



## WORK OF THE BUREAU

WORK IT IS PREPARING AND WORK IT PROPOSES TO UNDERTAKE.

(Article 46 a, iii, iv & v of the Proposed Definite Statutes of 1923).

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BY THE PRESIDENT OF THE DIRECTING COMMITTEE.

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### I. — Statutes.

As previously stated in the "Hydrographic Review" of March 1923, the States Members were requested, in January 1922, to consider a revised draft of the original Statutes of July 1920. On 1st December 1923 Circular-Letter N° 16-R. was sent to the States Members together with a second revision referred to as the "Proposed Definite Statutes".

The replies received respecting the first revision were duly considered and their examination together with the entire rearrangement and indexing of the Articles of the Statutes, entailed considerable labour, but it is hoped that this third edition, i. e. the proposed Definite Statutes, will prove acceptable in its present form to all concerned, or at least will be considered sufficiently satisfactory for present purposes, and that any further discussions on the subject may be deferred until the next Hydrographic Conference takes place.

As has already been stated in paragraph 7 of the above mentioned Circular-Letter, it is obviously impossible to satisfy the requirements of all concerned in every detail, but the Directing Committee has done its best to effect a compromise where necessary, and the recent edition of the proposed Definite Statutes is the result.

### II. — Resolutions of the I. H. C. 1919.

The following statements show the action which has been taken and the questions which are still outstanding.

**Section I. — Resolution E.***Delineation of contours of depths, II.*

« It is agreed that it is desirable to adopt common symbols to indicate the contours of depths in charts produced by those nations using the metric system ; it was found impossible to arrive at an agreement as to the symbols to be used, and it was decided to refer the matter for discussion to the International Hydrographic Bureau when formed. »

This question is still under consideration as sufficient answers to Circular-Letter N° 32 of 23rd September 1922, have not yet been received from the States Members to enable the Directing Committee to arrive at a satisfactory conclusion.

**Section I. — Resolution E.***Abbreviations.*

« It is agreed that the question of the universal adoption of common abbreviations should be referred to the International Hydrographic Bureau, when formed, with a view to the internationalisation of Charts. »

In Circular-Letter N° 32 of 23rd September 1922, it was stated that the Board had decided, after lengthy consideration, that the only satisfactory solution of this problem is the eventual adoption of abbreviations of words belonging to one of the so-called "International auxiliary languages", but that this is impracticable under existing conditions.

**Section I. — Resolution F.***Proposal to institute a Uniform Symbol to show the Colour of Light Sectors.*

« The proposal was not adopted on a show of hands, but it was decided that this question should be referred to the International Hydrographic Bureau, when formed, for discussion. »

Circular-Letter N° 40 of 16th October 1922 containing certain proposals by the Directing Committee on this subject was sent to the States Members and ten of the Hydrographic Offices concerned expressed definite opinions as to these proposals.

Circular-Letter N° 15-H. of 6th June 1923 was then issued on the subject; it stated that the Committee, having carefully examined the above mentioned opinions, finds that practically all of them are in agreement that the proposal is not generally acceptable on account of the very varying conditions under which coloured sectors are used, and that it is quite evident that no symbols can be devised to satisfy the requirements of all the Members.

The Committee therefore made the following definite proposals :

(a) « That those States which can do so shall use colour on their charts to indicate the colour of the sectors of lights, as this method is practically perfect.

(b) « That on all charts, whether or not colour is used, the limits of the sectors shall be shown as fine lines, either full or pecked and ;

(c) « That in all cases the colours of the sectors shall be indicated, within the limiting lines, either by the complete words in the language of the State which publishes the chart or by the abbreviations adopted by it. »

The States Members were then requested to inform the Bureau at their earliest convenience whether these proposals were acceptable.

Up to the present time a very small number of replies to the above request has been received and the matter, although practically concluded, cannot be said to be completed in every detail.

### **Section III. — Resolution B. II.**

#### *A tabular method of compilation of Lists of Lights.*

« That uniformity in arrangement is desirable. It is recognised that nations now publishing Light Lists have each adopted a form suitable to their respective requirements. It is recommended that until a uniform arrangement has been advised by the International Bureau, nations which publish Light Lists irregularly or not at all should adopt one of the forms followed by one of the nations now publishing Light Lists of the World. »

This subject is still under consideration as sufficient replies to Circular-Letter N° 40 of 16th October 1922 have not yet been received to enable the Committee to reach a decision.

### **Section III. — Resolution D.**

#### *Method of describing visibility as limited by the intensity of light, and the adoption of a formula for its determination.*

« As at present no formula is known which is sufficiently elastic to satisfy the varying conditions of the atmosphere between the source of light and the point of observation, the observation method adopted by many nations appears to hold the field ; in order to arrive at a unanimous solution this matter should be referred to the International Hydrographic Bureau. In the meantime each nation may retain its own method, and it is considered desirable that observations should be made by each nation with a view to accumulating data for determining constants and developing relations to serve as a basis for an acceptable formula, and these observations should be sent to the International Hydrographic Bureau.

This question is still being dealt with ; the subject is very intricate and of great magnitude and its complete investigation will probably extend over several years. The first article dealing with the matter

appeared on pages 108 to 118 of the "Hydrographic Review" of March 1923, and a further article will now be found in this Review. The study of this subject has been specially undertaken by the Directing Committee and it may be briefly said that the results hitherto obtained are most encouraging towards the hope of a satisfactory solution of the problem being eventually arrived at. In the meantime, it is most earnestly requested that those States Members, who have not yet contributed any material for utilisation in this special enquiry, will now do so (see Circular-Letter N° 39, of 12th October 1922).

#### **Section IV. — Resolution B.**

*Advisability of arranging Notices geographically, to correspond with Sailing Directions and Light Lists.*

« It is agreed that it is desirable that the limits of enclosed seas should be laid « down, and that it might be stated to what sea or ocean a strait connecting two of « them should be reckoned. »

Circular-Letter N° 1-H. of 15th February 1923, with an attached map, proposed that certain definite names and limits should be adopted. Satisfactory replies giving general concurrence in the proposals put forward have been received from about half the States Members, but in a question of such magnitude and general interest it is obvious that replies from a large majority of those concerned must be received before the matter can be satisfactorily considered, and it is hoped that the States Members who have not yet dealt with the subject will forward their replies as soon as possible.

It is likewise obvious in the discussion of a question of this description that the personal knowledge of the small number of Members of the Directing Committee of the Bureau has its limitations, and there is no doubt that in some cases errors have been made; for instance, the Norwegian Hydrographer calls the attention of the Committee to the omission of the name *Norwegian Sea*, which is to be found in many geographical works: in this connection it is interesting to report that the Norwegian Government considered this subject of sufficient importance to appoint a special Committee of Oceanographic and Geographic experts to deal with the matter, Dr. F. NANSEN being one of its members.

The Canadian Hydrographer brought to the notice of the Committee an error in the delimitation of the Gulf of St. Lawrence, and in doing so referred it to a British Royal proclamation dated

1763, the existence of which was obviously unknown to this Committee ; he also referred to the omission of any attempt at delimitation of the Bay of Fundy. The above cases are mentioned as being of distinct importance and interest, and they will be dealt with in due course before any further report on the subject is made.

In several cases the Committee has been told that an attempt at too precise definition of limits has been made, whereas in other cases Hydrographers of certain countries have pointed out that limits have been given with insufficient exactness in terms of approximation only ; accuracy must be the primary aim and object in this matter, while any alteration in existing generally accepted limits must be guarded against.

It is obvious that it is extremely difficult to decide what are enclosed seas, and the definition of a strait in many cases must also depend on such decision, and in this connection it must be observed that the Hydrographers of countries where there are seas which come within this category, are possibly apt to give undue importance to the seas concerned ; at the same time, for example, there appears to be no question ; in the case of the seas of the Western Pacific, that the best authorities for their delimitation are the Hydrographers of China, Japan and Siam.

The correspondence which has resulted from the discussion of this subject is exceedingly interesting, although it is to be regretted that in the case of some of the most important of the States Members nothing has hitherto been received, but it may be remarked that there is no doubt that the raising of this question has already caused considerable interest, which it is hoped will result eventually in some satisfactory solution. The main object of taking up the subject is to enable limits to be laid down for acceptance internationally for *hydrographic purposes only* : at the same time, it is obvious that all original geographic limits must also receive due attention, while in no case is any consideration whatever given to political boundaries and no political significance is to be attached to any proposals which will be put forward by the Bureau.

The French Hydrographer has informed the Committee that the following question has been placed on the agenda of the 57th Congress of Scientific Societies which is to meet during the year 1924, "to take note of and to study the Political or International Scientific Conventions by which are fixed the limits of oceans, seas and straits" ; it is evident that the discussion of this question at such a meeting of

scientists must prove of distinct assistance to the work of the Bureau, and the result will be awaited with interest; so far as can be ascertained there does not appear to be any description of International Convention dealing with the subject of limits of Oceans and Seas either for purposes of hydrography, geography or oceanography; it would appear, therefore, that a thorough investigation of this most important question, if only from the hydrographic point of view, must prove of general utility eventually.

An article on pages 354 to 357 of the French publication "La Nature" of 8th December 1923 is of interest in connection with this subject, the commencement being as follows:—

*(Translated from the French text).*

« The International Hydrographic Conference, held in London in 1919, had instructed the International Hydrographic Bureau in Monaco to study the question of the accurate delimitation of the seas and oceans.

This question is more difficult and complicated than may be thought. Though the sea belongs to all and though, as Leibnitz said, the oceans are all one, it is necessary, from a practical point of view, to break them up into well defined parts, first oceans, and then inland seas.

The geographer has his opinion on the subject, the oceanographer has his and it is not always the same; the hydrographer and the seamen have opinions of their own also, and require more particularly the joining up of charts and sailing directions issued by the various States. Anarchy prevails at present; some coasts are given in the publications of two countries which do not necessarily give the same practical information, others are completely forgotten.

As Mr. Vallaux says in "La Géographie", it was not before the eighteenth century, when the present names of the different parts of oceans forced themselves upon charts, that an attempt was made to assign limits to such areas on charts.

Fleurieu was the first who had the idea of using astronomical lines, tropics and polar circles, for that purpose. The last seemed to be the more useful; they were adopted in 1845 by the Congress held in London, whose President was Sir Roderick Murchison, and were chosen to divide the Arctic and Antarctic Oceans from the three others. But along the direction of the meridians no natural boundaries were available between the Atlantic, Indian and Pacific Oceans. It was decided that the meridians of Cape Agulhas, South Cape of Tasmania and Cape Horn should be taken.

The choice of polar circles raised criticisms which were expressed by Peterman as early as 1850 and have since been raised by many others, of whom the last were Krümmel and Gehrard Schott. It is obvious that, as limits of seas, polar circles have no signification. The general character of the sea remains the same on both sides of the circles. General physical characteristics (specific gravity of water, currents and floating ice) of polar oceans may be found which would distinguish them from other oceans. But where are the boundaries? Surely not at the circles!

On the other hand, the progress of geographical knowledge of the Southern hemisphere led us to this grotesque result, that if the Antarctic Ocean be limited by

the polar circle, it scarcely exists, for the coast of the Antarctic continent is very close to the circle, nearly on the whole length thereof.

Therefore, a revision is necessary in order to give to the various oceans more reasonable limits and that, after an international agreement has been arrived at, nautical documents be drawn up in a more standardised manner by the various States.

Chiefly from a hydrographic point of view, and taking into account the requirements of navigation, the International Hydrographic Bureau, after a conscientious examination of the matter, has just proposed to the Hydrographic Offices of all its Associated States the following limits. »

#### **Section I. — Resolution P., I. II. III.**

*Transcription of names, and authorities to be consulted thereon.*

« I. — It is agreed that generally the literal transcription and not the phonetic is « to be adopted.

« II. — It is agreed that for countries and islands that have not an official method « of transcription, the transcription as adopted by the controlling Power should be used.

« III. — It is agreed that, in the case of those countries using characters other than « Roman, the International Hydrographic Bureau, when formed, should as soon as « possible prepare an international system of transliteration and transcription of names. »

As a first step in the required direction Circular-Letter N° 36 of 28th September 1922 was sent to the States Members with the following requests :

« I. — to inform the Bureau whether, in your State, any Government Depart- « ment or Scientific Body is responsible generally for coastal nomenclature and the « spelling thereof and, if so,

« II. — to send to the Bureau the name and address thereof in order to facilitate « the examination of the problem put before the Committee in Resolution P. of « Section I. »

The replies to the above requests have so far been exceedingly few in number and not very satisfactory in character ; until further information on the subject has been received from a majority of the States Members, it does not appear possible to proceed with the matter.

#### **Section V. — Resolution B.**

*Publication by each country of distance tables for its own coast, and the adoption of common points, where possible, to measure from.*

« That countries which do not already publish Distance Tables for their own « coasts should in future do so, including in such tables common points for the purpose « of effecting connection with the coasts of adjoining countries.

« The selection and determination of the positions of such common points should be referred to the International Hydrographic Bureau. »

An examination of the question of the selection and determination of the positions for common points has been commenced, but this subject cannot be satisfactorily dealt with until the question concerning the limits of oceans and seas has been completed.

### **III. — Researches.**

In order to assist the Directing Committee in the study of various problems connected with the work of the Bureau, other than those referred to previously, the States Members were requested to forward information on a variety of subjects, several of which are under preliminary examination, while others have not yet been completely dealt with.

The principal subjects concerning which information has been sought are the following : —

#### **1. — Coasts fully or partially surveyed or superficially examined.**

The replies to Circular-Letter N° 43 of 26th October 1922 have been fairly satisfactory although, it must again be remarked, some of the most important of the States Members have not yet sent any information whatever on the subject.

When the necessary material has been received from the States Members, it is proposed to publish a special pamphlet graphically embodying the essential data.

#### **2. — Tidal matters.**

A considerable amount of correspondence has taken place under this heading generally, and specially in connection with the application of Harmonic Analysis by the States Members, (see Circular-Letter N° 30 of 5th September 1922) but it is considered undesirable at the present stage to issue any report on the subject ; as soon as sufficient material has been collected the results will be produced in pamphlet form.

The thanks of the Directing Committee are specially due to the Tidal Survey of Canada for its interest and kind co-operation in this connection.



### 3. — Various method of Sounding.

(a) *Echo Sounding*. — A special publication was issued in December 1923 which gave as complete information as possible on this subject. The matter contained therein will be found repeated on pages 39-49 of this Review. The subject was first discussed in Circular-Letter N° 34 of 26th September 1922.

(b) *Sounding by other methods*. — An interesting article on this subject has been written in detail by several Members of the Swedish Hydrographic Department and will be found in of this Review; this is the only reply received to the request contained in Circular-Letter N° 12-H. of 27th April 1923.

### 4. — Engraving and repair of Chart Plates.

A request was made to the States Members, in Circular-Letter N° 49 of 20th December 1922, for information on these subjects and the replies, summaries of which will be found on pages 27-37 of this Review, are of great interest, and it is hoped that as a result of the publication thereof a direct interchange of correspondence will take place between the Hydrographic Offices interested in the matter.

### 5. — Section V. Resolution G.

*The publication by each country of a Historical Statement of its Hydrographic Office.*

At the I. H. C. of 1919 each country was invited to publish a historical statement of its Hydrographic Office.

It is known that several States Members are preparing histories of their Hydrographic Offices suitable for publication by the Bureau, but with the exception of a history of the Japanese Hydrographic Office nothing has yet been received (*see* under “Chart Room and Library” in this Review).

### 6. — Buoyage and Port Signals.

Among the final Resolutions adopted by the I. H. C. of 1919 a wish was expressed that the Governments of all countries should aim at uniformity with respect to buoyage and port signals.

This matter was not definitely referred to the Bureau, but it appears to the Directing Committee that it is a subject that comes distinctly within the scope of its work.

The International Navigation Congress has been consulted in this matter; as a question relating thereto had been placed on the agenda of its thirteenth meeting, it appeared possible that a duplication of

work might result ; the following extract of a letter, dated 5th December 1923, received from the Secretary-General of the Permanent Association of the International Congresses of Navigation, is of interest in this connection : —

« It is to be hoped that a special Maritime Conference will be convoked on the  
« initiative of one of the States which collaborate with us, with a view to establishing,  
« if possible, the basis for an agreement to which the interested Nations would adhere  
« more or less villingly.

« The initiative in the matter of the Conference might very well be taken by the  
« International Hydrographic Bureau without, in any case, risking duplication of the  
« work of our Association. This procedure would certainly have some chance of  
« success. »

After satisfying itself that there would be no overlapping of work with any existing organisation, the Directing Committee issued Circular-Letter N° 3-H. of 1st February 1924 to the States Members stating that it proposed to take up the study of the Systems of Buoyage and Port Signals now in use with a view to eventual standardisation, and requesting information as to whether the Governments of the States Members would be prepared to consider the adoption of universal systems of Buoyage and Port Signals.

#### **7. — Conventional Symbols for use of Charts.**

An agreement has now been arrived at as to the conventional symbols that are to be used in future for Leader Cables and Submerged Wrecks, which matters were not discussed at the I.H.C. of 1919; the decisions on these points were communicated to the States Members in Circular-Letter N° 9-H. of 29th March 1923 (*see also* remarks concerning these symbols on page 141-144 of this Review).

#### **8. — International Organisations dealing with subjects allied to Hydrography.**

As previously reported on page 30 of the "Hydrographic Review" of 1923, a meeting of the Section of Physical Oceanography of the International Union for Geodesy and Geophysics, of which the President of the Directing Committee of this Bureau was elected Vice-President, was held in Rome during May 1922; it was hoped that a report of the proceedings of this Section would have been received during the past year, but so far only the report of the General Meetings of the Union have reached the Bureau.

**9. — Meteorology as allied to Hydrography.**

The question of the extent to which the subject of Meteorology is connected to the work of the Bureau was referred to in Circular-Letter N° 44 of 27th October 1922 ; winds, currents, precipitation and rainfall were specially referred to, and the States Members were requested to communicate, to the special organisation dealing with these matters in their respective countries, the desire of the Bureau to be supplied with any charts and other publications referring to the subjects mentioned above.

This request has been responded to very satisfactorily and the Bureau is now in possession of a considerable quantity of material on these subjects.

The line of demarcation between meteorology and hydrography is obviously one which it is exceedingly difficult to define exactly, but it is evident that there is connection in a variety of directions, one of which is the necessity for close examination of meteorologic data in connection with the important question of Visibility of Light.

**10. — Hydrographic Publications of interest to the Bureau.**

In Circular-Letter N° 35 of 27th September 1922 the Hydrographic Offices were requested to supply to the Bureau copies of any interesting work or articles on subjects that come within their respective spheres which have been published by them or which may be brought to their notice.

In reply to this request a satisfactory number of books, pamphlets, etc. have been received from various quarters, also promises of publications of interest which may be produced at a future date ; it is to be remarked that the Canadian Hydrographic Office has expressed its desire to assist in this connection, although the Government of Canada has not yet given its adhesion to the Bureau.

It is earnestly requested that these requirements may be borne in mind by the Hydrographic Offices of the States Members as it is evident that the Bureau is primarily dependent on such supply.

**11. — Record of documents of Hydrographic interest.**

Article N° 11 of the Proposed Definite Statutes of 1923 is as follows : —

« The Bureau will prepare for issue to the Members a list, as complete as possible, « of Hydrographic documents or publications which are of historical interest and which « are to be found in the various Hydrographic Offices or in Libraries. »

The object aimed at by the Bureau is to issue a general record of all such documents, the utility of which seems to be unquestionable for those who are interested in hydrographic or maritime research work.

In Circular-Letter N<sup>o</sup> 19-H. of 22nd June 1923 the Hydrographic Offices were requested to furnish to the Bureau, for the purpose of compilation of a general record, the following lists applicable to their respective countries : —

- (a) A catalogue of documents of Hydrographic interest, both ancient and modern,
- (b) Names and addresses of public or private organisations, which are known to contain such documents.
- (c) Names and addresses of persons other than as above who might be consulted usefully on this subject.

Several interesting reports on this subject have been received, and in due course it is hoped to publish these together with others which are known to be in the course of preparation ; the article forwarded by the French Hydrographer on the subject of the “Archives of the French Hydrographic Service”, is not only of great interest but is also prepared in a form suitable for publication and will be found in its entirety in this Review.

