THE SURFACE WATERS

OF THE

NORTH ATLANTIC OCEAN

SOUTH OF 60° N. LATITUDE,

SEPTEMBER 1904 TO DECEMBER 1905,

BY

DONALD J. MATTHEWS.

With Diagrams (Figs. 1-3) in the Text and Plates I. to III. at end.

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I.—INTRODUCTION.

The investigations described in the following pages are the outcome of a recommendation made by a meeting of hydrographic* assistants held in Copenhagen in 1904 at the invitation of the Central Bureau of the International Council for the Study of the Sea. They were not undertaken with the intention of giving a complete account of the movements of the surface waters of the North Atlantic during the period with which they deal, but rather in order to provide information which, it was hoped, would prove of some assistance to the hydrographers of the countries adhering to the International Scheme of co-operation in explaining variations observed in their own areas, and in bringing these variations as far as possible into one generalisation. It was decided, therefore, to limit the area of research to those parts of the North Atlantic not visited by the special steamers engaged in the work, and from which it would be possible to obtain a sufficient number of water samples from the larger steamers making regular voyages; that is, roughly, west of the British Isles, south of a line joining the north of Scotland to the northern entrance of the Straits of Belle Isle, and north of 20° N. Latitude. This southern limit was adopted after a discussion at the meeting to which reference has been made above.

It will be seen that comparatively little reference has been made to the work of former investigators in the same region. This seeming neglect is due to the fact that the present report covers only sixteen months and is necessarily almost entirely descriptive, any attempt at generalisation being out of place for the present. No claim is put forward to the discovery of any new principle of importance, and all that it is hoped to do is to give a sufficiently accurate account of the distribution of surface salinity and temperature during the period in question and to draw attention to their bearing on phenomena already recorded by others in those parts of the northern European waters which are being more thoroughly examined. Indeed, the general principles of the circulation of the North Atlantic, particularly as regards the surface, and in a less degree where the deeper waters are concerned, have already been laid down, and it now remains to fill in the details and investigate its variations, periodic and unperiodic, to explain them as far as is possible, and to show what influence they have, if any, on fishery problems, a task that demands careful and unremitting work carried on without a break for many years. This last condition is, in the opinion of the present writer, one of the greatest importance, and that so much remains to be done is due to the fact that few private investigators are in a position to give the time or bear the expense necessary for continuous work. Work of great value has been done in the past by Dr. H. N. Dickson and by Professor Otto Pettersson, to take two instances only, but much of its value for the explanation of variations has been lost because it was not possible to carry on the observations for a sufficiently long period.

The investigations dealt with here are still in progress, and it is hoped that a further report on them will be ready for the press before the end of the present year (1907).

* The word hydrography and its derivatives are used throughout in the sense of "physical oceanography."

II.—MATERIAL.

Salinities.—a. For the larger part of the material used I am indebted to the assistance of the Council of the Meteorological Office, who authorized their Marine Superintendent, Commander M. W. Campbell Hepworth, C.B., R.N.R., to write to the commanders of a number of vessels, from which meteorological log-books were already being received, asking them if they would undertake to collect water samples for me. Most of those to whom application was made very kindly consented to do so, and some in their turn were the means of interesting other officers in the work. In one case the commander of a liner has volunteered his assistance, while I owe the help of Captain W. Adams, of the whaler *Morning* to the good offices of a friend. I would take this opportunity of expressing my thanks to Commander Hepworth, not only for his assistance in obtaining the necessary data, but also for much valuable advice ; and to the other officials of the Meteorological Office for their courteous help on the occasions when I have referred to books or unpublished records in their care.

A complete list, as far as possible, of the officers responsible for the observations, will be found in Table I., and I wish here to express my appreciation of the trouble and care they have taken, in all cases entirely gratuitously, which alone have made these investigations possible. That the list is not complete in all respects is due to the fact that the observers have not in all cases signed the forms supplied with the boxes of bottles ; in two cases at least the commanders who originally undertook the work have left the vessels and their successors have carried it on without my being aware of the change till some time afterwards. I trust this explanation will account for any omissions.

A few observers, in particular Captain Lumsdane of the *Astoria*, have sent me notes on currents and suggestions as to the interpretation of the results.

The bottles used for preserving the water samples were " six ounce sterilized milk bottles " with a porcelain stopper fitted with a rubber washer and automatic spring fastening. Each consignment of new bottles was carefully examined and doubtful ones were rejected ; the remainder proved very satisfactory, and in the few instances where a fastening had become loose and had allowed evaporation to take place, the fact was at once obvious. If the washers are examined each time that the bottles are cleaned, and the observers are careful to tie the string of the label round both the wire and the neck of the bottle, evaporation is virtually impossible. A source of error which occasionally arose, and might equally arise with any type of bottle, was a very small crack apparently caused by a blow ; it was sometimes so minute as not to be noticed until an abnormal salinity led to a careful examination. A few bottles were also lost through the contents freezing.

With the bottles were supplied forms giving general instructions, with spaces for recording the name of the vessel, the date and time, position, sea temperature, and remarks on currents, weather conditions, &c., and the name of the observer ; and also stout Manila tie-on labels with spaces for the essential information. A few observers have given all information on the labels instead of using the forms, and this has not infrequently led to their omitting to add their names.

The boxes used were lined with felt top and bottom and held either 30 or 42 bottles, each in a separate compartment. The larger boxes were provided with hand-holes instead of rope handles, a mistake that permitted the entrance of rats which destroyed several labels.

According to the original programme samples were to be taken at noon every day except near the British coast, where modifications were introduced to suit the local conditions. Many observers, however, have taken them more frequently when the regular two-hourly temperature readings made for the Meteorological Office have shown that the conditions have been varying rapidly ; and in a few cases a sample has been taken every four hours, or even every two hours when the supply of bottles was sufficient.

The total number of samples received from vessels sailing from British ports or calling at them was 452, September to December, 1904, and 1,701, January to December, 1905.

b. I have also made use of a valuable series of salinities, in all 913, determined under the direction of the Danish *Kommissionen for Havundersoegelser* on samples taken on steamers trading between Copenhagen and New York, and commencing in December, 1904. The results up to the end of June, 1905, are unpublished, and I received them in manuscript through the courtesy of Docent Martin Knudsen, Director of the Danish Hydrographic Investigations. They will be found in Table II., under the names of the vessels *United States*, *Hellig Olav*, and *Oscar II.* From that date onwards they have been published in the Quarterly Bulletin, and I have not reprinted them here.

c. The observations made on the fishery cruiser *Helga* of the Fisheries Branch of the Board of Agriculture and Technical Instruction for Ireland, have enabled me to fill in some gaps off the west coast of Ireland where other information is wanting. The samples were analysed partly by Mr. Ramsden and partly by myself.

d. I have to thank Dr. Norris Wolfenden for sending me the proofs of an as yet unpublished paper by Dr. H. N. Dickson on the samples collected on Dr. Wolfenden's yacht *Silver Belle*. The results cannot be used directly as they do not quite coincide with the other observations in point of date; indirectly, however, they have been of great assistance in throwing light on a doubtful point, as will be shown later.

e. All the above salinities have been determined by titrating the samples against the "normal water" of the Central Laboratory at Christiania. I have now to refer to a set of observations as to the propriety of using which I have had considerable doubt; *i.e.*, the analyses made by MM. G. H. Allemandet* and L. G. Sabrou, of the samples collected on board the yacht *Princesse Alice*, owned by H.S.H. The Prince of Monaco. M. Allemandet has used two methods of analysis, that of Docent Knudsen adopted by the Central Council, and another to which he refers as "la méthode scientifique rigoureuse, exposée par M. Thoulet." The values obtained by these two methods differ by an amount greater than the experimental error, and one or both must be incorrect. It appeared, however, that the difference was not sufficiently large to preclude the use of either set of values for the purpose of the present paper, as the isohalines for the region in question have not been drawn for an interval less than 0·50 pro mille salinity. I have, therefore, plotted them along with my own determinations where possible, using the figures given by Knudsen's method. The two sets of observations invariably confirmed one another, and in some cases I have been able to extend the isohalines by the use of the material from the *Princesse Alice*.

Temperatures.—With nearly every sample of water or record of salinity I have received a note of the surface temperature. The British vessels generally used an accurate thermometer supplied by the Meteorological Office, divided to single degrees on the Fahrenheit scale. In a few cases where no verified thermometer was on board the instrument used was sent to me for examination. The results were somewhat disappointing, the error being often two degrees, and once as much as four degrees.

I have no information as to the thermometers used on the other ships. For reasons which are explained in Section V. I have not used these temperatures for drawing the isotherms, which are founded on information derived from the Monthly Pilot Chart issued by the British Meteorological Office.

III.—DETERMINATION OF SALINITY, &c.

The salinities recorded in Table II., with the exception of those from the Danish vessels, were determined by the present writer, the chemical analysis being confined to the estimation of the total halides by titration according to the method adopted by the Central Council. A quantity of about 16 cc., varying of course at different temperatures of the laboratory, was measured in a Knudsen pipette provided with a two-way stop cock instead of an upper mark, and run out into a porcelain basin, where it was titrated with a solution of silver nitrate (containing about 41·7 grms. per litre); the indicator was two drops of a saturated solution of potassium chromate. The burette, of a total capacity of 44 cc., was expanded above into a bulb of 35 cc. capacity, drawn out at the top to a fine opening; it was connected below by a tap and tube with the store bottle containing the silver nitrate solution, which was allowed to overflow through the

*. Bulletin du Musée Oceanographique de Monaco, Nos. 43 and 54. G. H. Allemandet.

upper opening every time that the burette was filled. The unit used in graduation was equal to 2 cc., and was divided by marks to tenths, which could be read to hundredths by estimation with considerable accuracy. For every ten or twelve samples analysed a titration was made of the "normal water" of the Central Laboratory or more often of a secondary standard seawater of nearly the same chlorine content which had been carefully compared with the "normal water." With the quantities and capacities given, the burette reading is approximately equal to the chlorine content of the sample pro mille, and the correct chlorine value can be taken by inspection from Knudsen's Hydrographic Tables. The capacity of the pipette does not enter into the calculation, and need only be known for convenience in making up the silver solution. The method is extremely sensitive, and differences between duplicate analyses as great as ·02 pro mille were very rare; when they did occur they could always be traced either to a leaky tap or to grease in the burette. The burette was carefully calibrated with distilled water and with the silver nitrate solution. The difference between the values due to the difference in viscosity of the water and of the solution was not such as to produce any appreciable error except on samples of either very high or very low salinity, and would be quite without influence on the general results of an investigation such as this. A large number of samples from other sources had been titrated before any of those recorded here, and so much confidence in the method had been gained that it was not considered necessary to titrate more than an occasional sample in duplicate, in order to be sure that the apparatus was in good order, or to verify an abnormal result.

From the burette reading the chlorine, the salinity, and σ_0 have been calculated by Knudsen's Tables and given in Table II. The quantity σ_0 is equal to (S_0-1) 1,000 where S_0 is the specific gravity at 0°C. compared with that of distilled water at 4°C. Thus $\sigma_0 = 28{\cdot}40$ corresponds to sp. gr. $\frac{0°}{4°}$ 1·02840. It will be seen that in some cases the same value for σ_0 has been given to samples differing by 0·01 pro mille in salinity; this is due to the rounding off of the tables to the second place of decimals, while the mean of a number of titrations may give the chlorine value approximately to the third place.

The specific gravity of a certain number of water samples from various parts of the world has been determined at 17·5° C. in a pycnometer calibrated with distilled water at the same temperature; one thus gets the value $\rho 17{\cdot}5$ of Knudsen's Table directly, and the corresponding value of σ_0. Where the samples have fallen within the scope of this paper the result has been given in the last column under the head of "Remarks." It will be seen that the agreement between the values of σ_0 calculated from the chemical and physical examination is remarkably good considering the combined experimental error of the two processes. Only one serious discrepancy has been found, and special attention has been drawn to it in the discussion of the conditions in April, 1905.

IV.—THE CHARTS.

It was originally intended to publish the salinity charts for every half month, and the observations were so plotted on the large scale outline charts on Mercator's projection published by the Challenger Society. Against each observation was plotted the day of the month, salinity, temperature, and the name of the vessel; inks of various colours were used for the different salinities, a device that proved very useful in calling attention to abnormal results. It soon became obvious that the material from the different ships was not equally reliable, either owing to want of experience or to some other cause. In the few cases in which it was possible to compare the salinities with those of samples taken by the writer at nearly the same place and time, the error, if any, was always one of excess, probably due to the necessity of using a very small bucket on a large steamer travelling at high speed, and the consequent risk of evaporation. The samples obtained from one vessel in particular were evidently so far wrong, on certain voyages at least, that it was necessary to discard the whole of them. The larger number of observations have however been very carefully made, and salinities which at first sight appeared hopelessly incorrect have often been confirmed later from other sources. Where abnormal results have been included in the charts, attention is drawn to them, and the grounds for their inclusion given.

When the whole of the data had been plotted the isohalines were drawn and transferred to outline charts similar to those in the plates, but measuring 11·75 inches by

17 inches. It was then seen that charts for every half month were unnecessary and indeed confusing. The salinities were then replotted month by month on the smaller charts, which were ruled in pencil for every degree of latitude and longitude. In spite of the small scale this was found to be quite feasible if the integers were omitted and coloured inks used in their place, though, of course, the method could not have been adopted with advantage had not the observations been previously plotted on the larger scale Mercator charts. The isohalines were then drawn and transferred as before.

The isotherms, in red, have been drawn from the data printed in the Monthly Pilot Charts, which contain insets giving to the nearest degree Fahrenheit the mean of all the temperature observations for each month for areas measuring 2° on the side, and also, where possible, the differences between this mean and the corresponding mean calculated from the observations of a large number of years. It may be objected with truth that the isotherms drawn from a large number of temperatures and calculated for such large units of area are not directly comparable, in regions where the surface temperature gradient is steep, with isohalines drawn from a much smaller number of salinities, the exact position of each of which is known. For instance, in November, 1904, the Pilot Chart gives for the 2° square, the centre of which is at 43° N. latitude and 63° W. longitude, a mean temperature of 51° Fahrenheit (10·6° C.). The observations sent to me personally give in this area a temperature of 9·4° C., with a salinity of 32·07°/$_{oo}$, another of 10°C., with a salinity of 32·79°/$_{oo}$, and a third of 12·8 C., with a corresponding salinity of 35·14°/$_{oo}$. These three sets of observations show that both the isohalines and the isotherms are crowded together, and that the salter water has the higher temperature. The Pilot chart means being given for 2° squares only it is impossible to interpolate from them isotherms which shall fall into their correct positions with regard to the isohalines, while it was found that an attempt to combine the two sets of data necessitated assumptions for which there was little evidence. The alternative of drawing the isotherms entirely from temperatures accompanying water samples might have led to slightly better results in a region such as the one discussed, but the results as a whole would have suffered, a single temperature reading being far more liable to error from accidental causes than a single determination of salinity. When it was considered that the Pilot Chart inset for a month is founded upon, roughly, as many readings as would be sent to me in the course of a year, it was decided to draw the isotherms entirely from these monthly means, drawing attention to any observations that might appear to deserve special mention.

It must be understood that the Meteorological Office is responsible for the mean temperatures only, and their deviation from the mean of a number of years; the interpretation put upon them is entirely the work of the present writer.

The projection of the charts in this report, if it can be legitimately called a projection, is a purely arbitrary one, the angles between the meridians being always equal, and the parallels of latitude equidistant circles. This method of drawing was adopted owing to the fact that neither areas nor shapes are unduly sacrificed, while for plotting purposes it is nearly as convenient as the Mercator projection.

The scale of colouring used is that recommended by the International Council.

V.—DISTRIBUTION OF TEMPERATURE AND SALINITY.

The two most constant currents in the region of the North Atlantic discussed in this paper are the warm and salt Gulf Stream and the relatively fresh ice-laden Labrador current. The first of these is caused by the north-east and south-east trade winds, which in low latitudes blow strongly on the surface waters of the North and South Atlantic, and drive them as the north and south Equatorial Currents from the African coast to the north-eastern shores of South America and to the West Indies. Off Cape San Roque the Southern Equatorial Current divides, one portion turning south along the coast of Brazil, while the other continues its course to the west and joins the Northern Equatorial Current. The currents again divide and pass partly into the Gulf of Mexico through the Caribbean Sea, partly outside the West Indian Islands towards the shores of the south-eastern States. In the Gulf of Mexico the waters are banked up, producing a measurable difference of level; their only outlet is through the Straits of Florida, through which they flow as the Gulf Stream proper, a current five miles in width and extending to the bottom in 350 fathoms, with a velocity that sometimes reaches one hundred miles a day.

Beyond the Straits the current joins that part of the westerly drift that has passed outside the West Indies, and the two streams, which have travelled through regions of high temperature and rapid evaporation, unite and flow northwards close to the American coast as far as Cape Hatteras, with a salinity of over $36°/_{oo}$ and a mean annual temperature that at this point exceeds 20° C. Here they turn more and more to the east, finally following approximately the fortieth parallel, until, south-east of Newfoundland, they meet the cold Labrador current, which flows south from Baffin's Bay and Davis Straits along their western shores and is largely due to the northerly winds set up by the northern cyclonic system.

The Labrador Current pushes the waters of the Gulf Stream aside, passing sometimes through them or under them, but always in the end turning west and flowing along the coast as far as Cape Hatteras, fringing the shore with a border of water of relatively low temperature to which the name of the Cold Wall has been given. The meeting place of the two streams is well marked by the mean annual isotherms of 10° C. and 15° C., which in about 41½° N. latitude and 50° W. longitude nearly touch one another; east of this the isotherms diverge and run north-east on nearly parallel courses for 300 miles, to finally separate in about 46° N. latitude and 44° W. longitude, whence the 15° C. isotherm runs nearly due east to the Bay of Biscay, while the 10° C. isotherm turns to the north till it reaches the parallel of 51° N., when it bends to the north-east and crosses the Atlantic in the direction of the Faeroe Islands, though before reaching them it turns south again to the north coast of Ireland.

After its collision with the Labrador Current the warm salt water spreads out in a fan-shape across the Atlantic, one branch extending towards Iceland and the Faeroe-Shetland Channel, another to the English Channel and the Bay of Biscay, while a third comes within the influence of the north-east trade wind and is diverted to the south and south-west as the Canary Current, finally returning to the West Indian Archipelago. There is thus in the centre of the North Atlantic a great eddy of warm water, the salinity of which in its southern part is always at least $37°/_{oo}$ and sometimes, though rarely, reaches $38°/_{oo}$. It is bounded on all sides by fresher water. South of the coast line from Cape Cod to Cape Race the fall in salinity is steepest, the Gulf Stream with a salinity of over $36°/_{oo}$ flowing close to the water of the Labrador Current with a salinity of $33°/_{oo}$ or less. East of Cape Race the sharp line of demarcation is lost; the $36°/_{oo}$ isohaline runs nearly due east, while the isohaline of $34°/_{oo}$ turns to the north, and is bordered on its eastern side by a band of surface water of from $34°/_{oo}$ to $35°/_{oo}$ of a width of a few hundred miles. East of this again and north of the $36°/_{oo}$ isohaline a great fan of water of salinity between $35°/_{oo}$ and $36°/_{oo}$, and with a mean temperature for the year in the region with which we are concerned of between 10° C. and 15° C., fills the larger part of the North Atlantic, entering the Bay of Biscay and the English Channel, and passing to the west of the British Isles to Iceland, to the Norwegian Sea through the Faeroe-Shetland Channel, and to the North Sea.* The isohaline of $35°/_{oo}$ crosses and recrosses the tracks followed by steamers from the North of Scotland to Cape Race, and finally turns away from it in mid ocean in a northerly direction.

East of the point where the mean isotherms for 10° C. and 15° C. begin to diverge the Gulf Stream loses its identity to a large extent, and many oceanographers would place here its eastern limit, giving the name of West Wind Drift† to its fanlike extensions. The point is not of great importance provided that one bears in mind the change in the character of the flow from a deep well-defined salt current of high velocity to a slow and somewhat indefinite movement of the surface waters. Unfortunately considerable confusion has arisen, some authorities preferring the older nomenclature and speaking of the Gulf Stream reaching the Faeroe Islands; and the statement that the Gulf Stream does not extend to the east of mid ocean has been understood by those who are not familiar with the literature of the subject, as a denial of the undoubted influence on the climate of Northern Europe of the warm water which surrounds its coast.

The above is a brief outline of what has been known for many years past of the general character of the surface water of the North Atlantic.

The routes followed by steamers from northern European ports to the St. Lawrence and New York vary with the season of the year, sometimes running fairly straight from

* A portion of the Atlantic water in the North Sea enters through the English Channel.

† Strictly, the term current is now reserved for well defined movements of water, at any depth, caused by difference of hydrostatic pressure; while a drift is a slower movement of the surface water due to the wind. The two merge into one another; for instance, the trade winds set up a drift into the Gulf of Mexico, whence it issues as a current, to be again converted into a drift.

Cape Race to Cape Cod, while at others they pursue a nearly east and west course between New York and about 47° W. longitude. When the steamers are following the more northerly track the salt water of the Gulf Stream is not as a rule observed, and the lower isohalines, from $35°/_{oo}$ downwards, are so crossed by the lines of samples that they are seldom well defined throughout their length. For this reason the material used in drawing up the charts for this paper is not sufficient to enable one to trace the variations in the position of the northern edge of the Gulf Stream throughout the year, and reference must be made to the excess or defect of the surface temperature from the monthly means, and to the reports from the commanders of vessels on the set and velocity of the currents actually observed.

September, 1904.—Owing to the northerly track followed by the Transatlantic steamers the isohalines were not well defined between Cape Cod and Cape Race. The coastline was bordered by narrow bands of water of $34°/_{oo}$ *S.* or less. Salinities of $34°/_{oo}$ to $35°/_{oo}$ were found as a narrow strip in 63° W. longitude ; to the east of this they were almost completely lost until they appeared again as a broad band to the east of Newfoundland, between the low salinity water of the Labrador Current and the water of from $35°/_{oo}$ *S.* to $36°/_{oo}$ *S.* stretching to the European coast. The distance to which this fresher water extended to the south-east of Newfoundland is not shown by the observations. The area of from $35°/_{oo}$ *S.* to $36°/_{oo}$ *S.* was indented by slightly fresher water between the thirtieth and fortieth meridians on the north ; to the south it was bordered by the $36°/_{oo}$ isohaline running from 45° N. latitude and 30° W. longitude in a southerly and easterly direction towards the Portuguese coast. Water of $37°/_{oo}$ *S.* and over was found between the thirty-sixth and sixty-fifth meridians south of the thirty-third parallel, its extension being chiefly in an east and west direction. Salinities of from $36°/_{oo}$ *S.* to $37°/_{oo}$ *S.* bordered the African coast as far south as the twentieth parallel.

The surface temperature between the forty-fourth and fiftieth parallels and east of the forty-sixth meridian was on the whole below the mean for the month, the defect ranging in places from 2° C. to 4° C. ; to the south and west it was slightly above normal. The 10° C. isotherm ran east from Newfoundland, turning to the north and west in water of from $34°/_{oo}$ *S.* to $35°/_{oo}$ *S.* in about 46° W. longitude ; that of 15° C. ran south of Nova Scotia in an approximately easterly direction to 46° W. longitude, and then bent slightly more to the north, making a deep loop towards the south-west in 25° W. longitude, after which it returned to its original direction to end in the Irish Channel.

Little ice was reported on the Transatlantic routes, and that chiefly from the neighbourhood of the Straits of Belle Isle.

October, 1904.—Water of less than $34°/_{oo}$ *S.* on the western side extended a greater distance from the coast than in the previous month, both in a southerly and easterly direction. To the east it had encroached on the water of $34°/_{oo}$ *S.* to $35°/_{oo}$ *S.*, but to the south-east its edge was not defined. The water of $35°/_{oo}$ *S.* to $36°/_{oo}$ *S.* was still indented by slightly fresher water between 30° W. longitude and 40° W. longitude. The $36°/_{oo}$ isohaline was found a short distance further south than in September, while that of $37°/_{oo}$ did not extend so far in an east and west direction, though it could be traced as far north as the forty-sixth parallel in 50° W. longitude.

The temperature on the eastern side was still below the normal, though the area of defect did not extend much west of the thirty-fourth meridian. West of this and south of 36° N. latitude, the water was warmer than the mean for October, the excess reaching 3° C. in places. The isotherms all followed more southerly courses, the chief change being in the positions of those of 10° C. and 25° C. The first of these ran easterly to the south of Newfoundland, turning to the north and west in about 45° W. longitude as in the previous month, and then bending to the east and north-east again, to be lost at about 55° N. latitude and 26° W. longitude. On the 15° C. isotherm the deep bend to the south-west between the twentieth and thirtieth meridians was no longer found.

Ice reports for the month were very few, and only from the north-east of the Straits of Belle Isle.

The Pilot Chart records the drift of a bottle paper put out to the west of Ireland on October 4th in 52° N. latitude and 13° 20′ W. longitude, and recovered in 53° 24′ N. latitude and 10° 14′ W. longitude, on November 16th, having drifted N. 60° E., 170 miles in 43 days, at an average rate of 4 miles per day.

November, 1904.—In this month evidence of a slightly increased flow of high salinity water was found. Between 60° W. longitude and 68° W. longitude water of over $35°/_{oo}$ *S.* was pressing to the north against the fresher water, which extended slightly more to the east. The tongue of water of less than $35°/_{oo}$ *S.* which in the two previous months indented the water of over $35°/_{oo}$ *S.* had been pressed back, and now formed only a narrow fringe to the north. The $35·5°/_{oo}$ isohaline also extended to the north beyond the area of observations off the west coast of Ireland. The $36°/_{oo}$ isohaline, east of 40° W. longitude ran nearly due east in about 43° N. latitude, and then turned north-east well into the Bay of Biscay. Owing to the lack of observations the position of the $37°/_{oo}$ isohaline is almost unknown. Two remarkable salinities recorded during this month have been shown on the charts, one of over $36°/_{oo}$ to the south-west of Ireland, and another of less than $35°/_{oo}$ in water of over $36°/_{oo}$ on the track of the West Indian steamers in 70° W. longitude. Both of these may be due to errors, but somewhat similar observations have been made on other occasions, and it was, therefore, considered advisable to include them, while drawing attention to their possible inaccuracy.

The surface temperature was generally slightly below normal ; but a large area of relatively warm water was found south of the fiftieth parallel between the thirty-fourth and sixty-fourth meridians, and another smaller one extending from the Bristol Channel to 18° W. longitude. The isotherm of 5° C. appeared in approximately the same position as that of 10° C. in September. Those of 10° C. and 15° C. had not changed their position to any great extent, but the 20° C. isotherm which in the two previous months had passed through the Azores now bent to the south of them, while that of 25° C. was not found north of the thirtieth parallel. On the Transatlantic route only two bergs were reported, in 50° N. latitude and 53½° W. longitude.

December, 1904.—During this and following months the area of investigation is increased by the inclusion of the Danish observations. On the western side the northerly flow of salt water still continued, and salinities of over $36°/_{oo}$ *S.* were found in 42° N. latitude, and 60° W. longitude, close to the fresher water of the Labrador Current ; between the fortieth and fiftieth meridians the isohaline of $36°/_{oo}$ still kept a fairly southerly position.

The isohaline of $34°/_{oo}$ could now be traced unbroken to the south and east of Newfoundland, its greatest distance from the coast being found in about 45° N. latitude, and 45° W. longitude. Further east the water of between $35°/_{oo}$ *S.* and $36°/_{oo}$ *S.* was encroached upon to a greater extent than in the previous month, on the north by fresher water and to the south by water of over $36°/_{oo}$ *S.* which was entering the Bay of Biscay in large quantities. The $37°/_{oo}$ isohaline extended to the north-east to 36° N. latitude, and 43° W. longitude.

In drawing the chart for the month two abnormally high salinities north of the fiftieth parallel have been neglected.

The temperature was generally below the mean for the month, the defect being greater on the western side ; an area of slight excess was found between the thirty-sixth and forty-fourth parallels, to the west of the forty-second meridian. The 5° C. isotherm had moved considerably to the south and east, and as far as it can be traced coincided approximately with that of 10° C. for the previous month ; the isotherm of 20° C. took a very irregular course, probably indicating patches of warm water surrounded on all sides by lower temperatures.

Captain R. Götsche, of the s.s. *Alabama*, reports that his ship was stopped for repairs from December 13th at 12.30 p.m. in 58° 17′ N. latitude, 20° 20′ W. longitude, until 8 p.m. on December 15th, when she was in 59° 7′ N. latitude and 19° 40′ W. longitude, having drifted N. 22° E., 54 miles, at the rate of one mile an hour. (Pilot Chart.)

No ice was sighted on the Transatlantic routes.

January, 1905.—During this month the salter water was not increasing quite so rapidly, and west of the fiftieth meridian no water with a salinity as high as $36°/_{oo}$ was observed. To the south-east the isohalines of $35°/_{oo}$ and below cannot be traced with any certainty ; the isohaline of $36°/_{oo}$ however extended at least as far north as the forty-third parallel under the forty-fifth meridian, and the salinity gradient between this point and Cape Race must therefore have been comparatively steep. On the eastern side water of $36°/_{oo}$ *S.* was no longer found in the Bay of Biscay, while to the south the isohaline of $37°/_{oo}$ did not extend to the north of the thirtieth parallel. The chief signs of a

continued increase of salinity were the somewhat northerly position of the 36°/$_{oo}$ isohaline between the fortieth and forty-fifth parallels, and rather high values in the western part of the English Channel and off the north-west coast of Scotland.

Surface temperatures on the whole were below the average for the month, but an irregular area of excess stretched across the Atlantic from the Bay of Biscay in a southerly and westerly direction, broken between 35° W. longitude and 39° W. longitude by colder water connecting the northern and southern regions of defect. The isotherm of 0° C. ran from Nova Scotia easterly in about 45° N. latitude, and turned to the north in 48° W. longitude. The isotherm of 5° C. ran nearly parallel to it, while that of 10° C. reached its most northerly point, 53° N. latitude, in 20° W. longitude, and then turned to the south and east again towards the south coast of Ireland. The 20° C. isotherm followed an easterly course, tending to the north between 45° W. longitude and 35° W. longitude, but dipping south again in 31° W. longitude to cut the Azores group.

Ice reports were fairly numerous ; by the middle of the month heavy ice was found in the Bay of Islands and Chesapeake Bay, with some pack ice in the Gulf of St. Lawrence, and towards the end bergs and field ice were sighted between the forty-eighth and forty-ninth parallels nearly as far east as the forty-seventh meridian.

February, 1905.—The liners were now following a much more southerly course west of the forty-fifth meridian, and it is consequently somewhat difficult to compare the conditions in this region with those of previous months. The observations show with certainty that the Labrador Current was extending far to the south and east and that the Gulf Stream was pressing upon it strongly to the south of the Gulf of St. Lawrence.

Under the sixtieth meridian there was a decided break in the lower isohalines caused by a tongue of water of over 35·5°/$_{oo}$ which reached at least as far north as the forty-third parallel ; to the south-east of Cape Race also the front of the fresher water was indented by water of over 35·5°/$_{oo}$. The isohaline of 36°/$_{oo}$ followed a more northerly course than in the previous month, with the exception of a deep indentation in the region of the Azores ; between the thirtieth and fortieth meridians the area of water of over 36°/$_{oo}$ *S.* to the north of the fortieth parallel reached a maximum, and there was also a strongly marked northerly movement to the west of the Bay of Biscay. To the south salinities were falling with the retreat of the 37°/$_{oo}$ isohaline.

A maximum occurred in the English Channel, and the isohaline of 35·5°/$_{oo}$ off the Scottish coast reached a more northerly position than in January, though the mean salinity in this region was decidedly low.

Surface temperatures were below the mean, but many irregular areas of excess existed west of the twentieth meridian. There was no great change in the position of the isotherms ; the area of water with a temperature of 5° C. or less had increased, but the 10° C. isotherm reached a higher latitude, though it had moved considerably to the east. The 15° C. isotherm corresponded closely with that for January, but little water with a temperature of 20° C. was found north of 30° N. latitude.

Much ice was reported. At the beginning of the month the sea to the east of the Grand Banks was covered with immense Arctic floes, and steamers were forced to make wide detours. A few days later the whole coast of Newfoundland was icebound, and on the twelfth of the month many bergs were sighted in 47° N. latitude. 47° W. longitude.

March, 1905.—The fresher water was retreating towards the Newfoundland coast, and the 36°/$_{oo}$ isohaline reached 41½° N. latitude, between 55° W. longitude and 60° W. longitude. Salinities were generally falling elsewhere, except off the north-west coast of Scotland, where the 35·5°/$_{oo}$ isohaline, though not reaching so northerly a latitude as in the previous month, embraced a larger area in an east and west direction. The isohaline of 37°/$_{oo}$ was also found slightly further to the north. The decrease of salinity in any case was only slight.

Some very remarkable water samples were collected during the month. One taken about midway between Ushant and Cape Finisterre had a salinity of less than 31°/$_{oo}$, and the specific gravity at 17·5° C. determined by direct weighing differed widely from that calculated from the chemical analysis by means of Knudsen's Tables. The salinity was entered at the time on the plotting chart, and a note was also made that all the values in this region appeared rather low. The abnormal result was ascribed to some mistake in taking the sample, and no further thought was given to it until, some time later, the analyses of samples taken on Danish liners were received from Docent Knudsen.

Among these were two taken during this month, both of which gave salinities below $35°/_{\infty}$; one was from the fairway to the English Channel, and the other from about $47\frac{1}{2}°$ N. latitude and 10° W. longitude. That three such results should be obtained is sufficiently remarkable to make it worth while drawing attention to them here, though they have not been included in the charts. If they are correct, it is not possible to explain them as anything but upwellings of bottom water.

The temperature was below the mean, but many isolated areas of excess occurred south of the fiftieth parallel. The positions of the isotherms did not differ greatly from those shown on the February chart; the cold water to the south and east of the Gulf of St. Lawrence had retreated somewhat towards the land, and a greater area with a temperature above 20° C. was now found to the north of the thirtieth parallel.

During March very large quantities of floe ice were seen on the Grand Banks, and also off the south coast of Newfoundland and in the neighbourhood of Sable Island. Much ice was also reported between $41\frac{1}{2}°$ N. latitude, $51\frac{1}{2}°$ W. longitude and 46° N. latitude, $41\frac{1}{2}°$ W. longitude.

April, 1905. The hydrographic conditions in the western half of the Atlantic were decidedly interesting. The low salinity water of the Labrador Current was being slowly mixed with water of greater density, and the fringe of water of from $34°/_{\infty}$ *S.* to $35°/_{\infty}$ *S.* was therefore increasing in width. West of the fiftieth meridian the isohaline of $36°/_{\infty}$ closely followed that of $35°/_{\infty}$, both running a somewhat irregular course, and under the fortieth meridian it reached as far north as the forty-eighth parallel, and then curved rapidly south to about 41° N. latitude, in the region of the Azores, meeting the Portuguese coast in about 38° N. latitude. Salinities on the eastern side were falling generally, except off the north-west coast of Scotland, where there was a well-marked maximum. The most important feature in the chart is the change in the area filled with water of over $37°/_{\infty}$, which had extended in a northerly and easterly direction in a wedge shape to 38° N. latitude and 38° W. longitude, and in the following month threw off isolated patches of high salinity which in the opinion of the present writer were the cause of some striking abnormalities in the English Channel and the North Sea during the autumn of 1905.

The temperature of the surface water was generally below normal, except south of the fortieth parallel and east of the twentieth and west of the fiftieth meridians. The isotherms of 10° C. on the eastern side and of 20° C. on the western side showed the greatest change.

Much pack ice was seen in the Gulf of St. Lawrence, and large numbers of bergs were reported on the Transatlantic routes between 42° W. longitude and 53° W. longitude, and as far south as the fortieth parallel.

May, 1905.—The fresh water of the Labrador Current reached its minimum in this month, and the narrow tongue of water of over $36°/_{\infty}$ *S.* stretching to the north in about 39° W. longitude still maintained its position. Between the twenty-fifth and fortieth meridians the $36°/_{\infty}$ isohaline took a more southerly course than in April, and did not include the Azores. On the eastern side it has been drawn running well into the Bay of Biscay, but the observations in this region are somewhat doubtful. The area of over $37°/_{\infty}$ *S.* had retreated towards the west, leaving an isolated patch in $42\frac{1}{2}°$ N. latitude and $32\frac{1}{2}°$ W. longitude. This is shown by a single sampie, and no importance would have been attached to it were it not confirmed by later observations. In the English Channel and off the north-west of Scotland salinities were falling.

The areas of excess and defect of temperature were about equal in this month; the chief region of excess extended from the British Isles in a south-westerly direction to the fortieth meridian. The isotherm of 0° C. was no longer found on the charts, and that of 10° C. had moved considerably to the north and west.

The quantity of ice reported was great, and steamers followed unusually southerly courses. Bergs were sighted south of 40° N. latitude, in 49° W. longitude, and as far east as 41° W. longitude in $43\frac{1}{4}°$ N. latitude. Many were also found over an area the centre of which was about 180 miles east of St. John's.

June, 1905. In spite of the large quantities of ice on the Transatlantic routes, a few samples were received from a steamer passing fairly close to Cape Race. The low salinity water in this region now began to increase again, but was so much mixed with

the salter water of the Gulf Stream that the $34°/_{oo}$ isohaline had moved slightly to the north with a corresponding marked increase in the fringe of water of between $34°/_{oo}$ *S.* and $35°/_{oo}$ *S.* Between the fortieth and fiftieth meridians the $36°/_{oo}$ isohaline was retreating ; eastward of this it had moved considerably to the north, but off the European coasts it no longer entered the Bay of Biscay. In the English Channel and off the north-west of Scotland salinities were falling.

On the line followed by the Bristol–Jamaica steamers three very high salinities were found east of the thirtieth meridian, two of over $37°/_{oo}$ in 28° W. longitude and 21° W. longitude, and one of over $36°/_{oo}$ in 13° W. longitude. These appear to be a continuation of the movement noticed in the preceding month ; they have been shown on the chart as isolated patches, but it is of course possible that a long narrow tongue of dense water occupied this region.

The surface temperature was below the normal, the only important exception being in the region west of the thirty-eighth meridian and south of the fiftieth parallel. The general temperature was rising rapidly ; the 10° C. isotherm was lost to the north in 26° W. longitude, while that of 20° C. now followed the fortieth parallel fairly closely west of 40° W. longitude ; on the eastern side it ran to the south and east, reaching the thirtieth parallel in 15° W. longitude, and then turning to the north-east again to touch the Straits of Gibraltar. The isotherm of 25° C. was again found north of the thirtieth parallel, after having been lost since October, 1904.

Ice was reported in large quantity, as far south as 40° N. latitude and as far east as 43½° W. longitude.

July, 1905.—The low salinity water on the western side was increasing, but not so rapidly, and the isohalines of $35°/_{oo}$ and $36°/_{oo}$ therefore pressed closely on one another, making a noticeable bend to the north-east under the fiftieth meridian. In mid Atlantic the $36°/_{oo}$ isohaline had retreated towards the south, but in the eastern half reached a rather northerly latitude. In the English Channel and off the north-west of Scotland there was a tendency towards a minimum. On the outward and homeward routes of the Bristol-Jamaica steamers many samples of over $37°/_{oo}$ *S.* were collected south of the thirty-eighth parallel, and two of especially high salinity, one of $37·97°/_{oo}$ in about 24° N. latitude and 70° W. longitude, and another of $38·42°/_{oo}$ in 32° N. latitude and 53° W. longitude.

The isohaline of $37°/_{oo}$ cannot be traced with any great certainty, and the area enclosed by it probably extended far more both to the east and west than is shown upon the chart.

No signs of the movement of high salinity water towards the south-west coast of Ireland were found, unless a sample of over $36°/_{oo}$ in 49° N. latitude and 11° W. longitude was due to water from this source and not to a flow from the region of the Bay of Biscay.

The temperature was below the normal west of a line joining 60° N. latitude, 10° W. longitude to 40° N. latitude, 35° W. longitude as far as the fiftieth meridian. An area of defect was also found east of the twentieth meridian between the thirtieth and fortieth parallels.

The most southerly bergs were reported from 40° 20′ N. latitude, 51° 20′ W. longitude, and the most easterly in 50° N. latitude, 43° W. longitude. Many were also seen in the straits of Belle Isle and to the east, and also to the east of St. John's.

August, 1905.—The vessels were now taking a more northerly course and the lower isohalines were not well defined to the south-east of Cape Race, but the increase in the area of fresh water appears to have been maintained. The isohaline of $36°/_{oo}$ took a more southerly position throughout nearly its whole length, the lowest latitude being reached in the neighbourhood of the Azores, and the highest at Cape Finisterre. It agreed with that for June and differed from that for July in not entering the Bay of Biscay, and it is not improbable that the July isohaline should also have been kept to the south of the forty-fifth parallel. In the English Channel and off the north-west of Scotland salinities were rising. The water of $37°/_{oo}$ *S.* had retreated from the west, and extended a greater distance to the north and east than the scanty observations of the preceding month indicated.

Off the south-west coast of Ireland was a small isolated patch of water of over $36°/_{oo}$ *S.*; it was well defined by four samples, and was probably due to dilution of the water of

37°/$_{oo}$ *S.* which began to move in this direction in April and May. Confirmation of this hypothesis is found in the sudden appearance during this month of large shoals of *Pteropods* in the English Channel, where they had not been recorded since the beginning of the International Investigations. The species* is uncertain, most of the individuals being immature, but the question is not of the first importance, from the hydrographic standpoint, as all *Pteropods* are distinctly oceanic in habit.

The surface temperatures were generally below the average, with the exception of a large area in mid-ocean, between 18° W. longitude and 60° W. longitude, and south of 48° N. latitude. On the western side temperatures were rising, but on the eastern side there was a slight fall, neither the 13° C. or the 15° C. isotherm being found so far north as in July. The course of the 25° C. isotherm was less irregular, the deep southerly indentation having disappeared.

Much ice was reported from the Straits of Belle Isle, and also some from the Grand Banks. On the whole there was much less ice than in preceding months.

During August the Gulf Stream was running close to Cape Hatteras and with unusual strength, causing much delay to sailing craft bound south.

September, 1905.—On the western side the isohalines of 33°/$_{oo}$ and 34°/$_{oo}$ were again badly defined, the larger number of the samples being collected in water of less than 33°/$_{oo}$ *S.* The area of fresh water was rapidly increasing, and the isohalines of 33°/$_{oo}$, 34°/$_{oo}$, and 35°/$_{oo}$ lay fairly close together, while a deep indentation appeared in that for 36°/$_{oo}$ under the fiftieth meridian. The mean latitude of the 36°/$_{oo}$ isohaline reached a minimum, though it did not dip quite so far south near the Azores. In the English Channel and on the homeward track of the Copenhagen–New York steamers salinities reached a minimum value, and nearly did so on the outward track of the latter. The position of the 37°/$_{oo}$ isohaline is almost unknown, and the high salinity off the Irish coast had disappeared.

The temperature was below normal east of the thirtieth meridian; to the south and west it was slightly in excess. The isotherm of 5° C. reappeared on the chart, a month earlier than in 1904, while that for 10° C. had moved towards the south and east.

Much ice was reported near the approaches to the Straits of Belle Isle, and bergs and field ice off the Grand Banks.

October, 1905.—There was a slight decrease in the Labrador Current, and the deep cut in the 36°/$_{oo}$ isohaline south-east of Cape Race had partly filled up. The area occupied by water of salinity between 35°/$_{oo}$ and 36°/$_{oo}$ was decreasing as the isohalines for these two values were approaching one another. In the English Channel and on the southern track of the Copenhagen–New York steamers there was a sudden rise to a maximum, but on the more northerly track there was a well marked minimum.

In the Bristol Channel a patch of water of over 36°/$_{oo}$ *S.*, depending on a single sample, has been shown on the chart; it may be due to an error, but has been included on account of the undoubted presence of high salinity water off the Irish coast in August.

The distribution of excess and defect of temperature was very irregular. South of the thirtieth parallel, roughly, the temperature was in excess except to the east of the sixteenth meridian. A large irregular area of excess extended towards the north between the twenty-fifth and fortieth meridians, and widened in a westerly direction to touch the north-east coast of Newfoundland, north of the forty-sixth parallel. There was no great change in the isotherms, but the eastern end of that for 15° C. now entered the southern part of the Bay of Biscay instead of the English Channel.

Much ice was still seen near the Straits of Belle Isle, and a few bergs on the Grand Banks.

November, 1905.—To the south-west of Newfoundland there was a slight increase in the amount of water of less than 34°/$_{oo}$ *S.*, and a decrease in the water of between

* Mr. W. Bygrave, who was until recently in charge of the plankton investigations at Plymouth, considers that the species is *Limacina retroversa* (Fleming), and has given me the following note on the subject:—"It is by far the most abundant species of Limacina, and is essentially an inhabitant of the colder waters, occurring in large numbers in the Irminger Sea and the Labrador Stream. It has been taken in the Sargasso Sea at 31° 5′ N., 40° 7′ W., but only in small numbers. *Habitat*, N. Atlantic (American Coast) from 63° N. to 40° N. Iceland—Coasts of Europe from Lofoden Islands to 50° N." The other alternative is to attribute them to *L. Lesueuri*; but recently Sir Charles Eliot, in his paper on the *Pteropods* of the National Antarctic Expedition, has upheld the view that *L. retroversa* and *L. Lesueri* are varieties of one species.

34°/$_{oo}$ *S.* and 36°/$_{oo}$ *S.*, the salinity gradient between the Labrador Current and the Gulf Stream being much steeper than in October. To the north-east of the fresher water was an offshot of water of 35°/$_{oo}$ *S.*, running in a north-westerly direction. The mean latitude of the 36°/$_{oo}$ isohaline between 10° W. longitude and 50° W. longitude was decidedly higher than in the preceding month, but it no longer cut the fiftieth parallel.

In the western entrance of the English Channel and on the southerly course of the Copenhagen–New York liners there was a decided fall, but on the northerly course there was a maximum. The patch of low salinity water in about 28° N. latitude and 50° W. longitude is doubtful, depending upon one sample only.

The surface temperature as a whole was below the mean for the month, except west of 22° W. longitude and south of 40° N. latitude. The isotherm of 5° C. was now found to the south of Nova Scotia and Newfoundland, but that of 10° C. bent to the west at its northern extremity, as if warm water were spreading westward to the north of the fifty-seventh parallel. The isotherm of 15° C. took a decidedly more southerly course than before, and as in the previous year that of 25° C. was no longer found north of the thirtieth parallel.

Much less ice was reported, but a few bergs were seen in the Straits of Belle Isle and near St. John's.

December, 1905.—There was a well marked decrease in the water of 34°/$_{oo}$ *S.* and below on the American side. The observations were from vessels taking a northerly course, and the isohalines consequently cannot be followed throughout their length, though they suffice to show a deep indentation between 45° W. longitude and 50° W. longitude, the conditions being much the same as in December, 1904. The mean latitude of the 36°/$_{oo}$ isohaline was falling, except between 20° W. longitude and 30° W. longitude. Water of less than 36°/$_{oo}$ *S.* was found unusually far south on the Spanish coast. In the English Channel there was a slight rise in salinity, and a very decided fall occurred off the north-west of Scotland.

Temperatures were about normal, except west of 18° W. longitude and south of 44° N. latitude, where they were slightly in excess. The isohaline of 0° C. appeared off Newfoundland coast, and that of 10° C. had changed its position completely, now ending in the neighbourhood of the Hebrides.

Many icebergs were seen off the Grand Banks ; from the Straits of Belle Isle little information was available.

SUMMARY.

In studying the flux and reflux of the North Atlantic it is convenient to take into consideration the monthly variation in certain areas and the changes in position of certain isohalines.

The most suitable data for such treatment are :—

(1.) The area of water of less than 34°/$_{oo}$ *S.* off the coast of Newfoundland and the Gulf of St. Lawrence. This can only be estimated roughly when the vessels are following a northerly course.

(2.) The mean latitude of the 36°/$_{oo}$ isohaline for every ten degrees of longitude between the tenth and fiftieth meridians, neglecting isolated patches of water.

(3.) The mean salinity of the samples taken on vessels sailing between Copenhagen and New York round the north of Scotland, between the ninth and fifteenth meridians. Salinities from outward and homeward bound ships have been considered separately, as the eastward track lies somewhat to the south of that to the west in this region.

(4.) The mean salinity between Start Point and Guernsey, calculated from three samples taken every fortnight by Captain Enwoldsen of the s.s. *Devonia*, at nearly the same places on each occasion. These results will be published in the report on the English Channel.

(5.) The most northerly latitude in which water of $37°/_{oo}$ *S.* or over is found. Owing to the small number of samples available in this region only a rough approximation to the truth can be hoped for.

(6.) Variations from the mean temperature for the month and in the amount of ice reported.

Curves are given showing the variation in the latitude of the $36°/_{oo}$ isohaline on the eastern side, the salinity on the line from Start Point to Guernsey, and the salinity off the north-west coast of Scotland.

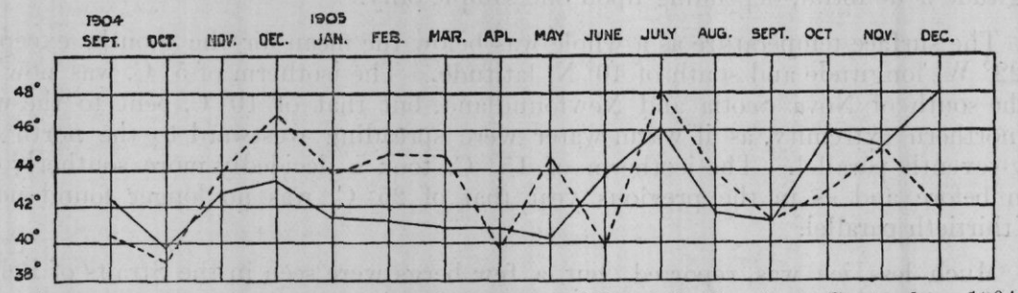


FIG. 1.—Curve showing variation in mean latitude of $36°/_{oo}$ isohaline from September, 1904, to December, 1905, between 10° W. and 30° W.
Broken line, 10° W. to 20° W. Unbroken line, 20° W. to 30° W.

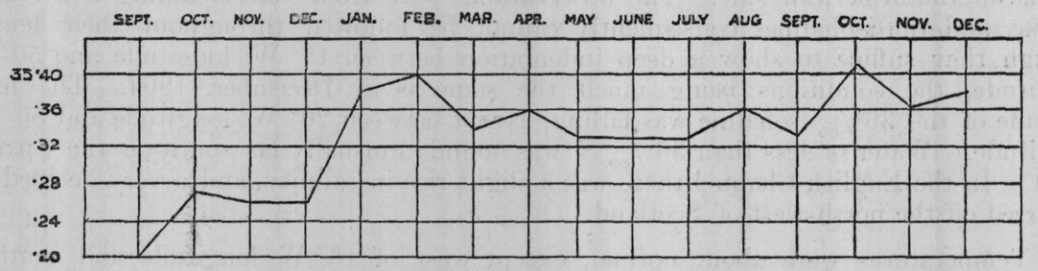


FIG. 2.—Curve showing variation in mean surface salinity between Start Point and Guernsey from September, 1904, to December, 1905.

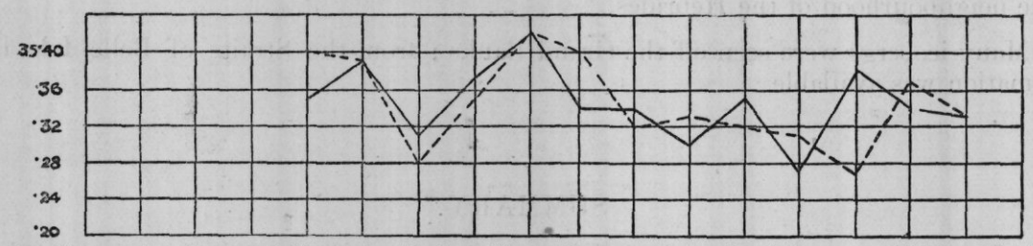


FIG. 3.—Curve showing variation of salinity off north-west of Scotland, between 9° W. and 15° W., on outward and homeward voyages of Copenhagen to New York line. The outward track lies about one degree of latitude to the north of the homeward track.
Unbroken line, outward. Broken line, homeward.

During the months of September, October, and November, 1904, salinities were generally low. On the western side, the area of water of $34°/_{oo}$ *S.* and less off the Newfoundland coasts and the Gulf of St. Lawrence was increasing up to November. Between the tenth and thirtieth meridians the mean latitude of the $36°/_{oo}$ isohaline reached a minimum value in October, but rose again in November with the appearance of high salinity water in the Bay of Biscay.

In the English Channel salinities were very low. On the other hand, the $37°/_{oo}$ isohaline was found rather far to the north in September and October, and probably also in November, from comparison with the chart for December. The surface temperature was as a rule below the monthly mean except, roughly, to the west of the fortieth meridian and south of the forty-fifth parallel. The amount of ice reported was low and decreasing.

In December, 1904, a decided decrease occurred in the fresher water on the western side, but without any corresponding northerly movement of the $36°/_{oo}$ isohaline, the average latitude of which between the thirtieth and fiftieth meridians was much below the mean for the sixteen months under consideration. The area of water of moderate salinity between the Labrador Current and the Gulf Stream was therefore rather large.

East of 30° W. longitude the $36°/_{oo}$ isohaline reached its most northerly position, and water of $37°/_{oo}$ *S.* was still found in rather high latitudes.

Salinities were also low in the English Channel and off the north-west of Scotland on the southerly track ; on the more northerly route they were somewhat higher. Temperatures were below the mean except in a small area on the western side. No ice was reported.

The gradual decrease in the water of the Labrador Current continued from January to May. In February the $36°/_{oo}$ isohaline reached a maximum northerly position between the thirtieth and fortieth meridians, accompanied by a maximum salinity in the English Channel, and at the same time the $37°/_{oo}$ isohaline reaches its most southerly position. Salinities were low and falling during the first two months of the year off the north-west coast of Scotland.

During March, April, and May salinities were falling, except off the north-west coast of Scotland and in the region of the $37°/_{oo}$ isohaline, in both of which areas there was a well-marked maximum in April. A minimum occurred in the same month in the northerly extension of water of over $36°/_{oo}$ between the tenth and thirtieth meridians. The salinity in the English Channel was also falling, but did not reach its minimum till the following month. From January to May the distribution of excess and defect in the surface temperature was very irregular. As a rule temperature was above the normal on the eastern side from the coasts of the British Isles to the entrance to the Mediterranean, and this area of excess stretched across the Atlantic in a southerly and westerly direction as a much broken band, separating areas of defect which lay to the north-west and south-east of it.

In January ice was reported in quantity, and by the end of the month unusually large floes were seen on the Grand Banks, while in March there occurred one of the worst ice blockades ever recorded on the northern and western coasts of Newfoundland.

From February to July the southerly drift of bergs on the Transatlantic route was unusually great, though it is remarkable that few of them reached a height of 150 feet.

The waters of the Labrador Current, which reached their minimum in May, were increasing during June, July and August, 1905, and the $36°/_{oo}$ isohaline was at the same time retreating between the fortieth and fiftieth meridians. The latter reached a northerly maximum in June between the thirtieth and fortieth meridians, and in July between the the tenth and thirtieth meridians. In the English Channel and off the north-west of Scotland salinities were very low.

In May there began a remarkable movement in the salter water, isolated patches of over $37°/_{oo}$ *S.* detaching themselves from the larger areas and travelling towards the south coast of Ireland without becoming much diluted by the fresher water, the salinity off the south-west coast of Ireland being still over $36°/_{oo}$ in August. They appear to have caused a considerable change in the character of the plankton of the English Channel, the *Pteropods* which were recorded there in August, 1905, being still found at the time of writing (September, 1907).

In September, 1905, occurred a remarkably well marked period of low salinity over the whole of the North Atlantic, the values reaching a minimum in all places except on the northerly course of the Copenhagen–New York liners, where the fall continued until the following month. The temperature was below the mean on the eastern side and in the more northerly latitudes on the western side. Much ice was reported from the Straits of Belle Isle, and a less quantity from the Grand Banks.

During the months of October and November the fresh water of the Labrador Current remained almost unchanged. In other parts of the Atlantic salinities were generally rising, maxima occurring in the English Channel and on the southerly track of the Copenhagen–New York vessels in October. On the northerly track there was a minimum in October and a maximum in November. The high salinities of these two months, and also the unusually salt water found in October and November in the North Sea,* are in the opinion of the present writer to be ascribed to the abnormal

* *cf.* A. J. Robertson : "On Hydrographical Investigations in the Faeroe-Shetland Channel and the Northern Part of the North Sea, 1904–1905." Also, "Temperature and Salinity of the Surface Waters of the North Sea, 1904–1905." North Sea Investigation Committee : Second Report (Northern Area).

movements of water of over 37°/$_{oo}$ *S.* in mid Atlantic in May, to which reference has been already made.

In December the salinity on the western side was rising owing to the shrinkage of the Labrador Current; elsewhere there was a general fall except between the twentieth and thirtieth meridians and the fortieth and fiftieth parallels. The conditions generally resembled those of December, 1904. The distribution of the areas of excess and defect of temperature remained nearly the same as in September. Ice was decreasing, but was still found in quantity on the Grand Banks in December, unlike the same month of 1904, when no reports where received.

A point of considerable importance in the study of the hydrography of the English Channel is the salinity in the Bay of Biscay, and in particular the presence there of water of over 36°/$_{oo}$. Unfortunately the observations throw little light on the subject, both the mean and the maximum salinities showing very irregular fluctuations. Samples of over 36°/$_{oo}$ occur surrounded by fresher water; these may of course be due to insufficient precautions having been taken to avoid errors due to evaporations, but some at least were received from observers whose work has otherwise always proved extemely satisfactory. In this connection it is interesting to refer to a paper by Dr. H. N. Dickson, as yet unpublished, on the material collected on board Dr. Norris Wolfenden's yacht *Silver Belle*.* At a station in 40° 03′ N. latitude, 12° 13′ W. longitude, the following results were obtained on September 4th, 1904. The salinity was 36·15°/$_{oo}$ at the surface, falling to 36·08°/$_{oo}$ at 50 fathoms (91 metres), and to 35·88°/$_{oo}$ at 100 fathoms (183 metres), and 200 fathoms (366 metres). At 400 fathoms (752 metres) there was a rise to 36·00°/$_{oo}$ *S.* increasing to 36·31°/$_{oo}$ *S.* at 600 fathoms (1,097 metres). A layer of 35·88°/$_{oo}$ *S.* occurred at 800 fathoms (1,463 metres), below which the salinity again rose to 36·15°/$_{oo}$ at 1,000 fathoms (1,829 metres), and to 36·33°/$_{oo}$ at 1,200 fathoms (2,195 metres). The lowest salinities were found in the bottom layer, below 1,400 fathoms (2,560 metres), where they fell to 35·26°/$_{oo}$.

It will be seen that there are layers of high and low salinity alternating with one another, and Dr. Dickson suggests that the higher values below the surface may be due to currents from the Mediterranean. If this is the case, as is by no means improbable, it is also possible that these layers extend well into the Bay of Biscay, and that the areas of high surface salinity found there may be upwellings from them, caused by the stream striking the steep edge of the bank. On this hypothesis the broad tongues of surface water of over 36°/$_{oo}$ *S.* which have been shown on the chart would in some cases be more correctly represented as small isolated patches, as, for instance, in May, 1905. Such a supposition would also explain the fact that the salinities in the English Channel often appear to be quite unconnected with those in the Bay of Biscay, the size of such patches in the latter region probably varying considerably, and often being too small to allow of their affecting the conditions at any great distance from their centre.

The most striking points in the sixteen months may be summarised as follows:—

The Labrador Current was increasing from September to November, 1904. In December it began to retreat, and the shrinkage continued to May, 1905, after which it increased again, to decrease suddenly in December as in the previous year.

The 37°/$_{oo}$ isohaline was found to the north of 30° N. latitude from September to December, 1904. In January, February, and March, 1905, it was to the south of that line, and during the rest of the year to the north of it; its movements thus correspond roughly with those of the Labrador Current, advancing and retreating with it.

In the English Channel there were well-marked maxima of salinity in February and October, 1905, and at the same time maxima on the outward track of the Copenhagen–New York steamers off the north-west of Scotland.

The most noticeable case of the same conditions obtaining over the whole of the North Atlantic was the decided minimum of salinity in nearly all parts during September, 1905.

In April, 1905, water of over 37°/$_{oo}$ *S.* advanced to the north-east, throwing off an area of high salinity which in August reached the south-west of Ireland, and at the same time brought swarms of *Pteropods* into the English Channel. To this movement are probably to be attributed the abnormally high salinities found in the English Channel, off the north-west of Scotland, and in the North Sea during the following October and November.

* I have to thank Dr. Wolfenden for sending me the proofs of this paper.

TABLE I.

COMMANDERS and OBSERVERS on VESSELS on board which WATER SAMPLES have been collected during the period, SEPTEMBER, 1904, to DECEMBER, 1905.

Vessel.	Commander.	Other officers assisting in the observations.
Morning (Whaler) ...	W. Adams.	
Astoria	J. Lumsdane	A. McCallum.
„	F. H. Wadsworth.	
Ethiopia	J. Lumsdane.	
Samartian...	E. Pitts	G. Binnie.
Numidian	W. S. Main	W. Fraser.
Corean	„	„
Minneapolis	T. F. Gates	F. Claret, H. Stembridge, C. B. Wiatt.
St. Paul	F. M. Passow	B. Ackerman, F. Marryat Church.
Port Royal	W. R. Rowe	J. D. Ashworth, G. A. Griffin, G. S. Doorley.
Port Kingston	J. G. Parsons	W. G. Palmer, Alec. Morrison.
Port Antonio	W. R. Rowe	F. R. Griffith, G. S. Doorley.
Atrato	R. H. Stranger	W. H. Kennett, G. T. Walker, E. E. Balding, A. C. Falconer, W. N. H. Robinson, H. M. Williams, D. R. Mason.
La Plata	— Dagnall	S. N. Braithwaite.
Kildonan Castle	J. Tyson	Chas. C. Garret, S. Symons.
Braemar Castle	D. Wallace.*	
Moravian	A. Simpson	A. Corbett, H. C. Allingham, H. G. A. Nelder, E. M'Claren, B. Banks.
Sophocles...	H. A. Schleman.	
„	H. Walker.	
Macedonia	C. D. Bennett.	
Egypt	J. R. Lendon	J. Shearme, F. H. Higgins, H. G. Wilding.

* I regret to have to record the death of Captain Wallace in May, 1905.

The above list is not complete, and may be inaccurate in other respects, owing to insufficient information having been given on the record forms.

TABLE II.

Ship.	Date.	Time.	Lat.	Long.	Temp.		*Cl.* ‰.	*S.* ‰.	σ_0.	Remarks.
					Fahr.	C.				
	1904.		° N. ′	° W. ′						
Ethiopia	Sept. 9	—	55 25	7 50	55	12·8	19·47	35·17	28·27	
,, ...	,, 9	—	55 24	10 50	57	13·9	19·54	35·30	28·37	
,, ...	,, 12	Noon	54 00	27 30	53	11·7	19·51	35·25	28·32	
,, ...	,, 13	,,	52 38	34 45	51	10·6	19·22	34·72	27·90	
,, ...	,, 14	,,	51 10	39 45	51	10·6	19·30	34·87	28·02	
,, ...	,, 16	,,	47 35	50 20	—	—	17·52	31·65	25·43	
,, ...	,, 18	,,	43 00	61 00	—	—	17·74	32·05	25·75	
,, ...	,, 19	,,	41 05	67 15	61	16·1	18·09	32·68	26·26	
,, ...	,, 26	,,	42 00	63 30	64	17·8	18·50	33·42	26·86	
,, ...	,, 27	,,	44 00	58 00	59	15·0	17·50	31·62	25·40	
,, ...	,, 28	,,	46 20	52 40	51	10·6	17·19	31·06	24·95	
,, ...	,, 29	,,	48 55	47 15	48	8·9	19·03	34·38	27·63	
,, ...	,, 30	,,	51 05	41 10	53	11·7	19·38	35·01	28·14	
Astoria	,, 17	,,	55 21	14 32	60	15·6	19·61	35·43	28·47	
,, ...	,, 18	,,	54 42	22 14	53	11·7	20·17	36·44	29·29	
,, ...	,, 20	,,	52 01	37 29	48	8·9	19·38	35·01	28·14	
,, ...	,, 21	,,	49 52	43 32	50	10·0	19·52	35·26	28·34	
,, ...	,, 22	,,	47 21	50 32	52	11·1	17·53	31·67	25·45	
,, ...	,, 23	,,	44 15	57 14	60	15·6	18·00	32·52	26·13	
,, ...	,, 24	,,	41 44	64 02	64	17·8	18·78	33·93	27·26	
,, ...	,, 25	,,	40 34	70 47	63	17·2	18·44	33·31	26·77	
St. Paul	,, 18	3.35 a.m.	49 40	5 48	60½	15·8	19·60	35·41	28·46	
,, ...	,, 18	9.0 a.m.	50 04	8 30	60¼	15·7	19·50	35·23	28·31	
,, ...	,, 18	5.15 p.m.	50 17	12 39	58¼	14·6	19·60	35·41	28·46	
,, ...	,, 19	Noon	50 20	21 30	57¾	14·3	19·55	35·32	28·38	
,, ...	,, 20	,,	49 19	32 35	51	10·6	19·28	34·83	27·99	
,, ...	,, 21	,,	47 19	43 30	50	10·0	19·00	34·33	27·58	
,, ...	,, 22	,,	44 33	53 55	62	16·7	19·15	34·60	27·80	
,, ...	,, 23	,,	42 12	63 14	68	20·0	19·44	35·12	28·22	
Minneapolis ...	,, 25	11.31 a.m.	49 50	6 27	59	15·0	19·61	35·43	28·47	
,, ...	,, 25	5.43 p.m.	50 04	9 01	59	15·0	19·64	35·48	28·51	
,, ...	,, 25	Midnight	50 14	11 36	58	14·4	19·74	35·66	28·66	
,, ...	,, 26	Noon	50 26	16 35	58	14·4	19·68	35·55	28·57	
,, ...	,, 27	,,	50 08	25 42	54	12·2	19·58	35·37	28·43	
,, ...	,, 28	,,	49 10	35 05	54	12·2	19·41	35·07	28·18	
,, ...	,, 29	,,	47 25	43 53	49	9·4	18·99	34·31	27·57	
,, ...	,, 30	,,	44 57	52 33	56	13·3	17·98	32·48	26·10	
Atrato	,, 15	9.0 a.m.	48 58	5 30	55·8	13·2	19·61	35·43	28·47	
,, ...	,, 15	5.0 p.m.	48 00	7 13	61·5	16·4	19·65	35·50	28·53	
,, ...	,, 16	1.0 a.m.	46 58	9 18	62·5	16·9	19·71	35·61	28·62	
,, ...	,, 16	Noon	45 22	12 07	64	17·8	19·70	35·59	28·60	

TABLE II.—*continued.*

Ship.	Date.	Time.	Lat.	Long.	Temp.		$Cl.$ ‰	$S.$ ‰	σ_0	Remarks.
					Fahr.	C.				
	1904.		° N. ′	° W. ′						
Atrato	Sept. 17	Noon	42 07	18 04	65·6	18·7	19·83	35·82	28·79	
,, ...	,, 18	,,	38 40	23 40	70	21·1	20·03	36·18	29·08	
,, ...	,, 19	,,	35 09	29 16	72	22·2	20·02	36·17	29·07	
,, ...	,, 20	,,	31 48	34 15	76·9	24·9	20·37	36·80	29·58	
,, ...	,, 21	,,	28 22	39 18	78·9	26·1	20·62	37·25	29·94	
,, ...	,, 22	,,	25 03	43 39	80·2	26·8	20·75	37·48	30·13	
,, ...	,, 23	,,	21 36	48 14	80·3	26·8	20·34	36·74	29·53	
Port Royal ...	,, 10	8.0 p.m.	50 46	6 18	60	15·6	19·44	35·12	28·22	
,, ...	,, 11	3.0 a.m.	50 08	8 47	60	15·6	19·77	35·71	28·70	
,, ...	,, 11	10.15 a.m.	49 40	11 08	60	15·6	19·76	35·70	28·69	
,, ...	,, 12	Noon	47 27	18 42	61	16·1	19·84	35·84	28·80	
,, ...	,, 13	,,	45 12	24 50	61	16·1	19·72	35·62	28·63	
,, ...	,, 14	,,	42 46	31 02	68	20·0	20·06	36·24	29·12	
,, ...	,, 15	,,	39 55	37 05	70	21·1	20·27	36·62	29·43	
,, ...	,, 16	,,	36 56	43 08	75	23·9	20·32	36·71	29·50	
,, ...	,, 17	,,	34 02	48 40	79½	26·4	20·41	36·87	29·63	
,, ...	,, 18	,,	31 12	54 14	81	27·2	20·49	37·01	29·75	
,, ...	,, 19	,,	28 22	59 38	84	28·9	20·45	36·94	29·69	
,, ...	,, 20	,,	25 32	64 48	82	27·8	20·52	37·07	29·79	
,, ...	,, 21	,,	22 34	69 47	83	28·3	20·24	36·56	29·39	
,, ...	,, 22	,,	19 21	74 01	85	29·4	20·07	36·26	29·14	
...	,, 30	,,	20 27	73 59	85	29·4	20·15	36·40	29·26	
Braemar Castle ...	,, 11	7.30 a.m.	48 40	5 12	57	13·9	19·73	35·64	28·64	
,, ...	,, 11	4.0 p.m.	47 15	6 23	59	15·0	19·57	35·35	28·41	
,, ...	,, 11	Midnight	45 49	7 37	62	16·7	20·86	37·68	30·29	
,, ...	,, 12	4.0 p.m.	43 05	9 30	62	16·7	20·22	36·53	29·36	
,, ...	,, 13	Noon	39 36	11 20	66	18·9	20·35	36·76	29·55	
,, ...	,, 14	,,	35 19	13 17	72	22·2	20·34	36·74	29·53	
,, ...	,, 15	,,	31 12	14 46	72	22·2	20·61	37·23	29·93	
,, ...	,, 16	4.0 p.m.	28 04	16 20	72	22·2	20·77	37·52	30·16	
,, ...	,, 17	Noon	24 16	17 02	70	21·1	20·27	36·62	29·43	
Kildonan Castle ...	,, 11	8.30 a.m.	48 33	5 16	57·5	14·2	19·57	35·35	28·41	
,, ...	,, 11	2.55 p.m.	47 07	6 33	66	18·9	19·71	35·61	28·62	
,, ...	,, 11	9.15 p.m.	45 40	7 42	78	25·6	19·78	35·73	28·72	
,, ...	,, 12	Noon	42 15	10 27	65·5	18·6	19·80	35·77	28·75	
,, ...	,, 13	,,	36 48	14 08	70·5	21·4	20·05	36·22	29·11	
,, ...	,, 14	,,	32 38	16 55	72·5	22·5	20·39	36·83	29·61	
,, ...	,, 15	,,	26 25	17 30	73·5	23·1	20·29	36·65	29·46	
,, ...	,, 16	,,	19 51	17 49	76	24·4	19·87	35·90	28·85	
Moravian	,, 15	5.0 p.m.	47 21	6 41	61·7	16·5	19·74	35·66	28·66	
,, ...	,, 16	Noon	43 58	8 59	63·5	17·5	19·78	35·73	28·72	
,, ...	,, 17	,,	39 43	11 03	68	20·0	20·13	36·36	29·23	
,, ...	,, 18	,,	34 59	13 27	71·2	21·8	20·38	36·82	29·59	

TABLE II.—*continued.*

Ship.	Date.	Time.	Lat.	Long.	Temp.		*Cl.* ‰.	*S.* ‰.	σ_0.	Remarks.
					Fahr.	C.				
	1904.		° N. ′	° W. ′						
Moravian	Sept. 19	Noon	30 01	15 06	72·5	22·5	20·19	36·47	29·31	
„	„ 20	„	26 27	16 37	75	23·9	20·22	36·53	29·36	
„	„ 21	„	21 29	17 36	71·7	22·1	20·20	36·49	29·33	
„	„ 22	„	16 23	17 37	83	28·3	20·22	36·53	29·36	
„	„ 23	„	11 32	17 24	82	27·8	19·61	35·43	28·47	
„	„ 24	„	7 39	14 46	78	25·6	19·19	34·67	27·86	
„	„ 25	„	3 44	11 45	78	25·6	19·67	35·53	28·56	
„	„ 26	„	0 00	8 50	73	22·8	19·87	35·90	28·85	
Macedonia ...	„ 17	8.45 p.m.	48 14	5 48	61¾	16·5	19·56	35·34	28·40	
„	„ 18	3.30 a.m.	46 58	6 25	64	17·8	20·05	36·22	29·11	
„	„ 18	Noon	44 57	8 39	66	18·9	19·77	35·71	28·70	
„	„ 18	3.25 p.m.	44 12	9 07	63	17·2	19·78	35·73	28·72	
„	„ 18	8.0 p.m.	43 05	9 35	60¾	15·9	19·58	35·37	28·43	
„	„ 19	3.30 a.m.	41 10	9 43	65	18·3	19·87	35·90	28·85	
„	„ 19	Noon	39 10	9 35	63	17·2	19·81	35·79	28·76	
„	„ 19	3.30 p.m.	38 25	9 25	64	17·8	20·15	36·40	29·26	
„	„ 19	Midnight	36 45	8 15	71	21·7	20·11	36·33	29·20	
Numidian ...	Oct. 2	3.15 p.m.	55 28	7 38	53	11·7	19·68	35·55	28·57	
„ ...	„ 3	2.0 a.m.	55 26	10 43	53	11·7	19·64	35·48	28·51	
„ ...	„ 3	11.30 a.m.	55 22	13 35	53	11·7	19·60	35·41	28·46	
„ ...	„ 4	Noon.	54 52	19 28	53	11·7	19·51	35·25	28·32	
„ ...	„ 5	„	54 07	25 45	50	10·0	19·53	35·28	28·35	
„ ...	„ 6	„	53 05	32 35	47¼	8·4	19·23	34·74	27·92	
„ ...	„ 7	„	51 24	39 47	49	9·4	19·27	34·81	27·98	
„ ...	„ 8	„	49 41	44 45	51	10·6	18·99	34·31	27·57	
„ ...	„ 9	„	47 29	50 20	52	11·1	17·65	31·89	25·62	
„ ...	„ 10	„	44 57	55 35	53½	11·9	17·85	32·25	25·91	
„ ...	„ 11	„	42 41	61 15	62	16·7	18·16	32·81	26·36	
„ ...	„ 12	„	41 20	66 30	53½	11·9	18·17	32·83	26·38	
„ ...	„ 13	„	40 30	72 48	59	15·0	18·37	33·19	26·67	
„ ...	„ 21	„	40 40	69 17	56	13·3	19·16	34·61	27·82	
„ ...	„ 22	„	41 54	64 16	56	13·3	18·22	32·92	26·45	
„ ...	„ 23	„	43 36	58 50	59¾	15·4	18·27	33·01	26·52	
„ ...	„ 24	„	45 56	53 42	52	11·1	17·77	32·10	25·79	
„ ...	„ 25	„	48 17	48 14	42	5·6	18·21	32·90	26·43	
„ ...	„ 26	„	50 40	42 40	49½	9·7	19·28	34·83	27·99	
„ ...	„ 27	„	52 38	36 00	46	7·8	19·27	34·81	27·98	
„ ...	„ 28	„	54 04	28 43	47	8·3	19·51	35·25	28·32	
„ ...	„ 29	„	54 56	21 01	51½	10·8	19·59	35·39	28·44	
„ ...	„ 30	10.40 a.m.	55 22	13 35	52½	11·4	19·58	35·37	28·43	
„ ...	„ 30	6.35 p.m.	55 26	10 43	52	11·1	19·59	35·39	28·44	
„ ...	„ 31	4.0 a.m.	55 28	7 38	54¼	12·3	19·49	35·21	28·30	
Ethiopia	„ 1	Noon.	52 35	34 20	—	—	19·31	34·88	28·03	

TABLE II.—*continued.*

Ship.	Date.	Time.	Lat.	Long.	Temp.		*Cl.* ‰.	*S.* ‰.	σ_o.	Remarks.
					Fahr.	C.				
	1904.		° N. ′	° W. ′						
Ethiopia	Oct. 2	Noon	53 55	26 50	51	10·6	19·33	34·92	28·06	
,, ...	,, 3	,,	55 00	18 40	54	12·2	19·50	35·23	24·31	
,, ...	,, 4	2.0 a.m.	55 00	13 45	54	12·2	19·54	35·30	28·37	
,, ...	,, 4	11.0 a.m.	55 10	10 45	55	12·8	19·52	35·26	28·34	
,, ...	,, 4	8.30 p.m.	55 20	7 50	57	13·9	19·48	35·19	28·28	
Astoria	,, 2	Noon	40 52	68 00	60	15·6	18·12	32·74	26·30	
,, ...	,, 3	,,	42 52	61 10	60	15·6	17·82	32·20	25·87	
,, ...	,, 4	,,	45 29	55 12	55	12·8	17·82	32·20	25·87	
,, ...	,, 5	,,	48 24	48 41	44	6·7	18·50	33·42	26·86	
,, ...	,, 6	,,	50 58	41 24	53	11·7	19·39	35·03	28·15	
,, ...	,, 7	,,	53 03	33 30	48	8·9	19 2	34·79	27·96	
,, ...	,, 8	,,	54 22	24 34	53	11·7	19·54	35·30	28·37	
,, ...	,, 9	,,	55 17	16 06	53	11·7	17·66	31·91	25·64	
,, ...	,, 10	,,	55 22	7 03	48	8·9	19·73	35·64	28·64	
Samartian ...	,, 30	8.30 a.m.	55 33	9 00	54	12·2	19·43	35·10	28·21	
,, ...	,, 31	Noon	55 09	18 28	54	12·2	19·57	35·35	28·41	
Minneapolis ...	,, 1	,,	43 04	60 29	64	17·8	18·52	33·46	26·88	
,, ...	,, 2	,,	41 02	67 20	56	13·3	18·23	32·94	26·46	
,, ...	,, 8	,,	40 21	72 02	62	16·7	18·69	33·77	27·13	
,, ...	,, 9	,,	41 19	64 06	59	15·0	18·41	33·26	26·72	
,, ...	,, 10	,,	43 16	56 12	58	14·4	18·88	34·11	27·41	
,, ...	,, 11	,,	45 41	48 14	44	6·7	17·85	32·25	25·91	
,, ...	,, 12	,,	47 48	39 46	61	16·1	19·66	35·52	28·54	
,, ...	,, 13	,,	49 20	30 33	55	12·8	19·65	35·50	28·53	
,, ...	,, 14	,,	49 41	20 47	57	13·9	19·68	35·55	28·57	
,, ...	,, 15	,,	49 44	11 19	58	14·4	19·71	35·61	28·62	
,, ...	,, 15	6.30 p.m.	49 49	9 02	57	13·9	19·74	35·66	28·66	
,, ...	,, 30	7.30 a.m.	50 04	9 01	57	13·9	19·62	35·44	28·48	
,, ...	,, 30	Noon	50 12	11 07	57	13·9	19·70	35·59	28·60	
,, ...	,, 30	1.45 p.m.	50 14	11 36	56	13·3	19·69	35·57	28·59	
,, ...	,, 31	Noon	50 19	21 24	55	12·8	19·75	35·68	28·67	
St. Paul	,, 2	,,	41 08	64 52	71	21·7	19·70	35·59	28·60	
,, ...	,, 3	,,	43 20	55 40	63¾	17·6	18·42	33·28	26·74	
,, ...	,, 4	,,	46 00	46 20	54	12·2	18·47	33·37	26·81	
,, ...	,, 5	,,	48 28	36 22	57¾	14·3	19·07	34·45	27·68	
,, ...	,, 7	,,	49 53	14 18	57½	14·2	19·61	35·43	28·47	
,, ...	,, 7	11.0 p.m.	49 50	9 02	58¼	14·6	19·63	35·46	28·50	
,, ...	,, 8	6.30 a.m.	49 49	6 15	57	13·9	19·58	35·37	28·43	
,, ...	,, 16	4.05 a.m.	49 42	6 31	53½	11·9	19·49	35·21	28·30	
,, ...	,, 16	10.45 a.m.	50 10	9 39	57	13·9	19·62	35·44	28·48	
,, ...	,, 17	Noon	50 23	20 11	57	13·9	19·61	35·43	28·47	
,, ...	,, 18	,,	49 37	29 29	56	13·3	19·63	35·46	28·50	
,, ...	,, 19	,,	48 20	40 04	58	14·4	19·44	35·12	28·22	

TABLE II.—*continued.*

Ship.	Date.	Time.	Lat.	Long.	Temp.		*Cl.* ‰.	*S.* ‰.	σ_0.	Remarks.
					Fahr.	C.				
	1904.		°N. ′	°W. ′						
St. Paul	Oct. 20	Noon	45 43	50 13	54	12·2	18·05	32·61	26·20	
,, ...	,, 21	,,	43 04	60 24	60	15·6	18·29	33·04	26·55	
,, ...	,, 30	,,	41 14	64 47	56	13·3	18·46	33·35	26·80	
,, ...	,, 31	,,	43 21	55 46	68	20·0	18·10	32·70	26·27	
Port Royal ...	,, 1	,,	24 17	70 14	82	27·8	20·16	36·42	29·27	
,, ...	,, 2	,,	28 00	66 08	83	28·3	20·43	36·91	29·66	
,, ...	,, 3	,,	31 40	61 30	80	26·7	20·03	36·18	29·08	
,, ...	,, 4	,,	35 11	56 46	72	22·2	19·97	36·08	28·99	
,, ...	,, 5	,,	38 25	51 47	76	24·4	20·13	36·36	29·23	
,, ...	,, 6	,,	41 35	45 56	74	23·3	20·01	36·15	29·05	
,, ...	,, 7	,,	44 32	39 26	69	20·6	19·67	35·53	28·56	
,, ...	,, 8	,,	47 00	32 22	60	15·6	19·67	35·53	28·56	
,, ...	,, 9	,,	49 05	24 40	55	12·8	19·46	35·16	28·25	
,, ...	,, 10	,,	50 40	16 12	57	13·9	19·40	35·05	28·16	
,, ...	,, 11	,,	51 23	8 58	58	14·4	19·21	34·70	27·89	
,, ...	,, 11	6.0 p m.	51 13	6 18	58	14·4	19·46	35·16	28·25	
,, ...	,, 22	,,	50 34	6 23	57	13·9	19·64	35·48	28·51	
,, ...	,, 23	4.0 a.m.	49 48	8 36	59	15·0	19·83	35·82	28·79	
,, ...	,, 23	Noon	48 57	11 45	58	14·4	19·80	35·77	28·75	
,, ...	,, 24	,,	46 23	19 00	60	15·6	19·82	35·81	28·78	
,, ...	,, 25	,,	43 43	25 48	62	16·7	19·89	35·93	28·88	
,, ...	,, 26	,,	40 56	32 17	65	18·3	20·01	36·15	29·05	
,, ...	,, 27	,,	38 02	38 11	71	21·7	20·09	36·29	29·17	
,, ...	,, 28	,,	35 26	43 56	73	22·8	20·32	36·71	29·50	
,, ...	,, 29	,,	32 37	49 46	76	24·4	20·63	37·27	29·95	
,, ...	,, 30	,,	29 59	55 10	79	26·1	20·69	37·38	30·04	
,, ...	,, 31	,,	27 25	60 22	80	26·7	20·33	36·73	29·52	
Atrato	,, 24	,,	20 38	53 34	80·8	27·1	19·98	36·09	29·01	
,, ...	,, 25	,,	24 44	49 41	78·5	25·8	20·70	37·39	30·06	
,, ...	,, 26	,,	28 36	45 46	77	25·0	20·47	36·98	29·72	
,, ...	,, 27	,,	32 16	41 37	74·8	23·8	20·27	36·62	29·43	
,, ...	,, 28	,,	35 50	36 54	69·5	20·8	20·19	36·47	29·31	
,, ...	,, 29	,,	38 59	31 39	63	17·2	20·08	36·27	29·15	
,, ...	,, 30	,,	41 21	26 05	62·2	16·8	19·90	35·95	28·89	
,, ...	,, 31	,,	43 59	20 13	61·2	16·2	19·81	35·79	28·76	
Sophocles... ...	,, 6	11.30 a.m.	48 37	5 49	56·5	13·6	19·58	35·37	28·43	
,, ...	,, 6	7.50 p.m.	47 20	7 09	58·5	14·7	19·71	35·61	28·62	
,, ...	,, 7	5.05 a.m.	45 56	8 28	61	16·1	19·78	35·73	28·72	
,, ...	,, 7	Noon	44 35	9 34	61·5	16·4	19·76	35·70	28·69	
,, ...	,, 8	,,	39 53	11 37	65	18·3	19·87	35·90	28·85	
,, ...	,, 9	,,	35 18	13 20	66	18·9	20·27	36·62	29·43	
,, ...	,, 10	,,	30 36	15 09	72·2	22·3	20·37	36·80	29·58	
,, ...	,, 11	,,	28 03	16 21	73·5	23·1	20·37	36·80	29·58	

TABLE II.—*continued.*

Ship.	Date.	Time.	Lat.	Long.	Temp.		*Cl.* ‰.	*S.* ‰.	σ_o.	Remarks.
					Fahr.	C.				
	1904.		N. ° ′	W. ° ′						
Sophocles	Oct. 12	Noon	23 06	17 25	71	21·7	20·19	36·47	29·31	
Egypt	,, 22	10.30 p.m.	48 21	5 36	57	13·9	19·54	35·30	28·37	
,, ...	,, 23	4.30 a.m.	47 10	6 35	58	14·4	19·81	35·79	28·76	
,, ...	,, 23	6.0 p.m.	44 15	8 55	61	16·1	19·74	35·66	28·66	
,, ...	,, 24	Noon	39 49	9 37	64	17·8	19·86	35·88	28·83	
,, ...	,, 25	,,	36 03	6 05	68	20·0	20·15	36·40	29·26	
Kildonan Castle ...	,, 23	,,	22 14	17 36	70	21·1	20·21	36·51	29·34	
,, ...	,, 24	,,	28 06	16 59	71	21·7	20·39	36·83	29·61	
,, ...	,, 25	,,	32 37	16 54	68	20·0	20·25	36·58	29·40	
,, ...	,, 26	,,	37 41	13 27	66	18·9	20·19	36·47	29·31	
,, ...	,, 27	,,	42 57	9 27	61	16·1	19·86	35·88	28·83	
,, ...	,, 27	11.0 p.m.	45 31	7 43	60	15·6	19·77	35·71	28·70	
,, ...	,, 28	6.20 a.m.	47 01	6 40	62	16·7	19·76	35·70	28·69	
,, ...	,, 28	4.0 p.m.	49 40	4 15	55	12·8	19·64	35·48	28·51	
Braemar Castle ...	,, 31	4.0 a.m.	20 42	17 36	66	18·9	20·26	36·60	29·42	
,, ...	,, 31	8.0 p.m.	23 33	17 03	68	20·0	20·58	37·18	29·88	
Samartian ...	Nov. 1	Noon	54 24	26 34	52	11·1	19·30	34·87	28·02	
,, ...	,, 2	,,	53 15	32 53	49·5	9·7	19·35	34·96	28·09	
,, ...	,, 3	,,	52 10	37 43	45·5	7·5	19·19	34·67	27·86	
,, ...	,, 4	,,	50 12	43 41	52	11·1	19·62	35·44	28·48	
,, ...	,, 5	,,	48 08	50 12	41	5·0	17·72	32·01	25·72	
,, ...	,, 8	,,	45 52	56 08	45	7·2	17·74	32·05	25·75	
,, ...	,, 9	,,	44 46	61 37	50	10·0	17·41	31·46	25·27	
,, ...	,, 10	,,	44 12	63 53	49	9·4	17·75	32·07	25·77	
,, ...	,, 11	,,	42 25	70 08	48	8·9	18·02	32·56	26·16	
,, ...	,, 20	,,	42 24	70 07	47	8·3	18·14	32·77	26·33	
,, ...	,, 21	,,	43 48	64 39	48	8·9	17·52	31·65	25·43	
,, ...	,, 22	,,	44 50	60 33	45	7·2	17·19	31·06	24·95	
,, ...	,, 23	,,	46 00	54 38	42	5·6	17·47	31·56	25·36	
,, ...	,, 24	,,	48 19	49 12	38	3·3	17·97	32·47	26·09	
,, ...	,, 25	,,	50 28	43 25	54	12·2	19·36	34·97	28·11	
,, ...	,, 26	,,	53 11	37 18	45	7·2	19·14	34·58	27·79	
,, ...	,, 27	,,	53 38	30 50	48	8·9	19·26	34·79	27·96	
,, ...	,, 28	,,	54 43	23 28	50	10·0	19·36	34·97	28·11	
,, ...	,, 29	,,	55 10	15 25	52	11·1	19·57	35·35	28·41	
,, ...	,, 30	,,	55 30½	7 23½	52	11·1	19·51	35·25	28·32	
Numidian ...	,, 6	2.30 a.m.	55 29	7 38	53½	11·9	19·51	35·25	28·32	
,, ...	,, 6	11.55 a.m.	55 27	10 43	51	10·6	19·61	35·43	28·47	
,, ...	,, 6	8.20 p.m.	55 24	13 35	51½	10·8	19·56	35·34	28·40	
,, ...	,, 7	Noon	55 08	18 21	52	11·1	19·62	35·44	28·48	
,, ...	,, 8	,,	54 34	24 27	50¾	10·4	19·44	35·12	28·22	
,, ...	,, 9	,,	53 45	30 30	48½	9·2	19·32	34·90	28·05	
,, ...	,, 10	,,	52 22	37 15	44¼	6·8	19·22	34·72	27·90	

TABLE II.—*continued.*

Ship.	Date.	Time.	Lat.	Long.	Temp.		*Cl.* ‰.	*S.* ‰.	σ_0.	Remarks.
					Fahr.	C.				
	1904.		° N. ′	° W. ′						
Numidian ...	Nov. 11	Noon	50 58	41 05	58¾	14·8	19·58	35·37	28·43	
,, ...	,, 12	,,	48 58	47 10	44	6·7	19·13	34·56	27·77	
,, ...	,, 13	,,	46 29	52 26	42	5·6	17·72	32·01	25·72	
,, ...	,, 14	,,	44 08	57 50	46	7·8	17·33	31·31	25·16	
,, ...	,, 15	,,	42 42	60 55	55	12·8	19·39	35·03	28·15	
,, ...	,, 16	,,	41 16	66 08	54	12·2	18·67	33·73	27·10	
,, ...	,, 17	,,	40 31	72 25	51	10·6	18·44	33·31	26·77	
,, ...	,, 25	,,	40 48	68 43	49½	9·7	18·23	32·94	26·46	
,, ...	,, 26	,,	42 23	63 14	50	10·0	18·15	32·79	26·35	
,, ...	,, 27	,,	44 06	57 33	42	5·6	17·69	31·96	25·68	
,, ...	,, 28	,,	46 29	52 54	40	4·4	17·48	31·58	25·37	
,, ...	,, 29	,,	48 55	47 37	41	5·0	18·98	34·29	27·55	
,, ...	,, 30	,,	51 13	42 20	52	11·1	19·16	34·61	27·82	
Astoria	,, 28	3.0 a.m.	55 25	7 40	52	11·1	19·62	35·44	28·48	
,, ...	,, 28	9.0 a.m.	55 21	11 00	51	10·6	19·70	35·59	28·60	
,, ...	,, 29	Noon	55 00	20 20	51	10·6	19·89	35·93	28·88	
,, ...	,, 30	,,	54 10	26 20	48	8·9	19·60	35·41	28·46	
Minneapolis ...	,, 1	,,	49 45	31 28	55	12·8	19·58	35·37	28·43	
,, ...	,, 2	,,	48 20	40 06	60	15·6	19·78	35·73	28·72	
,, ...	,, 3	,,	46 21	46 42	49	9·4	18·49	33·40	26·84	
,, ...	,, 4	,,	44 08	55 02	56	13·3	18·68	33·75	27·12	
,, ...	,, 5	,,	42 20	62 39	55	12·8	19·45	35·14	28·24	
,, ...	,, 6	,,	40 37	70 06	52	11·1	18·24	32·95	26·48	
,, ...	,, 13	,,	40 57	65 45	64	17·8	19·78	35·73	28·72	
,, ...	,, 14	,,	42 57	58 09	56	13·3	18·68	33·75	27·12	
,, ...	,, 15	,,	45 06	50 16	45	7·2	17·77	32·10	25·79	
,, ...	,, 16	,,	46 57	42 25	56	13·3	19·19	34·67	27·86	
,, ...	,, 17	,,	48 55	33 15	54	12·2	19·49	35·21	28·30	
,, ...	,, 18	,,	49 47	23 52	55	12·8	19·66	35·52	28·54	
,, ...	,, 19	,,	49 47	14 11	54	12·2	19·66	35·52	28·54	
,, ...	,, 19	7.0 p.m.	49 47	11 37	55	12·8	19·70	35·59	28·60	
,, ...	,, 20	1.30 a.m.	49 47	9 02	54	12·2	19·58	35·37	28·43	
St. Paul	,, 1	Noon	46 02	46 50	51½	10·8	18·45	33·33	26·78	
,, ...	,, 2	,,	48 26	37 31	58	14·4	19·66	35·52	28·54	
,, ...	,, 3	,,	49 45	26 38	56	13·3	19·67	35·53	28·56	
,, ...	,, 4	,,	49 43	15 02	57	13·9	19·67	35·53	28·56	
,, ...	,, 4	8.0 p.m.	49 48	11 21	57	13·9	19·63	35·46	28·50	
,, ...	,, 5	6.0 a.m.	49 49	6 20	57	13·9	19·57	35·35	28·41	
,, ...	,, 13	4.0 a.m.	49 42	6 21	56	13·3	19·66	35·52	28·54	
,, ...	,, 13	10.0 a.m.	50 05	9 16	56	13·3	19·58	35·37	28·43	
,, ...	,, 13	3.30 p.m.	50 14	11 53	57	13·9	19·63	35·46	28·50	
,, ...	,, 14	Noon.	50 24	21 48	53	11·7	19·40	35·05	28·16	
,, ...	,, 15	,,	49 31	32 25	57	13·9	19·70	35·59	28·60	

TABLE II.—*continued.*

Ship.	Date.	Time.	Lat.	Long.	Temp.		$Cl.$ ‰.	$S.$ ‰.	σ_0.	Remarks.
					Fahr.	C.				
	1904.		° N. ′	° W. ′						
St. Paul	Nov. 16	Noon	47 38	41 49	49½	9·7	19·05	34·42	27·65	
,, ...	,, 17	,,	45 04	51 35	49	9·4	17·99	32·50	26·11	
,, ...	,, 19	,,	40 32	71 06	52¼	11·2	18·50	33·42	26·86	
,, ...	,, 27	,,	41 05	64 45	40	4·4	18·58	33·57	26·97	
,, ...	,, 28	,,	43 40	56 15	49	9·4	19·17	34·63	27·83	
,, ...	,, 29	,,	46 11	46 50	40	4·4	18·40	33·35	26·80	
,, ...	,, 30	,,	48 11	37 15	55	12·8	19·57	35·35	28·41	
Atrato	,, 1	,,	46 53	13 27	58·3	14·6	19·65	35·50	28·53	
,, ...	,, 1	9.0 p.m.	47 58	10 36	58·2	14·6	19·81	35·79	28·76	
,, ...	,, 2	4.0 a.m.	48 47	8 27	57	13·9	19·68	35·55	28·57	
,, ...	,, 2	10.20 a.m.	49 40	6 14	54·5	12·5	19·62	35·44	28·48	
,, ...	,, 24	8.30 a.m.	48 53	5 31	53·6	12·0	19·62	35·44	28·48	
,, ...	,, 24	5.0 p.m.	47 58	6 52	53	11·7	19·72	35·62	28·63	
,, ...	,, 24	Midnight	46 57	9 15	55·7	13·2	19·82	35·81	28·78	
,, ...	,, 25	Noon	45 25	12 53	58·5	14·7	19·80	35·77	28·75	
,, ...	,, 26	,,	42 02	18 46	62	16·7	19·94	36·02	28·95	
,, ...	,, 27	,,	38 29	24 07	64	17·8	20·09	36·29	29·17	
,, ...	,, 28	,,	34 51	29 50	65·6	18·7	20·05	36·22	29·11	
,, ...	,, 29	,,	31 31	34 35	70	21·1	20·44	36·92	29·68	
,, ...	,, 30	,,	28 01	39 51	73	22·8	20·51	37·05	29·78	
Port Royal ...	,, 1	,,	24 38	65 17	82	27·8	20·44	36·92	29·68	
,, ...	,, 2	,,	21 57	70 25	84	28·9	20·41	36·87	29·63	
,, ...	,, 11	,,	20 31	73 57	84	28·9	20·01	36·15	29·05	
,, ...	,, 12	,,	24 15	70 07	81	27·2	19·29	34·85	28·00	
,, ...	,, 13	,,	28 14	66 02	79	26·1	20·32	36·71	29·50	
,, ...	,, 14	,,	31 53	61 27	78	25·6	20·09	36·29	29·17	
,, ...	,, 15	,,	35 11	56 43	70	21·1	20·24	36·56	29·39	
,, ...	,, 16	,,	38 28	51 52	69	20·6	20·14	36·38	29·24	
,, ...	,, 17	,,	41 53	45 48	68	20·0	20·25	36·58	29·40	
,, ...	,, 18	,,	44 25	39 48	64	17·8	19·90	35·95	28·89	
,, ...	,, 19	,,	46 20	34 57	59	15·0	19·83	35·82	28·79	
,, ...	,, 20	,,	48 26	28 20	54	12·2	19·73	35·64	28·64	
,, ...	,, 21	,,	50 01	20 20	55	12·8	19·80	35·77	28·75	
,, ...	,, 22	,,	50 50	13 10	53	11·7	20·01	36·15	29·05	
,, ...	,, 22	10.0 p.m.	51 26	10 11	52	11·1	19·60	35·41	28·46	
,, ...	,, 23	9.30 a.m.	51 14	6 20	52	11·1	19·58	35·37	28·43	
Braemar Castle ...	,, 1	Noon	26 31	16 34	68	20·0	20·59	37·19	29·90	
,, ...	,, 2	,,	Santa Cruz Anchorage.		69	20·6	19·84	35·84	28·80	
,, ...	,, 3	,,	32 20	14 45	68	20·0	20·37	36·80	29·58	
,, ...	,, 4	,,	37 15	12 40	65	18·3	20·32	36·71	29·50	
,, ...	,, 5	,,	42 10	10 11	63	17·2	20·16	36·42	29·27	
,, ...	,, 6	7.30 a.m.	45 45	7 45	52	11·1	20·30	36·67	29·47	
,, ...	,, 6	3.15 p.m.	47 11	6 38	21	10·6	19·93	36·00	28·94	

TABLE II.—*continued.*

Ship.	Date.	Time.	Lat.	Long.	Temp.		*Cl.* ‰.	*S.* ‰.	σ_o.	Remarks.
					Fahr.	C.				
	1904.		N.	W.						
			° ′	° ′						
Braemar Castle ...	Nov. 6	9.57 p.m.	48 35	5 16	50	10·0	19·78	35·73	28·72	
Kildonan Castle ...	„ 13	7.0 a.m.	48 44	4 59	55	12·8	19·62	35·44	28·48	
„ ...	„ 13	2.40 p.m.	47 11	6 23	56	13·3	19·81	35·79	28·76	
„ ...	„ 13	9.15 p.m.	45 44	7 35	58	14·4	19·81	35·79	28·76	
„ ...	„ 14	Noon	42 18	10 18	61	16·1	19·87	35·90	28·85	
„ ...	„ 15	„	36 47	13 58	65	18·3	20·16	36·42	29·27	
„ ...	„ 16	„	Funchal Bay, Madeira.		68	20·0	20·33	36·73	29·52	
„ ...	„ 18	„	20 09	17 41	71	21·7	20·12	36·35	29·21	
United States ...	Dec. 3	Midnight	59 28	5 35	48·7	9·3	19·56	35·34	28·40	
„ ...	„ 4	4.0 a.m.	59 28	7 19	48·6	9·2	19·61	35·43	28·47	
„ ...	„ 4	8.0 a.m.	59 34	9 10	48·2	9·0	19·61	35·43	28·47	
„ ...	„ 4	1.0 p.m.	59 30	11 03	47·1	8·4	19·57	35·35	28·41	
„ ...	„ 4	4.0 p.m.	59 17	12 15	48·0	8·9	19·56	35·34	28·40	
„ ...	„ 4	8.0 p.m.	59 00	13 51	47·5	8·6	19·56	35·34	28·40	
„ ...	„ 4	Midnight	58 42	15 30	45·5	7·5	19·56	35·34	28·40	
„ ...	„ 5	Noon	57 57	20 32	47·5	8·6	19·49	35·21	28·30	
„ ...	„ 5	Midnight	56 45	25 03	47·7	8·7	19·46	35·16	28·25	
„ ...	„ 6	Noon	55 36	30 00	46·4	8·0	19·33	34·92	28·06	
„ ...	„ 7	4.0 a.m.	53 03	36 32	43·7	6·5	19·28	34·83	27·99	
„ ...	„ 7	4.0 p.m.	51 33	40 00	46·9	8·3	19·21	34·70	27·89	
„ ...	„ 8	8.0 a.m.	49 08	44 21	44·8	7·1	18·95	34·23	27·51	
„ ...	„ 9	8.0 a.m.	45 26	51 04	43·5	6·4	17·98	32·48	26·10	
„ ...	„ 9	Midnight	44 03	56 05	46·8	8·2	18·35	33·15	26·64	
„ ...	„ 10	1.0 p.m.	42 58	59 31	49·3	9·6	18·87	34·09	27·39	
„ ...	„ 11	6.0 a.m.	41 30	63 48	47·3	8·5	18·70	33·78	27·15	
„ ...	„ 11	8.0 p.m.	40 35	68 25	40·6	4·8	18·14	32·77	26·33	
„ ...	„ 22	4.0 a.m.	40 23	70 25	43·5	6·4	18·32	33·10	26·59	
„ ...	„ 22	4.0 p.m.	40 54	66 27	43·7	6·5	18·29	33·04	26·55	
„ ...	„ 23	1.0 p m.	42 17	59 55	58·8	14·9	19·96	36·06	28·98	
„ ...	„ 24	4.0 a.m.	43 35	55 16	50·4	10·2	19·11	34·52	27·74	
„ ...	„ 24	8.0 p.m.	45 24	50 02	43·3	6·3	17·88	32·30	25·95	
„ ...	„ 25	1.0 p.m.	45 54	45 12	40·5	4·7	18·86	34·07	27·38	
„ ...	„ 26	4.0 a.m.	47 43	40 37	50·2	10·1	19·62	35·44	28·48	
„ ...	„ 26	8.0 p.m.	49 32	35 40	46·2	7·9	19·27	34·81	27·98	
„ ...	„ 27	1.0 p.m.	51 26	29 43	47·5	8·6	19·31	34·88	28·03	
„ ...	„ 28	4.0 a.m.	53 10	24 24	48·4	9·1	19·35	34·96	28·09	
„ ...	„ 28	4.0 p.m.	54 34	20 14	52·7	11·5	19·56	35·34	28·40	
„ ...	„ 29	4.0 a.m.	55 54	15 47	50·9	10·5	19·59	35·39	28·44	
„ ...	„ 29	8.0 a m.	56 21	14 17	49·1	9·5	19·56	35·34	28·40	
„ ...	„ 29	1.0 p.m.	56 49	12 21	50·4	10·2	19·57	35·35	28·41	
„ ...	„ 29	4.0 p.m.	57 04	11 31	50·0	10·0	19·56	35·34	28·40	
„ ...	„ 29	8.0 p.m.	57 22	9 59	49·1	9·5	19·59	35·39	28·44	
„ ...	„ 29	Midnight	57 35	8 54	49·1	9·5	19·59	35·39	28·44	

TABLE II.—*continued.*

Ship.	Date.	Time.	Lat.	Long.	Temp.		*Cl.* ‰.	*S.* ‰.	σ_o.	Remarks.
					Fahr.	C.				
	1904.		° N. ′	° W. ′						
United States ...	Dec. 30	4.0 a.m.	58 03	7 57	48·2	9·0	19·61	35·43	28·47	
„ ...	„ 30	8.0 a.m.	58 22	7 20	48·2	9·0	19·43	35·10	28·21	
„ ...	„ 30	Noon	58 34	6 05	47·3	8·5	19·35	34·96	28·09	
Oscar II.	„ 17	10.0 p m.	59 40	5 36	47·8	8·8	19·57	35·35	28·41	
„	„ 18	2.0 a.m.	59 40	6 25	47·7	8·7	19·63	35·46	28·50	
„	„ 18	6.0 a.m.	59 42	7 49	43·5	6·4	19·63	35·46	28·50	
„	„ 18	10.0 a.m.	59 46	8 10	47·3	8·5	19·69	35·57	28·59	
„	„ 18	2.0 p.m.	59 48	9 40	47·8	8·8	19·61	35·43	28·47	
„	„ 18	6.0 p.m.	59 32	11 20	47·7	8·7	19·60	35·41	28·46	
„	„ 18	10.0 p m.	59 25	12 08	47·3	8·5	19·59	35·39	28·44	
„	„ 19	2.0 a.m.	59 00	15 00	47·8	8·8	19·56	35·34	28·40	
„	„ 19	2.0 p.m.	58 00	20 00	49·3	9·6	19·54	35·30	28·37	
„	„ 19	6.0 a.m.	58 55	15 28	47·3	8·5	19·55	35·32	28·38	
„	„ 20	4.0 a.m.	56 48	25 00	47·3	8·5	19·38	35·01	28·14	
„	„ 20	3.45 p.m	55 13	30 00	45·9	7·7	19·38	35·01	28·14	
„	„ 21	6.30 a.m.	53 12	34 45	43·7	6·5	19·27	34·81	27·98	
„	„ 21	9.30 p.m.	51 00	40 00	45·5	7·5	19·14	34·58	27·79	
„	„ 22	1.0 p.m.	48 45	45 00	39·0	3·9	19·04	34·40	27·64	
„	„ 23	11.0 a.m.	45 50	50 00	30·2	−1·0	18·09	32·68	26·26	
„	„ 24	4.0 a.m.	44 16	55 00	38·3	3·5	18·16	32·81	26·36	
„	„ 24	7.30 p.m.	43 00	60 00	45·0	7·2	19·39	35·03	28·15	
„	„ 25	1.30 p.m.	41 45	65 00	44·6	7·0	18·16	32·81	26·36	
„	„ 26	3.30 a.m	40 35	70 00	41·7	5·4	18·18	32·84	26·39	
Astoria	„ 1	Noon	53 40	29 45	46	7·8	19·95	36·04	28·96	
„	„ 2	„	52 20	36 00	43	6·1	19·17	34·63	27·83	
„	„ 3	„	51 23	39 10	51	10·6	19·56	35·34	28·40	
„	„ 4	„	50 15	43 00	52	11·1	20·47	36·98	29·72	
„	„ 5	„	48 20	49 00	37	2·8	19·12	34·54	27·76	
„	„ 6	„	45 14	55 20	40	4·4	17·90	32·34	25·98	
„	„ 7	„	42 45	61 45	51	10·6	19·49	35·21	28·30	
„	„ 8	„	41 00	68 15	46	7·8	18·34	33·13	26·62	
„	„ 19	„	40 36	68 46	46	7·8	18·25	32·97	26·49	
„	„ 20	„	42 06	62 30	54	12·2	19·31	34·88	28·03	
„	„ 21	„	44 30	56 20	46	7·8	18·72	33·82	27·18	
„	„ 22	„	47 24	50 20	34	1·1	18·15	32·79	26·35	
„	„ 23	„	50 05	44 00	45	7·2	19·13	34·56	27·77	
„	„ 24	„	52 14	36 30	44	6·7	19·42	35·08	28·19	
„	„ 25	„	53 50	28 24	47	8·3	19·46	35·16	28·25	
„	„ 26	„	54 45	21 19	51	10·6	19·70	35·59	28·60	
„	„ 27	„	55 06	12 30	51	10·6	19·52	35·26	28·34	
„	„ 27	8.0 p.m.	55 12	9 45	51	10·6	19·54	35·30	28·37	
„	„ 28	—	55 24	7 40	49	9·4	19·38	35·01	28·14	
Numidian ...	„ 1	Noon	52 47	36 04	44	6·7	19·23	34·74	27·92	

TABLE II.—*continued.*

Ship.	Date.	Time.	Lat.	Long.	Temp.		*Cl.* ‰.	*S.* ‰.	σ_0.	Remarks.
					Fahr.	C.				
	1904.		° N. ′	° W. ′						
Numidian ...	Dec. 2	Noon	53 58	29 10	47	8·3	19·37	34·99	28·12	
,, ...	,, 3	,,	54 58	21 20	50	10·0	19·44	35·12	28·22	
,, ...	,, 4	,,	55 30	13 33	50	10·0	19·57	35·35	28·41	
,, ...	,, 4	10.0 p.m.	55 29	10 43	51	10·6	19·49	35·21	28·30	
,, ...	,, 5	6.10 a.m.	55 28	7 39	50	10·0	19·44	35·12	28·22	
,, ...	,, 17	10.0 a.m.	55 30	7 40	48½	9·2	19·43	35·10	28·21	
,, ...	,, 17	Noon	55 27	8 14	50	10·0	19·49	35·21	28·30	
,, ...	,, 17	7.30 p.m.	55 25	10 42	48	8·9	19·58	35·37	28·43	
,, ...	,, 18	6.30 a.m.	55 17	13 36	49	9·4	19·66	35·52	28·54	
,, ...	,, 18	Noon	55 09	15 21	50	10·0	19·59	35·39	28·44	
,, ...	,, 19	,,	54 37	22 57	50	10·0	19·50	35·23	28·31	
,, ...	,, 20	,,	53 42	30 21	45	7·2	19·23	34·74	27·92	
,, ...	,, 21	,,	51 51	37 07	44	6·7	19·23	34·74	27·92	
,, ...	,, 22	,,	50 03	43 27	45	7·2	18·89	34·13	27·42	
,, ...	,, 23	,,	48 12	48 57	29	−1·7	18·24	32·95	26·48	
,, ...	,, 24	,,	46 05	53 38	33	0·6	17·95	32·43	26·06	
,, ...	,, 25	,,	43 34	59 10	37	2·8	17·98	32·48	26·10	
,, ...	,, 26	,,	41 35	65 00	45	7·2	18·72	33·82	27·18	
,, ...	,, 27	,,	40 31	71 20	46	7·8	18·21	32·90	26·43	
St. Paul	,, 1	,,	49 36	26 50	50	10·0	19·25	34·78	27·95	
,, ...	,, 2	,,	49 51	16 00	53¼	11·8	19·68	35·55	28·57	
,, ...	,, 13	,,	49 58	28 16	52	11·1	19·59	35·39	28·44	
,, ...	,, 14	,,	48 56	36 22	54	12·2	19·61	35·43	28·47	
,, ...	,, 15	,,	47 19	44 06	44	6·7	18·09	32·68	26·26	
,, ...	,, 16	,,	44 45	53 08	39	3·9	18·06	32·63	26·22	
,, ...	,, 17	,,	42 20	63 00	55	12·8	19·67	35·53	28·56	
,, ...	,, 25	,,	41 05	65 00	43	6·1	18·55	33·51	26·93	
,, ...	,, 26	,,	43 10	56 30	43	6·1	18·73	33·84	27·19	
,, ...	,, 27	,,	45 52	47 35	38	3·3	18·78	33·93	27·26	
,, ...	,, 28	,,	48 05	37 50	54	12·2	19·66	35·52	28·54	
,, ...	,, 29	,,	49 28	27 25	50	10·0	19·38	35·01	28·14	
,, ...	,, 30	,,	49 35	16 00	54	12·2	19·67	35·53	28·56	
,, ...	,, 31	4.0 a.m.	49 52	9 00	52	11·1	19·57	35·35	28·41	
Atrato	,, 1	Noon	24 42	44 20	75·8	24·3	20·70	37·39	30·06	
,, ...	,, 2	,,	21 20	48 43	78·1	25·6	20·62	37·25	29·94	
Port Royal ...	,, 3	10.15 p.m.	50 34	6 23	51	10·6	19·72	35·62	28·63	
,, ...	,, 4	7.30 a.m.	49 41	8 55	53	11·7	19·67	35·35	28·41	
,, ...	,, 5	Noon	47 15	14 58	55	12·8	20·01	36·15	29·05	
,, ...	,, 6	,,	45 25	19 03	56	13·3	19·66	35·52	28·54	
,, ...	,, 7	,,	42 25	24 33	59	15·0	19·94	36·02	28·95	
,, ...	,, 8	,,	39 56	30 03	60	15·6	20·06	36·24	29·12	
,, ...	,, 9	,,	37 29	35 34	65	18·3	20·14	36·38	29·24	
,, ...	,, 10	,,	34 57	41 18	68	20·0	20·16	36·42	29·27	

TABLE II.—*continued.*

Ship.	Date.	Time.	Lat.	Long.	Temp.		*Cl.* ‰.	*S.* ‰.	σ_o.	Remarks.
					Fahr.	C.				
	1904.		° N. ′	° W. ′						
Port Royal ...	Dec. 11	Noon	32 30	46 50	72	22·2	20·30	36·67	29·47	
,, ...	,, 12	,,	29 53	52 26	74	23·3	20·56	37·14	29·85	
,, ...	,, 13	,,	27 34	57 58	76	24·4	20·46	36·96	29·71	Bad stopper.
,, ...	,, 14	,,	25 06	63 28	78	25·6	20·26	36·60	29·42	
,, ...	,, 15	,,	22 38	68 56	79½	26·4	20·02	36·17	29·07	
,, ...	,, 24	,,	23 06	71 23	77	25·0	20·41	36·87	29·63	
,, ...	,, 25	,,	26 49	67 22	75	23·9	20·43	36·91	29·66	
,, ...	,, 26	,,	30 43	63 00	70	21·1	20·50	37·03	29·77	
,, ...	,, 27	,,	34 06	58 17	66	18·9	20·32	36·71	29·50	
,, ...	,, 28	,,	37 30	53 10	66	18·9	20·30	36·67	29·47	Bad stopper.
,, ...	,, 29	,,	40 39	47 25	61	16·1	19·93	36·00	28·94	
,, ...	,, 30	,,	43 50	40 50	63	17·2	19·44	35·12	28·22	
,, ...	,, 31	,,	46 40	34 00	56	13·3	19·72	35·62	28·63	
Egypt	,, 14	,,	37 25	9 11	62½	16·9	20·11	36·33	29·20	
,, ...	,, 15	,,	42 38	9 42	59	15·0	18·54	33·49	26·91	
,, ...	,, 15	7.15 p.m.	44 05	8 49	58	14·4	19·77	35·71	28·70	
,, ...	,, 16	11.35 a.m.	47 07	6 35	56½	13·6	19·72	35·62	28·63	Current from C. Villano E. by N. 12 miles.
,, ...	,, 16	7.45 p.m.	48 21	5 27	54½	12·5	19·58	35·37	28·43	Current from noon E. by S. 11 miles
,, ...	,, 31	7.06 p.m.	48 34	5 27	52	11·1	19·57	35·35	28·41	
Macedonia ...	,, 19	8.0 p.m.	36 15	6 49	61	16·1	20·12	36·35	29·21	
,, ...	,, 19	11.40 p.m.	36 37	7 58	62·2	16·8	20·20	36·49	29·33	
,, ...	,, 20	3.20 a.m.	36 56	8 55	60	15·6	2 ·10	36·31	29·18	
,, ...	,, 20	8.0 a.m.	38 15	9 30	60	15·6	20·10	36·31	29·18	
,, ...	,, 20	Noon	39 16	9 33	59	15·0	19·97	36·08	28·99	
,, ...	,, 20	3.10 p.m.	40 06	9 37	60	15·6	20·04	36·20	29·10	
,, ...	,, 20	11.35 p.m.	42 23	9 37	58	14·4	19·90	35·95	28·89	
,, ...	,, 21	3.0 am.	43 09	9 31	58	14·4	19·88	35·91	28·86	
,, ...	,, 21	11.45 a.m.	45 25	8 00	56	13·3	19·76	35·70	28·69	
,, ...	,, 21	3.12 p.m.	46 12	7 25	55	12·8	19·77	35·71	28·70	
,, ...	,, 21	11.45 p.m.	48 10	5 55	51	10·6	19·69	35·57	28·59	
Egypt	,, 22	3.0 a.m.	49 00	5 25	51	10·6	19·61	35·43	28·47	
Kildonan Castle ...	,, 25	Noon	22 43	17 32	67	19·4	20·21	36·51	29·34	
,, ...	,, 26	,,	28 17	17 03	67	19·4	20·38	36·82	29·59	
,, ...	,, 27	,,	Funchal Bay, Maderia.		64	17·8	20·35	36·76	29·55	
,, ...	,, 28	,,	37 43	13 23	60	15·6	20·29	36·65	29·46	
,, ...	,, 29	,,	43 09	9 23	56	13·3	19·75	35·68	28·67	
,, ...	,, 29	10.10 p.m.	45 34	7 35	54	12·2	19·83	35·82	28·79	
,, ...	,, 30	4.40 a.m.	47 01	6 21	52	11·1	20·17	36·44	29·29	
,, ...	,, 30	1.0 p.m.	48 35	5 18	50	10·0	19·79	35·75	28·73	
	1905.									
Hellig Olav ...	Jan. 28	Midnight	59 28	5 10	47·7	8·7	19·58	35·37	28·43	
,, ...	,, 29	4.0 a.m.	59 28	6 00	48·4	9·1	19·60	35·41	28·46	
,, ...	,, 29	8.0 a.m.	59 25	7 15	47·8	8·8	19·60	35·41	28·46	

TABLE II.—*continued.*

Ship.	Date.	Time.	Lat.	Long.	Temp.		*Cl.* ‰.	*S.* ‰.	σ_o.	Remarks.
					Fahr.	C.				
	1905.		° N. ′	° W. ′						
Hellig Olav ...	Jan. 29	Noon	59 21	8 56	47·7	8·7	19·60	35·41	28·46	
,, ...	,, 29	4.0 p.m.	59 15	10 05	47·7	8·7	19·60	35·41	28·46	
,, ...	,, 29	8.0 p.m.	59 05	11 32	48·2	9·0	19·61	35·43	28·47	
,, ...	,, 29	Midnight	59 00	13 05	47·5	8·6	19·58	35·37	28·43	
,, ...	,, 30	4.0 a.m.	58 52	14 25	47·3	8·5	19·56	35·34	28·40	
,, ...	,, 30	8.0 a.m.	58 45	15 10	46·7	8·2	19·56	35·34	28·40	
,, ...	,, 31	,,	56 50	21 00	47·6	8·7	19·56	35·34	28·40	
,, ...	,, 31	8.0 p.m.	55 40	25 00	47·1	8·4	19·54	35·30	28·37	
Oscar II.	,, 5	5.30 a.m.	40 10	70 00	42·3	5·7	18·29	33·04	26·55	
,, ...	,, 5	9.0 p.m.	41 10	65 00	44·2	6·8	18·77	33·91	27·25	
,, ...	,, 6	1.30 p.m.	41 52	60 00	51·8	11·0	18·91	34·16	27·45	
,, ...	,, 7	6.30 a.m.	43 30	55 00	47·5	8·6	19·17	34·63	27·83	
,, ...	,, 7	11.0 p.m.	44 12	50 00	32·9	0·5	18·40	33·24	26·71	
,, ...	,, 8	5.30 p.m.	48 10	45 00	38·3	3·5	18·77	33·91	27·25	
,, ...	,, 9	10.0 a.m.	50 38	40 00	43·9	6·6	19·22	34·72	27·90	
,, ...	,, 10	1.0 a.m.	52 35	35 00	41·9	5·5	19·23	34·44	27·92	
,, ...	,, 10	3.0 p.m.	54 20	30 00	44·8	7·1	19·33	34·92	28·06	
,, ...	,, 11	4.30 a.m.	56 12	25 00	47·3	8·5	19·49	35·21	28·30	
,, ...	,, 11	5.30 p.m.	57 00	20 00	48·4	9·1	19·55	35·32	28·38	
,, ...	,, 12	4.0 a.m.	57 11	15 00	46·6	8·1	19·57	35·35	28·41	
,, ...	,, 12	Noon	58 12	12 27	47·3	8·5	19·61	35·43	28·47	
,, ...	,, 12	4.0 p.m.	58 13	10 40	48·6	9·2	19·61	35·43	28·47	
,, ...	,, 12	8.0 p.m.	58 15	9 10	48·2	9·0	19·58	35·37	28·43	
,, ...	,, 12	Midnight	58 26	7 20	48·2	9·0	19·54	35·30	28·37	
,, ...	,, 13	4.0 a.m.	58 37	5 45	46·8	8·2	19·29	34·85	28·00	
Numidian ...	,, 6	Noon	40 39	69 21	40	4·4	18·41	33·26	26·72	
,, ...	,, 7	,,	41 45	64 11	48	8·9	18·74	33·86	27·20	
,, ...	,, 8	,,	42 20	60 40	46	7·8	18·78	33·93	27·26	
,, ...	,, 9	,,	43 50	55 45	40	4·4	18·48	33·39	26·83	
,, ...	,, 10	,,	45 36	50 16	36	2·2	18·20	32·88	26·42	
,, ...	,, 11	,,	48 05	45 06	38	3·3	19·10	34·51	27·73	Doubtful stopper.
,, ...	,, 12	,,	50 45	39 17	48	8·9	19·41	35·07	28·18	
,, ...	,, 13	,,	52 30	32 20	45	7·2	19·38	35·01	28·14	
,, ...	,, 14	,,	54 06	25 35	46	7·8	19·40	35·05	28·16	
,, ...	,, 15	,,	55 03	18 25	50	10·0	19·74	35·66	28·66	
,, ...	,, 16	,,	55 22	13 40	49	9·4	19·71	35·61	28·62	
,, ...	,, 16	—	55 24	12 45	49	9·4	19·66	35·52	28·54	Ship stopped from 16th, 6 p.m., to 17th, 6 p.m.
,, ...	,, 18	3.0 a.m.	55 26	10 42	50	10·0	19·79	35·75	28·73	
,, ...	,, 18	Noon	55 20	9 43	48	8·9	19·79	35·75	28·73	
,, ...	,, 18	9.30 p.m.	55 28	7 40	46	7·8	19·59	35·39	28·44	
,, ...	,, 19	Noon	55 22	5 12	46	7·8	18·61	33·62	27·02	
Astoria	,, 8	—	55 21	7 48	49	9·4	19·34	34·94	28·08	
,, ...	,, 8	Midnight	120 miles W. of Innistrahull.		50	10·0	19·88	35·91	28·86	

TABLE II.—*continued.*

Ship.	Date.	Time.	Lat.	Long.	Temp.		$Cl.\,‰$.	$S.\,‰$.	σ_0.	Remarks.
					Fahr.	C.				
	1905.		° N. ′	° W. ′						
Astoria	Jan. 9	Noon	55 17	12 15	50	10·0	19·63	35·46	28·50	
„	„ 10	„	55 08	16 50	50	10·0	19·56	35·34	28·40	
„	„ 11	„	54 45	21 20	48	8·9	19·56	35·34	28·40	
„	„ 12	„	54 00	26 30	49	9·4	19·46	35·16	28·25	
„	„ 13	„	52 20	33 40	42	5·6	19·23	34·74	27·92	
„	„ 14	„	51 27	39 46	47	8·3	19·46	35·16	28·25	
„	„ 15	„	49 45	45 00	39	3·9	18·98	34·29	27·55	
„	„ 16	„	47 40	50 00	29	−1·7	19·22	34·72	27·90	
„	„ 17	„	45 10	54 45	31	−0·6	18·00	32·52	26·13	
„	„ 18	„	43 15	60 00	—	—	18·69	33·77	27·13	
„	„ 19	„	41 30	66 40	42	5·6	18·32	33·10	26·59	
„	„ 20	„	40 34	73 13	40	4·4	18·02	32·56	26·16	
„	„ 29	„	40 32	68 00	41	5·0	18·28	33·03	26·54	
„	„ 30	„	42 00	61 20	40	4·4	18·43	33·30	26·75	
„	„ 31	„	44 00	54 00	41	5·0	18·46	33·35	26·80	
Corean	„ 29	1·0 a.m.	55 16	10 42	50	10·0	19·60	35·41	28·46	
„	„ 29	3.0 p.m.	54 33	13 41	50	10·0	19·59	35·39	28·44	
„	„ 30	Noon	53 47	19 00	50	10·0	19·54	35·30	28·37	
„	„ 31	„	52 30	25 15	52	11·1	19·52	35·26	28·34	
Minneapolis ...	„ 20	9.45 p.m.	49 49	9 03	50	10·1	19·62	35·44	28·48	
„ ...	„ 21	4.15 a.m.	49 47	11 38	52	11·1	19·79	35·75	28·73	
„ ...	„ 21	Noon	49 50	13 54	52	11·1	19·69	35·57	28·59	
„ ...	„ 22	„	48 57	22 10	52	11·1	19·66	35·52	28·54	
„ ...	„ 23	„	47 40	29 52	52	11·1	19·77	35·71	28·70	
„ ...	„ 24	„	45 25	37 57	59	15·0	19·87	35·90	28·85	
„ ...	„ 25	„	42 49	44 50	59	15·0	20·11	36·33	29·20	
„ ...	„ 26	„	41 57	52 16	42	5·6	18·67	33·73	27·10	
„ ...	„ 27	„	41 45	57 48	55	12·8	19·84	35·84	28·80	
„ ...	„ 28	„	41 06	63 53	50	10·0	19·56	35·34	28·40	
„ ...	„ 29	„	40 35	71 44	34	1·1	18·26	32·99	26·51	
St. Paul	„ 29	„	49 46	10 30	50	10·0	19·59	35·39	28·44	
„	„ 30	„	48 50	21 45	52	11·1	19·59	35·39	28·44	
„	„ 31	„	46 57	32 22	55	12·8	19·75	35·68	28·67	
Port Kingston ...	„ 1	8.0 a.m.	49 33	8 53	51	10·6	19·54	35·30	28·37	
„ ...	„ 1	Noon	48 51	10 17	53	11·7	19·65	35·50	28·53	
„ ...	„ 2	„	45 30	18 25	55	12·8	19·70	35·59	28·60	
„ ...	„ 3	„	42 32	26 23	59	15·0	19·82	35·81	28·78	
„ ...	„ 4	„	39 31	34 29	61	16·1	20·01	36·15	29·05	
„ ...	„ 5	„	36 06	41 51	65·5	18·6	20·17	36·44	29·29	
„ ...	„ 6	„	32 41	48 53	67·5	19·7	20·28	36·64	29·45	
„ ...	„ 7	„	29 30	55 34	72	22·2	20·28	36·64	29·45	
„ ...	„ 8	„	26 17	62 16	75	23·9	20·36	36·78	29·56	
„ ...	„ 9	„	23 01	68 34	78	25·6	20·08	36·27	29·15	

TABLE II.—*continued.*

Ship.	Date.	Time.	Lat.	Long.	Temp.		*Cl.* °/₀₀.	*S.* °/₀₀.	σ_0.	Remarks.
					Fahr.	C.				
	1905.		N. ° ′	W. ° ′						
Port Kingston ...	Jan. 10	Noon	19 09	74 23	79	26·1	19·86	35·88	28·83	
,, ...	,, 20	,,	20 45	73 50	78·5	25·8	19·86	35·88	28·83	
,, ...	,, 21	,,	25 25	68 54	75·5	24·2	20·16	36·42	29·27	
,, ...	,, 22	,,	30 00	63 40	69	20·6	20·33	36·73	29·52	
,, ...	,, 23	,,	34 22	57 55	67	19·4	20·27	36·62	29·43	
,, ...	,, 24	,,	38 17	51 46	63	17·2	19·98	36·09	29·01	
,, ...	,, 25	,,	41 59	44 14	61	16·1	20·25	36·58	29·40	
,, ...	,, 26	,,	45 03	36 21	55	12·8	19·86	35·88	28·83	
,, ...	,, 27	,,	47 52	27 47	53	11·7	19·78	35·73	28·72	
,, ...	,, 28	,,	49 50	18 36	53	11·7	19·78	35·73	28·72	
,, ...	,, 29	6.0 a.m.	50 35	11 20	52	11·1	19·75	35·68	28·67	
,, ...	,, 29	Noon	51 26	8 08	49	9·4	19·55	35·52	28·38	
,, ...	,, 29	4.30 p.m.	51 10	6 10	49	9·4	19·50	35·23	28·31	
Port Royal ...	,, 1	Noon	49 03	26 24	53·1	11·7	19·64	35·48	28·51	
,, ...	,, 2	,,	50 12	17 52	54·0	12·2	19·80	35·77	28·75	
,, ...	,, 3	9.20 a.m.	51 20	11 15	52·0	11·1	19·68	35·55	28·57	
,, ...	,, 3	3.10 p.m.	51 21	8 50	50	10·0	19·40	35·05	28·16	
,, ...	,, 3	10.30 p.m.	51 15	6 20	51	10·6	19·53	35·28	28·35	
,, ...	,, 15	2.0 a.m.	50 44	6 28	50	10·0	19·70	35·59	28·60	
,, ...	,, 15	10.0 a.m.	50 11	8 46	51	10·6	19·56	35·34	28·40	
,, ...	,, 15	8.0 p.m.	49 05	11 05	53	11·7	19·86	35·88	28·83	
,, ...	,, 16	Noon	47 59	14 38	53	11·7	19·86	35·88	28·83	
,, ...	,, 17	,,	45 12	18 44	55	12·8	19·86	35·88	28·83	
,, ...	,, 18	,,	41 28	23 10	57	13·9	19·96	36·06	28·98	
,, ...	,, 19	,,	38 14	27 23	60	15·6	20·13	36·36	29·23	
,, ...	,, 20	,,	36 29	32 08	60·5	15·8	20·19	36·47	29·31	
,, ...	,, 21	,,	34 48	38 20	64	17·8	20·38	36·82	29·59	
,, ...	,, 22	,,	32 48	44 10	67	19·4	20·38	36·82	29·59	
,, ...	,, 23	,,	30 44	49 53	69	20·6	20·34	36·74	29·53	
,, ...	,, 24	,,	28 28	55 20	70	21·1	20·52	37·07	29·79	
,, ...	,, 25	,,	26 06	60 52	74	23·3	20·54	37·10	29·82	
,, ...	,, 26	,,	23 48	66 25	76	24·4	20·30	36·67	29·74	
Atrato	,, 2	,,	20 12	54 04	78·4	25·8	20·78	37·54	30·17	
,, ...	,, 3	,,	24 32	49 57	75·2	24·0	20·59	37·19	29·90	
,, ...	,, 4	,,	28 18	46 18	71·8	22·1	20·62	37·25	29·94	
,, ...	,, 5	,,	31 46	42 21	67·3	19·6	20·20	36·49	29·33	
,, ...	,, 6	,,	35 21	37 30	64·2	17·9	20·23	36·55	29·37	
,, ...	,, 7	,,	38 37	32 10	62·1	16·7	20·03	36·18	29·08	
,, ...	,, 8	,,	41 29	25 58	57·9	14·4	19·92	35·99	28·92	
,, ...	,, 9	,,	44 07	19 19	55·0	12·8	19·82	35·81	28·78	
,, ...	,, 10	,,	47 15	12 36	54·0	12·2	19·75	35·68	28·67	
,, ...	,, 10	6.0 p.m.	47 32	9 54	53·4	11·9	19·76	35·70	28·69	
,, ...	,, 11	1.30 a.m.	48 50	8 23	51·3	10·7	19·74	35·66	28·66	

TABLE II.—*continued.*

Ship.	Date.	Time.	Lat.	Long.	Temp. Fahr.	Temp. C.	*Cl.* ‰.	*S.* ‰.	σ_0.	Remarks.
	1905.		° N. ′	° W. ′						
Atrato	Jan. 11	7.0 a.m.	Between Scilly and Ushant.		51·1	10·6	19·62	35·44	28·48	
Moravian	„ 8	8.0 p.m.	33 31	14 15	63·5	17·5	20·18	36·45	29·30	
„	„ 9	6.0 a.m.	35 25	13 28	63·0	17·2	20·28	36·64	29·45	
„	„ 9	Noon	36 28	13 07	61·5	16·4	20·07	36·26	29·14	
„	„ 10	„	40 40	11 19	57·9	14·4	19·95	36·04	28·96	
„	„ 11	„	44 19	8 44	55·0	12·8	19·78	35·73	28·72	
„	„ 11	8.0 p.m.	45 35	7 52	55·9	13·3	19·80	35·77	28·75	
„	„ 12	4.30 a.m.	47 13	6 38	54·0	12·2	19·72	35·62	28·63	
„	„ 12	4.0 p.m.	48 54	5 33	51·4	10·8	19·60	35·41	28·46	
Kildonan Castle ...	„ 15	—	48 13	5 30	52	11·1	19·69	35·57	28·59	
„ ...	„ 15	—	47 19	5 53	53	11·7	19·73	35·64	28·64	
„ ...	„ 16	—	45 55	8 58	54	12·2	19·77	35·71	28·70	
„ ...	„ 16	—	45 02	10 15	56	13·3	19·84	35·84	28·80	
„ ...	„ 17	—	38 25	12 51	59	15·0	20·02	36·17	29·07	
„ ...	„ 20	—	21 36	17 28	66	18·9	19·90	35·95	28·89	
Braemar Castle ...	„ 28	Noon	19 21	17 45	64	17·8	20·07	36·26	29·14	
„ ...	„ 29	„	23 12	16 57	62	16·7	20·53	37·09	29·81	
„ ...	„ 30	8.0 a.m.	25 41	15 51	63	17·2	20·79	37·56	30·19	
„ ...	„ 30	8.0 p.m.	27 05	15 21	62	16·7	20·56	37·14	29·85	
„ ...	„ 31	8.0 a.m.	Las Palmas Anchorage.		62	16·7	20·65	37·30	29·98	
Egypt	„ 1	1.30 a.m.	47 10	6 33	53	11·9	19·72	35·62	28·63	
„	„ 1	4.0 p.m.	43 59	9 03	56	13·3	—	—	—	
„	„ 2	Noon	39 18	9 42	58·5	14·7	20·00	36·13	29·04	
„	„ 3	„	35 58	5 37	60	15·6	20·21	36·51	29·34	
Macedonia ...	„ 15	3.30 a.m.	48 30	5 26	49	9·4	19·68	35·55	28·57	
„ ...	„ 15	8.0 a.m.	47 35	6 15	53	11·7	19·67	35·53	28·56	
„ ...	„ 15	Noon	46 54	6 51	53	11·7	19·76	35·70	28·69	
„ ...	„ 15	3.30 p.m.	46 08	7 25	54	12·2	19·79	35·75	28·73	
„ ...	„ 15	8.0 p.m.	45 10	8 07	54	12·2	19·76	35·70	28·69	
„ ...	„ 15	Midnight	44 17	8 45	55	12·8	19·85	35·86	28·82	
„ ...	„ 16	3.30 a.m.	43 40	9 10	56	13·3	19·85	35·86	28·82	
„ ...	„ 16	8.0 a.m.	42 48	9 30	57	13·9	19·94	36·02	28·95	
„ ...	„ 16	Noon	41 50	9 30	58	14·4	19·95	36·04	28·96	
„ ...	„ 16	3.30 p.m.	41 01	9 33	57½	14·2	19·98	36·09	29·01	
„ ...	„ 16	8.0 p.m.	39 55	9 42	59	15·0	20·22	36·53	29·36	
„ ...	„ 16	Midnight	39 00	9 40	58	14·4	20·09	36·29	29·17	
„ ...	„ 17	3.30 a.m.	38 06	9 26	58	14·4	20·12	36·35	29·21	
„ ...	„ 17	8.05 a.m.	36 59	8 59	59½	15·3	20·15	36·40	29·26	
„ ...	„ 17	Noon	36 33	7 43	60½	15·8	20·16	36·42	29·27	
„ ...	„ 17	3.30 p.m.	36 11	6 38	60	15·6	20·19	36·47	29·31	
„ ...	„ 18	3.30 a.m.	36 18	4 05	57	13·9	20·31	36·69	29·49	
United States ...	Feb. 12	8.0 a.m.	59 51	5 20	46·4	8·0	19·61	35·43	28·47	
„ ...	„ 12	1.0 p.m.	60 00	8 02	46·6	8·1	19·58	35·37	28·43	

TABLE II.—*continued.*

Ship.	Date.	Time.	Lat.	Long.	Temp.		*Cl.* ‰	*S.* ‰	σ_0	Remarks.
					Fahr.	C.				
	1905.		°N. ′	°W. ′						
United States ...	Feb. 12	4.0 p.m.	59 48	9 33	46·8	8·2	19·19	34·67	27·86	
„ ...	„ 12	8.0 p.m.	59 32	11 30	48·4	9·1	19·59	35·39	28·44	
„ ...	„ 12	Midnight	59 15	13 32	46·9	8·3	19·55	35·32	28·38	
„ ...	„ 13	4.0 a.m.	59 00	15 24	48·2	9·0	19·58	35·37	28·43	
„ ...	„ 13	4.0 p.m.	58 13	20 57	48·0	8·9	19·57	35·35	28·41	
„ ...	„ 13	Midnight	57 11	24 08	47·1	8·4	19·45	35·14	28·24	
„ ...	„ 14	8.0 p.m.	55 03	30 06	44·6	7·0	19·37	34·99	28·12	
„ ...	„ 16	4.0 a.m.	52 47	34 36	41·7	5·4	19·28	34·83	27·99	
„ ...	„ 17	4.0 a.m.	49 05	39 19	53·8	12·1	19·62	35·44	28·48	
„ ...	„ 18	Noon	45 42	43 59	54·7	12·6	18·98	34·29	27·55	
„ ...	„ 19	8.0 a.m.	43 52	50 24	38·1	3·4	18·23	32·94	26·46	
„ ...	„ 20	„	42 07	55 40	44·6	7·0	19·39	35·03	28·15	
„ ...	„ 20	8.0 p.m.	41 23	59 30	52·7	11·5	19·80	35·77	28·75	
„ ...	„ 21	Noon	40 45	63 54	47·1	8·4	19·32	34·90	28·05	
„ ...	„ 22	4.0 a.m.	40 24	69 35	36·0	2·2	18·35	33·15	26·64	
Hellig Olav ...	„ 1	Noon	53 43	30 18	43·7	6·5	19·40	35·05	28·16	
„ ...	„ 2	4.0 a.m.	51 00	34 50	48·2	9·0	19·36	34·97	28·11	
„ ...	„ 2	7.0 p.m.	49 00	39 45	50·2	10·1	19·56	35·34	28·40	
„ ...	„ 4	2.0 a.m.	45 20	45 00	42·8	6·0	18·69	33·77	27·13	
„ ...	„ 4	9.0 p.m.	43 30	50 00	32·0	0·0	18·23	32·94	26·46	
„ ...	„ 5	Noon	42 42	55 10	44·2	6·8	19·03	34·38	27·63	
„ ...	„ 6	1.0 a.m.	42 00	60 00	52·2	11·2	19·73	35·64	28·64	
„ ...	„ 6	7.0 p.m.	41 00	65 00	42·8	6·0	18·70	33·78	27·15	
„ ...	„ 7	9.30 a.m.	40 35	69 56	35·2	1·8	18·33	33·12	26·61	
„ ...	„ 16	8.0 a.m.	40 10	69 10	35·6	2·0	18·21	32·90	26·43	
„ ...	„ 16	8.0 p.m.	40 16	65 00	59·9	15·5	20·00	36·13	29·04	
„ ...	„ 17	Noon	40 23	59 50	54·5	12·5	19·74	35·66	28·66	
„ ...	„ 18	2.0 a.m.	40 40	55 15	59·5	15·3	20·02	36·17	29·07	
„ ...	„ 18	9.0 p.m.	42 45	49 55	33·3	0·7	18·32	33·10	26·59	
„ ...	„ 19	2.0 p.m.	44 40	45 25	54·5	12·5	19·68	35·55	28·57	
„ ...	„ 20	11.0 a.m.	48 05	40 00	52·7	11·5	19·63	35·46	28·50	
„ ...	„ 21	4.0 a.m.	50 50	35 00	47·3	8·5	19·43	35·10	28·21	
„ ...	„ 21	6.0 p.m.	53 10	29 45	43·3	6·3	19·27	34·81	27·98	
„ ...	„ 22	8.0 a.m.	55 10	24 50	46·6	8·1	19·43	35·10	28·21	
„ ...	„ 22	8.0 p.m.	56 20	19 55	46·6	8·1	19·53	35·28	28·35	
„ ...	„ 23	8.0 a.m.	57 20	15 45	47·3	8·5	19·54	35·30	28·37	
„ ...	„ 23	Noon	58 20	14 00	47·3	8·5	19·51	35·25	28·32	
„ ...	„ 23	4.0 p.m.	58 30	12 00	47·7	8·7	19·57	35·35	28·41	
„ ...	„ 23	8.0 p.m.	58 30	10 15	47·7	8·7	19·55	35·32	28·38	
„ ...	„ 23	Midnight	58 25	8 40	48·2	9·0	19·57	35·35	28·41	
„ ...	„ 24	4.0 a.m.	58 31	6 52	45·5	7·5	19·54	35·30	28·37	
„ ...	„ 24	8.0 a.m.	58 45	5 00	43·7	6·5	19·19	34·67	27·86	
Oscar II.	„ 25	4.0 p.m.	59 30	5 38	46·8	8·2	19·58	35·37	28·43	

TABLE II.—*continued.*

Ship.	Date.	Time.	Lat.	Long.	Temp.		*Cl.* ‰.	*S.* ‰.	σ_0.	Remarks.
					Fahr.	C.				
	1905.		° N. ′	° W. ′						
Oscar II.	Feb. 25	8.0 p.m.	59 30	7 23	47·3	8·5	19·59	35·39	28·44	
„	„ 25	Midnight	59 30	9 20	46·4	8·0	19·70	35·59	28·60	
„	„ 26	4.0 a.m.	59 30	11 10	47·3	8·5	19·58	35·37	28·43	
„	„ 26	8.0 a.m.	59 30	12 15	49·1	9·5	19·55	35·32	28·38	
„	„ 26	Noon	59 02	14 10	46·2	7·9	19·54	35·30	28·37	
„	„ 26	4.0 p.m.	58 55	15 00	46·4	8·0	19·47	35·17	28·27	
„	„ 27	3.0 p.m.	58 10	20 00	45·5	7·5	19·59	35·39	28·44	
„	„ 28	4.0 a.m.	56 30	25 00	45·5	7·5	19·39	35·03	28·15	
„	„ 28	5.0 p.m.	54 30	30 00	42·8	6·0	19·41	35·07	28·18	
Corean	„ 1	Noon	50 48	31 20	50	10·0	19·40	35·05	28·16	
„	„ 2	„	48 54	35 52	54	12·2	19·62	35·44	28·48	
„	„ 3	„	47 37	38 30	55	12·8	19·58	35·37	28·43	
„	„ 4	„	46 39	40 15	60	15·6	19·49	35·21	28·30	
„	„ 5	„	44 20	43 35	55	12·8	19·28	34·83	27·99	
„	„ 6	„	42 28	47 32	56	13·3	19·73	35·64	28·64	
„	„ 7	„	41 52	52 35	43	6·1	18·44	33·31	26·77	
„	„ 8	„	41 17	57 30	66	18·9	20·14	36·38	29·24	
„	„ 9	„	41 10	58 55	65	18·3	20·17	36·44	29·29	
„	„ 10	„	41 04	63 10	46	7·8	20·20	36·49	29·33	
„	„ 11	„	40 51	65 30	47	8·3	19·28	34·83	27·99	
„	„ 12	„	40 35	68 06	38	3·3	18·25	32·97	26·49	
„	„ 13	„	40 28	73 30	29·5	−1·4	16·72	30·21	24·27	
„	„ 19	„	40 34	68 50	32	0·0	18·25	32·97	26·49	
„	„ 20	„	41 21	63 04	42	5·6	18·77	33·91	27·25	
„	„ 21	„	41 54	57 12	52	11·1	19·50	35·23	28·31	
„	„ 22	„	42 10	51 20	34	1·1	18·38	33·21	26·68	
„	„ 23	„	42 14	46 53	58	14·4	19·46	35·16	28·25	
„	„ 24	„	44 49	42 34	58	14·4	19·92	35·99	28·92	
„	„ 25	„	47 39	37 37	58	14·4	19·73	35·64	28·64	
„	„ 26	„	49 59	32 23	48	8·9	19·45	35·14	28·24	
„	„ 27	„	52 03	27 05	50·5	10·3	19·60	35·41	28·46	
„	„ 28	„	54 30	21 49	50	10·0	19·60	35·41	28·46	
Astoria	„ 1	„	46 00	48 30	32	0·0	18·31	33·08	26·58	
„	„ 2	„	48 30	42 30	50	10·0	19·36	34·97	28·11	
„	„ 3	„	50 50	34 30	49	9·4	19·43	35·10	28·21	
„	„ 4	„	53 00	26 10	46	7·8	19·30	34·87	28·02	
„	„ 4	8.0 p.m.	53 28	23 46	49	9·4	19·45	35·14	28·24	
„	„ 5	4.0 a.m.	53 55	21 22	49	9·4	19·55	35·32	28·38	
„	„ 5	Noon	54 30	17 30	50	10·0	19·64	35·48	28·51	
„	„ 5	8.0 p.m.	54 47	14 16	51	10·6	19·58	35·37	28·43	
„	„ 6	4.0 a.m.	55 04	11 00	50	10·0	19·61	35·43	28·47	
„	„ 6	Noon	6 miles N. of Arranmore Lt.		49	9·4	19·56	35·34	28·40	
„	„ 6	8.0 p.m.	1 mile W. of Rathlin.		48	8·9	19·23	34·74	27·92	

TABLE II.—*continued.*

Ship.	Date.	Time.	Lat.	Long.	Temp.		*Cl.* ‰.	*S.* ‰.	σ_o.	Remarks.
					Fahr.	C.				
	1905.		° N. ′	° W. ′						
Astoria	Feb. 19	7.0 p.m.	55 30	7 19	44	6·7	19·30	34·87	28·02	
„	„ 20	8.0 a.m.	55 26	10 07	48	8·9	19·69	35·57	28·59	
„	„ 20	6.0 p.m.	55 10	13 40	47	8·3	19·67	35·53	28·56	
„	„ 21	Noon	54 27	20 15	50	10·0	19·72	35·62	28·63	
„	„ 22	„	53 20	27 47	46	7·8	19·37	34·99	28·12	
„	„ 23	„	51 10	34 10	49	9·4	19·56	35·34	28·40	
„	„ 24	„	48 42	40 07	54	12·2	19·81	35·79	28·76	
„	„ 25	„	45 50	46 00	41	5·0	18·80	33·96	27·29	
„	„ 26	„	43 25	51 40	38	3·3	18·39	33·22	26·70	
„	„ 27	„	42 33	58 30	49	9·4	19·28	34·83	27·99	
„	„ 28	„	41 45	62 20	38	3·3	18·73	33·84	27·19	
St. Paul	„ 1	„	43 57	42 25	62	16·7	20·09	36·29	29·17	
„	„ 2	„	41 54	51 23	44	6·7	18·68	33·75	27·12	
„	„ 3	„	41 20	59 10	54	12·2	18·23	32·94	26·46	
„	„ 4	„	41 44	66 50	38	3·3	18·22	32·92	26·45	
„	„ 12	„	40 28	65 00	52	11·1	20·00	36·13	29·04	
„	„ 13	„	40 49	56 06	62	16·7	20·07	36·26	29·14	
„	„ 14	„	42 00	47 00	48	8·9	18·84	34·04	27·35	
„	„ 15	„	44 34	38 02	59	15·0	19·63	35·46	28·50	
„	„ 16	„	47 20	28 36	53	11·7	19·65	35·50	28·53	
„	„ 17	„	49 00	18 12	52	11·1	19·69	35·57	28·59	
„	„ 17	8.0 p.m.	49 12	16 24	54	12·2	19·52	35·26	28·34	
„	„ 18	2.0 a.m.	49 38	10 19	54	12·2	19·51	35·25	28·32	
„	„ 18	8.0 a.m.	49 45	9 00	50	10·0	19·50	35·23	28·31	
„	„ 26	4.0 a.m.	49 50	6 27	48	8·9	20·28	36·64	29·45	
„	„ 26	10.0 a.m.	49 48	9 02	46	7·8	19·87	35·90	28·85	
„	„ 27	Noon	49 26	16 47	44	6·7	20·08	36·27	29·15	
„	„ 28	„	47 56	27 43	51	10·6	19·83	35·82	28·79	
Minneapolis ...	„ 5	„	40 12	67 50	37	2·8	18·32	33·10	26·59	
„ ...	„ 6	„	40 39	59 44	55	12·8	19·92	35·99	28·92	
„ ...	„ 7	„	40 51	51 56	55	12·8	19·85	35·86	28·82	
„ ...	„ 8	„	42 03	44 26	61	16·1	20·17	36·44	29·29	
„ ...	„ 9	„	44 35	37 36	59	15·0	19·99	36·11	29·02	
„ ...	„ 10	„	46 49	30 18	53	11·7	19·83	35·82	28·79	
„ ...	„ 11	„	48 32	22 15	51	10·6	19·67	35·53	28·56	
„ ...	„ 12	„	49 37	13 04	51	10·6	19·72	35·62	28·63	
„ ...	„ 12	?	49 40	11 30	51	10·6	19·72	35·62	28·63	
„ ...	„ 13	?	49 45	9 45	49	9·4	19·65	35·50	28·53	
„ ...	„ 24	10.0 p.m.	49 48	9 03	48	8·9	19·60	35·41	28·46	
„ ...	„ 25	4.0 a.m.	49 43	11 38	49	9·4	19·89	35·93	28·88	
„ ...	„ 25	Noon	49 44	14 26	52	11·1	19·83	35·82	28·79	
„ ...	„ 26	„	48 53	20 35	51	10·6	19·88	35·91	28·86	
„ ...	„ 27	„	47 53	28 21	54	12·2	20·04	36·20	29·10	

TABLE II.—*continued.*

Ship.	Date.	Time.	Lat.	Long.	Temp.		*Cl.* ‰.	*S.* ‰.	σ_o.	Remarks.
					Fahr.	C.				
	1905.		° N. ′	° W. ′						
Minneapolis ...	Feb. 28	Noon	45 35	36 49	57	13·9	19·85	35·86	28·82	
Port Royal ...	„ 3	„	20 39	73 54	78	25·6	—	<1·0	—	
„ ...	„ 4	„	24 23	70 12	76	24·4	20·32	36·71	29·50	
„ ...	„ 5	„	28 21	65 50	72	22·2	20·31	36·69	29·49	
„ ...	„ 6	„	31 57	61 23	67	19·4	20·29	36·65	29·46	
„ ...	„ 7	„	35 31	56 44	66	18·9	20·20	36·49	29·33	
„ ...	„ 8	„	38 48	51 19	64	17·8	20·15	36·40	29·26	
„ ...	„ 9	„	41 57	45 00	60	15·6	20·10	36·31	29·18	
„ ...	„ 10	„	44 54	39 04	59	15·0	19·99	36·11	29·02	
„ ...	„ 11	„	47 17	32 35	55	12·8	19·74	35·66	28·66	
„ ...	„ 12	„	49 12	25 21	52	11·1	19·64	35·48	28·51	
„ ...	„ 13	„	50 25	17 30	51·5	10·8	19·68	35·55	28·57	
„ ...	„ 14	„	51 44	9 03	49	9·4	19·59	35·39	28·44	
„ ...	„ 15	8.0 pm.	51 14	6 18	50	10·0	19·85	35·86	28·82	
„ ...	„ 26	Noon	49 31	10 14	50	10·0	19·72	35·62	28·63	
„ ...	„ 27	„	47 55	13 18	52	11·1	19·96	36·06	28·98	
„ ...	„ 28	„	45 08	19 07	55	12·8	19·83	35·82	28·79	
Port Kingston ...	„ 13	—	44 04	21 18	54	12·2	19·79	35·75	28·73	
„ ...	„ 14	Noon	41 41	28 52	56	13·3	19·84	35·84	28·80	
„ ...	„ 15	„	38 33	36 04	59	15·0	20·03	36·18	29·08	
„ ...	„ 16	„	35 06	43 20	62	16·7	20·10	36·31	29·18	
„ ...	„ 17	„	31 41	50 19	67	19·4	20·24	36·56	29·39	
„ ...	„ 18	„	28 33	57 19	70	21·1	20·37	36·80	29·58	
„ ...	„ 19	„	25 11	63 53	72	22·2	20·26	36·60	29·42	
„ ...	„ 20	„	21 54	70 23	76·5	24·7	19·93	36·00	28·94	
„ ...	„ 21	„	18 25	75 28	78	25·6	19·86	35·88	28·83	
Atrato	„ 2	10.30 a.m.	48 38	5 15	50·5	10·3	19·61	35·43	28·47	
„	„ 2	5.30 p.m.	47 04	6 26	52	11·1	19·73	35·64	28·64	
„	„ 3	0.30 a.m.	46 16	8 48	52·5	11·4	19·79	35·75	28·73	
„	„ 4	Noon	41 49	18 35	57	13·9	20·32	36·71	29·50	
„	„ 5	„	38 21	23 53	59	15·0	20·00	36·13	29·04	
„	„ 6	„	35 08	29 30	62	16·7	20·08	36·27	29·15	
„	„ 7	„	31 44	34 13	64·2	17·9	20·21	36·51	29·34	
„	„ 8	„	28 06	39 10	70	21·1	20·42	36·89	29·65	
„	„ 9	„	24 42	43 57	72	22·2	20·80	37·57	30·20	
„	„ 10	„	21 21	48 25	75	23·9	20·56	37·14	29·85	
Sophocles ...	„ 5	„	21 46	17 55	64	17·8	20·11	36·33	29·20	
„ ...	„ 6	„	25 49	16 56	64	17·8	20·34	36·74	29·53	
„ ...	„ 8	„	31 44	14 47	63	17·2	20·25	36·58	29·40	
„ ...	„ 9	„	36 16	13 12	60	15·6	20·08	36·27	29·15	
„ ...	„ 10	„	40 42	11 18	57	13·9	19·90	35·95	28·89	
„ ...	„ 11	„	44 35	8 55	53	11·7	19·85	35·86	28·82	
„ ...	„ 12	4.0 p.m.	49 00	4 55	50	10·0	19·70	35·59	28·60	

TABLE II.—*continued.*

Ship.	Date.	Time.	Lat.	Long.	Temp. Fahr.	Temp. C.	*Cl.* °/₀₀.	*S.* °/₀₀.	σ_0.	Remarks.
	1905.		° N. ′	° W. ′						
Moravian	Feb. 9	7.0 a.m.	48 21	5 33	50	10·0	19·63	35·46	28·50	
„	„ 9	3.0 p.m.	47 18	6 52	52	11·1	19·76	35·70	28·69	
„	„ 9	11.0 p.m.	45 37	7 58	53	11·7	19·76	35·70	28·69	
„	„ 10	Noon	43 22	9 55	56	13·3	19·87	35·90	28·85	
„	„ 11	„	38 47	12 07	60	15·6	19·96	36·06	28·98	
„	„ 12	„	34 00	13 57	63	17·2	20·21	36·51	29·34	
„	„ 13	„	29 15	15 52	64·5	18·1	20·27	36·62	29·43	
„	„ 14	„	25 25	16 55	65	18·6	20·36	36·78	29·56	
„	„ 15	„	20 23	18 01	63	17·2	19·87	35·90	28·85	
„	„ 16	„	15 53	17 46	63	17·2	19·83	35·82	28·79	
„	„ 17	„	10 54	17 38	75	23·9	19·48	35·19	28·28	
Braemar Castle ...	„ 1	?	Tenerife Anchorage		63	17·2	20·68	37·36	30·03	
„ ...	„ 3	Noon	32 14	14 53	62	16·7	20·42	36·89	29·65	
„ ...	„ 4	8.0 a.m.	35 39	13 18	59	15·0	20·40	36·85	29·62	
„ ...	„ 4	8.0 p.m.	37 50	12 28	57	13·9	20·46	36·96	29·71	
„ ...	„ 5	Noon	40 39	11 06	58	14·4	20·47	36·98	29·72	
„ ...	„ 6	2.45 a.m.	Off Cape Villano		54	12·2	20·16	36·42	29·27	
Kildonan Castle ...	„ 26	—	23 04	17 36	63	17·2	20·27	36·62	29·43	
„ ...	„ 27	—	28 14	17 01	65	18·3	20·32	36·71	29·50	
„ ...	„ 28	—	Funchal Bay		65	18·3	20·21	36·51	29·34	
Egypt	„ 21	Noon	37 20	9 10	52	11·1	20·04	36·20	29·10	
„	„ 22	„	41 15	9 38	50	10·0	19·92	35·99	28·92	
„	„ 22	„	44 10	8 45	49	9·4	19·83	35·82	28·79	
„	„ 23	„	48 29	5 26	—	—	19·65	35·50	28·53	
United States ...	Mar. 2	8.0 a.m.	40 19	68 44	35·6	2·0	18·25	32·97	26·49	
„ ...	„ 2	8.0 p.m.	40 28	64 52	49·1	9·5	19·69	35·57	28·59	
„ ...	„ 3	8.0 a.m.	40 36	60 44	56·1	13·4	19·89	35·93	28·88	
„ ...	„ 3	Midnight	41 13	55 19	59·9	15·5	20·03	36·18	29·08	
„ ...	„ 4	8.0 p.m.	41 46	50 54	38·1	3·4	18·58	33·57	26·97	
„ ...	„ 5	1.0 p.m.	42 55	45 24	60·3	15·7	20·09	36·29	29·17	
„ ...	„ 6	8.0 a.m.	45 50	40 43	55·9	13·3	19·94	36·02	28·95	
„ ...	„ 7	8.0 a.m.	50 04	34 57	48·2	9·0	19·58	35·37	28·43	
„ ...	„ 7	Midnight	52 53	30 37	41·9	5·5	19·27	34·81	27·98	
„ ...	„ 8	7.0 p.m.	55 39	23 50	45·3	7·4	19·50	35·23	28·31	
„ ...	„ 9	8.0 p.m.	58 16	13 50	46·6	8·1	19·58	35·37	28·43	
„ ...	„ 9	Midnight	58 26	12 04	46·4	8·0	19·58	35·37	28·43	
„ ...	„ 10	4.0 a.m.	58 18	10 05	46·4	8·0	19·60	35·41	28·46	
„ ...	„ 10	8.0 a.m.	58 19	8 10	47·1	8·4	19·58	35·37	28·43	
„ ...	„ 10	Noon	58 32	6 25	46·6	8·1	19·52	35·26	28·34	
„ ...	„ 26	8.0 p.m.	49 08	6 12	50·5	10·3	17·93	32·39	26·03	
„ ...	„ 26	Midnight	48 33	7 36	49·3	9·6	19·60	35·41	28·46	
„ ...	„ 27	4.0 a.m.	47 58	8 57	51·8	11·0	19·68	35·55	28·57	
„ ...	„ 27	8.0 a.m.	47 25	10 12	52·0	11·1	19·30	34·87	28·02	

TABLE II.—*continued.*

Ship.	Date.	Time.	Lat.	Long.	Temp.		*Cl.* ‰.	*S.* ‰.	σ_o.	Remarks.
					Fahr.	C.				
	1905.		° N. ′	° W. ′						
United States ...	Mar. 27	1.0 p.m.	46 40	11 36	52·7	11·5	19·70	35·59	28·60	
,, ...	,, 27	4.0 p.m.	46 14	12 31	52·9	11·6	19·70	35·59	28·60	
,, ...	,, 27	8.0 p.m.	45 43	13 43	53·4	11·9	19·70	35·59	28·60	
,, ...	,, 27	Midnight	45 09	15 01	53·6	12·0	19·74	35·66	28·66	
,, ...	,, 28	8.0 p.m.	42 26	21 02	56·5	13·6	19·76	35·70	28·69	
,, ...	,, 29	1.0 p.m.	40 21	25 47	56·3	13·5	19·81	35·79	28·76	
,, ...	,, 30	4.0 p.m.	38 40	30 44	59·4	15·2	19·97	36·08	28·99	
,, ...	,, 31	4.0 a.m.	38 40	34 43	59·4	15·2	20·01	36·15	29·05	
,, ...	,, 31	8.0 p.m.	38 41	38 33	59·7	15·4	20·12	36·35	29·21	
Hellig Olav ...	,, 12	4.0 a.m.	59 30	6 35	45·5	7·5	19·58	35·37	28·43	
,, ...	,, 12	8.0 a.m.	59 26	8 28	45·9	7·7	19·58	35·37	28·43	
,, ...	,, 12	Noon	59 24	10 38	46·9	8·3	19·58	35·37	28·43	
,, ...	,, 12	4.0 p.m.	59 15	12 35	46·0	7·8	19·58	35·37	28·43	
,, ...	,, 12	8.0 p.m.	59 00	14 00	46·0	7·8	19·55	35·12	28·38	
,, ...	,, 12	10.0 p.m.	58 45	15 30	46·4	8·0	19·55	35·32	28·38	
,, ...	,, 13	9.0 a.m.	57 25	20 15	47·3	8·5	19·55	35·32	28·38	
,, ...	,, 13	8.0 p.m.	56 00	24 45	46·4	8·0	19·53	35·28	28·35	
,, ...	,, 14	2.0 p.m.	54 10	29 45	42·8	6·0	19·32	34·90	28·05	
,, ...	,, 15	Noon	51 19	35 13	47·3	8·5	19·48	35·19	28·28	
,, ...	,, 16	9.0 a.m.	47 35	40 15	54·9	12·7	19·87	35·90	28·85	
,, ...	,, 17	,,	43 40	45 25	41·9	5·5	18·97	34·27	27·54	
,, ...	,, 17	Midnight	42 15	50 15	32·9	0·5	18·58	33·57	26·97	
,, ...	,, 18	2.0 p.m.	41 30	54 45	37·8	3·2	18·47	33·37	26·81	
,, ...	,, 19	7.0 a.m.	41 10	60 30	55·4	13·0	19·95	36·04	28·96	
,, ...	,, 19	11.0 p.m.	40 10	65 40	44·6	7·0	18·90	34·14	27·44	
,, ...	,, 20	1.0 p.m.	40 20	69 40	37·6	3·1	18·26	32·99	26·51	
,, ...	,, 30	3.0 a.m.	40 20	70 15	41·0	5·0	18·31	33·08	26·58	
,, ...	,, 30	8.0 p.m.	40 25	65 00	52·7	11·5	19·37	34·99	28·12	
,, ...	,, 31	Noon	40 35	60 00	65·7	18·7	20·11	36·33	29·20	
Oscar II.	,, 1	7.0 a.m.	52 32	35 00	41·9	5·5	19·25	34·78	27·95	
,, ...	,, 1	Midnight	50 20	40 00	50·0	10·0	19·73	35·64	28·64	
,, ...	,, 2	6.30 p.m.	46 45	45 00	37·0	2·8	18·86	34·07	27·38	
,, ...	,, 3	2.0 p.m.	44 10	50 00	33·1	0·6	18·31	33·08	26·58	
,, ...	,, 4	4.0 a.m.	43 30	55 00	37·4	3·0	18·28	33·03	26·54	
,, ...	,, 4	6.30 p.m.	42 25	60 00	36·5	2·5	18·52	33·46	26·88	
,, ...	,, 5	9.0 a.m.	40 10	65 00	42·8	6·0	19·18	34·65	27·84	
,, ...	,, 16	4.0 a.m.	40 10	70 00	37·4	3·0	18·28	33·03	26·54	
,, ...	,, 16	8.0 p.m.	40 20	65 00	45·9	7·7	19·27	34·81	27·98	
,, ...	,, 17	Noon	40 30	60 00	60·4	15·8	20·07	36·26	29·14	
,, ...	,, 18	3.0 a.m.	40 44	55 00	39·2	4·0	18·59	33·58	26·99	
,, ...	,, 18	6.0 p.m.	40 50	50 00	58·1	14·5	20·11	36·33	29·20	
,, ...	,, 19	1.0 p.m.	44 30	45 48	44·6	7·0	19·49	35·21	28·30	
,, ...	,, 19	4.0 p.m.	45 00	45 00	55·4	13·0	19·88	35·91	28·86	

TABLE II.—*continued.*

Ship.	Date.	Time	Lat.	Long.	Temp. Fahr.	Temp. C.	*Cl.* °/₀₀.	*S.* °/₀₀.	σ_0.	Remarks.
	1905.		° N. ′	° W. ′						
Oscar II.	Mar. 20	11.0 a.m.	48 28	40 00	54·9	12·7	19·51	35·25	28·32	
,, ...	,, 21	4.0 a.m.	51 20	35 00	42·3	5·7	19·59	34·39	28·44	
,, ...	,, 21	9.0 p.m.	53 35	30 00	42·6	5·9	19·33	34·92	28·06	
,, ...	,, 22	11.0 a.m.	55 40	25 00	46·4	8·0	19·50	35·23	28·31	
,, ...	,, 22	Midnight	57 02	20 00	47·3	8·5	19·56	35·34	28·40	
,, ...	,, 23	10.0 a.m.	58 25	15 00	47·1	8·4	19·56	35·34	28·40	
,, ...	,, 23	4.0 p.m.	58 15	13 05	47·1	8·4	19·56	35·34	28·40	
,, ...	,, 23	8.0 p.m.	58 26	11 25	55·7	7·6	19·59	35·39	28·54	
,, ...	,, 23	Midnight	58 28	9 25	46·8	8·2	19·59	35·39	28·44	
,, ...	,, 24	4.0 a.m.	58 24	7 50	46·4	8·0	19·59	35·39	28·44	
,, ...	,, 24	8.0 a.m.	58 35	5 44	44·1	6·7	19·22	34·72	27·90	
Astoria	,, 1	Noon	40 38	69 25	36	2·2	18·47	33·37	26·81	
,, ...	,, 1	7.0 p.m.	40 34	71 25	35	1·7	18·46	33·35	26·80	
,, ...	,, 12	Noon	40 33	68 00	38	3·3	18·38	33·21	26·68	
,, ...	,, 13	,,	41 30	61 15	55	12·8	19·88	35·91	28·86	
,, ...	,, 14	,,	42 50	54 30	43	6·1	19·03	34·38	27·63	
,, ...	,, 15	,,	44 35	47 50	44	6·7	19·12	34·54	27·76	
,, ...	,, 16	,,	47 12	42 00	38	3·3	19·21	34·70	27·89	
,, ...	,, 17	,,	50 08	35 30	48	8·9	19·48	35·19	28·28	
,, ...	,, 17	Midnight	51 20	31 50	48	8·9	19·54	35·30	28·37	
,, ...	,, 18	Noon	52 37	28 00	48	8·9	19·72	35·62	28·63	
,, ...	,, 18	Midnight	53 40	24 10	46	7·8	19·44	35·12	28·22	
,, ...	,, 19	Noon	54 38	19 50	49	9·4	19·54	35·30	28·37	
,, ...	,, 19	?	54 55	17 30	48	8·9	19·70	35·59	28·60	
,, ...	,, 19	?	54 55	16 50	48	8·9	19·58	35·37	28·43	
,, ...	,, 20	Noon	55 10	11 00	45	7·2	19·73	35·64	28·64	
,, ...	,, 20	9.0 p.m.	55 20½	6 14	46	7·8	19·49	35·21	28·30	
,, ...	,, 21	4.0 a.m.	55 16	5 48	46	7·8	18·92	34·18	27·47	
,, ...	,, 21	6.0 a.m.	55 25	5 04½	47	8·3	18·66	33·71	27·09	
Corean	,, 1	—	54 30	16 45	48	8·9	19·60	35·41	28·46	
,, ...	,, 2	11.0 a.m.	54 47	13 43	49	9·4	19·61	35·43	28·47	
,, ...	,, 3	1.0 a.m.	55 11	10 45	48	8·9	19·64	35·48	28·51	
Minneapolis ...	,, 1	Noon	43 06	44 35	62	16·7	19·98	36·09	29·01	
,, ...	,, 2	,,	41 45	52 18	55	12·8	19·79	35·75	28·73	
,, ...	,, 3	,,	41 19	60 01	61	16·1	20·08	36·27	29·15	
,, ...	,, 4	,,	40 50	68 21	37	2·8	18·44	33·31	26·77	
,, ...	,, 12	,,	40 30	65 44	48	8·9	19·18	34·65	27·84	
,, ...	,, 13	,,	40 46	57 42	65	18·3	20·19	36·47	29·31	
,, ...	,, 14	,,	41 05	49 35	54	12·2	19·79	35·75	28·73	
,, ...	,, 15	,,	43 07	41 54	60	15·6	20·14	36·38	29·24	
,, ...	,, 16	,,	45 37	34 18	55	12·8	19·93	36·00	28·94	
,, ...	,, 17	,,	47 44	26 01	53	11·7	19·70	35·59	28·60	
,, ...	,, 18	,,	49 16	16 56	52	11·1	19·69	35·57	28·59	

TABLE II.—*continued.*

Ship.	Date.	Time.	Lat.	Long.	Temp.		*Cl.* ‰.	*S.* ‰.	σ_0.	Remarks.
					Fahr.	C.				
	1905.		° N. ′	° W. ′						
Minneapolis ...	Mar. 19	Noon	49 52	7 35	50	10·0	19·60	35·41	28·46	
St. Paul	„ 1	„	45 22	38 00	57	13·9	19·90	35·95	28·89	
„	„ 2	„	42 00	47 00	61	16·1	19·26	34·79	27·96	
„	„ 3	„	41 34	57 00	54	12·2	20·02	36·17	29·07	
„	„ 13	„	40 47	54 50	49	9·4	18·53	33·48	26·90	
„	„ 14	„	41 46	45 27	59	15·0	20·06	36·18	29·08	
„	„ 15	„	44 36	37 20	52	11·1	19·74	35·66	28·66	
„	„ 16	„	47 15	28 00	54	12·2	19·64	35·48	28·51	
„	„ 17	„	49 01	18 07	54	12·2	19·73	35·64	28·64	
„	„ 18	8.0 a.m.	49 45	9 00	50	10·0	19·57	35·35	28·41	
„	„ 25	4.0 a.m.	49 46	6 24	49	9·4	19·75	35·68	28·67	
„	„ 26	Noon	49 52	10 07	50	10·0	19·73	36·64	28·64	
„	„ 27	„	48 00	21 40	49	9·4	19·70	35·59	28·60	
„	„ 28	„	47 20	31 00	52	11·1	19·67	35·54	28·56	
„	„ 29	„	44 25	41 05	59	15·0	20·06	36·24	29·12	
„	„ 30	„	41 50	50 14	33	0·6	20·08	36·27	29·15	
„	„ 31	„	41 28	59 42	56	13·3	20·09	36·30	29·17	
Port Royal ...	„ 1	„	42 12	24 47	57	13·9	20·03	36·18	29·08	
„ ...	„ 2	„	39 33	30 56	60	15·6	20·03	36·18	29·08	
„ ...	„ 3	„	36 58	36 40	61	16·1	20·11	36·33	29·20	
„ ...	„ 4	„	34 45	41 56	65	18·3	20·37	36·80	29·58	
„ ...	„ 5	„	32 38	46 45	66	18·9	20·27	36·62	29·43	
„ ...	„ 6	„	30 10	52 02	69	20·6	20·32	36·71	29·50	
„ ...	„ 7	„	27 41	57 46	72	22·2	20·42	36·89	29·65	
„ ...	„ 8	„	25 09	63 26	75	23·9	20·36	36·78	29·56	
„ ...	„ 9	„	22 43	68 53	78	25·6	20·12	36·35	29·21	
„ ...	„ 17	„	20 20	74 03	78	25·6	20·12	36·35	29·21	
„ ...	„ 18	„	24 05	70 29	76	24·4	20·23	36·55	29·37	
„ ...	„ 19	„	27 47	66 38	72	22·2	20·25	36·58	29·40	
„ ...	„ 20	„	31 17	62 26	68	20·0	20·23	36·55	29·37	
„ ...	„ 21	„	34 49	57 48	66	18·9	20·20	36·49	29·33	
„ ...	„ 22	„	38 15	52 34	65	18·3	20·18	36·45	29·30	
„ ...	„ 23	„	40 57	46 43	58·5	14·7	20·05	36·22	29·11	
„ ...	„ 24	„	43 22	41 45	56	13·3	20·10	36·31	29·18	
„ ...	„ 25	„	45 41	36 00	53	11·7	19·74	35·66	28·66	
„ ...	„ 26	„	47 23	29 58	52	11·1	19·72	35·62	28·63	
„ ...	„ 27	„	49 36	22 52	52	11·1	19·65	35·50	28·53	
„ ...	„ 28	„	50 34	15 00	51	10·6	19·68	35·55	28·57	
Port Kingston ...	„ 3	„	21 12	73 39	78	25·6	19·93	36·08	28·94	
„ ...	„ 4	„	25 09	69 13	72	22·2	20·24	36·56	29·39	
„ ...	„ 5	„	29 22	64 27	68	20·0	20·42	36·89	29·65	
„ ...	„ 6	„	33 30	59 10	64	17·8	20·28	36·64	29·45	
„ ...	„ 7	„	37 23	53 20	60	15·6	20·24	36·56	29·39	

TABLE II.—*continued.*

Ship.	Date.	Time.	Lat.	Long.	Temp. Fahr.	Temp. C.	*Cl.* °/₀₀.	*S.* °/₀₀.	σ_0.	Remarks.
	1905.		° N. ′	° W. ′						
Port Kingston ...	Mar. 8	Noon	41 05	46 47	60	15·6	20·12	36·35	29·21	
„ ...	„ 9	„	44 23	39 21	58	14·4	19·92	35·99	28·92	
„ ...	„ 10	„	47 18	30 30	51	10·6	19·71	35·61	28·62	
„ ...	„ 11	„	48 50	22 04	50	10·0	19·67	35·53	28·56	
„ ...	„ 12	„	50 08	12 20	53	11·7	19·71	35·61	28·62	
„ ...	„ 12	4.0 p.m.	50 20	10 48	51	10·6	19·73	35·64	28·64	
„ ...	„ 12	10.0 p.m.	50 08	8 24	—	—	19·54	35·30	28·37	
„ ...	„ 25	Noon	50 57	5 57	—	—	19·48	35·19	28·28	
„ ...	„ 25	9.15 p.m.	50 37	8 30	48	8·9	19·51	35·25	28·32	
„ ...	„ 26	3.45 a.m.	50 18	11 05	—	—	19·61	35·43	28·47	
„ ...	„ 26	Noon	48 10	12 20	52	11·1	19·70	35·59	28·60	
„ ...	„ 27	„	45 07	20 24	55	12·8	19·84	35·85	28·81	
„ ...	„ 28	„	41 52	28 17	58	14·4	19·85	35·86	28·82	
„ ...	„ 29	„	38 27	36 00	60	15·6	20·08	36·27	29·15	
„ ...	„ 30	„	35 13	43 00	64	17·8	20·19	36·47	29·31	
„ ...	„ 31	„	31 41	49 47	68	20·0	20·41	36·87	29·63	
Atrato	„ 13	„	20 15	54 00	75·9	24·4	20·51	37·05	29·78	
„	„ 14	„	20 30	50 15	73·6	23·1	20·63	37·27	29·95	
„	„ 15	„	28½	46	73	22·8	20·54	37·10	29·82	
„	„ 16	„	32½	41	68	20·0	20·24	36·56	29·39	
„	„ 17	„	36	36	62·1	16·7	20·15	36·40	29·26	
„	„ 18	„	39½	30½	57	13·9	19·91	35·97	28·91	
„	„ 19	„	42	24¼	55	12·8	19·84	35·84	28·80	
„	„ 20	„	44 38	17 43	54	12·2	20·15	36·40	29·26	
„	„ 21	„	47 18	11 16	53·1	11·7	20·13	36·36	29·23	
„	„ 21	3.0 p.m.	47 34	9 50	53·1	11·7	19·72	35·62	28·63	
„	„ 21	10.0 p.m.	48 40	8 05	50·5	10·3	19·72	35·62	28·63	
Kildonan Castle ...	„ 1	—	37 21	13 16	59	15·0	20·13	36·36	29·23	
„ ...	„ 2	—	42 12	10 01	55	12·8	19·98	36·09	29·01	
„ ...	„ 3	—	45 28	7 23	53	11·7	19·85	35·86	28·82	
„ ...	„ 3	—	47 05	6 25	54	12·2	19·85	35·86	28·82	
„ ...	„ 3	—	48 29	5 15	49	9·4	19·80	35·77	28·75	
„ ...	„ 19	8.0 a.m.	48 30	5 15	50	10·0	19·54	35·30	28·37	
„ ...	„ 19	2.0 p.m.	47 15	6 12	53	11·7	19·73	35·64	28·64	
„ ...	„ 19	8.0 p.m.	45 41	7 31	53	11·7	17·13	30·95	24·87	By pycnometer σ_0 =. 24·48.
„ ...	„ 20	3.0 a.m.	44 17	8 54	54	12·2	19·73	35·64	28·64	
„ ...	„ 20	Noon	42 24	10 23	54	12·2	19·79	35·75	28·73	
„ ...	„ 21	„	36 32	13 48	59	15·0	18·88	34·11	27·41	
„ ...	„ 22	„	Funchal Bay, Madeira.		64	17·8	20·17	36·44	29·29	
„ ...	„ 23	„	26 20	17 37	66	18·9	20·38	36·82	29·59	
„ ...	„ 24	„	19 52	17 49	63	17·2	19·90	35·95	28·89	
Braemar Castle ...	„ 19	9.30 p.m.	48 27	5 12	50	10·0	19·72	35·62	28·63	
„ ...	„ 20	8.0 a.m.	44 41	8 57	54	12·2	19·78	35·73	28·72	

TABLE II.—*continued.*

Ship.	Date.	Time.	Lat.	Long.	Temp.		*Cl.* ‰.	*S.* ‰.	σ_o.	Remarks.
					Fahr.	C.				
	1905.		° N. ′	° W. ′						
Braemar Castle ...	Mar. 20	6.0 p.m.	43 50	9 35	52	11·1	19·99	36·11	29·02	By pycnometer σ_o = 29·02.
,, ...	,, 21	8.0 a.m.	36 47	12 33	60	15·6	20·14	36·38	29·24	
,, ...	,, 22	8.0 p.m.	34 17	13 46	60	15·6	20·36	36·78	29·56	
,, ...	,, 23	Noon	31 08	14 36	63	17·2	20·37	36·80	59·58	
,, ...	,, 24	10.0 a.m.	Las Palmas Anchorage.		64	17·8	19·44	35·12	28·22	
,, ...	,, 24	8.0 p.m.	26 53	15 45	62	16·7	20·61	37·23	29·93	
,, ...	,, 25	Noon	23 52	16 53	64	17·8	20·38	36·82	29·59	
,, ...	,, 25	8.0 p.m.	22 23	17 10	63	17·2	20·57	37·16	29·87	
,, ...	,, 25	Midnight	21 39	17 18	60	15·6	20·34	36·74	29·53	
,, ...	,, 26	8.0 a.m.	20 12	17 39	61	16·1	20·04	36·20	29·10	
,, ...	,, 27	Noon	14 17	17 36	65	18·3	19·81	35·79	28·76	
Egypt	,, 12	—	48 53	5 20	44	6·7	19·62	35·44	28·48	
,, ...	,, 12	—	47 00	6 49	46	7·8	19·76	35·70	28·69	
,, ...	,, 13	—	44 10	8 39	48	8·9	19·79	35·75	28·73	
,, ...	,, 14	—	37 10	9 03	49	9·4	20·02	36·17	29·07	
Macedonia ...	,, 21	8.0 a.m.	36 56	8 59	—	—	19·95	36·04	28·96	
,, ...	,, 21	Noon	37 46	9 16	—	—	19·69	35·57	28·59	
,, ...	,, 21	3.30 p.m.	38 22	9 30	—	—	20·06	36·24	29·12	
,, ...	,, 21	8.0 p.m.	39 30	9 37	—	—	19·89	35·93	28·88	
,, ...	,, 22	4.0 a.m.	41 25	9 39	—	—	19·96	36·06	28·98	
,, ...	,, 22	8.0 a.m.	42 22	9 39	—	—	19·76	35·70	28·69	
,, ...	,, 22	11.51 a.m.	43 10	9 19	—	—	19·56	35·34	28·40	
,, ...	,, 22	4.0 p.m.	43 56	8 50	—	—	19·78	35·73	28·72	
,, ...	,, 22	8.0 p.m.	44 44	8 16	—	—	19·75	35·68	28·67	
,, ...	,, 23	4.0 a.m.	46 20	7 10	—	—	19·75	35·68	28·67	
,, ...	,, 23	8.0 a.m.	46 58	6 45	—	—	19·71	35·61	28·62	
,, ...	,, 23	Noon	47 44	6 12	—	—	19·61	35·43	28·47	By pycnometer σ_o = 28·46.
,, ...	,, 23	3.20 p.m.	48 36	5 33	—	—	19·63	35·46	28·50	
United States ...	April 1	Noon	38 41	44 44	59·7	15·4	20·16	36·42	29·27	
,, ...	,, 2	4.0 a.m.	38 37	50 00	63·3	17·4	20·28	36·64	29·45	
,, ...	,, 2	Midnight	38 26	55 35	62·2	16·8	20·19	36·47	29·31	
,, ...	,, 3	8.0 p.m.	38 36	60 41	64·8	18·2	20·36	36·78	29·56	
,, ...	,, 4	4.0 p.m.	38 50	65 12	56·3	13·5	19·87	35·90	28·85	
,, ...	,, 12	8.0 p.m.	40 22	72 41	41·9	5·5	20·14	36·38	29·24	
,, ...	,, 14	1.0 p.m.	40 22	60 32	63·9	17·7	20·16	36·42	29·27	
,, ...	,, 15	8.0 a.m.	40 22	54 48	61·9	16·6	20·12	36·35	29·21	
,, ...	,, 15	8.0 p.m.	40 28	50 00	63·5	17·4	20·20	36·49	29·33	
,,	,, 16	Noon	41 36	45 15	60·8	16·0	20·14	36·38	29·24	
,, ...	,, 17	8.0 a.m.	44 23	39 44	59·4	15·2	20·08	36·27	29·15	
,, ...	,, 17	Midnight	46 34	35 14	56·3	13·5	19·76	35·70	28·69	
,, ...	,, 18	4.0 p.m.	48 48	30 27	54·5	12·5	19·68	35·55	28·57	
,, ...	,, 19	8.0 a.m.	50 55	24 31	47·3	8·5	19·41	35·07	28·18	
,, ...	,, 19	Midnight	53 26	19 24	49·5	9·7	19·58	35·37	28·43	

TABLE II.—*continued.*

Ship.	Date.	Time.	Lat.	Long.	Temp.		*Cl.* ‰.	*S.* ‰.	σ_t.	Remarks.
					Fahr.	C.				
	1905.		° N. ′	° W. ′						
United States ...	April 20	1.0 p.m.	55 22	15 15	48·6	9·2	19·68	35·55	28·57	
„ ...	„ 20	8.0 a.m.	56 19	12 44	48·6	9·2	19·72	35·62	28·63	
„ ...	„ 20	Midnight	56 50	11 20	48·2	9·0	19·63	35·46	28·50	
„ ...	„ 21	4.0 a.m.	57 22	9 53	48·2	9·0	19·63	35·46	28·50	
„ ...	„ 21	8.0 a.m.	57 54	8 22	47·5	8·6	19·64	35·48	28·51	
„ ...	„ 21	1.0 p.m.	58 35	6 16	45·0	7·2	19·44	35·12	28·22	
Hellig Olav ...	„ 1	4.0 a.m.	40 42	55 10	55·4	13·0	19·91	35·97	28·91	
„ ...	„ 1	7.0 p.m.	41 15	49 30	56·8	13·8	20·01	36·15	29·05	
„ ...	„ 2	Noon	43 06	44 45	59·0	15·0	19·80	35·77	28·75	
„ ...	„ 3	8.0 a.m.	46 45	40 05	55·4	13·0	19·91	35·97	28·91	
„ ...	„ 4	4.0 a.m.	50 00	35 00	50·9	10·5	19·55	35·32	28·38	
„ ...	„ 4	7.0 p.m.	52 20	29 45	43·7	6·5	19·30	34·87	28·02	
„ ...	„ 5	Noon	55 12	24 15	46·8	8·2	19·47	35·17	28·27	
„ ...	„ 5	Midnight	56 30	20 00	46·8	8·2	19·52	35·26	28·34	
„ ...	„ 6	Noon	57 42	15 02	46·8	8·2	19·55	35·32	28·38	
„ ...	„ 6	4.0 p.m.	57 45	13 00	46·8	8·2	19·55	35·32	28·38	
„ ...	„ 6	8.0 p.m.	57 55	11 25	46·4	8·0	19·57	35·35	28·41	
„ ...	„ 6	Midnight	58 05	10 00	46·4	8·0	19·60	35·41	28·46	
„ ...	„ 7	4.0 a.m.	58 15	8 10	45·9	7·7	19·55	35·32	28·38	
„ ...	„ 7	8.0 a.m.	58 25	6 00	43·7	6·5	19·40	35·05	28·16	
„ ...	„ 22	4.0 p.m.	59 30	5 31	43·5	6·4	19·63	35·46	28·50	
„ ...	„ 22	8.0 p.m.	59 25	7 36	43·7	6·5	19·58	35·37	28·43	
„ ...	„ 22	Midnight	59 20	9 34	44·2	6·8	19·58	35·37	28·43	
„ ...	„ 23	4.0 a.m.	59 15	11 20	43·9	6·6	19·66	35·52	28·54	
„ ...	„ 23	8.0 a.m.	59 07	13 15	44·2	6·8	19·59	35·39	28·44	
„ ...	„ 23	Noon	58 34	15 28	44·6	7·0	19·55	35·32	28·38	
„ ...	„ 23	11.0 p.m.	57 20	20 00	45·3	7·4	19·49	35·21	28·30	
„ ...	„ 24	10.0 a.m.	55 40	24 55	44·6	7·0	19·45	35·14	28·24	
„ ...	„ 25	0.30 a.m.	53 32	30 00	41·2	5·1	19·29	34·85	28·00	
„ ...	„ 25	6.0 p.m.	50 20	35 25	46·0	7·8	19·50	35·23	28·31	
„ ...	„ 26	9.0 a.m.	47 45	40 00	54·1	12·3	19·94	36·02	28·95	
„ ...	„ 27	8.0 a.m.	44 00	45 00	56·7	13·7	20·06	36·24	29·12	
„ ...	„ 28	4.30 a.m.	41 48	50 00	36·7	2·6	18·41	33·26	26·72	
„ ...	„ 28	10·0 p.m.	41 45	55 20	51·8	11·0	19·71	35·61	28·62	
„ ...	„ 29	1.0 p.m.	41 20	59 55	50·2	10·1	19·34	34·94	28·08	
„ ...	„ 30	4.30 a.m.	40 55	65 00	54·0	12·2	19·77	35·71	28·70	
„ ...	„ 30	7.0 p.m.	40 32	70 00	42·3	5·7	18·32	33·10	26·59	
Oscar II. ...	„ 8	4.0 p.m.	59 30	5 52	46·8	8·2	19·56	35·34	28·40	
„ ...	„ 8	8.0 p.m.	59 30	7 52	43·9	6·6	19·59	35·39	28·44	
„ ...	„ 8	Midnight	59 30	9 52	44·6	7·0	—	—	—	
„ ...	„ 9	4.0 a.m.	59 15	11 38	46·4	8·0	19·62	35·44	28·44	
„ ...	„ 9	8.0 a.m.	59 00	13 20	46·4	8·0	19·59	35·39	28·44	
„ ...	„ 9	Noon	58 38	15 10	44·6	7·0	19·53	35·28	28·35	

TABTE II.—*continued.*

Ship.	Date.	Time.	Lat.	Long.	Temp. Fahr.	Temp. C.	*Cl.* ‰.	*S.* ‰.	σ_o.	Remarks.
	1905.		° N. ′	° W. ′						
Oscar II.	April 9	Midnight	57 00	20 00	46·4	8·0	19·55	35·32	28·38	
„	„ 10	11.45 a.m.	55 29	25 17	46·6	8·1	19·47	35·17	28·27	
„	„ 11	2.0 a.m.	53 17	30 00	41·9	5·5	19·29	34·85	28·00	
„	„ 11	5.0 p.m.	50 55	35 00	52·2	11·2	19·65	35·50	28·53	
„	„ 12	Noon	47 20	40 00	55·4	13·0	19·92	35·99	28·92	
„	„ 13	9.0 a.m.	43 50	45 00	57·7	14·3	20·00	36·13	29·04	
„	„ 14	8.0 a.m.	41 30	50 00	34·7	1·5	18·52	33·46	26·88	
„	„ 15	1.0 a.m.	41 14	55 00	61·7	16·5	19·97	36·08	28·99	
„	„ 16	4.0 a.m.	41 00	60 00	50·0	10·0	19·83	35·82	28·79	
„	„ 16	6.0 p.m.	40 50	65 00	40·5	4·7	18·43	33.30	26·75	
„	„ 17	10.0 a.m.	40 35	70 00	36·0	2·2	18·43	33·30	26·75	
„	„ 27	5.0 a.m.	40 10	70 00	43·5	6·4	18·17	32·83	26·38	
„	„ 27	9.0 p.m.	40 00	65 00	60·4	15·8	19·68	35·55	28·57	
„	„ 28	1.0 p.m.	40 15	60 00	64·0	17·8	19·95	36·04	28·96	
„	„ 29	4.0 a.m.	40 22	55 00	64·4	18·0	19·35	34·96	28·09	
„	„ 29	9.0 p.m.	40 35	50 00	66·6	19·2	18·43	33·30	26·75	
„	„ 30	1.0 p.m.	42 10	45 00	60·1	15·6	20·05	36·22	29·11	
Morning	„ 28	1.30 p.m.	58 38	8 20	47	8·3	19·55	35·32	28·38	
„	„ 29	Noon	58 40	13 30	48	8·9	19·60	35·41	28·46	
„	„ 30	„	58 36	18 52	48	8·9	19·54	35·30	28·37	
Astoria	„ 2	8.0 a.m.	55 20	10 00	51	10·6	19·63	35·46	28·50	
„	„ 2	Noon	55 16	11 30	52	11·1	19·64	35·48	28·51	
„	„ 2	8.0 p.m.	55 04	14 28	52	11·1	19·61	35·43	28·47	
„	„ 3	Noon	54 30	21 20	52	11·1	19·50	25·23	28·31	
„	„ 4	„	52 48	29 55	49	9·4	19·32	34·90	28·05	
„	„ 5	„	50 00	37 00	51	10·6	19·47	35·17	28·27	
„	„ 6	„	46 50	43 20	48	8·9	19·29	34·85	28·00	
„	„ 7	„	44 30	50 30	37	2·8	18·30	33·06	26·56	
„	„ 8	„	42 48	57 00	52	11·1	19·34	34·94	28·08	
„	„ 9	„	41 17	65 00	45	7·2	18·57	33·55	26·96	
„	„ 10	„	40 34	72 30	43	6·1	17·85	32·25	25·91	
„	„ 16	„	40 30	68 20	41	5·0	18·31	33·08	26·58	
„	„ 17	„	41 20	61 15	54	12·2	19·68	35·55	28·57	
„	„ 18	„	43 00	54 20	39	3·9	18·53	33·48	26·90	
„	„ 19	„	45 12	47 17	40	4·4	18·87	34·09	27·39	
„	„ 20	„	48 30	41 20	52	11·1	19·57	35·35	28·41	
„	„ 21	„	50 40	34 35	54	12·2	19·75	35·68	28·67	
„	„ 21	8.0 p.m.	51 30	32 20	49	9·4	19·54	35·30	28·37	
„	„ 22	4.0 a.m.	52 10	30 06	47	8·3	19·40	35·05	28·16	
„	„ 22	Noon	52 55	27 06	48	8·9	19·45	35·14	28·24	
„	„ 22	8.0 p.m.	53 21	24 09	50	10·0	19·48	35·19	28·28	
„	„ 23	4.0 a.m.	53 50	21 22	51	10·6	19·59	35·39	28·44	
„	„ 23	Noon	54 20	18 20	51	10·6	19·54	35·30	28·37	

TABLE II.—*continued.*

Ship.	Date.	Time.	Lat.	Long.	Temp. Fahr.	Temp. C.	*Cl.* °/₀₀.	*S.* °/₀₀.	σ_0.	Remarks.
	1905.		° N. ′	° W. ′						
Astoria	April 23	8.0 p.m.	54 40	15 04	49	9·4	19·70	35·59	28·60	
„	„ 24	4.0 a.m.	54 54	12 00	48	8·9	19·62	35·44	28·48	
„	„ 24	Noon	55 10	9 15	48	8·9	19·50	35·23	28·31	
„	„ 24	3.30 p.m.	55 17½	8 16	47	8·3	19·41	35·07	28·18	
„	„ 24	6.30 p.m.	55 24	7 16	47	8·3	19·47	35·17	28·27	
„	„ 24	11.0 p.m.	55 17	5 59	45	7·2	19·22	34·72	27·90	
St. Paul	„ 1	Noon	Off Nantucket Light Vessel.		47	8·3	19·79	35·75	28·73	
„	„ 9	„	40 24	64 45	44	6·7	20·10	36·31	29·18	
„	„ 10	„	40 40	55 05	62	16·7	20·12	36·35	29·21	
„	„ 11	„	41 30	46 00	59	15·0	19·76	35·70	28·69	
„	„ 12	„	44 43	37 25	54	12·2	19·75	35·68	28·67	
„	„ 13	„	47 13	28 10	54	12·2	19·69	35·57	28·59	
„	„ 14	„	49 00	18 35	53	11·7	19·68	35·55	28·57	
„	„ 23	5.0 a.m.	49 46	6 24	49	9·4	19·88	35·91	28·86	
„	„ 23	3.0 p.m.	49 50	11 30	53	11·7	19·89	35·93	28·88	
„	„ 24	Noon	48 55	21 32	54	12·2	19·74	35·66	28·66	
„	„ 25	„	46 55	32 32	56	13·3	19·74	35·66	28·66	
„	„ 26	„	43 55	41 45	58	14·4	18·93	34·20	27·48	
„	„ 27	„	41 50	50 30	40	4·4	18·93	34·20	27·48	
Port Kingston ...	„ 1	„	28 30	56 42	70	21·1	20·40	36·85	29·62	
„ ...	„ 2	„	25 31	63 15	71	21·7	20·52	37·07	29·79	
„ ...	„ 3	„	22 18	69 57	77	25·0	20·08	36·27	29·15	
„ ...	„ 4	„	18 13	75 38	79·5	26·4	19·86	35·88	28·83	
„ ...	„ 14	4.0 p.m.	21 10	73 39	79	26·1	20·14	36·38	29·24	
„ ...	„ 15	Noon	25 27	69 20	76	24·4	20·25	36·58	29·40	
„ ...	„ 16	„	29 36	64 24	71	21·7	20·24	36·56	29·39	
„ ...	„ 17	„	33 27	59 19	66·5	19·2	20·21	36·51	29·34	
„ ...	„ 18	„	37 08	53 43	65	18·3	20·16	36·43	29·28	
„ ...	„ 19	„	40 58	47 37	61	16·1	20·06	36·24	29·12	
„ ...	„ 20	„	44 20	40 54	61	16·1	20·04	36·20	29·10	
„ ...	„ 21	„	46 35	33 50	55	12·8	19·85	35·86	28·82	
„ ...	„ 22	„	48 30	26 52	53·5	11·9	19·66	35·52	28·54	
„ ...	„ 23	„	50 22	18 11	52	11·1	19·67	35·53	28·56	
„ ...	„ 24	„	51 23	9 01	49·5	9·7	19·37	34·99	28·12	The position of one or both of these samples is evidently wrong.
„ ...	„ 24	„	51 18	9 00	49	9·4	19·43	35·10	28·21	
Port Antonio ...	„ 8	7.30 p.m.	50 50	6 00	49	9·4	19·57	35·35	28·41	
„ ...	„ 9	Noon	49 23	11 47	50	10·0	19·66	35·52	28·54	
„ ...	„ 10	„	46 53	18 34	54	12·2	19·68	35·55	28·57	
„ ...	„ 11	„	44 25	24 45	55	12·8	19·66	35·52	28·54	By pycnometer σ_0 = 28·56.
„ ...	„ 12	„	42 00	30 10	57½	14·2	19·86	35·88	28·83	
„ ...	„ 13	„	40 23	32 56	56	13·3	20·01	36·15	29·05	Hurricane from North-West.
„ ...	„ 14	„	37 43	38 00	61	16·1	20·69	37·38	30·04	
„ ...	„ 15	„	35 10	43 33	63	17·2	20·84	37·65	30·26	

TABLE II.—*continued.*

Ship.	Date.	Time.	Lat.	Long.	Temp. Fahr.	Temp. C.	*Cl.* ‰.	*S.* ‰.	σ_0.	Remarks.
	1905.		° N. ′	° W. ′						
Port Antonio ...	April 16	Noon	32 44	48 40	65	18·3	20·29	36·65	29·46	
„ ...	„ 17	„	30 13	53 52	67	19·4	20·55	37·12	29·84	
„ ...	„ 18	„	27 29	59 01	72·5	22·5	20·33	36·73	29·52	
„ ...	„ 19	„	24 56	64 26	74	23·3	20·53	37·09	29·81	
„ ...	„ 20	„	22 26	69 32	77	25·0	20·17	36·44	29·29	
„ ...	„ 28	„	20 26	74 01	81	27·2	19·94	36·02	28·95	
„ ...	„ 29	„	24 14	70 31	76	24·4	20·36	36·78	29·56	
„ ...	„ 30	„	27 58	66 45	73	22·8	20·62	37·25	29·94	
Atrato	„ 13	8.0 a.m.	49 40	5 55	51	10·6	19·66	35·52	28·54	
„	„ 13	3.0 p.m.	48 12	7 45	52	11·1	19·64	35·48	28·51	
„	„ 13	10.0 p.m.	47 08	9 38	53	11·7	19·69	35·57	28·59	
„	„ 14	Noon	46 15	11 00	53·5	11·9	19·87	35·90	28·85	
„	„ 15	„	43 23	15 42	56	13·3	19·86	35·88	28·83	
„	„ 16	„	40 00	21 15	59	15·0	19·98	36·09	29·01	
„	„ 17	„	36 30	27 00	65	18·3	20·21	36·51	29·34	
„	„ 18	„	32 45	32 45	67	19·4	20·28	36·64	29·45	
„	„ 19	„	29 00	38 00	68	20·0	20·23	36·55	29·37	By pycnometer σ_0 = 29·36.
„	„ 20	„	25 30	43 00	72·6	22·6	20·53	37·09	29·81	
„	„ 21	„	22 00	47 45	75	23·9	20·60	37·21	29·91	
Braemar Castle ...	„ 27	8.0 a.m.	21 18	17 11	61	16·1	20·09	36·29	29·17	
„ ...	„ 27	8.0 p.m.	23 09	16 28	62	16·7	20·58	37·18	29·88	
„ ...	„ 28	8.0 a.m.	24 56	15 40	62	16·7	20·26	36·60	22·42	
„ ...	„ 28	Noon.	25 21	15 46	62	16·7	20·54	37·10	29·82	
„ ...	„ 29	5.0 p.m.	Las Palmas Anchorage		66	18·9	19·56	35·34	28·40	
„ ...	„ 30	8.0 a.m.	Tenerife Anchoroge		66	18·9	20·70	37·39	30·06	
Kildonan Castle ...	„ 30	Noon	22 34	17 35	65	18·3	20·26	36·60	29·42	
Macedonia ...	„ 8	4.0 p.m.	48 29	5 19	50½	10·3	19·57	35·35	28·41	
„ ...	„ 8	8.0 p.m.	47 43	5 57	52½	11·4	19·72	35·62	28·63	
„ ...	„ 8	Midnight	46 50	6 35	53	11·7	19·70	35·59	28·60	
„ ...	„ 9	3.45 p.m.	46 00	7 16	54·5	12·5	19·67	35·53	28·56	
„ ...	„ 9	Noon	44 17	8 33	55	12·8	19·73	35·64	28·64	
„ ...	„ 9	3.45 p.m.	43 28	9 08	55½	13·1	19·49	35·21	28·30	
„ ...	„ 9	8.0 p.m.	42 29	9 26	58	14·4	19·53	35·28	28·35	
„ ...	„ 9	Midnight	41 31	9 30	59	15·0	19·67	35·53	28·56	
„ ...	„ 10	4.0 a.m.	40 34	9 33	58½	14·7	19·82	35·81	28·78	
„ ...	„ 10	8.0 a.m.	39 36	9 36	58½	14·7	19·88	35·91	28·86	
„ ...	„ 10	Noon	38 47	9 36	59¼	15·1	19·86	35·88	28·83	
„ ...	„ 10	4.0 p.m.	37 52	9 22	60	15·6	19·98	36·09	29·01	
„ ...	„ 10	8.0 p.m.	36 55	8 50	60	15·6	22·01	36·15	29·05	
„ ...	„ 10	Midnight	36 31	7 41	61½	16·4	20·11	36·33	29·20	
„ ...	„ 11	4.0 a.m.	36 08	6 30	62	16·7	20·10	36·31	29·18	
United States ...	May 6	Midnight	59 22	6 28	46·4	8·0	19·61	35·43	28·47	
„ ...	„ 7	4.0 a.m.	59 17	8 12	46·2	7·9	19·65	35·50	28·53	

TABLE II.—*continued.*

Ship.	Date.	Time.	Lat.	Long.	Temp.		*Cl.* ‰.	*S.* ‰.	σ_0.	Remarks.
					Fahr.	C.				
	1905.		° N. ′	° W. ′						
United States ...	May 7	8.0 a.m.	58 58	9 58	46·4	8·0	19·63	35·46	28·50	
„ ...	„ 7	1.0 p.m.	58 43	13 03	46·8	8·2	19·61	35·43	28·47	
„ ...	„ 7	4.0 p.m.	58 24	15 18	46·8	8·2	19·62	35·44	28·48	
„ ...	„ 8	8.0 a.m.	56 01	21 06	49·1	9·5	19·51	35·25	28·32	
„ ...	„ 8	8.0 p.m.	54 18	24 14	50·0	10·0	19·55	35·32	28·38	
„ ...	„ 9	4.0 p.m.	51 15	28 58	49·5	9·7	19·52	35·26	28·34	
„ ...	„ 10	8.0 a.m.	48 57	34 02	53·6	12·0	19·79	35·75	28·73	
„ ...	„ 11	4.0 a.m.	45 29	39 50	58·8	14·9	19·91	35·97	28·91	
„ ...	„ 12	8.0 a.m.	42 05	45 38	56·7	13·7	20·13	36·36	29·23	
„ ...	„ 12	Midnight	41 36	50 57	37·8	3·2	18·32	33·10	26·59	
„ ...	„ 13	Noon	41 25	55 08	49·1	9·5	19·10	34·51	27·73	
„ ...	„ 14	4.0 a.m.	41 10	60 19	68·2	20·1	20·10	36·31	29·18	
„ ...	„ 14	8.0 p.m.	41 01	65 25	64·4	18·0	20·15	36·40	29·26	
„ ...	„ 15	Noon	40 34	70 20	50·2	10·1	17·95	32·43	26·06	
„ ...	„ 25	4.0 a.m.	40 10	70 07	48·2	9·0	18·18	32·84	26·39	
„ ...	„ 25	8.0 p.m.	40 09	64 48	45·5	7·5	17·89	32·32	25·97	
„ ...	„ 26	8.0 a.m.	40 24	60 35	71·6	22·0	20·15	36·40	29·26	
„ ...	„ 26	Midnight	40 40	54 59	61·7	16·5	19·86	35·88	28·83	
„ ...	„ 27	6.0 p.m.	40 57	49 07	59·9	15·5	19·80	35·77	28·75	
„ ...	„ 28	8.0 a.m.	43 08	44 53	61·0	16·1	20·04	36·20	29·10	
„ ...	„ 29	4.0 a.m.	46 17	40 12	54·9	12·7	19·81	35·79	28·76	
„ ...	„ 29	Midnight	49 59	34 59	52·2	11·2	19·56	35·34	28·40	
„ ...	„ 30	6.0 p.m.	52 52	29 17	47·7	8·7	19·33	34·92	28·06	
„ ...	„ 31	8.0 p.m.	56 30	19 19	50·9	10·5	19·54	35·30	28·37	
„ ...	„ 31	Midnight	56 56	17 44	50·0	10·0	19·56	35·34	28·40	
Hellig Olav ...	„ 11	5.0 a.m.	40 10	70 15	41·2	5·1	18·24	32·95	26·48	
„ ...	„ 11	8.0 p.m.	40 15	65 00	59·0	15·0	19·98	36·09	29·01	
„ ...	„ 12	11.0 a.m.	40 12	60 00	60·8	16·0	20·01	36·15	29·05	
„ ...	„ 13	3.0 a.m.	40 12	55 10	57·2	14·0	19·95	36·04	28·96	
„ ...	„ 13	4.0 p.m.	40 20	50 10	55·4	13·0	19·81	35·79	28·76	
„ ...	„ 14	2.0 p.m.	43 08	45 00	56·3	13·5	20·04	36·20	29·10	
„ ...	„ 15	11.0 a.m.	46 31	39 40	53·8	12·1	19·89	35·93	28·88	
„ ...	„ 16	4.0 a.m.	49 30	34 45	49·1	9·5	19·60	35·41	28·46	
„ ...	„ 16	7.0 p.m.	51 45	30 00	46·8	8·2	19·44	35·12	28·22	
„ ...	„ 17	10.0 a.m.	54 20	25 00	49·1	9·5	19·58	35·37	28·43	
„ ...	„ 17	11.0 p.m.	55 30	19 45	47·5	8·6	19·54	35·30	28·37	
„ ...	„ 18	Noon	56 48	14 58	46·8	8·2	19·55	35·32	28·38	
„ ...	„ 18	4.0 p.m.	57 10	12 55	46·4	8·0	19·55	35·32	28·38	
„ ...	„ 18	8.0 p.m.	57 26	11 26	47·1	8·4	19·57	35·35	28·41	
„ ...	„ 18	Midnight	57 58	10 20	46·6	8·1	19·57	35·35	28·41	
„ ...	„ 19	4.0 a.m.	58 13	8 30	47·1	8·4	19·60	35·41	28·46	
„ ...	„ 19	8.0 a.m.	58 20	6 40	44·8	7·1	19·42	35·08	28·19	
Oscar II.	„ 1	Noon	46 29	40 00	54·5	12·5	19·74	35·66	28·66	

TABLE II.—*continued.*

Ship.	Date.	Time.	Lat.	Long.	Temp.		*Cl.* ‰.	*S.* ‰.	σ_o.	Remarks.
					Fahr.	C.				
	1905.		° N. ′	° W. ′						
Oscar II.	May 2	6.40 a.m.	49 50	35 00	52·2	11·2	19·63	35·46	28·50	
,, ...	,, 2	11.0 p.m.	52 20	30 00	48·4	9·1	19·30	34·87	28·02	
,, ...	,, 3	3.0 p.m.	54 35	25 00	48·2	9·0	19·40	35·05	28·16	
,, ...	,, 4	4.0 a m.	56 18	20 00	49·6	9·8	19·51	35·25	28·32	
,, ...	,, 4	4.0 p.m.	57 35	15 00	48·0	8·9	19·53	35·28	28·35	
,, ...	,, 4	8.0 p.m.	57 50	13 00	48·2	9·0	19·58	35·37	28·43	
,, ...	,, 4	Midnight	58 08	11 08	48·6	9·2	19·58	35·37	28·43	
,, ...	,, 5	4.0 a.m.	58 18	9 15	48·2	9·0	19·58	35·37	28·43	
,, ...	,, 5	8.0 a.m.	58 30	7 25	47·3	8·5	19·60	35·41	28·46	
,, ...	,, 5	Noon	58 38	5 19	48·2	9·0	19·22	34·72	27·90	
,, ...	,, 20	4.0 p.m.	59 29	7 00	48·9	9·4	19·57	35·35	28·41	
,, ...	,, 20	8.0 p.m.	59 29	9 00	48·2	9·0	19·59	35·39	28·44	
,, ...	,, 20	Midnight	59 25	10 52	48·2	9·0	19·60	35·41	28·46	
,, ...	,, 21	4.0 a.m.	59 00	12 40	48·2	9·0	19·55	35·32	28·38	
,, ...	,, 21	8.0 a.m.	58 30	14 50	48·2	9·0	19·53	35·28	28·35	
,, ...	,, 21	8.40 p.m.	57 00	20 00	50·5	10·3	19·55	35·32	28·38	
,, ...	,, 22	9.20 a.m.	55 20	25 00	49·1	9·5	19·47	35·17	28·27	
,, ...	,, 22	11.0 p.m.	53 05	30 00	48·6	9·2	19·32	34·90	28·05	
,, ...	,, 23	5.0 p.m.	50 30	35 00	50·9	10·5	19·58	35·37	28·43	
,, ...	,, 24	Noon	46 50	40 00	56·3	13·5	20·04	36·20	29·10	
,, ...	,, 25	9.0 a.m.	43 00	45 00	60·8	16·0	20·10	36·31	29·18	
,, ...	,, 26	4.0 a m.	42 00	50 00	41·2	5·1	19·86	35·88	28·83	
,, ...	,, 26	7.30 p.m.	41 35	55 00	59·0	15·0	20·05	36·22	29·11	
,, ...	,, 27	10.0 a.m.	41 22	60 00	67·6	19·8	18·12	32·74	26·30	
,, ...	,, 28	1.0 a.m.	41 00	65 00	50·9	10·5	17·67	31·92	25·65	
,, ...	,, 28	4.0 p.m.	40 35	70 00	54·5	12·5	18·44	33·31	26·77	
Morning	,, 1	Noon	58 38	23 37	49	9·4	19·48	35·19	28·28	
,, ...	,, 2	,,	58 32	27 23	46	7·8	19·42	35·08	28·19	
,, ...	,, 3	,,	58 30	32 24	44	6·7	19·35	34·96	28·09	
,, ...	,, 4	,,	59 03	35 25	41·5	5·3	19·34	34·94	28·08	
,, ...	,, 5	,,	59 11	37 26	41	5·0	19·38	35·01	28·14	
,, ...	,, 7	,,	59 13	37 15	41	5·0	19·43	35·10	28·21	
,, ...	,, 8	,,	58 40	41 16	39	3·9	19·27	34·81	27·98	
,, ...	,, 10	,,	57 38	42 12	38·5	3·6	19·40	35·05	18·16	
,, ...	,, 12	,,	59 00	42 27	38	3·3	19·29	34·85	28·00	
,, ...	,, 13	,,	59 58	50 20	38·2	3·4	19·40	35·05	28·16	
,, ...	,, 14	,,	60 32	51 05	31·5	−0·3	18·49	33·40	26·84	
,, ...	,, 15	,,	61 44	54 09	32	0·0	18·62	33·64	27·03	
,, ...	,, 16	,,	63 53	55 20	31·8	−0·1	18·63	33·66	27·04	
,, ...	,, 17	4.0 p.m.	64 24	56 20	30·0	−1·1	18·73	33·84	27·19	
,, ...	,, 19	Noon	65 09	56 09	31	−0·6	18·66	33·71	27·09	
,, ...	,, 20	,,	65 47	56 06	32·7	0·4	18·77	33·91	27·25	
,, ...	,, 21	,,	67 00	56 00	32	0·0	18·72	33·82	27·18	

TABLE II.—*continued.*

Ship.	Date.	Time.	Lat.	Long.	Temp.		*Cl.* ‰.	*S.* ‰.	σ_0.	Remarks.
					Fahr.	C.				
	1905.		° N. ′	° W. ′						
Morning	May 23	Noon	67 36	55 30	32·5	0·3	18·59	33·58	26·99	
„	„ 25	„	68 35	55 00	34·5	1·4	19·04	34·40	27·64	
„	„ 26	„	69 00	55 10	34·5	1·4	18·66	33·71	27·09	
„	„ 27	8.0 p.m.	68 50	55 05	30·5	−0·8	18·57	33·55	26·96	
„	„ 28	4.0 p.m.	Hare Island		32	0·0	18·55	33·51	26·93	70° 25′ N. 54° 52′ W.?
„	„ 31	8.0 p.m.	Kingartak Harbour		32	0·0	18·65	33·69	27·07	72° 04′ N. 55° 50′ W.?
Astoria	„ 27	Midnight	55 25	8 22	54	12·2	19·60	35·41	28·46	
„	„ 28	4.0 a.m.	55 17	9 42	54	12·2	19·58	35·37	28·43	
„	„ 28	Noon	55 12	12 35	54	12·2	19·68	35·55	28·57	
„	„ 28	8.0 p.m.	55 04	15 10	54	12·2	19·65	35·50	28·53	
„	„ 29	4.0 a.m.	54 50	17 40	54	12·2	19·57	35·35	28·41	
„	„ 29	Noon	54 30	19 06	56	13·3	19·57	35·35	28·41	
„	„ 30	„	53 08	28 53	50	10·0	19·31	34·88	28·03	
„	„ 31	„	51 20	35 17	50	10·0	19·41	35·07	28·18	
Minneapolis ...	„ 1	3.05 p.m.	49 48	9 02	52	11·1	19·70	35·59	28·60	
„ ...	„ 1	10.05 p.m.	49 43	11 37	52	11·1	20·00	36·13	29·04	
„ ...	„ 2	Noon	49 25	17 00	53	11·7	19·68	35·55	28·57	
„ ...	„ 3	„	48 13	26 11	57	13·9	19·71	35·61	28·62	
„ ...	„ 4	„	46 11	35 09	55	12·8	19·76	35·70	28·69	
„ ...	„ 5	„	43 43	42 11	61	16·1	20·18	36·45	29·30	
„ ...	„ 6	„	41 49	49 46	37	2·8	18·46	33·35	26·80	
„ ...	„ 7	„	41 20	57 41	58	14·4	19·72	35·62	28·63	
„ ...	„ 8	„	40 49	65 46	53	11·7	18·98	34·29	27·55	
„ ...	„ 14	„	40 10	67 18	52	11·1	18·81	33·98	27·31	
„ ...	„ 15	„	40 10	59 08	61	16·1	19·62	35·44	28·48	
„ ...	„ 16	„	40 18	50 52	64	17·8	20·14	36·38	29·24	
„ ...	„ 17	„	42 08	43 47	61	16·1	20·08	36·27	29·15	
„ ...	„ 18	„	44 55	35 59	56	13·3	19·86	35·88	28·83	
„ ...	„ 19	„	47 27	27 35	58	14·4	19·76	35·70	28·69	
„ ...	„ 20	„	48 56	18 34	58	14·4	19·73	35·64	28·64	
„ ...	„ 21	„	49 49	9 27	59	15·0	19·66	35·52	28·54	
Port Antonio ...	„ 1	„	31 36	62 44	71	21·7	20·31	36·69	29·49	
„ ...	„ 2	„	35 00	58 18	64½	18·1	20·23	36·55	29·37	
„ ...	„ 3	„	38 05	53 35	65	18·3	20·57	37·16	29·87	
„ ...	„ 4	„	40 55	47 43	59	15·0	19·98	36·09	29·01	
„ ...	„ 5	„	43 45	41 37	62	16·7	20·16	36·42	29·27	
„ ...	„ 6	„	46 05	34 53	56	13·3	19·86	35·88	28·83	
„ ...	„ 7	„	48 16	28 02	54	12·2	19·69	35·57	28·59	
„ ...	„ 8	„	49 58	20 45	53	11·7	19·73	35·64	28·64	
„ ...	„ 9	„	51 00	12 51	53	11·7	19·71	35·61	28·62	
„ ...	„ 10	7.30 a.m.	51 00	6 00	51	10·6	19·42	35·08	28·19	
Port Kingston ...	„ 7	Noon	48 07	12 48	55	12·8	19·77	35·71	28·70	
„ ...	„ 8	„	44 55	21 03	58	14·4	19·80	35·77	28·75	

TABLE II.—*continued.*

Ship.	Date.	Time.	Lat.	Long.	Temp.		*Cl.* °/₀₀.	*S.* °/₀₀.	σ_0.	Remarks.
					Fahr.	C.				
	1905.		° N. ′	° W. ′						
Port Kingston ...	May 9	Noon	41 42	28 58	62	16·7	19·82	35·81	28·78	
,, ...	,, 10	,,	38 24	36 13	65½	18·6	20·01	36·15	29·05	
,, ...	,, 11	,,	35 07	43 22	68	20·0	20·17	36·44	29·29	
,, ...	,, 12	,,	31 41	50 12	72	22·2	20·40	36·85	29·62	
,, ...	,, 13	,,	28 32	56 54	75	23·9	20·58	37·18	29·88	
,, ...	,, 14	,,	25 19	63 35	77	25·0	20·31	36·69	29·49	
,, ...	,, 15	,,	22 05	70 06	79	26·1	20·07	36·26	29·14	
,, ...	,, 16	,,	18 13	75 39	82	27·8	19·80	35·77	28·75	
,, ...	,, 26	,,	21 10	73 39	82	27·8	20·04	36·20	29·10	
,, ...	,, 27	,,	25 44	68 50	80	26·7	20·23	36·55	29·37	
,, ...	,, 27	8.0 p.m.	27 17	67 13	77	25·0	20·28	36·64	29·45	
,, ...	,, 28	Noon	30 13	63 38	70	21·1	20·21	36·51	29·34	
,, ...	,, 29	,,	34 27	57 52	73	22·8	20·17	36·44	29·29	
,, ...	,, 29	8.0 p.m.	36 10	56 14	68	20·0	20·14	36·38	29·24	
,, ...	,, 30	Noon	38 21	51 58	69	20·6	20·12	36·35	29·21	
,, ...	,, 30	8.0 p.m.	40 04	50 05	67	19·4	18·75	33·87	27·22	Analysis repeated.
,, ...	,, 31	Noon	40 05	44 44	64	17·8	20·03	36·18	29·08	
,, ...	,, 31	8.0 p.m.	41 56	43 15	63	17·2	19·97	36·08	28·99	
Port Antonio ...	,, 20	5.30 p.m.	51 00	6 20	55	12·8	19·52	35·26	28·34	
,, ...	,, 21	8.20 a.m.	49 34	11 06	56	13·3	19·69	35·57	28·59	
,, ...	,, 21	Noon	49 07	12 17	56	13·3	19·79	35·75	28·73	
,, ...	,, 22	,,	47 13	19 53	58	14·4	19·74	35·66	28·66	
,, ...	,, 23	,,	45 10	26 45	59	15·0	19·66	35·52	28·54	
,, ...	,, 24	,,	42 28	32 48	60	15·6	20·60	37·21	29·91	
,, ...	,, 25	,,	39 54	38 42	62	16·7	20·26	36·60	29·42	
,, ...	,, 26	,,	37 27	43 23	64	17·8	20·45	36·94	29·69	
,, ...	,, 27	,,	34 32	48 52	68	20·0	20·68	37·36	30·03	
,, ...	,, 28	,,	31 51	54 14	72	22·2	20·73	37·45	30·10	
,, ...	,, 29	,,	28 54	59 29	75	23·9	20·62	37·25	29·94	
,, ...	,, 30	,,	25 48	64 10	77½	25·3	20·18	36·45	29·30	
,, ...	,, 31	,,	22 44	69 02	78	25·6	20·41	36·87	20·63	
Atrato	,, 22	,,	22 30	53 30	76	24·4	20·39	36·83	29·61	
,, ...	,, 23	,,	25 00	49 00	76	24·4	20·63	37·27	29·95	
,, ...	,, 24	,,	29 00	45 00	74	23·3	20·50	37·03	29·77	
,, ...	,, 25	,,	33 00	40 30	73	22·8	20·35	36·76	29·55	
,, ...	,, 26	,,	36 00	35 00	68	20·0	20·03	36·18	29·08	
,, ...	,, 27	,,	39 00	30 00	64	17·8	19·91	35·97	28·91	
,, ...	,, 28	,,	42 00	24 00	60	15·6	19·90	35·95	28·89	
,, ...	,, 29	,,	45 00	17 00	60	15·6	19·87	35·90	28·85	
,, ...	,, 30	,,	47 30	11 00	59	15·0	19·78	35·73	28·72	
,, ...	,, 30	2.0 p.m.	47 48	10 18	—	—	19·74	35·66	28·66	By pycnometer σ_0 = 28·66.
,, ...	,, 30	9.30 p.m.	49 00	8 00	52	11·1	19·66	35·52	28·54	
,, ...	,, 31	4.0 a.m.	49 35	6 08	57	13·9	19·57	35·35	28·41	

TABLE II.—*continued.*

Ship.	Date.	Time.	Lat.	Long.	Temp. Fahr.	Temp. C.	*Cl.* °/₀₀.	*S.* °/₀₀.	σ_0.	Remarks.
	1905.		° N. ′	° W. ′						
Braemar Castle ...	May 1	8.0 a.m.	30 33	15 27	63	17·2	20·56	37·14	29·85	
,, ...	,, 1	8.0 p.m.	32 45	13 38	64	17·8	20·67	37·34	30·01	
,, ...	,, 3	8.0 a.m.	38 52	11 48	58	14·4	20·46	36·96	29·71	
,, ...	,, 3	8.0 p.m.	40 58	10 51	56	13·3	19·96	36·06	28·98	
,, ...	,, 4	8.30 a.m.	42 50	9 35	56	13·3	19·86	35·88	28·83	
,, ...	,, 4	Noon	43 34	9 16	55	12·8	19·91	35·97	28·91	
,, ...	,, 5	8.0 a.m.	46 52	6 39	53	11·7	20·01	36·15	29·05	
,, ...	,, 5	6.30 a.m.	48 27	5 12	50	10·0	19·82	35·81	28·78	
Kildonan Castle ...	,, 1	Noon	28 09	17 01	66	18·9	20·41	36·87	29·63	By pycnometer σ_0 = 29·65.
,, ...	,, 2	,,	Funchal Bay, Madeira.		65	18·3	20·27	36·62	29·43	By pycnometer σ_0 = 29·44.
,, ...	,, 3	,,	37 40	13 28	60	15·6	20·05	36·22	29·11	
,, ...	,, 4	,,	43 00	9 33	58	14·4	19·95	36·04	28·96	
,, ...	,, 4	4.30 p.m.	44 03	8 40	56	13·3	19·82	35·81	28·78	
,, ...	,, 4	10.50 p.m.	45 34	7 39	54	12·2	19·83	35·82	28·79	
,, ...	,, 5	5.20 a.m.	47 03	6 30	52	11·1	19·71	35·61	28·62	
,, ...	,, 5	0.30 p.m.	48 36	5 11	51	10·6	19·68	35·55	28·57	
,, ...	,, 21	8.45 a.m.	48 29	5 16	53	11·7	19·68	35·55	28·57	
...	,, 21	2.35 p.m.	47 08	6 20	52	11·1	19·81	35·79	28·76	
...	,, 21	10.40 p.m.	45 40	7 45	58	14·4	20·19	36·47	29·31	
...	,, 22	4.50 a.m.	44 15	9 00	57	13·9	19·84	35·84	28·80	
...	,, 22	Noon	42 15	10 34	59	15·0	19·81	35·79	28·76	
,, ...	,, 23	,,	36 44	14 02	63	17·2	20·08	36·27	29·15	
,, ...	,, 24	?	Funchal Bay, Madeira.		66	18·9	20·20	36·49	29·33	
,, ...	,, 25	Noon	26 22	17 34	69	20·6	20·36	36·78	29·56	
,, ...	,, 26	,,	19 52	17 48	66	18·9	19·95	36·04	28·96	
Moravian ...	,, 31	,,	18 39	17 36	68	20·0	20·06	36·24	29·12	
Macedonia ...	,, 29	Midnight	36 01	6 11	63	17·2	20·26	36·60	29·42	
,, ...	,, 30	Noon	37 19	9 06	61·2	16·2	19·95	36·04	28·96	
,, ...	,, 30	Midnight	39 51	9 39	60·7	15·9	19·77	35·71	28·70	
,, ...	,, 31	Noon	42 33	9 28	59·8	15·4	19·60	35·41	28·46	
,, ...	,, 31	4.0 p.m.	43 19	9 24	58	14·4	19·48	35·19	28·28	
,, ...	,, 31	8.0 p.m.	44 07	8 43	58	14·4	19·68	35·55	28·57	
,, ...	,, 31	Midnight	44 52	8 10	60	15·6	19·77	35·71	28·70	
Egypt	,, 2	—	38 43	9 40	50	10·0	19·93	36·00	28·94	
,, ...	,, 3	—	44 10	8 43	50	10·0	19·85	35·86	28·82	
,, ...	,, 3	—	46 50	6 20	45	7·2	19·73	35·64	28·64	
,, ...	,, 4	—	48 28	5 11	45	7·2	19·67	35·53	28·56	
,, ...	,, 20	4.0 p.m.	48 28	5 15	51	10·6	19·57	35·35	28·41	
,, ...	,, 20	—	47 00	6 30	55	12·8	19·72	35·62	28·63	
,, ...	,, 21	11.0 a.m.	44 00	8 40	52	11·1	19·73	35·64	28·64	
,, ...	,, 22	Noon.	38 29	9 29	54	12·2	19·86	35·88	28·83	
United States ...	June 1	4.0 a.m.	57 36	15 53	50·4	10·2	19·51	35·25	28·32	
,, ...	,, 1	8.0 a.m.	57 56	14 37	50·2	10·1	19·54	35·30	28·37	

TABLE II.—*continued.*

Ship.	Date.	Time.	Lat.	Long.	Temp.		*Cl.* ‰.	*S.* ‰.	σ_0.	Remarks.
					Fahr.	C.				
	1905.		° N. ′	° W. ′						
United States ...	June 1	Noon	57 58	12 15	50·0	10·0	19·58	35·37	28·43	
„ ...	„ 1	4.0 p.m.	58 06	10 57	50·0	10·0	19·60	35·41	28·46	
„ ...	„ 1	8.0 p.m.	58 16	8 56	50·7	10·4	19·59	35·39	28·44	
„ ...	„ 1	Midnight	58 24	7 21	51·3	10·7	19·54	35·30	28·37	
„ ...	„ 2	4.0 a.m.	58 35	5 54	49·5	9·7	19·42	35·08	28·19	
„ ...	„ 17	4.0 p.m.	59 18	5 54	53·4	11·9	19·64	35·48	28·51	
„ ...	„ 17	8.0 p.m.	59 11	7 52	53·6	12·0	19·57	35·35	28·41	
„ ...	„ 17	Midnight	59 01	10 50	51·3	10·7	19·61	35·43	28·47	
„ ...	„ 18	4.0 a.m.	58 52	12 19	53·1	11·7	19·61	35·43	28·47	
„ ...	„ 18	8.0 a.m.	58 44	14 09	52·7	11·5	19·52	35·26	28·34	
„ ...	„ 18	Noon	58 33	16 15	52·2	11·2	19·52	35·26	28·34	
„ ...	„ 18	9.0 p.m.	57 16	19 56	52·7	11·5	19·52	35·26	28·34	
„ ...	„ 19	7.0 a.m.	55 53	23 48	51·3	10·7	19·40	35·05	28·16	
„ ...	„ 19	10.0 p.m.	53 48	29 58	51·6	10·9	19·39	35·03	28·15	
„ ...	„ 20	1.0 p.m.	51 11	34 47	52·7	11·5	19·64	35·48	28·51	
„ ...	„ 21	7.0 a.m.	47 54	39 42	58·1	14·5	19·89	35·93	28·88	
„ ...	„ 22	1.0 a.m.	45 07	44 50	59·9	15·5	20·05	36·22	29·11	
„ ...	„ 22	7.0 p.m.	43 06	50 10	40·5	4·7	18·24	32·95	26·48	
„ ...	„ 23	9.0 a.m.	42 33	54 45	57·6	14·2	18·54	33·49	26·91	
„ ...	„ 23	Midnight	41 54	60 20	63·5	17·5	19·48	35·19	28·28	
„ ...	„ 24	1.0 p.m.	41 16	64 57	56·1	13·4	19·53	35·28	28·35	
„ ...	„ 25	4.0 a.m.	40 36	69 59	55·4	13·0	18·08	32·66	26·24	
Hellig Olav ...	„ 3	4.0 p.m.	59 34	5 20	47·1	8·4	19·66	25·52	28·54	
„ ...	„ 3	8.0 p.m.	59 30	7 00	46·4	8·0	19·64	35·48	28·51	
„ ...	„ 3	Midnight	59 20	9 05	46·6	8·1	19·49	35·21	28·30	
„ ...	„ 4	4.0 a.m.	59 10	10 50	46·6	8·1	19·54	35·30	28·37	
„ ...	„ 4	8.0 a.m.	59 06	13 00	46·8	8·2	19·54	35·30	28·37	
„ ...	„ 4	Noon	58 49	14 46	46·6	8·1	19·55	35·32	28·38	
„ ...	„ 4	Midnight	57 22	20 10	47·3	8·5	19·51	35·25	28·32	
„ ...	„ 5	1.0 p.m.	55 40	25 05	46·0	7·8	19·49	35·21	28·30	
„ ...	„ 6	3.0 a.m.	53 42	30 00	44·4	6·9	19·27	34·81	27·98	
„ ...	„ 6	8.0 p.m.	50 50	35 10	46·0	7·8	19·42	35·08	28·19	
„ ...	„ 7	1.0 p.m.	47 30	39 48	54·3	12·4	19·83	35·82	28·79	
„ ...	„ 8	Noon	43 39	45 09	58·1	14·5	19·96	36·06	28·98	
„ ...	„ 9	6.30 a.m.	41 15	50 00	60·4	15·8	20·00	36·13	29·04	
„ ...	„ 9	Midnight	41 00	55 45	62·1	16·7	19·73	35·64	28·64	
„ ...	„ 10	4.0 p.m.	40 55	60 15	55·6	13·1	19·15	34·60	27·80	
„ ...	„ 11	6.0 a.m.	40 45	65 00	49·1	9·5	18·51	33·44	26·87	
„ ...	„ 11	7.0 p.m.	40 35	70 00	52·2	11·2	18·26	32·99	26·51	
„ ...	„ 22	5.0 a.m.	40 10	70 30	57·2	14·0	18·16	32·81	26·36	
„ ...	„ 22	Midnight	40 08	64 52	62·6	17·0	19·40	35·05	28·16	
„ ...	„ 23	1.0 p.m.	40 10	60 20	61·7	16·5	19·31	34·88	28·03	
„ ...	„ 24	4.0 a.m.	40 16	55 15	70·0	21·1	20·00	36·13	29·04	

TABLE II.—*continued.*

Ship.	Date.	Time.	Lat.	Long.	Temp.		*Cl.* ‰.	*S.* ‰.	σ_o.	Remarks.
					Fahr.	C.				
	1905.		° N. ′	° W. ′						
Hellig Olav ...	June 24	9.0 p.m.	40 25	50 00	69·1	20·6	19·39	35·03	28·15	
„ ...	„ 25	4.0 p.m.	42 35	45 10	63·5	17·5	20·00	36·13	29·04	
„ ...	„ 26	Noon	46 35	40 03	55·4	13·0	19·79	35·75	28·73	
„ ...	„ 27	6.0 a.m.	49 30	34 50	51·4	10·8	19·61	35·43	28·47	
„ ...	„ 27	8.0 p.m.	51 25	30 00	47·7	8·7	19·35	34·96	28·09	
„ ...	„ 28	11.0 a.m.	53 25	24 40	49·5	9·7	19·48	35·19	28·28	
„ ...	„ 28	Midnight	55 20	20 00	52·7	11·5	19·55	35·32	28·38	
„ ...	„ 29	1.0 p.m.	56 48	15 00	54·0	12·2	19·55	35·32	28·38	
„ ...	„ 29	4.0 p.m.	57 05	13 40	54·1	12·3	19·57	35·35	28·41	
„ ...	„ 29	8.0 p.m.	57 28	12 00	53·6	12·0	19·57	35·35	28·41	
„ ...	„ 29	Midnight	57 52	10 20	53·1	11·7	19·59	35·39	28·44	
„ ...	„ 30	4.0 a.m.	58 08	8 40	53·6	12·0	19·58	33·37	28·43	
„ ...	„ 30	8.0 a.m.	58 30	6 42	53·6	12·0	19·42	35·08	28·19	
Oscar II	„ 8	6.0 a.m.	40 05	70 00	52·2	11·2	18·84	34·04	27·35	
„	„ 8	9.0 p.m.	40 15	65 00	52·7	11·5	19·60	35·41	28·46	
„	„ 9	1.0 p.m.	40 30	60 00	67·5	19·7	19·92	35·99	28·92	
„	„ 10	6.0 a.m.	40 40	55 00	69·8	21·0	19·82	35·81	28·78	
„	„ 10	9.0 p.m.	40 50	50 00	62·4	16·9	19·47	35·17	28·27	
„	„ 11	4.0 p.m.	43 25	45 00	63·9	17·7	19·99	36·11	29·02	
„	„ 12	Noon.	47 29	40 00	58·1	14·5	19·59	35·39	28·44	
„	„ 13	8.0 a.m.	50 30	35 00	52·7	11·5	19·61	35·43	28·47	
„	„ 13	9.20 p.m.	52 40	30 00	51·8	11·0	19·27	34·81	27·98	
„	„ 14	11.0 a.m.	54 10	25 00	51·8	11·0	19·49	35·21	28·30	
„	„ 15	2.0 a.m.	56 05	20 00	52·7	11·5	19·48	35·19	28·28	
„	„ 15	4.0 p.m.	57 43	14 16	55·0	12·8	19·52	35·26	28·34	
„	„ 15	8.0 p.m.	57 49	12 27	53·6	12·0	19·50	35·23	28·31	
„	„ 15	Midnight	58 03	10 36	53·6	12·0	19·56	35·34	28·40	
„	„ 16	4.0 a.m.	58 12	9 03	54·0	12·2	19·59	35·39	28·44	
„	„ 16	8.0 a.m.	58 23	7 30	54·5	12·5	19·47	35·17	28·27	
„	„ 16	Noon	58 37	5 10	51·4	10·8	19·19	34·67	27·86	
Morning	„ 2	4.0 p.m.	Duck Island		32	0·0	18·38	33·21	26·68	
„	„ 3	„	75 45	60 00	32	0·0	18·55	33·51	26·93	
„	„ 4	Midnight	75 13	69 30	33·3	0·7	18·75	33·87	27·22	
„	„ 6	Noon	74 15	74 45	30	−1·1	17·99	32·50	26·11	
„	„ 7	„	74 11	76 30	31·2	−0·4	18·19	32·86	26·40	
„	„ 9	„	74 03	75 00	30·5	−0·8	17·92	32·38	26·01	
„	„ 10	„	73 58	75 35	31·5	−0·3	17·96	30·45	26·07	
„	„ 11	„	73 48	75 00	32	0·0	17·95	32·43	26·06	
„	„ 12	„	73 13	73 35	31	−0·6	18·06	32·63	26·22	
„	„ 13	„	73 03	73 40	32	0·0	17·98	32·48	26·10	
„	„ 14	„	73 09	73 50	32	0·0	17·98	32·48	26·10	
„	„ 16	„	73 11	73 20	32	0·0	17·84	32·23	25·90	
Astoria	„ 1	„	50 15	38 18	50	10·0	19·52	35·26	28·34	

TABLE II.—*continued.*

Ship.	Date.	Time.	Lat.	Long.	Temp.		*Cl.* ‰.	*S.* ‰.	σ_0.	Remarks.
					Fahr.	C.				
	1905.		° N. ′	° W. ′						
Astoria	May 2	Noon	48 10	44 40	42	5·6	19·07	34·45	27·68	
,, ...	,, 3	,,	45 22	51 10	42	5·6	18·10	32·70	26·27	
,, ...	,, 4	,,	43 20	57 30	48	8·9	17·98	32·48	26·10	
,, ...	,, 5	,,	41 20	64 30	64	17·8	19·76	35·70	28·69	
,, ...	,, 6	,,	40 30	71 37	59	15·0	17·86	32·27	25·93	
,, ...	,, 11	,,	40 45	67 40	58	14·4	18·36	33·17	26·65	
,, ...	,, 12	,,	42 36	61 00	58	14·4	19·52	35·26	28·34	
,, ...	,, 13	,,	45 20	54 40	44	6·7	17·99	32·50	26·11	
,, ...	,, 14	,,	48 20	48 40	42	5·6	18·76	33·89	27·23	Passed about 30 icebergs from 8 a.m. to noon.
,, ...	,, 15	,,	51 15	41 00	55	12·8	19·56	35·34	28·40	
,, ...	,, 16	,,	53 06	32 48	49	9·4	19·26	34·79	27·96	
,, ...	,, 17	,,	54 25	24 06	56	13·3	19·55	35·32	28·38	
,, ...	,, 17	?	54 45	20 22	55	12·8	19·58	35·37	28·43	
,, ...	,, 18	Noon	55 08	15 52	56	13·3	19·56	35·34	28·40	
,, ...	,, 18	6.0 p.m.	55 09	13 30	56	13·3	19·58	35·37	28·43	
,, ...	,, 18	Midnight	55 12	11 00	56	13·3	19·61	35·43	28·47	
,, ...	,, 19	6.0 a.m.	55 15	9 00	58	14·4	19·41	35·07	28·18	
,, ...	,, 19	9.45 a.m.	55 22	7 39	56	13·3	19·32	34·90	28·05	
,, ...	,, 19	2.45 p.m.	55 20	6 10	53	11·7	19·12	34·54	27·76	
,, ...	,, 19	4.30 p.m.	55 19	5 50	52	11·1	18·93	34·20	27·48	
,, ...	,, 19	—	55 31	5 01½	56	13·3	17·48	31·58	25·37	
Numidian ...	,, 9	5.09 a.m.	55 30	7 40	53	11·7	19·46	35·16	28·25	
,, ...	,, 9	1.0 p.m.	55 21	10 44	54	12·2	19·61	35·43	28·47	
,, ...	,, 9	8.56 p.m.	55 18	13 38	53	11·7	19·65	35·50	28·53	
,, ...	,, 10	Noon	54 48	19 10	53	11·7	19·65	35·50	28·53	
,, ...	,, 11	,,	54 23	26 00	50	10·0	19·42	35·08	28·19	
,, ...	,, 12	,,	53 00	33 15	47	8·3	19·30	34·87	28·02	
,, ...	,, 13	,,	51 00	40 59	51	10·6	19·38	35·01	28·14	
,, ...	,, 14	,,	48 33	48 05	39	3·9	18·81	33·98	27·31	
,, ...	,, 15	,,	46 27	52 15	44	6·7	18·17	32·83	26·38	
,, ...	,, 16	,,	43 47	58 45	50	10·0	17·78	32·12	25·81	
,, ...	,, 17	,,	41 08	65 00	63	17·2	19·44	35·12	28·22	
,, ...	,, 18	,,	40 20	71 20	64	17·8	17·73	32·03	25·74	
,, ...	,, 24	,,	42 22	63 00	51	10·6	17·85	32·25	25·91	
,, ...	,, 26	,,	47 18	50 50	40	4·4	18·26	32·99	26·51	
,, ...	,, 27	,,	50 11	44 45	52	11·1	19·34	34·94	28·08	
,, ...	,, 28	,,	52 20	37 49	45	7·2	19·29	34·85	28·00	
,, ...	,, 29	,,	53 53	30 16	49	9·4	19·32	34·90	28·05	
Minneapolis ...	,, 26	,,	49 40	11 37	61	16·1	19·83	35·82	28·79	
,, ...	,, 26	,,	49 32	14 10	60	15·6	19·69	35·57	28·59	
,, ...	,, 28	,,	46 40	31 50	57	13·9	19·72	35·62	28·63	
,, ...	,, 29	,,	43 58	39 45	64	17·8	20·07	36·26	29·14	
,, ...	,, 30	,,	41 44	47 04	69	20·6	19·83	35·82	28·79	

TABLE II.—*continued.*

Ship.	Date.	Time.	Lat.	Long.	Temp. Fahr.	Temp. C.	*Cl.* ‰.	*S.* ‰.	σ_o.	Remarks.
	1905.		° N. ′	° W. ′						
Port Antonio ...	June 1	Noon	19 50	73 28	83	28·3	20·14	36·38	29·24	
,, ...	,, 9	,,	20 19	73 58	82	27·8	20·39	36·83	29·61	
,, ...	,, 10	,,	24 08	70 38	79½	26·4	20·28	36·64	29·45	
,, ...	,, 11	,,	27 56	66 58	75	23·9	20·31	36·69	29·49	
,, ...	,, 12	,,	31 38	62 48	75	23·9	20·33	36·73	29·52	
,, ...	,, 13	,,	35 10	58 13	73½	23·1	20·45	36·94	29·69	
,, ...	,, 14	,,	38 14	52 54	73½	23·1	20·18	36·45	29·30	
,, ...	,, 15	,,	40 57	47 00	64½	18·1	19·20	34·69	27·87	
,, ...	,, 16	,,	43 38	41 12	64	17·8	20·26	36·60	29·42	
,, ...	,, 17	,,	46 05	34 59	56½	13·6	20·06	36·24	29·12	
,, ...	,, 18	,,	48 14	28 14	54	12·2	20·63	37·27	29·95	
,, ...	,, 19	,,	49 37	21 08	56½	13·6	20·71	37·41	30·07	
,, ...	,, 20	,,	50 50	13 12	56½	13·6	19·97	36·08	28·99	
,, ...	,, 21	,,	51 00	6 20	57½	14·2	19·25	34·78	27·95	
Port Kingston ...	,, 1	,,	43 53	36 33	60	15·6	19·96	36·06	28·98	
,, ...	,, 1	8.0 p.m.	45 46	35 09	59	15·0	20·00	36·13	29·04	
,, ...	,, 2	Noon	46 50	28 14	58	14·4	19·82	35·81	28·78	
,, ...	,, 2	8·0 p.m.	48 47	26 44	55	12·8	19·69	35·57	28·59	
,, ...	,, 3	Noon	49 06	18 56	55	12·8	19·69	35·57	28·59	
,, ...	,, 3	8.0 p.m.	49 41	16 12	56	13·3	19·72	35·62	28·63	
,, ...	,, 4	Noon	50 54	9 22	—	—	19·55	35·32	28·38	
,, ...	,, 4	8.0 p.m.	51 03	6 09	58	14·4	19·50	35·23	28·31	
,, ...	,, 18	Noon	50 15	14 43	58	14·4	19·69	35·57	28·59	
,, ...	,, 19	,,	48 42	24 11	55	12·8	19·63	35·46	28·50	
,, ...	,, 20	,,	46 29	32 33	57	13·9	19·88	35·91	28·86	
,, ...	,, 21	,,	42 37	39 56	64	17·8	20·18	36·45	29·30	
,, ...	,, 22	,,	39 16	46 54	71	21·7	20·09	36·29	29·17	
,, ...	,, 23	,,	35 25½	53 25	74	23·3	20·23	36·55	29·37	
,, ...	,, 25	,,	27 37	65 55	81	27·2	20·18	36·45	29·30	
,, ...	,, 26	,,	22 10	70 13	82	27·8	20·04	36·20	29·10	
,, ...	,, 27	,,	18 15	74 16	84	28·9	18·91	34·16	27·45	
Atrato	,, 22	9.24 a m.	Between Ushant and Scilly.		58½	14·7	19·58	35·37	28·43	
,, ...	,, 22	4.30 p.m.	48 05	7 30	58½	14·7	19·66	35·52	28·54	
,, ...	,, 22	Midnight	46 52	8 24	60	15·6	19·75	35·68	28·67	
,, ...	,, 23	Noon	45 14	12 32	62	16·7	19·76	35·70	28·69	
,, ...	,, 24	,,	41 53	18 21	64·5	18·1	19·80	35·77	28·75	
,, ...	,, 25	,,	38 29	23 54	69	20·6	19·99	36·11	29·02	
,, ...	,, 26	,,	35 06	29 01	71	21·7	20·12	36·35	29·21	
,, ...	,, 27	,,	31 33	33 54	76	24·4	20·33	36·73	29·52	
,, ...	,, 28	,,	28 08	38 50	76	24·4	20·51	37·05	29·78	
,, ...	,, 29	,,	24 48	48 34	77·5	25·3	20·64	37·29	29·97	
,, ...	,, 30	,,	21 45	48 21	79	26·1	20·42	36·89	29·65	
Moravian	,, 1	,,	22 59	17 20	66	18·9	20·12	36·35	29·21	

TABLE II.—*continued.*

Ship.	Date.	Time.	Lat.	Long.	Temp. Fahr.	Temp. C.	*Cl.* °/₀₀.	*S.* °/₀₀.	σ_0.	Remarks.
	1905.		° N. ′	° W. ′						
Moravian	June 1	Midnight	25 08	16 54	69	20·6	20·35	36·76	29·55	
„	„ 2	Noon	27 17	16 28	69	20·6	20·28	36·64	29·45	
„	„ 3	„	30 07	15 34	67	19·4	20·36	36·78	29·56	
„	„ 3	Midnight	32 02	14 51	64	17·8	20·50	37·03	29·77	
„	„ 4	Noon	34 02	14 26	65	18·3	20·11	36·33	29·20	
„	„ 4	Midnight	35 50	13 20	63	17·2	20·15	36·40	29·26	
„	„ 5	Noon	37 32	12 55	63	17·2	20·10	36·31	29·18	
„	„ 5	Midnight	39 15	11 55	62	16·7	20·06	36·24	29·12	
„	„ 6	Noon	41 29	10 52	61	16·1	19·89	35·93	28·88	
„	„ 6	Midnight	43 20	9 25	58	14·4	19·75	35·68	28·67	
„	„ 7	Noon	45 21	8 01	60	15·6	19·89	35·93	28·88	
„	„ 7	3.0 p.m.	45 52	7 40	61	16·1	19·82	35·81	28·78	
„	„ 7	Midnight	47 15	6 36	57	13·9	19·80	35·77	28·75	
„	„ 8	4.0 a.m.	48 00	6 02	57	13·9	19·69	35·57	28·59	
„	„ 8	9.0 a.m.	48 52	5 40	56	13·3	19·66	35·52	28·54	
„	„ 8	Noon	49 17	5 20	56	13·3	19·63	35·46	28·50	
Braemar Castle ...	„ 3	8.0 p.m.	50 25	2 51	54	12·2	19·45	35·14	28·24	
„ ...	„ 4	„	47 08	6 50	56	13·3	19·76	35·70	28·69	
„ ...	„ 5	8.0 a.m.	45 08	8 19	58	14·4	19·94	36·02	28·95	
„ ...	„ 5	—	Off Cape Villano.		56	13·3	19·78	35·73	28·72	
„ ...	„ 6	8·0 a.m.	41 15	10 31	60	15·6	19·93	36·00	28·94	
„ ...	„ 6	8.0 p.m.	38 58	11 23	60	15·6	19·96	36·06	28·98	
„ ...	„ 7	8.0 a.m.	36 33	12 20	61	16·1	20·39	36·83	29·61	
„ ...	„ 7	8.0 p.m.	34 35	12 56	65	18·3	20·31	36·69	29·49	
„ ...	„ 8	8.0 a.m.	32 26	13 37	63	17·2	20·22	36·53	**29·36**	
„ ...	„ 8	8.0 p.m.	30 17	16 30	66	18·9	20·25	36·58	29·40	
„ ...	„ 9	9.0 a.m.	Las Palmas Anchorage.		67	19·4	20·40	36·85	29·62	
„ ...	„ 10	Noon	24 05	16 39	66	18·9	20·28	36·64	29·45	
„ ...	„ 11	—	19 25	17 41	67	19·4	19·86	35·88	28·83	
Macedonia ...	„ 1	4.0 a.m.	45 37	7 42	59	15·0	19·75	35·68	28·67	
„ ...	„ 1	8.0 a.m.	46 21	7 10	58·2	14·6	19·72	35·62	28·63	
„ ...	„ 1	Noon	47 14	6 25	59·2	15·1	19·73	35·64	28·64	
„ ...	„ 1	4.0 p.m.	47 55	5 55	59	15·0	19·58	35·37	28·43	
„ ...	„ 1	8.0 p.m.	48 43	5 12	59	15·0	19·61	35·43	28·47	
„ ...	„ 1	Midnight	49 25	4 40	59	15·0	19·63	35·46	28·50	
„ ...	„ 2	4.0 a.m.	50 11	4 14	56	13·3	19·54	35·30	28·37	
„ ...	„ 24	4.0 p.m.	Off Ushant.		55	12·8	19·56	35·34	28·40	Hazy; D. R.; S. 14° E. 15 miles.
„ ...	„ 24	8.0 p.m.	47 48	5 56	60·8	16·1	19·66	35·52	28·54	
„ ...	„ 24	Midnight	47 00	6 35	61·5	16·4	19·74	35·66	28·66	
„ ...	„ 25	4.0 a.m.	46 10	7 15	62	16·7	19·76	35·70	28·69	
„ ...	„ 25	8.0 a.m.	45 10	7 55	63·1	17·3	19·72	35·62	28·63	
„ ...	„ 25	Noon	44 16	8 33	62	16·7	19·63	35·46	28·50	
„ ...	„ 25	4.0 p.m.	43 25	9 10	62	16·7	19·72	35·62	28·63	

TABLE II.—*continued.*

Ship.	Date.	Time.	Lat.	Long.	Temp. Fahr.	Temp. C.	*Cl.* °/₀₀.	*S.* °/₀₀.	σ_0.	Remarks.
	1905.		° N. ′	° W. ′						
Macedonia ...	June 25	8.0 p.m.	42 33	9 26	63·8	17·7	19·79	35·75	28·73	
„ ...	„ 25	Midnight	41 37	9 29	64	17·8	19·81	35·79	28·76	
„ ...	„ 26	4.0 a.m.	40 38	9 36	64	17·8	19·81	35·79	28·76	
„ ...	„ 26	8.0 a.m.	39 33	9 33	65	18·3	19·77	35·71	28·70	
„ ...	„ 26	Noon	38 35	9 33	61	16·1	19·84	35·84	28·80	
„ ...	„ 26	4.0 p.m.	37 40	9 13	67	19·4	19·96	36·06	28·98	
„ ...	„ 26	8.0 p.m.	36 52	8 32	63	17·2	19·95	36·04	28·96	
„ ...	„ 26	Midnight	36 29	7 24	68½	20·3	19·17	34·63	27·83	
Morning	July 10	4.0 p.m.	71 30	70 42	35	1·7	17·98	32·48	26·10	
„	„ 12	8.0 p.m.	71 15	70 10	30	−1·1	18·24	32·95	26·48	
„	„ 14	4.0 p m.	72 05	73 30	36	2·2	17·82	32·20	25·87	
„	„ 16	„	Ponds Inlet		35·5	1·9	14·5	26·2	21·0	72° 45′ N. 75° 50′ W.?
„	„ 18	„	72 14	73 35	31	−0·6	17·37	31·38	25·21	
„	„ 27	Noon	40 miles off Cape Kater.		31	−0·6	17·24	31·15	25·02	70° 13′ N. 65° 10′ W.?
„	„ 30	1.0 p.m.	70 05	65 00	32·3	0·2	14·7	26·5	21·3	
Numidian ...	„ 1	Noon	55 27	13 50	63	17·2	19·55	35·32	28·38	
„ ...	„ 1	1.0 p.m.	55 27	13 35	63	17·2	19·56	35·34	28·40	
„ ...	„ 1	9.0 p.m.	55 27	10 35	57	13·9	19·62	35·44	28·48	
„ ...	„ 2	4.0 a.m.	55 30	7 40	58	14·4	19·36	34·97	28·11	
„ ...	„ 7	—	55 30	7 40	—	—	19·52	35·26	28·34	
„ ...	„ 7	1.30 p.m.	55 25	10 35	57	13·9	19·61	35·43	28·47	
„ ...	„ 7	10.0 p.m.	55 21	13 35	57	13·9	19·59	35·39	28·44	
„ ...	„ 8	Noon	55 00	18 25	55	12·8	19·56	35·34	28·40	
„ ...	„ 9	„	54 13	26 40	55	12·8	19·53	35·28	28·35	
„ ...	„ 10	„	52 43	34 52	49	9·4	19·33	34·92	28·06	
„ ...	„ 11	„	50 36	42 17	54	12·2	19·41	35·07	28·18	
„ ...	„ 12	„	47 58	49 50	44	6·7	18·22	32·92	26·45	
„ ...	„ 13	„	44 50	56 20	53	11·7	17·82	32·20	25·87	
„ ...	„ 14	„	42 13	62 35	69	20·6	19·45	35·14	28·24	
„ ...	„ 15	„	40 42	69 00	61	16·1	18·16	32·81	26·36	
„ ...	„ 21	„	40 53	68 45	57	13·9	17·96	32·45	26·07	
„ ...	„ 22	„	42 26	62 20	62	16·7	17·94	32·41	26·04	
„ ...	„ 23	„	44 46	56 00	56	13·3	17·92	32·38	26·01	
„ ...	„ 24	„	47 39	49 58	50	10·0	18·11	32·72	26·29	
„ ...	„ 25	„	50 24	43 35	54	12·2	19·68	35·55	28·57	
„ ...	„ 26	„	52 31	36 15	50	10·0	19·30	34·87	28·02	
„ ...	„ 27	„	54 04	28 07	53	11·7	19·49	35·21	28·30	
„ ...	„ 28	„	55 14	19 20	54	12·2	19·71	35·61	28·62	
„ ...	„ 29	„	55 20	13 35	58	14·4	19·35	34·96	28·09	
„ ...	„ 29	?	55 20	10 35	59	15·0	19·53	35·28	28·35	
„ ...	„ 29	?	55 30	7 40	59	15·0	19·37	34·99	28·12	
Astoria	„ 22	Midnight	55 27	8 15	61	16·1	19·48	35·19	28·28	
„	„ 23	6.0 a.m.	55 24	10 56	60	15·6	19·53	35·37	28·43	

TABLE II.—*continued.*

Ship.	Date.	Time.	Lat.	Long.	Temp.		*Cl.* ‰.	*S.* ‰.	σ_o.	Remarks.
					Fahr.	C.				
	1905.		° N. ′	° W. ′						
Astoria	July 23	Noon	55 17	13 15	62	16·7	19·56	35·34	28·40	Current N.E. 6 miles in 12 hours.
,, ...	,, 23	Midnight	55 05	18 10	59	15·0	19·58	35·37	28·43	
,, ...	,, 24	6.0 a.m.	54 35	20 25	59	15·0	19·54	35·30	28·37	
,, ...	,, 24	Noon	54 32	22 45	59	15·0	19·54	35·30	28·37	No current observed.
,, ...	,, 24	Midnight	53 55	27 18	54	12·2	19·48	35·19	28·28	
,, ...	,, 25	Noon	53 20	31 50	54	12·2	19·29	34·85	28·00	No current observed.
,, ...	,, 25	Midnight	52 22	36 03	52	11·1	19·37	34·99	28·12	
,, ...	,, 26	Noon	51 15	40 20	54	12·2	19·48	35·19	28·28	No current observed.
,, ...	,, 27	Midnight	48 45	47 15	51	10·6	19·03	34·38	27·63	
,, ...	,, 28	Noon	45 40	54 30	58	14·4	17·91	32·36	26·00	
,, ...	,, 29	,,	42 30	61 30	64	17·8	17·79	32·14	25·82	Current S.W. 12 miles in 24 hours.
,, ...	,, 30	,,	40 44	68 47	68	20·0	18·14	32·77	26·33	
Minneapolis ...	,, 1	,,	41 18	55 38	70	21·1	19·75	35·68	28·67	
,, ...	,, 2	,,	40 58	64 07	67	19·4	18·90	34·14	27·44	
,, ...	,, 9	,,	40 14	66 28	65	18·3	18·80	33·96	27·29	
,, ...	,, 10	,,	40 23	57 56	74	23·3	19·99	36·11	29·02	
,, ...	,, 11	,,	40 36	50 06	71	21·7	19·88	35·91	28·86	
,, ...	,, 12	,,	42 51	42 10	65	18·3	19·80	35·77	28·75	
,, ...	,, 13	,,	45 38	34 31	59	15·0	19·79	35·75	28·73	
,, ...	,, 14	,,	47 59	26 02	60	15·6	19·77	35·71	28·70	
,, ...	,, 15	,,	49 17	17 09	61	16·1	19·62	35·44	28·48	
Port Antonio ...	,, 1	5.20 p.m.	50 43	6 23	60	15·6	19·59	35·39	28·44	
,, ...	,, 2	1.0 a.m.	50 00	9 00	60	15·6	19·57	35·35	28·41	Positions only approximate.
,, ...	,, 2	9.0 a.m.	49 30	11 10	58	14·4	20·05	36·22	29·11	
,, ...	,, 3	Noon	47 43	19 31	59	15·0	20·14	36·38	29·24	
,, ...	,, 4	,,	45 31	26 06	60	15·6	20·01	36·15	29·05	
,, ...	,, 5	,,	42 59	32 23	60	15·6	20·37	36·80	29·58	
,, ...	,, 6	,,	40 20	37 52	68	20·0	19·51	35·25	28·32	
,, ...	,, 7	,,	37 34	43 09	71	21·7	20·52	37·07	29·79	
,, ...	,, 8	,,	34 35	48 41	73	22·8	20·89	37·74	30·33	
,, ...	,, 9	,,	31 48	53 52	78	25·6	21·27	38·42	30·89	
,, ...	,, 10	,,	29 00	59 00	81	27·2	20·99	37·92	30·48	
,, ...	,, 11	,,	26 11	63 50	81	27·2	20·58	37·18	29·88	
,, ...	,, 12	,,	23 13	68 32	82	27·8	20·70	37·39	30·06	
,, ...	,, 21	,,	20 47	74 00	82	28·3	20·23	36·55	29·37	
,, ...	,, 22	,,	24 14	70 25	86	27·8	21·02	37·97	30·52	
,, ...	,, 23	,,	28 15	66 42	82½	28·1	20·32	36·71	29·50	
,, ...	,, 24	,,	32 36	63 32	80	26·7	20·56	37·14	29·85	
,, ...	,, 25	,,	36 06	58 50	80	26·7	20·32	36·71	29·50	
,, ...	,, 26	,,	39 16	53 43	79	26·1	20·16	36·42	29·27	
,, ...	,, 28	,,	44 09	41 31	62	16·7	19·59	35·39	28·44	
,, ...	,, 29	,,	46 26	35 19	61½	16·1	19·88	35·91	28·86	
,, ...	,, 30	,,	48 25	28 33	59	15·0	19·89	35·93	28·88	

TABLE II.—*continued.*

Ship.	Date.	Time.	Lat.	Long.	Temp. Fahr.	Temp. C.	*Cl.* °/₀₀.	*S.* °/₀₀.	σ_0.	Remarks
	1905.		° N. ′	° W. ′						
Port Antonio ...	July 31	Noon	49 48	21 12	59½	15·3	19·66	35·52	28·54	
Port Kingston ...	„ 7	„	21 20	73 28	83	28·3	20·07	36·26	29·14	
„ ...	„ 8	„	26 00	68 35	82	27·8	20·05	36·22	29·11	
„ ...	„ 9	„	30 37	63 22	79·5	26·4	19·98	36·09	29·01	
„ ...	„ 10	„	34 54	57 43	79·5	26·4	20·26	36·60	29·42	
„ ...	„ 11	„	38 45	51 30	79	26·1	20·15	36·40	29·26	
„ ...	„ 12	„	42 40	44 30	66	18·9	20·13	36·36	29·23	
„ ...	„ 13	„	46 30	36 23	62	16·7	19·91	35·97	28·91	
„ ...	„ 14	„	48 04	27 38	63	17·2	19·71	35·61	28·62	
„ ...	„ 15	„	49 59	18 02	60	15·6	19·66	35·52	28·54	
„ ...	„ 16	„	51 16	8 32	62	16·7	19·33	34·92	28·06	
„ ...	„ 16	5.30 p.m.	51 11	6 12	—	—	19·32	34·90	28·05	
„ ...	„ 29	2.0 p.m.	51 00	6 20	64	17·8	19·70	35·59	28·60	
„ ...	„ 30	2.0 a.m.	50 45	11 40	63	17·2	19·68	35·55	28·57	Position probably inaccurate.
„ ...	„ 30	Noon	48 29	13 46	64	17·8	19·77	35·71	28·70	
„ ...	„ 31	„	45 36	22 38	64	17·8	19·85	35·86	28·82	
Atrato	„ 31	„	19 14	54 31	81	27·2	19·35	34·96	28·09	
Moravian	„ 6	3.30 a.m.	48 45	5 25	60	15·6	19·63	35·46	28·50	
„	„ 6	Noon	47 08	6 49	62	16·7	19·75	35·68	28·67	
„	„ 6	8.30 p.m.	45 47	7 58	62	16·7	19·74	35·66	28·66	
„	„ 7	Noon	42 47	10 12	64	17·8	19·85	35·86	28·82	
„	„ 8	„	38 16	12 10	69	20·6	20·07	36·26	29·14	
„	„ 9	„	33 35	13 50	69	20·6	20·17	36·44	29·29	
„	„ 10	„	28 55	15 55	71	21·7	20·35	36·76	29·55	
„	„ 11	„	24 51	17 00	69	20·6	20·26	36·60	29·42	
„	„ 12	„	20 02	17 50	70	21·1	19·78	35·73	28·72	
Kildonan Castle ...	„ 3	„	28 06	17 02	71	21·7	20·32	36·71	29·50	
„ ...	„ 4	„	Funchal Bay, Madeira.		71	21·7	20·31	36·69	29·49	
„ ...	„ 5	„	37 38	13 23	66	18·9	20·22	36·53	29·36	
„ ...	„ 6	„	42 43	9 46	63	17·2	19·85	35·86	28·82	
„ ...	„ 6	6.40 p.m.	44 12	8 35	62	16·7	19·88	35·91	28·86	
„ ...	„ 7	1.15 a.m.	45 41	7 30	65	18·3	19·80	35·77	28·75	
„ ...	„ 7	7.45 a.m.	47 06	6 26	59	15·0	19·81	35·79	28·76	
„ ...	„ 7	?	48 29	5 17	62	16·7	19·67	35·53	28·56	
„ ...	„ 23	8.30 a.m.	Off Ushant.		66	18·9	19·62	35·44	28·48	
„ ...	„ 23	3.15 p.m.	47 03	6 43	67	19·4	19·75	35·68	28·67	
„ ...	„ 23	9.0 p.m.	45 35	7 58	67	19·4	19·77	35·71	28·70	
„ ...	„ 24	3.15 a.m.	44 08	9 10	70	21·1	19·73	35·64	28·64	
„ ...	„ 25	Noon	36 32	14 00	68	20·0	20·06	36·24	29·12	
„ ...	„ 26	„	Funchal Anchorage.		73	22·8	20·23	36·55	29·37	
„ ...	„ 27	„	26 13	17 31	72	22·2	20·36	36·78	29·56	
„ ...	„ 28	„	19 41	17 39	68	20·0	19·90	35·95	28·98	
Braemar Castle ...	„ 28	8.0 p.m.	21 01	17 26	65	18·3	20·10	36·31	29·18	

TABLE II.—*continued.*

Ship.	Date.	Time.	Lat.	Long.	Temp.		$Cl.\,‰$	$S.\,‰$	σ_0	Remarks.
					Fahr.	C.				
	1905.		° N. ′	° W. ′						
Braemar Castle ...	July 29	8.0 a.m.	22 48	17 08	66	18·9	20·32	36·71	29·50	
,, ...	,, 29	8.0 p.m.	24 19	16 51	69	20·6	20·91	37·77	30·36	
,, ...	,, 30	8.0 a.m.	26 00	16 23	70	21·1	20·46	36·96	29·71	
,, ...	,, 30	8.0 p.m.	27 49	16 41	70	21·1	20·76	37·50	30·14	
,, ...	,, 31	,,	Teneriffe Anchorage.		70	21·1	20·42	36·89	29·65	
Egypt	,, 13	Noon	42 13	9 38	65	18·3	19·78	35·73	28·72	
,, ...	,, 13	10.0 p.m.	44 00	8 50	65	18·3	19·77	35·71	28·70	
,, ...	,, 14	2.0 p.m.	47 00	7 00	63	17·2	19·76	35·70	28·69	
,, ...	,, 14	10.0 p.m.	48 28	5 15	64	17·8	19·61	35·43	28·47	
,, ...	,, 29	6.0 p.m.	Off Ushant.		65	18·3	19·60	35·41	28·46	
,, ...	,, 30	2.0 a.m.	47 04	6 30	67	19·4	19·79	35·75	28·73	
,, ...	,, 30	Noon	44 21	8 26	69	20·6	19·79	35·75	28·73	
,, ...	,, 31	8.0 a.m.	39 40	9 30	66	18·9	19·74	35·66	28·66	
,, ...	,, 31	4.0 p.m.	38 01	9 12	69	20·6	19·95	36·04	28·96	
,, ...	,, 31	Midnight	36 30	7 55	68	20·0	19·97	36·08	28·99	
Morning	Aug. 7	Noon	72 10	74 30	37	2·8	16·05	29·00	23·30	
,, ...	,, 10	8.0 p.m.	72 20	78 20	42·5	5·8	14·2	25·6	20·6	
,, ...	,, 17	Noon	Monument, Ponds Inlet.		39	3·9	15·63	28·24	22·69	
,, ...	,, 18	1.0 p.m.	Monument, Ponds Inlet.		39·5	4·2	15·45	27·92	22·43	
,, ...	,, 23	2.0 p.m.	Coutts Inlet.		37	2·8	16·56	29·92	24·04	
,, ...	,, 26	4.0 p.m.	Round Island, Coutts Inlet.		38·5	3·6	16·85	30·44	24·46	
Numidian... ...	,, 4	2.0 p.m.	55 30	7 40	60	15·6	19·43	35·10	28·21	
,, ...	,, 4	10.0 p.m.	55 26	10 35	56	13·3	19·58	35·37	28·43	
,, ...	,, 5	6.0 a.m.	55 20	13 35	54	12·2	19·60	35·41	28·46	
,, ...	,, 6	Noon	54 32	24 40	54	12·2	19·44	35·12	28·22	
,, ...	,, 7	,,	53 15	33 15	59	15·0	19·37	34·99	28·12	
,, ...	,, 8	,,	51 05	41 10	56	13·3	19·27	34·81	27·98	
,, ...	,, 9	,,	48 30	48 06	51	10·6	18·37	33·19	26·67	
,, ...	,, 10	,,	45 49	53 40	53	11·7	17·86	32·27	25·93	
,, ...	,, 11	,,	43 16	59 40	62	16·7	17·80	32·16	25·84	
,, ...	,, 12	,,	41 00	65 55	65	18·3	18·77	33·91	27·25	
,, ...	,, 18	,,	40 52	68 20	57	13·9	18·16	32·81	26·36	
,, ...	,, 19	,,	42 29	62 25	61	16·1	17·96	32·45	26·07	
,, ...	,, 20	,,	44 42	56 30	65	18·3	17·54	31·69	25·46	
,, ...	,, 21	,,	47 18	50 30	54	12·2	18·01	32·54	26·14	
,, ...	,, 22	,,	49 51	44 18	56	13·3	19·15	34·60	27·80	
,, ...	,, 23	,,	52 10	37 17	53	11·7	19·31	34·88	28·03	
,, ...	,, 24	,,	54 00	30 07	54	12·2	19·42	35·08	28·19	
,, ...	,, 25	,,	55 05	21 35	53	11·7	19·59	35·39	28·44	
,, ...	,, 26	11.0 a.m.	55 24	13 35	57	13·9	19·57	35·35	28·41	
,, ...	,, 26	7.30 p.m.	55 27	10 35	57	13·9	19·62	35·44	28·48	
,, ...	,, 27	2.48 a.m.	55 30	7 40	56	13·3	19·57	35·35	28·41	
Astoria	,, 6	Noon	40 40	67 50	63	17·2	18·20	32·88	26·42	

TABLE II.—*continued.*

Ship.	Date.	Time.	Lat.	Long.	Temp.		*Cl.* ‰.	*S.* ‰.	σ_o.	Remarks.
					Fahr.	C.				
	1905.		°N. ′	°W. ′						
Astoria	Aug. 7	Noon	42 30	61 30	62	16·7	17·81	32·18	25·85	
,, ...	,, 8	,,	45 14	55 27	59	15·0	17·63	31·85	25·59	
,, ...	,, 9	,,	48 07	49 12	50	10·0	17·93	32·39	26·03	
,, ...	,, 10	,,	50 44	42 00	57	13·9	19·07	34·45	27·68	Current S.E. 12 miles in 24 hours.
,, ...	,, 11	,,	52 45	34 30	56	13·3	19·23	34·74	27·92	No current observed.
,, ...	,, 11	8.0 p.m.	53 22	31 40	53	11·7	19·26	34·79	27·96	
,, ...	,, 12	4.0 a.m.	53 54	28 45	55	12·8	19·38	35·01	28·14	
,, ...	,, 12	Noon	54 25	25 50	56	13·3	19·49	35·21	28·30	Current N.E. 12 miles in 24 miles.
,, ...	,, 12	8.0 p.m.	54 35	22 44	59	15·0	19·48	35·19	28·28	
,, ...	,, 13	4.0 a.m.	54 50	19 35	60	15·6	19·50	35·23	28·31	
,, ...	,, 13	Noon	55 00	16 30	60	15·6	19·56	35·34	28·40	
,, ...	,, 14	10.15 a.m.	55 18	8 15	61	16·1	19·44	35·12	28·22	
,, ...	,, 14	1.0 p.m.	55 24	7 16	60	15·6	19·46	35·16	28·25	
,, ...	,, 14	5.30 p.m.	55 18	6 00	—	—	18·98	34·29	27·55	
,, ...	,, 20	1.0 a.m.	55 27	8 22	60	15·6	19·64	35·48	28·51	
,, ...	,, 20	8.0 a.m.	55 20	11 10	59	15·0	19·60	35·41	28·46	
,, ...	,, 20	4.0 p.m.	55 15	14 05	59	15·0	19·67	35·53	28·56	
,, ...	,, 20	Midnight	55 05	17 00	57	13·9	19·63	35·46	28·50	
,, ...	,, 21	8.0 a.m.	54 50	19 46	58	14·4	19·64	35·48	28·51	
,, ...	,, 21	4.0 p.m.	54 27	22 39	57	13·9	19·61	35·43	28·47	No current observed
,, ...	,, 21	Midnight	54 06	25 38	56	13·3	19·58	35·37	28·43	
,, ...	,, 22	8.0 a.m.	53 50	28 27	54	12·2	19·35	34·96	28·09	
,, ...	,, 22	4.0 p.m.	53 17	31 00	56	13·3	19·24	34·76	27·93	
,, ...	,, 22	Midnight	52 53	33 00	55	12·8	19·39	35·03	28·15	
,, ...	,, 23	8.0 a.m.	52 24	35 10	54	12·2	19·25	34·78	27·95	No current observed.
,, ...	,, 23	Midnight	51 10	40 00	56	13·3	19·25	34·78	27·95	
,, ...	,, 24	Noon	50 06	44 00	58	14·4	19·05	34·42	27·65	
,, ...	,, 25	,,	46 50	51 20	58	14·4	17·93	32·39	26·03	Current S.W. 24 miles in 48 hours
,, ...	,, 26	,,	44 00	57 50	66	18·9	17·28	31·22	25·08	Current S.W. 12 miles in 24 hours.
,, ...	,, 27	,,	41 30	65 00	68	20·0	18·59	33·58	26·99	Current S.W. 12 miles in 24 hours
,, ...	,, 28	,,	40 31	72 00	66	18·9	18·02	32·56	26·16	Current W.S.W. 15 miles in 24 hours.
Minneapolis ...	,, 21	11.0 p.m.	50 10	9 05	61	16·1	19·76	35·70	28·69	
,, ...	,, 22	5.0 a.m.	49 48	11 37	54	14·4	19·67	35·53	28·56	
,, ...	,, 22	1.0 p.m.	50 25	14 07	60	15·6	19·67	35·53	28·56	
,, ...	,, 23	Noon	50 29	23 28	57	13·9	19·44	35·12	28·22	
,, ...	,, 24	,,	49 45	32 29	57	13·9	19·73	35·64	28·64	
,, ...	,, 25	,,	47 58	41 39	65	18·3	19·83	35·82	28·79	
,, ...	,, 26	,,	45 34	50 03	58	14·4	17·89	32·32	25·97	Long. 50° 34′ W.?
,, ...	,, 27	,,	43 22	58 30	66	18·9	17·58	31·76	25·52	
,, ...	,, 28	,,	41 08	67 08	57	13·9	17·99	32·50	26·11	
Port Kingston ...	,, 1	,,	42 52	31 00	68	20·0	19·88	35·91	28·86	
,, ...	,, 2	,,	40 05	38 45	75	23·9	20·15	36·40	29·26	
,, ...	,, 3	,,	36 21	45 48	78	25·6	20·12	36·35	29·21	

TABLE II.—*continued.*

Ship.	Date.	Time.	Lat.	Long.	Temp.		*Cl.* ‰.	*S.* ‰.	σ_o.	Remarks.
					Fahr.	C.				
	1905.		° N. ′	° W. ′						
Port Kingston ...	Aug. 4	Noon	32 38	52 30	79	26·1	20·38	36·82	29·59	
„ ...	„ 5	„	29 00	59 06	80	26·7	20·32	36·71	29·50	
„ ...	„ 6	„	25 09	65 16	84	28·9	20·23	36·55	29·37	
„ ...	„ 18	„	21 19	73 29	85	29·4	20·21	36·51	29·34	
„ ...	„ 19	„	26 09	68 45	83	28·3	20·19	36·47	29·31	
„ ...	„ 20	„	30 33	63 22	81	27·2	20·19	36·47	29·31	
„ ...	„ 21	„	34 43	57 58	81	27·2	20·14	36·38	29·24	
„ ...	„ 22	„	39 04	51 35	80	26·7	19·98	36·09	29·01	
„ ...	„ 23	„	42 51	44 18	79	26·1	19·79	35·75	28·73	
„ ...	„ 24	„	45 54	36 24	64	17·8	19·59	35·39	28·44	
„ ...	„ 25	„	48 19	27 16	59	15·0	19·62	35·44	28·48	
„ ...	„ 26	„	50 22	18 08	59	15·0	19·65	35·50	28·53	
„ ...	„ 27	3.0 a.m.	51 10	11 50	—	—	19·64	35·48	28·51	
„ ...	„ 27	9.30 a.m.	51 20	8 53	59	15·0	19·37	34·99	28·12	
„ ...	„ 27	—	51 13	6 16	59	15·0	19·57	35·35	28·41	
Port Antonio ...	„ 1	Noon	50 52	13 36	60	15·6	20·08	36·27	29·15	
„ ...	„ 1	6.0 p.m.	51 12	11 40	60	15·6	19·98	36·09	29·01	
„ ...	„ 2	2.0 a.m.	51 10	9 00	60	15·6	19·48	35·19	28·28	
„ ...	„ 2	8.0 a.m.	51 20	7 40	61	16·1	19·86	35·88	28·83	Position approximate.
„ ...	„ 2	Noon	51 10	6 15	63	17·2	19·63	35·46	28·50	
„ ...	„ 12	5.0 p.m.	50 43	6 20	62	16·7	19·91	35·97	28·91	Positions approximate.
„ ...	„ 12	Midnight	50 00	9 00	62	16·7	20·20	36·49	29·33	
„ ...	„ 13	8.15 a.m.	49 26	11 18	62	16·7	20·10	36·31	29·18	
„ ...	„ 13	Noon	49 06	12 40	62	16·7	19·78	35·73	28·72	
„ ...	„ 14	„	47 00	19 43	61	16·1	19·81	35·79	28·76	
„ ...	„ 15	„	44 36	26 40	65	18·3	19·73	35·64	28·64	
„ ...	„ 16	„	41 57	32 30	68	20·0	19·55	35·32	28·38	
„ ...	„ 17	„	39 12	38 31	75	23·9	20·49	37·01	29·75	
„ ...	„ 18	„	36 24	44 10	79	26·1	20·27	36·62	29·43	
„ ...	„ 19	„	33 27	49 56	80	26·7	20·48	37·00	29·74	
„ ...	„ 20	„	30 37	55 06	81	27·5	20·81	37·59	30·22	
„ ...	„ 21	„	27 49	60 18	82	27·8	20·42	36·89	29·65	
„ ...	„ 22	„	24 58	65 05	83	28·3	20·14	36·38	29·24	
„ ...	„ 23	„	22 07	69 54	82·5	28·1	20·17	36·44	29·29	
Atrato	„ 1	„	23 19	50 31	80	26·7	20·77	37·52	30·16	
„	„ 2	„	27 31	46 25	79	26·1	20·69	37·38	30·04	
„	„ 3	„	31 32	41 53	78	25·6	20·45	36·94	29·69	
„	„ 4	„	35 27	37 06	79	26·1	20·50	37·03	29·77	
„	„ 5	„	38 54	31 51	76	24·4	20·05	36·22	29·11	
„	„ 6	„	41 36	25 33	69	20·6	19·93	36·00	28·94	
„	„ 7	„	44 08	18 59	64	17·8	19·81	35·79	28·76	
„	„ 8	„	46 48	12 07	63	17·2	19·72	35·62	28·63	...
„	„ 8	6.30 p.m.	47 30	10 00	62·5	16·9	19·76	35·70	28·69	...

TABLE II.—*continued.*

Ship.	Date.	Time.	Lat.	Long.	Temp. Fahr.	Temp. C.	*Cl.* °/₀₀.	*S.* °/₀₀.	σ_0.	Remarks.
	1905.		° N. ′	° W.						
Atrato	Aug. 9	1.0 a.m.	48 43	8 15	61·5	16·4	19·69	35·57	28·59	
„	„ 10	9.0 a.m.	Between Ushant and Scilly.		62	16·7	19·53	35·28	28·35	
Braemar Castle ...	„ 1	4.0 p.m.	Las Palmas Anchorage.		70	21·1	20·65	37·30	29·98	
„ ...	„ 2	8.0 a.m.	30 14	14 40	70	21·1	20·90	37·75	30·35	
„ ...	„ 2	8.0 p.m.	32 28	13 57	71	21·7	21·04	38·01	30·55	
„ ...	„ 3	8.0 a.m.	34 40	13 08	70	21.1	20·51	37·05	29·78	
„ ...	„ 3	8.0 p.m.	37 05	12 13	68	20·0	20·31	36·69	29·49	
„ ...	„ 4	Noon	39 47	11 04	68	20·0	20·08	36·27	29·15	
„ ...	„ 5	7.0 a.m.	Off Cape Finisterre.		66	18·9	20·12	36·35	29·21	
„ ...	„ 5	?	45 07	8 06	63	17·2	20·31	36·69	29·49	
„ ...	„ 6	?	47 03	6 40	60	15·6	19·89	35·93	28·88	
„ ...	„ 6	4.0 p.m.	Off Ushant.		58	14·4	19·65	35·50	28·53	
Morning	Sept. 3	Noon	Erik Point, Eglinton.		34·5	1·4	15·15	27·38	21·99	
„	„ 6	4.0 p.m.	Eglinton Harbour.		32·5	0·3	6·16	11·15	8·94	
„	„ 10	6.0 p.m.	Eglinton Harbour.		34·5	1·4	15·73	28·42	22·83	
„	„ 15	1.0 p.m.	Clyde River.		33	0·6	16·41	29·65	23·82	
„	„ 24	Noon	Kater Harbour.		32	0·0	16·36	29·56	23·75	
„	„ 27	1.0 p.m.	Cape Bison.		31	−0·6	16·44	29·70	23·86	
Numidian ...	„ 1	2.13 p.m.	55 24	7 40	59	15·0	19·54	35·30	28·37	
„ ...	„ 1	11.30 p.m.	55 22	10 35	58	14·4	19·52	35·26	28·34	
„ ...	„ 2	11.30 a.m.	55 16	13 35	57	13·9	19·54	35·30	28·37	
„ ...	„ 3	Noon	54 51	20 37	57	13·9	19·54	35·30	28·37	
„ ...	„ 5	„	53 38	28 30	54	12·2	19·48	35·19	28·28	
„ ...	„ 6	„	52 27	35 22	52	11·1	19·22	34·72	27·90	
„ ...	„ 7	„	50 48	42 30	53	11·7	19·20	34·69	27·87	
„ ...	„ 8	„	48 05	49 18	51	10·6	17·87	32·29	25·94	
„ ...	„ 9	„	44 57	55 30	53	11·7	17·38	31·40	25·23	
„ ...	„ 10	„	42 31	62 15	62	16·7	18·03	32·57	26·17	
„ ...	„ 11	„	40 43	69 05	60	15·6	18·16	32·81	26·36	
„ ...	„ 16	„	40 54	67 57	56	13·3	18·72	33·82	27·18	
„ ...	„ 17	„	42 40	61 45	61	16·1	17·87	32·29	25·94	
„ ...	„ 18	„	44 55	55 54	56	13·3	17·93	32·39	26·03	
„ ...	„ 19	„	47 50	49 45	52	11·1	17·87	32·29	25·94	
„ ...	„ 20	„	50 30	43 10	55	12·8	19·41	35·07	28·18	
„ ...	„ 21	„	52 34	36 00	51	10·6	19·30	34·87	28·02	
„ ...	„ 22	„	54 04	28 18	53	11·7	19·39	35·03	28·15	
„ ...	„ 23	„	54 55	19 58	55	12·8	19·57	35·35	28·41	
„ ...	„ 44	5.35 a.m.	55 19	13 35	53	11·7	19·59	35·39	28·44	
„ ...	„ 24	3.0 p.m.	55 27	10 35	55	12·8	19·59	35·39	28·44	
„ ...	„ 24	11.05 p.m.	55 24	7 40	55	12·8	19·55	35·32	28·38	
Astoria	„ 3	Noon	40 50	68 00	64	17·8	18·09	32·68	26·26	
„	„ 4	„	42 36	61 30	65	18·3	18·26	32·99	26·51	Current W. 12 miles in 24 hours.
„	„ 5	„	45 10	54 50	56	13·3	17·89	32·32	25·97	Current W.S.W. 12 miles in 24 hours.

TABLE II.—*continued.*

Ship.	Date.	Time.	Lat.	Long.	Temp. Fahr.	Temp. C.	*Cl.* °/₀₀.	*S.* °/₀₀.	σ_0.	Remarks.
	1905.		° N. ′	° W. ′						
Astoria	Sept. 6	Noon	48 15	48 40	47	8·3	18·20	32·88	26·42	Current S.W. 12 miles in 24 hours.
„	„ 7	„	50 50	41 30	58	14·4	19·32	34·90	28·05	Current S.E. 12 miles in 24 hours.
„	„ 8	„	52 50	33 40	54	12·2	19·30	34·87	28·02	No current observed.
„	„ 8	Midnight	53 34	29 30	54	12·2	19·30	34·87	28·02	
„	„ 9	Noon	54 15	25 30	57	13·9	19·41	35·07	28·18	Current W.S.W. 16 miles in 24 hours.
„	„ 9	Midnight	54 40	21 00	56	13·3	19·46	35·16	28·25	
„	„ 10	Noon	55 08	16 28	58	14·4	19·54	35·30	28·37	Current W. 12 miles in 24 hours.
„	„ 10	8.0 p.m.	55 10	13 18	58	14·4	19·58	35·37	28·43	
„	„ 10	Midnight	55 12	13 00	58	14·4	19·55	35·32	28·38	
„	„ 11	8.0 a.m.	55 17	8 50	58	14·4	19·58	35·37	28·43	Current W. 12 miles in 24 hours.
„	„ 17	1.0 a.m.	55 23	8 21	58	14·4	19·54	35·30	28·37	
„	„ 17	4.0 a.m.	55 22	9 25	58	14·4	19·63	35·46	28·50	
„	„ 17	8.0 a.m.	55 20	10 45	58	14·4	19·56	35·34	28·40	
„	„ 17	Noon	55 18	11 43	59	15·0	19·58	35·37	28·43	Current W. 8 miles since midnight.
„	„ 17	8.0 p.m.	55 09	15 43	56	13·3	19·56	35·34	28·40	
„	„ 18	4.0 a.m.	55 00	18 33	55	12·8	19·54	35·30	28·37	
„	„ 18	Noon	54 45	21 33	56	13·3	19·53	35·28	28·35	No current observed.
„	„ 18	8.0 p.m.	54 25	24 14	56	13·3	19·56	35·34	28·40	
„	„ 19	Noon	53 46	28 30	54	12·2	Lost			No current observed.
„	„ 19	Midnight	53 06	32 20	54	12·2	19·41	35·07	28·18	
„	„ 20	Noon	52 18	36 14	54	12·2	19·34	34·94	28·08	No current observed.
„	„ 20	Midnight	51 25	39 50	54	12·2	19·41	35·07	28·18	
„	„ 21	Noon	50 12	43 40	55	12·8	19·52	35·26	28·34	No current observed.
„	„ 22	„	47 26	50 59	56	13·3	17·85	32·25	25·91	
„	„ 23	„	44 19	57 10	58	14·4	17·41	31·46	25·27	No current observed.
„	„ 24	„	41 43	64 10	70	21·1	19·24	34·76	27·93	Current S.W. 24 miles in 48 hours.
„	„ 25	„	40 34	71 19	68	20·0	18·24	32·95	26·48	Current S.W. 12 miles in 24 hours.
Minneapolis ...	„ 3	„	41 05	65 55	65	18·3	18·65	33·69	27·07	
„ ...	„ 4	„	42 48	58 15	62	16·7	18·62	33·64	27·03	
„ ...	„ 5	„	44 49	50 35	58	14·4	17·85	32·25	25·91	
„ ...	„ 6	„	46 59	42 36	53	11·7	18·64	33·68	27·06	
„ ...	„ 7	„	48 46	34 28	57	13·9	19·50	35·23	28·31	
„ ...	„ 8	„	49 35	25 34	57	13·9	19·70	35·59	28·60	
„ ...	„ 9	„	49 49	16 13	59	15·0	19·68	35·55	28·57	
„ ...	„ 10	„	49 49	11 50	58	14·4	19·59	35·39	28·44	
Port Antonio ...	„ 1	„	20 23	74 01	83	28·3	20·17	36·44	29·29	
„ ...	„ 2	„	24 10	70 20	84·5	29·2	20·24	36·56	29·39	
„ ...	„ 3	„	28 11	66 33	83	28·3	20·05	36·22	29·11	
„ ...	„ 4	„	31 50	62 16	82·5	28·1	20·14	36·38	29·24	
„ ...	„ 5	„	35 09	59 48	79	26·1	20·07	36·26	29·14	
„ ...	„ 6	„	38 25	52 48	78	25·6	20·03	36·18	29·08	
„ ...	„ 7	„	41 19	46 53	67·5	19·7	18·34	33·13	26·62	
„ ...	„ 8	„	44 10	40 26	67·5	19·7	19·44	35·12	28·22	

TABLE II.—*continued.*

Ship.	Date.	Time.	Lat.	Long.	Temp.		*Cl.* ‰.	*S.* ‰.	σ_o.	Remarks.
					Fahr.	C.				
	1905.		° N. ′	° W. ′						
Port Antonio ...	Sept. 9	Noon	46 39	33 46	60	15·6	19·62	35·44	28·48	
,, ...	,, 10	,,	48 49	26 45	58	14·4	19·66	35·52	28·54	
,, ...	,, 11	,,	50 11	19 25	56	13·3	19·69	35·57	28·59	
,, ...	,, 12	,,	51 21	11 25	59	15·0	19·70	35·59	28·60	
,, ...	,, 12	6.30 p.m.	51 21	8 57	56	13·3	19·33	34·92	28·06	
,, ...	,, 13	3.10 a.m.	51 15	6 20	57	13·9	19·44	35·12	28·22	
,, ...	,, 23	6.0 p.m.	50 42	6 21	57	13·9	19·56	35·34	28·40	
,, ...	,, 24	4.0 a.m.	49 45	9 20	59	15·0	19·64	35·48	28·51	
,, ...	,, 24	Noon	48 59	11 38	60	15·6	19·78	35·73	28·72	
,, ...	,, 25	,,	46 30	18 48	60	15·6	19·73	35·64	28·64	
,, ...	,, 26	,,	43 52	25 17	64	17·8	19·85	35·86	28·82	
,, ...	,, 27	,,	41 13	31 37	70	21·1	19·94	36·02	28·95	
,, ...	,, 28	,,	38 44	37 18	71	21·7	19·91	35·97	28·91	
,, ...	,, 29	,,	36 03	43 15	75	23·9	20·06	36·24	29·12	
,, ...	,, 30	,,	33 19	48 47	77	25·0	20·07	36·26	29·14	
Port Kingston ...	,, 10	0.30 a.m.	51 09	6 15	59	15·0	19·45	35·14	28·24	
,, ...	,, 10	7.0 a.m.	50 51	9 03	60	15·6	19·57	35·35	28·41	Position doubtful.
,, ...	,, 10	Noon	49 35	9 47	60	15·6	19·63	35·46	28·50	
,, ...	,, 10	6.0 p.m.	48 40	11 40	60	15·6	19·69	35·57	28·59	
,, ...	,, 11	Noon	46 28	17 52	61	16·1	19·72	35·62	28·63	
,, ...	,, 12	,,	43 08	26 09	64	17·8	19·81	35·79	28·76	
,, ...	,, 13	,,	40 02	33 50	74	23·3	20·17	36·44	29·29	
,, ...	,, 14	,,	38 15	41 58	76	24·4	19·96	36·06	28·98	
,, ...	,, 15	,,	36 22	49 44	78	25·6	19·76	35·70	28·69	
,, ...	,, 16	,,	34 57	57 54	79	26·1	20·05	36·22	29·11	
,, ...	,, 18	,,	27 02	68 03	83	28·3	20·23	36·55	29·37	
,, ...	,, 19	,,	21 08	71 21	84	28·9	20·32	36·71	29·50	
,, ...	,, 29	,,	21 12	73 37	84	28·9	20·40	36·85	29·62	
,, ...	,, 30	,,	25 51	69 00	81	27·2	20·54	37·10	29·82	
Kildonan Castle ...	,, 3	,,	22 16	17 37	70	21·1	20·11	36·33	29·20	
,, ...	,, 4	,,	27 49	17 02	74	23·3	20·27	36·62	29·43	
,, ...	,, 5	,,	Funchal Anchorage.		74	23·3	20·16	36·42	29·27	
,, ...	,, 6	,,	37 47	13 19	72	22·2	20·15	36·40	29·26	
,, ...	,, 7	,,	43 14	9 19	58	14·4	19·77	35·71	28·70	
,, ...	,, 7	3.20 p.m.	44 03	8 44	57	13·9	19·74	35·66	28·66	
,, ...	,, 7	10.05 p.m.	45 35	7 37	64	17·8	19·77	35·71	28·70	
,, ...	,, 8	4.50 a.m.	47 05	6 28	62	16·7	19·72	35·62	28·63	
,, ...	,, 8	Noon	Five miles off Ushant.		59	15·0	19·54	35·30	28·37	
,, ...	,, 24	7.50 a.m.	48 24	5 21	57	13·9	19·62	35·44	28·48	
,, ...	,, 24	1.30 p.m.	47 07	6 50	59	15·0	19·67	35·53	28·56	
,, ...	,, 24	7.0 p.m.	45 35	8 03	61	16·1	19·83	35·82	28·79	
,, ...	,, 25	0.30 a.m.	44 04	9 19	61	16·1	19·83	35·82	28·79	
,, ...	,, 25	Noon	42 05	10 38	63	17·2	19·83	35·82	28·79	

TABLE II.—*continued.*

Ship.	Date.	Time.	Lat.	Long.	Temp. Fahr.	Temp. C.	*Cl.* ‰.	*S.* ‰.	σ_0.	Remarks.
	1905.		° N. ′	° W. ′						
Kildonan Castle ...	Sept. 26	Noon	36 37	14 17	68	20·0	20·20	36·49	29·33	
„ ...	„ 27	„	32 38	16 54	73	22·8	20·46	36·96	29·71	
„ ...	„ 28	„	26 28	17 31	75	23·9	20·43	36·91	29·66	
„ ...	„ 29	„	20 06	17 46	78	25·6	19·93	36·00	28·94	
Egypt	„ 20	Midnight	37 30	9 09	62	16·7	19·94	36·02	28·95	
„	„ 21	Noon	40 23	9 36	65	18·3	19·94	36·02	28·95	
„	„ 21	Midnight	43 14	9 26	57	13·9	19·76	35·70	28·69	
„	„ 22	Noon	45 52	7 26	62	16·7	19·75	35·68	28·67	
„	„ 22	Midnight	Off Ushant.		61	16·1	19·56	35·34	28·40	
Macedonia ...	„ 27	8.0 p.m.	36 30	7 34	69	20·6	20·39	36·83	29·61	
„ ...	„ 28	4.0 a.m.	37 31	9 11	61	16·1	19·94	36·02	28·95	
„ ...	„ 28	Noon	39 30	9 27	61	16·1	19·95	36·04	28·96	
„ ...	„ 28	8.0 p.m.	41 24	9 26	59	15·0	19·78	35·73	28·72	
„ ...	„ 29	4.0 a.m.	43 14	9 26	61	16·1	19·74	35·66	28·66	
„ ...	„ 29	Noon	45 02	8 20	62·8	17·1	19·84	35·84	28·80	
„ ...	„ 29	4.0 p.m.	45 56	7 40	61	16·1	19·81	35·79	28·76	
„ ...	„ 29	8.0 p.m.	46 50	6 50	60	15·6	19·77	35·71	28·70	
„ ...	„ 29	Midnight	47 48	6 15	58·8	14·9	Lost			
„ ...	„ 30	4.0 a.m.	48 34	5 26	56	13·3	19·56	35·34	28·40	
„ ...	„ 30	8.0 a.m.	49 45	4 45	56·7	13·7	19·57	35·35	28·41	
Morning	Oct. 4	8.0 p.m.	Cape Dier.		30	−1·1	17·09	30·88	24·81	Much ice to S.E. and along the land.
„	„ 7	1.0 p.m.	62 14	56 30	39·5	4·2	18·95	34·23	27·51	
„	„ 14	4.0 p.m.	56 45	46 00	43·7	6·5	19·15	34·60	27·80	
„	„ 16	Noon	57 29	40 00	45·5	7·5	19·18	34·65	27·84	
„	„ 18	„	58 10	37 50	47·2	8·4	19·20	34·69	27·87	
„	„ 19	„	58 52	35 50	46	7·8	19·19	34·67	27·86	
„	„ 21	„	59 53	33 47	46·3	7·9	19·26	34·79	27·96	
„	„ 22	„	60 08	32 37	46·5	8·1	19·23	34·74	27·92	
„	„ 24	„	61 28	26 22	48·5	9·2	19·43	35·10	28·21	
„	„ 27	4.0 p.m.	60 12	13 05	49·5	9·7	19·54	35·30	28·37	
Astoria	„ 1	Noon	41 00	67 00	59	15·0	18·11	32·72	26·29	
„	„ 2	„	43 17	60 05	60	15·6	19·63	35·46	28·50	Current W.S.W. 12 miles in 24 hours.
„	„ 3	„	45 45	54 23	54	12·2	19·73	35·64	28·64	Current W.S.W. 24 miles in 24 hours.
„	„ 4	„	48 30	48 20	54	12·2	18·64	33·68	27·06	Current W.S.W. 12 miles in 24 hours.
„	„ 5	„	50 56	41 00	62	16·7	19·00	34·33	27·58	No current observed.
„	„ 6	„	53 40	29 48	56	13·3	19·37	34·99	28·12	
„	„ 7	„	54 14	24 42	57	13·9	19·42	35·08	28·19	
„	„ 7	Midnight	54 44	20 12	56	13·3	19·58	35·37	28·43	
„	„ 8	Noon	55 14	15 46	58	14·4	19·56	35·34	28·40	
„	„ 8	8.0 p.m.	55 16	12 46	55	12·8	19·56	35·34	28·40	
„	„ 8	Midnight	55 17	11 27	57	13·9	19·55	35·32	28·38	
„	„ 9	4.0 a.m.	55 18	10 18	56	13·3	19·56	35·34	28·40	
Numidian ...	„ 2	Noon	53 15	33 02	54	12·2	19·21	34·70	27·89	

TABLE II.—*continued.*

Ship.	Date.	Time.	Lat.	Long.	Temp.		*Cl.* °/₀₀.	*S.* °/₀₀.	σ_0.	Remarks.
					Fahr.	C.				
	1905.		° N. ′	° W. ′						
Numidian ...	Oct. 3	Noon	51 15	40 22	54	12·2	19·13	34·56	27·77	
,, ...	,, 4	,,	48 33	47 00	49	9·4	18·53	33·48	26·90	
,, ...	,, 5	,,	45 55	53 20	54	12·2	17·65	31·89	25·62	
,, ...	,, 6	,,	43 19	59 25	56	13·3	17·59	31·78	25·53	
,, ...	,, 7	,,	41 23	64 45	54	12·2	18·29	33·04	26·55	
,, ...	,, 8	,,	40 28	72 50	63	17·2	17·67	31·92	25·65	
,, ...	,, 15	,,	42 07	68 30	57	13·9	18·09	32·68	26·26	
,, ...	,, 16	,,	44 01	57 45	54	12·2	17·94	32·41	26·04	
,, ...	,, 17	,,	46 28	52 23	54	12·2	17·76	32·09	25·78	
,, ...	,, 18	,,	48 55	46 47	47	8·3	19·00	34·33	27·58	
,, ...	,, 19	,,	50 56	41 50	57	13·9	19·05	34·42	27·65	
,, ...	,, 20	,,	53 11	35 20	52	11·1	19·21	34·70	27·89	
,, ...	,, 21	,,	54 29	28 10	53	11·7	19·41	35·07	28·18	
,, ...	,, 22	,,	55 04	21 46	54	12·2	19·61	35·43	28·47	
,, ...	,, 23	4.0 p.m.	55 26	13 35	54	12·2	19·62	35·44	28·48	
,, ...	,, 24	9.30 a.m.	Off Fanad Point.		53	11·7	19·67	35·53	28·56	
Port Antonio ...	,, 1	Noon	30 31	54 20	80	26·7	20·38	36·82	29·59	
,, ...	,, 2	,,	27 36	59 36	80	26·7	20·29	36·65	29·46	
,, ...	,, 3	,,	24 52	64 56	81	27·2	20·40	36·85	29·62	
,, ...	,, 4	,,	22 06	70 11	82	27·8	20·22	36·53	29·36	
,, ...	,, 13	,,	20 17	74 04	84	28·9	19·76	35·70	28·69	
,, ...	,, 14	,,	24 11	70 30	82	27·8	20·25	36·58	29·40	
,, ...	,, 15	,,	27 49	66 41	79	26·1	20·21	36·51	29·34	
,, ...	,, 16	,,	30 30	62 34	76	24·4	20·29	36·65	29·46	
,, ...	,, 17	,,	34 53	58 08	73½	23·1	20·10	36·31	29·18	
,, ...	,, 18	,,	38 09	53 00	72	22·2	20·22	36·53	29·36	
,, ...	,, 19	,,	40 50	47 28	63	17·2	18·96	34·25	27·52	
,, ...	,, 20	,,	43 36	41 36	65	18·3	20·00	36·13	29·04	
,, ...	,, 21	,,	45 55	35 10	60	15·6	19·72	35·62	28·63	
,, ...	,, 22	,,	47 46	28 54	60	15·6	19·77	35·71	28·70	
,, ...	,, 23	,,	49 35	22 22	59	15·0	19·97	36·08	28·99	
,, ...	,, 24	,,	50 42	15 26	56	13·3	19·71	35·61	28·62	
,, ...	,, 24	11.0 p.m.	51 07	11 42	54	12·2	Lost			
,, ...	,, 25	8.0 a.m.	51 22	9 00	52	11·1	19·44	35·12	28·22	
,, ...	,, 25	4.0 p.m.	51 02	6 21	53	11·7	20·00	36·13	29·04	
Port Kingston ...	,, 1	Noon	30 15	63 40	80	26·7	20·21	36·51	29·34	
,, ...	,, 4	,,	42 10	44 56	68	20·0	20·00	36·13	29·04	
,, ...	,, 5	,,	45 20	36 08	68	20·0	19·87	35·90	28·85	
,, ...	,, 6	,,	47 53	28 15	61	16·1	19·92	35·99	28·92	
,, ...	,, 7	,,	50 00	19 00	56	13·3	19·72	35·62	28·63	
,, ...	,, 8	5.0 a.m.	51 20	11 20	56	13·3	19·41	35·07	28·18	
,, ...	,, 8	Noon	51 25	9 05	56	13·3	19·43	35·10	28·21	
,, ...	,, 8	7.45 p.m.	51 13	6 17	56	13·3	19·62	35·44	28·48	

TABLE II.—*continued.*

Ship.	Date.	Time.	Lat.	Long.	Temp. Fahr.	Temp. C.	*Cl.* ‰	*S.* ‰	σ_0	Remarks.
	1905.		° N. ′	° W. ′						
Port Kingston ...	Oct. 21	10.30 p.m.	50 37	6 16	55	12·8	19·68	35·55	28·57	
„ ...	„ 22	5.30 a.m.	49 53	8 52	56	13·3	19·65	35·50	28·53	
„ ...	„ 22	Noon	48 08	11 44	56	13·3	19·70	35·59	28·60	
„ ...	„ 23	„	46 36	20 38	61	16·1	19·78	35·73	28·72	
„ ...	„ 24	„	44 16	29 02	64	17·8	19·80	35·77	28·75	
„ ...	„ 25	„	41 36	37 10	68	20·0	19·91	35·97	28·91	
„ ...	„ 26	„	38 52	44 26	66	18·9	19·82	35·81	28·78	
„ ...	„ 27	„	36 14	52 14	72	22·2	20·53	37·09	29·81	
„ ...	„ 28	„	33 55	59 51	76	24·4	20·12	36·35	29·21	
„ ...	„ 30	„	27 05	67 42	80	26·7	20·08	36·27	29·15	
„ ...	„ 31	„	21 06	71 22	83	28·3	20·27	36·62	29·43	
Atrato	„ 15	10.50 a.m.	Off Ushant.		55¼	12·9	19·62	35·44	28·48	48° 30′ N. 5° 15′ W.?
„	„ 15	4.0 p.m.	47 30	7 20	56¾	13·7	19·72	35·62	28·63	
„	„ 15	11.0 p.m.	46 10	8 35	56½	13·6	19·75	35·68	28·67	
„	„ 16	Noon	45 20	11 56	59½	15·3	19·83	35·82	28·79	
„	„ 17	„	41 58	18 04	67	19·4	20·02	36·17	29·07	
„	„ 18	„	38 33	23 41	69	20·6	20·18	36·45	29·30	
„	„ 19	„	35 12	29 04	71¼	21·8	20·17	36·44	29·29	
„	„ 20	„	31 49	34 07	74	23·3	20·44	36·92	29·68	
„	„ 21	„	28 26	38 57	77	25·0	20·82	37·61	30·23	
„	„ 22	„	25 08	43 44	79	26·1	20·83	37·63	30·25	
„	„ 23	„	21 43	48 26	79½	26·4	20·62	37·25	29·94	
„	„ 24	„	18 37	52 41	80½	26·9	20·17	36·44	29·29	
„	„ 25	„	15 07	56 45	79	26·1	19·72	35·62	28·63	
„	„ 28	„	10 56	62 35	81	27·2	18·57	33·55	26·96	
„	„ 30	„	12 38	72 21	79¾	26·5	20·37	36·80	29·58	
„	„ 31	„	11 00	75 02	81½	27·5	19·78	35·73	28·72	
La Plata	„ 29	„	48 36	5 48	53·3	11·8	19·66	35·52	28·54	
„	„ 30	„	45 48	10 35	57·8	14·3	19·85	35·86	28·82	
„	„ 31	„	42 48	15 46	60·5	15·8	19·94	36·02	28·95	
Moravian	„ 25	„	23 14	17 01	73	22·8	20·16	36·42	29·27	
„	„ 25	Midnight	25 02	16 40	72	22·2	20·37	36·80	29·58	
„	„ 26	8.0 a.m.	26 41	16 19	72	22·2	20·42	36·89	29·65	
„	„ 26	Noon	27 15	16 19	71	21·7	20·40	36·85	29·62	
„	„ 27	8.0 p.m.	29 10	15 50	70	21·1	20·39	36·83	29·61	
„	„ 28	4.0 a.m.	30 20	15 25	68	20·0	20·51	37·05	29·78	
„	„ 28	Noon	31 45	14 55	70	21·1	20·39	36·83	29·61	
„	„ 28	8.0 p.m.	33 14	14 20	68	20·0	20·39	36·83	29·61	
„	„ 29	4.0 a.m.	34 24	13 45	68	20·0	20·34	36·74	29·53	
„	„ 29	Noon	35 46	13 18	67	19·4	20·26	36·60	29·42	
„	„ 29	8.0 p.m.	37 04	12 42	65	18·3	20·25	36·58	29·40	
„	„ 30	4.0 a.m.	38 31	12 03	64	17·8	20·03	36·18	29·08	
„	„ 30	Noon	40 01	11 35	63	17·2	19·90	35·95	28·89	

TABLE II.—*continued.*

Ship.	Date.	Time.	Lat.	Long.	Temp.		*Cl.* ‰.	*S.* ‰.	σ_o.	Remarks.
					Fahr.	C.				
	1905.		° N. ′	° W. ′						
Moravian	Oct. 30	8.0 p.m.	41 24	10 50	59	15·0	19·88	35·91	28·86	
„	„ 31	4.0 a.m.	42 32	10 24	60	15·6	19·88	35·91	28·86	
„	„ 31	Noon	43 59	9 16	58	14·4	19·81	35·79	28·76	
„	„ 31	8.0 p.m.	45 09	8 15	55	12·8	19·52	35·26	28·34	
Macedonia ...	„ 14	4.0 p.m.	48 37	5 10	55	12·8	19·64	35·48	28·51	
„ ...	„ 14	8.0 p.m.	47 46	5 52	56	13·3	19·93	36·00	28·94	
„ ...	„ 14	Midnight	46 56	6 35	57·5	14·2	19·98	36·09	29·01	
„ ...	„ 15	4.0 a.m.	46 03	7 16	58	14·4	19·86	35·88	28·83	
„ ...	„ 15	8.0 a.m.	45 15	8 00	59·5	15·3	19·86	35·88	28·83	
„ ...	„ 15	Noon	44 20	8 45	59	15·0	19·87	35·90	28·85	
„ ...	„ 15	4.0 p.m.	43 25	9 23	57	13·9	19·82	35·81	28·78	
„ ...	„ 15	8.0 p.m.	42 28	9 25	60·5	15·8	19·90	35·95	28·89	
„ ...	„ 15	Midnight	41 30	9 25	61·8	16·6	19·94	36·02	28·95	
„ ...	„ 16	4.0 a.m.	40 29	9 25	63	17·2	19·93	36·00	28·94	
„ ...	„ 16	8.0 a.m.	39 30	9 35	60	15·6	19·88	35·91	28·86	
„ ...	„ 16	Noon	38 29	9 29	60·5	15·8	19·95	36·04	28·96	
„ ...	„ 16	4.0 p.m.	37 32	9 08	64	17·8	20·04	36·20	29·10	
„ ...	„ 16	8.0 p.m.	36 51	8 30	64·7	18·2	20·13	36·36	29·23	
„ ...	„ 16	Midnight	36 29	7 25	67·5	19·7	20·26	36·60	29·42	
„ ...	„ 17	4.0 a.m.	Trafalgar Light, N. 73° E. 12 miles.		66	18·9	20·21	36·51	29·34	
Egypt	„ 21	4.0 p.m.	49 00	5 25	53	11·7	19·57	35·35	28·41	
„	„ 21	8.0 p.m.	48 13	6 00	54	12·2	19·63	35·46	28·50	
„	„ 21	Midnight	47 13	6 45	55	12·8	19·64	35·48	28·51	
„	„ 22	4.0 a.m.	46 21	7 25	55	12·8	19·85	35·86	28·82	
„	„ 22	8.0 a.m.	45 33	7 59	59	15·0	19·83	35·82	28·79	
„	„ 22	Noon	44 39	8 37	60	15·6	19·78	35·73	28·72	
„	„ 22	4.0 p.m.	43 44	9 09	57	13·9	19·77	35·71	28·70	
„	„ 22	8.0 p.m.	42 53	9 30	56·5	13·6	19·80	35·77	28·75	
„	„ 22	Midnight	41 57	9 34	61	16·1	19·88	35·91	28·86	
„	„ 23	4.0 a.m.	41 00	9 40	61	16·1	19·92	35·99	28·92	
„	„ 23	8.0 a.m.	40 05	9 38	61	16·1	19·93	36·00	28·94	
„	„ 23	Noon	38 29	9 37	60	15·6	19·87	35·90	28·85	
„	„ 23	4.0 p.m.	38 47	9 34	60	15·6	19·94	36·02	28·95	
„	„ 23	8.0 p.m.	37 32	9 15	61	16·1	20·21	36·51	29·34	
„	„ 23	Midnight	36 52	8 43	65	18·3	20·06	36·24	29·12	
„	„ 24	4.0 a.m	36 30	7 36	65	18·3	20·21	36·51	29·34	
„	„ 24	8.0 a.m.	36 06	6 32	65	18·3	20·21	36·51	29·34	
Numidian ...	Nov. 3	8.20 a.m.	Off Fanad Point.		52	11·1	19·70	35·59	28·60	
„ ...	„ 3	4.30 p.m.	55 52	10 35	52	11·1	19·55	35·32	28·38	
„ ...	„ 4	1.0 a.m.	56 13	13 35	52	11·1	19·45	35·14	28·24	
„ ...	„ 4	Noon	56 20	17 31	50	10·0	19·56	35·24	28·40	
„ ...	„ 5	„	56 22	26 00	52	11·1	19·56	35·24	28·40	
„ ...	„ 6	„	55 58	34 25	47	8·3	19·26	34·79	27·96	

TABLE II.—*continued.*

Ship.	Date.	Time.	Lat.	Long.	Temp.		*Cl.* ‰.	*S.* ‰.	σ_o.	Remarks.
					Fahr.	C.				
	1905.		° N. ′	° W. ′						
Numidian ...	Nov. 7	Noon	54 31	43 00	45	7·2	19·19	34·67	27·86	
„ ...	„ 8	„	52 53	50 50	46	7·8	19·14	34·58	27·79	
„ ...	„ 9	„	50 36	58 06	39	3·9	17·49	31·60	25·39	
„ ...	„ 10	„	49 18	65 19	37	2·8	17·00	30·72	24·68	
„ ...	„ 27	„	46 43	52 05	46	7·8	17·67	31·92	25·65	
„ ...	„ 28	„	49 32	46 25	44	6·7	18·99	34·31	27·57	
„ ...	„ 29	„	50 26	40 41	54	12·2	19·70	35·59	28·60	
„ ...	„ 30	„	51 25	34 52	53	11·7	19·63	35·46	28·50	
Astoria	„ 12	1.0 p.m.	55 25	7 15	52	11·1	19·56	35·34	28·40	
„	„ 12	8.0 p.m.	55 22	9 55	54	12·2	19·56	35·34	28·40	
„	„ 13	4.0 a.m.	55 18	14 05	53	11·7	19·58	35·37	28·43	
„	„ 13	Noon	55 18	15 47	52	11·1	19·57	35·35	28·41	
„	„ 13	8.0 p.m.	55 07	17 55	54	12·2	19·55	35·32	28·38	
„	„ 14	4.0 a.m.	54 50	20 40	52	11·1	19·64	35·48	28·51	
„	„ 14	Noon	54 50	23 00	52	11·1	19·30	34·87	28·02	
„	„ 14	8.0 p.m.	54 15	26 00	53	11·7	19·63	35·46	28·50	
„	„ 15	4.0 a.m.	53 30	28 35	52	11·1	19·56	35·34	28·40	
„	„ 15	Noon	53 30	31 29	50	10·0	19·33	34·92	28·06	
„	„ 15	Midnight	52 20	35 40	51	10·6	19·36	34·97	28·11	
„	„ 16	Noon	51 27	40 06	51	10·6	19·35	34·96	28·09	
„	„ 16	Midnight	50 35	42 40	55	12·8	19·59	35·39	28·44	10.0 p.m. 60° F. (= 15·6 C.).
„	„ 17	Noon	49 35	45 07	52	11·1	18·85	34·05	27·36	
„	„ 18	„	47 04	51 54	44	6·7	17·88	32·30	25·95	
„	„ 19	„	45 16	55 00	44	6·7	18·01	32·54	26·14	Sample muddy.
„	„ 20	„	43 30	59 35	45	7·2	17·76	32·09	25·78	
„	„ 21	„	41 15	66 35	50	10·0	18·34	33·13	26·62	Current S.W. 12 miles in 24 hours.
„	„ 27	„	41 20	66 16	49	9·4	18·16	32·81	26·36	
„	„ 28	„	43 33	60 00	48	8·9	17·73	32·03	25·74	
„	„ 29	„	46 00	53 30	42	5·6	17·73	32·03	25·74	Current S.W. 12 miles in 24 hours.
„	„ 30	„	49 00	47 45	46	7·8	19·03	34·38	27·63	
Minneapolis ...	„ 17	4.0 p.m.	49 51	6 45	52	11·1	19·63	35·46	28·50	
„ ...	„ 17	8.0 p.m.	49 59	7 59	49	9·4	19·72	35·62	28·63	
„ ...	„ 17	Midnight	50 06	9 32	51	10·6	19·50	35·23	28·31	
„ ...	„ 18	4.0 a.m.	50 13	11 21	51	10·6	19·73	35·64	28·64	
„ ...	„ 18	Noon	50 15	15 13	52	11·1	19·74	35·66	28·66	
„ ...	„ 19	„	50 10	25 11	53	11·7	19·49	35·21	28·30	
„ ...	„ 20	„	49 20	33 57	51	10·6	19·54	35·30	28·37	
„ ...	„ 21	„	48 00	40 48	55	12·8	19·52	35·26	28·34	
„ ...	„ 22	„	46 08	48 42	40	4·4	18·02	32·56	26·16	
„ ...	„ 23	„	43 59	56 20	46	7·8	18·40	33·24	26 71	
„ ...	„ 24	„	42 08	63 18	52	11·1	18·15	32·79	26·35	
„ ...	„ 25	„	40 45	69 14	54	12·2	18·06	32·63	26·22	
Port Antonio ..	„ 4	8.0 p.m.	50 30	6 20	54	12·2	19·59	35·39	28·44	

TABLE II.—*continued.*

Ship.	Date.	Time.	Lat.	Long.	Temp. Fahr.	Temp. C.	*Cl.* ‰.	*S.* ‰.	σ_o.	Remarks.
	1905.		° N. ′	° W. ′						
Port Antonio ...	Nov. 5	4.0 a.m.	50 00	9 20	53	11·7	19·69	35·57	28·59	...
,, ...	,, 5	Noon	48 54	11 18	55	12·8	19·84	35·84	28·80	...
,, ...	,, 6	,,	46 16	18 10	57	13·9	19·94	36·02	28·95	...
,, ...	,, 6	8.0 p.m.	45 30	20 30	57	13·9	19·89	35·93	28·88	...
,, ...	,, 7	Noon	43 40	24 45	59	15·0	19·97	36·08	28·99	...
,, ...	,, 8	,,	40 58	30 47	66	18·9	20·08	36·27	29·15	...
,, ...	,, 9	,,	38 23	36 30	70	21·1	20·27	36·62	29·43	...
,, ...	,, 10	,,	35 48	41 55	71	21·7	20·20	36·49	29·33	...
,, ...	,, 11	,,	33 11	47 18	75	23·9	20·31	36·69	29·49	...
,, ...	,, 13	,,	28 10	57 50	76	24·4	19·08	34·47	27·70	...
,, ...	,, 14	,,	25 38	63 04	79	26·1	20·14	36·39	29·25	...
,, ...	,, 15	,,	22 55	68 12	80	26·7	20·47	36·98	29·72	...
,, ...	,, 16	,,	20 15	72 42	81	27·2	20·32	36·71	29·50	...
,, ...	,, 24	,,	20 25	74 00	82	27·8	20·18	36·45	29·30	...
,, ...	,, 25	,,	24 00	70 28	79	26·1	20·08	36·27	29·15	...
,, ...	,, 26	,,	27 41	66 48	76½	24·7	20·37	36·80	29·58	...
,, ...	,, 27	,,	30 25	62 22	73	22·8	20·15	36·40	29·26	...
,, ...	,, 28	,,	34 42	57 54	71	21·7	20·44	36·92	29·68	...
,, ...	,, 29	,,	38 00	53 26	—	—	20·21	36·51	29·34	...
,, ...	,, 30	,,	41 00	47 15	49	9·4	18·50	33·42	26·86	...
Port Kingston ...	,, 10	,,	21 11	73 37	83	28·3	20·20	36·49	29·33	...
,, ...	,, 11	,,	25 55	68 54	81	27·2	20·09	36·29	29·17	...
,, ...	,, 12	,,	30 27	63 41	76	24·4	20·20	36·49	29·33	...
,, ...	,, 13	,,	34 48	58 00	72	22·2	20·13	36·36	29·23	...
,, ...	,, 14	,,	38 52	51 28	72	22·2	20·25	36·58	29·40	...
,, ...	,, 15	,,	42 29	44 00	68	20·0	19·93	36·00	28·94	...
,, ...	,, 16	,,	45 19	37 09	61	16·1	19·93	36·00	28·94	...
,, ...	,, 17	,,	48 06	28 40	56	13·3	19·86	35·88	28·83	...
,, ...	,, 18	,,	49 59	18 58	54	12·2	19·81	35·79	28·76	...
,, ...	,, 19	,,	51 09	8 47	51	10·6	19·57	35·53	28·41	...
La Plata	,, 1	,,	39 18	20 00	64	17·8	20·13	36·36	29·23	...
,, ...	,, 2	,,	35 41	25 05	68·5	20·3	20·10	36·31	29·18	...
,, ...	,, 3	,,	32 07	30 38	74	23·3	20·50	37·03	29·77	...
,, ...	,, 4	,,	28 40	36 05	75	23·9	20·82	37·61	30·23	...
,, ...	,, 5	,,	25 17	41 13	77	25·0	20·95	37·84	30·42	...
,, ...	,, 6	,,	21 57	46 23	78	25·6	20·61	37·23	29·93	...
,, ...	,, 7	,,	18 42	51 20	80·7	27·1	20·16	36·42	29·27	...
,, ...	,, 8	,,	15 27	56 29	82	27·8	19·71	35·61	28·62	...
,, ...	,, 11	,,	11 07	62 49	80·7	27·1	19·49	35·21	28·30	...
,, ...	,, 13	,,	12 37	71 28	82	27·8	20·34	36·74	29·53	...
,, ...	,, 15	,,	10 48	75 52	82·5	28·1	19·89	35·93	28·88	...
,, ...	,, 18	,,	14 20	77 36	82	27·8	19·90	35·95	28·89	...
,, ...	,, 21	,,	25 31	74 21	78·5	25·8	20·26	36·60	29·42	...

TABLE II.—*continued.*

Ship.	Date.	Time.	Lat.	Long.	Temp. Fahr.	Temp. C.	*Cl.* °/₀₀.	*S.* °/₀₀.	σ_0.	Remarks.
	1905.		° N. ′	° W. ′						
La Plata	Nov. 22	Noon	30 23	73 55	73·5	23·1	20·42	36·89	29·65	
„	„ 23	„	35 21	74 23	75	23·9	20·18	36·45	29·30	
„	„ 27	„	35 10	74 22	77	25·0	20·13	36·36	29·23	
„	„ 28	„	29 42	74 19	73·7	23·2	20·37	36·80	29·58	
„	„ 29	„	24 32	74 01	80	26·7	20·31	36·69	29·49	
„	„ 30	„	19 30	74 36	82	27·8	19·93	36·00	28·94	
Atrato	„ 3	„	13 44	77 58	81	27·2	19·75	35·68	28·67	
„	„ 5	„	20 23	74 06	81½	27·5	20·13	36·36	29·23	
„	„ 6	„	26 07	74 15	78	25·6	20·26	36·60	29·42	
„	„ 7	„	31 55	73 56	76	24·4	20·14	36·38	29·24	
„	„ 8	4.0 a.m.	36 13	74 00	65½	18·6	19·55	35·32	28·38	
„	„ 8	Noon	37 34	73 29	62½	16·9	19·91	35·97	28·91	
„	„ 12	„	36 17	74 00	61	16·1	18·50	33·42	26·86	
„	„ 13	„	30 46	74 15	73	22·8	20·27	36·62	29·43	
„	„ 14	„	25 11	74 20	79½	26·4	20·20	36·49	29·33	
„	„ 15	„	19 48	74 25	82	27·8	19·92	35·99	28·92	
„	„ 17	„	14 08	77 57	83	28·3	19·75	35·68	28·67	
„	„ 22	„	12 13	73 06	82	27·8	20·02	36·17	29·07	
„	„ 23	„	11 13	68 01	80	26·7	20·17	36·44	29·29	
„	„ 24	„	10 41	66 50	79	26·1	20·30	36·67	29·47	
„	„ 25	„	10 51	62 00	79	26·1	20·22	36·53	29·36	
„	„ 28	„	17 01	56 48	79·8	26·6	19·81	35·79	28·76	
„	„ 29	„	12 13	53 13	78	25·6	20·08	36·27	29·15	
„	„ 30	„	21 17	49 53	78	25·6	20·67	37·34	30·01	
Moravian	„ 1	4.0 a.m.	46 34	7 19	51	10·6	19·80	35·77	28·75	
„	„ 1	8.0 a.m.	47 12	6 30	53	11·7	19·70	35·59	28·60	
„	„ 1	Noon	47 35	6 16	55	12·8	19·71	35·61	28·62	
„	„ 1	8.0 p.m.?	48 52	5 14	—	—	19·60	35·41	28·46	
„	„ 30	Noon	47 57	6 15	54	12·2	19·60	35·41	28·46	
„	„ 30	Midnight	45 43	8 02	65	12·8	19·78	35·73	28·72	
Kildonan Castle ...	„ 5	Noon	21 54	17 45	67	19·4	20·03	36·18	29·08	
„ ...	„ 6	„	27 54	17 54	72	22·2	20·46	36·96	29·71	
„ ...	„ 7	„	Anchorage, Madeira.		69	20·6	20·34	36·74	29·53	
„ ...	„ 8	„	37 49	13 19½	63	17·2	20·06	36·24	29·12	
„ ...	„ 9	„	43 16	9 24	58	14·4	19·88	35·91	28·86	
„ ...	„ 9	3.50 p.m.	44 07	8 45	56	13·3	19·80	35·77	28·75	
„ ...	„ 9	10.15 p.m.	45 33	7 41	57	13·9	19·80	35·77	28·75	
„ ...	„ 10	4.30 a.m.	47 00	5 28	57	13·9	19·75	35·68	28·67	
„ ...	„ 10	11.40 a.m.	48 26	5 12	55	12·8	19·58	35·37	28·43	
„ ...	„ 26	10.0 a.m.	48 20	5 35	53	11·7	20·43	36·91	29·66	Sample contained much sediment.
„ ...	„ 26	5.45 p.m.	47 07	6 51	53	11·7	19·66	35·52	28·54	
„ ...	„ 27	1.30 a.m.	45 40	8 03	55	12·8	19·74	35·66	28·66	
„ ...	„ 27	9.15 a.m.	44 13	9 17	55	12·8	19·77	35·71	28·70	Current E (true) 9 miles in 24 hours.

TABLE II.—*continued.*

Ship.	Date.	Time.	Lat.	Long.	Temp.		*Cl.* ‰.	*S.* ‰.	σ_0.	Remarks.
					Fahr.	C.				
	1905.		°N. ′	°W. ′						
Kildonan Castle ...	Nov. 27	Noon	43 21	9 15	56	13·3	19·78	35·73	28·72	
,, ...	,, 28	,,	37 55	13 18	62	16·7	20·02	36·17	29·07	
,, ...	,, 29	,,	Funchal Bay.		67	19·4	20·21	36·51	29·34	
,, ...	,, 30	,,	27 37	17 05	69	20·6	20·41	36·87	29·63	
Numidian ...	Dec. 1	,,	53 36	29 22	51	10·6	19·28	34·83	27·99	
,, ...	,, 2	,,	54 58	21 55	51	10·6	19·53	35·28	28·35	
,, ...	,, 3	,,	55 23	13 39	51	10·6	19·53	35·28	28·35	
,, ...	,, 3	8.0 p.m.	55 23	10 35	50	10·0	19·53	35·28	28·35	
,, ...	,, 4	10.0 a.m.	Off Fanad Point.		49	9·4	19·44	35·12	28·22	
Astoria	,, 1	Noon	51 10	41 20	52	11·1	19·44	35·12	28·22	
,, ...	,, 2	,,	53 08	33 00	48	8·9	19·29	34·85	28·00	
,, ...	,, 3	,,	54 49	24 03	52	11·1	19·55	35·32	28·38	
,, ...	,, 3	Midnight	55 10	18 40	52	11·1	19·60	35·41	28·46	Current N.E. 12 miles in 24 hours.
,, ...	,, 4	Noon	55 22	15 07	52	11·1	19·70	35·59	28·60	
,, ...	,, 4	Midnight	55 26	10 40	52	11·1	19·59	35·39	28·44	Current S.W. 12 miles in 24 hours.
,, ...	,, 5	10.0 a.m.	55 28	7 15	52	11·1	19·53	35·28	28·35	
,, ...	,, 5	1.0 p.m.	55 17	5 48	52	11·1	18·95	34·23	27·51	
,, ...	,, 10	4.0 a.m.	55 24	8 50	51	10·6	19·70	35·59	28·60	
,, ...	,, 10	10.0 a.m.	55 22	10 50	51	10·6	19·65	35·50	28·53	
,, ...	,, 10	8.0 p.m.	55 16	13 05	51	10·6	19·69	35·57	28·59	
,, ...	,, 11	Noon	55 05	16 30	51	10·6	Lost			
,, ...	,, 11	Midnight	54 50	20 30	51	10·6	19·69	35·57	28·59	
,, ...	,, 12	Noon	54 23	25 14	51	10·6	19·53	35·28	28·35	
,, ...	,, 12	Midnight	53 40	29 20	52	11·1	19·56	35·34	28·40	
,, ...	,, 13	Noon	52 55	33 21	49	9·4	19·18	34·65	27·84	
,, ...	,, 14	,,	51 01	41 03	54	12·2	19·43	35·10	28·21	
,, ...	,, 15	,,	48 45	48 30	39	3·9	19·18	34·65	27·84	Current W.S.W. 12 miles in 24 hours.
,, ...	,, 16	,,	45 45	54 30	35	1·7	17·93	32·39	26·03	Current S.W. 12 miles in 24 hours.
,, ...	,, 17	,,	42 50	61 00	44	6·7	17·90	32·34	25·98	Current W.S.W. 18 miles in 24 hours.
,, ...	,, 18	,,	40 45	67 50	48	8·9	18·16	32·81	26·36	
,, ...	,, 24	,,	40 42	68 54	46	7·8	18·21	32·90	26·43	
,, ...	,, 25	,,	42 32	62 35	48	8·9	18·27	33·01	26·52	
,, ...	,, 26	,,	44 50	56 20	39	3·9	18·03	32·57	26·17	
,, ...	,, 27	,,	47 15	50 30	32	0·0	18·04	32·59	26·19	Passed three icebergs.
,, ...	,, 28	,,	48 34	44 32	42	5·6	19·08	34·47	27·70	
,, ...	,, 29	,,	50 50	39 00	54	12·2	19·69	35·57	28·59	
,, ...	,, 29	Midnight	52 15	34 25	46	7·8	19·27	34·81	27·98	
,, ...	,, 30	Noon	53 00	30 44	48	8·9	19·22	34·72	27·90	
,, ...	,, 30	Midnight	53 50	26 50	52	11·1	19·54	35·30	28·37	
,, ...	,, 31	Noon	54 25	22 50	50	10·0	19·49	35·21	28·30	Current N.E. 12 miles in 24 hours.
,, ...	,, 31	Midnight	54 45	19 15	53	11·7	19·58	35·37	28·43	
Minneapolis ...	,, 3	Noon	41 06	66 39	46	7·8	18·27	33·01	26·52	
,, ...	,, 4	,,	42 22	59 15	46	7·8	18·19	32·86	26·40	

TABLE II.—*continued.*

Ship.	Date.	Time.	Lat.	Long.	Temp.		*Cl.* ‰.	*S.* ‰.	σ_o.	Remarks.
					Fahr.	C.				
	1905.		° N. ′	° W. ′						
Minneapolis ...	Dec. 5	Noon	44 35	51 44	41	5·0	17·98	32·48	26·10	
,, ...	,, 6	,,	46 24	44 16	40	4·4	18·71	33·80	27·16	
,, ...	,, 7	,,	48 18	36 10	54	12·2	19·88	35·91	28·86	
,, ...	,, 8	,,	49 28	27 37	52	11·1	19·72	35·62	28·63	
,, ...	,, 9	,,	49 42	18 40	52	11·1	19·76	35·70	28·69	
,, ...	,, 10	4.0 a.m.	49 46	12 58	48	8·9	19·77	35·71	28·70	
,, ...	,, 10	8.0 a.m.	49 47	11 36	50	10·0	19·75	35·68	28·67	
,, ...	,, 10	Noon	49 53	9 52	48	8·9	19·68	35·55	28·57	
,, ...	,, 10	4.0 p.m.	49 51	8 28	49	9·4	19·70	35·59	28·60	
,, ...	,, 10	8.0 p.m.	49 49	7 00	48	8·9	19·68	35·55	28·57	
,, ...	,, 22	Midnight	50 04	8 03	49	9·4	19·85	35·86	28·82	
,, ...	,, 23	4.0 a.m.	50 10	9 24	48	8·9	19·66	35·52	28·54	
,, ...	,, 23	8.0 a.m.	50 14	10 53	52	11·1	19·90	35·95	28·89	
,, ...	,, 23	Noon	50 19	12 21	50	10·0	19·67	35·53	28·56	
,, ...	,, 24	,,	50 28	21 10	52	11·1	19·79	35·75	28·73	
,, ...	,, 25	,,	50 00	30 33	48	8·9	19·46	36·16	28·25	
,, ...	,, 26	,,	48 51	36 43	52	11·1	19·83	35·82	28·79	
,, ...	,, 27	,,	48 21	39 08	53	11·7	19·89	35·93	28·88	
,, ...	,, 28	,,	47 40	42 20	53	11·7	19·79	35·75	28·73	
,, ...	,, 29	,,	46 08	48 32	34	1·1	19·21	34·70	27·89	
,, ...	,, 30	,,	44 11	55 41	44	6·7	18·34	33·13	26·62	
,, ...	,, 31	,,	42 51	60 24	37	2·8	18·06	52·63	26·22	
Port Antonio ...	,, 1	,,	43 53	41 00	62	16·7	19·76	35·70	28·69	
,, ...	,, 2	,,	46 17	34 14	52	11·1	19·79	35·75	28·73	
,, ...	,, 3	,,	48 30	27 05	54	12·2	19·93	36·00	28·94	
,, ...	,, 4	,,	50 09	19 20	52	11·1	19·81	35·79	28·76	
,, ...	,, 5	10.30 a.m.	51 21	11 35	52	11·1	19·67	35·53	28·56	
,, ...	,, 6	6.30 p.m.	51 24	9 04	49	9·4	19·48	35·19	28·28	
,, ...	,, 6	?	51 15	6 20	49	9·4	19·62	35·44	28·48	
,, ...	,, 16	?	50 33	6 20	—	—	19·66	35·52	28·54	
, ...	,, 17	4.0 a.m.	49 48	8 44	51	10·6	19·77	35·71	28·70	
,, ...	,, 17	Noon	48 50	11 30	53	11·7	19·78	35·73	28·72	
,, ...	,, 18	,,	45 50	16 43	55	12·8	19·89	35·93	28·88	
,, ...	,, 19	,,	43 24	22 47	58	14·4	19·98	36·09	29·01	
,, ...	,, 20	,,	41 09	29 00	60	15·6	20·02	36·17	29·07	
, ...	,, 21	,,	39 10	33 58	59	15·0	20·12	36·35	29·21	
,, ...	,, 22	,,	36 39	39 28	65	18·3	20·40	36·85	29·62	
,, ...	,, 23	,,	34 26	44 33	68	20·0	20·34	36·74	29·53	
,, ...	,, 24	,,	32 05	48 06	72	22·2	20·67	37·34	30·01	
,, ...	,, 25	,,	29 37	54 12	73	22·8	20·61	37·23	29·93	
, ...	,, 26	,,	27 05	59 20	76	24·4	20·78	37·54	30·17	
,, ...	,, 27	,,	24 31	64 29	77	25·0	20·38	36·82	29·59	
,, ...	,, 28	,,	22 12	69 42	78	25·6	20·45	36·94	29·69	

TABLE II.—*continued.*

Ship.	Date.	Time.	Lat.	Long.	Temp. Fahr.	Temp. C.	*Cl.* ‰.	*S.* ‰.	σ_o.	Remarks.
	1905.		° N. ′	° W. ′						
La Plata	Dec. 2	Noon	16 52	77 04	81	27·2	19·47	35·17	28·27	
,, ...	,, ?	,,	10 30	76 44	82·5	28·1	19·94	36·02	28·95	
,, ...	,, 8	,,	12 07	72 36	77	25·0	20·25	36·58	29·40	
,, ...	,, ?	,,	11 24	68 05	79	26·1	20·30	36·67	29·47	
,, ...	,, ?	,,	11 33	61 47	80	26·7	19·92	35·99	28·92	
,, ...	,, ?15	,,	16 35	53 33	79	26·1	20·05	36·22	29·11	
,, ...	,, ?16	,,	19 54	51 16	77·7	25·4	20·36	36·78	29·56	
,, ...	,, ?17	,,	23 17	46 47	76	24·4	20·73	37·45	30·10	
,, ...	,, 18	,,	26 42	41 55	72·5	22·5	20·70	37·39	30·06	
,, ...	,, 19	,,	30 14	37 09	70·5	21·4	20·42	36·89	29·65	
,, ...	,, 20	,,	33 54	32 14	64·7	18·2	20·65	37·30	29·98	
,, ...	,, 21	,,	37 17	26 55	63	17·2	20·05	36·22	29·11	
,, ...	,, 22	,,	40 35	20 59	60·2	15·7	20·03	36·18	29·08	
,, ...	,, 23	,,	43 52	14 50	56	13·3	19·82	35·81	28·78	
,, ...	,, 24	,,	47 09	8 40	53·2	11·8	19·72	35·62	28·63	
,, ...	,, 24	4.0 p.m.	47 47	7 27	53	11·7	19·74	35·66	28·66	
,, ...	,, 24	8.0 p.m.	48 27	7 00	52·7	11·5	19·70	35·59	28·60	
,, ...	,, 25	?	49 09	5 26	51½	10·8	19·60	35·41	28·46	
,, ...	,, 25	4.0 a.m.	49 49	4 24	51·5	10·8	19·59	35·39	28·44	
Atrato	,, 1	Noon	29 15	45 13	76	24·4	20·65	37·30	29·98	
,, ...	,, 2	,,	32 10	41 07	69	20·6	20·40	36·85	29·62	
,, ...	,, 3	,,	35 35	37 09	61	16·1	20·18	36·45	29·30	
,, ...	,, 4	,,	36 20	31 47	63	17·2	20·46	36·96	29·71	
,, ...	,, 5	,,	37 41	25 59	65	18·3	20·13	36·36	29·23	
,, ...	,, 6	,,	40 09	21 30	62	16·7	20·06	36·24	29·12	
,, ...	,, 7	,,	43 49	15 41	57	13·9	19·82	35·81	28·78	
,, ...	,, 8	,,	47 36	9 51	54	12·2	19·80	35·77	28·75	
,, ...	,, 8	6.0 p.m.	48 28	7 53	53	11·7	19·69	35·57	28·59	
,, ...	,, 9	1.0 a.m.	49 30	5 55	52	11·1	19·56	35·34	28·40	
,, ...	,, 24	9.15 a.m.	48 30	5 15	51	10·6	19·65	35·50	28·53	
,, ...	,, 24	4.0 p.m.	47 39	7 23	53	11·7	19·72	35·62	28·63	
,, ...	,, 24	11·0 p.m.	46 34	9 22	53	11·7	19·73	35·64	28·64	
,, ...	,, 25	Noon	45 28	12 16	54	12·2	19·77	35·71	28·70	
,, ...	,, 26	,,	42 51	17 21	55	12·8	19·83	35·82	28·79	
,, ...	,, 27	,,	40 00	21 42	60	15·6	20·01	36·15	29·05	
,, ...	,, 28	,,	37 42	26 06	61	16·1	20·02	36·17	29·07	
,, ...	,, 29	,,	34 23	31 15	66	18·9	20·16	36·42	29·27	
,, ...	,, 30	,,	30 52	35 22	68	20·0	20·55	37·12	29·84	
,, ...	,, 31	,,	27 17	39 03	71½	21·9	20·81	37·59	30·22	
Moravian	,, 1	,,	43 16	10 01	59	15·0	19·83	35·82	28·79	
,, ...	,, 1	Midnight	40 43	11 10	58	14·4	19·99	36·11	29·02	
,, ...	,, 2	Noon	38 31	11 59	60	15·6	19·95	36·04	28·96	

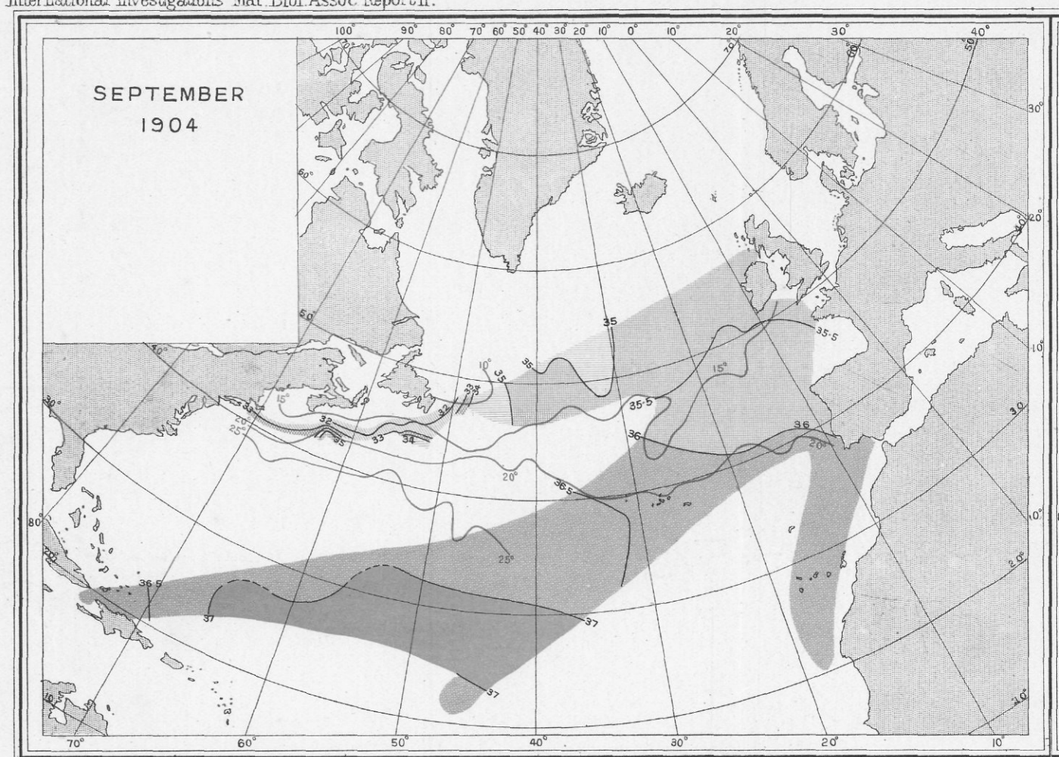
TABLE II.—*continued.*

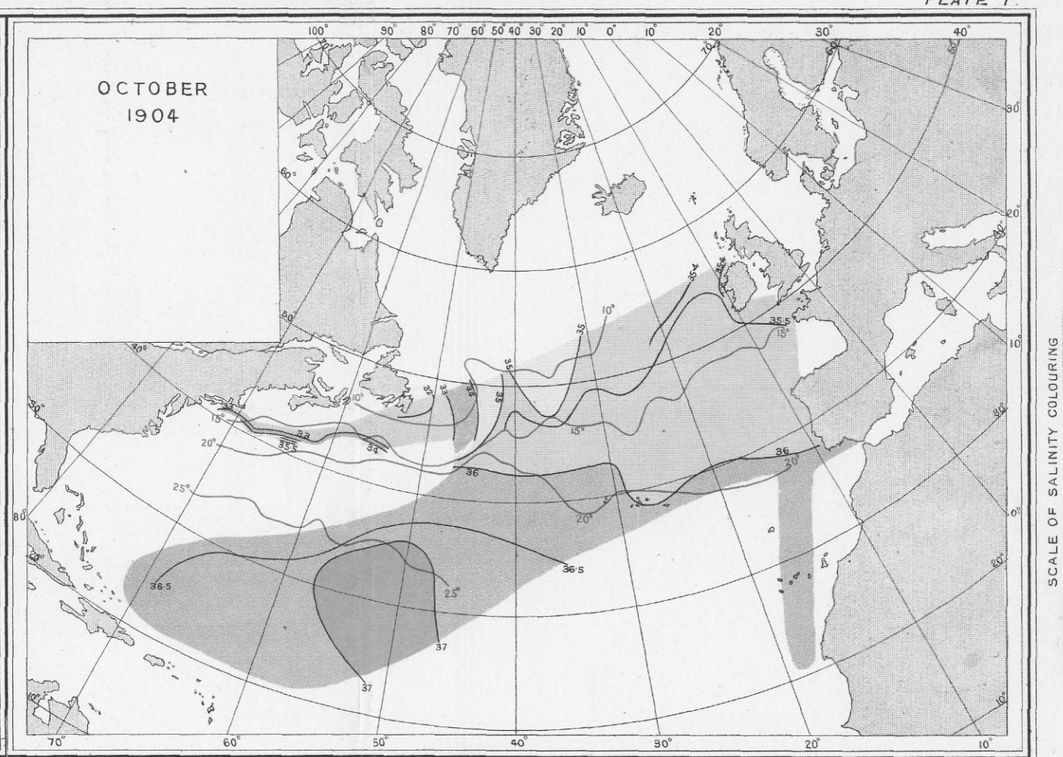
Ship.	Date.	Time.	Lat.	Long.	Temp.		*Cl.* ‰.	*S.* ‰.	σ_o.	Remarks.
					Fahr.	C.				
	1905.		°N. ′	°W. ′						
Moravian	Dec. 2	Midnight	35 47	13 29	63	17·2	20·16	36·42	29·27	
,, ...	,, 3	Noon	33 40	13 58	65	18·3	20·24	36·56	29·39	
,, ...	,, 3	Midnight	30 48	15 18	65	18·3	20·21	36·51	29·34	
,, ...	,, 4	Noon	28 51	15 55	69	20·6	20·38	36·82	29·59	
,, ...	,, 4	Midnight	27 09	16 29	68	20·0	20·36	36·78	29·56	
,, ...	,, 5	Noon	24 51	16 50	68	20·0	20·29	36·65	29·46	
,, ...	,, 5	Midnight	21 45	17 22	65	18·3	20·00	36·13	29·04	
,, ...	,, 6	Noon	19 56	17 38	66	18·9	19·82	35·81	28·78	
Kildonan Castle ...	,, 1	,,	21 09	17 43	65	18·3	19·94	36·02	28·95	
Egypt	,, 11	Midnight	36 19	6 56	62	16·7	20·16	36·42	29·27	
,, ...	,, 12	3.30 a.m.	36 37	7 52	60·5	15·8	20·12	36·35	29·21	
,, ...	,, 12	8.0 a.m.	37 07	9 01	59	15·0	20·05	36·22	29·11	
,, ...	,, 12	Noon	38 00	9 21	59	15·0	20·01	36·15	29·05	
,, ...	,, 12	3.30 p.m.	38 44	9 39	59	15·0	19·96	36·06	28·98	
,, ...	,, 12	8.0 p.m.	39 39	9 39	58·2	14·6	19·91	35·97	28·91	
,, ...	,, 12	Midnight	40 28	9 39	58	14·4	19·93	36·00	28·94	
,, ...	,, 13	3.30 a.m.	41 09	9 38	57	13·9	19·91	35·97	28·91	
,, ...	,, 13	8.0 a.m.	42 10	9 35	56	13·3	19·74	35·66	28·66	
,, ...	,, 13	Noon	42 56	9 30	55	12·8	19·83	35·82	28·79	
,, ...	,, 13	3.30 p.m.	43 36	9 07	55	12·8	19·73	35·64	28·64	
,, ...	,, 13	6.0 p.m.	44 06	8 46	53·8	12·1	19·92	35·99	28·92	
,, ...	,, 13	8.0 p.m.	44 21	8 29	54	12·2	19·84	35·84	28·80	
,, ...	,, 13	10.0 p.m.	44 52	8 13	54·5	12·5	19·77	35·71	28·70	Samples in corked bottles.
,, ...	,, 13	Midnight	45 15	7 56	54·5	12·5	19·77	35·71	28·70	
,, ...	,, 14	2.0 a.m.	45 38	7 39	53·2	11·8	19·73	35·64	28·64	
,, ...	,, 14	4.0 a.m.	46 01	7 02	53·5	11·9	19·73	35·64	28·64	
,, ...	,, 14	6.0 a.m.	46 24	7 04	52·5	11·4	19·88	35·91	28·86	
,, ...	,, 14	8.0 a.m.	46 55	6 41	53	11·7	19·75	35·68	28·67	
,, ...	,, 14	10.0 a.m.	47 09	6 26	53	11·7	19·72	35·62	28·63	
,, ...	,, 14	Noon	47 28	6 11	47	8·3	19·64	35·48	28·51	
,, ...	,, 14	2.0 p.m.	47 43	6 06	52·2	11·2	19·67	35·53	28·56	
,, ...	,, 14	4.0 p.m.	48 05	5 45	52·2	11·2	19·63	35·46	28·50	
,, ...	,, 14	8 0 p.m.	48 54	5 10	51·2	10·7	19·58	35·37	28·43	
,, ...	,, 14	Midnight	49 32	4 44	52	11·1	19·54	35·30	28·37	
,, ...	,, 30	Noon	49 24	4 06	52	11·1	19·53	35·28	28·35	
,, ...	,, 30	3.30 p.m.	48 50	5 18	51·2	10·7	19·58	35·37	28·43	
,, ...	,, 30	8.0 p.m.	47 57	6 06	52	11·1	19·62	35·44	28·48	
,, ...	,, 30	10.0 p.m.	47 32	6 28	52½	11·4	19·63	35·46	28·50	
,, ...	,, 30	Midnight	47 08	6 47	53	11·7	19·69	35·57	28·59	
,, ...	,, 31	2.0 a.m.	46 43	7 08	52·5	11·4	19·69	35·57	28·59	
,, ...	,, 31	4.0 a.m.	46 17	7 30	52·5	11·4	19·70	35·59	28·60	
,, ...	,, 31	6.0 a.m.	45 50	7 50	52	11·1	19·69	35·57	28·59	

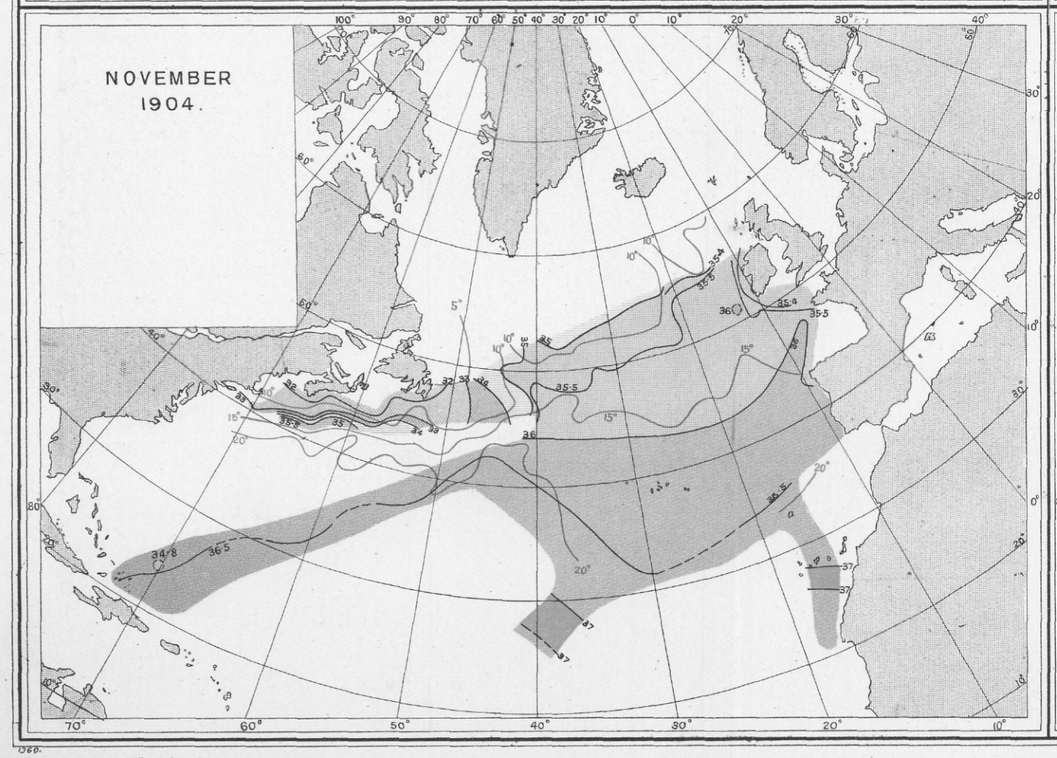
TABLE II.—*continued.*

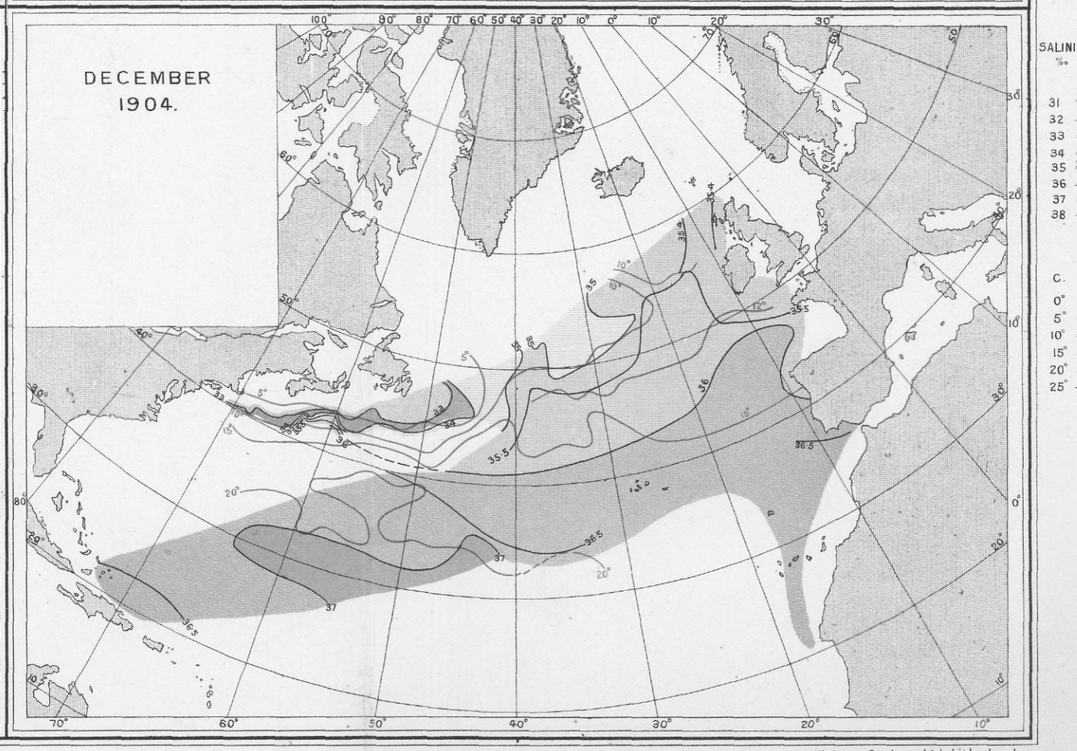
Ship.	Date.	Time.	Lat.	Long.	Temp.		*Cl.* ‰.	*S.* ‰.	σ_o.	Remarks.
					Fahr.	C.				
	1905.		°N. ′	°W. ′						
Egypt	Dec. 31	8.0 a.m.	45 22	8 15	53·8	12·1	19·72	35·62	28·63	
,, ...	,, 31	Noon	45 02	8 37	54	12·2	19·73	35·64	28·64	
,, ...	,, 31	2.0 p.m.	44 40	8 54	54·2	12·3	19·74	35·66	28·66	
,, ...	,, 31	4.0 p.m.	44 15	9 08	55	12·8	19·78	35·73	28·72	
,, ...	,, 31	6.0 p.m.	44 04	9 05	55·2	12·9	19·74	35·66	28·66	
,, ...	,, 31	8.0 p.m.	43 40	9 00	55	12·8	19·79	35·75	28·73	
,, ...	,, 31	10.0 p.m.	43 19	9 30	56	13·3	19·84	35·84	28·80	

SALINITY AND TEMPERATURE OF THE NORTH ATLANTIC SURFACE WATERS DURING 1904.









SCALE OF SALINITY COLOURING

33
34
35
36
37

SALINITY ‰	SP. GR. 0°/4°
31	1·02941
32	1·02571
33	1·02651
34	1·02732
35	1·02813
36	1·02894
37	1·02974
38	1·03054

C.	FAHR.
0°	32°
5°	41°
10°	50°
15°	59°
20°	68°
25°	77°

Matthews. North Atlantic.

Weller & Graham, Ltd Litho London.

SALINITY AND TEMPERATURE OF THE NORTH ATLANTIC SURFACE WATERS DURING 1905.

JANUARY 1905

FEBRUARY 1905

MARCH 1905

APRIL 1905

MAY 1905

JUNE 1905

SCALE OF SALINITY COLOURING

33 34 35 36 37

SALINITY ‰	SP. GR. 0°/4°
31	1·02641
32	1·02571
33	1·02651
34	1·02732
35	1·02813
36	1·02894
37	1·02974
38	1·03054

C.	FAHR.
0°	32°
5°	41°
10°	50°
15°	59°
20°	68°
25°	77°

360

Matthews. North Atlantic.

Weller & Graham, Ltd. Litho London.