "Recent Advances in the Exploration of the Atmosphere." The subject of the first lecture was "The Embroidery of the Barogram," and of the second, "The Exploration of the Upper Air." A lecture was also given on January 4th to the Geographical Association on "The General Circulation of the Atmosphere."

Magnetic observations at Valencia.

Magnetic observations at Valencia have been continued in co-operation with the magnetic work of the National Physical Laboratory, at the request of a Committee of the Royal Dublin Society, consisting of Lord Rosse and Professor J. Joly.

Acknowledgments.

The Committee desire to acknowledge the co-operation with the Office of a large number of public departments, local authorities, and private observers.

They desire to refer specially to the valuable daily reports received from the Azores through the courtesy of Major Chaves, the Portuguese Government, and the Commercial Cable Company.

To the Eastern Telegraph Company also special acknowledgment is due for the transmission of reports from the Azores and the Spanish Peninsula, and to the Great Northern Telegraph Company for the free transmission of all cable messages between this country and the Scandinavian kingdoms.

The names of local authorities and private observers on sea and land who contribute observations are printed in the Appendices.

The reports of the work of the several branches of the office are as follows:—

I.—MARINE BRANCH.

Collection of Information.

The arrangements for the systematic collection of data, for the purposes of marine meteorology, from officers of the Royal Navy and the Mercantile Marine, have been continued as in previous years. Meteorological four-hourly log books, registers, and other documents to the number of 2,415 were received during the year, and a list of these is given in Appendix IV. Of the meteorological log books which contain four-hourly observations, 158 have been classed as "excellent," or "very good," as compared with 159 for the year 1905-6.

Supplementary Information.

The arrangements for obtaining meteorological registers from the captains and officers of ocean-going ships who use their own instruments, have been continued, and a large amount of information has thereby been collected, which is immediately utilised in the Monthly Meteorological Charts of the North Atlantic and Mediterranean, and of the Indian Ocean and Red Sea.

The following list shows the number of contributions relevant to the different lines of route :—

Four-hourly Logs.

North Atlantic	83	Eastern, via Suez Canal...	54
Baltic	1	Far Eastern, via Cape of	
Mediterranean	22	Good Hope	41
South America (East Coast)	39	Far Eastern, via Suez	
" " (West ")	5	Canal	35
South Africa	14	Pacific	42
Eastern, via Cape of Good		North Polar	4
Hope	24		

"Short" Logs.

North Atlantic	1	Eastern, via Suez Canal	2
Mediterranean	5		

North Atlantic Registers (Form No. 121), and Indian Ocean Registers (Form No. 122) :—

North Atlantic	1,714	Eastern, via Suez Canal	52
Mediterranean... ..	196	Far Eastern, via Cape of	
South America (East		Good Hope	11
Coast)	39	Far Eastern, via Suez	
South Africa	13	Canal	17
Eastern, via Cape of		Pacific	2
Good Hope... ..	9		

Appendix III. (p. 97) contains a list of the captains who, during the past year, have contributed logs classed as "excellent." Several of these observers have co-operated with the Office for many years. The names which appear in the list for the first time are as follows :—

Captain's Name.	Ship.
Beer, S.	S.S. "Clan MacPherson."
Clarke, J.	S.S. "Zent."
Decent, S. W.	S.S. "Druidstone."
East, H. Rayner	S.S. "Clan MacFadyen."
Harris, G. H.	S.S. "Worcestershire."
Hemming, H. C.	S.S. "Den of Ogil."
Kirkwood, R.	{ S.S. "Ocean Prince."
	{ S.S. "Carib Prince."
Montford, G.M., R.N.R.	S.S. "Sunda."
(Mossman, R.C.)	S.S. "Scotia."
Stuart-Notley, F. B.	S.S. "Japan."
Sydney, H.	S.S. "Archtor."
Wilson, J. K.	S.S. "Kilbrennan."

As a mark of recognition of valuable co-operation, the Director has presented various publications of the Office to observers who have returned well-kept logs.

Recognition
of "excellent
observers.

The Committee note with regret the death of five shipmasters, who were observers for the Office while in command :—Captain W. Wilson, of Ship "Horsa," in June, 1906; Captain M. Stirrat, of S.S. "Mongolian," in October, 1906; Captain J. W. Newton, F.R.Met.Soc., of S.S. "Grenadier," in November, 1906; Captain

Obituary.

H. G. Wilcox, Lieut. R.N.R., late Principal Officer, Board of Trade, Liverpool, of S.S. "Glenfinlas," in February, 1907; and Captain W. C. Jackson, of Ship "Earl Derby," in March, 1907.

**Use of
Information
received.**

Charts of the distribution of the temperature of the surface water of the Atlantic for successive months have been compiled for insertion in the Meteorological Charts for the North Atlantic and Mediterranean as in the previous year. The maps thus prepared are issued within six weeks of the close of the month in which the observations are taken. For each of the months recently dealt with the number of observations tabulated extends to some 4,000.

**Antarctic
Observations.**

For the discussion of the weather over the ocean south of 30° S. lat., in connexion with recent Antarctic exploration, there were tabulated about 5,000 sets of observations, making in all 30,200 from ships, and about 1,800 from shore stations, making in all 15,500. All observations have been plotted in geographical position on the working charts, making, for sea and land, a total of 45,700 sets of observations, taken at Greenwich Mean Noon.

The work of tabulating and charting the observations is now completed.

**Discussion
of Marine
Data.**

Besides continuing the issue of the Monthly Meteorological Charts and the examination of all logs and documents received, the marine department of the Office has been engaged upon the discussion of the meteorological data for the Indian Ocean, extending to 30° S.

**Information
supplied
for the
Admiralty.**

Climatological tables have been compiled for various places on the West coast of Central America, East coast of Australia, West coast of Africa, and for St. John's, Newfoundland, at the request of the Admiralty.

Hydrographic notices have been extracted from the meteorological logs and forwarded to the Admiralty. Among those sent during the year were, a report of shoal water, off Walpole Island, South Pacific, by Captain F. J. Bayldon, Sub-Lieut. R.N.R., S.S. "Induna;" position of Truro Shoal, China Coast, by Captain F. C. Mullan, S.S. "Ramsay."

II.—FORECAST AND STORM WARNING BRANCH.

**Daily
Weather
Reports.**

The arrangements for the issue of the Daily Weather Report and Forecasts, and for the preparation of information for publication in the newspapers have remained the same as in previous years.

**Telegraphic
reporting
stations.**

The stations from which telegraphic reports are received are shown in the lists given on pp. 66-86 and on Map (Plate VII.).

The corps of observers at telegraphic reporting stations has undergone little change. At Malin Head, Mr. J. Marrian has been succeeded by Mr. J. Putt, while at Blacksoil Point Mr. Bonner has been replaced by Mr. C. Exeter; at Portland Bill Mr. W. J. Batton retired and was succeeded by Mr. W. H. Taylor; and at Stornoway the observations have been continued by Mrs. Mackenzie.

**Inspection of
the Stations.**

The stations indicated in the list in Appendix VI., p. 122, have been inspected during the year. The Reports of the Inspectors show that efficiency has been maintained.

A detailed account of the manner in which the meteorological information received by telegraph is utilised for the preparation of the Daily Weather Report is given in Appendix II. Discussion of Information.

With the commencement of the present year the Report has undergone considerable modification. On page 1 the statistical information has been increased by the inclusion of observations from three stations in Iceland (Reykjavik, Blönduós, and Seydisfjörð), and one station in the Faroe islands (Thorshavn), and also by reports from two additional French stations, La Hève and Ile Sanguinaire (off the Corsican coast). On pages 2 and 3 the two leading maps, showing the conditions existing at 8 a.m. on the day of issue, have been enlarged so as to include the whole eastern portion of the North Atlantic, and to permit of the entry *in situ* of the observations from Iceland and from the Azores. A map for 8 a.m. of the previous day, showing, on a reduced scale, the conditions of pressure and wind over the whole of Europe has appeared in the Report for some time past. An additional map on the same scale, giving the pressure and wind over Western Europe at the intervening hour of observation (6 or 7 p.m.) is now included. A comprehensive view is in this way afforded of the changes which have taken place during the whole 24 hours ending with the date of the report. In order to make room for these extensions and additions the space allotted to the remarks on the weather has necessarily been compressed. Room has, however, been found for two small maps—one showing, as in former years, the average morning temperature for the period of the year at which the report is issued, the other the arrangement of the forecast districts, and the portions of the coasts upon which storm signals are displayed at the time the Report is issued. On the last page the space formerly assigned to a list of times at which observations are taken in the various Continental countries is now devoted to marine observations arriving by wireless telegram from the Commanders of His Majesty's Ships. On the same page an addition has been made to the table showing the times of sunrise, noon, and sunset at various stations in the British Islands, the information being now given not only for the day upon which the report is issued, but also for the following day.

The information as to the weather in the British Islands has been supplemented by postal and telegraphic reports sent daily by volunteer observers. These details have proved a useful addition to the telegraphic reports of the first page.

The substance of the morning and afternoon reports received by telegraph as to the state of the weather at certain stations on the English and Welsh coasts, has been displayed on the balcony of the Office at 63, Victoria Street, S.W. Charts have been suspended in the portico of the street door exhibiting the latest information received from various portions of Western Europe, and the latest forecasts and storm warnings that have been issued. Similar information has been posted up on a notice board close to the meteorological station in St. James's Park. Display of Weather Information.

The means adopted for the distribution of the forecasts drawn up in the Office have been continued during the past year. They are detailed in Appendix II., pp. 48-53. Weather Forecasts.

Copies of the 11 a.m. forecasts, based on the 8 a.m. observations, have been regularly called for by messengers from newspapers or news agencies, and printed or typed copies have been delivered, either by hand or through the post, to subscribers, and distributed for exhibition as follows: in the City, at the Mansion House, Lloyd's Rooms, Messrs. R. & J. Beck's, Cornhill, Messrs. Hawes, 79, Leadenhall Street, and Messrs. Watson, 313, High Holborn; in the West End, in the Libraries of the House of Lords and the House of Commons; at Messrs. Elliott's, Leicester Square; Messrs. Stanford's, Long Acre; Messrs. Negretti & Zambra's, Regent Street; Messrs. Hawes, 49, New Cavendish Street; Messrs. Webster, Bros., 4, Porchester Road, W.; and at various Clubs.

**Forecasts for
H.M. Ships.**

Forecasts have been supplied occasionally to His Majesty's Yacht as desired by the Commodore. At the request of the Admiralty, forecasts for the S.W. of England and the Bay of Biscay have been regularly supplied to the Commander-in-Chief, Devonport. Arrangement has also been made with the Admiralty for the supply of forecasts to a number of H.M. ships as occasion requires.

**Harvest
Forecasts.**

During the summer months the special service of afternoon forecasts for the benefit of agriculturists and others was arranged as in previous years, and special telegraphic reports of observations at 2 p.m. were obtained for this purpose. These forecasts are sent by telegraph at 3.30 p.m. to those who express a wish to receive them regularly, and who defray the cost of the telegrams.

In the course of the four months June to September, forecasts were sent, by wire, to 39 persons residing in various parts of the United Kingdom. The number of recipients was smaller than in 1905, but precisely the same as in 1904.

Of the 39 recipients:—

1 received forecasts for District 1 (Scotland, E.), 6 for District 2 (England, N.E.), 3 for District 3 (England, E.), 10 for District 4 (Midland Counties), 7 for District 5 (England, S.), 2 for District 7 (England, N.W.), 7 for District 8 (England, S.W.), 1 for District 9 (Ireland, N.), and 2 for District 10 (Ireland, S).

There were no applications from persons residing in District 0 or District 6 (Scotland, N. and W.). Owing in all probability to the generally settled character of the weather, and the rapidity with which the hay and corn harvests were completed, the periods for which the forecasts were required by the various recipients were, as a rule, shorter than in many recent years. In 1905 the average number of forecasts sent to each person was 50; this year the average number was only 41.

The special forecasts prepared on Saturday evenings, and referring to the weather for the whole of the ensuing two days, were again in request. Of the 39 subscribers 14 elected to receive these special forecasts in lieu of those ordinarily issued at 3.30 p.m., while 7 others expressed a wish to receive the special forecasts in addition to the ordinary afternoon forecast.

Returns, giving a daily record of the weather actually experienced during the time the forecasts were sent were received from only 12 persons, the number being considerably smaller than in recent years. The results of a comparison made in the Office

between the forecasts issued and the subsequent weather as entered on these returns shows that 45 per cent. of the forecasts were completely successful, and 42 per cent. partially so, giving a total of 87 per cent. of forecasts which may be regarded as having been sufficiently correct to prove of practical value to the agriculturist. The percentage of complete success was lower than in 1905, a result due to an apparent lack of success this year in forecasting the weather for the east of England. Of the forecasts issued to that district 87 per cent. were at least partially successful, but only 38 per cent. completely successful. The low percentage of complete successes appears to have been due to the fact that at the two stations in England East, from which returns were received the weather was finer than it was over the district as a whole. An examination of returns from a number of Climatological stations in connexion with the Office shows that in many instances the two places in question escaped the showers which were forecasted and which actually fell at other stations in the district.

Omitting the results for England, East, the percentage of success last summer was practically as high as in 1905. The highest proportion of complete success (based, however, upon the conditions existing at one station only) was attained in Ireland, N., and was as high as 63 per cent. Over the country generally nearly 10 per cent. of the forecasts were classed as partial failures and nearly 3 per cent. as total failures.

Testimony as to the practical value of the forecasts was borne by Mr. W. Johnson, of Church Stretton, who in a letter to the Office remarked "I have to thank you very much indeed for them, as they have worked out very well indeed"; and by Mr. T. G. Binney, of Tolleshunt D'Arcy, who remarked "The weather forecasts have always been welcome and useful." In an application received in 1907 for a fresh series, Mr. F. Stacey, of Bishop's Stortford, remarked that he had found the forecasts of 1906 "fairly correct."

The arrangements for forecasts for Sea districts and for exceptionally high tides have been referred to already, p. 12.

The number of inquiries for forecasts by telegraph was 160.

Special charts, transcripts of observations, or summaries, have been supplied to various newspapers, as in previous years.

A comparison for the year of the Forecasts for the United Kingdom issued at 8.30 p.m., with the subsequent weather actually experienced, is given below. The complete success, partial success, partial failure, and complete failure of the forecast as regards both wind and weather, are estimated according to definite rules which are designed to eliminate bias as far as possible.

The term "partial success" is applied to cases in which more than half the details included in the forecast are justified by subsequent events. With regard to *wind* the details comprise direction and force, and anticipated changes in either particular. With regard to *weather* they comprise temperature, the state of the sky (clear, cloudy, or overcast), and the probability of rain, snow, fog, thunder, &c., with occasional indications as to the duration or intensity of any or all of the phenomena mentioned.

Other
Forecasts.

Telegraphic
inquiries for
forecasts.

Transcripts of
observations.

Results of
Forecasts.

The term "partial failure" is applied in a similar way to a forecast in which more than half the details given are incorrect.

The detailed comparison of the forecasts with actuality for the year 1906 has been summarised to give results, (1) for the various months, and for the United Kingdom as a whole, and (2) for the various districts, and for the year as a whole.

SUMMARY of RESULTS of 8.30 p.m. FORECASTS in 1906.

(a.) Results for the various Months.

Months.		Percentages.												Sum of Successes, Complete and Partial.
		Complete Success.			Partial Success.			Partial Failure.			Complete Failure.			
		Wind.	Weather.	Average.	Wind.	Weather.	Average.	Wind.	Weather.	Average.	Wind.	Weather.	Average.	
January	...	46	63	55	22	30	26	26	7	16	6	-	3	81
February	...	45	63	54	37	32	35	17	5	10	1	-	1	89
March	...	51	64	58	30	25	27	15	11	13	4	-	2	85
April	...	42	66	54	37	27	32	18	6	12	3	1	2	86
May	...	61	63	62	30	29	30	8	5	6	1	3	2	92
June	...	81	67	74	17	31	24	2	2	2	-	-	-	98
July	...	62	65	64	32	31	31	5	3	4	1	1	1	95
August	...	75	73	74	23	25	24	2	2	2	-	-	-	98
September	...	69	65	67	26	34	30	5	1	3	-	-	-	97
October	...	46	70	58	32	25	29	15	4	9	7	1	4	87
November	...	52	66	59	41	32	37	5	2	3	2	-	1	96
December	...	47	58	53	40	37	38	10	5	8	3	-	1	91
The entire Year		56	65	61	31	30	30	11	4	7	2	1	2	91

(b.) Results for the various Districts.

Districts.	Percentages.												Sum of Successes, Complete and Partial.
	Complete Success.			Partial Success.			Partial Failure.			Complete Failure.			
	Wind.	Weather.	Average.	Wind.	Weather.	Average.	Wind.	Weather.	Average.	Wind.	Weather.	Average.	
Scotland, N. ...	54	68	61	33	27	30	11	4	8	2	1	2	91
„ E. ...	58	64	61	30	30	30	10	5	7	2	1	1	91
England, N.E. ...	62	62	62	28	33	31	9	4	7	1	1	1	93
„ E. ...	62	62	62	28	31	29	8	6	7	2	1	2	91
Midland Counties.	61	63	62	26	30	28	11	6	9	2	1	1	90
England, S. ...	63	61	62	30	34	32	6	5	5	1	—	1	94
Scotland, W. ...	56	80	68	33	17	25	9	3	6	2	—	1	93
England, N.W. ...	56	62	59	31	33	32	11	4	8	2	1	1	91
„ S.W. ...	54	62	58	34	33	34	10	4	7	2	1	1	92
Ireland, N. ...	48	68	58	35	29	32	14	2	8	3	1	2	90
„ S. ...	48	64	56	30	32	31	17	3	10	5	1	3	87
Summary ...	56	65	61	31	30	30	11	4	7	2	1	2	91

The following table shows the success of the Forecasts of the year in comparison with those of previous years. It gives for each year of the decade 1896–1905 the percentages of complete and partial successes of the Forecasts issued at 8.30 p.m. Until the year 1905 the annual period included was that for the 12 months ending with March. The results for 1905 and 1906, given below, are for the calendar year. The sum of successes (complete and partial) in 1906 was three per cent. higher than in any year since the forecasts were first issued in 1879.

PERCENTAGES of SUCCESS in the FORECASTS for the whole of the BRITISH ISLES.

Year.				Complete Success.	Partial Success.	Sum of Successes, Complete and Partial.
1897-98	...	...		55	26	81
1898-99	...	...		55	28	83
1899-1900	...	...		55	27	82
1900-01	...	...		57	27	84
1901-02	...	..		58	26	84
1902-03	...	...		53	35	88
1903-04	...	...		56	30	86
1904-05	...	...		57	31	88
1905	...	...	...	56	32	88
1906	...	...	...	61	30	91
Average	...	...		56.3	29.2	85.5

STORM WARNINGS FOR THE COASTS OF THE UNITED KINGDOM.

Warnings of coming storms have been dispatched by telegraph to stations on the coast supplied with signals to be hoisted as warnings to mariners. The signals are defined in Circular 717 of the Board of Trade, issued in February, 1874.

Storm
Warnings

A list of the stations at which the signals are exhibited is given in Appendix II., pp. 52, 53. At the end of March, 1907, there were 240, of which 131 were in England and Wales, 70 in Scotland, 34 in Ireland, 3 in the Isle of Man, and 2 in the Channel Islands.

A comparison between the warnings issued during the year and the subsequent weather, in accordance with the method indicated in the Report for 1888-9, p. 64, is given in the following table.

Appended to the table are notes respecting the gales for which no warnings were issued, with brief statements as to the circumstances in which they occurred.

STORM WARNING CHECKING.

Comparison between the Warnings and the subsequent Weather in 1906.

Coasts.	Total No. of Warnings.	Warnings justified by subsequent Gales, Force 8 and upwards.	Warnings justified by subsequent strong Winds, Forces 6 & 7.	Warnings not justified by subsequent Weather.	Warnings late, Force 9 reached at two Stations before issue.	Warnings partially late, Force 9 reached at one Station before issue.	Warnings issued in consequence of telegraphic errors.	Storms for which no Warning was issued.
Scotland, N.E. ... {	28	17	10	—	1	—	—	May 16-17; July 19.
{	20	13	6	—	—	1	—	
" E. ... {	18	12	5	1	—	—	—	
{	12	6	3	3	—	—	—	
" N.W. ... {	31	16	12	2	—	1	—	
{	21	10	8	3	—	—	—	Jan. 18; April 28-30; April 28-30; May 16-17; July 19; Sept. 14-15; Oct. 15-17.
" W. ... {	30	16	8	6	—	—	—	
{	22	11	7	3	—	1	—	
Ireland, S. ... {	35	14	14	4	1	2	—	
{	31	13	14	4	—	—	—	
" N. ... {	39	25	9	2	1	2	—	
{	37	25	10	1	—	1	—	
Irish Sea ... {	35	19	14	1	—	1	—	
{	30	16	9	4	—	1	—	
St. George's Channel ... {	30	10	18	2	—	—	—	
{	28	17	6	3	—	2	—	Jan. 18.
Bristol Channel... {	33	19	12	—	1	1	—	
{	31	21	1	4	—	2	—	Jan. 6.
England, S.W. ... {	30	14	14	2	—	—	—	
{	30	15	12	3	—	—	—	
" S. ... {	26	16	7	2	1	—	—	
{	25	17	5	3	—	—	—	
" S.E. ... {	23	12	9	1	—	1	—	Jan. 6; Dec. 12-13.
{	21	13	5	2	—	—	1	
" E. ... {	19	6	12	—	1	—	—	
{	16	9	4	2	—	—	1	
" N.E. ... {	19	12	4	2	—	1	—	
{	19	10	5	3	—	—	1	
Totals {	396	208	148	25	6	9	—	
{	343	196	98	38	—	8	3	
Percentages {	—	52.5	37.4	6.3	1.5	2.3	—	
{	—	57.1	28.6	11.1	—	2.3	0.9	
For the whole year { Totals... {	739	404	246	63	6	17	3	
{ Per-centages {	—	54.7	33.3	8.5	0.8	2.3	0.4	

NOTE.—In order to facilitate comparison with the statistical tables of the Board of Trade which are made up for the year ending June 30, the figures for the two halves of the year 1906—January 1 to June 30, and July 1 to December 31—are given separately for each district. The upper line of figures in each case gives the particulars for the first half of the year.

GALES EXPERIENCED in 1906 for which no WARNINGS were issued.

These were, as a rule, confined to limited portions of our coasts. They occurred on the following dates :—

- (1.) *January 6th. A Westerly Gale in England, South, and England, East.*—On the evening of January 5th there were signs of the approach of a large cyclonic disturbance from the south-westward. The western coasts were all warned, and increasing winds were forecasted for other parts of the country. The disturbance proved to be deeper and advanced more rapidly than was anticipated. By 8 a.m. of the 6th its centre had reached Yorkshire, and the gale had extended as far east as the south-east of England. Warnings would at that time have been useless.
- (2.) *January 18th. A strong Westerly to North-Westerly Gale in Ireland, South, and the Bristol Channel.*—Caused by a depression which advanced very suddenly from the westward on the night of the 17th. At 6 p.m. on the 17th there were no signs of the approach of any serious disturbance. By 8 a.m. next day the centre of a deep depression was over the St. George's Channel, and a gale was blowing on all our south-west coasts.
- (3.) *April 28th–30th. A Northerly and North-Westerly Gale on the Irish Coast.*—A depression which appeared beyond our northern coasts on April 27th extended gradually southward on the 28th, but was expected to pass away to the eastward. On the night of the 28th the centre moved quickly southward along our western coasts, a steep gradient was formed on its western sides, and a stiff northerly gale sprang up in Ireland.
- (4.) *May 16th–17th. A Northerly and North-Easterly Gale in Scotland, North-East, and Ireland, North.*—Caused by a depression which moved southwards from Norway on the night of the 16th. At 6 p.m. the system was not deep, but during its progress southwards the barometer fell briskly on our north-east coast, and a steep gradient was produced over our northern districts.
- (5.) *July 19th. A Westerly Gale in Scotland, North-East, and Ireland, North.*—At 6 p.m. on July 18th a shallow depression lay off the north-west of Scotland, the surrounding winds being of no great strength. By the following morning the system had become much deeper, the *minimum* readings of the barometer being at least 0.4 in. lower than on the previous evening. The gale had then commenced, and it was therefore too late to warn.
- (6.) *September 14th–15th. A South-Westerly to Westerly Gale in Ireland, North.*—Owing to the sudden appearance of a depression off our north-west coasts the wind increased considerably in the west and reached the

force of a gale in a few places. In the north of Ireland the gale was rather severe. At 6 p.m. on the 14th the conditions did not appear threatening.

(7.) *October 15th-17th. A Westerly Gale in Ireland, North.*—

Between the 15th and 17th a large depression to the northward of these islands occasioned strong and squally winds from the westward in our northern and north-western districts. In a few places, and at different times the force of a gale was reached.

(8.) *December 12th-13th. A Westerly Gale in England, East.*—

The Irish coasts were warned on the evening of the 11th, and other portions of our western coasts on the morning of the 12th, for a gale which was anticipated to result from the advance of a depression from the westward. Later on, a secondary disturbance was developed in an unexpected manner over our north-east coasts, and a steep gradient was formed on its southern sides. At no ordinary time of observation did the conditions appear very threatening.

The following table contains a statement of the amount of success of storm warnings in each year and the average for the decade 1897-1906:—

Years.	Total No. of Warnings issued.	Warnings justified by subsequent Gales.	Warnings justified by subsequent strong Winds.	Warnings justified.	Warnings not followed by increase of Wind.
		p.c.	p.c.	p.c.	p.c.
1897 ...	596	60.1	31.7	91.8	4.5
1898 ...	581	59.8	27.5	87.3	8.2
1899 ...	504	59.3	31.9	91.2	4.8
1900 ...	512	66.2	25.8	92.0	6.3
1901 ...	498	62.3	26.1	88.4	7.4
1902 ...	535	55.5	32.0	87.5	9.0
1903 ...	757	62.6	27.3	89.9	7.3
1904 ...	539	59.4	30.4	89.8	6.7
1905 ...	632	52.5	35.9	88.4	9.5
1906 ...	739	54.7	33.3	88.0	8.5
1897-1906	589	59.2	30.2	89.4	7.2

Averages.

The corresponding figures giving the average results for the last six years, and for the three preceding decades are as follows:—

Period.	Total No. of Warnings issued.	Warnings justified by subsequent Gales.	Warnings justified by subsequent strong Winds.	Total Warnings justified.	Warnings not justified by subsequent Weather.
		p.c.	p.c.	p.c.	p.c.
1871-80...	362	51.9	25.7	77.6	16.8
1881-90...	507	57.3	25.1	82.4	15.5
1891-1900	518	62.7	27.5	90.2	5.8
1901-06...	617	57.8	30.8	88.6	8.1

III.—STATISTICS AND LIBRARY BRANCH.

(a) CLIMATOLOGY OF THE BRITISH ISLES.

A list of stations in connexion with the Office, in which particulars are given of the orders of the stations and of the official publications for which the returns have been prepared, will be found in Appendix II. on pp. 63 to 85.

Clarendon type has been used for the names of stations which have been added to the list in the course of the year, and *italic* type for those which have been discontinued.

The distribution of these stations in the various districts may be summarised as follows :—

	Observa- tories.	Normal Cli- matological.	Auxiliary Climatologi- cal.	Telegraphic Reporting.	Sunshine (in- cluding Ob- servatories).	Additional Rainfall.	Anemograph.
0. Scotland, N.	0	7	0	3	5	3	1
1. " E.	1	9	0	3	6	1	0
2. England, N.E.	0	12	5	2	12	9	2
3. " E.	0	10	9	2	12	5	2
4. " Midlands	0	12	17	2	17	16	1
5. " S.	1	5	23	2	22	14	0
London County		3	1	1	6	7	0
6. Scotland, W.	1	7	1	0	4	1	0
7. England, N.W. and N. Wales	1	10	9	2	16	4	3
8. " S.W. and S. Wales	1	4	10	2	14	14	1
9. Ireland, N.	0	4	2	3	2	5	1
10. " S.	1	6	8	3	6	11	3
11. Western Channel	0	1	1	2	4	0	1
Total	6	90	86	27	126	90	15

Records have also been received from 25 additional barograph stations, 5 additional thermograph stations, 8 additional autographic raingauge stations, 1 hygrograph station, 62 sea temperature stations. Daily reports are received by telegraph from 39 foreign stations (*see* p. 86).

Observatories are also maintained at Oxford (Radcliffe Observatory), Bidston (Mersey Docks and Harbour Board), Southport (the Corporation), and Berkhamsted (E. Mawley, Esq.), and from these, records for occasions of special interest have been courteously supplied when asked for.

Observations have been continued at all the climatological stations which were in connexion with the Office at the end of the previous year.

Changes in
Stations.

In addition to these, observations are now being received from a normal climatological station established by the Urban District Council of Tottenham, under the supervision of the Medical Officer of Health, and from an auxiliary climatological station established by the Rural District Council of Bexhill-on-Sea.

Sunshine records from Nairn, Oban, and Balta Sound form a welcome addition to the data received from Scotland. Sunshine recorders have also been procured at Fulbeck, Giggleswick School and Clifton College.

The most numerous changes have occurred among the stations at which rainfall alone is recorded. Observations have been discontinued at six of these, and eight new stations have been added to the list during the year.

Obituary.

The Committee have heard with regret of the death of the following observers :—

Mr. G. Paul, who for many years acted as Borough Meteorologist to the Corporation of Harrogate.

Mr. C. L. Wood, of Forgandenny (barograph and rainfall station).

Mr. G. H. Cooper, of East Dereham (rainfall station).

Mr. Robert H. West, M.A., of the Syrian Protestant College at Beyrout, Syria.

Mr. T. H. G. Newton, who maintained a normal climatological station at Landale (Argyleshire), which has been in connexion with the Office since 1878.

Mr. W. P. Probert, LL.D., F.G.S., who formerly maintained a normal climatological station (discontinued in 1902) at St. David's, Pembroke.

The observations are being continued, except in the cases of East Dereham and St. David's.

Information supplied by the Royal Meteorological Society and the Scottish Meteorological Society.

The arrangement with the Royal Meteorological Society and the Scottish Meteorological Society, under which, for a certain payment, the Societies forward to the Office returns of daily observations at normal climatological stations or monthly summaries of such observations, already prepared for publication, has been continued for the year 1906. Under this arrangement the Royal Meteorological Society supplies returns of daily observations from three stations, and monthly summaries from 12 stations; the Scottish Society supplies daily values from three stations, and monthly summaries from 14 stations. Weekly returns containing daily values of extremes of temperature, rainfall, and in some cases duration of bright sunshine for certain stations, have also been received from the Societies in return for payment. The stations from which returns are received from either of the two Societies in return for payment are distinguished in the List of Stations by the letters **M** and **S**.

Inspections.

A list of the stations which have been inspected in the course of the year by a representative of the Office will be found in Appendix VI., p. 121.

PUBLICATIONS PREPARED.

WEEKLY WEATHER REPORT.—Various changes were made in this publication at the commencement of the year 1907. The most important among these is the inclusion on the front page of the Report of a table in which the week's warmth,

rainfall, and sunshine for each district are characterised by a selection of adjectives. The terms used are, for warmth : unusual, moderate, deficient ; for rainfall : heavy, moderate, light ; for sunshine : abundant, moderate, scanty. For fixing the limits within which each of these adjectives should apply, the statistics of weekly values, for districts, of each of the five elements, accumulated temperature above and below 42°, rainfall and sunshine, which have been published in the weekly reports for the years 1881-1905, have been examined from the point of view of their frequency distribution. The limits have been so selected, that of the total number of weekly values for each element included in the period mentioned above, one-third are characterised as moderate, one-third fall on the side of excess, and one-third on the side of defect. A further sub-division is effected by prefixing the adverb "very" to the description in the case of one-twelfth of the values reckoned from either extreme. In the Report the definitions of the terms are expressed as probabilities as follows :—

WARMTH.—The week's warmth is called *unusual* if it is so much above the average for the time of the year that, in the long run, it is likely to occur, for that week, only once in three years, and it is marked *very unusual* if it is likely to occur, for that week, only once in twelve years ; similarly it is called *deficient* if it is so much below the average for the time of the year that it is only likely to occur, for that week, once in three years, and *very deficient* if it is likely to occur, for that week, only once in twelve years. Otherwise it is called moderate.

RAINFALL.—The week's rainfall is called *heavy* if it is so much above the average for the time of year that, in the long run, it is likely to occur, for that week, only once in three years, and it is marked *very heavy* if it is likely to occur, for that week, only once in twelve years ; similarly it is called *light* if it is so much below the average for the time of year that it is only likely to occur, for that week, once in three years, and *very light* if it is likely to occur, for that week, only once in twelve years. Otherwise it is called moderate. When the week has been without rain, the word "nought" is inserted in the column for the district.

SUNSHINE.—The week's sunshine is called *abundant* if it is so much above the average for the time of year that, in the long run, it is likely to occur, for that week, only once in three years, and it is marked *very abundant* if it is likely to occur, for that week, only once in twelve years ; similarly it is called *scanty* if it is so much below the average for the time of year that it is likely to occur, for that week, only once in three years, and *very scanty* if it is likely to occur, for that week, only once in twelve years. Otherwise it is called moderate. When the week has been without sunshine the word "nought" is inserted in the column for the district.

The first step in the process of fixing the limits consisted in the determination of the average value for each week for each element and for each district. The average values, found by taking the mean in the usual manner, were then smoothed by Bloxam's formula $\frac{A + 2B + C}{4}$, and the results adopted as

averages "for the time of the year." Subsequently the frequency distributions of the divergencies from these smoothed averages were determined for each element. From these, working diagrams were prepared for each district, one of which (Plate IV.) is reproduced from the Journal of the Board of Agriculture. The thickened line in the centre of the shaded belt in each section of the diagram shows the "average for the time of the year." The shaded belts themselves show the regions of "moderate" value, and they are so drawn that one-third of the total number of values in the 25-year period falls within them, and that one-third falls above and one-third below them. The dotted lines are the limits for differentiating the values to which the adverb "very" is to be prefixed. They are so drawn that one-twelfth of the total number of values lie above the upper and one-twelfth below the lower line.

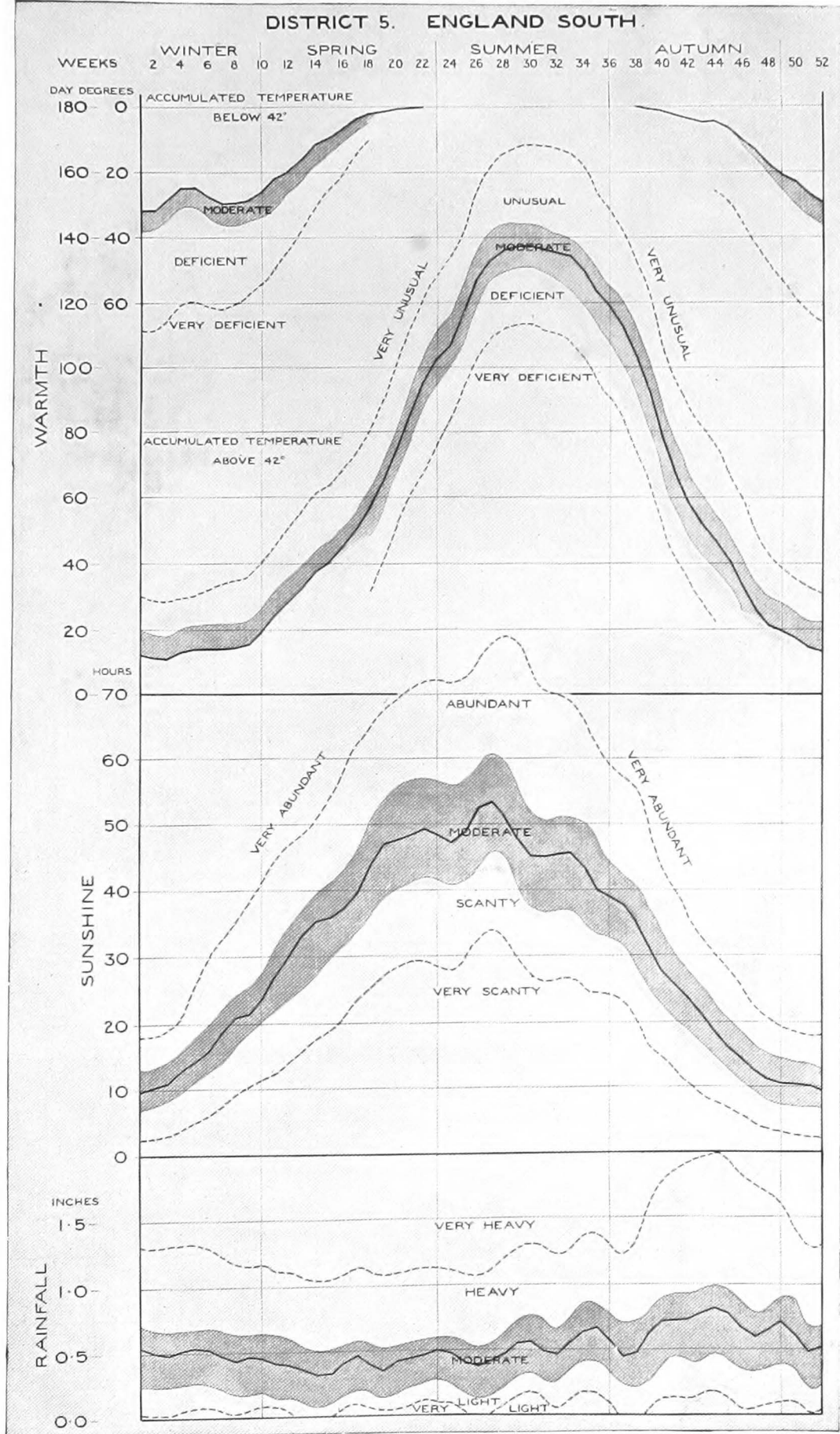
In the case of the quantity warmth, the classification is based during the warm season of the year entirely on the consideration of accumulated temperature above 42° , but in the colder months the weeks of unusual warmth only are determined from this quantity, and those of deficient warmth are classified from the amount of accumulated temperature below 42° .

The classification has been undertaken with the object of summarising in a convenient form the meteorological characteristics of a long period, such as a season or a year, by enumerating the number of weeks of each kind experienced within it, and tables are given in each issue of the Report summarising the weather of the current season and of the past four seasons on these lines. By this means it is hoped that the comparison of meteorological results with other statistics will be facilitated.

No changes have been made in the arrangement of the tables giving "district" values or "station" values, or in the daily maps published in the Report.

At the beginning of May, 1906, a table was introduced giving information concerning the minimum temperature on the grass and the temperature in the ground at a selection of stations, and at the commencement of the year 1907 this table was considerably extended.

With a view to tracing any connexion there may be between the temperature of the sea and the occurrence of fog, arrangements have been made with the Admiral Commanding Coastguard and Reserves for a number of coastguard stations which supply observations of sea temperature to send in weekly reports, and a summary of these is now published in the Weekly Weather Report. Similar observations are also received, through the courtesy of the Elder Brethren of Trinity House, from the Shipwash Light-vessel, which is in telephonic communication with the shore. In the case of the remaining light-vessels which send returns of sea temperature to the Office, communication between ship and shore is too irregular to admit of weekly reports being sent in time for publication in the Weekly Weather Report. The observations received are further supplemented by returns sent in by a number of private observers, to whom the thanks of the Committee are tendered. The forms sent in from the various stations contain notes on the duration and intensity of fog.



A summary of the observations of the upper air carried out by means of kites and balloons by Mr. W. H. Dines, at Pyrton Hill, Oxon (formerly at Oxshott); by Mr. J. E. Petavel for the University of Manchester at Glossop Moor; by Mr. C. J. P. Cave at Ditcham Park, Petersfield; and by Mr. S. H. R. Salmon at Brighton, continues to be given in the Report. The issue for the year 1906 contains summaries of 190 ascents, while during the first three months of 1907 details of 90 ascents have been published.

THE MONTHLY SUMMARY which is issued as a supplement to the weekly report has been considerably extended since the commencement of the year 1907, and it has received the title "Monthly Weather Report." All stations for which results are given in the Quarterly Report issued by the Registrar-General of Births, Deaths, and Marriages, for England and Wales and for Ireland, have been included in the Monthly Report. In addition to this, the summaries hitherto published in the annual volume of Meteorological Observations at stations of the second order have all been included in the Report. It is proposed to print only daily values in the volume for the year 1907. The Report for March, 1907, contains extended summaries for 123 stations and abridged summaries for 48 stations. In order to facilitate the calculation of "district values" for months for the elements temperature and rainfall, the monthly summaries for all stations used as "representative" in the Weekly Weather Report have been included in the table of extended summaries in the Monthly Reports, blanks being left in cases where the information required for a complete summary is not available.

The maps showing the distribution for the month of atmospheric pressure, wind, and temperature, and the movements of depressions have been prepared as heretofore. Dr. H. R. Mill, the Director of the British Rainfall Organisation, has offered to undertake the preparation of the map showing the distribution of the month's rainfall, using for the purpose the data from about 500 stations in connexion with the Organisation. The offer has been gladly accepted by the Committee. Rainfall returns from a number of stations in connexion with the Office are supplied each month to Dr. Mill in order to make the data as complete as possible. The map, in its new form, shows the distribution of rainfall by means of isohyetal lines, as the number of stations is too large to admit of the individual values being shown. The regions of heaviest fall are shaded.

The annual appendices to the Weekly Weather Report have been issued in the usual form, and much work has been done upon the preparation of the quinquennial appendix giving average values of maximum, minimum, and mean temperature, rainfall and sunshine, which is to be issued as an appendix to the Report for 1906.

METEOROLOGICAL OBSERVATIONS AT STATIONS OF THE SECOND ORDER.—The twenty-seventh volume of this publication containing the observations for the year 1902, was prepared and carried through the press. It gives detailed daily observations in the international form, for 21 stations, and monthly summaries, also in the international form, for these stations and for 53 additional ones.

Second Order
Stations.

QUARTERLY RETURNS FOR THE REGISTRARS GENERAL.—Weekly summaries for 17 stations, and monthly and quarterly summaries for 58 stations have been prepared for the reports of the Registrar General of Births, Deaths, and Marriages for England and Wales and for Ireland.

(b.) CLIMATOLOGY. FOREIGN AND COLONIAL STATIONS.

Foreign and
Colonial
Stations.

A list of Foreign and Colonial Stations from which documents have been received in the course of the year is given in Appendix II., p. 88.

Of these stations, one, St. Helena, has an anemograph in addition to the usual climatological instruments. Six are in Cyprus and have been in operation since 1881. Eight are in the West Indies, of which 6 are in the Bahamas. Five of the Bahamas returns are lighthouse registers. Eleven stations are in West Africa, eleven in Central Africa. Six are on the Mediterranean Coast. Two are in Central or South America, two in the Falkland Islands, one (Mauritius) in the Indian Ocean, one in the Pacific and one in China. The observations from the six stations in Cyprus have been prepared in the Office for publication in the Cyprus Blue Book. By arrangement with the Colonial Office and the Survey Department of Egypt this work is in future to be undertaken by the latter Department, which is able to use the results in its Monthly Weather Report. The returns are to be sent to the Office for ultimate filing.

(c.) EXCHANGE OF PUBLICATIONS.

Exchanges of publications have been arranged with the following bodies :—

Metropolitan Water Board.

Commonwealth of Australia, Statistical Bureau.

Imperial Institute of Forestry, St. Petersburg.

(d.) INQUIRIES.

The inquiries dealt with in the Statistics and Library Branch during the year were 769, of which 247 were by letter and the rest personal inquiries. The following table gives a classification of the inquiries with the corresponding figures for previous years :—

		For Scientific or Commercial Purposes.	For Evidence in Legal Proceedings.	For Forecasts of Weather.	From Newspaper Correspondents for Special In- formation.	Miscellaneous.	Answered by Letter.	Answered Personally.
1903-4	...	258	94	158	217	65	166	626
1904-5	...	259	116	89	221	70	136	619
1905-6	...	293	99	77	206	84	160	599
1906-7	...	427	73	79	166	24	247	522

The inquiries included in the table under the heading "for forecasts of weather" are personal inquiries for information supplementary to that contained in the official forecasts and exhibited at the entrance to the Office and in St. James's Park.

(c.) LIBRARY.

Two additional book cases have been provided during the year to afford much needed relief on some of the shelves of the library.

The additions to the library, which for the most part have been presented or obtained by way of exchange, have numbered about 600 books and pamphlets, bringing up the total number to about 19,600. The books received during the year have been classified in accordance with the classification of the International Catalogue of scientific literature.

In Appendix VII., p. 123, will be found (1) a list of persons and institutions from whom publications containing meteorological data have been received during the last four years with a brief indication of the nature of the information given; (2) a list of periodicals containing memoirs on meteorological subjects, which are received by the Office.

Among the most important additions to the library during the past year may be mentioned :—

The Climatological Atlas of India, issued by the Indian Meteorological Department; The Physiography of the River Nile and its Basin, by Capt. H. G. Lyons; Part IV. of the Reduction of Greenwich Meteorological Observations; Die Niederschläge in den Norddeutschen Stromgebieten, by G. Hellmann, in 3 vols.; Internationale Meteorologischer Kodex, by G. Hellmann and H. H. Hildebrandsson; Les bases de la Météorologie Dynamique, by H. H. Hildebrandsson and Teisserenc de Bort; Ergebnisse der Arbeiten des K. Preuss. Aeronautischen Observatoriums bei Lindenberg; Climatology of the United States, by A. J. Henry; Climatotherapy and Balneotherapy, by Sir H. and F. P. Weber; Annales de l'Observatoire Royal de Belgique, Vols. V. to XVI.

Among those acquired by purchase have been :—

"Gesammelte Abhandlungen aus den Gebieten der Meteorologie und des Erdmagnetismus" von W. von Bezold; von Danckelman's "Mitteilungen von Forschungsreisenden und Gelehrten aus den Deutschen Schutzgebieten"; the "Hann-Band" of the "Meteorologische Zeitschrift"; "The Voyage of the 'Discovery,'" by R. F. Scott; and a selection of the volumes of the International Catalogue of Scientific Literature.

The Library is available for the use of students and others between the hours of 10 a.m. and 4 p.m. A number of persons have availed themselves of this accommodation.

IV.—OBSERVATORY BRANCH.

STATIONS OF THE FIRST ORDER: OBSERVATORIES.—No change has been made during the year in the number of observatories or in the arrangements under which they are carried on. The Observatory at Valencia is maintained directly by the Office, whilst the Committee contribute to the maintenance of those at Aberdeen, Falmouth, and Kew, the management of the observatories being undertaken by the University of Aberdeen, the Royal Cornwall Polytechnic Society, and the National Physical Laboratory respectively. From the observatories at Glasgow and Stonyhurst duplicate copies of the automatic records are received under an arrangement made in 1883.

Upon the receipt from the observatories of the automatic records and numerical results they are subjected to a careful examination before publication, and in order to make the records at once available for the public service this examination is kept closely up to date.

Further progress has been made in overtaking the arrears in the publication *in extenso* of the observations from these observatories. The first volume of the present, revised, series contained the data for 1900. Six volumes of this series have now been published, the volume for 1905 having been completed by the close of the year under review, and it is hoped to bring the work up to date by March, 1908. The volumes contain readings of barometric pressure, dry and wet bulb temperature, direction and velocity of the wind, sunshine, and rainfall for every hour, together with mean results; and for purposes of comparison corresponding mean values for the longest period available are added.

ANEMOGRAPH STATIONS.—The anemometer at one station—Oxshott, Surrey—has been transferred to Pyron Hill (*see* p. 14), whilst another and a very valuable station—Southport—has been added, so that the number now stands at 22. From these stations returns of the direction and force of the wind are regularly received.

A new anemometer was erected at Alnwick early in the year, above the Duke of Northumberland's new schools, and the anemometer at the Castle, from which returns have been received for many years, has now been dismantled. Both instruments were, however, kept at work for several months in order to afford data for a comparison of the wind force at the two places, and a report on the result has been prepared.

Arrangements were made during the year for tabulating the records from all the anemometer stations week by week, so that their results may become available for reference without delay.

SUNSHINE STATIONS.—Photographic records of sunshine are no longer published by the Office. The total number of stations from which returns of bright sunshine as registered by burning recorders were being received at the close of the year was 124. From 110 of the stations the original cards are received, to be

retained in the Office for reference, whilst the daily amounts of sunshine are received from the other 14 stations. Two of the stations sending original cards are in the West Indies, one at the Falkland Isles, and one in China.

The cards are examined systematically, and for this purpose most of the 14 stations sending daily amounts send the original cards also, every month, to be returned after examination.

Whilst the number and distribution of the stations is such as adequately to represent the sunshine of most districts, there are still some parts of the West and North in which it is desirable to have more observers.

During the past year the preparation for press of the land observations made by the National Antarctic Expedition of 1902-4, has occupied all the time available after providing for the usual routine duty of the Department. By the close of the year the whole of the "Meteorological Journal" had been prepared for press and read in proof, and the observations further arranged for printing in the form prescribed for hourly readings by the Meteorological Congress held at Vienna. The observations made on the sledge journeys have also been prepared and transcribed for press; in addition to which various mean results required in the preparation of the memoirs which are to accompany the observations have been calculated.

Antarctic
observations

V.—INSTRUMENTS BRANCH.

During the year 728 instruments of various kinds have been supplied for the use of H.M. ships as compared with 1,018 in the previous year.

The total number of instruments issued to the mercantile marine in the past year was 654, as compared with 747 in the previous year. Details are given in Appendix V. The approximate number of ships employing instruments belonging to the Office for observations during the year was 217, as compared with 210.

Mercantile
Marine.

The instruments at the telegraphic reporting stations have been maintained in proper order and replaced when necessary.

Stations.

Storm Warning Cones have been issued to the following stations during the year:—Portland Bill, Margate, Greenock Harbour, Southwold, Eastbourne, Ardrossan, Port Knockie, Thurso, Cromarty, Weymouth, Newquay, Southport, Peterhead.

Storm
Warning
Cones.

The arrangements made with the Fisheries Board for Scotland, the Department of Agriculture in Ireland, and the Board of Agriculture and Fisheries in England and Wales, whereby the Inspectors of these departments examine and report upon the Fishery Barometers belonging to this Office, situated in their respective districts, have been continued.

Fishery
Barometers
Inspections

The instruments at Balta Sound, East Haven, Haslar Hospital, Cushendall, Warrenpoint, Crosshaven, Ballyheigue, and Tarbert have been returned and the stations discontinued. The Barometer at Kilcredane has been transferred to Ballintoy in Co. Antrim, while new stations have been established at Hilton in Ross-shire, Lemreway in Lewis and Dymchurch, Kent.

New Barometers have been supplied to Arbroath, Dunbeath, Port Knockie, and Port Essie and the instruments previously at these stations have been returned for repairs. The instrument at Lerwick has been thoroughly overhauled and returned to that station.

There are now 225 stations on the coasts of the British Isles supplied by the Committee with barometers for the benefit of sailors and fishermen. Of these, 65 stations are in England, 6 in Wales, 61 in Ireland, 88 in Scotland, 4 in the Isle of Man, and 1 in Jersey. A list of the stations is given in Appendix II.

With the assistance of the above-mentioned departments the distribution of fishery barometer stations is in course of revision.

Instruments have again been lent for a winter station at Southampton Island (Hudson's Bay).

Observers.

A considerable number of instruments have been supplied upon repayment to Colonial Governments and local authorities or to observers, including the following :—

Agent-General, New South Wales.
Office of Public Works, Dublin.
Zambesi, per J. P. Hornung.
Mauritius Meteorological Society.
Dover Borough Council.
Dr. M. H. Gordon, St. Bartholomew's Hospital.
Dr. L. A. Hare, Larchhill Sanatorium.
Captain Tamplin, Chin-Kiang.
J. Smith, Esq., Crathes.
E. Arthur Lee, Esq., Liphook.
Lerwick Harbour Commissioners.

New sunshine recorders have been supplied to Nairn, Fulbeck, Giggleswick, Bristol, and Dover, and an old pattern recorder has been lent to Dr. Saxby, of Balta Sound, Shetland. Earth thermometers principally for 1 foot and 4 feet depths have been installed at Clacton-on-Sea, Cockle Park, Crathes, Cambridge Botanic Gardens, Chin-Kiang (China) and Dover.

A Dines' Pressure Tube Anemometer has been sent to Aberdeen and is being erected under the supervision of Professor Niven on the tower of the observatory on which the Robinson instrument is exposed, for the purpose of investigating the effect of the tower on the motion of the air over it.

A Dines' Pressure Tube Anemometer has also been sent to Gibraltar for use in wind experiments on the Rock in conjunction with the War Office and Admiralty.

The following "instruments, &c.," have been supplied on repayment for the Crown Agents for the Colonies.

15 Mercurial Barometers.	1 Halliwell's Recording Rain-gauge.
5 Barographs.	9 Sixes Thermometers.
62 Ordinary Thermometers.	1 Pyrheliometer by Rose, Upsala.
41 Max. do.	1 Nippoldt's Condensation Hygrometer.
49 Min. do.	1 Clark's Ozonometer Cage.
18 Solar do.	1 Dines' Sight Indicating Anemometer.
18 Grass Min. do.	3 Special Thermometers for Magnetic Apparatus.
16 Screens and Cages.	24 Pocket Registers.
110 Raingauges and Glasses.	Repairs to 3 Barometers and 1 Aneroid.
112 Additional Glasses.	13,650 Charts for Recording Instruments.
2 Sunshine Recorders.	
5 Earth Thermometers.	
4 Anemometers.	
3 Wind Vanes.	
1 Thermograph.	
1 Hygrograph.	
1 Piche Evaporimeter.	

VI.—CORRESPONDENCE AND ACCOUNTS BRANCH.

Appendix IX., p. 145, shows the receipts and payments during the year ending 31st March, 1907. The amount voted by Parliament was £15,300, as in the previous year, and the miscellaneous receipts amounted to £2,926 0s. 2d.

The following abstract shows approximately the net payments of this and the preceding year, together with the increase or decrease in 1906-7, as compared with the previous year:—

NET EXPENDITURE.	1905-6.	1906-7.	Increase.	Decrease.
GENERAL ADMINISTRATION :	£	£	£	£
Director and Committee ...	1,041	1,007	—	34
Office :				
Correspondence and Accounts Branch ...	1,109	1,233	124	—
Rent, Fuel, and Lighting	719	717	—	2
Alterations to premises and contingencies ...	384	563	179	—
Expenses incidental to International Meteorological Congress ...	21	25	4	—
SPECIAL RESEARCHES ...	380	110	—	270
LAND METEOROLOGY ...	4,006	4,655	649	—
WEATHER INFORMATION ...	2,777	3,011	234	—
INSPECTIONS ...	403	270	—	133
OCEAN METEOROLOGY ...	1,820	1,904	84	—
INSTRUMENTS ...	608	508	—	100
SUPERANNUATION ACCOUNT	483	1,938	1,505	—
Total	13,751	15,991	2,779	539

The following notes explain the chief causes of variation in the year 1906-7 :—

Some of the variations arise from modifications in the method of accounting. The increase in *Correspondence and Accounts* is due to the transfer of the wages of Messengers from other heads. There is also a transfer of the item of Agents' fees from *Instruments* to *Ocean Meteorology*. The decrease under Inspections is due to the fact that Dr. Buchan's salary (£150) was no longer chargeable under that head (*see p. 6*), and the decrease under *Special Researches* is also due to the transfer of items previously charged thereunder.

The large increase under *Superannuation Account* arises from the fact that £750 assigned in 1904-5 to the Superannuation Fund instead of being invested in 1905-6 was retained in the balance to form part of £1,336 11s. 6d. paid in 1906-7 for an annuity of £150 for the late Chief Clerk, Mr. J. S. Harding, who retired at the beginning of that year and was succeeded by Mr. J. A. Curtis (Report 1905-6, p. 25). Making this adjustment, the proper charge under this head for the year is £1,238 as against £1,233 in the previous year, and the total amount properly chargeable against the Parliamentary Grant for the year is £15,241, as compared with £14,501 in 1905-6, a net increase of £740.

The main items of actual increase in the year which go to make up this difference are under *Land Meteorology* and *Weather Information*, and are the result of the reorganisation referred to in last year's Report. In the former, increases arise from the readjustment of the salaries on the appointment of a new Superintendent (Report 1905-6, p. 7), and the alterations to premises, furniture, &c., incidental thereto (*see pp. 5-7 and 35*). Also the appropriation for the investigation of the upper air (p. 14) which began in October, 1905, was the full annual sum of £500 instead of the proportion for a half year. Under the head *Weather Information* there has been an increase of staff, heavier charges for storm warning telegrams, and charges on account of the Iceland messages since October 16th, 1906.

£1,679 was paid to the Post Office during the year 1906-7 on account of inland and foreign telegrams, allowances to telegraph clerks, rental of private wires, &c., and £410 for postage, as compared with £401 in 1905-6.

W. N. SHAW,
Chairman.

August 2, 1907.

APPENDIX.

APPENDIX I.

TELEGRAPHIC REPORTS FROM ICELAND.

Circular Letter from the Danish Meteorological Institute on behalf of the Danish Government.

Copenhagen,
Août, 1906.

Sur l'établissement d'un abonnement de télégrammes météorologiques de l'Islande et des îles Féroé.

Par autorisation du Gouvernement danois, j'ai l'honneur par la présente de faire savoir que le câble télégraphique entre l'Islande et les îles Féroé sera réuni au réseau télégraphique universel et prêt à être mis en usage à partir du octobre prochain.

Pendant les 26 ans qui se sont écoulés depuis la séance du comité météorologique à Berne en 1880 (voir ma circulaire de mars 1899), les Instituts météorologiques ont, à bien des occasions, donné des preuves du vif intérêt avec lequel ils ont embrassé le plan du Gouvernement danois de relier les îles Féroé et l'Islande au réseau télégraphique universel, un intérêt qui a encouragé le Gouvernement à persister dans ses efforts. Déjà dans sa séance à Berne en 1880, le Comité météorologique vit dans la pose du cable projeté un moyen pour améliorer les pronostics météorologiques de l'Europe, et depuis ce plan a gagné l'intérêt et reçu les encouragements du Congrès hydrographique de Stockholm en 1899 ainsi que de nombre de chambres de commerce françaises et d'associations et d'armements de pêche en Angleterre. L'intérêt de ces derniers s'explique par l'importance pour eux de recevoir promptement des renseignements sur les conditions météorologiques de l'Atlantique septentrionale, où les grandes flottes de pêche sont menacées et souvent frappées de pertes considérables par suite des conditions atmosphériques particulièrement troublées de ces parages.

Conformément à ces expressions d'intérêt et d'encouragement, on essaya (voir ma circulaire suscitée de mars 1899) de créer la base nécessaire pour l'établissement du câble d'Islande en instituant un abonnement de télégrammes météorologiques valable pour 20 ans. Malheureusement le Gouvernement danois ne reçut que de la part de quelques-uns des Gouvernements concernés la promesse, d'autant plus appréciée en Danemark, de l'appui estimé alors le minimum pour la réalisation du projet. Néanmoins, le Gouvernement danois n'a jamais perdu de vue cet objet également

important à la météorologie et aux intérêts pratiques, et enfin on a, par de grands sacrifices, réussi à établir la communication télégraphique si ardemment désirée. Aussi, la Grande Compagnie des Télégraphes du Nord s'est-elle montrée fort libérale, entre autres, en projetant pour les télégrammes météorologiques une réduction très considérable sur les taxes ordinaires réduction dont il sera parlé plus loin.

La Compagnie a réuni au commencement d'août les îles Féroé (Thorshavn) au réseau télégraphique universel par un câble sous-marin posé entre Lerwick (îles Shetland) et Thorshavn; de même l'Islande (Seydisfjord, côte orientale) sera prochainement réunie au susdit réseau par un câble sous-marin entre Seydisfjord et Thorshavn. Enfin, on s'attend qu'avant le 1 octobre prochain Seydisfjord sera mis en communication avec Reykjavik (chef-lieu de l'Islande, côte occidentale) par une ligne aérienne touchant les villes et les places situées entre les deux, et qui sera encore étendue jusqu'à d'autres localités d'Islande.

En conséquence, mon gouvernement m'a autorisé à établir des stations d'observations météorologiques en Islande et aux îles Féroé dans le but particulier, que ces stations doivent être en état de télégraphier. A l'automne, des stations télégraphiantes seront donc établies à Thorshavn, aux îles Féroé, et à Seydisfjord, Akureyri et Reykjavik, sur la côte d'Islande; ajoutez encore deux stations situées respectivement entre Seydisfjord et Akureyri et entre Akureyri et Reykjavik. Aux stations télégraphiantes les heures d'observation seront fixées exclusivement en vue du service télégraphique, de sorte que les télégrammes du matin ainsi que ceux du soir puissent, malgré la situation occidentale de l'Islande, arriver aux instituts météorologiques de l'Europe à temps pour les services respectivement du matin et du soir. Aux télégrammes et du matin et du soir seront jointes des observations barométriques précédentes qui nous instruiront sur les variations barométriques, souvent très grandes et rapides, de cette partie de l'Atlantique. En fixant le nombre des stations télégraphiantes de l'Islande, on a en premier lieu essayé de satisfaire aux désirs des chambres de commerce et des associations de pêche demandant des renseignements météorologiques des eaux d'Islande, renseignements qui, en raison de la variation locale si prononcée des conditions atmosphériques, ne peuvent être puisés des bulletins d'une seule station. Mais de plus, les cartes météorologiques synoptiques, qui sont sous nos yeux, signalent de fréquentes déviations des vents aux stations d'Islande—pays fort montagneux—, déviations tellement marquées, que souvent on ne peut tirer de la direction du vent des conclusions sur la direction du minimum barométrique. Donc j'ai jugé propre d'établir en Islande tant de stations télégraphiques, que l'on puisse par la hauteur du baromètre reconnaître et la direction et la valeur du gradient barométrique.

Quant à l'abonnement de télégrammes météorologiques de l'Islande et des îles Féroé, la Grande Compagnie des Télégraphes du Nord a, à condition du concours nécessaire, accepté les conditions suivantes. Moyennant un abonnement, valable pour 5 ans de 6000 frs. par an, la Compagnie se charge de tout ce qui

concerne l'expédition deux fois par jour de rapports météorologiques de l'Islande et des îles Féroé. La Compagnie se charge de l'expédition non seulement par le câble même, mais encore par les lignes aériennes d'Islande ainsi que par toute autre ligne de l'Europe. Donc, les abonnés éventuels n'auront rien à payer en dehors de l'abonnement, qui comprendra l'expéditions de jusqu'à 18,000 groupes de chiffres par an, nombre dont l'expédition par le câble d'Islande seul coûterait selon le tarif ordinaire frs. 12,600 par an. Cependant on compte sur ce que les administrations télégraphiques, qui ont jusqu'ici expédié gratuitement les télégrammes météorologiques, en feront de même pour ceux-ci.

L'Institut danois s'est abonné le premier pour la somme annuelle susdite de frs. 6000. Comme, ainsi que je l'ai dit ci-dessus, l'établissement de l'abonnement dépendra des adhésions nécessaires, il serait fort désirable que bien des instituts s'abonnent en suivant l'exemple de l'Institut danois, appel adressé particulièrement aux instituts dont les pays et les gouvernements profiteront, non seulement pour leur service météorologique, mais aussi pour leur navigation, leurs pêcheurs, leur commerce et leur industrie, de la communication télégraphique, réalisée au prix de tant de sacrifices de la part du Danemark.

Il n'est sans doute pas besoin d'ajouter, que la Compagnie n'a accepté cet abonnement si favorable aux instituts qu'en presumant qu'on ne se servît pas des publications d'un abonné sans y être préalablement autorisé par l'Institut de Copenhague, auquel les observatoires projetés d'Islande et des îles Féroé vont ressortir.

ADAM PAULSEN,

Directeur de l'Institut météorologique danois.

APPENDIX II.

STATEMENT OF PROVISIONS FOR THE SUPPLY OF INFORMATION
TO THE PUBLIC, 1907-8.

THE METEOROLOGICAL OFFICE.

Established in 1854 as a department of the Board of Trade. From 1866 to 1877, with a Parliamentary Grant in aid, under the management of a Committee, and from 1877 to 1905 under a Council appointed by the Royal Society, and now under the control of a Director and Committee appointed by H.M. Treasury.

Director :

WILLIAM NAPIER SHAW, LL.D., Sc.D., F.R.S.

Marine Superintendent :

Commander M. W. CAMPBELL HEPWORTH, C.B., R.N.R.

Superintendent of Statistics :

R. G. K. LEMPERT, M.A.

Superintendent of Instruments :

ERNEST GOLD, M.A.

Chief Clerk and Cashier :

JOHN A. CURTIS.

OFFICE PREMISES.

63, Victoria Street, S.W.

Telegraphic address—"Weather, London."

Office hours
and general
arrange-
ments.

The Office is open for general inquiries between the hours of 10 a.m. and 4 p.m. on week days (Saturdays, 1 p.m.), and for inquiries for forecasts and for information concerning the present weather conditions (*see* Section B, Telegraphic Information) from 8.30 a.m. to 8 p.m. on week days, and from 6 p.m. to 8 p.m. on Sundays.

Supply of
information
and charges.

The books and documents in the Office library, and the manuscript returns in the possession of the Office, may be consulted or copied at the Office, free of charge, between 10 a.m. and 4 p.m., by any person, by permission of the Director. Extracts from them are supplied to any person making written application to the

Director specifying precisely the details of the information required. For these extracts a charge is made to cover the cost of the time required for selecting and making them. The usual minimum charge is 5s. There are certain special exceptions with a smaller charge; a schedule of these will be sent on application.

The extracts will, if required, be attested by a sworn declaration before a Commissioner for Oaths, at a fee of £1 1s. (in addition to the charge of 1s. 6d. made by the Commissioner for Oaths). A special fee of £2 2s. for each day's attendance is charged if a representative is required to attend in court in London with reference to the statements contained in the extracts supplied.

The facilities for the supply of information have been classified under the following heads :—

- A. Marine Information.
 - B. Telegraphic Information.
 - Daily Weather Reports, Forecasts and Storm Warnings.
 - C. Information received weekly.
 - Meteorological Statistics for Agricultural and Sanitary Purposes, Weekly Weather Report, with Monthly and Annual Appendices.
 - D. Other Information from land stations in the British Isles.
 - E. Information from land stations outside the British Isles.
 - F. The Library.
 - G. Supply of Instruments to Observers.
 - Fishery Barometers.
 - H. Publication of Observations contributed by Volunteer Observers or by the Representatives of Local Authorities.
 - I. List of Stations in connexion with the Meteorological Office.
 - K List of Publications.
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A.—MARINE INFORMATION.

Observations in connexion with marine meteorology have been forwarded to the Office, in special log books and registers, since 1855, by officers of the Royal Navy and the Mercantile Marine, and this valuable co-operation continues. In addition a large number of logs and remark books kept on board H.M. ships have been lent to the Office by the Admiralty, and by the large shipping firms, from time to time, for the purpose of extracting meteorological data. The information thus received is dealt with in various ways, and the results, which are published for the benefit of seamen and others, are indicated on pp. 95, 96.

Meteorological Charts of the North Atlantic and Mediterranean have appeared regularly about the 15th of each month since 1901, and a similar monthly series for the Indian Ocean and Red Sea since May, 1906. On the face of these charts there are graphically represented, for the respective ocean areas, the normal winds, currents, distribution of atmospheric pressure, and temperature of air and sea surface, the magnetic variation, and the best routes for sailing vessels and steamships, according to the season. On the North Atlantic charts, in addition, there are given the average limits of trade winds, gales, fog, and ice, mean paths of centres of cyclones, storm signals, and wireless telegraphy stations; time of high water at Dover, together with the latest reports of ice, and the mean temperature of the sea surface 10 weeks anterior to the date of going to press. Similarly, on the Indian Ocean charts, there are given the limits of trade winds and monsoons, surface temperature and currents near Cape Guardafui; information relative to the meteorology of the Red Sea, and tracks of cyclones in the North Indian Ocean and the Arabian Sea. During the south-west monsoon season, important cable notices from the Director of Observatories, Simla, with respect to the state of the weather conditions in the Arabian Sea and Bay of Bengal are also given.

The recent special features on the backs of the North Atlantic charts include Tidal Streams of the British Isles, Sea Temperature of the North Atlantic, Auroras, Co-tidal Lines of the St. Lawrence Area, Synoptic Weather Discussions of special interest, a *Résumé* of the work of the International Fishery Investigation, an Alternative Specification for Admiral Beaufort's Wind Force Scale, and Surface Temperature of the Mediterranean. Similarly, on the backs of the Indian Ocean charts there were given Cyclone Tracks of the South Indian Ocean, details relating to an alternative route for steamers during the south-west monsoon, between Colombo and Aden; Co-tidal Lines of the Indian Ocean, Storm and Weather Signals, and an Alternative Specification for Admiral Beaufort's Wind Force Scale.

Copies of both series of charts may be obtained from the Superintendents of the Mercantile Marine Offices at the principal ports of the United Kingdom, by captains and officers of merchant ships, price 6*d.* each. They may also be purchased from the Admiralty agents for the sale of charts, and from the agents for His Majesty's Stationery Office at Edinburgh, and at Dublin, at the rate of 5*s.* for an annual series of 12 charts, or 6*d.* for each chart, in addition

to the cost of transmission. The Indian Ocean charts are also obtainable on similar or equivalent terms from Messrs. James Murray and Company, at Calcutta, and at the shipping offices at Bombay and Madras.

The marine observations which are recorded in the special meteorological log books, registers and other documents, forwarded to the Office at frequent intervals, are all made by voluntary observers. Captains and officers who co-operate in this way with the Meteorological Office receive copies of the Monthly Meteorological Charts free, and those contributing four-hourly observations are presented, from time to time, with copies of the other marine publications issued by the Office.

Information is given to seamen, upon application to the Meteorological Office, either in person or by letter, with respect to the meteorological conditions likely to prevail along a proposed route, either for sailing vessels or for steamships.

Subject to certain regulations the instruments necessary for the keeping of a Meteorological Log Book will be lent by the Office to the captains of British ships who undertake to make regular four-hourly records during their voyages to and from foreign ports, enter them in the specially arranged log book provided for the purpose, and return the latter, on completion, to the Marine Superintendent. A rough book for entering up the observations when taken, is also supplied, and this becomes the property of the captain for future reference. The set of instruments lent to captains by the Meteorological Office comprises one mercury barometer, six thermometers, with screen, for registering the shade temperature of the external air and the temperature of the sea surface, and four hydrometers. Any expenses incurred by the co-operating captain with respect to postage of log books and the transit of instruments, are borne by the Meteorological Office.

Instruments
for
observers.

The ships are supplied either directly from the Meteorological Office or through the following agents :—

Cardiff—Mr. T. L. Ainsley, Bute Dock.

Dundee—Mr. C. H. Brown, 33, Dock Street.

Glasgow—D. McGregor & Co., Ltd., 37 & 38, Clyde Place.

Greenock—D. McGregor & Co., Ltd., 32, Brymner Street.

Hull—Messrs. Castle & Co., 56, Lister Street.

Liverpool—Dobbie, McInnes, Ltd., 39, South Castle Street.

Southampton—Captain D. Forbes, 169, High Street.

Sunderland—Messrs. J. J. Wilson & Son, 18, Hudson Road.

Sets of instruments are kept in working order at the Office in London, and at each agency, for the purpose of instructing observers in the method of observation.

B.—TELEGRAPHIC INFORMATION.

DAILY WEATHER REPORTS. FORECASTS AND STORM WARNINGS.

Daily
information
received.

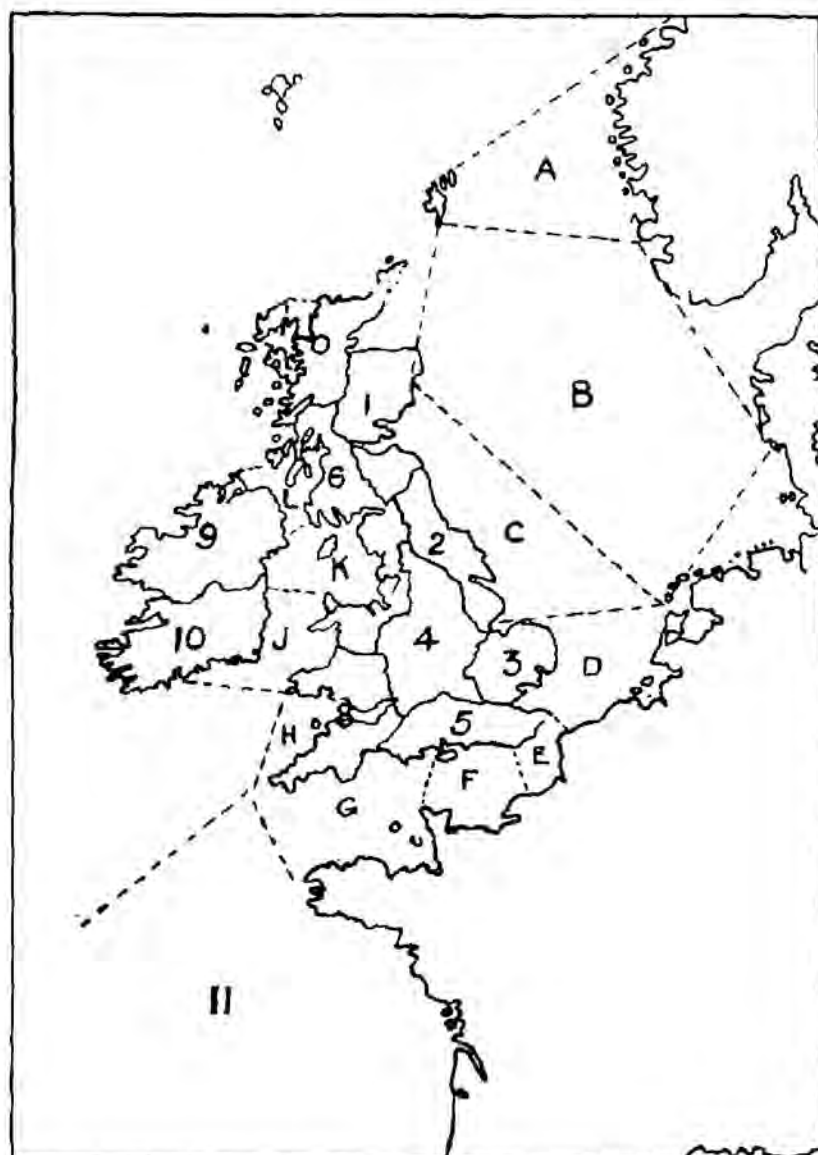
Between 8 a.m. and 10 a.m. telegraphic messages are received daily, reporting meteorological observations at 27 stations (marked T in list of stations, pp. 66 to 85) in the British Isles, chiefly on the coast, at 31 stations (p. 86) on the Continent of Europe and at the Azores and at five stations in Iceland and one in the Faroe Islands. The observations in the British Isles are made at 8 a.m., and on the Continent and Iceland partly at 7 a.m. and partly at 8 a.m. A certain number of stations report evening observations (6 p.m.), also by telegram, and those that do not report in the evening include the evening observations with the following morning reports, so that a complete schedule of morning and evening observations is drawn up daily. The information refers to the readings of the barometer, dry and wet bulb thermometers, maximum and minimum thermometers, rainfall, and in some cases, sunshine, with estimates of the direction and force of the wind, and reports of the weather and state of the sea. The observations received from Iceland give only the readings of the barometer, and the dry bulb thermometer, the direction and force of the wind, and the state of the weather.

These reports are supplemented by telegraphic reports from the Azores, through the courtesy of the Portuguese Government and the Eastern Telegraph Company and the Commercial Cable Company, and by a number of additional observations made at various stations in the United Kingdom, and sent either by telegram or by post through the courtesy of private persons or local officials. Moreover, the "Bulletin International" published in Paris, reproducing meteorological telegrams from the whole of Europe, is received by post on the morning of the day after publication, and supplements the information previously received in the Office by telegram.

The telegraphic information is tabulated and charted by about 10 a.m. for the morning observations, and 7 p.m. for the evening ones. A general report is then drawn up, and forecasts of the weather for the twenty-four hours following the next noon, or midnight, as the case may be, are formulated.

At a selection of stations additional observations are taken and telegraphed to the Office at 2 p.m., and occasionally modifications are made in the morning forecasts as a result of these observations. This information is usually available by 3.30 p.m.

For the purposes of forecasts of weather the region of the British Isles is divided into twelve land districts and twelve sea districts, as indicated in the accompanying map.



FORECAST DISTRICTS.*

LAND.	SEA.
0. SCOTLAND, NORTH.	A. SHETLAND AND THE NAZE.
1. SCOTLAND, EAST.	B. GREAT FISHERY AND DOGGER BANK.
2. ENGLAND, N.E.	C. NORTH SEA, North of the Wash.
3. ENGLAND, EAST.	D. NORTH SEA, South of the Wash.
4. MIDLAND COUNTIES.	E. STRAITS OF DOVER.
5. ENGLAND, SOUTH, and Eastern Channel.	F. ENGLISH CHANNEL, East of the Isle of Wight.
6. SCOTLAND, WEST, and Isle of Man.	G. ENGLISH CHANNEL, West of the Isle of Wight.
7. ENGLAND, N.W., and North Wales.	H. BRISTOL CHANNEL.
8. ENGLAND, S.W., and South Wales.	J. ST. GEORGE'S CHANNEL.
9. IRELAND, NORTH.	K. IRISH SEA.
10. IRELAND, SOUTH.	L. NORTH CHANNEL.
11. MOUTH OF CHANNEL and Bay of Biscay.	M. THE MINCH.

* For the grouping of the counties to represent approximately the forecast districts, see Lists of Stations, pp. 66 to 85.

The following arrangements have been made for the distribution of forecasts and telegraphic intelligence :—

Exhibition in
Victoria
Street and St.
James's Park.

The latest reports and forecasts for the land districts, with a map, are exhibited as early as possible, for the information of the public, at the entrance to the Office, and, by the courtesy of His Majesty's Office of Works, in St. James's Park, opposite the Horse Guards. Abbreviated reports for a few coast stations are displayed in the street, on the balcony of the Office. Forecasts for the sea districts with notes on the probable tides are exhibited on the Office Screen

Daily
Weather
Report.

A Daily Weather Report, which includes a transcript of the observations for the day, with some of those for the previous day, illustrative charts, descriptive remarks on the state of the weather, and forecasts for the several districts of the British Isles, is prepared for press and sent to the lithographers at 12 noon daily, except Sundays and Bank Holidays. It is ready for issue by 2 p.m., and is then delivered by hand or posted by book post at 2.30 p.m. to those addresses which can be reached in the regular course of post on the same day. Copies for those who are outside this limit are posted by the evening mails.

Subscrip-
tions.

The Daily Weather Report may be obtained on payment at the Meteorological Office of a subscription in advance (for not less than a quarter of a year ending at the official quarter days, *e.g.*, March 31, June 30, &c.) at the rate of £1 per annum for delivery by book post, £2 for delivery, where feasible, by hand. Single copies, price 1*d.* each, can be obtained after 3 p.m. on the day of issue at the Office, and at the railway bookstalls at the following terminus stations :—Victoria (L. B. S. C., and S. E. and C. Railways), Charing Cross, King's Cross, St. Pancras, Euston. Copies for other periods than the official quarters of a year are charged at the rate of 1*d.* per copy ; postage is additional.

Weather
Reports for
Educational
Purposes.

By arrangement with H.M. Stationery Office, upon giving the necessary notice, additional copies of the Daily Weather Report for one day, or a succession of days, will be printed off and supplied for class use at the rate of 6*d.* for 10 copies, exclusive of postage.

Surplus copies of charts prepared for exhibition, or of back numbers of the Daily Report, are also available for educational purposes upon application to the Director.

Special
Reports for
the Press.

Special advance copies of the descriptive remarks on the state of the weather and forecasts, based upon the morning or evening observations, are prepared at 11 a.m. and 8 p.m. respectively, and supplied gratis to the representative of any newspaper or press agency calling for them at the Office, at the hours named.

As far as practicable the Director will make arrangements for daily or weekly reports of the state of the weather, in special form, upon terms which may be had upon application at the Office personally or by letter.

Typewritten
copies.

Typewritten copies of the morning forecasts for all districts are ready at 11 a.m., and are distributed by hand to clubs and societies situated in or near Pall Mall at a charge of 10*s.* per annum. They are sent by post at a charge of 2*s.* 6*d.* per official quarter or any part thereof, in addition to the cost of transmission. Copies of the evening forecasts are sent by post for a similar charge.

A written copy of the latest forecast for a single district can be obtained at the Office between 9.30 a.m. and 8 p.m. upon payment of 6*d.* A written copy of the latest information in possession of the Office as to the state of the weather in any district of the British Isles, and for the neighbouring parts of the continent of Europe, can be obtained in like manner.

Written forecasts for separate districts, and other extracts from the daily Reports.

By arrangement with H.M. Postmaster-General the latest information as to the state of the weather in various parts of the United Kingdom, or the Continent, and forecasts for one day in advance, can be obtained from the Meteorological Office, upon payment at any Postal Telegraph Office of a fee of 6*d.* in addition to the cost of a telegram of inquiry addressed "Weather, London," and of the reply. Ten words, in addition to the address, must be allowed for the reply.

Inquiries by telegraph.

Telegrams of inquiry should state the nature of the information required, and the name and address to which the information is to be sent, as in the following examples :—

To "Weather, London."

Latest Information from [Straits of Dover].

or,

Latest Forecast for [Forfarshire].

or,

Next Forecast for [Dublin].

From

(Name).

(Address).

Forecasts will be sent in reply to inquiries by telephone if a sum has been previously deposited with the Office to cover the authorised charges for departmental expenses. Further information as to the service by telephone can be obtained on application at the Office.

Inquiries by telephone.

The latest information for any district, or the latest forecast, will be sent by telegraph to any address if a request be received by post stating when the information or forecast is to be sent, and enclosing 6*d.* in addition to the cost of a telegram, allowing ten words in addition to the address. It should be noted that forecasts are prepared for issue at 11 a.m. and 7.30 p.m. To avoid delay, letters of request for telegraphic information or forecasts should be marked on the outside "Forecast Branch."

Inquiries by post.

Forecasts for a single district will be sent regularly to public bodies for exhibition without any charge beyond the cost of the telegrams, and to private persons at an additional charge of 3*d.* per telegram for a forecast for a single district, and 6*d.* for two or more districts.

Arrangements have been made for a special service of afternoon reports during the season of the Hay and Corn Harvests (June 1st to September 30th), with a view to a special series of forecasts daily (Sundays excepted) at 3.30 p.m. The forecasts for any district are supplied by telegraph to agriculturists and others upon prepayment of the cost of the telegrams (nine words daily, in addition to the address) for the period during which the forecasts are required. Forms of application for these forecasts can be obtained at the Office.

Harvest forecasts.

The Postmaster-General has sanctioned the exhibition of Forecasts at Local Post Offices, provided space is available, if the persons to whom they are addressed desire them to be so exhibited.

Transcripts
of the
observations.

As far as practicable the Director, upon application, will make arrangements for the transcription of the whole or a selection of the morning or evening telegraphic reports, to be sent by telegraph, in code form, to newspapers or public associations desiring to make use of this means of accelerating the distribution of the latest information about the weather. The special terms for this service can be obtained on application to the Office.

STORM WARNINGS.

Storm
Signals,

The Office issues notices of threatening atmospherical disturbances on or near the coasts of the British Islands (free of charge) to ports and fishing stations recommended by responsible local authorities.

The fact that one of these notices has been received at any station is made known by hoisting a black canvas cone, 3 feet high, and 3 feet wide at base, which has the appearance of a triangle when hoisted. The telegram directing the cone to be hoisted is exhibited near the signal staff.

At dusk, whenever a signal ought to be flying if it were daylight, a night signal, consisting of three lanterns hung on a triangular frame, should be hoisted in place of the cone.

The Meteorological Office supplies the canvas cone and a suitable frame for the exhibition of the telegrams, but it does not supply the lanterns for night signals. In all cases the local authorities must undertake the charges incidental to the hoisting of the signal, such as flagstaff and gear, oil, &c., and also as to the keeping of the apparatus in repair, painting, &c.

The following is a LIST of STATIONS to which STORM-WARNING telegrams are sent :—

NORTHERN.

Storm
Signal
Stations.

Scotland, N.E.—Lerwick, Scalloway, *Dunrossness, Sumburgh Head L.H., Fair Isle L.H., Noup Head L.H., Stromness, Kirkwall, Cantick Head L.H., Thurso, Dunnet Head, Wick, Tarbet Ness L.H., Cromarty, Avoch, Inverness, Nairn, Burghead, Lossiemouth, Buckie, †Port Knockie, Cullen, Portsoy, Banff, Fraserburgh, Peterhead, †Aberdeen, Girdleness L.H.

Scotland, E.—Stonehaven, Montrose, Scurdy Ness L.H., Broughty Ferry, Dundee, St. Andrews, Anstruther, Pittenweem, Buckhaven, Methil, Wemyss West, Burntisland, *Grangemouth, Bo'ness, Granton, *Newhaven, †Leith, Fisherrow, *Dunbar, Cockburnspath, St. Abb's Head, Eyemouth.

Scotland, N.W.—Cape Wrath L.H., Stourhead L.H., *Port of Ness, Stornoway, Island Glass L.H., Portnaguran.

Scotland, W.—*Glasgow, Greenock, Rothesay, Lamlash, Carradale, Campbeltown, Mull of Cantire L.H., Rhuvaaal L.H., Rhinns of Islay L.H., Ardrossan, Girvan, Ballantrae, Cairn Ryan, Corsewall Point L.H., Mull of Galloway L.H.

* Telegrams only exhibited.

† Arrangements made for showing signals or illuminating the cone at night.

WESTERN.

Ireland, S.—Tuskar L.H., New Ross, Dunmore East, Dungarvan, Helvick Head, Minehead L.H., Youghal, Queenstown, Cork, Passage, Kinsale, Kinsale (Old Head), Galley Head L.H., Castletownshend, Fastnet Rock L.H., Brow Head, Dingle, Tralee, †Limerick, Loophead L.H., Galway.

Ireland, N.—Killybegs L.H., Tory Island L.H., Lough Swilly L.H., Rathmullen, Malin Head, Portrush, Port Ballintrae, Ballycastle.

Irish Sea.—†Belfast, *Donaghadee, Burr Point, Howth, Kingstown, Point of Ayre, Ramsey, Douglas, Sillioth, Maryport, Workington, †Whitehaven, Barrow, Walney Island L.H., Morecambe, Fleetwood, Blackpool, Lytham, Preston, †Southport, Formby, Liverpool, Runcorn, Hoylake, New Brighton, New Ferry, Penmaenmawr, Port Penrhyn, Point Lynas L.H., Holyhead, South Stack L.H., Carnarvon, Port Dinorwic.

St. George's Channel.—Aberystwyth, Smalls L.H., *Milford.

Bristol Channel.—Caldy L.H., †Tenby, Pembrey, Llanelly, Swansea, Briton Ferry, Porthcawl, Nash L.H., Penarth, Cardiff (Bute Dock and Barry Dock), Newport, Weston-super-Mare, Burnham, *Bridgwater, Ilfracombe, Bull Point L.H., *Barnstaple, Appledore, Hartland Point L.H., Lundy Island, *Boscastle, Port Isaac, Newquay, Godrevy L.H., Hayle, St. Ives, St. Sennen, Newlyn West, Penzance.

SOUTHERN.

England, S.W.—Scilly, The Lizard, Falmouth, Pendennis Castle, Mevagissey, Plymouth (Mount Batten and *Millbay Docks), Devonport (Mount Wise and the †Dockyard), Prawle Point, Salcombe, Teignmouth, Exmouth.

England, S.—Guernsey, Jersey (St. Helier's), Portland L.H., Weymouth, Anvil Point L.H., Poole, Hurst Castle L.H., Southampton, Hamble, Yarmouth (I. of W.), Cowes, Ryde, St. Catherine's Point, Portsmouth (Dockyard and Noman's Fort), Littlehampton, Brighton, †Newhaven.

England, S.E.—Beachy Head, Eastbourne, †Hastings, Rye, Sandgate, Folkestone, Dover, Deal, Ramsgate, Margate, Faversham, Sheerness, Chatham, Greenhithe.

EASTERN.

England, N.E.—Berwick-on-Tweed, Cullercoats, North Shields, South Shields, Souter Point L.H., Sunderland, Hartlepool, †Middlesbrough, Redcar, Whitby, Filey, Flamborough, Bridlington, Hull, *Goole, Grimsby, Boston.

England, E.—*Sutton Bridge, Lynn, Sheringham, Cromer, Great Yarmouth, Gorleston, Southwold, Orford Ness L.H., Ipswich, Harwich, Gunfleet L.H., West Mersea.

* Telegrams only exhibited.

† Arrangements made for showing signals or illuminating the cone at night.

C.—INFORMATION RECEIVED WEEKLY.

METEOROLOGICAL STATISTICS FOR AGRICULTURAL AND
SANITARY PURPOSES.WEEKLY WEATHER REPORT, WITH MONTHLY AND ANNUAL
APPENDICES.Weekly
Weather
Report.

The Weekly Weather Report is published on Thursdays, and refers to the week ended on the preceding Saturday. A division of the country into twelve districts, which are identical with the forecast districts of the Daily Weather Report, is adopted. The districts are further grouped into extreme northern, eastern, western and extreme southern (islands in the English Channel) districts.

In its present form the Report contains :—

- I.—General remarks on the meteorological conditions of the week, with a table describing in words the divergence of the warmth, rainfall, and sunshine experienced in each district from the average for the district for the time of the year.
- II.—A table summarising in numerical form the conditions of temperature, rainfall, and sunshine for each district for the week, the current season, and the calendar year.
- III.—A table containing the data from stations from which the values for districts are calculated.
- IV.—A table containing information for selected stations concerning the minimum temperature on the grass and the temperature in the ground.
- V.—A table giving information of the temperature of the sea-water at a selection of stations on the coast of the British Isles.
- VI.—A series of maps showing the distribution of pressure and wind over Europe and Iceland at 8 a.m. and 6 p.m. on each day, and the temperature, weather, and sea disturbances at 8 a.m. each day. The maps for each day are accompanied by a brief account of the distribution of weather for that day, and the changes which have taken place.
- VII.—A table giving the results of observations of the upper air taken by means of kites and balloons. These results include particulars as to temperature, humidity, and wind (direction and force) at various levels.

The weekly statistical tables of values for districts have been prepared in their present form since the commencement of the year 1878.

For the maps and descriptive account, the daily telegraphic reports are used, and are supplemented by the information contained in the "Bulletin International" already referred to (p. 48), so that the area represented is much larger than that covered by the Daily Weather Report.

For the statistical summaries, the information from the 27 telegraphic reporting stations in the British Isles is supplemented by returns of daily observations supplied by volunteer observers

from about 99 other stations. Of these 36 supply only the daily amounts of bright sunshine.

In the data for temperature are included not only statistics of mean and extreme temperatures for the week, but also weekly and progressive figures for *Accumulated Temperature*, of which the following brief explanation may be given.

Tables of
Accumulated
Temperature.

The tables of Accumulated Temperature are designed to give persons engaged in agriculture better means for estimating the manner in which vegetation is affected by temperature than that afforded by the more usual methods of treating the readings of the thermometer. They show for each week, and for the whole period from the beginning of the year, the weekly and progressive values respectively of the combined amount and duration of the excess or defect of the air temperature, above or below a suitably fixed standard, or *base temperature*. The base value adopted is 42° Fahr.

Accumulated Temperature is expressed in *Day-degrees*, a Day-degree signifying 1° F. of excess or defect of temperature above or below the base (42° F.) continued for 24 hours, or any other number of degrees for an inversely proportional number of hours.*

Subscribers for the Weekly Weather Report receive also the following supplements and appendices:—

Monthly,
Annual, and
Quinquennial
Supplements
to the Weekly
Weather
Report.

(a). A *Monthly Supplement* (Monthly Weather Report) giving (1) a general account of the weather for the month under the headings—Pressure, Depressions, Anticyclones, Winds, Temperature, Rainfall, Bright Sunshine, and Observations in the Upper Air; (2) a complete summary of the observations at the Telegraphic Reporting Stations, and at certain of the Normal Climatological Stations; (3) a summary of maximum and minimum temperature, rainfall, and sunshine at the additional stations which furnish weekly returns, and at certain other Climatological Stations; (4) the differences where possible from the average pressure, temperature, rainfall and sunshine; (5) four maps showing the monthly distribution of barometer and wind, the movements of barometric depressions, the distribution of mean temperature, and the distribution of rainfall.

Beginning with January, 1902, this Monthly Summary has been enlarged, and the number for March, 1907, contains tables of results for 171 stations, namely:—27 telegraphic stations and 58 normal climatological stations, together with a summary of temperature, rainfall, and sunshine, or one or more of these elements, at 86 other stations.

An Annual Summary on similar lines has been added since the year 1904.

(b). An *Appendix*, issued quarterly and annually, containing—

- (1) *Quarterly and annual summaries of the rainfall and mean temperature* of each district compared with the corresponding quarter, or the whole year, for each of the last 15 years, and with each of the corresponding five-yearly means for thirty-five years;

* A full explanation of the principles on which the rules for computing accumulated temperature are based will be found in Appendix II. to the Quarterly Weather Report for 1878. See also *Journal Royal Statistical Society*, Vol. LXVIII., Part II.

(2) A table of the *driest* and *wettest* the *coldest* and *warmest* corresponding *quarters* and *years* since 1866 ;

(3) The *totals* for *periods* of *four weeks* and *five weeks* of rainfall, accumulated temperature and sunshine, together with the progressive totals for each period of the quarter.

(c). An *Appendix*, issued annually, giving *weekly* and *progressive totals* of rain-days, rainfall, accumulated temperature, and duration of sunshine with percentage of its possible amount, for the several districts.

(d). An *Appendix* computed every fifth year, giving the *weekly* and *progressive values* of the different elements in the *five years*, and for the whole period, since 1881.

(e). An *Appendix* appearing every fifth year, giving for each district a comparison of the mean of the *average temperature of successive weeks* for the *preceding five years* with the corresponding value for the whole period defined above.

(f). An *Appendix*, which is also prepared every fifth year, giving the *monthly averages* of rainfall, rain-days, maximum temperature, minimum temperature, mean temperature, duration of bright sunshine and percentage of possible bright sunshine, for as many as possible of the stations included in the Weekly Weather Report.

(g). A special wind-force supplement (published separately), giving the readings of anemometers amounting to, or exceeding, a velocity of 44 statute miles per hour, as recorded on the "Dines" pressure tube anemometer, or upon the "Robinson" anemometer with the factor adjusted to give the corresponding result.

Advance
copy for the
use of
newspapers.

An advance copy of the MS. of the Report is prepared on Tuesday in each week, and is supplied free of charge to newspapers together with the weekly summaries which occupy the first two pages of the Report.

The Report is published every Thursday afternoon by the Publishers to H.M. Stationery Office, Messrs. Wyman & Sons, Fetter Lane, E.C., Oliver & Boyd, Edinburgh, and E. Ponsonby, 116, Grafton Street, Dublin. The annual subscription is £1 10s., post paid. Single copies are sold at 6d. each, exclusive of postage, and the separate appendices are priced at from 4d. each.

Copies of the Report are sent to the following public libraries and private institutions in London, viz. :—

The British Museum ; Guildhall Library ; Imperial Institute ; Royal Botanic Gardens ; Royal Society ; Royal Astronomical Society ; Royal Meteorological Society ; The Society of Arts ; Lloyd's ; Royal United Service Institution ; London Institution ; Solar Physics Observatory ; Royal Institution ; General Register Office ; Royal Observatory, Greenwich ; Royal Naval College, Greenwich ; Board of Education (Secondary Branch) ; Institution of Civil Engineers ; Local Government Board ; Board of Trade ; Board of Agriculture and Fisheries ; The Admiralty ; British Balneological and Climatological Society ; The Metropolitan Water Board ; British Rainfall Organisation ;

and also to a number of provincial libraries.

D.—OTHER INFORMATION FROM STATIONS IN THE BRITISH ISLES.

The Committee maintain a fully equipped meteorological Observatory at Valencia (Cahirciveen), Co. Kerry, Ireland. They have also established instruments and subsidised the observatories at Kew, Falmouth, and Aberdeen. They receive in return curves and hourly tabulations of pressure, dry bulb temperature, wet bulb temperature, rainfall, direction and velocity of the wind, and sunshine, together with regular observations of the character and movement of the clouds and the state of the weather.

Observatories with self-recording instruments.

An annual volume embodying the results of the observations at the four Observatories is issued. That for 1905 has recently appeared, price 6*d.* per month each station.

The Office also receives, in return for an annual grant, duplicates of the curves from the self-recording instruments at Glasgow and Stonyhurst, and the tabulations of these curves are available if required.

Anemographic records are also received from Alnwick Castle, Armagh, Deerness, Dublin, Falmouth (Pendennis Castle), Fleetwood, Holyhead, Kingstown, North Shields, Roches Point, Scilly, Shoeburyness, Southport, and Yarmouth.

The stations from which continuous records of bright sunshine, pressure, temperature, rainfall, and relative humidity are received, are indicated in the list which follows by the symbols described on pp. 63 to 65.

Normal climatological stations, equipped and maintained by volunteer observers or by local authorities at their own expense, supply monthly returns of readings of all the meteorological elements at 9 a.m. and 9 p.m. each day.

Normal Climatological Stations.

The following extract from the complete Form will show the headings under which observations are recorded :—

Twice daily (at 9 a.m. and 9 p.m.).						Once daily.			
Barometer.	Temp.	Humidity.†	Wind.	Cloud.	Weather.	Rain.	Temp.	Additional Observations.	
Attached Thermometer.	Uncorrected.	Corrected and reduced to 32° Fahr. at mean sea level.	Corrected.						
	Dry bulb.		Wet bulb.						
	Dew point.								
	Vapour Pressure.								
	Percentage.								
	Direction.								
	Force (0-12).								
	Amount (0-10).								
	Form.								
	Direction of lower Stratum, whence coming.								
	At time of Observation.								
	Since last Observation.								
	At 9 a.m.								
	Estimated duration.								
	Corrected readings at 9 p.m.								
	Max.		Min.						
	Duration of Bright Sunshine.								
	Weather Symbols.								
	Remarks.								
	Earth Temp. 1 ft.								
	Earth Temp. 4 ft.								

† Deduced from readings of dry-bulb and wet-bulb.

An annual volume embodying the results of these observations is published; that for 1902 has been issued, price 22*s.* 6*d.*

Other
stations.

Other Climatological Stations (including those which have been referred to already as contributing weekly returns) equipped and maintained in like manner, furnish periodical returns with less extensive information than that supplied by the normal climatological stations, or information of the same extent but with different hours of observation. Other stations furnish daily readings of sea temperature.

The names of all the stations in the British Isles from which information of any kind is received, and a statement of the order of the stations and the publication for which the returns are prepared, are given in the lists appended hereto, pp. 66 to 87.

E.—INFORMATION FROM LAND STATIONS OUTSIDE THE BRITISH ISLES.

Foreign and
Colonial
stations.

Periodical returns are received from certain stations in different British Colonies and dependencies, or in foreign countries.

A list of the stations, stating the character of the observations taken, is given on pp. 88 to 91.

The information contained in these returns is available upon the same conditions as that contained in the returns of British Stations.

F.—THE LIBRARY.

Library.

In return for copies of publications the Office receives the weather reports and other publications of the official meteorological organisations of the world, and of many private organisations. A list arranged geographically of the institutions sending periodical publications containing meteorological data is given in Appendix VII. to the Annual Report of the Meteorological Committee.

The library has also gradually acquired a large collection of pamphlets and books bearing upon meteorological subjects.

G.—SUPPLY OF INSTRUMENTS TO OBSERVERS.

Loan of
Instruments.

In accordance with the terms of the Parliamentary grant the Office does not lend instruments for the use of observers except in the following cases :—

- (1.) To the Captains of vessels who undertake to keep a Meteorological log during their voyage and forward it to the Office.
- (2.) To the Telegraphic Reporting Stations in the British Isles.
- (3.) To the First Order Stations in connexion with the Office.
- (4.) To selected Stations in less frequented parts of the world where observations are deemed to be specially desirable.
- (5.) To a limited number (230) of fishing communities.
(See below, Fishery Barometers.)

The Director is authorised to supply, at a cost of 5 per cent. in addition to the contract prices and the cost of carriage, trustworthy instruments for standard meteorological observations to those who are willing to send copies of their observations to the Office. The risk of breakage in transit must be undertaken by the consignee. The Director will also, if desired, give advice about the site and exposure of the instruments.

Supply of instruments for observers at Land Stations.

Blank sunshine cards are supplied without charge to a number of stations, not exceeding 10 in each district (including official stations), on condition that the cards are returned to the Office for filing. In other cases, cards are supplied to observers contributing returns at a special price. Forms for other self-recording instruments are supplied to observers free of cost, provided that the records are deposited with the Office and that the forms required are of a type used at Official Stations.

Supply of forms.

For further information as to the supply of instruments, application should be made to the Office.

FISHERY BAROMETERS.

The Office possesses a number of Barometers which it is willing to lend for the use of fishing communities, where it is shown that the instrument will be of material service. As a condition of the loan the community is required to provide for the housing of the instrument and to keep and forward to the Office a record of daily readings. A copy of a manual specially compiled for the purpose accompanies the instrument, and is intended to point out in simple language the practical use of the Barometer, with a view to anticipating important changes in the weather in the neighbourhood of the fishing stations. The following is a list of stations that have been supplied with Fishery Barometers:—

LIST of STATIONS supplied with FISHERY BAROMETERS.

Shetland Isles.—Uya Sound, Burravoe, Nesting, Lerwick, Sandwick, Scalloway, Symbister, Hamnavoe, Walls.

Orkney Isles.—*Westray, Papa Westray, *Burray, *Kirkwall.

Scotland, East coast.—*Duncansbay, *Freswick, *Auchengill, *Keiss, *Ackergill, *Staxigoe, *Wick, *Lybster, *Dunbeath, Hilton, *Inver, *Portmahomack, *Ballintore, *Cromarty, *Avoch, *Nairn, *Burghead, *Portessie, *Port Knockie, *Portsoy, *Whitehills, *Gardenstown, *Roseheart, Pitullie, *Fraserburgh, *Inverallochy, Pointlaw, Portlethen, *Skateraw, *Stonehaven, *Arbroath, *Broughty Ferry, *St. Andrews, *Crail, *Cellardyke, *St. Monance, *Burntisland, Newhaven.

England, East coast.—*Berwick, *North Shields, *South Shields, *Sunderland (Roker), *West Hartlepool, *Staithes, *Scarborough, *Filey, *Flamborough, *Bridlington Quay, *Withernsea, *Hull, *Lynn (2), *Wells, *Gorleston, *Lowestoft, *Wilberswick, *Harwich, *Brightlingsea, *West Mersea, *Maldon, *Leigh, *Margate, *Deal, *Kingsdown, *Dover.

* The Director has been in correspondence with the Fishery Boards concerning these stations.

England, South coast.—*Bognor, *Ryde, *Bembridge, *Brixton, *Atherfield, *Ventnor, *Yarmouth (Isle of Wight), Gorey (Jersey), *Poole, *Weymouth, *Portland.

England, South-West coast.—*Budleigh Salterton, *Exmouth, *Cawsand, *Mevagissey, *Gorranhaven, *Devoran, *Portscatho, *Penryn, *Durgan, *Porthallow, *Falmouth, *Coverack, *Newlyn (2), *Mousehole, *Penberth Cove, *Porth Guarra, *St. Ives, *Hayle, *Port Isaac, *Bideford, Burnham, Highbridge, Weston-super-Mare.

Wales.—*Briton Ferry, *Swansea, *Angle, *Milford, *Aberystwyth, *Carnarvon.

England, North - West coast.—*Fleetwood, *Morecambe, *Maryport.

Isle of Man.—Douglas, Port St. Mary, Peel (2).

Scotland, South-West coast.—*Port Patrick, *Cairn Ryan, *Port William.

Ireland, East coast.—Belfast, Bangor, Groomsport, Donaghadee, Ardglass, Carlingford, Glenarm, Greenore, Dundalk, Malahide, Howth, Kingstown (2), Bray, Wicklow.

Ireland, South coast.—Dunmore East, Dungarvan, Kinsale, Union Hall, Castletownshend, Baltimore, Schull (2), Crookhaven, Castletown (Berehaven), Lawrence Cove, Ballydonegan, Ballycrovane.

Ireland, West coast.—Valencia, Dingle, Tralee, Kilronan, Galway, Spiddal, Cleggan, Elly Bay, Ballyglass, Ballycastle (Co. Mayo), Mullaghmore, Donegal, Tribane, Killybegs, Teelin, Malinmore, Port Noo, Rosbeg, Burton Port, Kincashla, Bunbeg, Inniscree Island.

Ireland, North coast.—Dunfanaghy, Rathmullen, Buncrana, Malin Head, Moville, Greencastle, *Port Stewart, *Portrush, *Port Ballintrae, Ballintoy, *Ballycastle (Co. Antrim).

Scotland, West coast.—*Lamlash, *Tarbert (Loch Fyne), *Loch Ranza, *Campbeltown, *Carradale; *Portnahaven, *Port Wemyss, Gruinard, and *Bowmore (Islay); *Mallaig; *Portree and *Armadale (Isle of Skye); *Isle of Soay, *Kyle of Lochalsh, *Plockton, *Ardneaskan, Shieldaig, Badachro, Ullapool, *East Mey, *Gills, *Stroma (2).

Hebrides.—Ness, Carloway, Marvaig, Crossbost, Stornoway, Portnaguran, Valtos, Obb, Bernera, *Boreray, Lemreway.

* The Director has been in correspondence with the Fishery Boards concerning these stations.

H.—PUBLICATION OF OBSERVATIONS CONTRIBUTED BY VOLUNTEER OBSERVERS OR BY THE REPRESENTATIVES OF LOCAL AUTHORITIES.

A.—GENERAL REGULATIONS.

i. The observations must in all cases be taken by a competent observer, from approved instruments, satisfactorily exposed. Approval of the instruments and exposure is subject to periodical inspection by the Office.

Regularity in taking the observations and dispatching the reports is essential.

ii. The sunshine cards upon which returns have been based must be sent to the Meteorological Office for examination at the close of each month. For a number of stations, not exceeding ten in each district (including official stations), blank sunshine cards will be supplied without charge. These cards on return to the Office at the end of each month will be retained, and filed for future reference. In other cases cards will be supplied at a special price. These will be returned to the observers after examination.

iii. Post cards and forms for the various postal reports will be supplied by the Office, and the cost of postage, if claimed, will be refunded.

iv. The Director reserves the right to discontinue at any time, temporarily or permanently, the incorporation of information received from any station in the Official reports.

B.—PUBLICATION IN THE DAILY WEATHER REPORT.

For publication in the Daily Weather Report, the information must be in accordance with one of the forms here specified :—

1. A complete record of barometer, temperature, wind, &c., based upon observations made at 8 a.m., and at 6 p.m. of the previous day, and telegraphed each morning in time to reach the Office not later than 9 a.m. This information must be sent in code, a copy of which, with other necessary instructions, will be supplied by the Office. Full
Telegraphic
Report
at 8 a.m.
2. A report, telegraphed in the evening, and containing observations of the barometer, wind, temperature and weather at 6 p.m., the maximum temperature and the amount of bright sunshine for the day, and the minimum temperature and the amount of rainfall for the previous 24 hours. These observations must be sent in code form in time to reach the Office not later than 7 p.m., the statistical information being supplemented by brief notes respecting any exceptional phenomena which may have occurred, such as thunderstorms, unusually heavy rain, &c. Short
Telegraphic
Report
at 6 p.m.

When the sun is above the horizon after 6 p.m., *i.e.*, from about March 20th to September 23rd, the amount of sunshine given must be that recorded up to 6 p.m. *only*, but in such cases a post card must be dispatched to the Office later in the evening, giving the amount for the whole day.

In exceptional circumstances a telegraphic report of sunshine only may be accepted, provided that it is supplemented by information by post.

Information derived from the 6 p.m. telegraphic reports is included in the evening remarks and summaries prepared in the Office for communication to Newspapers and Press Agencies.

Postal
Report, 9 p.m.

3. A record similar to that indicated under 2, but reporting observations by post card. If the postal arrangements are such that a letter posted at the station after 9 p.m. can be delivered at the Meteorological Office by 9 a.m. on the following day, the reports should be made up for the 24 hours ending 9 p.m. and posted immediately after that hour.

Postal
Report, 6 p.m.

4. In places where the postal arrangements do not admit of the service indicated under 3, a report in similar form may be made up for the 24 hours ending 6 p.m. and posted as soon as possible after that hour.

NOTE.—At auxiliary climatological stations, for which extremes of temperature for the 24 hours ending at 8 a.m. or 9 a.m. are required, as well as the extremes referred to in the messages dispatched at 6 p.m., separate minimum thermometers should be provided for the two sets of observations. A single maximum thermometer will suffice, if the instrument be read but not *set* at 6 p.m. At normal climatological stations, when the extremes used for climatological purposes should be for the 24 hours ending 9 p.m., a double set of instruments is not required if both thermometers are *set* only once a day, viz., at 9 p.m.

C.—PUBLICATION IN THE WEEKLY WEATHER REPORT.

Observations are accepted from a limited number of stations for publication in the Weekly Weather Report. The information should consist of observations taken once daily of the maximum and minimum temperature and of the rainfall, together with the duration of bright sunshine, and brief notes on the weather of each day.

Observations of the minimum temperature on the grass, and of underground temperature at the depths of 1 foot and 4 feet are also desired. Forms for weekly returns are supplied by the Office. Each return should be posted as soon as possible after the Sunday morning reading, in order that it may reach London by Monday.

D.—PUBLICATION IN THE MONTHLY SUMMARY OF THE WEEKLY WEATHER REPORT, AND IN THE ANNUAL REPORT OF STATIONS OF THE SECOND ORDER.

For this purpose a monthly return upon a form supplied to observers must be sent so as to reach the Office *not later than the 10th* of the following month. Two forms of return are at present in use. In one provision is made for the complete set of observations made at a Normal Climatological Station; in the other the information is similar to that contained in the weekly returns.

REPORT OF METEOROLOGICAL COMMITTEE 1906-1907.

MAP SHOWING THE POSITIONS OF THE CLIMATOLOGICAL AND RAINFALL STATIONS.



The Stations in the County of London are not all shown. For complete list see p.76.

I.—LIST OF STATIONS IN CONNEXION WITH THE METEOROLOGICAL OFFICE.

The returns from stations marked “S” are supplied by the Scottish Meteorological Society, those marked “M” by the Royal Meteorological Society.

The list shows the order of the stations and also the publication for which the returns are prepared in the Office. In specifying the order of the station a distinction has been drawn between eye observations and the records of autographic instruments. In general the returns received have formed the basis for the classification, but in cases in which more extensive observations are taken, but not forwarded to the Office, the corresponding symbol has been enclosed in brackets. The list makes no pretence to completeness in respect of these. The symbols used may be explained as follows:—

- I. Observatory : Station of the First Order.—Continuous records or hourly readings of pressure, temperature, wind, sunshine, and rain, with eye observations of the amount, form, and motion of the clouds, and notes on the weather. The autographic records are checked by frequent eye observations, and hence the symbol “I” has been entered in the table under both “Eye observations” and “Self-recording.”
- II. Normal Climatological Station : Station of the Second Order.—Daily observations at 9 a.m. and 9 p.m. local time (or other accepted combinations of hours), of pressure, temperature (wet and dry-bulb), wind, amount of cloud, and weather, with the daily maximum and minimum of temperature, the daily rainfall, and remarks on the weather.
- III. Auxiliary Climatological Station : Station of the Third Order.—Observations similar in kind to those at the Normal Stations, but either (*a*) less full, (*b*) taken only once daily, (*c*) taken at hours other than 9 a.m. and 9 p.m.
- T. Telegraphic Reporting Station.—Daily observations at 8 a.m. and 6 p.m. G.M.T. (and in some cases also at 2 p.m.), similar in general character to those taken at Normal Climatological Stations, reported to the Office each day by telegraph.
- . (Eye Observations.) Additional Rainfall Station.—Daily observations, generally at 9 a.m., of the amount of rainfall.

REPORT OF METEOROLOGICAL COMMITTEE 1906-1907.

MAP SHOWING THE POSITIONS OF THE STATIONS HAVING SELF-RECORDING INSTRUMENTS.



The Stations in the County of London are not all shown.

- R. Monthly summary published in the Reports of the Registrar General of Births, Deaths, and Marriages, for England and Wales, or for Ireland.
- r. Weekly summary published in the Reports of the Registrar General for England and Wales, or for Ireland.
-

Height above Mean Sea Level.—The figures given in this column refer in general to the height of the ground on which the rain gauge stands. At those stations which do not possess a rain gauge, the figures refer to the height of the particular instrument in use.

* * * From a number of stations in the British Isles printed summaries of observations are received. These have been included in the Geographical list of Institutions, &c., which issue publications (Appendix VII.).

The following make monthly returns in a form similar to that in which observations are received from the normal or auxiliary climatological stations :—

Bolton.—The Museums and Meteorological Observatory.

Croydon.—Natural History Society.

Northampton.—Natural History Society.

Southport.—Fernley Observatory.

Truro.—Cornwall County Council Sanitary Committee.

LIST OF STATIONS ARRANGED ACCORDING TO DISTRICTS AND COUNTIES.

The Counties are grouped in Districts which are numbered as follows:—

- | | | |
|------------------|--|--|
| 0. Scotland, N. | 4. Midland Counties. | 8. England, S.W., and South Wales. |
| 1. Scotland, E. | 5. England, S., and London County. | 9. Ireland, N. |
| 2. England, N.E. | 6. Scotland, W. (including the Isle of Man). | 10. Ireland, S. |
| 3. England, E. | 7. England, N.W., and North Wales. | 11. English Channel (Western Section). |

County and Station.	Lat.	Long.	Height in feet above M.S.L.	Order of Station.		Publication.	Year of last Inspection.	Observer.
				Eye Obs.	Self-recording.			
0. SCOTLAND, NORTH.								
Caithness :—	58 34	3 48 W.	55	●	—	—	—	D. Macaulay.
Wick ...	58 27	3 6 W.	80	T	—	D.W.M.	06	Miss Sinclair, for M.O.
Cromarty :—	57 37	4 28 W.	253	II	⊙	w.M.s.d.	06	J. McLean, for H. W. Kaye, B.A., M.B.
Inverness :—	57 8	4 40 W.	68	II	⊙	W.m.s.	04	Rev. C. von Dieckhoff, O.S.B.
Fort Augustus	56 49	5 7 W.	175	II	—	W.m.s.	04	W. T. Kilgour.
Orkney :—	58 56	2 45 W.	160	II	⊙	w.M.S.	06	M. Spence.
Ardross Castle	57 45	4 21 W.	449	●	—	—	—	W. Minty.
Ross :—	57 30	5 14 W.	489	II	—	W.m.s.	03	D. D. Munro.
Glencarron ...	57 36	5 24 W.	—	●	—	—	—	A. McLennan, for Hon. W. Peel, M.P.
Kinlochewe ...	58 11	6 22 W.	40	T	B ⊙	D.W.M.	06	Mrs. Mackenzie, for M.O.
Shetlands :—	60 44	0 48 W.	31	(III.)	⊙	m.	06	J. Edmonston Saxby, M.D.
Balta Sound	60 9	1 8 W.	—	—	B	—	—	Capt. Allison, Harbour Master.
Lerwick ...	59 51	1 17 W.	112	T	B	D.W.M.	06	Rev. W. Brand, for M.O.
Sumburgh Head.	57 59	3 56 W.	12	II	—	S.	05	D. Melville, for the Duke of Sutherland, K.G.
Sutherland :—	58 2	4 24 W.	387	II	—	W.m.s.	05	Rev. John K. Maclean, M.A.

1. SCOTLAND, EAST.

Aberdeen :—	Aberdeen Ob- servatory. \$Balmoral ...	57 10	2 6 W.	46	I, T	I, B	D.W.M.s.	06	Professor C. Niven, F.R.S., and G. A. Clarke, for M.O.
		57 2	3 12 W.	920	II	—	W.m.	—	J. Michie, M.V.O., and John M. Troup.
Banff :—	\$Tillypronie	57 10	2 56 W.	1,116	II	—	S.	—	Robert Littlejohn, for Sir John F. Clark, Bart.
	\$Gordon Castle	57 37	3 5 W.	101	II	—	s.	03	C. Webster, for the Duke of Richmond and Gordon, K.G.
Berwick :—	\$Marchmont ...	55 44	2 25 W.	498	II	⊙	W.m.s.	02	J. A. Wood, for Sir H. P. Camp- bell, Bart.
Clackmannan :—	No station.								The Regius Keeper, Royal Botanic Garden.
Edinburgh :—	Edinburgh ...	55 57	3 12 W.	253	—	⊙	(m.)	—	D. Drummond, Post Office, for M.O.
	Leith ...	55 58	3 10 W.	18	T	—	D.W.M.	06	
Elgin :—	No station.								
Fife :—	No station.								
Forfar :—	\$Dundee ...	56 28	2 56 W.	160	II	—	S.	05	J. Carnochan.
	\$Lednathie ...	56 45	3 7 W.	719	II	—	s.	03	W. Morrison, for P. Stormonth Darling.
Haddington :—	No station.								
Kincardine :—	Crathes	57 3	2 25 W.	140	II	⊙ ⊙ B	w.m.	04	J. Smith.
Kinross :—	No station.								
Linlithgow :—	No station.								
Nairn :—	Nairn ...	57 36	3 52 W.	82	T	⊙	D.W.M.	06	Miss Penny, for M.O. and Dr. Selanders.
Peebles :—	No station.								
Perth :—	\$Clathick ...	56 24	3 53 W.	296	II	—	W.m.	05	Alex. Hendry.
	Forgardenny ...	56 21	3 29 W.	175	—	B ●	—	—	The late C. L. Wood, and Miss M. Wood.
Roxburgh :—	Balruldery ...	56 29	3 8 W.	276	—	⊙	w. (m.)	04	G. Davie, for J. Martin White.
Selkirk :—	\$Wolfelee ...	55 23	2 39 W.	587	II	—	s.	05	Thos. Arthur, for Major Elliot.
	No station.								

The names of Stations added to the list since April, 1906, are printed in clarendon type; those of Stations now discontinued are printed in italic type.

LIST OF STATIONS ARRANGED ACCORDING TO DISTRICTS AND COUNTIES—continued.

County and Station.	Lat.	Long.	Height in feet above M.S.L.	Order of Station.		Publication.	Year of last Inspection.	Observer.
				Eye Obs.	Self-recording.			
2. ENGLAND, NORTH EAST.								
Durham :—	54 46	1 35 W.	336	II	☉	W.M.S.R.	06	Prof. R. A. Sampson, M.A., F.R.S.
Seaham Harbour.	54 50	1 19 W.	139	II	—	m.s.	05	G. H. Aird.
Lincolnshire :— <i>Caistor</i> ...	53 30	0 20 W.	266	●	—	—	04	Thos. Ford.
Fulbeck ...	53 3	0 37 W.	180	II	B ☉	W.m.	06	Rev. Vere F. Willson, M.A.
Lincoln... ..	53 14	0 33 W.	58	II	—	W.M.R.	05	S. R. Moss, for the Corporation.
Mareham - le - Fen.	53 8	0 5 W.	10	●	—	—	01	Mrs. G. L. Kime.
Rauceby Hall ...	53 0	0 29 W.	124	III	☉	w.m.	06	J. Hope, for General Sir M. Willson, K.C.B.
Skegness ...	53 9	0 21 E.	12	III, T.	☉	d.w.M.	06	S. Coetmore Jones, for the Dis- trict Council.
Tealby ...	53 24	0 16 W.	251	II	—	s.m.	06	Rev. S. Lewin, B.A.
Temple Bruer...	53 4	0 30 W.	—	●	—	—	03	Miss Alice S. Morley.
Northumber-								
land :—								
Alnwick Castle	55 25	1 43 W.	210	III	☉	W.m.	03	Robert Kyle, for the Duke of Northumberland, K.G.
Cockle Park, Morpeth.	55 13	1 41 W.	324	II	☉	w.M.S.R.	06	T. B. Hewetson, for the North- umberland County Council.
Font Watershed—								
Chertners ...	55 16	2 0 W.	1,000	●	—	—	—	H. G. Coventry, for the Corpora- tion of Tynemouth.
Dam Site ...	55 14	1 54 W.	620	●	—	—	—	
Fallowleys ...	55 16	1 57 W.	850	●	—	—	—	
Red Path ...	55 13	2 0 W.	850	●	—	—	—	
Tod Crag ...	55 15	2 1 W.	1,000	●	—	—	—	N. H. Martin, F.R.S.E., F.C.S.
Newcastle - on - Tyne.	54 59	1 36 W.	152	III	☉	w.m.	03	
North Shields	55 0	1 27 W.	96	T	—	D.W.M.R.r.	06	R. Moat, Post Office, for M.O.

North Shields High Light- house.	55 0	1 27 W.	—	—	—	—	06	Capt. T. Robson, for M.O.
Yorkshire, N. Riding:—								
Ampleforth ...	54 12	1 6 W.	349	II	—	m.	06	Rev. J. B. McLaughlin, B.A., O.S.B.
Hovingham Hall.	54 10	0 59 W.	120	●	—	—	—	Bingley Day, for Sir W. H. A. Worsley, Bart.
Marlborough ...	54 24	1 18 W.	249	II	—	s.	05	J. Hanagan, for Sir Hugh Bell, Bart.
Salisbury - by - the-Sea.	54 35	0 58 W.	116	III	⊙	—	05	R. Allan Bennett, M.D.
Scarborough ...	54 18	0 24 W.	100	II	⊙	d.W.m.S.	05	T. G. and E. Pearson, for District Council.
Whitby ...	54 29	0 37 W.	88	II	⊙	M.	05	W. W. Larkin, for the Corporation. Thos. Newbitt, for the Literary and Philosophical Society.
York, Deighton Grove.	53 54	1 3 W.	38	●	—	—	05	Miss M. L. Whitehead.
" The Mu- seum.	53 57	1 5 W.	56	II	—	W.M.s.R.r.	05	Oxley Grabham, M.A., for the York- shire Philosophical Society.
Bootham	53 57	1 5 W.	105	—	⊙	w.(m.)R.r.	05	Hugh Richardson, M.A.
" The Mount	53 56	1 5 W.	—	—	⊙	—	—	R. Thompson.
Yorkshire, E. Riding:—								
Hull ...	53 45	0 16 W.	0	II	⊙	M.R.r.w.	06	H. B. Witty, for the Corporation.
Spurn Head ...	53 34	0 7 E.	26	T	—	D.W.M.R.	06	W. J. Counter, for M.O.
3. ENGLAND, EAST.								
Bedford:—								
Aspley Guise ...	52 1	0 38 W.	410	—	⊙	—	—	Mrs. Dymond.
Woburn, Ridg- mont.	52 1	0 36 W.	291	II	—	M.s.	05	H. M. Freear, F.C.S., for the Royal Agricultural Society.
Cambridge:—								
Cambridge Bot. Garden.	52 12	0 8 E.	41	II	⊙	W.M.S.R.	03	R. Irwin Lynch, M.A.
" The Ob- servatory.	52 13	0 6 E.	83	—	B	—	05	A. R. Hinks, M.A., for Sir Robert Ball, F.R.S.

The names of Stations added to the list since April, 1906, are printed in clarendon type ; those of Stations now discontinued are printed in italic type.

LIST OF STATIONS ARRANGED ACCORDING TO DISTRICTS AND COUNTIES—*continued*.

County and Station.	Lat.	Long.	Height in feet above M.S.L.	Order of Station.		Publication.	Year of last Inspection.	Observer.
				Eye Obs.	Self-recording.			
3. ENGLAND, EAST— <i>cont.</i>								
Cambridge — <i>cont.</i>	52° 13'	0° 5' E.	—	III	H	—	05	Miss Stephen.
Essex :—	51 47	1 9 E.	54	T, II	⊙ B	D.W.M.R.	06	A. W. Shadick, for Urban District Council.
	51 53	0 23 E.	297	II	⊙	w.M.R.	06	Thos. Hacking, for the Countess of Warwick's Agricultural School.
	51 32	0 47 E.	13*	III	☞	W.m.	04	The Superintendent of Experiments.
	51 32	0 43 E.	100	III	⊙	w.m.	06	E. J. Elford, for the Corporation.
	51 32	0 43 E.	110	●	—	—	06	C. S. Bilham.
Hertford :—	51 54	0 5 W.	406	II	—	s.R.	06	Rev. J. Dunne Parker, LL.D.
	51 46	0 34 W.	400	II	⊙ (I)	s.R.	06	E. Mawley.
	51 56	0 0 W.	314	III	—	—	05	Dr. G. M. Smith.
	51 48	0 22 W.	424	III	⊙	W.m.	02	A. D. Hall, M.A., for the Lawes Agricultural Trust.
Huntingdon :—	51 39	0 10 W.	211	III	—	M.R.	06	T. H. Martin, A.M.I.C.E.
Middlesex :—	51 36	0 29 W.	337	●	—	—	—	G. Eland.
	51 29	0 20 W.	24	III	—	—	—	A. Worsley.
	52 56	1 17 E.	196	II	⊙	w.M.R.	06	W. H. Archer, for Urban District Council.
Norfolk :—								
	52 41	0 57 E.	158	●	—	—	—	The late G. H. Cooper.
	52 28	1 31 E.	37	II	⊙ (B θ)	W.m.a.	04	E. T. Dowson.
	52 48	0 33 E.	88	II	⊙	W.m.S.R.	05	Rev. H. E. B. Ffolkes M.A.
	52 57	0 31 E.	29	●	—	—	—	C. Ernest Gray.
	52 37	1 17 E.	93	III	—	R.r.m.	03	A. W. Preston.

Thetford	...	52 25	0 45 E.	169	●	T	—	—	—	E. S. Greenwood, for Town Council.
Yarmouth	...	52 37	1 43 E.	9	●		—	—	—	G. T. Watson, Sailors' Home, for M.O.
Brandon	...	52 27	0 37 E.	48 ?	●		—	—	—	Lt.-Col. B. Spragge, D.S.O.
Felixstowe	...	51 58	1 22 E.	10	III		⊙	—	W.m.	Coastguard, for the District Council, and S. Alexander.
Lowestoft	...	52 29	1 45 E.	83	II		⊙	—	w.m.s.d.	C. W. Edwards, for the Corporation
4. MIDLAND COUNTIES.										
Buckingham :— Beaconsfield	...	51 36	0 38 W.	360	III		—	—	—	C. T. Marcon, M.A.
Winslow	...	51 57	0 53 W.	379	II		—	—	m.	R. A. Easton.
Buxton	...	53 14	1 54 W.	987	III		—	—	s.R.	W. Pilkington.
Chatsworth	...	53 14	1 37 W.	—	K		⊙	—	—	The Duke of Devonshire, K.G.
Glossop Moor	...	53 27	1 57 W.	1,100			—	—	w.	J. E. Petavel, F.R.S., for the University of Manchester.
Gloucester :— Bristol, Over Court Park.	...	51 32	2 35 W.	147	III		—	—	r.	R. C. Cann Lippincott.
Clifton Col- lege.	...	51 27	2 37 W.	229	III		⊙	—	W.R.m.	D. Rintoul, M.A.
Cheltenham	...	51 54	2 3 W.	184	II		⊙	—	s.R.	A. C. Saxby, for the Corporation.
Cirencester	...	51 43	1 57 W.	446	III		⊙	—	W.m.	Prof. P. G. Gundry, Ph.D., for the Royal Agricultural College.
Dursley	...	51 41	2 21 W.	256	●		—	—	—	J. Richards.
Forest of Dean :— Blakeney Hill	...	51 46	2 30 W.	500 ?	●		—	—	—	J. Tyler, for the late Philip Baylis, Esq.
Braceland	...	51 49	2 38 W.	500	●		—	—	—	E. A. Popert
Edgehills Lodge	...	51 51	2 29 W.	700	●		—	—	—	Campbell Anderson
Ruardean Hill	...	51 50	2 32 W.	900	●		—	—	m.	John Morris
Whitemead Park	...	51 46	2 34 W.	200	●		—	—	m.	Kate Roberts
Worcester Lodge	...	51 48	2 35 W.	550	●		—	—	—	Fred Morris
Hidcote	...	52 5	1 46 W.	524	●		—	—	—	Major W. Wright, R.A.

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* Head of Anemometer 103 ft. above M.S.L.

LIST OF STATIONS ARRANGED ACCORDING TO DISTRICTS AND COUNTIES—continued

County and Station.	Lat.	Long.	Height in feet above M.S.L.	Order of Station.		Publication	Year of last Inspection.	Observer.
				Eye Obs.	Self-recording.			
4. MIDLAND COUNTIES—cont.								
Hereford:— at Hereford (Belmont).	52° 5'	2° 45' W.	291	III	—	W.m.	04	Canon T. B. Harrington, O.S.B.
Leicester:— Belvoir Castle ...	52° 54'	0° 47' W.	259	II	☉	R.s.M.	06	W. H. Divers, for the Duke of Rutland, K.G.
Syston ...	52° 43'	1° 5' W.	178	●	—	—	96	S. K. Daniels.
Northampton:— at Colly Weston ...	52° 37'	0° 31' W.	281	III	—	W.m.	06	Miss A. Tasker.
Great Billing ...	52° 16'	0° 50' W.	273	●	—	—	—	Rev. G. H. Mullins, M.A.
Oundle (The School).	52° 29'	0° 28' W.	144	III	☉	w.m.	04	S. G. Platts, for F. W. Sanderson, M.A., Headmaster.
" ...	52° 29'	0° 28' W.	146	●	—	—	04	N. E. Dixon, C.E.
Nottingham:— Bawtry, Hesley Hall.	53° 27'	1° 4' W.	65	III	—	W.m.	06	B. I. Whitaker, J.P.
Kingston-on-Soar.	52° 51'	1° 14' W.	125	III	—	—	—	Fred Wakerly.
Nottingham, The Castle.	52° 57'	1° 9' W.	192	III	—	D.W.M.R., } } } } } }	05	Arthur Brown, M.Inst.C.E., and Philip Boobbyer, M.D., for the Corporation.
" Pumping Station.	52° 56'	1° 9' W.	82	T	☉ (B ●)		05	" " "
Worksop (Hodsock).	53° 22'	1° 5' W.	56	—	☉ (B ●)	w.(m.)	96	H. Mellish, J.P.
Oxford:— Oxford ...	51° 46'	1° 16' W.	208	[I] T	☉ [I]	D.W.M.R.	06	Dr. A. A. Rambaut, M.A., F.R.S.; W. Wickham, for M.O.
Pyrton Hill ...	51° 38'	1° 1' W.	500	—	—	w.	—	W. H. Dines, F.R.S., for M.O.
Watlington Park	51° 38'	1° 1' W.	749	●	—	—	—	G. H. Bonner.
Rutland:— Ridlington ...	52° 37'	0° 45' W.	522	●	—	—	—	N. W. Wortley.

Shropshire :—	Shrewsbury	...	52 43	2 45 W.	191	II	—	W.M.R.	04	Capt. W. E. Manser, R.E.
	Stokesay	...	52 26	2 52 W.	370	II	—	M.s.R.	06	Rev. W. M. D. La Touche, B.A.
Stafford :—	St. Chadle (Tean)	...	52 58	1 57 W.	646	II	—	W.m.s.	05	J. C. Philips.
	Hoar Cross	...	52 48	1 49 W.	396	●	—	—	—	F. W. Lycett.
Warwick :—	Birmingham,	...	52 28	1 56 W.	535	II	⊙	d.W.M.s.R.r.	05	Alfred Cresswell, for the Midland Institute.
	Edgbaston.	...	52 25	1 30 W.	270	III	⊙	R.m.	04	E. Hugh Snell, M.D., for the Corporation.
	Coventry	...	52 22	1 15 W.	379	III	—	—	04	O. M. Samson, M.A.
Worcester :—	Rugby School	...	52 18	2 36 W.	315	●	B	—	01	Rev. John Tomson.
Yorkshire,	Rochford	...	53 39	1 20 W.	131	II	—	—	06	E. B. Ludlam, M.Sc.
W. Riding :—	Ackworth	...	53 48	1 45 W.	330	III	⊙	—	06	H. A. Johnson, M.Inst. C.E.
	Bradford	...	53 48	1 22 W.	195	II	⊙	M.	06	Prof. Seton, B.Sc., for the University of Leeds.
	Garforth	...	53 48	1 22 W.	195	II	⊙	—	05	C. F. Mott, M.A.
	Giggleswick	...	54 4	2 17 W.	500?	III	(B) ⊙	—	02	<i>The late</i> G. Paul and Fred Dixon,
	Harrogate	...	54 0	1 33 W.	476	III	⊙	d.W.M.	02	A.M. Inst. C.E., for the Corporation.
	Huddersfield	...	53 39	1 47 W.	409	II	⊙ (●)	M.R.r.	05	J. Firth, Registrar, for the Corporation.
	Leeds	...	53 48	1 33 W.	132	III	(B)	r.	04	H. Crowther, for the Leeds Philosophical Society.
	Sheffield...	...	53 23	1 29 W.	429	II	⊙	w.M.s.R.	06	E. Howarth, F.R.A.S.
	" Attercliffe.	...	53 24	1 25 W.	—	—	⊙	—	06	Medical Officer of Health.
	" Wakefield	...	53 41	1 30 W.	96	II	—	s.R.	05	A. Clyde and Alex. French, M.R.C.S., L.R.C.P.
6. ENGLAND, SOUTH.										
Berkshire :—	Bucklebury Place	...	51 26	1 24 W.	409	III	—	—	05	J. W. Harris, for A. W. Sutton.
	Maidenhead	...	51 30	0 43 W.	99	III	—	m.	06	G. H. Palmer.
	Reading	...	51 26	0 57 W.	264	II	—	m.	04	J. Ridges, M.A., Headmaster.
	Wokingham	...	51 23	0 48 W.	216	III	B	m.	06	Medical Superintendent of Sanatorium.

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LIST OF STATIONS ARRANGED ACCORDING TO DISTRICTS AND COUNTIES—continued

County and Station.	Lat.	Long.	Height in feet above M.S.L.	Order of Station.		Publication.	Year of last Inspection	Observer.
				Eye Obs.	Self-recording.			
5. ENGLAND, SOUTH—cont.								
Dorset :—	50° 43'	0° 56' W.	197	●	—	—	00	C. Mabey.
	50° 32'	2° 27' W.	19	T	—	D.W.M.R.	06	W. H. Taylor, Lightkeeper, for M.O.
Hampshire :—	51° 1'	2° 12' W.	722	III	—	W.m.	06	Rev. F. Ehlers.
	50° 43'	1° 53' W.	145	III	⊙	d.w.m.	06	C. Dales, for Town Council.
	51° 0'	0° 57' W.	550	—	K	w.	—	C. J. P. Cave, M.A.
	50° 48'	1° 6' W.	11	III	⊙	R.r.w.	06	A. Mearns Fraser, M.D., for the Corporation.
	50° 55'	1° 24' W.	78	II	⊙	W.M.S.R.	04	A. Vaughan, for Director-General of Ordnance Survey.
Kent :—	51° 8'	1° 11' W.	310	III	—	W.m.	06	Rev. W. L. W. Eyre, M.A.
	50° 41'	1° 33' W.	84	III	⊙	m.	04	J. Dover, M.A.
	50° 36'	1° 13' W.	80	III	⊙	w.m.R.	06	Miss M. Gibson, for Royal National Hospital for Consumption.
	51° 21'	1° 26' E.	140	●	⊙	(m.)	—	W. H. White, Howard Hurd, C.E., and Rev. H. C. V. Snowdon, for District Council.
Canterbury	51° 17'	1° 5' E.	39	III	⊙	w.	05	A. Lander.
	51° 7'	1° 18' E.	198	●	—	—	96	W. C. Hawke, C.E., for the Corporation.
Kearsney, Chilton Farm.	51° 8'	1° 17' E.	125	●	—	—	—	W. C. Hawke, C.E., for Dover Corporation.
	50° 55'	0° 58' E.	21	T	—	D.W.M.	06	W. C. Lewis, Lightkeeper, for M.O.
Folkestone ,	51° 5'	1° 11' E.	121	III	⊙ (●)	d.m.	06	A. E. Nichols, M.Inst.C.E., for the Corporation.

Station	Lat.	Long.	Height	Bar.	Therm.	Wind	State	Remarks
Hildenborough	51 13	0 15 E.	160	—	—	—	—	Charles H. Scott.
Littlestone-on-Sea.	50 59	0 59 E.	—	—	—	—	—	H. T. Tubbs.
Margate	51 24	1 24 E.	35	III	—	d.w.m.	—	J. Stokes, J.P., for the Corporation.
Ramsgate	51 20	1 25 E.	—	—	—	w.(m.)	—	T. G. Taylor, C.E., for the Corporation.
Sandgate	51 4	1 9 E.	50	●	—	—	—	A. Robert Bowles, C.E., and R. A. Skelton.
Sandwich	51 17	1 20 E.	6	●	—	—	—	Royal St. George's Golf Club.
Tankerton	51 22	1 2 E.	72	●	—	—	—	F. Gaster.
Tunbridge Wells	51 8	0 16 E.	421	III	—	W.m.	—	F. G. Stuart, M.B.
Caterham	51 17	0 5 W.	606	III	—	—	—	P. E. Campbell, M.B.
Epsom	51 20	0 17 W.	160	III	—	m.	—	S. C. Russell.
Kew	51 28	0 19 W.	18	I	—	W.M.s.R.	—	C. Chree, Sc.D., F.R.S., Superintendent of the Observatory Department, National Physical Laboratory, for the Meteorological Office.
Orshott	51 20	0 15 W.	200	—	—	—	—	W. H. Dines, B.A., F.R.S.
Warlingham	51 18	0 3 W.	609	●	—	—	—	R. H. Curtis.
Wisley	51 17	0 26 W.	150	III	—	W.m.	—	The Superintendent, for the Royal Horticultural Society.
Bexhill	50 50	0 33 E.	27	III	—	d.	—	G. Brisley, M.P.S., for Rural District Council.
Bognor	50 47	0 40 W.	20	III	—	d.w.m.	—	H. C. L. Morris, M.B., and A. G. Thompson.
Brighton	50 49	0 8 W.	31	III	—	d.w.m.R.r.	—	A. Newsholme, M.D., for the Corporation.
Brighton	50 49	0 8 W.	380	—	—	w.	—	E. S. Salmon.
Cuckfield	51 1	0 9 W.	389	●	—	—	—	John Howe.
Eastbourne	50 46	0 17 E.	39	II	—	d.w.m s.R.	—	S. R. Henderson, for the Medical Officer of Health.

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County and Station.	Lat.	Long	Height in feet above M.S.L.	Order of Station.		Publication.	Year of last Inspection.	Observer.
				Eye Obs.	Self-recording.			
5. ENGLAND, SOUTH—cont.								
Sussex—cont.								
Forest Row ...	51° 7'	0° 2' E.	619	●	—	—	—	Rt. Hon. J. Bryce, D.C.L.
Hastings ...	50 51	0 34 E.	99	●	—	—	00	Rev. H. H. Breton, M.A.
" Cemetery	50 52	0 34 E.	499	●	—	—	—	Walter Field.
" Water-works.	50 51	0 34 E.	270	—	⊙	d.w.(m.)	06	J. Farnham, for the Corporation.
Lewes ...	50 52	0 1 E.	57	III	—	—	—	Hon. C. Brand.
St. Leonards ...	50 51	0 33 E.	178	II	—	W.m.s.	06	H. Colborne, M.R.C.S., for the Corporation.
" West Marina.	50 51	0 32 E.	20?	III	—	—	06	T. Eldridge, for the Corporation.
Watergate Park	50 56	0 55 W.	239	●	—	—	99	W. M. Christy.
Westbourne ...	50 52	0 55 W.	30	—	⊙	(m.)	99	Rev. L. P. Birkett.
Worthing ...	50 49	0 22 W.	33	III	⊙	d.w.m.	06	Frank Roberts, A.M.I.C.E., and A. G. R. Cameron, M.D., for the Corporation.
Wilts:—								
Marlborough ...	51 25	1 44 W.	424	III	⊙	w.m.	06	J. C. Alsop and C. F. C. Padel, M.A.
Salisbury ...	51 4	1 51 W.	180	II	—	M.R.	06	Thos. Challis, for the Earl of Pembroke, G.C.V.O.
London County:—								
Camberwell—								
The Green ...	51 28	0 5 W.	17	—	●	—	03	W. Oxtoby, M.I.C.E., for the Camberwell Borough Council.
Dulwich ...	51 27	0 5 W.	58	—	●	—	—	
Forest Hill ...	51 26	0 4 W.	160	—	●	—	03	
Leyton Square	51 29	0 4 W.	14	—	●	—	03	
Peckham Rd.	51 28	0 5 W.	21	—	●	—	03	

Camden Square	51 33	0 8 W.	110	II	⊙ (B●)	R.	H. Robert Mill, D.Sc., LL.D.
Chelsea...	51 29	0 10 W.	24	●	—	—	T. W. E. Higgins, C.E., for the Chelsea Borough Council.
City (Bunhill Row)	51 31	0 5 W.	80	—	⊙	w.(m.)	Messrs. De la Rue.
East Ham	51 32	0 3 E.	12	III	—	—	J. Banks, for the Corporation.
Greenwich	51 28	0 0	155	I	(I)	M.R.r.	The Astronomer Royal.
Kensal Green	51 32	0 13 W.	100	●	—	—	C. W. Heinemann, for M.O.
Pall Mall	51 30	0 7 W.	—	—	B	—	Athenaeum Club.
Norwood	51 26	0 6 W.	220	II	—	s.R.	W. Marriott.
Plumstead	51 29	0 6 E.	300	—	⊙	—	J. G. Waller.
Tottenham	51 36	0 5 W.	51	II	⊙	M.R.	J. F. Butler-Hogan, M.D., LL.D., for Urban District Council.
Westminster	51 30	0 8 W.	27	T	● Bθ	} D.W.M.R.	The Staff of the Meteorological Office.
" Training Coll.	51 30	0 8 W.	107	—	⊙		J. H. Cowham.
6. SCOTLAND, WEST, AND ISLE OF MAN.							
Argyleshire:— Gruline, Isle of Mull.	56 30	6 0 W.	100	●	—	—	J. W. Melles.
Laudale	56 41	5 41 W.	14	II	—	W.M.S.	J. A. Fletcher, for the late T. H. G. Newton, M.A.
sPoltalloch	56 8	5 30 W.	132	II	—	s.	D. S. Melville, for Lord Malcolm.
Oban	56 24	5 27 W.	—	—	⊙	w.m.	Rev. John S. Begg.
sRothesay	55 50	5 4 W.	115	II	—	s.	Robert Henderson.
Dumbarton:— No station.							
Dumfries:— sDumfries	55 4	3 36 W.	70	II	—	W.m.	Rev. W. Andson.

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				Eye Obs.	Self-recording.			
6. SCOTLAND, WEST, AND ISLE OF MAN—cont.								
Kirkcudbright:—sCally ...	54° 52'	6° 12' W.	120	II	—	W.m.s.	05	W. Thomson, for H. G. Murray Stewart.
Lanark:— sCargen ...	55° 2'	3° 37' W.	72	II	—	s.	04	A. Peacock.
Glasgow ...	55° 53'	4° 18' W.	180	I	I	W.M.S.	06	Prof. L. Becker, Ph.D., for M.O.
Thornton Hall.	55° 46'	4° 15' W.	440	III	⊙ B	m.	06	John Wilson, for A. Henderson Bishop.
Renfrew:— No station.								
Stirling:— No station.								
Wigton:— No station.								
Isle of Man:— Cronkbourne	54° 10'	4° 29' W.	137	II	⊙ B	W.M.S.	04	A. W. Moore, M.A., J.P., C.V.O.
7. ENGLAND, NORTH WEST, AND NORTH WALES.								
Cheshire:— Bidston ...	53° 24'	3° 4' W.	188	(I) T	(I) †	D.W.M.s.R.r.	04	W. E. Plummer, M.A., F.R.A.S., for the Mersey Docks and Har- bour Board.
Chester ...	53° 12'	2° 54' W.	59	III	—	—	—	Rev. J. Cairns Mitchell, B.D.
Hawarden Bridge.	53° 12'	3° 1' W.	22	III	—	W.m.	06	F. B. Summers.
Hoylake ...	53° 23'	3° 12' W.	307	III	⊙	w.m.	02	Tom Robinson, for Urban Dis- trict Council.

Cumberland:—	Aspatria ...	54 46	3 21 W.	250	II	☉ (☉)	W.m.R.	04	J. Smith Hill, B.A., B.Sc., Agricultural College.
	Carlisle ...	54 53	2 57 W.	111	II	—	R.	04	Studholme Cartmell, for the Corporation.
	Newton Rigg	54 40	2 49 W.	559	II	☉	W.M.	05	W. T. Laurence, for the Cumberland County Council.
	Uldale (Chapel House Reservoir).	54 43	3 9 W.	599	●	—	—	—	T. Strong, for Aspatria and Silloth Water Board.
Lancashire:—	Blackpool ...	53 49	3 3 W.	66	II	☉ (B ☉)	d.W.m.	05	F. J. H. Counts, M.D., for the Corporation.
	Carnforth (Over Kellet).	54 8	2 44 W.	174	III	☉	m.	05	W. Farrer.
	Darwen ...	53 41	2 28 W.	710	III	☉	d.	05	G. Mainland, for the Corporation.
	Fleetwood ...	53 56	3 1 W.	—	—	☉	—	06	The Urban District Council, for the Meteorological Office.
	Rossall ...	53 55	3 2 W.	—	—	B	—	—	T. G. Benn.
	Manchester (Oldham Road).	53 29	2 13 W.	190	II	☉	M.s.R.w.	04	J. Niven, M.A., M.B., for the Corporation.
	" (Whitworth Park).	53 28	2 14 W.	125	II	☉ (B ☉)	d.M.	04	Prof. Schuster, Sc.D., F.R.S.
	Manchester (Prestwick).	53 32	2 17 W.	320	II	☉	W.M.s.r.	04	F. Gore, for Medical Superintendent of the Asylum.
	Preston ...	53 46	2 42 W.	148	III	—	r.	04	H. O. Pilkington, M.R.C.S., for the Corporation.
	Southport ...	53 39	2 59 W.	37	II	(I) ☉ ☉	d.w.M.R.	03	J. Baxendell, for the Corporation.
	Stonyhurst...	53 51	2 28 W.	375	I	I	W.M.S.R.	06	Rev. W. Sidgreaves, S.J., for M.O.

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† No sunshine recorder.

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				Eye Obs.	Self-recording.			
7. ENGLAND, NORTH WEST, AND NORTH WALES—cont.								
Westmorland:— Kirkby Lonsdale.	54 12	2 36 W.	304	●	—	—	—	R. A. Clarke.
Anglesey:— Holyhead (Salt Island).	53 18	4 39 W.	57	—	☞	—	06	F. M. Cotton, C.E., for M.O.
" (Sailors' Home).	53 18	4 39 W.	48	T	—	D.W.M.	06	T. Chope, Sailors' Home, for M.O.
Carnarvon:— Llandudno ...	53 20	3 50 W.	71	II	☉	d.W.m.s.R.	04	William Little, for the Town Council.
P e n r h y n Quarry.	53 10	4 6 W.	527	●	—	—	01	W. G. Griffith, for E. A. Young.
Denbigh:— Bettws-y-Coed	53 7	3 53 W.	101	II	☉	d.W.M.	06	Dr. H. W. Fox, for District Council.
Llanbedr Hall (Ruthin).	53 8	3 17 W.	449	●	—	—	—	George A. Grace-Calvert, M.B.
Flint:— Penbedw ...	53 12	3 11 W.	650	—	B	—	—	H. W. Buddicom.
Rhyl ...	53 19	3 29 W.	30	III	☉	d.w.m.	06	A. A. Goodall, for District Council.
Merioneth:— Aberdovey ...	52 33	4 4 W.	—	III	☉	w.m.	05	W. J. Eves.
Towyn ...	52 35	4 5 W.	10	III	☉	d.m.	05	E. Lewys Lloyd, M.D., for Urban District Council.
Montgomery:— No station.								
8. SOUTH WALES AND ENGLAND, SOUTH WEST.								
Brecknock:— Llangammarch Wells.	52 7	3 32 W.	550	III	☉	W.m.R.	06	W. Black Jones, M.D., B.S., D.P.H.

Cardigan :—	Aberystwyth...	52 25	4 4 W.	59	III	⊙	d.w.m.	05	A. Thomas, M.D., for the Urban Council.
Carmarthen :— Glamorgan :—	Lampeter ...	52 7	4 5 W.	498	●	—	—	—	John C. Harford.
	Llandovery ...	51 59	3 48 W.	248	●	—	—	—	Douglas T. M. Jones.
	Cardiff ...	51 28	3 10 W.	50	III	—	W.m.r.	04	E. Walford, M.D., for the Corporation.
Pembroke :—	Port Talbot ...	51 34	3 45 W.	179	●	⊙	(m)	03	Miss Talbot; G. Lipscomb.
	Haverfordwest.	51 48	4 58 W.	93	(II)	⊙(B)	(m)	01	J. W. Phillips.
	St. Ann's Head	51 41	5 11 W.	149	T	⊙	D.W.M.R.	05	G. H. Dunsford, Lightkeeper, for M.O.
Radnor :—	Tenby ...	51 41	4 42 W.	79	—	⊙	w.(m)	03	H. L. Truscott, for the Corporation.
	Diserth ...	52 13	3 24 W.	711	●	—	—	00	Rev. J. Le Herbert.
	Rhayader	52 18	3 29 W.						
Cornwall :—	Waterhead:				●	—	—	—	The Engineer-in-Charge, for the Corporation of Birmingham.
	Abergwngy...	—	—	1,199	●	—	—	—	
	Bwlchyrhendre.	—	—	1,584	●	—	—	—	
	Claerwen ...	—	—	1,249	●	—	—	—	
	Nant-y-car ...	—	—	1,544	●	—	—	—	
	Pryddellau ...	—	—	1,709	●	—	—	—	
	Tyrmynydd...	—	—	831	●	—	—	—	
	Falmouth ...	50 9	5 4 W.	167	I	I	W.M.s.R.	06	Royal Cornwall Polytechnic Society, for M.O.
Devonshire :—	Pen-dennis Castle.	50 8	5 3 W.	—	—	—	—	06	Coastguard, for M.O.
	Newquay ...	50 25	5 4 W.	100	III	⊙	w.(m.)	04	C. C. Vigers, B.A., M.D., for Urban District Council.
	Arlington Court	51 8	3 58 W.	613	III	—	W.m.	06	Lady Chichester.
	Barnstaple ...	51 5	4 3 W.	24	III	—	—	06	Thos. Wainwright, for the North Devon Athenæum.
	Cullompton ...	50 51	3 23 W.	202	III	⊙	W.m.	04	T. Turner, J.P.

The names of Stations added to the list since April, 1906, are printed in clarendon type; those of stations now discontinued are printed in italic type.

LIST OF STATIONS ARRANGED ACCORDING TO DISTRICTS AND COUNTIES—continued.

County and Station.	Lat.	Long.	Height in feet above M.S.L.	Order of Station.		Publication.	Year of last inspec- tion	Observer
				Eye Obs.	Self-recording.			
S. SOUTH WALES AND ENGLAND, SOUTH WEST— <i>cont.</i>								
Devonshire— <i>cont.</i> Plymouth ...	50° 22'	2° 4' S.W.	116	II	☉ (S B)	d. W. M.S.R.r.	04	H. Victor Prigg, A.M.I.C.E., for the Corporation.
Rousdon ...	50 43	3 0 W.	515	II	(S B)	s.	04	C. Grover, for The Hon. Lady Peek.
Salcombe ...	50 14	3 46 W.	300	—	☉	(m.)	04	W. Barrington Prowse, M.D., and V. W. Twining, M.D.
Torquay ...	50 28	3 31 W.	12	III	☉	d.w.(m.)	00	F. March, for the Corporation.
Whitechurch...	50 32	4 6 W.	593	II	—	s.	04	E. E. Glyde.
Woolacombe	51 10	4 12 W.	59	II	☉	S.R.	06	B. Fanshawe.
Abersychan ...	51 44	3 5 W.	698	●	—	—	—	W. P. James.
Newchurch ...	51 41	2 48 W.	525	●	—	—	—	—
Newport ...	51 35	3 0 W.	32	III	—	—	04	J. Cullum, for the Corporation of Newport.
Pant-yr-eos ...	51 38	3 4 W.	449	●	—	—	00	—
Ynys-y-fro ...	51 38	3 3 W.	151	●	—	—	00	—
Bath ...	51 23	2 21 W.	66	T, III	(B S) ☉	D.W.M.R.	06	W. H. Symons, M.D., for the Corporation.
Somerset :—								
9. IRELAND, NORTH.								
Antrim :—								
Belfast ...	54 35	5 56 W.	61	II	—	M.R.	06	John Wylie, B.A., and G. Robinson, for Prof. Morton.
Glenarm ...	54 58	5 56 W.	41	●	—	—	—	The Earl of Antrim.
Larne Harbour	54 51	5 49 W.	—	—	B	—	—	E. W. L. Holt, for Department of Agriculture for Ireland.

Armagh :—	Armagh ...	54 21	6 39 W.	196	II	☉	W.M.S.R.	06	J. L. E. Dreyer, Ph D., for M.O.
Cavan :—	No station.								
Donegal :—	Dunfanaghy ...	55 11	7 58 W.	54	III	—	—	—	J. J. MacGrath, L.R.C.P.
	Faiafannan ...	54 40	8 27 W.	221	●	—	—	—	John C. Ward.
	Malin Head ...	55 23	7 24 W.	230	T	B	D.W.M.R.r.	06	Lloyd's Signalman, for M.O.
	Rosbeg (Narin) ...	54 50	8 30 W.	—	—	B	—	05	J. McLoone, Postmaster.
Down :—	Donaghadee ...	54 38	5 32 W.	40	T	—	D.W.M.R.r.	06	J. Mahoney and J. W. Hughson, Coastguard, for M.O.
Fermanagh :—	No station.								
Galway :—	Ardfrý ...	53 19	9 0 W.	—	—	B	—	—	W. M. Tattersall, for the Depart- ment of Agriculture for Ireland.
	Recess ...	53 28	9 44 W.	89	●	—	—	—	M. Macarthy.
Leitrim :—	Carrigallen ...	53 58	7 38 W.	350?	●	—	—	—	Miss Morrow.
Londonderry :—	No station.								
Longford :—	No station.								
Louth :—	No station.								
Mayo :—	Blackrod Point ...	54 6	10 4 W.	37	T	—	D.W.M.R.r.	06	Chas. Exeter, Coastguard, for M.O.
	Mallaranny ...	53 55	9 40 W.	119	●	—	—	02	Miss M. Kilsby and M. Macarthy.
Meath :—	No station.								
Monaghan :—	No station.								
Roscommon :—	No station.								
Sligo :—	Markree Castle ...	54 11	8 27 W.	122	II	☉	W.M.S.R.	06	J. R. Armstrong, for Bryan Cooper.
	Edenfel, Omagh ...	54 36	7 19 W.	300	III	—	W.m. s.	06	Col. Buchanan, C.B.
Tyrone :—	Lissan ...	54 41	6 45 W.	300	II	—	—	06	J. H. Staples.
Westmeath :—	No station.								
10. IRELAND, SOUTH.									
Carlow :—	No station.								
Clare :—	Ennis (<i>Rosleran</i>) ...	52 51	8 59 W.	38	●	—	—	—	Miss A. L. Scott.
	Ennistymon ...	52 57	9 17 W.	130	●	—	—	—	Rev. C. W. McDowell, M.A.

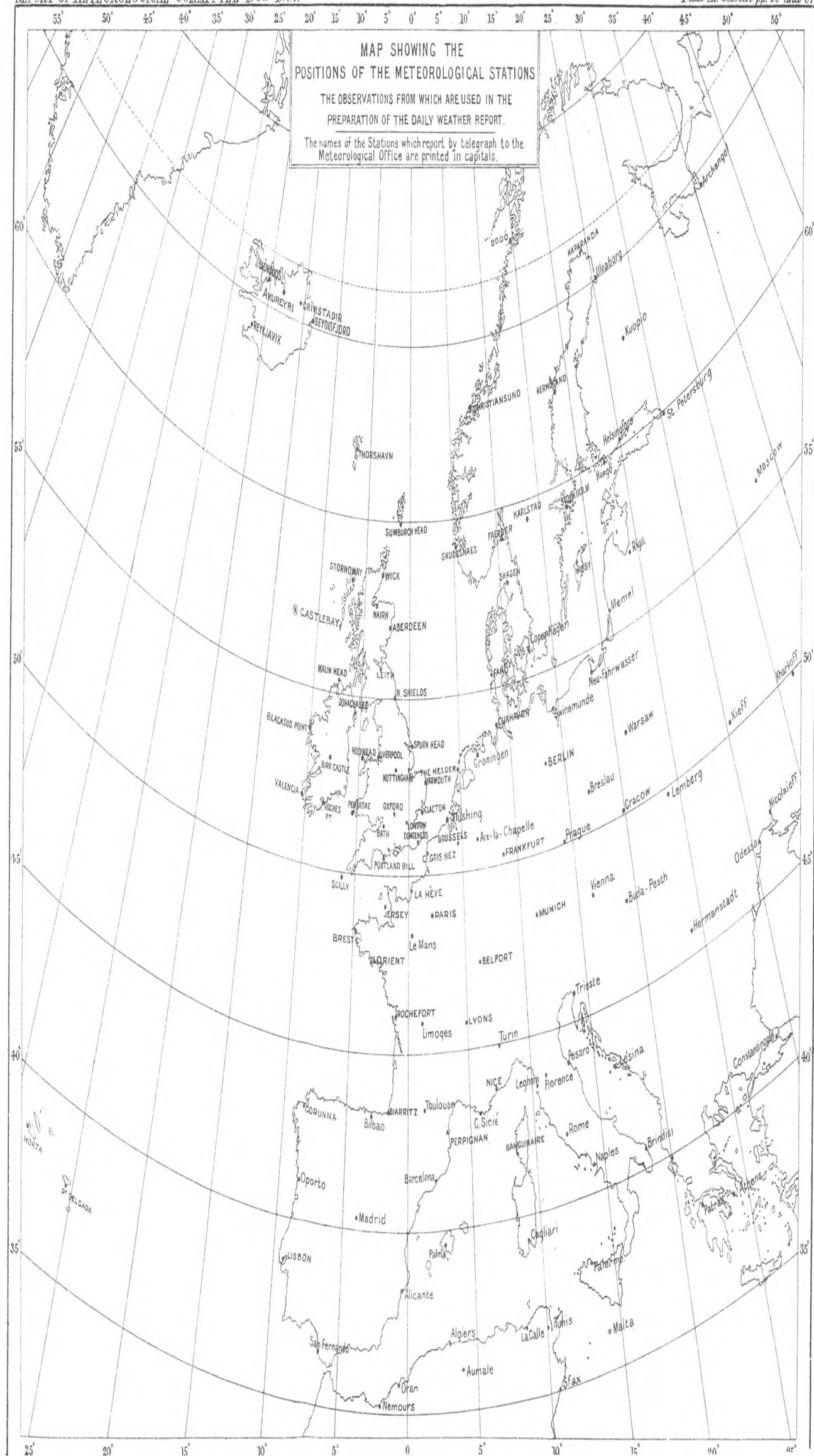
The names of Stations added to the list since April, 1906, are printed in clarendon type; those of Stations now discontinued are printed in italic type.

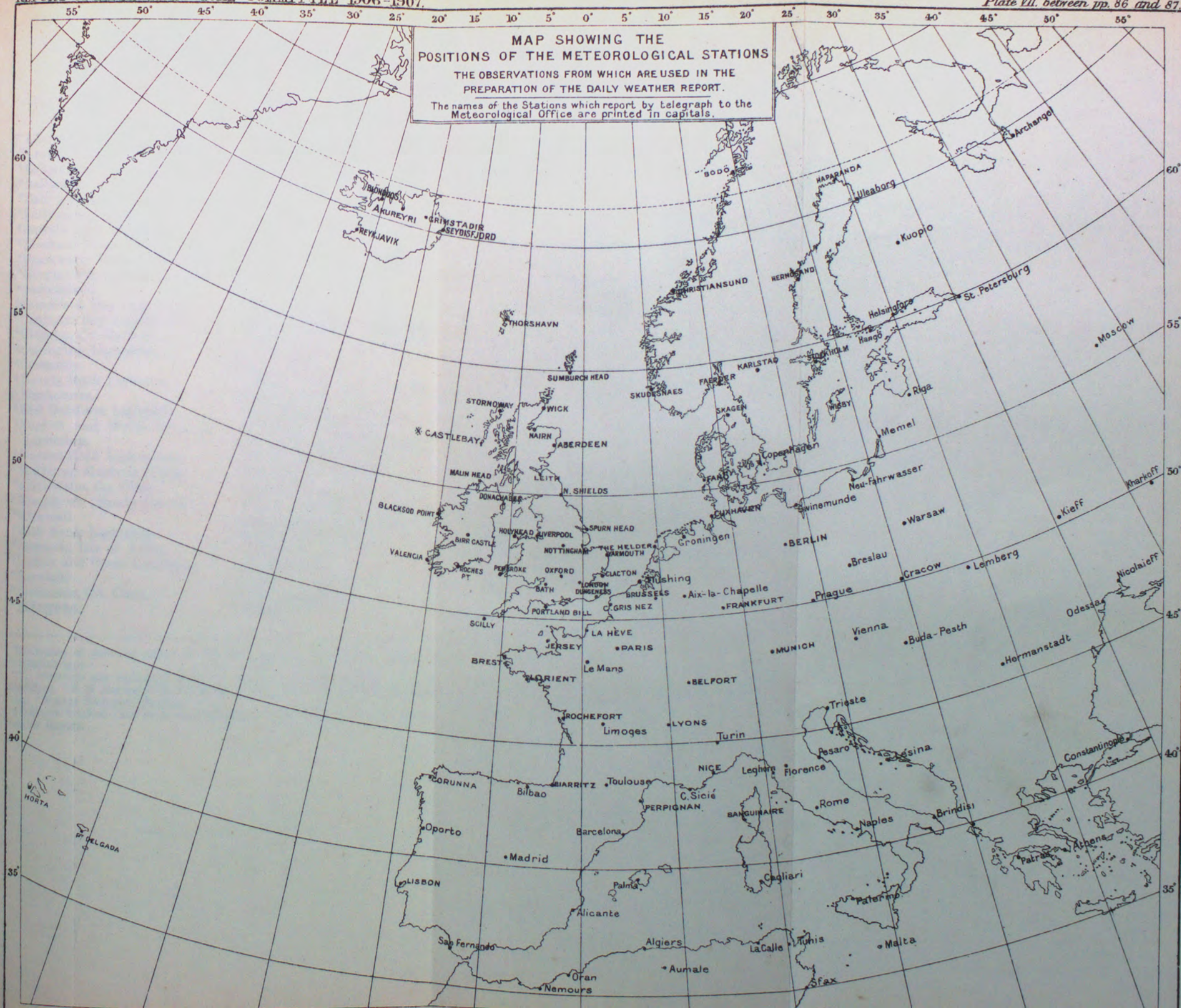
LIST OF STATIONS ARRANGED ACCORDING TO DISTRICTS AND COUNTIES—continued.

County and Station.	Lat.	Long.	Height in feet above M.S.L.	Order of Station.		Publication.	Year of last Inspection.	Observer.
				Eye Obs.	Self-recording.			
10. IRELAND, SOUTH—cont.								
Clare—cont.								
Hurdlestown ...	52° 48'	8° 38' W.	157	●	—	—	—	Lt.-Col. W. O. Bentley, R.A.
Lahinch ...	52° 55'	9° 21' W.	52	●	—	—	99	Miss I. F. K. Bowes.
Mount Callan ...	52° 53'	9° 16' W.	479	●	—	—	98	Lt.-Col. Tottenham.
Newmarket - on - Fergus.	52° 46'	8° 53' W.	85	●	—	—	98	Alfred Barker, for W. W. A. Fitzgerald.
Cork:—								
Ballinacorra ...	51° 52'	8° 10' W.	24	III	⊙	w.m.	04	John H. Bennett.
Doneraile ...	52° 13'	8° 34' W.	266	●	—	—	—	Capt. J. W. Evans, J.P.
Roche's Point ...	51° 47'	8° 15' W.	32	T	—	D.W.M.R.r.	06	M. FitzMahony, Post Office, for M.O.
" " ...	51° 47'	8° 15' W.	—	—	☞	—	06	Captain G. Usborne, for Cork Harbour Commissioners.
Dublin:—								
Dublin City ...	53° 20'	6° 15' W.	47	II	B	W.m.s.R.	03	Sir John W. Moore, M.D., D.Sc.
" Phoenix Park.	53° 22'	6° 21' W.	155	II	⊙	w.M.S.	06	Major R. W. H. Buckland, R.E., Ordnance Survey Office.
" Botanic Gardens.	53° 23'	6° 16' W.	67	II	—	m.s.	04	F. W. Moore, M.R.I.A.
" Trinity College.	53° 21'	6° 16' W.	12	II	⊙	M.(R.)w.	04	T. H. Hill, for Prof. Thwait.
Dundrum ...	53° 16'	6° 14' W.	200	III	—	—	—	Dr. Arthur S. Goff.
Killiney ...	53° 16'	6° 7' W.	249	●	—	—	—	R. O'Brien Furlong, C.B.
Kingstown ...	53° 17'	6° 8' W.	42	III	⊙	m.	03	Dr. J. B. Power, for the Corporation.
" Harbour	53° 17'	6° 8' W.	—	—	☞	—	06	Robert Gray, C.E., for H.M. Office of Works.
Kerry:—								
Caragh Lake...	52° 3'	9° 53' W.	—	●	—	—	—	Admiral E. F. Jeffreys, C.V.O.
Castle Gregory ...	52° 15'	10° 1' W.	34	●	—	—	—	Admiral E. F. Jeffreys, C.V.O.
Killarney ...	52° 4'	9° 30' W.	174	III	—	W.m.R.	06	E. W. Griffin, M.D.

Valencia:—	...	51 56	10 15 W.	30	I, T	I, B	D.W.M.s.R.r.	06	J. E. Cullum, for M.O.
" Glanleam	...	51 56	10 20 W.	—	●	—	—	01	A. O'Donoghue.
Kildare :—	Clongowes Wood	53 19	6 41 W.	237 ?	III	B ⊕	m.	06	Rev. W. P. Hackett, S.J., and
" College,	...								A. E. Coulthard, B.Sc.
Kilkenny :—	Kilkenny	52 39	7 14 W.	212	III	B	W.m.	06	H. Carlton, for the Marquis of
"	...								Ormonde, K.P.
King's Co. :—	Birr Castle	53 6	7 55 W.	176	II, T	⊙	D.W.M.S.R.r.	06	Dr. Boeddicker, for the Earl of
"	...								Rosse, K.P.
Limerick :—	Foynes	52 37	9 7 W.	108	III	—	W.m.	06	J. J. Alcorn, for Lord Monteagle,
"	...								K.P.
Roxborough	...	52 35	8 36 W.	107	●	—	—	02	Sir A. W. Shaw.
Queen's Co. :—	No station.								
Tipperary :—	No station.	52 16	7 7 W.	—	—	B	—	02	Harbour Authorities.
Waterford :—	Waterford	52 16	7 7 W.	20 ?	III	—	W.m.R.	06	J. N. White.
"	"								
Wexford :—	No station.	53 12	6 6 W.	153	●	—	—	—	Miss A. L. Scott.
Wicklow :—	Bray	53 5	6 6 W.	256	II	—	—	02	B. H. Steede, M.A., M.D., and
" Newcastle	...								T. H. Peyton, M.D.
11. ENGLISH CHANNEL (WESTERN SECTION).									
Guernsey :—	St. Peter Port, Villa Carey.	49 27	2 32 W.	180	III	⊙	W.m.	04	F. E. Carey, M.D.
"	Peter Port, Brooklyn.	49 27	2 31 W.	297	II	⊙ (B ⊕)	w.m.R.	04	Adolphus Collenette.
Jersey :—	St. Aubin's	49 12	2 11 W.	25	T	—	D.W.M.R.	06	J. Fisher, for M.O.
"	St. Helier's	49 11	2 6 W.	—	—	⊙	d.w.(m.)R.	06	Signal Officer, Fort Regent, for
"	...								M.O.
Scilly :—	St. Mary's	49 56	6 18 W.	131	T	B ⊕ ⊙	D.W.M.R.	06	A. Hicks, for M.O.

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LIST OF SEA TEMPERATURE STATIONS.

§*Aberdeen, Cove Bay.	†Morecambe Bay Lightship.
*Arran, North, Galway.	†Newarp Lightship.
†Bahama Bank Lightship.	§*Newquay, Cornwall.
§*Ballantrae, Ayrshire.	†North Arklow Lightship.
*Ballydonegan, Co. Cork.	North Arran (<i>see</i> Arran).
§*Ballyglass, Co. Mayo.	†North-West Lightship.
†Barrels Rock Lightship.	†Outer Dowsing Lightship.
*Blacksod Point, Co. Mayo.	†Owers Lightship.
†Blackwater Bank Lightship.	§*Pennan Bay (Aberdour).
§*Burnmouth, Ayton, Berwick.	§ ⁵ Plymouth.
*Burntisland.	§Port Erin.
†Carnarvon Bay Lightship.	*Portrush.
†Cardigan Bay Lightship.	†Royal Sovereign Lightship.
§*Cleggan, Co. Galway.	St. Ann's Head, Pembroke.
†Coningbeg Lightship.	§*Salcombe, Devon.
§*Cromarty.	§*Scarborough.
†Daunts Rock Lightship.	⁷ Scilly Islands (St. Mary's).
§ ¹ Eastbourne.	§*Seafeld, Co. Clare.
†East Goodwin Lightship.	†Seven Stones Lightship.
†English and Welsh Grounds Lightship.	†Shambles Lightship.
†Fastnet Rock Lighthouse.	§*Sheephaven (Dunfanaghy).
² Holyhead Harbour Office.	§†Shipwash Lightship.
*Kilcredane, Co. Clare.	†Skulmartin Lightship.
§ ³ Kingstown (Sandy Cove).	†Solway Lightship.
§*Kirkwall.	†South Arklow Lightship.
†Kish Bank Lightship.	†South Rock Lightship.
§*Lamlash, Isle of Arran.	†Spurn Lightship.
†Leman and Ower Lightship.	*Stornoway.
§*Lerwick.	*Sunderland.
*Liscannor, Co. Clare.	*Teelin, Co. Donegal.
§ ⁴ Margate.	*Uzon (Montrose).
	§*Wick.

The names of Stations added to the list since last Report are printed in clarendon type.

The observers are indicated thus :—* Coastguard, † Lightkeepers, ¹ S. R. Henderson, ² F. M. Cotton, C.E., ³ F. Moore Mease, ⁴ W. J. Woodruff, ⁵ H. Victor Prigg, ⁶ Marine Biological Station.

§ Stations marked thus send weekly returns for publication in the Weekly Weather Report.

LIST OF STATIONS in the COLONIES and DEPENDENCIES and in FOREIGN COUNTRIES from which RETURNS are received in MANUSCRIPT.

NOTE.—Returns received in printed form are not included in this list.

Station	Latitude.	Longitude.	Height in Feet above M.S.L.	Order of Station.	Year of Commencement of Observations.	Observer.
MEDITERRANEAN.						
Cyprus, †Famagusta	35 7 N.	33 57 E.	34	II	1881	L. Bérard.
" †Kyrenia	35 21 N.	33 19 E.	54	II	1881	P. Michaelide,
" †Larnaca...	34 55 N.	33 37 E.	19	II	1881	P. Nicopoulos,
" †Limassol	34 40 N.	33 1 E.	26	II	1881	J. Josif,
" †Nicosia...	35 11 N.	33 22 E.	493	II	1881	J. Samaras and T. G. Farbat,
" †Papho ...	34 46 N.	32 25 E.	202	II	1881	Y. V. Zachariades,
Gibraltar ...	36 6 N.	5 21 W.	48	II	1883	Sergt. M. Davis, for Col. J. McNamara, M.D., C.M.O., Army Medical Department,
Morocco. †Cape Spartel	35 47 N.	5 55 W.	191	II	1893	Edwin C. Hathaway, for Lloyd's.
" Casablanca	†33 37 N.	7 34 W.	4	●	1896	G. H. Ferman.
" Mogador	31 30 N.	9 42 W.	19	●	1903	A. M. Madden, H.B.M. Vice-Consul.
" Safi ...	†32 17 N.	9 8 W.	40	●	1905	N. A. de Silva.
Syria, Beyrout ...	33 54 N.	35 28 E.	172	II	1883	The late Robt. H. West, M.A., and Alfred H. Joy.
AFRICA.						
Central :—						
Eastern Soudan, Wadelai	†2 40 N.	31 35 E.	2,200	III	1901	Siri Ram Neb and } for E. Brown, and W. H. Dawe,
Uganda, Butiaba	—	—	—	●	1904	R. K. Mitter,
" Entebbe	0 4 S.	32 30 E.	3,906	III	1896	T. C. de Silva, Botanical and Scientific Department.
" Fatiko	3 0 N.	32 20 E.	—	III	1906	T. Remedios, A. de Souza Santos,

John de Souza, J. R. M. Silva, Fatteh ud Din, and S. Ford, George M. Caesar, J. P. V. Jervoise, J. A. Andrades, A. P. Dias,	1901 1901 1901 1902 1906 1901 1903	III III III III III III III	5,299 1,500 3,650 — — 4,500 2,083	30 31 33 31 31 30 32	40 N. 54 N. 24 N. 20 S. 40 N. 39 S. 38 N.	20 E. 44 E. 13 E. 50 E. 45 E. 49 E. 11 E.	— — — — — — —	III III III III III III III	1905	Rev. S. Osborne Kempton, Baptist Mission Station.
Rev. Thomas Lewis, Baptist Mission Station, E. C. Andrews and J. Anderson, for Director of Agriculture. Dr. R. H. Kennan and Dr. E. Langley Hunt. Dr. A. E. Horn and Dr. C. H. D. Ralph. Dr. A. G. Eldred. Dr. H. Tweedy, and Dr. C. V. Le Fannu. Dr. T. E. Rice and Dr. H. B. S. Montgomery. Dr. D. Cowin and Dr. F. Beringer. Dr. F. Mayer, Dr. E. L. Barker, and Dr. F. S. Harper.	1902 1893 1893 1895 1895 1899 1899 1895 1904	III III III III III III III III III	3,200 — — — — — — — —	15 — 0 2 0 0 2 0 1	17 S. — 35 N. 50 N. 15 N. 31 N. 50 N. 59 N. 0 N.	17 E. — 6 W. 12 W. 30 W. 26 W. 16 W. 59 E. 40 W.	— — — — — — — —	III III III III III III III III III	1895	Dr. W. H. S. Wickenson, Capt. R.A.M.C., Dr. H. J. M. Grigor, Capt. R.A.M.C., and Dr. D. S. Skelton, Capt. R.A.M.C.
Fort Portal Gondokoro Jinja Masaka Masindi Mbarara Nimule	.....................	.....................	.....................	.....................	.....................	.....................	.....................	.....................	.....................	.....................
West Central :—										
Upper Congo, Yakusu	...	...	...	...	...	...	...	...	...	...
West :—										
Angola, Kibokolo Gold Coast, Aburi	......	......	......	......	......	......	......	......	......	......
Accra Axim Cape Coast Castle Gambaga Kumasi Kwitta Sekondi	.....................	.....................	.....................	.....................	.....................	.....................	.....................	.....................	.....................	.....................
Sierra Leone	...	...	...	...	...	...	...	...	...	...

† The positions and heights of the stations are those given by the observers, except in cases marked †, for which the information given has been obtained from other sources.

‡ The Meteorological instruments in use at this Station are lent by the Meteorological Committee.

LIST OF STATIONS in the COLONIES, &c., from which RETURNS are received in MANUSCRIPT—continued.

Station.	Latitude.	Longitude.	Height in Feet above M.S.L.	Order of Station.	Year of Commencement of Observations.	Observer.
ATLANTIC.						
Bermuda Dockyard	32 19 N.	64 51 N.	—	—	1889	Lieut. C. E. Stainer, R.N.
Bahamas, †*Abaco	25 52 N.	77 11 W.	70	II	1859	Lightkeepers.
" †*Cay Lobos	22 33 N.	77 36 W.	15	II	1877	
" †*Cay Sal	23 42 N.	80 25 W.	30	II	1869	
" †*Inagua	21 21 N.	73 1 W.	21	II	1871	
" Nassau	†25 2 N.	77 25 W.	—	III	1895	P. H. Burns, Supt. Bahamas Cable.
" †*Watling's Island	23 57 N.	74 28 W.	60	II	1889	Lightkeepers.
Barbados ...	†13 12 N.	59 35 W.	181	II	1895	John R. Bovill.
†*Sombbrero ...	18 36 N.	63 28 W.	30	II	1867	Lightkeepers.
AMERICA.						
Central :—						
†Panama, Colon	†9 23 N.	79 23 W.	—	II	1897	The Ven. Archdeacon S. P. Hendrick.
South :—						
British Guiana, Georgetown...	6 49 N.	56 10 W.	0	○	1887	A. W. Bartlett, Government Botanist.
ATLANTIC.						
South :—						
Falkland Islands :—						
*Cape Pembroke	51 41 S.	57 42 W.	70	II ○	1859	J. Pearce.
†Stanley	—	—	—	○ B	—	His Excellency W. L. Allardyce.
†St. Helena, St. Matthew's Vicarage.	16 0 S.	5 40 W.	1,887	II	1885	A. L. C. Hands.
" Central, Oak Bank	—	—	1,696	●	1902	J. Homagee.
" St. Paul's Vicarage	—	—	1,694	●	1905	Alfred Porter.

INDIAN AND PACIFIC OCEANS, &c.											
China :—											
Chinkiang	32	10 N.	119	40 E.	36	II ☉	1905	Capt. Lewis H. Tamplin, F.R.A.S.
Madagascar :—											
Antananarivo	18	55 S.	45	16 E.	—	●	1903	T. P. Porter, H.B.M. Consul.
Malden Island	3	59 S.	155	0 W.	—	II	—	G. Lenson.
Mauritius, Royal Alfred Observa- tory.	20	6 S.	57	31 E.	181	(I)	1901	T. F. Claxton.
† Ocean Island	0	52 S.	169	35 E.	100	II B.	1905	J. G. Talbot, for the Pacific Phosphate Company.

* Lighthouse ; contributes register containing observations every 4 hours.

* Lighthouse; contrabands register containing observations every 4 hours.
† The positions and heights of the stations are those given by the observers, except in cases marked †, for which the information given has been obtained from other sources.

The Meteorological instruments in use at this Station are lent by the Meteorological Committee, Government of India.

K.—LIST OF PUBLICATIONS ISSUED UNDER THE AUTHORITY OF THE METEOROLOGICAL COMMITTEE OF THE ROYAL SOCIETY (1867 TO 1876), THE METEOROLOGICAL COUNCIL (1877 TO 1905), OR THE METEOROLOGICAL COMMITTEE APPOINTED BY TREASURY MINUTE, MAY 20TH, 1905.*

The list is arranged under the following headings:—

1. Periodical Publications.†
2. Occasional Publications and Reports.
3. Instructions in the use of Instruments, &c.
4. Marine Meteorology.
5. Miscellaneous Publications.

1. Periodical Publications.

Daily Weather Reports. Subscription, 5s. per quarter.

Weekly Weather Reports. With Appendices and Monthly Supplements priced separately:—

‡1888. Vol. V. (No. 85.) 4d. per week. Annual Volume, including Supplements and Appendices, 21s. 2d.

1889-1906. Vols. VI.-XXIII. 6d. per week. Annual subscription, including Supplements and Appendices, 30s.

Monthly Meteorological Charts of the North Atlantic and Mediterranean and of the Indian Ocean. See Marine Meteorology.

Monthly Weather Reports:—

§1884-1887. In Monthly Parts, 1s. 6d. to 2s. 6d. each, except May to December, 1887, which is in wrapper, price 12s.

Quarterly Weather Reports:—

1869-1880. At prices varying from 4s. to 10s. each Quarterly Part.
1877-1880:—Appendices and Plates are published for these years at 27s. or 28s. per yearly set.

Annual Volumes:—

Reports of the *Meteorological Committee* of the Royal Society:—

1867-1877. At prices varying from 4d. to 1s. per Report, except 1876-1877, 3s. 5d.

Reports of the *Meteorological Council:*—

1878-1905. At prices varying from 5d. to 1s. 5d., except 1884-5, 4s. 4d.

Report of the *Meteorological Committee:*—

1905-06. Price 1s. 4d.

* The publications are sold by Messrs. Wyman and Sons and other agents for the sale of the publications of H.M. Stationery Office; Annual Reports by Parliamentary Booksellers; Pilot Charts and Charts published by the Admiralty, by Messrs. J. D. Potter & Co.

† These have from time to time contained Tables of Mean Values and papers on various Meteorological Investigations. A List of the more important of these contributions to Meteorological knowledge will be found in Appendix XI. of the Report for 1903-04.

‡ The publication of the Weekly Weather Report began in February 1878. Annual subscription, including Supplements and Appendices, post paid, 1878-1883, 12s. 6d.; 1884-1887, 21s. 2d.

§ The publication of the Monthly Weather Report was continued after 1887 as a Supplement to the Weekly Weather Report.

1. Periodical Publications—continued.

Observatories and Stations.

*Hourly Readings from the Self-Recording Instruments at the . . .
Observatories under the Meteorological Council :—

1881–1886. In Parts, varying in price from 10s. to 30s. each.

1900 to 1905. 25s. each, or 6d. per month each station. 1906 in the Press.

Hourly Means of the Readings obtained from the Self-Recording Instruments
at the . . . Observatories under the Meteorological Council :—

1887–1899. In Annual Volumes, at prices varying from 15s. to 38s.

Meteorological Observations at Stations of the Second Order :—

†1876–1902. At prices varying from 20s. to 35s.

1903. In the Press.

2. Occasional Publications and Reports.

ATLAS :—

Meteorological Atlas of the British Isles. (No. 53. 1883.) 5s. 6d.

CONGRESSES, CONFERENCES, &c., Reports of Proceedings :—

Leipzig. 1872. (Non-Official, No. 6.) 1s.

Vienna. 1873. (No. 21.) 1s.

Vienna and Utrecht. 1873 and 1874. (Non-Official, No. 9.) 1s. 6d.

London. 1874. Maritime Meteorology. (No. 23.) 2s.

London. 1876. With Supplement. (Non-Official, No. 11.) 2s.

Utrecht. 1878. (Non-Official, No. 13.) 6d.

Rome. 1879. (No. 36.) 1s. 6d.

Berne. 1880. (Non-Official, No. 14.) 1s.

Copenhagen. 1882. (Non-Official, No. 15.) 2s. 6d.

Paris. 1885. (Non-Official, No. 16.) 1s.

Zürich. 1888. (Non-Official, No. 17.) 4d.

Munich. 1891. (No. 102.) 1s. 6d.

Upsala. 1894. (No. 115.) 1s.

Paris. 1896. (No. 127.) 1s.

St. Petersburg. 1899. (No. 148.) 2s.

Southport. 1903. (No. 164.) 2s.

Report on Weather Telegraphy and Storm Warnings. 1873. (Non-
Official, No. 8.) 6d.

Reports . . . on Atmospheric Electricity, Maritime Meteorology,
and Weather Telegraphy. 1873. (Non-Official, No. 12.) 2s.

Fog :—

London Fog Inquiry, 1901–03. (No. 160. 1904) :—

Report of the Council, with Report by R. G. K. Lempfert, M.A. (1904). 2s. 6d.

Report by Captain Alfred Carpenter, R.N., D.S.O. (1903). 2s.

FOREIGN AND COLONIAL STATIONS :—

Contribution to the Meteorology of Japan.—By Staff-Com. Thomas H. Tizard,
H.M.S. "Challenger." (No. 28. 1876.) [Out of Print.]

Report on the Meteorology of Kerguelen Island.—By Rev. S. J. Perry, S. J.,
F.R.S. (No. 37. 1879.) 3s.

Meteorological Observations at the Foreign and Colonial Stations of the
Royal Engineers, and the Army Medical Department, 1852–1886.
(No. 83. 1890.) 23s.

* For the years 1874–1880 the Hourly Readings were issued in lithographed form. Price 20s. per annum.

† The Observations at Stations of the Second Order for 1873–75 will be found in the Quarterly Weather Report for the respective years.

2. Occasional Publications and Reports—continued.**FOREIGN AND COLONIAL STATIONS—continued.**

Meteorological Observations made at Sanchez, Samaná Bay, St. Domingo, 1886-1888.—By the late W. Reid, M.D. (No. 89. 1890.) 8s. 6d.

Climatological Observations at Colonial and Foreign Stations:—

I.:—Tropical Africa, 1900-1902, with Summaries and Map.—By E. G. Ravenstein, F.R.G.S. (No. 165. 1904.) 6s.

RAINFALL:—

Rainfall Tables of the British Isles for 1866-80. Compiled by G. J. Symons, F.R.S. (No. 47. 1883.) 7s. 6d.

Rainfall Tables of the British Islands, 1866-90. (No. 114. 1897.) 6s.

Diurnal Range of Rain at the Seven Observatories in connection with the Meteorological Office, 1871-1890. (No. 143. 1900.) 2s. 6d.

SUNSHINE:—

Sunshine Records of the United Kingdom for 1881. (No. 56. 1883.) 4s.

Ten Years' Sunshine in the British Isles, 1881-90. (No. 98. 1891.) 2s.

TEMPERATURE:—

Temperature Tables for the British Islands. (No. 154. 1902.) 10s. 6d.

Supplement:—Difference Tables for each Five Years for the Extrapolation of Mean Values. 3s.

WIND.

The Beaufort Scale of Wind-force. Report of the Director of the Meteorological Office upon an Inquiry, with a Paper by G. C. Simpson, M.Sc., and Notes by Sir G. H. Darwin, K.C.B., F.R.S., W. H. Dines, F.R.S., and Commander Campbell Hepworth, C.B., R.N.R., Marine Superintendent. (No. 180. 1906.) 1s. 6d.

3. Instructions in the use of Instruments, &c.

Barometer Manual. (No. 8. 1871.) [Out of Print.]

Barometer Manual for the Use of Seamen. With an Appendix on the Thermometer, Hygrometer, and Hydrometer. Fifth Edition, extensively Revised. 1905. (No. 61.) 3d.

Fishery Barometer Manual. New Edition, 1887. (No. 3.) 6d.

Instructions for Meteorological Telegraphy. New Edition, 1906. (No. 2.) Prepared for the use of Observers exclusively.

Instructions in the use of Meteorological Instruments. Reprinted 1892. (No. 24.) [Out of Print.]

Hints to Meteorological Observers in Tropical Africa, with Instructions for taking Observations, and Notes on Methods of recording Lake Levels. (No. 162. 1902.) 9d.

FORECASTING:—

Aids to the Study and Forecast of Weather.—By W. Clement Ley, M.A. (No. 40. 1880.) 1s.

Principles of Forecasting by means of Weather Charts.—By the Hon. Ralph Abercromby, F.R.Met.Soc. Second Edition, Revised, 1885. (No. 60.) [Out of Print.]

4. Marine Meteorology.**CHARTS:—****Arabian Sea:—**

Daily Weather Charts for the period of six weeks ending June 25, 1885, to illustrate the tracks of two cyclones in the Arabian Sea. (No. 80. 1891.) 10s.

4. Marine Meteorology—continued.
CHARTS—continued.

Atlantic :—

Charts of Meteorological Data for the Nine 10° Squares of the Atlantic, which lie between 20° N. and 10° S., and extend from 10° to 40° W., with accompanying Remarks, ending with the Best Routes across the Equator. (No. 27. 1876.) 24s.

Monthly Current Charts for the Atlantic Ocean. From information collated and prepared in the Meteorological Office. Published by the Admiralty. (No. 132. 1897.) 7s.

Atlantic (North) :—

Charts of Meteorological Data for Square 3, Lat. 0°–10° N., Long. 20°–30° W., and Remarks to accompany the Monthly Charts, which show the Best Routes across the Equator for each Month, &c. (No. 20. 1874.) 20s.

Charts illustrating the Weather of the North Atlantic Ocean in the Winter of 1898–99. (No. 142. 1901.) 6s. 6d.

Currents and Surface Temperature of the North Atlantic Ocean, from the Equator to Latitude 40° N., for each Month of the Year. With a General Current Chart. (No. 12. 1872.) 2s. 6d.

Discussion of the Meteorology of that Part of the Atlantic lying North of 30° N., for the eleven days ending 8th February, 1870. With Charts. (No. 13. 1872.) 5s.

Meteorology of the North Atlantic during August, 1873, with 31 Synoptic Charts. (No. 32. 1878.) With book of Charts, 15s.

Synchronous Weather Charts of the North Atlantic and the adjacent Continents, 1st August, 1882, to 3rd September, 1883. Parts I. to IV. (33 sheets each). (No. 71. 1886.) 17s. each Part.

Atlantic (South) :—

Charts showing the Surface Temperature of the South Atlantic Ocean in each month of the Year. (No. 4. 1869.) 2s. 6d.

Wind Charts for the Coastal Regions of South America, from information collated and prepared in the Meteorological Office. Published by the Admiralty. (No. 159. 1902.) 7s.

Monthly Wind Charts of the South Atlantic. Published by the Admiralty. (No. 168. 1903.) 6d. each.

The relation between Pressure, Temperature, and Air Circulation over the South Atlantic Ocean. (No. 177. 1905.) 9d.

Atlantic, Indian, and Pacific Oceans :—

Charts showing the Surface Temperature of the Atlantic, Indian, and Pacific Oceans. (No. 59. Second Edition, 1903.) 4s. 6d.

Charts showing the Mean Barometric Pressure over the Atlantic, Indian, and Pacific Oceans. (No. 76. 1887.) 10s. 6d. Supplementary Chart, 6d.

Atlantic (North) and Mediterranean :—

Monthly Meteorological Charts, commencing April, 1901. (No. 149.) 6d. each. Subscription for one year, 5s. (exclusive of postage).

Indian Ocean :—

Monthly Current Charts for the Indian Ocean, from information collated and prepared in the Meteorological Office. Published by the Admiralty. (No. 124. 1896.) 7s.

Monthly Meteorological Charts of the Indian Ocean. Commencing May, 1906. (No. 181.) 6d. each. Subscription for one year 5s. (exclusive of postage.)

Indian Ocean (North) :—

Meteorological Charts of the portion of the Indian Ocean adjacent to Cape Guardafui and Ras-Hafun. (No. 92. 1891.) 6s.

4. Marine Meteorology—*continued.*CHARTS—*continued.**Indian Ocean (South):—*

Cyclone Tracks in the South Indian Ocean, from information compiled by Dr. Meldrum, C.M.G., F.R.S. (No. 90. 1891.) [Out of print.]

Meteorological Charts for the Ocean District adjacent to the Cape of Good Hope, with accompanying Remarks. (No. 43. 1882.) Charts, 25s.; Remarks, 7s.

Pacific Ocean:—

Quarterly Current Charts for the Pacific Ocean, from information collated and prepared in the Meteorological Office. Published by the Admiralty. (No. 134. 1897.) 5s.

Wind Charts for the Coastal Regions of South America, from information collated and prepared in the Meteorological Office. Published by the Admiralty. (No. 159. 1902.) 7s.

Red Sea:—

Meteorological Charts of the Red Sea. (No. 106. 1895.) 21s.

Southern Ocean:—

Meteorological Charts of the Southern Ocean between the Cape of Good Hope and New Zealand. (No. 123. 1907.) [Second Edition. 6s.]

OTHER PUBLICATIONS ON MARINE METEOROLOGY:—

Report to the Committee of the Meteorological Office on the Meteorology of the North Atlantic.—By Capt. H. Toynbee, F.R.A.S. (Non-Official, No. 2. 1869.) 1s.

Contributions to our Knowledge of the Meteorology of Cape Horn and the West Coast of South America. (No. 11. 1871.) 2s. 6d.

Routes for Steamers from Aden to the Straits of Sunda and back. Translated from a Paper issued by the R. Meteor. Inst. of the Netherlands. (Non-Official, No. 4. 1872.) [Out of print.]

On the Winds, &c. of the North Atlantic along the Tracks of Steamers from the Channel to New York. Translated from a Paper issued by the Deutsche Seewarte, Hamburg. (Non-Official, No. 5. 1872.) 6d.

Notes on the Form of Cyclones in the Southern Indian Ocean.—By C. Meldrum, M.A., F.R.S. (Non-Official, No. 7. 1873.) [Out of print.]

Contributions to our Knowledge of the Meteorology of the Antarctic Regions. (No. 18. 1873.) 2s.

On the Physical Geography of the part of the Atlantic which lies between 20° N. and 10° S. and extends from 10° to 40° W. A Paper read before the British Association at Bristol, in August, 1875.—By Capt. H. Toynbee, F.R.A.S. (Non-Official, No. 10. 1876.) [Out of print.]

Contributions to our Knowledge of the Meteorology of the Arctic Regions. (Official, No. 34. 1885.) Vol. I.: Part I., 2s.; II., 10s.; III., 6s.; IV., 5s.; V., 6s.

Report on the Gales experienced in the Ocean District adjacent to the Cape of Good Hope between Lat. 30° and 50° S., and Long. 10° and 40° E.—By Capt. H. Toynbee, F.R.A.S. (No. 44. 1882.) 7s. 6d.

5. Miscellaneous Publications.

Report of an Inquiry into the Connexion between Strong Winds and Barometrical Differences.—By Robert H. Scott. (Non-Official, No. 1. 1868.) 6d.

Report to the Committee of the Meteorological Office on the use of Isobaric Curves.—By Capt. H. Toynbee, F.R.A.S. (Non-Official, No. 3. 1869.) [Out of print.]

Report on the Storm of October 13-14, 1881.—By Robert H. Scott, F.R.S. (No. 46. 1882.) 1s. 6d. [Out of print.]

Harmonic Analysis of Hourly Observations of Air Temperature and of Pressure at British Observatories. (No. 93. 1891.) 12s.

Life History of Surface Air Currents. A Study of the Surface Trajectories of Moving Air.—By W. N. Shaw, Sc.D., F.R.S. (Director of the Meteorological Office) and R. G. K. Lempfert, M.A. (No. 174. 1906.) 7s. 6d.

APPENDIX III.

LIST of CAPTAINS who have sent in Logs classed as "Excellent" during the year ending March 31, 1907. Figures are attached to the name of each observer to show the number of "Excellent" logs which he has supplied during the whole time of his co-operation with the Office.

Name of Captain.	Number of "Ex- cellent" Logs.	Ship.
Andersson, C. B.	3	S.S. "African Prince."
Bayldon, F. J., Sub-Lieut., R.N.R.	3	S.S. "Malaita."
Beer, S.	1	S.S. "Clan MacPherson."
Belding, R.	7	Barque "Harold."
Bennett, C. D., Commr., R.N.R.	6	S.S. "Macedonia."
Clarke, J.	1	S.S. "Zent."
Decent, S. W.	—	S.S. "Druidstone."
East, H. Rayner	1	S.S. "Clan Macfadyen."
Harris, G. H.	1	S.S. "Worcestershire."
Hemming, H. O.	1	S.S. "Den of Ogil."
Heron, A.	3	S.S. "Alva."
Hurford, R.	5	S.S. "Ribera."
Kirkwood, R.	2	{ S.S. "Ocean Prince." S.S. "Carib Prince."
Millican, J. W.	28	S.S. "Greta Holme."
Monro, Commr. C. E., R.N. ...	2	H.M.S. "Rambler."
Montford, G. M., Commr., R.N.R.	1	S.S. "Sunda" (P. & O.).
Mullan, F. C., F.R.G.S. ...	20	S.S. "Ramsay."
Notley, F. B. Stuart	1	S.S. "Japan."
Pattman, R.	4	Barque "Loch Torridon."
Scudamore, J. H. H., Sub-Lieut., R.N.R.	2	S.S. "Manistee."
Simmons, S. H.	2	S.S. "Manistee."
Simpson, A.	44	S.S. "Moravian."
Sydney, H.	1	S.S. "Archtor."
Tait, T. A.	4	S.S. "Wellington."
Webster, G. S., Lieut., R.N.R.	6	S.S. "Lake Michigan."
Wilson, J. K.	2	S.S. "Kilbrennan."

APPENDIX IV.

METEOROLOGICAL REGISTERS received during the Year 1906-07.
(1.)—From the ROYAL NAVY.—*Meteorological Logs* (16).

H.M. Ship.	Commanding Officer.	Officers Observing.	No. of Registers received.	Duration of Observations.	Voyage.
"Cadmus" ...	{ H. de C. Luard (Com- mander). B. L. Majendie (Com- mander). B. L. Majendie (Com- mander). F. C. Learmonth (Captain). F. H. Walter (Com- mander).	{ Lieutenant H. L. L. Pennell ... Lieutenant J. R. Harvey ... Lieutenant C. H. Jones ... Commander C. W. C. Strickland ... Lieutenant Clement R. Dane ... Lieutenant K. E. L. Creighton ... Lieutenant Hon. C. F. Cavendish ... Assistant-Paymaster H. N. Jolliffe ...	{ 1 1 *2 2 *2 3 2 +1 2	Mths. Days. { 2 22 *1 0 4 2 7 19 6 2 8 8 11 24 5 14 3 25 6 3	In Chinese waters. Surveying off Esquimaux, &c. Surveying on West Coast of Central Africa off Sierra Leone, and to Gibraltar. To the Mediterranean. Surveying on Coast of Tasmania and Queensland. Surveying off British North Borneo, and to Hong Kong. Mediterranean Station. Surveying off Hong Kong.
(2.)—SPECIAL SERVICE.—Uncommissioned Ships (3).					
"Conway," School Ship.	H. W. Broadbent, R.N.R.	The Cadets ...	1	2 2	At Birkenhead.

Ship.	Captain.	Officers Observing.	No. of Registers received.	Duration of Observations.	Voyage.
"Maine," H.M. Hospital Ship.	F. J. Langedoc	...	...	1	To the Mediterranean.
"Richmond," Light-house Tender.	F. J. Lobb, Commander, R.N.	F. W. Holden	...	1	West Indies.
(3.)—From the MERCANTILE MARINE.—Meteorological Logs (249).					
"Active," S.S.	Alex. Murray	Walter Kinness	1	Mths. Days. 1 8	To Hudson's Bay.
"African Prince," S.S.	C. B. Andersson	W. J. Tomkins; C. W. Whalley	3	6 25	Between New York and Monte Video, and Cape Town.
"Ailsawald," S.S.	C. Vickers	{ R. Delaney; C. Vickers	1	{ 1 8	To Alexandria.
"Alva," S.S.	M. T. Hardy	J. L. Vaughan; J. H. Gaskell	1	{ 1 7	To Buenos Aires.
"Anglo-Australian," S.S.	A. Heron	W. Hansford; R. Pugh; — Garrick; — Lewis.	2	2 16	To Pacific Coast of South America.
"Aorangi," S.S.	O. H. Lewis	S. Mortimer; E. C. Mason; P. W. Grierson; H. Jarvis; — Cooper.	1	6 19	Between Brisbane and British Columbia.
"Archtor," S.S.	J. D. Sydney Phillips	W. Hayden; W. Hale; R. Dix; A. McInnis	2	4 10	To Mediterranean and Bahia Blanca, and to Monte Video.
"Arcdio Stream," Ship	H. Sydney	W. D. Comloquoy	1	9 27	To St. John (N.B.), Adelaide, Port Elizabeth (S.A.), Newcastle (N.S.W.), Mexico, Vancouver, and Sydney, N.S.W.
"Armada Castle," R.M.S.	C. C. Dixon	Digby E. Easton; W. Frances	1	11 13	To Cape Town.
	J. C. Robinson			3 16	

* And Aneroidograms.

† And Barometer registers, 18th September, 1905, to 25th March, 1906.

METEOROLOGICAL REGISTERS received during the Year 1906-07—continued.

(3.)—From the MERCANTILE MARINE.—*Meteorological Logs*—continued.

Ship.	Captain.	Officers Observing.	No. of Registers received.	Duration of Observations.	Voyage.
"Assyria," S.S. ... {	F. Blight ...	A. S. Brown ; T. W. Leslie ...	2	3 10	To Calcutta.
"Asuncion de Larri- naga," S.S. ...	J. Hamilton ...	J. Duncan ; R. A. Ferns ...	1	3 26	To Central America.
"Athenic," R.M.S. ...	C. H. Kempson, Lieut., R.N.R.	G. A. Alcock, R.N.R. ; J. L. Jones ; G. Morgan ; W. B. Starr ; V. W. Hickson, R.N.R. ; J. M. Morrow ; J. A. Alcock.	3*	8 26	To New Zealand.
"Atrato," R.M.S. ...	R. H. Stranger ...	J. Watts ; B. Page ; H. M. Williams ; D. R. Mason ; R. Clayton.	1	2 6	To West Indies and New York.
"Barranca," S.S. ...	W. Long ...	W. T. Forrester ; R. Lester Hatton ; G. W. Taylor ; N. S. Banks ; H. I. Ellis.	2	6 23	To Port Limon.
"Baron Ardrossan," S.S. ...	S. C. Kennedy ...	A. Fraser ...	2	5 18	To India, Japan and West Australia.
"Barton," S.S. ...	B. Maughan ...	I. J. Lewis ; H. S. Darks ...	2	7 2	To Java, thence to U.S. America, and Home. To Philadelphia.
"Bellarden," S.S. ...	P. MacLachlan ...	L. Petersen ; R. Blyth ; E. D. Ralph	2	4 1	To Pernambuco and Buenos Aires.
"Bombay," S.S. ...	H. A. Vicary ...	T. Fletcher ; A. Main ; Martin Bell	1	4 23	To India and Persia.
"Brighton," S.S. ...	A. Heron ...	P. A. Saunder ; F. Blackburn ...	1	3 3	To Pondicherry via Cape of Good Hope, and returning via Suez.
"Caledonia," S.S. ...	W. Mallett ...	... ..	1	2 6	To Monte Video.
"Candia" (P. & O.) S.S. ...	Jones, Owen, Commr., R.N.R.	Williams, A. R. T. ...	1	0 28	In Eastern waters, neighbour- hood of Singapore.
"Carib Prince," S.S. ...	R. Kirkwood ...	J. J. Purvis ...	1	2 10	To Syrian Coast.
"Castalia," S.S. ...	F. S. Blight ...	G. K. Wilson ; Tom W. Leslie ; F. P. Perkins.	1	1 19	To Bombay.

"Cayo-Soto," S.S. ...	E. C. Radder ...	...	R. Newlands; G. Ellis; T. G. Beer; A. R. Gibbons.	2	5	3	To Gulf of Mexico.
"Cevic," S.S....	W. H. Clarke ...	...	Morris Owen; J. Foyster; H. W. A. Staley; J. Jenkins; J. McRoskie; D. Gray; J. H. Jones; R. Swan.	3	10	27	To New York.
"Chirripo," S.S. ...	E. F. Jones ...	...	G. E. Martin; A. Riseley; A. E. Johnson.	2	6	20	To Port Limon.
"China," S.S. (P. & O.)	G. K. Wright, Commr., R.N.R. ...	...	A. Martell; J. B. Downes, R.N.R.; G. W. Taylor; H. Hillcoat; H. de Denne; A. R. T. Williams.	3	8	7	To Sydney, N.S.W.
"Clan Colquhoun," S.S.	H. Sumner ...	...	G. Scott; A. Thomson; —, Brocklebank; G. H. Openshaw; —, Haworth.	2	5	13	To India.
"Clan Gordon," S.S....	W. M. Porterfield, Lieut., R.N.R.	...	A. W. P. Gibb; E. Ludolf; T. W. Rodger; J. S. Bullock.	3	9	21	To India <i>via</i> Cape of Good Hope, returning <i>via</i> Suez.
"Clan Lindsay," S.S.	C. MacMahon ...	...	F. Temple; C. Laud; P. de Gruchy; J. Lawson.	1	2	13	To Calcutta.
"Clan Macfadyen," S.S.	H. Rayner East...	...	W. J. Mason; W. Howat; W. S. Cooper; F. W. Last; E. P. Nosworthy; R. Wardrop; J. T. Woodridge.	4	12	3	To India <i>via</i> Cape of Good Hope, returning <i>via</i> Suez.
"Clan MacIntyre," S.S.	A. Weir ...	...	G. E. Gourlay; J. Mackenzie; F. S. Piper.	1	2	1	To Bombay
"Clan McKinnon," S.S.	D. S. Smith ...	...	J. W. Swanston; W. A. Boyd; G. L. Kemp.	1	4	5	To India.
"Clan Macnab," S.S.	J. Goodwin ...	...	—, Turton; —, Lyall; —, Nanson	1	3	6	To Madras, <i>via</i> Cape of Good Hope, returning <i>via</i> Suez.
"Clan MacPherson," ... S.S.	S. Beer ...	...	R. Pill; T. A. Ensor; C. D. Worthington; R. O. Pratt.	1	3	0	To Natal, India, and returning <i>via</i> Suez.
"Clan Ogilvy," S.S....	R. C. Jones ...	...	T. H. Malpas; W. Smith; J. H. Bain; T. D. Matthews.	2	5	26	To India <i>via</i> Cape of Good Hope, returning <i>via</i> Suez.
"Clan Urquhart," S.S.	J. A. McPherson ...	...	C. Henderson; D. McKinnon; R. Logan; E. S. Boddington; E. Shepherd; F. Baird.	3	6	3	To India.
"Corinthic," R.M.S....	H. F. David, Lieut., R.N.R.	...	C. C. Cartwright; E. Cromack; A. S. Gilbert, R.N.R.; S. S. Richardson, R.N.R.; J. Foyster.	3	9	6	To New Zealand.

* And notes on Sunspots, Currents, &c.

METEOROLOGICAL REGISTERS received during the Year 1906-07--continued.
 (3.)—From the MERCANTILE MARINE.—*Meteorological Logs*—continued.

Ship.	Captain.	Officers Observing.	No. of Registers received.	Duration of Obser- vations.	Voyage.
				Mths. Days.	
"Crown of Navarre," S.S.	Geo. Grindlay ...	W. Baird; R. F. Herschel; J. S. Houston; J. Crammonth; J. Ruhe.	1	5 23	To West Indies and North American Ports.
"Den of Ogil," S.S. ...	H. C. Hemming ...	G. Moodie; E. Twidle; Tom D. Edwards.	1	7 19	To Singapore, Australia, and home.
"Dominic," S.S. ...	W. Smale ...	H. C. Storer; J. Burns; J. Pearse ...	1	2 25	To Galveston, &c.
"Druidstone," S.S. ...	{ S. W. Decent ... H. Hains ...	...	2	6 0	To Mediterranean Ports.
"Drumeldrie," S.S. ...	E. A. Woodward ...	F. Baylis; T. W. N. Tidball; T. M. Day; H. G. Park.	2	4 23	To Buenos Aires.
"Dunbar Moor," S.S. ...	W. B. Barton ...	G. Knott; J. Whitehead; R. M. Martin, R.N.R.	2	4 26	To Buenos Aires, &c.
"Durham Castle," S.S.	F. J. Moseley, Commr., R.N.R.	A. H. Blackman ...	2	6 13	To Cape Town.
"East Point," S.S. ...	L. R. W. Beavis ...	H. Sims; G. R. Parker ...	2	7 3	To Philadelphia.
"Eclipse," S.S. ...	Wm. Milne ...	...	1	6 27	To Davis's Straits, &c.
"Edendale," S.S. ...	T. McDonald, Lieut., R.N.R.	J. T. Simpson; A. Leask ...	1	3 24	To the Mediterranean.
"Egypt," R.M.S. (P. & O.).	J. R. Lendon ...	W. H. P. Sweny; G. W. Taylor; J. H. A. Smith; G. H. S. Furlong; R. Mallalue; E. Bent; R. M. Gardner; H. Fowler; F. E. French; S. G. Richardson.	2	5 15	To Bombay.
"Empress of China," R.M.S.	R. Archibald ...	...	1	3 20	Between Vancouver and China via Japan.
"Empress of India," R.M.S.	E. Beetham, Lieut., R.N.R.	W. F. Boaden, R.N.R. ...	1	3 28	Between Vancouver and China via Japan.
"Empress of Japan," R.M.S.	H. Pybus, Commr., R.N.R.	C. E. Daniel, R.N.R.; P. McCalmont	2	7 18	Between Vancouver and China via Japan.

"Erne," Ship...	G. T. Dann	...	...	...	...	1	10	20	To Jamaica, Calcutta, Demerara and home, To Taltal.
"Eva Montgomery," Ship.	Hugh Docherty	...	...	...	...	1	6	16	
"Fenay Lodge," S.S.	G. L. Burnley	...	...	...	...	1	2	18	To Brazil, United States and home.
"Glenelg," S.S.	A. Hart	...	...	...	...	2	6	26	To Indian Ports, &c.
"Glenlee," S.S.	J. T. Norrie	...	...	...	...	3	9	27	Between India, Japan, and Australia, thence home.
"Goorkha," S.S. (U.C.S.S.)	F. J. Moseley, Commr., R.N.R.	...	...	...	...	1	3	6	To Cape Town.
"Greta Holme," S.S.	J. W. Millican	...	...	...	...	2	7	12	Between Buenos Aires and South Africa.
"Harold," Barque	R. Belding	...	...	...	...	1	11	14	Glasgow to Australia, Coquimbo, Vancouver (B.C.) towards S. Africa.
"Hesione," S.S.	A. E. Cleaver	...	...	...	...	1	1	24	To Monte Video.
"Hostilius," S.S.	H. R. C. Lockyer	...	...	...	...	1	4	1	From Lat. 0° 28' S. to Boston, Long. 47° 22' W. thence 2 voyages to Monte Video returning to Hamburg.
"India," R.M.S. (P. & O.).	F. W. Vibert, Commr., R.N.R.	...	...	...	...	3	7	22	To Sydney, N.S.W.
"Ionic," R.M.S.	J. O. Carter, Lieut., R.N.R.	...	...	...	...	2	5	27	To New Zealand.
"Japan," R.M.S.	Notley, F. B. Stuart Lieut., R.N.R.	...	...	...	...	1	2	10	To Calcutta.
"Jason," S.S.	T. G. Steeves	...	...	...	...	2	5	24	To China and Japan.
"Kaikoura," S.S.	{ R. C. Clifford A. W. McKellar, Lieut., R.N.R.	...	...	...	...	1	3	7	To New Zealand.
		...	...	...	...	1	3	8	

METEOROLOGICAL REGISTERS received during the Year 1906-07—continued.

(3.)—From the MERCANTILE MARINE.—*Meteorological Logs*—continued.

Ship.	Captain.	Officers Observing.	No. of Registers received.	Duration of Observations.	Voyage.
"Kaipara," S.S. ...	{ A. W. McKellar, Lieut., R.N.R. N. R. de la Cour Corn- wall, Lieut., R.N.R. J. K. Wilson ...	E. E. Kettle; R. C. Norris ...	1	Mths. Days. 3 0	To New Zealand.
"Kilbrennan," S.S. ...	...	G. E. Worthington; W. B. Holdstock; H. J. Bradshaw; E. F. Harris. D. B. Macfarlane; J. M. Smith; A. W. Richmond; A. S. Marshall; R. P. W. Stevens.	3	4 13	To Monte Video and New Zealand.
"Kilbride," S.S. ...	A. J. Gibson ...	...	2	9 15	To Rangoon and Calcutta via Cape of Good Hope, returning via Suez.
"Kildonan Castle," R.M.S.	J. Tyson ...	—, Cook	1	3 29	To Calcutta and trading locally.
"Kilkerran," S.S. ...	T. Smith ...	W. C. C. Plage; H. Horn; A. C. R. Reid; F. Fife.	1	3 7	To Cape Town.
"Kincraig," S.S. ...	D. Campbell ...	...	2	6 0	To Calcutta via Cape of Good Hope, returning via Suez.
"Knight of the Thistle," S.S.	G. S. Baker ...	R. M. Brown; G. P. Hall; H. Parnell.	2	6 6	To Calcutta via Cape of Good Hope, returning via Suez.
"Lake Michigan," S.S.	{ G. S. Webster, Lieut., R.N.R. H. Parry ... W. J. Dagnall ...	J. A. Howard; E. Landy ...	{ 2 1	5 15 3 11	To Vladivostock via Porto (out- ward passage only).
"La Plata," R.M.S.	W. H. Bennett - Trigge, Lieut., R.N.R. W. Anderson ...	H. Bennett; T. A. Hill; S. Braith- waite; F. Kirby; J. B. de la Bere; G. E. Martin. T. A. Hill; —, Kennett; A. E. Roe; T. A. Rainey; G. Openshaw. A. Duncan ...	1	5 18	To British North America.
"Loch Katrine," Barque.	...	...	1	0 25	To West Indies and New York.
			1	6 11	To Melbourne.

"Lord Roberts," S.S.	J. B. Boal	...	W. L. Clibborn; H. T. Owers	...	1	3	24	To New Orleans (outward passage to Galveston).
"Loch Tay," Barque	T. C. Martin	...	Walter Holland	...	1	6	21	To Melbourne.
"Loch Tay," S.S.	Jas. Stephen	...	H. Hay; W. Yule; C. Anderson	...	1	3	14	To Japan and Eastern Ports.
"Loch Torridon," Barque.	R. Pattman	...	Neville Chapman Wright; Ilthead Dillwyn Llewellyn.	...	1	6	18	To Melbourne.
"Macedonia," S.S. (P. & O.).	C. D. Bennett, Commr., R.N.R.	...	A. B. Armitage; B. J. Ohlson; F. Sudell; P. O. Britten; L. Unicume; G. W. Taylor.	...	3	6	24	To Bombay and Sydney, N.S.W.
"Magdalena," S.S.	C. E. Down	...	J. Lecky...	...	1	3	6	To Buenos Aires.
"Maharatta," S.S.	W. Ellery, Junr.	...	W. Gregory; W. Paisley; L. Davies; J. Follit; J. Taltentire.	...	2	6	7	To New York and West Indies. To Calcutta.
"Manchester Corporation," S.S.	P. J. Heath	...	R. Garrett; R. Smith; C. Tattersall.	...	2	7	26	To Philadelphia.
"Manchester Shipper," S.S.	A. T. Haworth	...	W. P. Ballantine; W. P. Humphries	...	1	4	0	To Montreal.
"Manistee," S.S.	S. H. Simmons	...	...	...	1	1	4	To Port Limon.
	J. H. H. Scudamore, Sub-Lieut., R.N.R.	...	...	...	1	2	13	
	D. Reside	...	R. S. Osbon; M. J. Swords; H. A. Deane.	...	1	1	4	
"Maori," S.S.	S. H. Simmons	...	W. F. Clark; W. P. Clifton Mogg; F. E. Lambert; H. C. Roberts; W. Titherley; M. Andrew.	...	2	3	11	To New Zealand.
	G. Nicole	...	S. G. Elcoate; F. J. Downes; E. P. Green; B. Hope; J. Johnston; W. Hudson.	...	2	6	14	
"Matina," S.S.	E. W. Castle	...	R. Youle; T. Rae; D. Romney	...	2	7	15	To Port Limon.
"Meinwen," Barque...	R. H. Potter	...	F. Peake; H. James; J. Letts	...	1	6	22	To Melbourne (outward passage) and to Lat. 43° S. and Long. 134° E. on homeward passage. To China.
"Merionethshire," S.S.	C. H. Burch	...	A. W. Hartley...	...	1	4	2	To Port Limon.
	J. H. H. Scudamore, Sub-Lieut., R.N.R.	...	...	...	1	3	12	
	D. Reside	...	W. A. Kellsall...	...	1	1	1	
"Miami," S.S.	J. H. H. Scudamore, Sub-Lieut., R.N.R.	...	...	...	1	3	24	

METEOROLOGICAL REGISTERS received during the Year 1906-07.—*continued.*(3.)—*From the MERCANTILE MARINE.—Meteorological Logs—continued.*

Ship.	Captain.	Officers Observing.	No. of Registers received.	Duration of Observations.	Voyage.
"Minia," S.S.	W. G. Squares de Carteret	J. Adams; R. Wyllie; M. J. Comyn; G. H. Furneaux.	1	Mths. 7 Days. 21	In the neighbourhood of Halifax, (N.S.). Cable laying.
"Monarch," S.S.	J. Wrake	A. Broadbridge; W. Blyth; F. Ramsay	1	3 27	Off Coast of British Isles. (Cable repairing.)
"Monmouthshire," S.S.	G. E. Warner, Lieut., R.N.R.	J. C. Hancock	1	4 13	To China and Japan, and homeward passage to Red Sea.
"Monomoy," S.S.	A. J. A. Mann	Jas. Sutherland; W. Langford; G. B. Simpson; F. E. Cooper; G. Kidwell	2	11 7	To Gulf of Mexico. To New York.
"Moravian," S.S.	A. Simpson	G. A. Elrick; H. Neider; A. F. Totem; B. Banks; J. H. Laker.	3	9 3	To Melbourne.
"Morning," S.S.	Wm. Adams	Douglas Fairweather	1	6 23	To Davis's Straits, &c.
"Napoleitan Prince," S.S.	H. A. Eagleton, Commr., R.N.R.	W. H. Astley; W. P. Greenfield; D. Skinner; —, Campbell; G. T. St. John; W. Marlow; J. Fencott.	2	7 21	Between New York and Naples.
"Nicaraguan," S.S.	C. E. Shacklock	A. G. Large; L. W. W. Potts; A. J. Carter.	3	5 29	To Central America <i>via</i> ports.
"Nicoya," S.S.	D. Reside	...	1	2 9	To Jamaica and Port Limon.
"Nonsuch," S.S.	S. H. Simmons	...	1	1 4	
	S. H. Simmons	A. Belyea	1	3 26	
	A. G. Alston, Lieut., R.N.	E. D. W. Lawford	1	2 27	To Buenos Aires, Central America and home.
"Nubia," S.S. (P. & O.)	F. J. Fox	F. W. Bowhill, R.N.R.	1	3 15	To China and Japan.
"Numidian," S.S.	W. S. Main	J. Muir; R. McAlister	2	7 27	To New York and British North American ports.
"Oceana," S.S.	John Gray	A. Muir; J. Worthington	1	3 14	To Hong Kong thence to Boston U.S.A. <i>via</i> Suez.
"Ocean Prince," S.S.	R. Kirkwood	C. R. Jowsey	2	6 14	To Syria.

"Omrah," R.M.S.	F. S. Symons	...	W. S. Shelford; D. R. W. Parsons, R.N.R.; J. Withers, R.N.R.; H. S. Seale; A. H. Fraser, R.N.R.; A. Fielding, R.N.R.	3	8	12	To Sydney, N.S.W.
"Ophir," R.M.S.	F. W. Kershaw, Lieut., R.N.R. D. R. W. Parsons, Lieut., R.N.R. A. J. Coad, Lieut., R.N.R. J. Clarke — Swain J. P. Forsdick Geo. Caie A. J. Coad, Lieut., R.N.R.	...	D. R. W. Parsons, R.N.R.; T. Taylor; F. B. Owen; R. Sutor, R.N.R. R. W. J. Marshall, R.N.R.; J. Avern; S. C. Peacock, R.N.R. G. Simmons, R.N.R.; A. H. Bird, R.N.R.; G. L. Simner, R.N.R. W. B. Davis; W. C. Smith; A. E. Johnson. A. L. Rose Alex. Reedy; J. McDonald P. N. Layton; J. Avern; G. Renshaw; T. Seymour. P. N. Layton; J. Avern; G. Renshaw; T. Seymour; M. Glazebrook. J. T. Healey, R.N.R.; T. Taylor; C. G. Matheson, R.N.R.; H. C. Brewster, R.N.R.; J. B. Owen; R. W. J. Marshall, R.N.R.; L. A. Brooke Smith. W. Smith; J. Johnson; W. G. Easton; H. Spencer. W. Olphert; G. Worthington; Gordon Stables.	1	2	15	To Adelaide.
"Oracabessa," S.S.	1	2	23	To Norway.
"Orari," S.S.	1	2	16	To Adelaide
"Orcadian," S.S.	1	3	25	Port Limon.
"Ormuz," R.M.S.	1	3	8	To New Zealand.
"Orontes," S.S.	1	3	15	To Monte Video.
"Orontes," S.S. (P. & O.).	1	2	17	To Adelaide.
"Pacuaire," S.S.	2	5	2	To Adelaide.
"Papanui," S.S.	3	7	10	To Adelaide.
"Paparua," R.M.S.	1	4	1	To Gulf of Mexico.
"Persia," S.S.	1	1	17	To New Zealand.
"Port Antonio," R.M.S.	1	1	17	From New Zealand.
"Port Henderson," R.M.S.	1	3	6	To New Zealand.
"Port Kingston," S.S.	2	3	5	To Calcutta.
"Port Kingston," S.S.	2	8	3	To Calcutta.
"Port Kingston," S.S.	1	0	27	To Jamaica.
"Port Kingston," S.S.	1	2	19	To Jamaica.
"Port Kingston," S.S.	2	7	3	To Jamaica.

METEOROLOGICAL REGISTERS received during the Year 1906-07—continued.

(3.)—From the MERCANTILE MARINE.—*Meteorological Logs*—continued.

Ship.	Captain.	Officers Observing.	No. of Registers received.	Duration of Observations.	Voyage.
"Port Royal," S.S. ...	Owen Jones ...	Francis M. R. Carter; E. A. Brown; H. Owens; K. R. S. Davies.	2	Mths. Days. 4 16	To Jamaica.
"Potosi," S.S. ...	A. T. D. Pearson ...	— Downing; — Hayes; — Griffiths.	1	7 15	To Callao <i>via</i> ports.
"Radnorshire," S.S. ...	C. H. Burch ...	— Horne; — Morris; — Robertson.	1	3 29	To China and Japan.
"Ramsay," S.S. ...	F. C. Mullan, F.R.G.S.	R. Bailey; G. Geddes; W. Wittre ...	3	6 1	To Cape Town, Japan, New York (<i>via</i> Suez) and Hamburg.
"Ranza," S.S. ...	G. H. Arnot, Lieut., R.N.R.	S. H. Bland; E. A. Farmer; C. P. Lenton; J. R. F. M. Holker.	3	9 15	Between America and the East <i>via</i> Suez, &c.
"Ribera," S.S. ...	R. Hurford ...	M. A. Clifford; H. A. Houchin; J. Rogers.	1	3 14	To North Carolina (U.S.A.) and Monte Video.
"Rimutaka," R.M.S. {	J. J. Cameron ...	... " " " " " " " "	1	2 25 {	To New Zealand and return pas-
	H. E. Greenstreet	S. J. Plummer; P. Linsted; R. Murray; L. Upton.	1	2 29 }	sage to Teneriffe.
"Ruapehu," S.S. {	Francis Mayoss, Lieut., R.N.R.	... " " " " " " " "	1	1 14 {	To New Zealand.
	T. S. Weston ...	... " " " " " " " "	—	1 15 }	
"Saba," S.S. ...	H. E. Holliday ...	A. E. Webster; A. G. Maskell	1	3 25	To West Indies.
"Scotia," S.S. ...	Thos. Robertson ...	R. C. Mossman, F.R.S.E. ...	1	3 6	In Greenland Seas.
"Segura," S.S. ...	E. W. Morrison ...	R. H. Kitson; R. Dadd ...	1	4 20 {	To River Plate, Teneriffe, New-
					port News, <i>via</i> Cuba and home.
"Shira," S.S. ...	J. Cann ...	J. C. Chamberlain ...	1	2 3	From Vigo to West Indies and home.
"Sierra Lucena," Ship	E. Vooght ...	E. Castley; J. Vooght ...	1	15 1	To Bombay.
"Sunda," S.S. (P. & O).	G. M. Montford, Commr., R.N.R.	W. M. Brues; C. F. Halliday; J. Plumpton; C. R. Kettlewell.	2	5 11	To Hong Kong, Paget Sound, S. Australia and home. To Japan and Calcutta.

"Tagus," R.M.S.	H. D. Doughty ...	F. Bateman; G. E. Hyatt; E. S. Owen; J. Longwood.	1	4	1	To West Indies, Colon, and New York.
"Thames," R.M.S. (P. & O.).	C. Laws ...	E. S. Owen; C. Cavenan; A. W. Hudson.	1	3	16	To New York via W. Indies and Central America.
"Tongariro," R.M.S.	R. H. Stranger ...	E. S. Owen; A. W. Hudson; A. W. Taylor.	1	3	16	To Vigo, the West Indies, New York and home.
"Tudor Prince," S.S.	Horace E. Rudge	F. E. Ayres; D. R. Mason; W. S. Lea.	2	7	8	To Buenos Aires via ports.
"Urmston Grange," S.S.	I. A. Sutcliffe ...	R. R. Neale; C. Milner; A. E. Benton; M. Downton; — Boucicault.	2	5	27	To New Zealand.
"Valentia," S.S.	J. E. Curtis ...	R. Macdonald; H. B. Martin	2	5	1	To Monte Video, &c.
"Vectis," S.S.	Walter Keslake...	H. G. Wheeler; T. Winter; E. A. Shattock.	1	3	11	To Eastern Waters, Japan and North Pacific. Cable laying.
	G. H. Wheeler ...	W. E. Moses, R.N.R.; F. Winter; E. A. Shattock, R.N.R.	1	2	5	To Monte Video.
	O. Richards ...	... ..	1	4	8	To Monte Video.
	A. Thompson ...	{ C. C. McCoy, R.N.R.; A. F. Vine, R.N.R.; W. H. F. Warren, R.N.R.; W. Rollis; H. J. Norris, R.N.R.; — Cole; — Pearce; S. C. Warner; N. S. A. Watson; S. S. Marsden. M. Paramor; S. J. Plummer; H. Harper.	2	6	7	To the Mediterranean. To Scandinavian ports, &c.
"Waimate," S.S.	J. P. Forsdick ...	... ..	1	3	10	To New Zealand.
"Wakanni," S.S.	E. T. Smith, Lieut., R.N.R.	... ..	1	3	9	To New Zealand.
"Waverley," S.S.	V. C. White-Parsons ...	P. P. Crawford; H. E. W. Whitehead; C. G. Tonge; W. F. Goddard.	1	3	13	To New Zealand.
	H. Wheatley ...	J. Edmondson; R. A. Cole ...	1	4	0	To Port Arthur (U.S.A.), Danish ports, St. Vincent, Savannah (U.S.A.), Bremen, To Mediterranean.
"Weardale," S.S.	T. McDonald, Lieut., R.N.R.	R. J. Gauget ...	1	2	9	To Black Sea ports, &c.
"Wellington," S.S.	T. A. Tait ...	W. Donovan; D. Thomas; R. K. Watkins; J. N. Shipton; F. S. Redgrove.	3	12	0	To Black Sea ports, &c.
"Whakatane," S.S.	L. G. Silba ...	2nd., 3rd., and 4th. Mates ...	1	3	8	To Melbourne.
"Winkfield," S.S.	T. Atkinson ...	W. R. Smith; P. I. Lee; W. M. O'Connell.	2	6	6	To South America.

METEOROLOGICAL REGISTERS received during the Year 1906-07—continued.

(3.)—From the MERCANTILE MARINE.—*Meteorological Logs*—continued.

Ship.	Captain.	Officers observing.	No. of Registers received.	Duration of observations.	Voyage.
"Worcestershire," S.S.	G. H. Harris ...	W. Stanley; C. Bullen; T. Jones; A. S. Coates.	1	Mths. 2 Days 1	To Rangoon.
"Xema," S.S.	H. J. T. Grey, Lieut., R.N.R.	W. O. C. Whale, R.N.R. ...	1	1 19	To Mauritius (outward passage).
"Zent," S.S. ...	J. E. Clarke ...	H. Woolbright; G. Petheram; Wm. McClay; A. W. Hartley; E. H. Inglis.	3	10 7	To Port Limon, &c.

(4.)—ABBREVIATED METEOROLOGICAL REGISTERS.

(a.) From the Royal Navy (—).

(b.) From the Mercantile Marine (11).

Ship.	Captain.	Officers Observing.	No. of Registers received.	Duration of Observations.	Voyage.
"Arana," S.S....	R. Walton ...	R. W. Yeates; W. Wall; W. Durbridge; M. Fraser.	6	Mths. 4 Days 8	To Spanish Ports.
"Canara," S.S.	T. Kerr, Lieut., R.N.R.	P. J. Wildman-Lushington ...	2*	5 15	Between Sydney, N.S.W., and New Hebrides.
"Malaita," S.S.	F. J. Baylton, Sub-Lieut., R.N.R. ...	... ..	1†	1 25	Singapore to New York.
"Pathan," S.S.	W. Ransom Colman ...	E. H. Tabrum ...	{ 1 1	1 20 0 15	Newport News to Antwerp.

* And pressure and temperature diagrams.

† Hydrographic notes and tracings of Charts of Tanna and Erromanga.

METEOROLOGICAL REGISTERS received during the year 1906-07
—continued.

(5.)—NORTH ATLANTIC REGISTERS—FORM No. 51 (1940)..

INDIAN OCEAN REGISTERS—FORM No. 66 (193).

Line.	Ship.	Captain.	No. of Registers
Allan	Buenos Ayrean...	J. T. Gambell	2
	Carthaginian	J. S. Hamilton	14
	Corinthian	J. Williams	
	Hibernian	T. Pickering	15
	Hungarian	H. Imrie... ..	15
	Ionian	W. Wallace	15
		J. W. Nunan	15
	Laurentian	E. Pitts, Commr. R.N.R.	17
		J. Henderson	
		B. Henry	
	Mongolian	J. T. Gambell	14
		M. Stirrat	
		J. Henderson	
	Numidian	E. Pitts, Commr. R.N.R.	19
	Ontarian	W. S. Main	16
		J. Williams	
	Oxonian	G. Hamilton	2
	Parisian	W. Dickinson	3
	Pomeranian	J. M. Johnston... ..	16
		J. Harrison	
	Pretorian	A. Rennie	19
	Sardinian	E. Outram	12
	Sarmatian	T. Moar	11
		A. Rennie	
	Siberian	J. Henderson	4
	Sicilian	B. Henry	11
	Tunisian... ..	B. T. Eastaway... ..	20
	Victorian	J. A. Fairfull	15
	Virginian	A. G. Braes	16
American	Friesland	A. Macnicol	2
	Haverford	A. H. Vipond	8
		C. J. Rogers	
	New York	H. O. Nielsen	13
	Noordland	E. Maddox	19
	Philadelphia	W. J. Roberts	10
	St. Louis	T. Deans... ..	12
	St. Paul	A. R. Mills	10
Anchor	Westernland	J. C. Jamison	11
	Astoria	F. M. Passow	18
	Circassia	W. W. D. Turner	4
"Arana" S.S. Co.	Dalmatia	J. Lumsdane	4
	Arana	A. Haig	12
"Armenia" S.S. Co.		W. Kelso... ..	1
	Armenia	R. Walton	6
Atlantic Trans- port.		E. B. Mackness... ..	8
	America		7
	Europe	W. Johnston	
		J. T. J. Wylie	
	Mackinaw	W. H. Whittle, Lieut. R.N.R.	
		A. T. Musselwhite	
		J. G. Hutchison	

METEOROLOGICAL REGISTERS received during the year 1905-06
—continued.

Line.	Ship.	Captain.	No. of Registers.
Atlantic Trans- port—cont.	Manhattan	G. L. Goudie	2
	Maryland	O. P. Clarke	12
	Menominee	H. B. Pope	
		C. H. Stapleton, Lieut. R.N.R.	16
	Mesaba	F. W. Tubb	24
	Minneapolis	T. F. Gates	16
	Minnehaha	J. C. Robinson	22
	Minnesota	P. Laverock	9
	Minnetonka	S. Layland	21
	Montana... ..	J. McMath	16
"Bellailsa" S.S. Co.	Bellailsa... ..	O. O. Aagaard	6
"Bellona" S.S. Co.	Bellona	F. Rollo	5
	Latona	F. Rollo	7
Bibby	Cheshire... ..	H. P. Langston... ..	6
	Derbyshire	E. Robin... ..	4
	Shropshire	H. Richmond	6
	Worcestershire	G. H. Harris	4
Blue Anchor ...	Wilcannia	W. G. Lingham	9
Bolton Shipping Co.	Ramsay	F. C. Mullan	2
Booth S.S. Co. ...	Boniface... ..	G. C. Westray	6
	Dominic... ..	W. Smale	3
Bowles Brothers	Nonsuch	A. G. Alston, Lieut. R.N.	1
Bowring, C. T. & Co.	Roda	W. R. Bennett	11
Bristol "City" ...	Chicago City	W. M. Hunter	5
British India ...	Avoca	E. H. Garland	8
	Canara	T. Kerr	4
	Dilwara	D. Macfadyen	6
	Manora	A. Sanders	2
	Matiana ... ..	... ..	1
British and Bur- mese.	Arracan	W. Duguid	3
Brocklebank ...	Matheran	N. Bannatyne	3
Bucknall ...	Amatonga	R. Linklater	1
	Baralong	A. Lee	3
	Bechuana	J. A. Smith	1
	Buceros	J. Hutcheon	1
	Bucrania	W. Keasley	1
	Koranna... ..	W. B. Renwick	7
	Swazi	A. W. Dobbs	1
Buenos Ayres and Great Southern Railway Co.	Frank Parish	D. B. Jones	6

METEOROLOGICAL REGISTERS received during the year 1906-07
—continued.

Line.	Ship.	Captain.	No. of Registers
Canadian - Pacific Railway Co.	Lake Erie	F. Carey	2
	Lake Manitoba...	J. A. Murray	16
		W. Stirratt	
		G. C. Evans	
	Lake Michigan ...	G. S. Webster, Lieut. R.N.R.	10
		H. Parry... ..	
	Milwaukee	H. G. Potter	7
	Monmouth	R. Ward... ..	14
Century Shipping Co.	Montcalm	C. Hodder	6
	Montfort	A. E. Evans	16
	Swanley... ..	J. P. Dawson	4
Clan	Clan Macfadyen ...	H. R. East, Lieut. R.N.R.	4
	Clan Macintosh ...	W. J. Lennox	9
	Clan MacLeod	W. J. Lennox	5
Compagnie Générale Transatlantique.	La Touraine	— Fajolle	8
"Crown" S.S. Co.	Crown of Navarre ..	G. Grindlay	4
Cunard	Aleppo	G. F. Jeffries	2
	Brescia	A. G. Dunning	3
	Campania	R. C. Warr	10
	Carmania	J. Pritchard	19
		J. B. Watt	
	Caronia	J. C. Barr	12
		J. Pritchard	
	Carpattia	E. H. Pentecost	9
	Cypria	H. N. Goulden	5
	Etruria	T. Potter	5
	Ivernia	W. Turner	23
	Lucania	J. B. Watt	11
		J. C. Barr	
	Pannonia	H. M. Benison, Lieut. R.N.R.	11
	Pavia	C. A. Smith, Lieut. R.N.R.	10
	Saxonia	J. T. W. Charles, Lieut. R.N.R.	21
	Slavonia	W. F. D. Taylor	6
	Sylvania... ..	W. B. Cresser, Lieut. R.N.R.	22
	Tyria	J. S. Carbines	10
	Ultonia	— Thomson	2
"Devona" S.S. Co.	Devona	D. R. Murray	18
Dominion	Canada	R. O. Jones	19
	Cornishman	J. H. A. Thornton ...	21
		T. Howell	
	Dominion ... ..	... ..	1

METEOROLOGICAL REGISTERS received during the year 1906-07
—continued.

Line.	Ship.	Captain.	No. of Registers.
Dominion—cont.	Irishman ...	J. Evans ... C. Merrick ... W. Roberts ...	8
	Kensington ...	W. Roberts ... M. H. Morle ...	
	Norseman ...	J. Evans ...	
	Ottoman ...	T. Howell ...	7
	Southwark ...	J. O. Williams ...	6
	Welshman ...	J. H. Kay ...	18
Dunn, C. G. & Co.	Foxton Hall ...	— Scott-Kilvert ...	1
	Newton Hall ...	A. C. Hostler ...	4
Elder, Dempster	Addah ...	W. E. Potter ...	6
	Agberi ...	R. Roberts ...	9
	Karina ...	H. A. Yardley ...	4
	Nigeria ...	H. A. Yardley ...	6
	Port Antonio ...	O. Jones ... W. R. Rowe ...	6
	Port Henderson ...	W. R. Rowe ...	
	Port Kingston ...	J. G. Parsons ... J. G. Little, Lieut. R.N.R.	6
	Port Royal ...	O. Jones ...	
	Salaga ...	R. Roberts ...	1
Elders & Fyffes...	Barranca ...	W. Long ...	11
	Manistee ...	J. H. H. Scudamore, Sub-Lieut. R.N.R.	2
	Matina ...	E. W. Castle ...	12
	Miami ...	J. H. H. Scudamore Sub-Lieut. R.N.R.	14
	Nicoya ...	D. Reside ... S. H. Simmons ...	14
	Pacuare ...	B. G. Drake, Lieut. R.N.R.	
	Zent ...	J. Clarke ...	2
			14
Ellerman ...	City of Athens ...	J. Wilson ...	3
	City of Benares ...	W. Greenhorn ...	2
	City of Bombay ...	N. McNeil ...	2
	City of Corinth ...	J. R. Rae ...	2
	City of Karachi ...	F. Snow ...	2
	City of Khios ...	D. Cruickshank ...	8
	City of Sparta ...	A. J. Elliott ...	2
	City of Vienna ...	D. Morrison ...	2
Elswick S.S. Co.	Elswick Grange ...	G. Wilson ...	4
English & American Shipping Co.	Inca ...	G. Muir ...	5
	Mokta ...	E. E. Cooper ...	1
	Mora ...	E. E. Cooper ...	2
European Petroleum Co.	Broadmayne ...	H. A. Hayns ...	6
(Foreign) ...	Dania ...	A. Hansen ... P. Petersen ...	11
	Maine ...	—, Prager ...	
			2
Furness & Nephews	Cynthiana ...	E. Evans ...	4

METEOROLOGICAL REGISTERS received during the year 1906-07
—continued.

Line.	Ship.	Captain.	No. of Registers
Gaelic S.S. Co. ...	Cairnalt ...	G. Matthewman ...	1
Glynn, J. ...	Albiana ...	E. Trinick ...	14
Gulf Transport...	Ikbal ...	— Robertson ...	6
	Imani ...	J. Jamison ...	1
	Imaum ...	G. Wigdhal ...	1
	Indore ...	C. Mytton ...	15
	Irada ...	E. A. Alcide ...	
	Irak ...	A. W. Roberts, Lieut. R.N.R.	11
	Istrar ...	A. Delargy ...	9
H.M.S. ...	Brilliant...	C. M. M. Jacob ...	4
Harrison ...	Civilian...	R. H. Anstruther, R.N.	3
	Colonial ...	G. Goldman ...	1
	Counsellor ...	C. S. Rhodes ...	2
	Craftsman ...	D. G. Cownie ...	10
	Historian ...	G. Goldman ...	3
	Huntsman ...	J. Valiant ...	14
	Logician... ..	C. S. Rhodes ...	7
	Musician ...	P. Lord ...	2
Hine, W. ...	Tactician ...	G. B. Woolfenden ...	4
		R. Owen... ..	3
Hine, W. ...	Greta Holme ...	J. W. Millican ...	1
Hogarth Ship- ping Co.	Baron Eldon ...	A. G. Parker ...	1
Holman, R. H. ...	Archtor ...	H. Sydney ...	1
Houston... ..	Hostilius ...	H. R. C. Lockyer ...	5
"Hurona" S.S. Co.	Hurona ...	J. Dorward ...	16
"Jacona" S.S. Co.	Jacona ...	W. Lindsay ...	5
Johnston ...	Vedamore ...	W. Henry ...	18
"Kincraig" S.S. Co.	Kincraig... ..	D. Campbell ...	1
"La Veloce" ...	Nord America ...	A. Poggi... ..	2
Laing S.S. Co. ...	Swaledale ...	E. W. Manship ...	3
Leyland ...	Asian ...	J. E. Bartlett ...	8
		W. E. Wood ...	
	Atlantian ...	A. H. Highton ...	4
	Bostonian ...	J. Parry ...	4
	Californian ...	F. A. Parkin ...	2
	Colonian... ..	T. Chadwick ...	7
	Cuban ...	T. W. Lofthouse ...	6
	Darien ...	J. Robinson ...	7
	Devonian ...	A. W. V. Trant ...	11
	Iberian ...	T. B. Jago ...	6
	Indian ...	J. E. Bartlett ...	6

METEOROLOGICAL REGISTERS received during the year 1906-07
—continued.

Line.	Ship.	Captain.	No. of Registers.
Leyland—cont. ...	Jamaican	J. Robb	6
	Nicaraguan	C. E. Shacklock	2
	Tampican	J. W. Westcott	10
	Winifredian	F. Shepherd	15
		J. H. A. Thornton	
Manchester Liners	Manchester Corpora- tion.	P. J. Heath	13
		— Parry	
	Manchester Shipper	A. T. Haworth	1
Milburn	Port Augusta	S. M. Orr	2
	Port Phillip	F. R. Evans	2
Nederland	Koning Willem II.	J. Teensma	7
Norddeutscher Lloyd	Prinz Ludwig	F. V. Binzer	1
Norfolk and North American S.S. Co.	Crown Point	J. Wall	2
Orient-Royal Mail.	Orontes	J. F. Ruthven	1
	Oroya	W. H. Parker, Lieut. R.N.R.	4
	Ortona	W. F. Jenks, Lieut. R.N.R.	2
Peninsular and Oriental.	Arcadia	— Valentine	2
	Candia	Owen Jones, Commr. R.N.R.	3
	China	E. Street	8
	Egypt	J. B. Lendon	27
	Himalaya	E. Street	
		W. L. Broun, Lieut. R.N.R.	9
	Java	S. Barcham	3
	Malacca	C. J. Benton, Lieut. R.N.R.	4
	Malta	R. A. Peters	1
	Manila	A. W. Anderson, Commr. R.N.R.	1
	Mongolia	C. F. Preston, Commr. R.N.R.	4
	Mooltan	G. C. Henning, Commr. R.N.R.	9
	Nile	E. P. Martin, Lieut. R.N.R.	7
	Persia	W. H. Houghton Commr. R.N.R.	4
	Sumatra	E. W. Bruce	2
	Sunda	G. M. Montford, Lieut. R.N.R.	9
	Syria	D. C. Gregor, Commr. R.N.R.	3
Prince	African Prince	C. B. Andersson	1
	Black Prince	A. B. W. Sheppard, Lieut. R.N.R.	2

METEOROLOGICAL REGISTERS received during the year 1906-07
—continued.

Line.	Ship.	Captain.	No. of Registers.
Prince—cont. ...	British Prince...	P. A. Johnston ...	4
	Carib Prince ...	R. Kirkwood ...	3
	Moorish Prince...	W. Barrett ...	6
		H. R. Oliver, Lieut. R.N.R.	
	Napolitan Prince	H. A. Eagleton, Commr. R.N.R.	14
		W. H. Astley ...	
		A. B. W. Sheppard, Lieut. R.N.R.	
	Norman Prince...	W. Gill ...	7
		W. Barrett ...	
	Ocean Prince ...	R. Kirkwood ...	5
	Persian Prince ...	... ..	1
Pyman S.S. Co. ...	Saxon Prince ...	R. Kirkwood ...	1
	Sicilian Prince ...	H. J. Claridge ...	14
		W. J. Fielding ...	
	Spartan Prince...	H. A. Eagleton, Commr. R.N.R.	2
		...	
Red Star...	Vaderland ...	R. C. Ehoff ...	18
Ropner ...	Kirkby ...	O. N. Pettersson ...	9
	Wandby ...	D. Anderson ...	5
Royal Mail Steam Packet Co.	Danube ...	J. Pope ...	6
	Orinoco ...	C. E. Down, Lieut. R.N.R.	7
		T. R. Pearce, Lieut. R.N.R.	
	Tagus ...	R. H. Stranger ...	2
	Thames ...	H. E. Rudge ...	7
		A. P. Dix, Lieut. R.N.R.	
Shaw, Savill & Albion.	Trent ...	T. R. Pearce, Lieut. R.N.R.	12

Shire ...	Ionic ...	J. O. Carter, Lieut. R.N.R.	5
	Kumara ...	—, Morton.	2
Southern S.S. Co.	Denbighshire ...	W. A. Evans ...	3
Strick, F. C. & Co.	South America...	J. Watson ...	1
Thomson, W. ...	Tangistan ...	—, Sadler ...	1
Trechmann S.S. Co.	Benvenue ...	—, Kroble ...	3
Ulster S.S. Co. ...	Magda ...	... ..	1
	Carrigan Head ...	S. Orr ...	11
		H. L. Butt ...	
Union-Castle ...	Briton ...	J. W. Creaghe ...	12
		R. E. H. Becher ...	
		T. H. Wilford ...	
	Galeka ...	...	...

METEOROLOGICAL REGISTERS received during the year 1906-07
—continued.

Ship.	Ship.	Captain.	No. of Registers.
Union-Castle —cont.	Guelph	L. W. Bayldon, Commr. R.N.R.	6
	Kildonan Castle ...	J. Tyson	10
White Star ...	Afric	F. B. Howarth, Lieut. R.N.R.	6
	Arabic	A. E. S. Hambelton, Lieut. R.N.R.	9
	Armenian	E. C. Roberts C. E. Starck, Lieut. R.N.R.	15
	Baltic	E. J. Smith, Commr. R.N.R.	22
	Bovic	D. Kerr	13
	Canopic	I. Sealby, Lieut. R.N.R.	15
	Cedric	J. G. Cameron, Commr. R.N.R.	7
	Celtic	H. J. Haddock, C.B., Commr. R.N.R.	15
	Cevic	J. B. Ranson, Lieut. R.N.R.	20
	Cretic	W. H. Clarke	6
	Cymric	J. Kelk F. E. Beadnell, Lieut. R.N.R.	21
	Georgic	C. A. Bartlett, Lieut. R.N.R.	7
	Majestic	H. Smith E. C. Roberts S. A. Anning, Lieut. R.N.R.	24
	Oceanic	B. F. Hayes, Commr. R.N.R.	10
	Republic	J. G. Cameron, Commr. R.N.R.	17
	Romanic... ..	J. McAuley C. A. Bartlett, Lieut. R.N.R.	1
	Runic	C. A. Bartlett, Lieut. R.N.R.	4
	Teutonic... ..	J. Mathias, Lieut. R.N.R.	15
	Victorian	T. P. Thompson	21
Wilsons & Fur- ness-Leyland.	Georgian	F. Hart, Lieut. R.N.R.... R. Farrington A. M. Trant A. Fortay J. R. Carnon, Lieut. R.N.R.	23
	Lancastrian	W. T. Wood W. F. Wood	18
Young, W. J. ...	Teviotdale	R. S. Rodham	1

APPENDIX V.

INSTRUMENTS supplied, &c., to the MERCANTILE MARINE.

Particulars.	Baro- meters.	Ther- mometers.	Hydro- meters.	Screens.
April 1st, 1906, afloat	168	1,061	671	175
Issued since	60	402	146	46
Returned since	228 49	1,463 245	817 133	221 20
Written off as broken or lost ...	179 1	1,218 81	679 27	201 6
April 1st, 1907, afloat	178	1,137	652	195

DISPOSITION of MERCANTILE MARINE INSTRUMENTS,
April 1st, 1907.

Particulars.	Baro- meters.	Ther- mometers.	Hydro- meters.	Screens.
In merchant ships	178	1,137	652	195
„ store at M.O.	2	24	34	4
At Liverpool Agency	2	23	18	17
„ Glasgow „	4	20	11	4
„ Dundee „	4	22	18	1
„ Hull „	2	21	5	5
„ Cardiff „	3	20	19	5
„ Southampton „	8	33	25	12
„ Sunderland „	2	9	6	2
Total April 1st, 1907	205	1,309	788	245
Under repair, April 1st, 1907 ...	5	17	9	7

INSTRUMENTS at STATIONS, viz.: Telegraphic Reporting Stations,
Observatories, Fishing Villages, etc.

(a.) THERMOMETERS AND SCREENS.

—	Thermometers.					Screens.
	Ordin- ary.	Maxi- mum.	Mini- mum.	Solar.	Grass Mini- mum.	
April 1st, 1906, in use	351	72	68	12	10	119
Issued since	49	2	1	—	1	3
Returned since	400 36	74 4	69 2	12 —	11 1	122 1
Written off	10	—	—	—	—	2
April 1st, 1907, in use	354	70	67	12	10	119

(b.) OTHER INSTRUMENTS.

—	Baro- meters.	Aneroids and Baro- graphs.	Sun- shine Re- corders.	Rain Gauges.	Anemo- meters.	Storm Signal Cones.
April 1st, 1906, in use ...	330	25	33	96	31	221
Issued since ...	8	—	1	3	1	12
Returned since ...	338	25	34	99	32	233
Written off ..	17	1	—	2	—	—
	—	—	—	—	—	12
April 1st, 1907, in use ...	*321	24	34	97	32	221

* Of these barometers 225 are lent for use of seafaring communities at fishing villages and ports.

APPENDIX VI.

REPORT ON THE INSPECTION OF STATIONS IN CONNEXION
WITH THE OFFICE IN 1906.

The inspectors were as follows :—

Observatories and Anemograph Stations.				{ Mr. T. W. Baker and Mr. E. G. Constable, by arrangement with the Director of the National Physical Laboratory, Mr. E. Gold, Mr. R. H. Curtis.
Districts 0, 1 and 6	...	...	...	The Director.
District 2	...	...	...	Mr. F. J. Brodie.
" 3	...	...	...	Mr. R. H. Curtis.
" 4	...	...	...	Mr. F. J. Brodie, Mr. R. H. Curtis, Mr. H. Harries.
" 5	...	...	...	Capt. Hepworth, Mr. W. Marriott, Mr. R. H. Curtis.
" 7	...	...	...	Mr. R. G. K. Lempfert, Mr. E. Gold.
" 8	...	...	...	Mr. R. H. Curtis, Mr. W. Marriott.
Districts 9 and 10	...	...	...	Mr. R. G. K. Lempfert, Mr. E. Gold.

At the observatories and anemograph stations the instruments were dismantled and cleaned, and all necessary repairs were carried out. At those observatories which are also climatological or telegraphic reporting stations the arrangements for this work were examined.

The reports show that efficiency has been maintained as a whole; in a number of cases the inspectors were able to make suggestions for improving the observations by bringing them more into line with recognized conventions. Points requiring attention which could not be settled on the spot have been dealt with by correspondence.

The following is a list of the stations visited :—

OBSERVATORIES.

Aberdeen.	Oxford.
Armagh.	Stonyhurst.
Falmouth.	Valencia.
Glasgow.	

ADDITIONAL ANEMOGRAPH STATIONS.

Deerness.	North Shields.
Dublin (Phoenix Park).	Pendennis Castle (Falmouth)
Fleetwood.	Roche's Point.
Holyhead.	Yarmouth.
Kingstown.	

NORMAL CLIMATOLOGICAL STATIONS.

Ackworth.	Garforth.
Ampleforth.	Glasgow.
Belfast.	Hull.
Belvoir Castle.	Lissan.
Bettws-y-coed.	Markree Castle.
Birr Castle.	St. Leonards.
Cockle Park.	Salisbury.
Cromer.	Sheffield.
Deerness.	Stokesay.
Dublin (Phoenix Park).	Strathpeffer Spa.
Dunmow.	Tealby.
Durham.	Tottenham.
Eastbourne.	

AUXILIARY CLIMATOLOGICAL STATIONS.

Arlington Court.	Kilkenny Castle.
Balta Sound.	Killarney.
Barnet.	Llangammarch Wells.
Barnstaple.	Maidenhead.
Bawtry (Hesley Hall).	Oban (sunshine only).
Bexhill-on-Sea.	Rauceby Hall.
Bournemouth.	Rhyl.
Bradford.	Skegness.
Clongowes Wood College.	Southend-on-Sea.
Colly Weston.	Thornton Hall.
Edenfel (Omagh).	Waterford.
Folkestone.	Winslow.
Foynes.	Wisley.
Fulbeck.	Wokingham.
Hawarden Bridge.	

TELEGRAPHIC REPORTING STATIONS.

Aberdeen.	Nairn.
Bath.	Portland Bill.
Birr Castle.	Roche's Point.
Blacksod Point.	Scilly.
Clacton-on-Sea.	Shields.
Donaghadee.	Spurn Head.
Dungeness.	Stornoway.
Holyhead.	Sumburgh Head.
Jersey.	Wick.
Leith.	Yarmouth.
Malin Head.	

Mr. W. Marriott visited the following stations which are in connexion with the Royal Meteorological Society as well as with the Office :—

Bennington, Berkhamsted, Bognor, Brighton, Buxton, Ditcham Park, Folkestone, Guernsey (2 stations), Margate, Marlborough, Portsmouth, Shaftesbury, Swarraton, Tunbridge Wells, Ventnor, Woolacombe, Worthing.

APPENDIX VII.

GEOGRAPHICAL LIST OF INSTITUTIONS AND PERSONS FROM WHOM PUBLICATIONS CONTAINING **Meteorological Data** HAVE BEEN RECEIVED DURING THE LAST FOUR YEARS.

The list is arranged in accordance with the revised topographical classification adopted in the International Catalogue of Scientific Literature. *In each section the names of institutions which collect observations from a network of stations, or which publish observations on an extended scale, have been placed first.* In a number of instances, particularly in the case of tropical countries, observations are published by authorities not domiciled in the country. In these instances the names of the places of observation have been given as far as space permits, and the names of the institutions issuing the publications have been printed in *italic* type. If no names of places are quoted, it may be assumed that returns from a number of stations are given.

The character of the information available has been indicated by quoting the numbers in the International Catalogue under which the publications have been classified.

The year quoted is the latest for which the information has been received.

The classification numbers employed are as follows :—

1710 and 1730. Climatology—Agricultural and Hygienic.

1180. Rainfall Tables.

1800. Meteorological Observations—General.

1810. Hourly Values.

1820. Daily Values.

1825. Monthly and Yearly Mean Values.

1830. Daily Weather Reports.

1840. Weather Reports—Weekly, Monthly, &c.

**GEOGRAPHICAL LIST OF INSTITUTIONS AND PERSONS
SUPPLYING PUBLISHED METEOROLOGICAL DATA**

NAME OF INSTITUTION, &C.	Climatology—Agri- cultural and Hy- gienic. 1710 & 1730.	Rainfall Tables. 1180.	Meteorological Observations —General. 1800.	Hourly Values. 1810.	Daily Values. 1820.	Monthly and Yearly Mean Values. 1825.	Daily Weather Re- ports and Charts. 1830.	Weekly or Monthly Weather Reports. 1840.
GENERAL.								
International Committee for Scientific Aeronautics, Strassburg.	—	—	1905	—	—	—	—	—
Board of Trade, London—Commercial, Labour, and Statistical Department.	—	—	—	—	—	1904	—	—
d. EUROPE AND MEDITER- RANEAN SEA AND ISLANDS.								
Deutsche Seewarte, Hamburg	—	—	—	—	—	—	—	1906
da. Scandinavia: Sweden, Norway, Denmark, Iceland, Faeroes:—								
Dansk Meteorologisk Institut (Copenhagen).	—	—	1905	—	1906	1905	1906	1906
Norsk Meteorologisk Institut (Christiania).	—	1905	1905	1905	1905	1905	—	—
Svensk Meteorologisk Institut (Stockholm).	—	—	—	—	—	—	—	1906
K. Svenska Vetenskaps-Akademie (Stockholm).	—	—	—	—	1905	1905	—	—
Stockholm (H. E. Hamberg) ..	—	—	—	—	—	1756 to 1905	—	—
Upsala, Observatoire Météorolo- gique de l'Université.	—	—	1905	1905	1905	—	—	—
db. Russia in Europe:—								
Observatoire Physique Central Nicolas (St. Petersburg).	—	—	1903	1903	1903	1903	1906	1905
Finland, Institut Météorologique Central de la Société des Sciences (Helsingfors).	—	—	—	1900	1896	—	—	—
Kaiserliche Livländische Ge- meinnützige u. Ökonomische Sozietät. Dorpat (Jurief).	—	1901	—	—	—	—	—	—
Dorpat, Meteorologisches Obser- vatorium.	—	—	1904	1904	1904	—	—	—
Dorpat, Station Météorologique de l'Ecole Reale.	—	—	—	—	1906	—	—	—
Kazan, Observatoire Météoro- logique.	—	—	—	—	1902	—	—	—
Kieff, Observatoire Météoro- logique.	—	—	—	1905	1905	—	—	—
Moscow (E. Leyst)	—	—	1903	—	—	—	—	—
Moscow, Meteorologisches Ob- servatorium der K. Universität	—	—	—	1902	1902	—	—	—
Nijni-Oltchedaëff, Station Mé- téorologique.	—	—	—	—	—	1906	—	—
Odessa, Observatoire Météoro- logique et Magnétique de l'Uni- versité Impériale.	—	1905	1905	—	1905	1905	—	—

GEOGRAPHICAL LIST—continued.

NAME OF INSTITUTION, &C.	Climatology—Agri- cultural and Hy- gienic.	Rainfall Tables.	Meteorological Observations —General.	Hourly Values.	Daily Values.	Monthly and Yearly Mean Values.	Daily Weather Re- ports and Charts.	Weekly or Monthly Weather Reports.
	1710 & 1730.	1180.	1800.	1810.	1820.	1825.	1830.	1840.
d. EUROPE AND MEDITER- RANEAN ISLANDS—cont.								
db. Russia in Europe—cont.								
St. Petersburg, Observatoire Météorologique de l'Institut Forestier Impériale.	—	—	—	—	1904	—	—	—
Tiflis, Physical Observatory ..	—	—	—	—	—	—	—	1905
Warsaw, Station Centrale Météor- ologique du Musée de l'Indus- trie et de l'Agriculture.	—	—	1900	—	1900	—	—	—
dc. German Empire:—								
Deutsche Seewarte (Hamburg)	—	—	1905	1905	1905	—	1906	1906
Prussia, K. Meteorologisches Institut (Berlin).	—	1903	1901	1901	1901	—	—	1906
Alsace-Lorraine, Meteorolo- gischer Landesdienst (Strass- burg).	—	—	1902	1902	1902	1902	—	1906
Baden, Central Bureau für Meteorologie und Hydro- graphie (Carlsruhe).	—	1906	1906	—	1905	—	—	1906
Bavaria, K. Meteorologische Central Station (Munich).	—	—	—	—	1900	1900	1906	—
Hessen, G. Hydrographisches Bureau (Darmstadt).	—	1905	1905	1905	1905	—	—	1906
Saxony, K. Meteorologisches Institut (Dresden).	—	—	1902	1902	1902	—	1906	1906
Württemberg, K. Statistisches Landesamt und Meteorolo- gische Central Station (Stutt- gart).	—	—	1905	1900	1905	1905	—	1906
Aachen, Meteorologisches Obser- vatorium.	—	—	1904	1904	1904	1904	1906	—
Berlin, Wetter Bureau	—	—	—	—	—	—	1906	—
Bremen, Meteorologische Station	—	—	—	1905	—	—	—	1903
Eberswalde, Meteorologische Station.	—	—	—	—	—	1904	—	—
Emden, Naturforschende Gesell- schaft.	—	—	—	—	1905	—	—	—
Frankfurt am Main, Physika- lischer Verein.	—	—	—	—	1902	—	—	—
Potsdam, K. Preuss. Met. Institut	—	—	1902	1902	1902	—	—	—
dd. Holland; Belgium; Luxem- burg:—								
K. Nederlandsch Meteorologisch Institut (de Bilt).	—	1905	1905	1905	1905	1905	1906	1906
Observatoire Royal, Uccle, Brus- sels.	—	—	1902	1902	1902	1902	1906	—
Mons (A. Bracke)	—	—	—	—	1905	—	—	—
de. British Islands:—								
Meteorological Office (London)	—	—	—	1904	1902	1902	1906	1903
British Rainfall (H. R. Mill) ..	—	1905	—	—	1905	1905	—	—
R. Meteorological Society (Lon- don).	—	—	1905	—	—	—	—	—
Scottish Meteorological Society (Edinburgh).	—	1904	1904	—	—	1904	—	—

GEOGRAPHICAL LIST—continued.

NAME OF INSTITUTION, &c.	Climatology—Agri- cultural and Hy- gienic.	Rainfall Tables.	Meteorological Observations —General.	Hourly Values.	Daily Values.	Monthly and Yearly Mean Values.	Daily Weather Re- ports and Charts.	Weekly or Monthly Weather Reports.
	1710 & 1730.	1180.	1800.	1810.	1820.	1825.	1830.	1840.
d. EUROPE AND MEDITER- RANEAN ISLANDS—cont.								
de. British Islands—cont.								
Royal Society of Edinburgh [Fort William and Ben Nevis].	—	—	—	1897	—	—	—	—
Royal Observatory, Greenwich	—	—	1904	1904	1904	—	—	—
General Register Office, London	1906	—	—	—	1906	1906	—	—
General Register Office, Dublin	1906	—	—	—	1906	1906	—	1906
Registrar General's Office, Edin- burgh.	1906	—	—	—	—	1906	—	1906
Board of Agriculture and Fisheries, London.	1906	—	—	—	—	—	—	—
Bath, Medical Officer of Health	1905	—	—	—	—	—	—	—
Blackpool, Public Health Office	1905	—	—	—	—	—	—	—
Bognor, Climatological Society	—	—	—	—	—	1905	—	—
Bolton, The Museums and Meteorological Observatory.	—	—	—	—	—	1906	—	1906
Brighton, Medical Officer of Health.	1902	—	—	—	—	—	—	—
Canterbury (A. Lander)	—	—	1904	—	—	—	—	—
Cardiff, Naturalists' Society ..	—	1905	1905	—	—	—	—	—
Cardiff, Waterworks Engineer's Office.	—	1905	—	—	—	—	—	—
Chester (J. C. Mitchell)	—	—	—	—	—	1905	—	—
Cockle Park, Morpeth	—	—	—	—	—	1904	—	—
Coventry, Medical Officer of Health.	1905	—	—	—	—	1905	—	—
Croydon, Natural History and Scientific Society.	—	1905	—	—	1905	—	—	—
Devon, North (T. Wainwright)..	—	—	—	—	—	1906	—	—
Dorset (H. S. Eaton)	—	1903	—	—	—	—	—	—
Eastbourne, Borough Meteorol- ogist.	—	—	—	—	—	1905	—	—
Falmouth, R. Cornwall Poly- technic Society.	—	—	—	—	—	1905	—	—
Great Central Railway	—	1906	—	—	—	—	—	—
Hastings, Borough Meteorologist.	—	—	1905	—	—	1905	—	—
Hertfordshire (J. Hopkinson) ..	—	1904	—	—	—	1904	—	—
Hoyle and West Kirby, Urban District Council.	—	—	—	—	—	1906	—	—
Isle of Man (A. W. Moore)	—	—	—	—	—	1904	—	—
Liverpool Observatory, Bidston.	—	—	—	—	1905	—	—	—
London, Royal Botanic Society	—	—	—	—	1906	—	—	—
Lowestoft, Medical Officer of Health.	1905	—	—	—	—	—	—	—
Manchester, Public Health Office	1904	—	—	—	1904	—	—	—
Margate, Medical Officer of Health.	—	—	—	—	—	1905	—	—
[Netley.] Army Medical Depart- ment, London.	—	—	—	—	—	1905	—	—
Northampton, Natural History Society.	—	1906	—	—	—	—	—	1905
Norwich (A. W. Preston)	—	—	1905	—	—	—	—	—
Nottingham (A. Brown and P. Boobbyer).	—	1906	1906	—	—	—	—	—
Nottingham, Rural District Council of Basford.	1903	—	—	—	—	1903	—	—
Paisley, Coats Observatory	—	—	—	—	—	1905	—	—
Portsmouth, Medical Officer of Health.	1905	—	—	—	—	—	—	—
Rousdon Observatory	—	—	—	—	—	1903	—	—
Rugby School Natural History Society.	—	—	—	—	—	1905	—	—

GEOGRAPHICAL LIST—continued.

NAME OF INSTITUTION, &c.	Climatology—Agri- cultural and Hy- gienic. 1710 & 1730.	Rainfall Tables. 1180.	Meteorological Observations —General. 1800.	Hourly Values. 1810.	Daily Values. 1820.	Monthly and Yearly Mean Values. 1825.	Daily Weather Re- ports and Charts. 1830.	Weekly or Monthly Weather Reports. 1840.
d. EUROPE AND MEDITER- RANEAN ISLANDS—cont.								
1e. British Islands—cont.								
Scarborough, Borough Meteor- ologist.	—	—	—	—	—	1906	—	—
Sevenoaks (W. W. Wagstaffe) ..	—	—	—	—	—	1905	—	—
Southport, Fernley Observatory	—	—	1905	1905	1906	1905	—	—
Stonyhurst College Observatory	—	—	—	—	—	1905	—	—
Teddington National Physical Laboratory.	—	—	—	—	—	1905	—	—
Throcking (C. W. Harvey) ..	—	—	—	—	—	1904	—	—
Totland Bay, Isle of Wight (J. Dover).	—	—	—	—	—	1906	—	—
Truro, Cornwall County Council, Sanitary Committee.	1906	—	—	—	—	—	—	1906
Truro (G. Penrose) ..	—	—	—	—	—	1900	—	—
Waterford (C. E. Perceval Bolton).	—	—	—	—	—	—	—	1906
Whitchurch (E. E. Glyde) ..	—	—	1906	—	—	—	—	—
Worksop (H. Mellish) ..	—	—	—	—	—	1906	—	—
York, Yorkshire Philosophical Society.	—	—	—	—	—	1905	—	—
d/. France and Corsica:—								
Bureau Central Météorologique de France (Paris).	—	1903	1902	1902	1902	1902	1906	1906
Avignon, Commission Météorol- ogique du Département de Vaucluse.	—	—	1903	—	—	1903	—	—
Beaulieu, Sèvres et Vacquey (G. Eiffel).	—	—	1903	—	1905	—	—	—
Bordeaux, Commission Météor- ologique de la Gironde.	—	1906	—	—	1906	—	—	—
Chevreuse, Observatoire ..	—	—	—	—	1905	—	—	—
Lyons, Commission départe- mentale de Météorologie du Rhône.	—	1899	—	—	—	—	—	—
Marseilles, Commission de Mé- térologie du Département des Bouches-du-Rhône.	—	—	1905	—	1905	—	—	—
Paris, Observatoire Municipal (Observatoire de Montsouris).	—	—	—	—	1903	—	—	—
Paris, Service Hydrométrique du Bassin de la Seine.	—	1904	—	—	—	—	—	—
Perpignan, Commission Mé- térologique.	—	1900	—	—	1904	—	—	—
Puy-de-Dôme, Observatoire ..	—	—	—	—	1905	—	—	—
dq. Iberian Peninsula: Spain; Portugal:—								
Instituto Central Meteorológico (Madrid).	—	—	—	—	—	—	1906	—
Observatorio Do Infante D. Luiz (Lisbon).	—	—	—	—	1903	1903	1906	—
Observatorio, Madrid ..	—	—	—	—	1901	1900	—	—
Coimbra, Observatorio Meteor- ológico o Magnético da Uni- versidade.	—	—	—	1901	1901	—	—	—

GEOGRAPHICAL LIST—continued.

NAME OF INSTITUTION, &C.	Climatology—Agri- cultural and Hy- gienic.	Rainfall Tables.	Meteorological Observations —General.	Hourly Values.	Daily Values.	Monthly and Yearly Mean Values.	Daily Weather Re- ports and Charts.	Weekly or Monthly Weather Reports.
	1710 & 1730.	1180.	1800.	1810.	1820.	1825.	1830.	1840.
d. EUROPE AND MEDITER- RANEAN ISLANDS—cont.								
dg. Iberian Peninsula: Spain ; Portugal—cont.								
Gibraltar. <i>Army Medical Dep., London.</i>	—	—	—	—	—	1905	—	—
Llínas, Observatorio Belloch ..	—	—	1903	—	—	—	—	—
Madrid, Chamartin de la Rosa, Observatorio Meteorológico del Colegio de Nuestra Señora del Recuerdo.	—	—	—	—	1905	—	—	—
Oña, Observatorio ..	—	—	—	—	1906	—	—	—
Oporto, Observatorio Meteorol- ógico da Princesa D. Amelia.	—	—	1905	—	—	—	—	—
San Fernando, Instituto y Obser- vatorio de Marina.	—	—	—	1905	1905	—	—	—
h. Italy: Sicily and Sardinia:—								
Ufficio Centrale Meteorologico e Geodinamico Italiano (Rome).	1906	—	1894	—	—	1894	1906	—
Bologna, Osservatorio della R. Università.	—	—	—	—	1904	—	—	—
Catania (A. Riccò e L. Mendola)	—	—	1905	—	—	—	—	—
Florence, R. Museo di Fisica e Storia Naturale.	—	—	—	—	1903	—	—	—
Messina, Osservatorio ..	—	—	—	—	1805	—	—	—
Milan, R. Osservatorio Astrono- mico di Brera.	—	—	—	—	1905	—	—	—
Naples, R. Osservatorio di Capo- dimonte.	—	—	—	—	1905	—	—	—
Riposto, Osservatorio Meteorol- ogico del R. Istituto Nautico.	—	—	—	—	1905	—	—	—
Rome, Specola Vaticana ..	—	—	—	—	1905	—	—	—
Turin, Osservatorio della R. Uni- versità.	—	—	—	—	1905	—	—	—
Venice, Osservatorio Meteoro- logico del Seminario Patri- arcale.	—	—	—	—	1905	—	—	—
i. Switzerland:—								
Schweizerische Meteorologische Central Anstalt (Zürich).	—	1804	1904	1904	1904	1904	1906	—
Berne, Eidgenössisches Ober- bauinspectorat, Hydromet- rische Abteilung.	—	1904	1904	1904	—	—	—	—
Davos Traffic Association ..	—	—	—	—	1908	—	—	1906
Genève et le Grand St. Bernard (R. Gautier).	—	—	—	—	1905	—	—	—
Lausanne, Institut Agricole ..	—	—	—	—	1905	—	—	—
St. Moritz (R. Gautier et H. Duaine).	—	—	—	—	1905	—	—	—
lk. Austria-Hungary, with Bosnia and Herzegovina:—								
K. K. Central Anstalt für Meteor- ologie und Erdmagnetismus (Vienna).	—	—	1904	1904	1806	1904	1906	—
K. K. Hydrographischer Dienst in Oesterreich (Vienna).	—	1903	—	—	1903	—	—	1906

GEOGRAPHICAL LIST—continued.

NAME OF INSTITUTION, &c.	Climatology—Agri- cultural and Hy- gienic.	Rainfall Tables.	Meteorological Observations —General.	Hourly Values.	Daily Values.	Monthly and Yearly Mean Values.	Daily Weather Re- ports and Charts.	Weekly or Monthly Weather Reports.
	1710 & 1730.	1180.	1800.	1810.	1820.	1825.	1830.	1840.
d. EUROPE AND MEDITER- RANEAN ISLANDS—cont.								
dk. Austria-Hungary, with Bosnia and Herzegovina—cont.								
Hydrographisches Amt der K. K. Kriegs-Marine (Pola).	—	—	1905	1905	1905	1905	—	—
K. Ung. Reichs-Anstalt für Meteor. und Erdmagn. (Buda- pest).	—	1801	1901	1901	1901	1901	—	—
Bosnisch-Hercegovinische Lan- desregierung (Sarajevo).	—	—	1901	1901	1901	1901	—	—
Agram, Meteorologisches Obser- vatorium.	—	—	1902	1902	1902	1902	—	—
Budapest, Magyar Kir. Országos Meteor. Intézet.	—	—	—	—	1906	—	1906	—
Cracow, C. K. Akademii Umiejęt- ności u. Krakowie.	—	—	—	—	1902	—	—	—
Cracow, K. K. Sternwarte ..	—	—	—	—	1906	—	—	—
Cracow, Observatorium ..	—	—	—	—	—	1905	—	—
Fiume, K. K. Marine-Akademie	—	—	—	—	1906	—	—	—
Innsbruck, Meteorologisches Observatorium.	—	—	1902	1902	1902	—	—	—
Klagenfurt (F. Jäger) ..	—	—	—	—	1906	1906	—	—
Kremsmünster, Sternwarte ..	—	—	1904	1904	—	—	—	—
Prague, K. K. Sternwarte ..	—	—	—	—	1905	—	—	—
Trieste, [I.R.] Osservatorio Astro- nomico-Meteorologico.	—	—	1902	1902	1902	1902	—	—
Vienna, K. K. Sternwarte ..	—	—	—	—	1903	—	—	—
dl. Balkan Peninsula:—								
Institutul Meteorologic al Ro- maniei (Bucharest).	1906	1906	—	—	—	—	1905	1906
Observatoire National (Athens)	—	—	—	—	—	1903	—	—
Belgrade, Observatoire Central	—	—	—	1903	—	—	—	1903
Monastir. Bureau Central Mët., Paris.	—	—	—	—	—	1902	—	—
Roumania (S.C. Hepites) ..	—	1903	—	—	—	—	—	—
Salonika, Gymnase Bulgare ..	—	—	—	—	—	1905	—	—
Salonika and Scutari. K. K. Central-Anstalt für Meteorologie, Vienna.	—	—	—	—	—	1904	—	—
Sofia, Institut Météorologique Central.	—	—	1905	1905	1905	1905	—	—
Sofia, Station Centrale Météorol- ogique de Bulgarie.	—	1906	—	—	—	—	—	1906
dm. Mediterranean and Islands:—								
Cyprus Public Works Depart- ment (Nicosia).	—	1906	—	—	—	1905	—	1903
Malta and Cyprus. Army Medical Dep., London.	—	—	—	—	—	1905	—	—
Minorca and Malta. Bureau Central Mët., Paris.	—	—	—	—	—	1902	—	—
dq. English Channel, including Channel Islands:—								
Guernsey (A. Collenette) ..	—	1905	—	—	—	1905	—	—
Jersey, Observatoire St. Louis ..	—	—	—	1906	1906	—	—	—

GEOGRAPHICAL LIST—continued.

NAME OF INSTITUTION, &c.	Climatology—Agri- cultural and Hy- gienic.	Rainfall Tables.	Meteorological Observations —General.	Hourly Values.	Daily Values.	Monthly and Yearly Mean Values.	Daily Weather Re- ports and Charts.	Weekly or Monthly Weather Reports.
	1710 & 1730.	1180.	1800.	1810.	1820.	1825.	1830.	1840.
c. ASIA AND MALAY ARCHI- PELAGO.								
ca. Asiatic Russia:—								
Observatoire Physique Central Nicolas (St. Petersburg).	—	—	1903	1903	1903	—	—	—
cb. China and Dependencies: Tibet, Corea:—								
Hong-Kong, Observatory ..	—	—	1905	1905	1908	—	—	—
Hong-Kong and Wei-hai-wei. Army Medical Dep., London.	—	—	—	—	—	1905	—	—
Ou-tschang. K. K. Central-An- stalt für Meteorologie, Vienna.	—	—	—	—	—	1904	—	—
Peking, Inspectorate General of Customs.	1904	—	—	—	—	—	—	—
Tokio, Central Meteorological Ob- servatory.	—	—	—	—	1905	—	—	—
Tsingtau (Shantung), Deutsche Seewarte, Hamburg.	—	—	—	—	1901	—	—	—
Yunnan-Sen. Bureau Central Mét., Paris.	—	—	—	—	—	1902	—	—
Zikawei, Observatoire Mag- nétique et Météorologique.	—	—	—	1903	1903	—	1906	—
cc. Japanese Islands, Formosa:—								
Central Meteorological Observa- tory (Tokio).	—	—	1905	1905	1905	—	1906	—
Mizusawa, International Lati- tude Observatory.	—	—	—	—	—	1905	—	—
Tsukubasan, Observatorium ..	—	—	1902	1902	1902	—	—	—
cd, ee. French Indo-China: Ton- quin, Annam, &c., Siam:—								
Bureau Central Mét., Paris ..	—	1902	1902	—	1902	1902	—	—
cf. British India: Himalaya, Bur- mah, Ceylon:—								
Meteorological Office, India, (Simla).	—	1905	1906	—	1906	1906	1906	1906
Agricultural Department, Cal- cutta.	—	1906	—	—	—	—	—	—
Meteorological Office, Bengal, Calcutta.	—	1906	1906	—	—	—	1906	1906
Surveyor General's Office, Colombo.	—	—	1905	—	—	1905	—	—
Allahabad, Meteorological Office	—	1905	1905	—	—	1905	—	—
Bangalore, Mysore Government Meteorological Department.	—	1905	—	—	1905	—	—	—
Ceylon, Royal Botanic Gardens	—	1903	—	—	—	—	—	—
Kodaikanal, Observatory ..	—	—	1905	—	—	1905	—	—
Meteorological Reporter to Government, Punjab.	—	—	—	—	—	—	—	1906

GEOGRAPHICAL LIST—continued.

NAME OF INSTITUTION, &c.	Climatology—Agri- cultural and Hy- gienic.	Rainfall Tables.	Meteorological Observations —General.	Hourly Values.	Daily Values.	Monthly and Yearly Mean Values.	Daily Weather Re- ports and Charts.	Weekly or Monthly Weather Reports.
	1710 & 1730.	1180.	1800.	1810.	1820.	1825.	1830.	1840.
e. ASIA AND MALAY ARCHI- PELAGO—cont.								
<i>eg.</i> Malay Peninsula and Archi- pelago, Philippines, &c.:—								
Royal Magnetical and Meteorological Observatory (Batavia).	—	1905	1905	1904	—	—	—	—
Philippine Weather Bureau, Manila Central Observatory.	—	—	—	1904	1905	—	—	1905
Principal Civil Medical Officer, Straits Settlements (Singapore).	—	1904	1904	—	1904	1904	—	—
British North Borneo (British N. Borneo Herald).	—	—	—	—	1903	—	—	—
Buitenzorg, Institut Botanique de l'Etat.	—	—	—	—	1904	—	—	—
Pnom-Penh (Cambodia), Bureau Central Mët., Paris.	—	—	—	—	—	1902	—	—
Singapore. Army Medical Dep., London.	—	—	—	—	—	1903	—	—
Taiping, State Surgeon's Office..	—	—	—	—	—	1903	—	—
si. Asiatic Turkey, Arabia, Syria:—								
Beyrout, Jerusalem, Gaza, Haifa, Smyrna. K. K. Central-Anstalt für Meteorologie, Vienna.	—	—	1904	—	1904	1904	—	—
Hebron. Scottish Met. Soc., Edin- burgh.	—	—	—	—	—	1904	—	—
Le Krey (Syria) and other stations. Bureau Central Mët., Paris.	—	—	—	—	1902	1902	—	—
Scutari. Army Medical Dep., London.	—	—	—	—	—	1905	—	—
f. AFRICA AND MADAGASCAR.								
<i>fa.</i> Mediterranean States: Moroc- co, Algiers, Tunis, Tripoli:—								
Service Météorologique du Gouvernement Général de l'Algérie.	—	—	—	—	—	—	1906	—
Algeria and Tunis, Benghazi (Tripoli), Tangier, Bureau Central Mët., Paris.	—	—	1902	—	1902	1902	—	—
<i>fb.</i> North-east Africa: Egypt, Nile Valley to 5° N., Abyssinia:—								
Survey Department, Cairo ..	—	1905	1904	1904	1905	1906	1906	1906
Sanitary Department, Cairo ..	1905	—	—	—	1905	—	—	—
Egyptian Sudan. Meteorological Office, London.	—	—	—	—	—	1902	—	—
Khartoum. Army Medical Dep., London.	—	—	—	—	—	1904	—	—
Ismailia, Port Said, Suez, Harar (Abyssinia). Bureau Central Mët., Paris.	—	—	—	—	1902	1902	—	—

GEOGRAPHICAL LIST—continued.

NAME OF INSTITUTION, &C.	Climatology—Agri- cultural and Hy- gienic.	Rainfall Tables.	Meteorological Observations —General.	Hourly Values.	Daily Values.	Monthly and Yearly Mean Values.	Daily Weather Re- ports and Charts.	Weekly or Monthly Weather Reports.
	1710 & 1730.	1180.	1800.	1810.	1820.	1825.	1830.	1840.
c. AFRICA AND MADAGASCAR —cont.								
fd. West Africa, including French Sudan, from Morocco to the Congo:—								
Lagos, Government Gazette ..	—	—	—	—	—	1905	—	—
Sierra Leone Observatory ..	—	1903	—	—	—	—	—	—
Sierra Leone, Accra, Cape Coast, Kumasi. <i>Army Medical Dep., London.</i>	—	—	—	—	—	1905	—	—
Saint-Louis (Senegal), Port Novo (Dahomey), and other stations. <i>Bureau Central Met., Paris.</i>	—	—	—	—	1902	1902	—	—
Timbuctu and other stations <i>Bureau Central Met., Paris.</i>	—	—	—	—	1902	1902	—	—
fe. Congo State and Angola:—								
Akka (<i>Meteorological Office, Lon- don.</i>)	—	—	—	—	—	1902	—	—
Libreville and other stations. <i>Bureau Central Met., Paris.</i>	—	—	—	—	1902	1902	—	—
ff. East Africa; British (with Uganda); German; Portu- guese (north of the Zam- besi); British Central Africa; Lake Region.								
British East Africa .. } <i>Meteoro-</i>	—	—	—	—	—	1902	—	—
British Central Africa } <i>logical</i>	—	—	—	—	—	1902	—	—
Rhodesia } <i>Office,</i>	—	—	—	—	—	1902	—	—
Uganda } <i>London.</i>	—	—	—	—	—	1902	—	—
German East Africa. <i>Deutsche Seewarte, Hamburg.</i>	—	—	—	1902	1902	—	—	—
Mombasa. <i>Army Medical Dep., London.</i>	—	—	—	—	—	1903	—	—
British East Africa Agricultural Department (Nairobi).	—	—	—	—	—	1905	—	1905
Uganda Protectorate Scientific and Forestry Department (Entebbe).	—	—	—	—	1905	1905	—	—
Zomba, Scientific Department ..	—	1903	1903	—	1906	—	—	—
fg. South Africa—South of Angola and the Zambesi:—								
Meteorological Commission (Cape Town).	—	1904	1904	1902	—	1904	—	—
Transvaal Meteorological De- partment (Johannesburg).	—	1906	1905	1905	1905	—	1906	1906
Bulawayo (E. Goetz)	—	—	—	—	—	1904	—	—
Durban, Natal Observatory ..	—	1902	1905	—	1905	1905	—	—
Southern Rhodesia, &c. <i>Meteoro- logical Office, London.</i>	—	—	—	—	—	1902	—	—
Fort Napier (Natal), Pretoria. <i>Army Medical Dep., London.</i>	—	—	—	—	—	1905	—	—
German S.W. Africa (E. Ott- weiler).	—	1905	—	—	—	—	—	—

GEOGRAPHICAL LIST—continued.

NAME OF INSTITUTION, &c.	Climatology - Agri- cultural and Hy- gienic. 1710 & 1730.	Rainfall Tables. 1180.	Meteorological Observations —General. 1800.	Hourly Values. 1810.	Daily Values. 1820.	Monthly and Yearly Mean Values. 1825.	Daily Weather Re- ports and Charts. 1830.	Weekly or Monthly Weather Reports. 1840.
<i>f. AFRICA AND MADAGASCAR</i> —cont.								
<i>fh. Madagascar and Comoro</i> <i>Group:—</i>								
<i>Bureau Central Mët., Paris ..</i>	—	1902	—	—	1902	1902	—	—
<i>fi. Red Sea and Islands:—</i>								
<i>K. Akademie der Wissenschaften,</i> <i>Vienna.</i>	—	—	—	[1903]	[1903]	—	—	—
<i>g. NORTH AMERICA.</i>								
<i>gb. Canada as a whole:—</i>								
Meteorological Service, Dominion of Canada (Toronto).	—	—	—	—	—	1906	1906	1906
Department of Marine and Fisheries (Ottawa).	—	—	1904	1904	—	1904	—	—
<i>U.S. Weather Bureau, Washington</i>	—	—	—	—	—	1906	—	—
<i>gd. Canadian Dominion East: New-</i> <i>foundland:—</i>								
Toronto, Bureau of Industries ..	—	—	1904	—	—	—	—	—
<i>gf. United States as a whole:—</i>								
U.S. Weather Bureau, Depart- ment of Agriculture, Wash- ington.	—	—	1906	1903	1905	1906	1906	1906
<i>gg. North-Eastern United States,</i> <i>East of Mississippi:—</i>								
Cambridge (Mass.), Astronomical Observatory of Harvard Col- lege.	—	—	—	—	1904	—	—	—
New York, Meteorological Ob- servatory.	—	—	—	1906	—	—	—	—
Washington, United States Naval Observatory.	—	—	—	—	1902	—	—	—
<i>gi. Western United States, West</i> <i>of Mississippi:—</i>								
Colorado Springs, Colorado Col- lege Observatory.	—	—	—	—	1905	1905	—	—
<i>gl. Mexico:—</i>								
Dirección General de Telégrafos Federales (Mexico).	—	—	—	—	—	—	1903	—
Observatorio Meteorológico Central (Mexico).	—	—	1902	1902	1902	—	—	1902
Leon, Observatorio Meteorol- ógico.	—	—	—	—	1906	—	—	1906
Oaxaca (A. M. Dominguez) ..	—	1903	—	—	—	—	—	—

GEOGRAPHICAL LIST—continued.

NAME OF INSTITUTION, &c.	Climatology—Agri- cultural and Hy- gienic.	Rainfall Tables.	Meteorological Observations —General.	Hourly Values.	Daily Values.	Monthly and Yearly Mean Values.	Daily Weather Re- ports and Charts.	Weekly or Monthly Weather Reports.
	1710 & 1730.	1180.	1890.	1810.	1820.	1825.	1830.	1840.
g. NORTH AMERICA—cont.								
gl. Mexico—cont.								
Oaxaca, Observatorio Meteorol- ógico.	—	—	—	—	1905	—	—	1905
Puebla, Boletín de Estadística.	1904	—	—	—	1904	—	—	—
Saltillo, Observatorio Meteorol- ógico del Colegio de San Juan Nepomucino.	—	—	—	—	1905	—	—	—
Tacubaya, Observatorio Astrón- ómico Nacional.	—	—	—	—	1896	—	—	—
U.S. Weather Bureau, Washington.	—	—	—	—	—	1906	—	—
Zacatecas, Observatorio ..	—	—	—	—	1906	—	—	—
h. CENTRAL AND SOUTH AMER- ICA AND WEST INDIES.								
hb. Central America, &c.:—								
Belize, Public Hospital ..	—	—	—	—	1904	—	—	—
Costa Rica, U.S. Weather Bureau, Washington.	—	—	—	1906	—	—	—	—
Tegucigalpa, Estación Meteoro- lógica.	—	—	—	—	1905	—	—	—
hc. West Indian Islands, Carib- bean Sea, Gulf of Mexico:—								
Antigua, Government Labora- tory.	—	—	—	—	1906	—	—	—
Bahamas (Colonial Reports) ..	—	—	—	—	1902	1905	—	—
Bartados, St. Lucia, Jamaica, Bermuda. Army Medical Dep., London.	—	—	—	—	—	1905	—	—
Dominica, Botanic Station ..	—	1905	—	—	—	—	—	—
Grenada, Richmond Hill Ob- servatory.	—	1906	—	—	1906	—	—	—
Guadeloupe, Martinique and other stations. Bureau Cen- tral Météo., Paris.	—	—	—	—	1902	1902	—	—
Havana, Estación Central Me- teorológica, Climatológica y de Cosechas.	—	—	—	—	—	—	—	1906
Havana, Observatorio del Colegio de Belén.	—	—	—	—	1905	—	—	—
Havana, Secretaría de Agricul- tura, &c. .	1906	—	—	—	1906	—	—	—
Kingston, Government Labora- tory.	—	1906	—	—	—	—	—	1906
Port-au-Prince, Haiti. K. K. Central-Anstalt für Meteorologie, Vienna.	—	—	1904	—	1904	1904	—	—
St. Lucia, Botanic Gardens ..	—	1906	—	—	—	1906	—	—
St. Lucia, Harbour Master ..	—	—	—	—	1906	—	—	—
St. Vincent, Botanic Gardens ..	—	1905	1903	—	—	—	—	—
U.S. Weather Bureau, Washington.	—	—	—	—	—	1906	—	—
hd. Guiana—British, Dutch, and French; Venezuela; Trini- dad:—								
Cayenne Paramaribo, &c. Bureau Central Météo., Paris.	—	—	—	—	1902	1902	—	—
Georgetown, Demerara, Botanic Gardens.	—	—	1906	—	1906	—	—	—
Paramaribo. K. Nederlandsch Meteorologisch Instituut, de Bilt.	—	—	—	—	1904	—	—	—
Trinidad, Royal Botanic Gardens	—	1905	1905	—	—	—	—	—

GEOGRAPHICAL LIST—continued.

NAME OF INSTITUTION, &c.	Climatology—Agri- cultural and Hy- gienic.	Rainfall Tables.	Meteorological Observations —General.	Hourly Values.	Daily Values.	Monthly and Yearly Mean Values.	Daily Weather Re- ports and Charts.	Weekly or Monthly Weather Reports.
	1710 & 1730.	1180.	1800.	1810.	1820.	1825.	1830.	1840.
h. CENTRAL AND SOUTH AMER- ICA AND WEST INDIES—cont.								
hf. Peru:—								
Astronomical Observatory of Har- vard College, Cambridge (Mass.).	—	—	—	—	1895	—	—	—
hh. Brazil:—								
Ministerio de Marinha, Direc- toria de Meteorologia, Rio Janeiro.	—	—	1904	1904	1905	—	—	—
Cuyabá, Observatorio Meteor- ológico "D. Bosco."	—	—	1901	—	1904	—	—	—
Cuyabá (Revista Matto Grosso)	—	—	—	—	1906	—	—	—
Para. K. K. Central-Anstalt für Meteorologie, Vienna.	—	—	—	—	1903	—	—	—
Rio Janeiro, Observatorio ..	—	—	1905	—	1905	1906	—	—
São Paulo, Comissão Geo- graphica e Geologica, Serviço Meteorológico.	—	—	—	—	—	1902	—	—
hi. Argentina, Uruguay, and Paraguay:—								
Oficina Meteorológica Argentina (Buenos Aires).	—	—	—	—	—	—	1906	—
Dirección General del Servicio Meteorológico Nacional, Monte Video.	—	1905	—	—	—	1905	—	—
Monte Video, Observatorio Meteorológico Municipal.	—	—	—	1904	1903	—	—	1904
Villa Colón, Observatorio Meteorológico.	—	—	—	1902	1902	—	—	1902
hk. Chili:—								
Servicio Meteorológico de la Dirección del Territorio Marítimo (Valparaíso.)	—	—	—	—	1904	—	—	—
Punta Arenas, Observatorio Meteorológico del Colegio Salesiano "S. José."	—	1902	—	1902	—	—	—	—
Santiago, Observatorio Astro- nómico.	—	—	1905	—	—	—	—	—
i. AUSTRALASIA.								
Sydney Observatory	—	—	—	—	—	—	1906	—
ia. New Guinea:—								
British New Guinea (Govern- ment Gazette).	—	—	—	—	—	1905	—	—
Kissidougou, Labé and Siarrhea. Bureau Central Met., Paris.	—	—	—	—	—	1902	—	—

GEOGRAPHICAL LIST—*continued*.

NAME OF INSTITUTION, &c.	Climatology—Agri- cultural and Hy- gienic. 1710 & 1730.	Rainfall Tables. 1180.	Meteorological Observations —General. 1800.	Hourly Values. 1810.	Daily Values. 1820.	Monthly and Yearly Mean Values. 1825.	Daily Weather Re- ports and Charts. 1830.	Weekly or Monthly Weather Reports. 1840.
<i>i. AUSTRALASIA—cont.</i>								
<i>id. Queensland:—</i>								
Brisbane, Government Statis- tician's Office.	1905	—	—	—	—	1905	—	—
Brisbane, Weather Bureau ..	—	—	—	—	—	1906	—	—
<i>ie. New South Wales:—</i>								
Sydney, Department of Public Instruction.	—	1902	—	—	1902	1902	—	—
Windsor (John Tebbutt)	—	—	—	—	—	1903	—	—
<i>ig. South Australia:—</i>								
Adelaide Observatory	—	1904	1904	—	1904	1904	—	—
<i>ih. West Australia:—</i>								
Perth Observatory	—	1906	1904	—	1904	1906	—	1906
<i>ik. New Zealand:—</i>								
Wellington, Meteorological De- partment.	—	1903	—	—	—	1903	1905	—
Wellington, Government Obser- vatory.	—	—	—	—	1904	—	—	—
<i>il. New Caledonia, New Hebrides, and Loyalty Islands:—</i>								
Noumea (N. Cal.). Bureau Central Mét., Paris.	—	—	—	—	—	1902	—	—
<i>k. ARCTIC.</i>								
<i>kb. Greenland:—</i>								
Dansk Meteorologisk Institut (Co- penhagen).	—	—	—	—	1904	1904	—	—
<i>kd. Islands north of Europe and Asia:—</i>								
Norwegian North Polar Expedi- tion [H. Mohn].	—	—	1896	1896	1896	—	—	—
Spitzbergen (J. Westman) ..	—	—	—	1900	—	—	—	—
<i>l. ATLANTIC.</i>								
<i>lb. Azores, Canaries, Madeira, Cape Verde:—</i>								
Service Météorologique des Açores, Ponta Delgada.	—	—	1906	1906	—	1906	—	—
Teneriffe, Las Palmas. Observa- torio Do Infante D. Luiz, Lisbon.	—	—	—	—	—	1900	—	—
Teneriffe, Las Palmas. Bureau Central Mét., Paris.	—	—	—	—	—	1902	—	—

GEOGRAPHICAL LIST—continued.

NAME OF INSTITUTION, &c.	Climatology—Agri- cultural and Hy- gienic.	Rainfall Tables.	Meteorological Observations —General.	Hourly Values.	Daily Values.	Monthly and Yearly Mean Values.	Daily Weather Re- ports and Charts.	Weekly or Monthly Weather Reports.
	1710 & 1730.	1180.	1800.	1810.	1820.	1825.	1830.	1840.
<i>m. INDIAN OCEAN.</i>								
<i>mb. Ocean and Islands south of Equator:—</i>								
Mauritius, Royal Alfred Obser- vatory.	—	—	1805	1804	1804	—	—	—
Mauritius, Army Medical Dep., London.	—	—	—	—	—	1803	—	—
Réunion, Bureau Central Mët., Paris.	—	—	—	—	—	1802	—	—
<i>n. PACIFIC.</i>								
<i>nd, ne. Pacific Islands North of Equator:—</i>								
Christmas Island, Scottish Met. Soc., Edinburgh.	—	—	—	—	—	1804	—	—
Honolulu (R. C. Lydecker)	—	—	—	—	1803	—	—	—
Honolulu, U.S. Weather Bureau, Washington.	—	—	—	—	1806	—	—	—
Marshall Islands, Deutsche See- warte, Hamburg.	—	—	—	—	1899	—	—	—
<i>nf, nh. Pacific Islands South of Equator:—</i>								
Samoa and Cook Islands. Deutsche Seewarte, Hamburg.	—	—	—	—	1899	—	—	—
Tahiti, Rikitea (Mangareva). Bureau Central Mët., Paris.	—	—	—	—	—	1802	—	—

LIST OF CURRENT METEOROLOGICAL PERIODICALS AND JOUR-
NALS CONTAINING OCCASIONAL ARTICLES ON METEORO-
LOGICAL SUBJECTS RECEIVED FOR THE OFFICE LIBRARY.

Annales de l'Observatoire Municipal, Paris.
Annales du Bureau Central Météorologique de France.
Annalen der Hydrographie und maritimen Meteorologie.
Annali dell' Ufficio Centrale Meteorologico e Geodinamico Italiano.
Annuaire de la Société Météorologique de France.
Annuaire Météorologique de l'Observatoire Royal de Belgique.
Aus dem Archiv der Deutschen Seewarte.
Beiträge zur Physik der freien Atmosphäre.
Ciel et Terre.
Comptes rendus hebdomadaires des séances de l'Académie des Sciences, Paris.
Das Wetter.
Geographical Journal.
Globe (Le), Journal Géographique.
Himmel und Erde.
Indian Meteorological Memoirs.
Jahrbuch der Astronomie und Geophysik (H. J. Klein).

Journal of the Franklin Institute.
 Journal of the Meteorological Society of Japan.
 Journal of the Royal United Service Institution.
 Journal of the Scottish Meteorological Society.
 Journal of the Society of Arts.
 London, Edinburgh, and Dublin Philosophical Magazine and Journal of Science.
 Memoirs and Proceedings of the Manchester Literary and Philosophical Society.
 Meteorologische Zeitschrift.
 Mitteilungen aus dem Gebiete des Seewesens, Pola.
 Monthly Meteorological Bulletin of the Nicolas Central Physical Observatory.
 Monthly Notices of the Royal Astronomical Society.
 Nature.
 Nature (La).
 Nautical Magazine.
 Oversigt over det Kongelige danske Videnskabernes Selskab Forhandlingar.
 Petermann's (Dr. A.) Mitteilungen aus Justus Perthes' Geographischer Anstalt.
 Proceedings of the American Philosophical Society.
 Proceedings of the Cambridge Philosophical Society.
 Proceedings of the Royal Irish Academy.
 Proceedings of the Royal Society of London.
 Quarterly Journal of the Royal Meteorological Society.
 Scientific Proceedings of the Royal Dublin Society.
 Scottish Geographical Magazine.
 Smithsonian Contributions to Knowledge.
 Smithsonian Miscellaneous Collections.
 Symons's Meteorological Magazine.
 Tijdschrift van het Koninklijk Nederlandsch Aardrijkskundig Genootschap.

In addition to the works summarised in the above lists, a large number of books and pamphlets dealing with meteorological subjects have been received. Some of the more important are referred to on p. 35.

The compilation of a complete bibliography of meteorological literature is included in the objects of the International Catalogue of Scientific Literature, and the necessity for the publication in full of the titles of all books and pamphlets received at the office is thereby obviated. It is intended to deal with the matter in due course in connexion with the catalogue of the Library.

LIST OF INSTITUTIONS, &c., receiving PUBLICATIONS—*cont.*

UNITED KINGDOM— <i>cont.</i>		UNITED KINGDOM— <i>cont.</i>	
Public Offices — <i>cont.</i>		Dublin ...	Moore, Sir J. W. Royal Dublin Society. Royal Irish Academy. Stoney, B. Trinity College.
London ..	Chinese Maritime Customs. General Post Office General Register Office. *Imperial Institute. Local Government Board. Trinity House.	Dundee ...	Brown, C. H. (Agent). International Commission for Investigation of North Sea. University College.
Manchester	B.T., Supt. M.M.O.	Durham ...	Observatory.
Middlesborough.	B.T., Supt. M.M.O.	Eastham ...	Babington, T. H.
Newcastle-on-Tyne.	B.T., Supt. M.M.O.	Edinburgh ...	Royal Scottish Geographical Society. Royal Society.
Newport ...	B.T., Supt. M.M.O.		*†Scottish Meteorological Society.
Plymouth	B.T., Supt. M.M.O.		University Library.
Portsmouth	Royal Naval College.		
Richmond	National Physical Laboratory (Bushy House). National Physical Laboratory (Kew Obs.).	Falmouth ...	Observatory. Royal Cornwall Polytechnic Society.
Shields	B.T., Supt. M.M.O.	Fleetwood ...	Benn, T. G.
North.		Glasgow ...	"Nautical Magazine." Observatory.
Shields	B.T., Supt. M.M.O.	Greenhithe ...	"Worcester" Training Ship.
South.		Hull ...	Shipmasters' Association.
Southampton.	B.T. Supt. M.M.O.	Jersey ...	Fisher, J. St. Louis Observatory
Sunderland	B.T., Supt. M.M.O.	Leeds ...	University.
Swansea ...	B.T., Supt. M.M.O.	Leith... ..	Nautical College.
		Liverpool ...	Free Public Library. Fry, Capt. Mercantile Marine Service Association. Nautical College. Richardson, Spence & Co. Underwriters' Rooms.
Aberdeen ...	Observatory.		Archibald, E. D.
Aberystwyth.	Dr. Morgan Lewis, M.A.		Barstow, G. L.
Alnwick ...	Duke of Northumberland.		British Balneological and Climatological Society. Eastern Telegraph Co. Eliot, Sir John. Galton, F.
Armagh ...	Observatory.		*Guildhall Library.
Aspatia ...	Royal Agricultural College.		Institution of Civil Engineers.
Belfast ...	Queen's College.		*†Lloyd's.
Bexley Heath	Kettle, W. R.		London Institution.
Bidston ...	Liverpool Observatory.		Metropolitan Water Board.
Birkenhead ...	"Conway" Training Ship.		*Mill, H. R.
Birmingham .	Central Free Library. Midland Institute. University, Librarian. —The Principal.		"Nature."
Birr	Earl of Rosse.		Navigation School.
Brighton ...	Salmon, S. H. R.		
Cambridge ...	Cavendish Prof. of Physics. Darwin, Sir G. H. Observatory. Philosophical Society.		
Cardiff ...	University College.		
Cirencester ...	Royal Agricultural College.		

* Receive all publications, including the Daily Weather Report in those cases which are also marked †.

LIST OF INSTITUTIONS, &c., receiving PUBLICATIONS—*cont.*

UNITED KINGDOM— <i>cont.</i>		BRITISH COLONIES AND DEPENDENCIES— <i>cont.</i>	
London— <i>cont.</i>	Royal Astronomical Society.	<i>Australasia—cont.</i>	
	Royal Botanic Society.	Hobart ...	Royal Society of Tasmania.
	Royal College of Science.	Melbourne ...	Commonwealth Statistical Bureau.
	Royal Geographical Society.		Department of Agriculture.
	Royal Institution of Great Britain.		Observatory.
	*†Royal Meteorological Society.	Perth ...	Meteorological Reporter.
	Royal National Lifeboat Institution.	Sydney ...	Observatory.
	Royal Society.		Royal Society of New South Wales.
	*Royal United Service Institution.	Wellington ...	Colonial Museum.
	Sailors' Palace.	Windsor ...	Observatory.
	Scott, R. H.	<i>Canada.</i>	
	"Shipping Gazette."		
	Society of Arts.	Montreal ...	McGill University.
	Strachan, R.	Toronto ...	*†Meteorological Office.
	Toynbee, Capt. H.	Victoria (B.C.)	Meteorological Office.
	University College.	<i>Falkland Islands.</i>	
	Philosophical Society.		
	Schuster, Prof. A.		
	Observatory.		
Markree ...	Markham, C. A.	Cape Pembroke	Lighthouse Keeper.
Northampton.	Clifton, Prof. R. B.	<i>India and Eastern Asia.</i>	
Oxford ...	Radcliffe Observatory.	Allahabad ...	Meteorological Reporter.
	School of Geography.	Bangalore ...	Meteorological Department.
Petersfield ...	Cave, C. J. P.	Bombay ...	Observatory.
Plymouth ...	Incorporated Chamber of Commerce.	Calcutta ...	Director General of Observatories.
	Marine Biological Laboratory.		Surveyor General.
Portland ...	Seamen's Reading Room.	Dehra Dun ...	Trigonometrical Survey
Southampton.	Forbes, Capt. (Agent).	Hong Kong ...	Observatory.
Southport ...	Fernley Observatory.	Kodaikanal ...	Observatory.
Southsea ...	Alexander, P. Y.	Simla ...	Director General of Observatories.
South Shields	Marine Schools.	Singapore ...	Principal Civil Medical Officer.
Stamford ...	Free Library.	<i>Mediterranean.</i>	
Stonyhurst ...	Observatory.		
Torquay ...	Natural History Society.	Malta ...	Observatory.
Valencia ...	Observatory.	<i>South Africa.</i>	
Watlington (Oxon.)	Dines, W. H.		
Wokingham...	Simmonds, G. H.	Bloemfontein.	Grey College.
Worcester ...	Wilson, Rev. Canon.	Cape Town ...	Observatory.
Yarmouth ...	Sailors' Home.		Meteorological Commission.
York ...	Philosophical Society.	Durban ...	Natal Observatory.
		Johannesburg	Transvaal Meteorological Department.
BRITISH COLONIES AND DEPENDENCIES.		<i>Indian Ocean.</i>	
<i>Australasia.</i>			
Adelaide ...	Government Astronomer.	Mauritius ...	Meteorological Society.
Brisbane ...	Government Meteorologist.		
	Public Library.		

* Receive all publications, including the Daily Weather Report in those cases which are also marked †.

LIST OF INSTITUTIONS, &c., receiving PUBLICATIONS—*cont.*

EUROPE.		GERMANY.	
AUSTRIA-HUNGARY.			
Alt-Krasno ...	Observatory.	Aachen ...	Meteorological Station.
Cracow ...	Observatory.	Berlin ...	Hydrographic Office.
Fiume ...	Nautical Academy.		*†Meteorological Insti- tute.
Innsbrück ...	Observatory.	Bremen ...	Meteorological Obser- vatory.
O'Gyalla ...	Observatory.	Carlsruhe ...	Central Meteorological Office.
Pesth... ..	Central Meteorological Institute.	Darmstadt ...	Hydrographical Bu- reau.
Pola	Hydrographic Office.	Dresden ...	Meteorological Insti- tute.
Prague	Hydrographic Office. Observatory.	Frankfort ...	Physical Society.
	Royal Society of Sciences.	Gotha	M. Justus Perthes' Geographical Insti- tute.
Trieste	Observatory.	Greifswald ...	Geographical Society.
Vienna	Austrian Meteorolo- gical Society.	Halle... ..	Leopold-Carolin Academy.
	Central Hydrograph- ical Bureau.	Hamburg ...	*†Deutsche Seewarte. Schück, Capt. A.
	*†Central Meteorologi- cal Office.	Kiel	Commission for the Exploration of the German Ocean.
	*Hann, Hofrath Dr. J. Ministry of Agriculture	Leipzig ...	University Library.
BELGIUM.		Lindenberg ...	Royal Prussian Aero- nautical Observa- tory.
Brussels ...	*†Observatory (Uccle). Meteorological Service	Magdeburg ...	Observatory.
Ostend	Navigation School.	Munich	Central Meteorological Office.
BULGARIA.			Observatory.
Sofia	Central Meteorolo- gical Station.	Neustadt ...	Forest Academy.
DENMARK.		Neustadt an der Haardt.	Winkl. Geh. Rath Dr. G. von Neumayer.
Copenhagen...	Hydrographic Office.	Potsdam ...	Observatory.
	International Council for the Study of the Sea.	Strassburg ...	Meteorological Agri- cultural Service.
	Meteorological Insti- tute.	Stuttgart ...	Central Meteorological Office.
	Society of Sciences.	Wilhelms- haven.	Observatory.
FRANCE.		GREECE.	
Bordeaux ...	Society of Oceano- graphy of the Gulf of Gascony.	Athens	Observatory.
Lyons	Observatory.	ITALY.	
Marseilles ...	Meteorological Com- mission.	Catania	Meteorological Obser- vatory.
Paris	*†Central Meteorologi- cal Office.	Florence ...	Observatory.
	Hydrographic Office.	Messina ...	Observatory.
	Hydrometric Service.	Milan	Observatory.
	Institute of France.	Moncalieri ...	Observatory.
	Meteorological Society.	Naples	Observatory.
	Municipal Observatory	Palermo ...	Observatory.
Perpignan ...	Meteorological Com- mission.	Pesaro	Observatory.
Puy-de-Dôme.	Observatory.	Riposto	Observatory.

* Receive all publications, including the Daily Weather Report in those cases which are also marked †.

LIST OF INSTITUTIONS, &c., receiving PUBLICATIONS—*cont.*

ITALY— <i>cont.</i>		SPAIN.	
Rome ...	Central Meteorological Office.	Barcelona ...	Experimental Farm ...
Turin ...	Observatory.	Guardia ...	Observatory.
Venice ...	Observatory.	Madrid ...	Central Meteorological Institute.
NETHERLANDS.			Observatory.
Amsterdam ...	Geographical Society. Meteorological Institute.	Malaga ...	Observatory, Chamar-tin de la Rosa.
Utrecht, (De Bilt).	*†Royal Meteorological Institute.	San Fernando	Society of Sciences.
		Tortosa ...	Observatory.
		Vilafranca del Panades.	Ebro Observatory.
NORWAY.			Observatory.
Christiania ...	Meteorological Insti-tute.	SWEDEN.	
		Stockholm ...	Central Meteorological Institute.
PORTUGAL.			Nautical Meteorological Bureau.
Coimbra ...	Observatory.	Upsala ...	Royal Academy.
Lisbon ...	Observatory.		Meteorological Obser-vatory.
Azores.		SWITZERLAND.	
Ponta Delgada	Observatory.	Berne ...	Hydrometrical Bureau.
ROUMANIA.		Geneva ...	Geographical Society.
Bucharest ...	Meteorological Insti-tute.	Mont Blanc ...	Observatory.
		Neuchâtel ...	Observatory.
RUSSIA.		Zürich ...	Central Meteorological Office.
Dorpat ...	Observatory.	AFRICA.	
Helsingfors ...	Society of Sciences.	Algiers ...	Meteorological Service.
Kazan ...	Observatory.	Cairo ...	Sanitary Department.
Kieff ...	Observatory.		*†Survey Department.
Koutchino ...	Aerodynamical Insti-tute.	AMERICA.	
Moscow ...	Observatory.	Baltimore ...	Maryland Weather Service.
Nicolaieff ...	Hydrographic Office.	Buenos Aires..	Mons. Lasagna Obser-vatory.
Odessa ...	Observatory.	Cambridge, Mass.	Harvard College Ob-servatory.
Pavlovsk ...	Observatory.	Cordoba ...	Meteorological Office.
St. Petersburg	*†Nicolas Central Phy-sical Observatory.	Costa Rica ...	National Academy.
	Hydrographic Depart-ment.		Meteorological Insti-tute.
	Imperial Institute of Forestry.	Guatemala ...	Central Laboratory.
Tiflis ...	Woeikof, A.	Havana ...	Observatory.
Warsaw ...	Observatory.		Central Meteorological Station.
	Meteorological Bureau	Mexico ...	"Antonio Alzate" Scientific Society.
SERVIA.			Central Meteorological Observatory.
Belgrade ...	Central Observatory.		

* Receive all publications, including the Daily Weather Report in those cases which are also marked †.

LIST OF INSTITUTIONS, &c., receiving PUBLICATIONS—*cont.*

AMERICA— <i>cont.</i>		AMERICA— <i>cont.</i>	
Monte Video...	Meteorological Society. Observatory, Villa Colon.	Valparaiso ...	Meteorological Service. Chief Signal Officer.
New York ...	American Geographical Society. Central Park Obser- vatory. State Library.	Washington...	Department of Agri- culture. Geological Survey. Hydrographic Office. Naval Observatory. Smithsonian Institu- tion.
Oaxaca ...	Observatory.		Surgeon General's Office.
Philadelphia..	American Philoso- phical Society. Franklin Institute.		*† Weather Bureau.
Porto Alegre..	Azambuja, Sr. G. A. de		
Porto Rico ...	Engineer in Chief.		ASTA.
Quito... ..	Observatory.		
Rio Janeiro ...	Meteorological Depart- ment, Ministry of Marine.	Batavia ...	Observatory.
	Observatory.	Beyrout ...	Lee Observatory.
Saltillo ...	Observatory.	Irkutsk ...	Observatory.
San Luis	Observatory.	Manila ...	Meteorological Obser- vatory.
Potosi.		Tokio ...	Imperial Meteorolo- gical Observatory.
San Salvador	Observatory.	Zi-ka-wei ...	* Observatory.

* Receive all publications, including the Daily Weather Report in those cases which are also marked †

APPENDIX IX.

ACCOUNT of RECEIPTS and PAYMENTS for the year ended 31st March, 1907 :—

RECEIPTS.			PAYMENTS.		
	£	s. d.		£	s. d.
Balance from year 1905-1906	—	2,621 15 3	Committee (Travelling)..	7 10 0	
Parliamentary vote ..	—	15,300 0 0	Director	1,000 0 0	1,007 10 0
Repayment for forms, incidental items, &c. ..	—	74 5 1	ADMINISTRATION:		
Repayment for Antarctic Meteorology	—	—	Salaries and wages ..	1,233 0 0	
LECTURES AND EXPERIMENTS	—	27 15 0	Rent, fuel, and lighting ..	716 17 0	
SPECIAL RESEARCHES ..	—	6 0 0	Incidental expenses ..	239 15 2	
SUPPLY OF INFORMATION:			Postage	167 18 9	
Weather Forecasts, Reports, &c.	573 18 0		Furniture, fittings, &c. ..	197 8 5	
Telegrams sent abroad ..	504 19 6	1,078 17 6	Meteorological Congress ..	25 7 6	2,580 6 10
SUPPLY OF INSTRUMENTS, &c.:			SPECIAL RESEARCHES:		
Repayment of cost of supply of instruments to Royal Navy ..	596 17 7		Salaries and other charges	—	143 10 0
Repayment of cost of instruments by Colonial Governments, observers, &c. ..	735 8 0	1,332 3 7	INSPECTIONS:		
CHARGES FOR COMMISSION:			Salaries and travelling expenses	—	269 11 4
On supply of Instruments, &c.	—	23 15 0	OCEAN METEOROLOGY:		
SUPERANNUATION ACCOUNT:			Salaries:—Discussion and reduction of observations	1,904 7 3	
Annuities	356 5 0		Agents' fees, &c.	9 16 6	1,904 3 9
Interest on Investment	26 19 0		WEATHER INFORMATION AND FORECASTS:		
Repayment of Income Tax	—	383 4 0	Telegraphic reports and storm warnings, remuneration of observers, &c.	2,351 11 9	
			Postage of Reports	242 2 1	
			Salaries:—Preparation and issue of reports and forecasts	1,496 1 8	4,089 15 6
			LAND METEOROLOGY:		
			Observatories and stations, including remuneration of observers, &c.	2,614 12 5	
			Salaries:—Discussion and reduction of observations, &c.	2,073 0 0	4,687 12 5
			INSTRUMENTS:		
			Salaries	394 14 1	
			Royal Navy	496 17 7	
			Mercantile Marine, Stations, Colonial Governments, &c.	972 5 0	1,863 16 8
			ANTARCTIC METEOROLOGY:—		
			Salaries and other charges	—	85 17 10
			SUPERANNUATION:		
			Pensions and Allowances ..	1,034 7 8	
			Purchase of Annuity	1,336 11 0	2,370 18 8
			BALANCE:		
			Advance for Travelling Expenses	—	
			Cash at Bank	1,793 17 2	
			" at Office	50 15 3	1,844 12 5
		£20,847 15 5			£20,847 15 5

NOTE.—On March 31st, 1907, the amount of $\frac{2}{3}$ per cent Annuities held by the Trustees for the provision of Superannuation Annuities was £2,156 4s. 1d.

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