



## INTERNATIONAL HYDROGRAPHIC BIBLIOGRAPHY

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**T**HE International Hydrographic Bureau receives from the different countries of the World a fairly considerable amount of information which deals with various maritime subjects relative to Hydrography enumerated in the Appendix.

A great deal of this information which emanates from private research—from manuscripts, books and foreign periodicals, would certainly interest the different Hydrographic Offices, at any rate as regards its existence, and it may be conceived that a systematic inventory of published books and papers relating to the Science of Hydrography would enrich the archives and libraries of the national Hydrographic Offices, particularly if it were communicated to them in a convenient form.

For this purpose a duplicate will be found at the end of the present volume printed on thin paper and intended for cutting up, and the slips thus formed can be stuck into index cards, which every National Office doubtless possesses. Extra copies will be sent on request.

In order to avoid two printings, this nomenclature has been compiled in such a way as to be equally intelligible in French and English. As a general rule the following data have been given as far as possible in the following order :

Title, name of Author, number of edition, number of volumes, size, numbers of pages figures and plates (or mention of the Publication from which the article was extracted) Publisher or Printer, place and date of publication, marked price.

Readers of the “ Hydrographic Review ” are invited to point out to the Editor any books dealing with Hydrography which have not been

mentioned and which would appear to be of interest. Any such information received will be published in the next number of the " Hydrographic Review " together with a more complete Documentary Bibliography of articles referring to Hydrography which have appeared recently in various periodicals.

Monsieur ROLLET DE L'ISLE, Ingénieur Hydrographe Général kindly forwarded to the Bureau a considerable portion of the information given under " BOOKS OF REFERENCE " and " DOCUMENTARY BIBLIOGRAPHY ".





## APPENDIX

Books of Reference and Documentary Bibliography affecting Hydrography.

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### CLASSIFICATION

#### HYDROGRAPHY.

Treatises and Manuals.

Topography.

Photographic Surveying.

Sounding.

Methods of Sounding.

Echo-Sounding.

Dredging Sweeping and Wire Drag.

Deep Sea Sounding.

Tides.

General.

Tide Gauges, etc.

Tide tables.

Currents.

Chart-projections.

Chart-Making.

Hydrographic Instruments.

Hydrographic tables.

Hydrographic Vessels.

Hydrographic Offices (History, Regulations, etc.).

Hydrographic Personnel (Portraits).

Hydrographic Lectures, School and Training.

Sailing Directions.

Notices to Mariners.

List of Lights.

Correction of Hydrographic Documents.

Printing.  
Engraving and production of Charts.  
New Editions.  
Publications, Annuals, Reports.  
Archives.  
Distribution of publications.  
Hydrographic meetings, conferences and congresses (reports of proceedings of the above).  
Library.  
Old Cartography.

## SUBJECTS ALLIED TO HYDROGRAPHY

### GEODESY AND TRIANGULATION.

General, Geodetic Astronomy.

### NAVIGATION.

General, Nautical Astronomy.  
Nautical Instruments, Makers.  
Nautical tables and Almanacs.  
Wireless stations and appliances.  
Lights, Buoys, Beacons, Fog and Port signals.

### TERRESTRIAL MAGNETISM.

### MARINE METEOROLOGY.

### OCEANOGRAPHY (Except marine biology).

### GEOGRAPHY.

Modern marine voyages of discovery and exploration.

### LANGUAGES.

Auxiliary.  
Transcription of alphabets and place names.  
Dictionaries.



## I. — BIBLIOGRAPHIC REVIEW

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### "FOUNDERS OF OCEANOGRAPHY AND THEIR WORK". —

*By Sir William HERDMAN.*

Published by Edward ARNOLD and Co., London, 1923.

THE Author certainly gives the reader an extra-ordinarily vivid impression of the scientists and their work specially referred to in its pages ; the references to many of them are of special interest by virtue of the Author's personal acquaintance with them ; several men whose work undoubtedly entitles them to be included in this publication have been omitted, but as the Author states in the Preface that the book is not a text-book of oceanography, the omission is evidently intentional.

A chapter is devoted to Edward FORBES (1815-1854), the Naturalist of the Isle of Man, who devoted his life to the study of marine exploration, which is now known as oceanography, but for which at that time no name existed.

A biography of Sir C. WYVILLE-THOMSON (1830-1882) then follows, with references to the famous "CHALLENGER" expedition of which he was the leader of the civilian scientific staff.

The life and work of Sir John MURRAY (1841-1914) is reviewed next ; the Author describes him as the Pioneer of Modern Oceanography which description will be generally concurred in ; MURRAY took up the work of WYVILLE-THOMSON and successfully edited the fifty marvellous reports of the "CHALLENGER" expedition ; MURRAY's contributions to Oceanography were many and of a most varied character ; his last active work was a four months' cruise in the North Atlantic in 1910 when he was 69 : the vessel employed was the "MICHAEL SARS" and he was accompanied by his friend Dr. JOHAN HJORT ; a popular account of this expedition, entitled "The Depths of the Ocean", was published by MURRAY and HJORT in 1912.

The works of Louis and Alexander AGASSIZ form the subject of ano-

ther chapter ; Louis (1807-1873) was a Swiss by birth, but went to America when 39, eventually occupying the Chair of Natural History at Harvard ; the impetus which he gave to marine biological exploration in the land of his adoption undoubtedly entitles him to be described as one of the founders of oceanography ; his son, Alexander, devoted his whole life and very considerable fortune to marine exploration, his first expedition being in the U. S. S. " BLAKE " in 1877 where he rendered most admirable service ; it is said " that his expeditions mapped more lines across deep-sea basins and made more deep-sea soundings than all other scientific expeditions combined " .

The PRINCE OF MONACO (1848-1922) and his labours in Oceanography, culminating in the erection of the famous Oceanographical Museum at Monaco rightly receives a considerable amount of attention.

Good descriptions of the Marine Biological Stations for Research, " the sea-side work shops of the modern naturalist " are then given ; by far the finest in every respect is that at Naples, which includes the well known " Acquario " , and which owes everything to the energies of the late Professor Anton DOHRN (1840-1909) ; the author describes it as the Mecca of the young biologist, and is of opinion that it will remain for a long time the greatest biological station in the world.

A chapter is given to hydrography, but the application of this term in this case would be better defined by the word Hydrology, as it has no connection with the subject usually known as Hydrography, and with which this Bureau is concerned so directly.

Ocean Currents, Submarine Deposits, Coral Reefs and islands, and Phosphorescence in the Sea are all subjects which are discussed separately.

Two chapters are devoted to discussions on the nature, investigation of, and problems concerning Plankton, while Aquiculture, Sea-fisheries, and Food-matters in the Sea are treated in a most interesting manner.

An appendix on the subject of a British National Expedition for the exploration of the Sea, which had been proposed by the Author when President of the British Association in August 1920, is an excellent statement of practical requirements together with the subjects suggested for investigation.

The book as a whole is full of information and is written in a delightful manner ; the Author has been most successful in achieving that much desired result of making the subject interesting to his readers, and the study of this publication will undoubtedly repay all students of Oceanography.

It is deeply regretted that the above review must terminate with

the announcement of Sir William HERDMAN's death which took place suddenly in London on the 21st. July 1924.

J. F. P.

**“ KAARTPROJECTIES BESCHOUWD UIT EEN HYDROGRAPHISCH OOGPUNT ”.** — (The projection of Charts considered from the point of view of hydrography). By J. L. H. LUYMES, *Hydrographer of the Netherlands*. The Hague.

**T**HE retriangulation of the Netherlands and the adoption of the stereographic projection caused the Author to make investigations as to whether this projection fulfils the requirements of the Hydrographic Service and to compose this Manual which is remarkably clear on account of the simple, systematic and practical scientific manner in which the subject is discussed.

The transferring of the surface of the geoid on to that of a globe is not discussed and the mathematical constructions of the various projections are not given, as these are of minor importance and this construction is preferable with the aid of computed tables giving the points of intersection of meridians and parallels in a grid of rectangular coordinates.

It is known that no representation of any considerable area of the globes' surface, based on a purely mathematical projection, can be perfect and that the distortions of a projection are practically negligible only in the close vicinity of the tangent point or circle of globe and surface of projection. The possibility of enlarging this area of minimum distortion is mentioned and discussed.

Therefore the projection plane should be chosen in accordance with the requirements of the chart or map and the aim should be to attain *Conformality* (equality of angles, orthomorphism), *Equidistance* (equality of distances) or *Equivalence* (equality of area).

The Author explains what is to be understood by the *ellipse of distortion* and derives from it general and simple formulae from which the following conclusions are drawn : —

1. *Equidistance* has a limited signification only, the scale of a map or chart cannot be uniform for the whole area represented.
2. *Conformality* is local likewise. It can be attained only in so far as the curved projections of great circles can be represented by straight lines.
3. *Equivalence* may be reached for the whole map or chart.
4. *Conformality* and *equivalence* cannot be attained at the same time.

5. Simultaneous *Conformality* and *equidistance* can be reached locally only.

6. *Equidistance* and *equivalence* can only be reached simultaneously at the tangent point or circle common to the globe and the surface of projection.

Thus every projection should be a compromise which should comply as closely as possible with one or two of the principal requirements of the chart or map, care being taken that the distortion due to the other (or others) does not exceed a certain limit.

The meanings of *Mathematical*, *Conventional*, *Normal*, *Azimuthal* or *Zenithal*, *Transversal* and *Oblique* projections are then explained as also are the surfaces on which projections can be made; *principal* and *horizontal* circles in an oblique projection are discussed and formulae for the distortion of distances in this case are given.

Combined with the former formulae for angles and areas, tables of distortion for the three elements are given for the projection on a plane *viz*: the *equidistant* and *equivalent*, and the three *perspective* projections: the *stereographic* (conformal azimuthal), *orthographic* and *gnomonic*. Of the conventional projections, the *polyconic* is discussed and that of *Bonne* mentioned.

Another chapter deals with the special requirements with which a projection for charts has to comply and it is demonstrated that no one fulfils them simultaneously. The circumstances under which the simple *cylinder projection with equidistant equator* (1), the *Mercator*, the *oblique gnomonic* or the *orthodromic* projections should be applied and the projection which is the most appropriate for plotting and sounding sheets is discussed next. Tables are given for the distortions of some charts of the Netherlands which, up to the present, are made on the equidistant equator cylinder projection and of some of the East Indian Archipelago, made on the simple cylinder projection.

As, for the charts of the Dutch estuaries, the stereographic projection does not introduce greater distortions than do others, it being the only azimuthal projection which has no angular distortion and in which every circle of the globe is projected as a circle, it was decided to apply this projection on account of coordination with the land triangulation; charts drawn up according to this principle have already been published.

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(1) A. R. HINKS remarks in "Map Projections" that no special English name seems to exist for what the Dutch call *vierkante platkaart*, the French *projection plate carrée* and the Germans *quadratische Plattkarte*.



The last chapter contains full information on this and the *polyhedric* projections, used by the Ordnance Survey of the E. I. Archipelago, with tables giving the points of intersection of parallels and meridians in a rectangular grid and examples of calculations.

The Author calls attention to the desirability of mentioning, on every chart and map, the projection employed in its construction, as is the practice on modern French maps where this notation appears in the margin.

TISSOT's "Mémoire sur la représentation des surfaces et les projections géographiques" and ZOPPRITZ and BLUDEAU's "Leitfaden der Kartenentwurfslehre", the standard works on the subject, demand a fair knowledge of mathematics and a long period of study. The publications by DEETZ and ADAMS "Elements of map-projections" and by HINKS "Map projections" do not consider the requirements of charts and deal with the subject from a less scientific point of view.

Therefore the Author has done good work in compiling a Manual on the subject which departs from the Nautical Surveyor's special point of view, preceded by a very good summary which covers the whole ground.

The classification of the various projections is logical and easy to grasp and the methodical discussion of each, restricted to the principal points and accompanied by uniform tables, enables the student to compare them at a glance.

Every one who has clearly established the chief requirements of the chart he intends to make will be able to find in this Manual the projection which, for preference, he should apply.

J. M. P.

"OCEAN PASSAGES FOR THE WORLD". — *Compiled by Rear-Admiral B. T. SOMERVILLE, C. M. G., of the British Hydrographic Office 1923.*

Published by H. M. Stationery Office, London.

THE original edition of this work was published in 1896, and although an excellent publication at that time, it had gradually become out of date; the present volume is very much larger and is arranged differently and on a more comprehensive system; it includes also an account of oceanic Winds and Currents upon which, to a very large extent, Oceanic routes depend.

Routes for Steamships and Sailing ships only are given; those for

steamships with auxiliary sail power or sailing ships with auxiliary steam or motor power are omitted ; steamships are divided into 3 classes, *viz.* having a speed of 15 knots or over, 10 to 15 knots, and less than 10 knots.

The Routes given in this work are ocean passages proper, and obviously in many cases in making a passage they must be considered in conjunction with the ordinary coastal passages.

The distances of each Route are clearly given. Six loose Maps illustrating Steamship routes in the Atlantic, Pacific and Indian Oceans, Sailing ship routes of the World, the Winds of the World, and the Ocean Currents of the World are inserted in a pocket at the end of the volume.

The work is most obviously of the highest importance to the Seaman, but the collection of such an immense amount of information in a concise form must prove also of value to others who are concerned with the sea and its works.

J. F. P.

#### **" THE NETHERLANDS LIGHT LIST FOR 1924 "**

**S**OME changes have been introduced in the Light List for 1924 published by the Hydrographic Office of the Netherlands.

In accordance with the article by P. VAN BRAAM VAN VLOTEN, Engineer-in-Chief of the Lighthouse Service, published in Vol. 1, No. 2 of the "Hydrographic Review", the luminous power of those flashing lights, the flashes of which are of shorter duration than 0.7 seconds, has been converted into that of the equivalent fixed lights which, of course, is less.

This change makes the intensity of all the lights comparable.

The range of visibility in 50 cases out of 100 is no longer given for the important coast lights, as this distance exceeds the geographical range and is apt to give rise to confusion.

The percentage of visibility at the geographic range is now given immediately after this range and the 90% visibility is referred to as : "Visibility under unfavourable circumstances."

Attention is specially called to the fact that the duration of the flashes noted is that at the geographic range and that this duration increases as the light is approached. *E. g.* the flashes of Schouwenbank light-vessel which have a duration of 1 second only at a distance of 11 miles will be observed to last 2 seconds in the vicinity of the lightship. The light list is arranged in conformity with the proposal put forward in Circular-Letter No. 40 of 16th. October 1922.

J. M. P.

“ **THE MARINE OBSERVER** ” for October 1924.

**A**N appreciation of the work of the International Hydrographic Bureau appears in this number, and the very intimate relationship which exists between Meteorology and Hydrography is clearly shown in the above ; the Meteorologist afloat and the Hydrographer are both sailors, and their work, aims and objects have a great deal in common, the primary objective of all being, as stated in the Statutes of the Bureau, with a view to rendering navigation easier and safer in all the seas of the world.

J. F. P.





## II. — “ BOOKS OF REFERENCE ” “ OUVRAGES DE RÉFÉRENCE ”

### HYDROGRAPHY

*Treatises and Manuals. — Traités et Manuels.*

1. — **AN INTRODUCTION TO THE PRACTICAL AND THEORETICAL STUDY OF NAUTICAL SURVEYING.** 2nd Edition.  
(Introduction à l'Étude théorique et pratique du levé hydrographique).  
by JOHN KNOX LAUGHTON, Instructor, Royal Naval College,  
In 12°, x + 166 pages, 33 fig.  
Published by Longmans, Green and Co., London, 1882.
2. — **THE ADMIRALTY MANUAL OF SCIENTIFIC ENQUIRY,**  
5th Edition.  
(Manuel de Recherche Scientifique de l'Amirauté.)  
Hydrography, Terrestrial Magnetism, Meteorology, Geology, Vulcanology, etc.  
For the use of Naval Officers  
(à l'usage des Officiers de Marine.)  
In 8°, xii + 450 pages.  
Published by John Murray, London, 1886. — Price : 2 sh. 6 d.
3. — **A TREATISE ON MARINE SURVEYING FOR THE USE OF JUNIOR NAVAL OFFICERS.** 3rd Edition.  
(Traité de levé hydrographique à l'usage des jeunes officiers de Marine.)  
By the Rev. J. L. ROBINSON, Royal Naval College.  
Crown in 8°, xv + 307 pages, with illustrations.  
Published by Macmillan and Co., London, 1904.  
Price : 7 sh. 6 d.

4. — **TRAITÉ D'HYDROGRAPHIE. LEVÉ ET CONSTRUCTION  
DES CARTES MARINES, avec des TABLES ANNEXES.**

(Treatise on Hydrography, Survey and Chart Making, with separate  
Tables.)

par A. GERMAIN, Ingénieur Hydrographe.

In 8°, XIII + 506 pages et 63 pages.

Publications nos 64I A. et B. du Dépôt des Cartes et Plans de la  
Marine.

Imprimerie Nationale, Paris, 1882.

(Epuisé — Out of print.)

5. — **NAUTICAL SURVEYING.**

(Le Levé Nautique.)

By VICE-ADMIRAL SHORTLAND.

In 8°, 444 pages, 80 fig.

Published by Macmillan and Co, London, 1890.

6. — **A NEW METHOD OF COAST SURVEYING.**

(Nouvelle Méthode de Reconnaissance Hydrographique des Côtes.)

By JOHN BALL.

Survey Department paper No. 21.

In 8°, IX + 46 pages.

Printed at the National Printing Department, Cairo (Egypt), 1911.

Prix : 100 millièmes.

7. — **GENERAL INSTRUCTIONS FOR HYDROGRAPHIC SUR-  
VEYORS.**

(Instructions Générales pour les Hydrographes.)

in 8°, 118 pages, 9 plates.

Printed for the Hydrographic Department, Admiralty, by Taylor,  
Garnett, Evans and Co. Ltd., London, 1915.

Addendum No. I. 1918 (The Ekman Current Meter, 14 p.).

Addendum No. II. 1919, 4 pages.

8. — **NOTIONS D'HYDROGRAPHIE EXPÉDITIVE A L'USAGE  
DES OFFICIERS DE MARINE.**

(Methods of rapid Surveying for the use of Naval Officers.)

Par A. GERMAIN, 2<sup>e</sup> édition revue par M. F. HANNUSSE et L. DRIEN-  
COURT, Ingénieurs Hydrographes, 1919.

Publication n° 753 du Service Hydrographique de la Marine.

In 8°, 118 pages, avec illustrations et planches.

Imprimerie Nationale, Paris, 1894-1907-1919.

Prix : 3 francs.

9. — **MANUEL DE L'AIDE-HYDROGRAPHE**, n<sup>o</sup> 60.  
(Surveying-Recorder's Handbook.)

In 8<sup>o</sup> carré, XI + 105 pages, 74 fig., 17 planches.

Publication du Service Hydrographique de la Marine.

Imprimerie Typographique et Lithographique du G. C. T. A. VIII,  
Landau, 1919.

(N'est pas en vente.)

10. — **HYDROGRAPHICAL SURVEYING. A DESCRIPTION OF THE MEANS AND METHODS EMPLOYED IN CONSTRUCTING MARINE CHARTS.**

(Le Levé Hydrographique, description des moyens et des méthodes employés pour la construction des cartes marines.)

By SIR WILLIAM J. L. WHARTON, Rear-Admiral and Hydrographer.  
2nd revised edition.

In 8<sup>o</sup>, VIII + 388 pages, 58 fig.

Published by John Murray, London, 1898.

11. — **HYDROGRAPHICAL SURVEYING**, 4th Edition.

(Le Levé Hydrographique.)

by Rear-Admiral SIR WILLIAM J. L. WHARTON and Admiral SIR  
A. MOSTYN FIELD.

Demy in 8vo., XII + 570 pages, 121 fig., 4 plates and Tables.

Published by John Murray, London, 1920.

Price : £ 1-10-0.

12. — **ÉTUDE SUR LA PRÉCISION DU POINT PAR DEUX SEGMENTS CAPABLES.**

(Study on the Accuracy of a Fixed Position as determined by two measured angles.)

par M. DRIENCOURT, Ingénieur Hydrographe.

In 8<sup>o</sup>, 16 pages, 4 fig., 3 planches.

(Extrait des *Annales Hydrographiques françaises*, 1919-1920.)

Imprimerie Nationale, Paris, 1920.

13. — **PRECISE DEAD RECKONING IN OFF-SHORE SOUNDINGS.**

(Estime de précision pour les Sondages du large.)

By HARRY A. SERAN, Hydrographic and Geodetic Engineer.

Special Publication No. 73 of the U. S. Coast and Geodetic Survey.  
 In 8°, 15 pages, 4 fig.  
 Government Printing Office, Washington, 1921.  
 Price : 5 cents.

14. — **HANDLEDNING I SJÖMATNING.**

(Manual for Hydrographic Surveyors.)

(Manuel de levé hydrographique.)

Published by the Kungl. Sjökarteverket.

In 12° carré, VIII + 255 pages, 112 fig., 2 planches

Svenska Tryckeriaktiebolaget, Stockholm, 1923.

GEODESY AND TRIANGULATION, TOPOGRAPHY

15. — **TRAITÉ DE GÉODÉSIE A L'USAGE DES MARINS.**

(Treatise on Geodesy for the use of Seamen.)

By P. BÉGAT, Ingénieur Hydrographe.

In 8°, 288 pages, 39 fig., 3 planches h. t.

Publication du Ministère de la Marine.

Imprimerie Royale, Paris, 1839.

(Épuisé — Out of Print).

16. — **OUTLINE OF THE METHOD OF CONDUCTING A TRIGONOMETRICAL SURVEY.**

(Directives générales d'une triangulation.)

By Lieutenant FROME.

In 12°, VIII + 200 pages, 113 fig., 6 plates and tables.

Published by John Weale, Architectural Library, London, 1840.

17. — **TRIGONOMETRICAL SURVEYING, LEVELLING, ETC.**

(Triangulation, Nivellement, etc.)

By WILLIAM GALBRAITH.

In 12°, VIII + 161 + 20 pages et Tables.

Published by William Blackwood and Sons, Edinburgh and London,  
 1842.

18. — **NOTE SUR LA COMPENSATION D'UNE TRIANGULATION.**

(On the adjustment of a Triangulation.)

Par M. LESAGE, Ingénieur Hydrographe.

In 8°, 27 pages.

(Extrait des *Annales Hydrographiques françaises* de 1911).  
Imprimerie Nationale, Paris, 1911.

19. — **TEXT BOOK OF TOPOGRAPHICAL AND GEOGRAPHICAL SURVEYING.** 2nd Edition.  
(Manuel de Levé Topographique et Géographique.)  
By Colonel C. F. CLOSE, Ordnance Survey.  
Revised by Captain E. W. Cox.  
In 4<sup>o</sup>, v + 412 pages, 100 fig. 42 plates.  
Published by } H. M. Stationery Office.  
                  } Harrison and Sons, London, 1913.  
Price : 7 sh. 6 d.
20. — **GEODETTIC SURVEYING.**  
(Le Levé Géodésique.)  
By EDWARD R. CARY.  
In 12<sup>o</sup>, x + 279 pages, 99 fig.  
Published by John Wiley and Sons Ltd., New-York, 1916.
21. — **SUR LES SYSTÈMES GÉODÉSIIQUES ÉQUILATÈRES A LA SURFACE DU SPHÉROIDE TERRESTRE.**  
(On Equilateral Geodetic Systems on the Surface of the Terrestrial Spheroid.)  
Par M. E. FICHOT, Ingénieur Hydrographe.  
In 8<sup>o</sup>, 96 pages, 14 fig.  
Publication n<sup>o</sup> 1871 du Service Hydrographique de la Marine.  
Imprimerie Nationale, Paris, 1921.  
Prix : 2 francs.
22. — **GÉODÉSIE ÉLÉMENTAIRE.**  
(Elementary Geodesy.)  
By R. BOURGEOIS et H. NOIREL.  
In 16<sup>o</sup>, 460 pages, 138 fig.  
Publié par Octave Doin, Paris, 1922.  
Prix : 17 francs.
23. — **DES COORDONNÉES RECTANGULAIRES ET DE LEUR EMPLOI DANS LES CALCULS DE TRIANGULATION.**  
(On rectangular co-ordinates and their use in calculating triangulations.)  
By HATT, Ingénieur Hydrographe.  
In 4<sup>o</sup>.



Publication n° 746 du Service Hydrographique de la Marine.  
 Imprimerie Nationale, Paris, 1893.  
 Prix : 5 francs.

24. — **DE METHODE DER KLEINSTE KWADRATEN EN HARE TOEPASSING BIJ DE HYDROGRAPHISCHE TRIANGULATIE.**

(La Méthode des moindres carrés et son application à la triangulation des levés hydrographiques.)

(The Method of the Least Squares and its application to hydrographic triangulation.)

Door J. L. H. LUYMES, Chef der Hydrographie.

In 8°, 112 + 3 pages.

Publication of the Ministerie van Marine.

Algemeene Landsdrukkerij }  
 Gebroeders van Cleef. } La Haye, 1923.

Prix : 1 florin 50.

PHOTOGRAPHIC SURVEYING (EMPLOI DE LA PHOTOGRAPHIE AÉRIENNE)

25. — **UTILISATION DES PHOTOGRAPHIES PRISES EN AVION POUR COMPLÉTER UNE CARTE.**

(The Use of Air Photography for filling in Charts.)

Par M. ROLLET DE L'ISLE, Ingénieur Hydrographe.

In 8°, 14 pages, 6 fig.

(Extrait des *Annales Hydrographiques françaises* de 1916.)

Imprimerie Nationale, Paris, 1916.

26. — **NOTE SUR L'EMPLOI DES PHOTOGRAPHIES PRISES EN AVION POUR LES TRAVAUX CARTOGRAPHIQUES.**

(Memorandum on the Use of Air Photography for Chart Work.)

Par M. DE VANSAY, Ingénieur Hydrographe.

In 8°, 59 pages, 21 fig.

(Extrait des *Annales Hydrographiques françaises*, de 1917.)

Imprimerie Nationale, Paris, 1919.

27. — **NOTICE SUR L'AMÉNAGEMENT PHOTOGRAPHIQUE DE L'HYDRAVION G. L.**

(Account of the Photographic Fittings in the G. L. Seaplane.)

In 8°, 4 pages, 12 fig.

(Extrait des *Annales Hydrographiques Françaises* de 1919.)  
Imprimerie Nationale, Paris, 1919.

28. — **PHOTOGRAPHIC SURVEYING.**

(Le Levé Photographique.)

By Col. WINTERBOTHAM.

Crown in 8°, 52 pages.

Extract from *Photography as a Scientific Implement.*

Blackie and Son Ltd., London, 1922.

Price : 30 sh.

29. — **THE FACE OF THE EARTH AS SEEN FROM THE AIR.**

(L'aspect de la terre vue de l'air.)

By WILLIS T. LEE.

In 8°, XII + 110 pages, 82 illustrations and plates.

Special Publications No. 4 of the American Geographical Society.

New-York, 1922.

Price : \$ 4.00.

SOUNDING AND WIRE DRAG (SONDAGE ET DRAGAGE)

30. — **WIRE-DRAG WORK ON THE ATLANTIC COAST.**

(Opérations de dragages sur la côte de l'Atlantique.)

By N. H. HECK and J. H. HAWLEY.

In 4°, 24 pages, 8 fig.

Special Publication No. 29 of the U. S. Coast and Geodetic Survey.

Government Printing Office, Washington, 1915.

Price : 10 cents.

31. — **WIRE-DRAG WORK IN ALASKA.**

(Opérations de dragages en Alaska.)

By L. O. COLBERT and JOHN A. DANIELS.

In 8°, 31 pages, 17 fig., 1 map.

Special Publication No. 34 of the U. S. Coast and Geodetic Survey.

Government Printing Office, Washington, 1916.

Price : 15 cents.

32. — **CONSTRUCTION AND OPERATION OF THE WIRE-DRAG.**

(Construction et manœuvre de la drague.)

By J. H. HAWLEY, Hydrographic and Geodetic Engineer.

In 8°, 40 pages, 13 illustrations.

Special Publication No. 56 of the U. S. Coast and Geodetic Survey.

Government Printing Office, Washington, 1919.

Price : 10 cents.

## DEEP-SEA SOUNDINGS (SONDAGES PAR GRANDS FONDS)

### 33. — DEEP-SEA SOUNDING AND DREDGING.

(Sondages et Dragages par grandes profondeurs.)

By CHARLES D. SIGSBEE.

In 4°, 221 pages, 43 plates.

Methods and Appliances used on board the U. S. S. " Blake ".

(Procédés et matériel employés à bord du U. S. S. " Blake ".)

Government Printing Office, Washington, 1880.

(Out of Print — Épuisé).

### 34. — DEEP-SEA SOUNDINGS, ATLANTIC AND PACIFIC OCEANS, AND CARIBBEAN SEA, 1919 and 1922.

(Sondages par grands fonds, Atlantique, Pacifique et Mer des Antilles, 1919 et 1922).

In 8°, 30 pages, 15 illustrations.

Special Publication No. 97 of the U. S. Coast and Geodetic Survey.

Government Printing Office, Washington, 1923.

Price : 15 cents.

## TIDES, GENERAL (MARÉES, GÉNÉRALITÉS)

### 35. — NOTIONS SUR LE PHÉNOMÈNE DES MARÉES.

(Notes on the Tidal Phenomenon.)

By HATT, Ingénieur Hydrographe.

In 8°.

Publication n° 672 du Service Hydrographique de la Marine.

Imprimerie Nationale, Paris, 1885.

Prix : 3 fr. 50.

### 36. — DES MARÉES.

(On the Tides.)

By HATT, Ingénieur Hydrographe.

In 8°, 7 fig.

Imprimerie Gauthiers-Villars, Paris, 1895.

Prix : 3 francs.

37. — **BIJDRAGE TOT DE KENNIS DER GETIJDEN IN DE NOORDZEE.**

(Contribution to the knowledge of tides in the North Sea.)

(Contribution à la connaissance des Marées dans la Mer du Nord.)

By J. M. PHAFF, Luitenant ter Zee.

In 4<sup>o</sup>, 12 pages, 13 plates.

Publication n<sup>o</sup> 85 Koninklijk Nerderlandsch Meteor. Instituut, Utrecht.

Printed by Mouton and Cie, Den Haag (La Haye), 1900.

38. — **OBSERVATION, ETUDE ET PRÉDICTION DES MARÉES.**

(Observation, Study and Prediction of Tides.)

Par ROLLET DE L'ISLE.

Publication n<sup>o</sup> 870 du Service Hydrographique de la Marine.

In 8<sup>o</sup>, 287 pages, 72 fig, XIX planches.

Imprimerie Nationale, Paris, 1905.

Prix : 4 francs.

(Épuisé. — Out of print.)

39. — **A PRACTICAL MANUAL OF TIDES AND WAVES.**

(Manuel Pratique des Marées et des Vagues.)

By W. N. WHEELER.

In 8<sup>o</sup>, IX + 201 pages, 19 fig. (With a bibliography).

Published by Longmans, Greens and Co., London, 1906.

40. — **MANUAL OF TIDES.**

(Manuel des Marées.)

By ROLLIN A. HARRIS.

6 Vol. in 8<sup>o</sup>, 150 + 147 + 137 + 165 + 85 + 315 pages.

Published in Reports of the U. S. Coast and Geodetic Survey.

Published by Government Printing Office, Washington, D. C. 1894-1907.

41. — **ÉTUDE DES PHÉNOMÈNES DE MARÉE SUR LES COTES NÉERLANDAISES.**

(A Study of Tidal Phenomena on the Dutch Coasts.)

In 8<sup>o</sup>, 4 volumes.

By D<sup>r</sup> J. P. VAN DER STOK.

I. Analyse des mouvements périodiques et apériodiques du niveau de la mer, 22 pages.

II. Résultats d'observations faites à bord des bateaux-phares néerlandais, 84 pages et 2 planches.

III. Tables des Courants, 105 pages.

IV. Les marées principales, 38 pages.

Publication n° 90 du Koninklijk Nederlandsch Meteorologisch Instituut.

Prix : 4 × 0 florins 40.

Kemink & Zoon, Utrecht, 1904, 1905, 1905, 1910.

42. — **MITTELWASSER, GEZEITEN UND SCHWANKUNGE  
DES WASSERSTANDES IN DER OSTSEE.**

(Mean Water Level. Tides and Changes of Level in the Baltic.)

(Niveau moyen, Marées et variations de niveau dans la mer Baltique.)

By R. WITTING.

Helsingfors, 1908.

43. — **ELEMENTAIRE THEORIE DER GETIJDEN, GETIJ-  
CONSTANTEN IN DEN INDISCHEN ARCHIPEL.**

(Elementary Theory of Tides. Tidal Constants in the East Indian Archipelago.)

(Théorie élémentaire des Marées. Constantes de la Marée dans l'Archipel des Indes Orientales.)

By Dr J. P. VAN DER STOK.

In 8°, 122 pages, 12 fig., 2 planches.

Publication No. 102-8 of the Koninklijk Nederlansch Meteorologisch Instituut.

Printed by Kemink & Zoon, Utrecht, 1910.

Prix : 0 florin 80.

44. — **THE TIDES AND KINDRED PHENOMENA IN THE  
SOLAR SYSTEM.** 3rd. Edition.

(Les Marées et phénomènes de même famille du système solaire.)

By Sir GEORGE H. DARWIN.

In 12°, XXIV + 437 pages, 48 illustrations.

Published by John Murray, London, 1911.

45. — **OVERZICHT DER GETIJLEER TEN DIENSTE DER HY-  
DROGRAPHISCHE OPNEMING.**

(Aperçu de la Théorie des Marées à l'usage des levés hydrographiques.)

(Generalisation of the Theory of Tides for use in Hydrographic Surveys.)

By J. L. H. LUYMES.

In 8° carré, VIII + 196 pages, fig. et 2 planches.

Publié par le Ministerie van Marine.

Algemeene Landsdrukkerij } S'Gravenhage (La Haye), 1919.  
Gebroeders van Cleef }

Prix : 2 florins.

46. — **THE TIDES AND TIDAL STREAMS, WITH ILLUSTRATIVE EXAMPLES FROM CANADIAN WATERS.**

(Les Marées et les Courants de Marées, avec exemples à l'appui pour les eaux canadiennes.)

By W. BELL DAWSON.

In 8°, 43 pages, 10 fig., 8 plates.

Published by the Department of the Naval Service, Ottawa, 1920.

47. — **DIE GEZEITEN DER OCEANE.**

(Tides of the Ocean.)

(Les Marées de l'Océan.)

2 Vol. in 8°.

Part. I, 1920, 18 pages, 2 figures, 2 plates.

Part. II, 1921, 9 pages, 1 plate.

By DR. ROBERT STERNECK.

Published by Alfred Hölder, Wien, 1920-1921.

48. — **VAGUES ET MARÉES.**

(Waves and Tides.)

By le Baron A. BERGET.

In 12°, 187 pages, 74 fig., 30 planches.

Published by Hachette et Cie, Paris, 1923.

Prix : 6 francs.

49. — **STUDIES IN TIDAL POWER.**

(Étude sur la Force des Marées.)

By NORMAN DAVEY.

In 8° carré, XII + 255 pages, 56 fig., 66 maps.

Published by Constable and Co Ltd., London, 1923.

50. — **LES MARÉES ET LEUR UTILISATION INDUSTRIELLE.**

(The Tides and their industrial utilisation.)

By E. FICHOT, Ingénieur Hydrographe.

In 8° couronne, VI + 255 pages.

With a bibliography.

Published by Gauthier-Villars et Cie, Paris, 1923.

Prix : 15 francs.

**51. — THE TIDES AND THE WORK OF THE TIDAL INSTITUTE, LIVERPOOL.**

(Les Marées et les Travaux du Tidal Institute de Liverpool.)

By Dr. A. T. DOODSON.

In 8°, 15 pages, 6 fig.

Reprinted from the "Geographical Journal", London, February, 1924.

**52. — THE TIDES FROM AN ENGINEER STANDPOINT.**

(Les Marées au point de vue de l'Ingénieur.)

By E. W. HOLLINGSWORTH.

In 12°, 18 pages, 6 fig.

Paper No. 4344.

Published by The Institution of Civil Engineers, London, 1924.

**THEORY OF TIDES (THÉORIE DES MARÉES)  
HARMONIC ANALYSIS (ANALYSE HARMONIQUE)**

**53. — ANALYSE HARMONIQUE D'UNE COURTE PÉRIODE  
D'OBSERVATIONS ET CALCUL D'UN ANNUAIRE DES  
MARÉES AU MOYEN DES RÉSULTATS DE CETTE ANALYSE.**

(Harmonic Analysis of observations taken during a short period and computation of a Tide Table from the results of this analysis.)

By M. ROLLET DE L'ISLE, Ingénieur Hydrographe,

In 8°, 53 pages, 8 fig., 3 planches.

(Extrait des *Annales Hydrographiques* de 1896.)

Imprimerie Nationale, Paris, 1896.

**54. — LE CALCUL DES MARÉES.**

(Tidal Calculations.)

By H. FROCHOT, Lieutenant de vaisseau.

Published by A. Challamel, Paris, 1906.

**55. — HARMONISCHE ANALYSE DER WATERGETIJDEN.**

(Harmonic Analysis of Tides.)

(Analyse Harmonique des Marées.)

Door P. JOH. SMITS.

In 8° carré, 210 pages, tables et planches.

Uitgegeven door het Koninklijk Magnetisch en Meteorologisch Observatorium te Batavia.

Javasche Boekhandel & Drukkerij, Batavia, 1910.

56. — **LEÇONS DE MÉCANIQUE CÉLESTE, TOME III. THÉORIE DES MARÉES.**

(Lectures on Celestial Mechanics, Vol. III. Theory of Tides.)

By H. POINCARÉ, rédigé par E. FICHOT, Ingénieur Hydrographe.

In 8°, IV + 472 pages, 66 fig., 2 planches.

Gauthier-Villars, Paris, 1910.

Prix : 16 francs.

57. — **ON THE DYNAMICAL EQUATIONS OF THE TIDES.**

(Sur les équations dynamiques des Marées.)

By Dr. J. PROUDMAN.

In 8°, 68 pages.

Extract from the Proceedings of the London Mathematical Society.

Ser. 2, Vol. 18, Part. I. 1917.

Printed by C. F. Hodgson and Son, London, 1917.

58. — **INTENSIVE ANALYSIS OF TIDAL OBSERVATIONS.**

(Analyse intensive des observations de Marée.)

By A. T. DOODSON.

in 12°, 27 pages, 9 fig.

Published by the Tidal Institute, University of Liverpool, 1921.

59. — **THE HARMONIC DEVELOPMENT OF TIDE GENERATING POTENTIAL.**

(Le Développement harmonique du potentiel générateur de la Marée.)

By A. T. DOODSON.

In 8°, 24 pages.

From the Proceedings of the Royal Society A. Vol. 100, 1921.

Printed by Harrison and Sons, Ltd., London, 1921.

60. — **HARMONISCHE ANALYSE UND THEORIE DER MITTELMEERGEZEITEN.**

(L'Analyse Harmonique et la Théorie des Marées de Méditerranée.)



(The Harmonic Analysis and the Theory of the Tides in the Mediterranean.)

By Dr. ROBERT STERNECK.

In 8°, 27 pages, 3 fig.

Published by Alf. Hölder, Wien (Vienne), 1922.

### TIDAL INSTRUMENTS (INSTRUMENTS POUR LES MARÉES)

61. — **THE TIDE GAUGE, TIDAL HARMONIC ANALYSER, AND TIDE PREDICTER.**

(Le Marégraphe, L'Analyseur Harmonique de la Marée et la Machine à prédire les Marées.)

By Sir WILLIAM THOMSON.

In 12°, 74 pages, 16 fig., 1 planche.

Published by the Institution of Civil Engineers, London, 1881.

62. — **DESCRIPTION OF THE U. S. COAST AND GEODETIC TIDE PREDICTING MACHINE No 2.**

(Description de la Machine à prédire les Marées n° 2 du Coast and Geodetic Survey des États-Unis d'Amérique.)

Special Publication No. 32 of the U. S. Coast and Geodetic Survey.

In 8°, 35 pages, 15 photo-plates.

Government Printing Office, Washington, 1915.

Price : 20 cents.

63. — **MARÉGRAPHE PLONGEUR. APPAREIL ENREGISTRANT LES MARÉES SUR LES COTES ET AU LARGE.**

(Submerged tide recorder. Recording machine for coast and off-shore Tides.)

By M. L. FAVÉ, Ingénieur Hydrographe.

In 8°, 47 pages, 17 fig.

(Extrait des *Annales Hydrographiques françaises* de 1919.)

Imprimerie Nationale, Paris, 1919.

64. — **ON TIDE-GAUGES IN NORTHERN CLIMATES AND ISOLATED SITUATIONS.**

(Au sujet des Marégraphes dans les climats septentrionaux et dans les stations isolées.)

By WILLIAM BELL DAWSON.

In 12°, 24 pages, 7 fig.

Published by the Institution of Civil Engineers, London, 1902.

**65. — DIE DEUTSCHE GEZEITENRECHENMASCHINE.**

(La Machine allemande à calculer les Marées.)

(The German Tide-calculator.)

Von Dr. H. RAUSCHELBACH in Hamburg.

In 8° carré, 18 pages, 4 fig.

Sonderabdruck aus der Zeitschrift für Instrumentenkunde, 1924.

44 jahrgang, heft 7, S 285-303.

Published by Julius Springer, Berlin, 1924.

**CURRENTS (COURANTS)****66. — ÉTUDE SUR LES COURANTS DE LA MER DU NORD.****(NOORDHINDER).**

(A Study of the Currents of the North Sea.)

Par J. M. PHAFF, Lieutenant de vaisseau.

In 4°, 57 pages, 16 planches.

Publication n° 84 de l'Institut Météorologique Royal Hollandais.

Imprimerie Mouton et Cie, La Haye, 1898.

**67. — LA PRÉVISION DE LA HOULE.**

(The Forecasting of Swell.)

By M. J. RENAUD, Ingénieur Hydrographe.

In-16°, 27 pages.

(Extrait de l'*Annuaire du Bureau des Longitudes.*)

Published by Gauthier-Villars, Paris, 1920.

**68. — SALZEGEHALT UND STROMUNGEN DER NORDSEE.**

(Salinité et Courants de la Mer du Nord.)

(Salinity and Currents in the North Sea.)

By Dr. GUNTHER BOHNECKE.

Publication of the Institut für Meereskunde.

Printed by E. S. Mittler und Sohn, Berlin, 1922.

**69. — CURRENT METERS FOR USE IN RIVER GAUGING.**

(Appareils pour la mesure du Courant, à l'usage de l'Hydraulique fluviale.)

By M. A. HOGAN.

In 8°, vi + 33 pages, 7 fig., 3 plates.

Published by the Department of Scientific and Industrial Research.

Printed by H. M. Stationery Office, London, 1922.

Price : 1 sh. 6 d. net.

## CHART-PROJECTION (PROJECTIONS)

79. — **TRAITÉ DES PROJECTIONS DES CARTES HYDROGRAPHIQUES, REPRÉSENTATION PLANE DE LA SPHÈRE ET DU SPHÉROÏDE.**

By A. GERMAIN, Ingénieur Hydrographe.

1<sup>re</sup> partie, Théorie des Projections.

2<sup>e</sup> partie, Construction et usage des principales projections.

In 8°, XVI + 380 pages, XIV planches h. t.

Published by Arthus Bertrand, Paris, 1874.

Prix : 15 francs.

71. — **FORMULES POUR TRANSFORMER LES PROJECTIONS PLANES EN CARTES.**

(Formulae for transforming plans into other projections.)

Par M. F. HANUSSE, Ingénieur Hydrographe.

(Extrait des *Annales Hydrographiques françaises* de 1892.)

In 8°, 37 pages.

Imprimerie Nationale, Paris, 1892.

72. — **FORMULES RELATIVES AU CALCUL DES COORDONNÉES RECTANGULAIRES USUELLES.**

(Formulae relating to Calculation of the usual rectangular co-ordinates.)

By M. A. COURTIER, Ingénieur Hydrographe.

In 8°, 39 pages, 19 fig.

(Extrait des *Annales Hydrographiques françaises* de 1911.)

Imprimerie Nationale, Paris, 1911.

73. — **TABLE OF THE GRADUATION OF SURVEYS AND CHARTS ON THE GNOMONIC PROJECTION.**

In 8°, 33 pages, 4 fig.

Prepared by the Hydrographic Department ; Admiralty.

Printed by Eyre and Spottiswoode, London, 1912.

Price 6d.

74. — **LEITFADEN DER KARTENENTWURFSLEHRE.**

(Guide to Cartographic Knowledge.)

(Guide des Connaissances cartographiques.)

Von Prof. FR. KARL ZOPPRITZ.

Erster teil : Die Projektionslehre.

(1<sup>re</sup> partie, Traité des Projections.)

(1st. part, Treatise on Projections.)

In 8<sup>o</sup>, XII + 264 pages, 161 fig.

Published by B. G. Teubner, Leipzig und Berlin, 1912.

**75. — ELEMENTS OF MAP-PROJECTION.**

(Eléments de projection cartographique.)

By C. H. DEETZ and O. S. ADAMS.

Special Publication No. 68 of the U. S. Coast and Geodetic Survey.

In 4<sup>o</sup>, 163 pages, 74 fig., 8 plates.

Published by the Government Printing Office, Washington, D. C.,  
1921.

Price : 50 cents.

**76. — KAARTPROJECTIES BESCHOUWD UIT EEN HYDRO-  
GRAPHISCH OOPGUNT.**

(Les Projections cartographiques, considérées au point de vue de l'Hydrographie.)

(Map-Projections from a Hydrographic standpoint.)

Door J. L. H., LUYMES, Chef der Hydrographie.

In 8<sup>o</sup>, 73 pages and figures.

Publication of the Ministerie van Marine.

Printed by Algemeene Landsdrukkerij, Gebroeders van Cleef, The  
Hague (La Haye), 1924.

Prix : 2 florins.

**CARTOGRAPHY (CARTOGRAPHIE)**

**77. — NAUTICAL CHARTS.**

(Cartes nautiques.)

By G. R. PUTNAM.

Published by John Wiley and Sons, New-York, 1908.

**78. — MAPS AND MAP-MAKING.**

(Cartes et Cartographie terrestre.)

By E. A. REEVES.

In 8<sup>o</sup>, XIII + 145 pages, 133 fig. and coloured maps.

Published by the Royal Geographical Society, London, 1910.

**79. — ELEMENTS OF CHART-MAKING.**

(Éléments de Cartographie.)

By E. LESTER JONES.

Special Publication No. 38 of the U. S. Coast and Geodetic Survey.

In 8°, 15 pages, 33 illustrations and plates.

Government Printing Office, Washington, 1916.

**80. — RULES AND PRACTICE RELATING TO CONSTRUCTION OF NAUTICAL CHARTS.**

(Règles et Procédés pratiques ayant trait à la construction des Cartes marines.)

Special Publication No. 66 of the U. S. Coast and Geodetic Survey.

In 8°, 34 pages.

Published by the Government Printing Office, Washington, D. C., 1920.

Price : 5 cents.

**81. — SMA WINK I BRUKEN AV SJÖKARTENE.**

(Petit aperçu sur l'usage des Cartes.)

(Brief account on the use of Charts.)

Par E. BJÖRSET.

In 4°, 34 + 5 pages, 12 charts.

Publié par le Norges Sjøkartverk, Kristiania, 1922.

**82. — MAPS AND SURVEYS. 2nd Edition.**

(Cartes et Levés.)

By A. L. HINKS.

In 12°, XVI + 358 pages, 26 fig., xxv photo-plates.

Published by the University Press, Cambridge, 1923.

Price : 8 sh. 6 d.

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D'HYDROGRAPHIE)****83. — DESCRIPTION ET USAGE DE L'ASTROLABE A PRISME.**

(Description and Use of the Prismatic Astrolabe.)

By CLAUDE et DRIENCOURT.

In 12° carré, XXX + 392 pages, 35 fig. + VII planches.

Imprimerie Gauthier-Villars, Paris, 1910.

Prix : 30 francs.

84. — **A HANDBOOK OF THE PRISMATIC ASTROLABE.**

(Manuel de l'Astrolabe à prisme.)

By J. BALL and H. KNOX SHAW.

In 8°, vii + 284 pages, Including Star Tables, 11 fig.

Published by the Egyptian Government.

Government Press, Cairo, 1919.

Prix : 50 Piast. or 10 sh. 6 d.

85. — **DESCRIZIONE ED USO DEL PICCOLO APPARECCHIO A SCANDIGLIARE.**

(Description et usage d'un petit appareil de sondage.)

(Description and use of a small Sounding Machine.)

By J. B. MAGNAGHI, Vice Ammiraglio.

In 8° carré, 28 pages, 4 fig.

Publicazione dell'Istituto Idrografico, Genova, 1923.

Prix : 1 lira.

## HYDROGRAPHIC TABLES (TABLES D'HYDROGRAPHIE)

86. — **TABLES FOR FACILITATING THE CALCULATION OF HEIGHTS.**

(Tables pour faciliter le calcul des altitudes) (en pieds anglais).

By Commander H. E. PUREY CUST, R. N.

In 4°, 23 pages.

Published by the Hydrographic Department, Admiralty.

Printed by Darling and Son, Ltd., London, 1895.

87. — **SMITHSONIAN GEOGRAPHICAL TABLES.** 3rd Edition.

By R. S. WOODWARD.

In 8°, cv + 177 pages.

Publication No. 854 of the Smithsonian Institution, Washington, 1906.

88. — **TABLAS HIDROGRAFICAS.**

By PEDRO C. COOPS, Injeniore hidrografo, Marina de Chile.

In 8°, 99 pages with formulae.

Talleres tipográficos de la Armada, Valparaiso, 1907.

89. — **TABLES FOR DETERMINING GEODETIC POSITIONS (Lat. 0° to 65°) TOGETHER WITH METHODS OF USING COORDINATES.**

(Tables pour la détermination des positions géodésiques (de 0° à 65° de latitude) par les méthodes employant les coordonnées.)

By JOHN W. ATHERTON, Hydrographic Department, Admiralty.

In 8°, 37 pages.

Published by J. D. POTTER, London, 1912.

Price : 6 d.

90. — **DIVERSE TABLES USED IN THE CONSTRUCTION OF CHARTS.**

(Tables diverses employées pour la construction des Cartes Marines.)

By EDWARD POWEL, Hydrographic Office, Admiralty, 1856, and

by JOHN W. ATHERTON, 1912.

In 8°, 210 pages.

Printed by J. D. Potter, London, 1914.

Total price : 3 sh. 6d.

91. — **TABELAS DE POLIGONACÃO.**

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Missão hidrográfica de Costa de Portugal.

In 12° carré, x + 65 pages.

Published by Ministerio de Marinha.

Lisboa, 1920.

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(Tables employées pour les Levés Hydrographiques.)

In 8°, xxxi + 186 pages.

Published by the Hydrographic Department, Imperial Japanese Navy.

Tokyo, 1922.

**HYDROGRAPHIC CONFERENCES (CONFÉRENCES  
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93. — **PROTOCOLS OF PROCEEDINGS OF THE INTERNATIONAL MARINE CONFERENCE HELD IN WASHINGTON, 1889.**

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Eyre and Spottiswoode, London, 1890.

94. — **HISTORIQUE DE LA CONFÉRENCE INTERNATIONALE MARITIME DE SAINT-PÉTERSBOURG.**

(History of the International Marine Conference held in St. Petersburg.)

Actes, Mars 1912.

(Proceedings, March, 1912.)

In 8°, x + 180 pages, 16 plates.

Imprimerie du Ministère de la Marine Impériale Russe, Amirauté, Saint-Pétersbourg, 1913.

95. — **INTERNATIONAL HYDROGRAPHIC CONFERENCE, LONDON, 1919. REPORT OF PROCEEDINGS.**

(Conférence Hydrographique Internationale de Londres, 1919. Comptes rendus des Séances.)

In 4°, 240 pages, XIII plates.

Published by H. M. Stationery Office, London, 1920.

Price : 10 sh. 6 d. net or 12.50 Swiss francs.

### ASTRONOMY

96. — **A MANUAL OF SPHERICAL AND PRACTICAL ASTRONOMY, 5th. Edition, 2 Vol.**

(Manuel d'Astronomie Sphérique et pratique.)

By W. CHAUVENET.

In 8°, 708 et 632 pages, 61 et 64 figures, 15 plates.

Published by J. B. Lippincott Co., London, 1906.

97. — **RAPPORT ANNUEL SUR LES TRAVAUX EFFECTUÉS PAR LE BUREAU INTERNATIONAL DE L'HEURE, OBSERVATOIRE NATIONAL, PARIS.**

(Annual Report of the Work of the International Time Bureau, National Observatory, Paris.)

By G. BIGOURDAN.

In 8°, 40 pages.

Publication de l'Union Astronomique Internationale.

Imprimé par Gauthier-Villars, Paris, 1923.

Prix : 1 franc.



## NAVIGATION

98. — **THE DEVELOPMENT OF GREAT CIRCLE SAILING**,  
2nd Edition.  
(Développement de la Navigation par l'arc de grand cercle.)  
By G. W. LITTLEHALES.  
Publication No. 90 of the U. S. Hydrographic Office.  
In 8°, 63 pages, fig. and plates.  
Government Printing Office, Washington, 1899.
99. — **WRINKLES IN PRACTICAL NAVIGATION**. 18th. Edition.  
(Stratagèmes de Navigation pratique.)  
By CAPTAIN LECKY, revised by W. ALLINGHAM.  
Royal in 8°, XXXII + 822 pages, 135 illustrations et plates.  
Published by George Philip and Son, Ltd., London, 1920.  
Price : £ 1-10-0. net.
100. — **AMERICAN PRACTICAL NAVIGATOR**.  
(Le Navigateur pratique américain.)  
By N. BOWDITCH.  
Published by the U. S. Hydrographic Office.  
In 8°, 949 pages, 81 figures and tables.  
Government Printing Office, Washington, 1920.  
Price : \$ 1.80.
101. — **ADMIRALTY MANUAL OF NAVIGATION** (1922), 2 vol.  
(Manuel de Navigation de l'Amirauté.)  
Vol. I, VIII + 407 pages, 70 fig. and charts.  
Vol. II, VII + 289 pages, 141 fig.  
In 8°.  
Published by H. M. Stationery Office, London, 1922.  
Prices : 7 sh. 6 d. and 5 sh. 6 d.
102. — **NAUTISKA RADIOTJÄNSTEN**.  
(Service Radio nautique.)  
(Nautical Radio service.)  
Edited by Kungl. Sjökarteverket.  
In 8°, 51 pages.  
Published by P. A. Nymans, Stockholm, 1923.  
Price : 50 öre.

## NAUTICAL INSTRUMENTS (INSTRUMENTS NAUTIQUES)

103. — **NOTICE SUR L'HORIZON GYROSCOPIQUE FLEURIAIS.**

(Monograph on the Fleuriais Gyroscopic Horizon.)

Par M. FAVÉ, Ingénieur Hydrographe.

In 8°, 43 pages, 7 figures et planches.

Reprint from the French *Annales Hydrographiques*, Vol. de 1904.

Published by the Service Hydrographique de la Marine.

Printed by the Imprimerie Nationale, Paris, 1904.

104. — **VÉRIFICATION DES SEXTANTS.**

(Sextant Testing.)

By M. FAVÉ, Ingénieur Hydrographe.

In 8°, 32 pages, 15 figures.

Reprint from French *Annales Hydrographiques*, 1917.

Published by the Service Hydrographique de la Marine.

Printed by the Imprimerie Nationale, Paris, 1917.

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By J. R. BRAY, Compass Department, Admiralty.

In 8°, 78 pages, 88 illustrations.

Published by H. M. Stationery Office, London, 1917.

Price : 5 sh. net.

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In 16°, XII + 124 pages, 57 fig.

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Price : 2 sh. 6 d. net.

107. — **THE MARINE CHRONOMETER, ITS HISTORY AND DEVELOPMENT.**

(Le Chronomètre de Marine, son histoire et son développement.)

By Lieut. Commander R. T. GOULD, R. N. (retired).

In 8°, XVI + 287 pages, 85 fig., 39 illustrated plates.

Published by J. D. Potter, London, 1923.

Price : 25 sh. net.

108. — **RADIO FOG SIGNALS AND RADIOCOMPASS.**  
2nd Edition.

(Signaux de brumes radiotélégraphiques et Radiocompas.)

By GEORGE R. PUTNAM, Commissioner of Lighthouses.

In 8°, 28 pages, 8 illustrations.

Contains an excellent bibliography on the subjects dealt with,  
page 27.

Publication of Department of Commerce, Lighthouse Service.

Printed at the Government Printing Office, Washington, 1924.

NAUTICAL TABLES (TABLES DE NAVIGATION)

109. — **HOW FAR IS THAT LIGHT** (With Tables.)

(A quelle distance se trouve ce feu ?) (Avec Tables).

By FREDERICK BALL, Chaplain, R. N.

In 8°, 10 pages.

Published by J. D. Potter, London, 1916.

Price : 1 sh.

110. — **ZEEVAARTKUNDIGE TAFELN.** (2 deelen).

(Navigation Tables — 2 parts).

(Tables de Navigation, en 2 parties).

By P. HAVERKAMP.

2 vol. in 8°. 287 + 144 pages.

Published by Gebrøeders van Cleef — The Hague (La Haye). 1916-1918.

111. — **THE SUMNER LINE OF POSITION, SIMULTANEOUS  
HOUR ANGLES AND AZIMUTH.**

(La Droite Sumner, angle horaire et azimut simultanés.)

Publication No. 203 of the U. S. Hydrographic Office.

In 4°, XVIII + 869 pages.

Government Printing Office, Washington, 1923.

Price : \$ 2.25.

112. — **POSITION LINE TABLES (SINE METHOD).**

(Tables de Point, méthode du Sinus.)

By W. M. SMART and F. N. SHEARME.

In 8°, xv + 34 pages.

Published by J. D. Potter, London, 1924.

Price : 5 sh. net.

113. — **THE "NEWEST" NAVIGATION AND AVIATION ALTITUDE AND AZIMUTH TABLES.** 3rd. Edition.

(La « plus nouvelle » table de hauteur et d'azimuth de Navigation et d'Aviation.)

By Commander RADLER DE AQUINO, Brazilian Navy.

In 8°, LVI + 178 pages.

Published by J. D. Potter, London, 1924.

Prix : 20 sh. net.

**LIGHTS BEACONS AND BUOYS (PHARES, BALISES ET BOUÉES)**

114. — **MÉMOIRE SUR L'INTENSITÉ ET LA PORTÉE DES PHARES.**

(Memoir on the Intensity and Range of Lighthouses.)

Par M. E. ALLARD, Service des Phares.

Publication du Ministère des Travaux publics.

Imprimerie Nationale, Paris, 1876.

115. — **PHARES ET SIGNAUX MARITIMES.**

(Lights and Sea-marks.)

By G. RIBIÈRE, Ingénieur des Phares et Balises.

In 12°, 405 pages, 161 fig.

Avec un index bibliographique.

Published by Octave Doin, Paris, 1908.

116. — **KUSTVERLICHTING IN NEDERLANDSCH INDIE (EN- GELSCHE EN FRANSCHE TEKST).**

(Coast Lighting in the Netherlands East Indies) (English and French text).

(L'éclairage des côtes dans les Indes Néerlandaises) (texte anglais et français).

In 8°, VII + 60 pages, 10 fig., 7 illustrations, plates and tables.

Published by the Hoofdbureau van Scheepvaart, Batavia.

Publié par Albrecht en Co., Batavia, 1914.

117. — **THE UNITED STATES LIGHTHOUSE SERVICE.**

(Le Service des Phares des États-Unis.)

By JOHN S. CONWAY, Introduction by GEORGE R. PUTNAM.

In 8°, III pages, 45 illustrations.

Publication of Department of Commerce, Lighthouse Service.

Government Printing Office, Washington, 1923.

118. — **REPORTS OF THE XIIIth. INTERNATIONAL CONGRESS OF NAVIGATION, LONDON, 1923.**

(Compte rendus du XIII<sup>e</sup> Congrès International de Navigation de Londres, 1923.)

Principal advances in lighting and sea-marking.

(Principaux progrès de l'éclairage et des signaux maritimes.)

Reports from D. W. HOOD, F. URBAIN, G. R. PUTNAM, BLONDEL et de

ROUVILLE, A. E. BUTTERFIELD, W. J. CURTISS and R. STEEL, A.

STEVENSON and H. BROWNE, A. LURIA, Dr. GENIJ ISHIKAWA, P.

VAN BRAAM VAN VLOTEN, F. LUNDEBERG, J. de SCHOKALSKI.

Publications 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84 of the Permanent International Association of Navigation Congresses.

Brussels, 1923.

119. — **DE OPTISCHE DRACHT VAN KUSTLICHTEN.**

(La portée optique des feux côtiers.)

(The optical range of coast lights.)

By P. VAN BRAAM VAN VLOTEN.

In 4°, 8 pages, 7 fig.

Reprinted from *de Ingenieur*, No. 5, 1924.

Published by F. J. Belinfante, s'Gravenhage (La Haye), 1924.

120. — **REPORTS OF THE MARINE DEPARTMENT OF THE CHINESE MARITIME CUSTOMS.**

(Comptes rendus de la Section Marine des Douanes Maritimes Chinoises.)

Published annually for the office records at the Statistical Department of the Inspectorate General of Customs, Shanghai (Not issued to the public).

**MAGNETIC OBSERVATIONS (OBSERVATIONS MAGNÉTIQUES)**

121. — **THE MAGNETIC WORK OF THE " GALILEE ", 1905-1906.  
THE MAGNETIC WORK OF THE " CARNEGIE " 1909-1916.**

(Les Travaux magnétiques du « Galilee » et du « Carnegie ».)

By L. A. BAUER, W. J. PETERS, J. A. FLEMMING and J. P. AULT.

In 4<sup>o</sup>, 441 et 445 pages, 62 figures et illustr.-plates.

Published by the Carnegie Institution of Washington, 1917.

Price : \$ 10.

## MARINE METEOROLOGY (MÉTÉOROLOGIE MARITIME)

### 122. — FORECASTING WEATHER.

(La Prévision du temps.)

By Sir W. N. SHAW.

Demy in 8<sup>o</sup>, xxvii + 380 pages, 158 illustrations.

Published by Constable and Co, London, 1913.

2nd Edition in preparation.

### 123. — A MANUAL OF MARINE METEOROLOGY, 2nd Edition.

(Manuel de Météorologie maritime.)

By W. ALLINGHAM.

Crown, in 8<sup>o</sup>, xv + 204 pages, 38 fig., 12 plates.

Published by Charles Griffin and Co., London, 1917.

Price : 9 sh.

### 124. — THE SEAMEN'S HANDBOOK OF METEOROLOGY.

3rd Edition.

(Le Manuel de Météorologie du Marin.)

Edited by the Meteorological Committee, No. 215.

In 8<sup>o</sup>, xxxviii + 202 pages, 35 fig., 25 plates.

Published by H. M. Stationery Office, London, 1918.

Price : 3 sh. 6d.

### 125. — A BAROMETER MANUAL FOR THE USE OF SEAMEN, A TEXT BOOK OF MARINE METEOROLOGY, 9th Edition.

(Manuel du Baromètre à l'usage des marins, Traité de Météorologie maritime.)

In 8<sup>o</sup>, 104 pages, 28 fig., 43 plates.

Published by the Meteorological Committee, No. 61.

Printed by H. M. Stationery Office, London, 1919.

Price : 1 sh. 6d.

126. — **THE ACCURACY OF BAROMETER READINGS ON BOARD A MOVING SHIP.**

(La Précision des lectures du baromètre sur un navire en mouvement.)

By P. M. VAN RIEL.

Publication No. 102 of de Koninklijk Nederlandsch Meteorologisch Instituut.

In 8<sup>o</sup>, 8 pages.

Printed by Kemink and Zoon, Utrecht, 1921.

Prix : 0 fl. 20.

127. — **THE MARINE OBSERVER'S HANDBOOK.** 3rd Edition.

(Manuel de l'Observateur Maritime.)

Edited by the Meteorological Committee, No. 218.

In 8<sup>o</sup>, IV + 99 pages, 12 fig.

Published by H. M. Stationery Office, London, 1922.

Prix : 5 sh.

128. — **HURRICANES AND TROPICAL REVOLVING STORMS.**

(Ouragans et Cyclones tropicaux.)

By Mrs. E. V. NEWNHAM.

With an introduction " The Birth and Death of Cyclones ".

(La naissance et la mort des Cyclones) by SIR NAPIER SHAW, and a bibliography.

In 4<sup>o</sup>, XIII + 120 pages, 33 plates.

Publication No. 220 (i) of the Meteorological Office.

Printed by H. M. Stationery Office, London, 1922.

Price : 12 sh. 6 d.

129. — **METEOROLOGICAL REPORTS.**

(Compte rendus météorologiques de l'Observatoire de Zi-Ka-Wei).

By Zi-Ka-Wei Observatory.

Zi-Ka-Wei, Shanghai (China).

130. — **BIBLIOGRAPHY OF METEOROLOGICAL LITERATURE.**

5 vol. Nos. 1 to 5.

(Bibliographie d'ouvrages météorologiques.)

In 8<sup>o</sup>, 119 pages.

Prepared by the Royal Meteorological Society, London, 1923.

Price : 2 sh. 6 d.

## OCEANOGRAPHY

131. — **THE TRAVELLING OF SEA BEACHES.**

By GEORGE H. KINAHAN.

In 12<sup>o</sup>, 6 pages.

Published by The Institution of Civil Engineers, London, 1879.

132. — **HANDBUCH DER OCEANOGRAPHIE.**

(Manual of oceanography.)

(Manuel d'Océanographie.)

By DR. O. KRUMMEL, 2 vol. in-8<sup>o</sup>.

I. Die Raumlischen, chemischen und physicalischen verhältnisse des meeres, 1907, xv + 526 pages, 69 fig.

II. Die Bewegungsformen des Meeres, 1911.

Published by Engelhorn, Stuttgart (Germany).

133. — **THE DEPTHS OF THE OCEAN.**

(Les Profondeurs de l'Océan)

By SIR JOHN MURRAY and DR. J. HJORT.

Sup. Royal in 8<sup>o</sup>, xx + 820 pages, 575 illustrations, 9 plates, 4 maps.

Published by Macmillan and Co., London, 1912.

Price : 28 sh.

134. — **NATURE NOTES FOR OCEAN VOYAGERS.**

(Notes d'Histoire naturelle pour les Navigateurs.)

By A. CARPENTER and D. WILSON-BARKER.

Med. in 8<sup>o</sup>, xvi + 181 pages, 137 illustrations.

Published by C. Griffin and Co., London, 1915.

Price : 5 sh. net.

135. — **LES PROBLÈMES DE L'OCÉAN.**

(The Problems of the Ocean.)

By A. BERGET.

In 12<sup>o</sup>, 327 pages, 43 fig.

Published by E. Flammarion, Paris, 1920.

Prix : 6 fr. 75.

136. — **A TEXT-BOOK ON OCEANOGRAPHY.**

(Traité d'Océanographie.)

By J. T. JENKINS.



In 8°, 206 pages, 42 illustrations.

Published by Constable and Co., London, 1921.

137. — **MANUEL D'OCÉANOGRAPHIE PHYSIQUE.**

(Handbook of Physical Oceanography.)

By J. ROUCH.

In 8°, 229 pages, 93 fig.

Published by Masson et Cie, Paris, 1922.

Prix : 15 francs.

138. — **L'OCÉANOGRAPHIE.**

(Oceanography.)

By J. THOULET.

In 8° couronne, IX + 287 pages, 8 fig.

Published by Gauthier-Villars et Cie, Paris, 1922.

Prix : 9 francs.

139. — **AN INTRODUCTION TO OCEANOGRAPHY.**

(Introduction à l'Océanographie.)

By J. JOHNSTONE.

In 8°, XII + 351 pages, 64 fig.

Published by Hodder and Stoughton, London, 1923.

Prix : 15 sh. net.

140. — **FOUNDERS OF OCEANOGRAPHY AND THEIR WORK.**

(Les fondateurs de l'Océanographie et leurs œuvres.)

By W. A. HERDMAN.

In 8°, XII-340 pages, 19 fig., 28 plates.

Published by Edward Arnold and Co., London, 1923.

Prix : 21 sh. net.

141. — **AVANCE AL ESTUDIO OCEANOGRAFICO DE LA BAHIA DE ALGECIRAS.**

(Contribution à l'étude océanographique de la Baie d'Algéciras.)

(Contribution towards the Oceanographic study of the Bay of Algeciras )

By RAPHAEL DE BUEN.

In 8°, 32 pages, 20 fig. et illustrations.

Publication de l'Instituto Español de Oceanografía, Madrid, 1924.

Librairie Paul Lechevalier, Paris.

## LANGUAGES (LANGUES)

142. — **THE ESPERANTO MANUAL, A COMPLETE GUIDE TO THE INTERNATIONAL LANGUAGE.**

(Manuel d'Espéranto, guide complet pour la langue internationale.)

By MARGARET L. JONES.

In 16°, 236 pages.

Published by the British Esperanto Association, London, 1918.

Price : 1 sh. 6d.

143. — **UNE LANGUE INTERNATIONALE POUR LA MARINE.**

(An International Language for the Navy.)

par ROLLET DE L'ISLE, Ingénieur Hydrographe.

In 16°, 15 pages.

Publication de la Société française pour la propagation de l'Espéranto.

Paris, 1919.

144. — **TWO PAPERS ON INTERNATIONAL LANGUAGE IN ENGLISH AND IDO.** 2nd Edition.

(Deux articles sur la langue internationale en Anglais et en Ido.)

By OTTO JESPERSEN, University of Copenhagen.

In 16°, 43 pages.

Published by J. Warren Baxter, 57 Limes Grove, London, 1921.

Prix : 6 pence.





### III. — DOCUMENTARY BIBLIOGRAPHY (BIBLIOGRAPHIE DOCUMENTAIRE)

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145. — **LA CONTRIBUTION DE LA PHOTOGRAPHIE AUX LEVÉS HYDROGRAPHIQUES.**  
Cap. A. CLEMENTI.  
Cf. *Rivista Maritima*, Rome, Mai-Septembre 1923.
146. — **EMPLOI DE LA PHOTOGRAPHIE AÉRIENNE À LA TOPOGRAPHIE DE PRÉCISION**  
(Use of aerial photography for accurate topography.)  
A Summary of a lecture delivered by Hydrographic Engineer H. ROUSSELHE to the Société de Géographie, Paris, 3 May 1923.  
(Résumé d'une conférence faite par l'Ingénieur Hydrographe H. ROUSSELHE.)  
Cf. *La Géographie*, Paris, Juillet-Août 1923, page 208.
147. — **EARLY EXPERIMENTS ON THE ACOUSTIC METHOD OF DEPTH SOUNDING FOR NAVIGATION PURPOSES.**  
By LOUIS V. KING, M<sup>c</sup> Gill University, June 15.  
Cf. *Nature*, 1924, July, page 123.
148. — **ON OBTAINING THE DEPTH OF THE SEA BY THE ECHO METHOD.**  
By Professor R. A. FESSENDEN.  
Cf. *Trans. Am. Inst. of Elect. Eng.*, Vol. 33, October, 1914, pages 1569-1581.

149. — **A TUNEABLE DIAPHRAGM FOR HYDROPHONE.**

Described in the *Proc. Royal. Society*, London (99 A, 1912, pages 163-171.)

150. — **ÜBER ECHOLOTUNGEN DER NORDAMERIKANISCHEN MARINE.**

(Les sondages par le son de la Marine Nord Américaine.)

Dr. H. MAURER.

Cf. *Annalen der Hydrographie*, Heft IV, 1924.

151. — **DIE VERWENDUNG DER TIEFSEELOTUNGEN FÜR DIE NAVIGATION MIT HILFE DES ECHOLOTS.**

(Emploi pour la navigation des Sondages par grands fonds au moyen de l'Echo-Sonde.)

(Use of deep-sea sounding by Echo for navigation purposes.)

By Kapitän I. SCHUBART D. S.

Cf. *Annalen der Hydrographie*, Heft IV, 1924.

152. — **LES ONDES ULTRA-SONORES.**

(Ultra-Sonic waves.)

A. Bz.

Cf. *Rivista Marittima*, page 485, Rome, Février 1924..

153. — **NOTE SUR L'ENREGISTREUR CONTINU DE SONDAGE EN MER PAR LE SON.**

(Note on a continuous Echo-Sounding Recorder.)

MARTI.

Cf. *Bulletin technique du Bureau Veritas*, Avril 1924.

154. — **MODERNI APPARECHI IDROGRAFICI.**

(Appareils Modernes d'Hydrographie.)

(Modern Hydrographic apparatus.)

Cf. *Rivista Marittima*, Rome, Mai 1924.

155. — **THE MEASUREMENT OF THE HORIZONTAL INTENSITY OF THE EARTH'S MAGNETIC FIELD WITH PORTABLE ELECTRIC MAGNETOMETERS.**

(La mesure de l'intensité horizontale du champ magnétique terrestre au moyen du magnétomètre électrique portatif.)

"Japanese journal of Astronomy and Geophysics", 1924, Vol. I, No. 6, pages 191-206, 10 fig.

Cf. *La Géographie*, Juin 1924, page 96.

156. — **INSTRUMENT PHOTOGRAPHIQUE DES HAUTEURS ÉGALES.**

(Astrolabe photographique.)

(Photographic Instrument for equal altitudes.)

par RENÉ BAILLAUD.

Cf. *Revue d'Optique*, Paris, Février 1924.

157. — **LE DESSIN D'UN ASTROLABE A PRISME.**

(The design of a Prismatic Astrolabe.)

BAKER.

Cf. *Journal of Scientific Instruments*, London, 15 Jan. 1924.

158. — **LE TACHÉOMÈTRE GRAPHIQUE.**

By A. NECTOUX.

Cf. *Revue Scientifique*, Paris, 12 avril 1924.

159. — **ASTROLABE A PRISME CLAUDE ET DRIENCOURT (NOUVEAU MODÈLE).**

Cf. *Revue d'Optique théorique et instrumentale*, Paris, 6 juin 1923.

160. — **NEW TYPE OF LEVELLING INSTRUMENTS USING REVERSIBLE BUBBLE.**

(Nouveau type d'instruments de nivellement à bulle réversible.)

T. F. CONOLLY.

Cf. *Transaction of the Optical Society*, Vol. XXV, n<sup>o</sup> 1, 1923.

161. — **SURVEYING AND NAVIGATIONAL INSTRUMENTS FROM THE HISTORICAL STANDPOINT.**

(Instruments de levé et de navigation au point de vue historique.)

By L. C. MARTIN.

Cf. *Transactions of the Optical Society*.

162. — **DESCRIPCION DE LA RASTRA DE ALAMBRE DE GRAN EXTENSION.**

(Description of the extensive Wire Drag.)

Traducido del inglés por EMILIO GUNTHER, Capitan de Fregata  
Sub Director de la Oficina de Hidrografia.

In 8<sup>o</sup>, 36 pages, 16 fig. and plates.

*Anuario Hidrographico*, Tomo 31, Valparaiso, 1918, page 393-429.

163. — **DESCRIPCION DEL CORRENTOMETRO DE BOCCARDO.**  
 (Table para el uso del correntometro.)  
 (Description of the Boccardo Current-Meter.)  
 In 8°, 7 pages, 1 plate.  
 Cf. *Anuario Hidrografico de la Marina de Chile*, Tomo 27, Valparaiso, 1912, pages 313-320.
164. — **ESTACIONES MAREOGRAFICAS DE CHILE. DESCRIPCION E INSTALACION DEL APARATO MAREOGRAFICO.**  
 (Stations marégraphes du Chili. Description et installation de l'appareil marégraphe.)  
 Cf. *Anuario Hidrografico de la Marina de Chile*, Tomo 29, pages 409-410, Valparaiso, 1915.
165. — **EL GIROCOMPAS SPERRY. TEORIA, DESCRIPCION E INSTRUCCIONES PARA SU FONCTIONAMIENTO Y CONSERVACION.**  
 (Le gyrocompas Sperry. Théorie, description et instructions pour son fonctionnement et son entretien.)  
 Redactadas por el Capitan de Corbeta SR. ALEXANDRO GARCIA C.  
 In 8°, 151 pages, 60 fig. plates and phototypies.  
 Cf. *Anuario Hidrografico*, Tomo 31, page 221, 372, Valparaiso, 1918.
166. — **LE « NAUTOGRAPHE » PERMET A UN NAVIRE DE TRACER LUI-MÊME SA ROUTE SUR LA CARTE.**  
 (The "Nautographe" allows a ship to draw her course on the chart.)  
 Cf. *La Science et la Vie*, avril 1924, page 276, 282, 1 carte, 10 fig.
167. — **ALTIPLANIGRAPHE D. S. DE LAVAUD : ENREGISTREUR AUTOMATIQUE ET RAPIDE POUR L'ALTIMÉTRIE ET LA PLANIMÉTRIE.**  
 (A quick and automatic recorder for altimetry and planimetry.)  
 Notice franco, apply, 179, rue de la Pompe, Paris, 16<sup>e</sup> Arrt.  
 Cf. *La Géographie*, Janv. 1924, advertisements page.
168. — **DIE GEZEITEN DES ATLANTISCHEN OZEANS UND DES ARKTISCHEN MEERES.**  
 (The Tides of Atlantic Ocean and Artic Seas.)  
 Von A. DEFANT (Innsbruck.).

Cf. *Annalen der Hydrographie*, 1924. Heft VII, p. 153-166. Heft VIII, p. 177-184.

169. — **EINIGE BEMERKUNGEN UBER AMPHIDROMIEN.**

(Some notes on Amphidromes.)

(Quelques remarques sur les Amphidromies.)

Von H. THORADE.

Cf. *Annalen der Hydrographie*, 1924. Heft VIII, p. 184-188.

170. — **DARSTELLUNG DES GEZEITENVORGANGES IN DER NORDSEE DURCH ISOHYPSENKARTEN DER MEERES-OBERFLACHE.**

(Représentation de la juxtaposition des marées dans la mer du Nord d'après la carte isohypsométrique de la surface de la mer.)

(Representation of the juxtaposition of tides in the North Sea from the isohypsometric chart of the sea surface.)

par ARNHOLD SCHUMACHER.

Cf. *Annalen der Hydrographie*, Heft III, 1924.

171. — **LA HAUTEUR DE LA MARÉE A QUELQUE DISTANCE DES COTES.**

(The height of water at some distance off shore)

par ANDRÉ COIGNET.

Cf. *La Revue Maritime*, Paris, février 1924.

172. — **SUR LE CARACTÈRE TOPOGRAPHIQUE DE LA SURFACE DE L'ONDE DE MARÉE DANS LES MERS OUVERTES.**

(On the topographic character of the surface of the tide wave in open seas.)

par E. FICHOT, Ingénieur Hydrographe en chef.

Cf. *Compte rendus de l'Académie des Sciences*, Paris, 24 mars 1924.

173. — **THE PRINCIPAL CONSTITUENT OF THE TIDES OF THE NORTH SEA.**

(Les constituantes principales de la marée dans la mer du Nord.)

Contient une bibliographie des travaux sur la question.

By J. PROUDMAN and A. T. DAWSON.

Cf. *Philosophical Transactions of the Royal Society*, Series A, Vol. 224, London, 1924.

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(Les marées des estuaires : comparaison des procédés de calcul.)

By W. BELL DAWSON.

Cf. *Bulletin of the National Research Council*, No. 41, Washington, 1924.

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par M. L. FAVÉ. Traducido de los *Annales Hydrographiques françaises*, por el Contra-Almirante SR. ARTURO WILSON.

In 8, 29 pages, 11 fig.

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176. — **MARÉGRAPHE PLONGEUR.**

(Appareil enregistrant les marées sur les côtes et au large.)

Notice complète (revisée), description et emploi.

Par M. L. FAVÉ, Ingénieur Hydrographe.

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(Les progrès de l'étude des courants océaniques.)

By WILSON.

Cf. *Proceedings*, U. S. Navy Institute March. 1924.

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(Les courants de marées au large : courants sous-marins au bateau-phare de Nantucket Shoals.)

By EMBERT A. LE LACHEUR, U. S. Coast and Geodetic Survey.

Cf. *Geographical Review*, New-York, April 1924.

179. — **VERMESSUNGSARBEITEN DER REICHSMARINE IN DEN JAHREN 1919 bis 1922.**

(Les travaux hydrographiques de la Marine du Reich de 1919 à 1922.)

(A general account of the Survey and experiments undertaken by the Navy of the Reich from 1919 to 1922.)

Von Korvetten Kapitän SPITZ.

Cf. *Marine-Rundschau*, Oktober 1923, page 317.



180. — **INTERNATIONAL HYDROGRAPHY.**

Par HORNER.

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(La Croisière actuelle Hydrographique et Scientifique en Mer Rouge en ce qui concerne le magnétisme terrestre.)

L. PALAZZO.

Cf. *Bulletin di Inform. economiche*, 1923, 5.

182. — **LA RÉFORME DU SERVICE HYDROGRAPHIQUE FRANÇAIS.**

LA VEYRIE.

Cf. *Revue de France*, Paris, 15 août 1923.

183. — **POSITION PLOTTING BY RADIO BEARINGS.**

(Le point par relèvements radiogoniométriques.)

By ELMER B. COLLINS, Nautical Expert, U. S. H. O.

Cf. *Pilot Chart, North Atlantic Ocean*, February 1921, reprinted.

184. — **TECHNICAL APPENDIX ON FIELD EQUIPMENT FOR WIRELESS LONGITUDES.**

(Annexe technique sur un équipement de campagne pour longitudes par T. S. F.).

By J. C. ASTON.

Cf. *Geographical Journal*, London, 1924 April, p. 327-340.

185. — **FIELD LONGITUDES BY WIRELESS.**

(Les longitudes par T. S. F. de campagne.)

By Captain P. K. BOULNOIS, Royal Engineers.

Cf. *Geographical Journal*, London, April 1924, p. 318-327, 1 map.

186. — **RADIO BEARING CONVERSION DIAGRAMM.**

(Diagramme de conversion des relèvements radiogoniométriques.)

Cf. *Pilot Chart, North Atlantic Ocean*, January 1923; *North Pacific Ocean*, February 1923; *Indian Ocean*, February 1923.

187. — **THE ERRORS WHICH MAY BE EXPECTED IN RADIO LONGITUDE DETERMINATIONS CAUSED BY THE AUTOMATIC SENDING AND RECEIVING APPARATUS.**

(Erreurs auxquelles on peut s'attendre dans la détermination radiotélégraphique des longitudes causées par l'appareil automatique d'émission et de réception.)

By E. A. ECKHARDT.

Cf. *Bulletin of the National Research Council*, Jan. 1924, page 88, Washington.

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(Liste de questions nautiques et de leurs réponses) (Nos 1 à 116).

Cf. *Pilot Chart, North Atlantic Ocean*, June 1923; *North Pacific Ocean*, July 1923; *Indian Ocean*, July 1923.

189. — **LA CONSTRUCTION DES TOURS EN MER DANS LE SERVICE DES PHARES ET BALISES.**

(The building of Sea-beacons by the Service des Phares et Balises.)

By G. DE ROUVILLE, Ingénieur en Chef.

Cf. *Annales des Ponts et Chaussées*, Paris, Janv-Fév. 1924.

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(Historique des globes terrestres.)

Greek, Roman and Arab globes, 15th and 16th century globes, Dutch and Belgian School of Globe makers, globe making in Eastern Asia.

By EUGEN OBERHUMMER, University of Vienna.

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(Une carte vraisemblablement préparée pour Christophe Colomb.)

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201. — **SOME NEW OCEANOGRAPHICAL INSTRUMENTS.**

(Quelques nouveaux instruments d'océanographie.)

By M. KNUDSEN.

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Cours professés pendant l'année scolaire 1922-24.

(A list of courses of lectures delivered.)

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203. — **RAPPORT PRÉLIMINAIRE SUR LA CAMPAGNE DU « POURQUOI PAS » EN 1922.**

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206. — **PRESENT STATUS OF GEODESY AND SOME OF THE PROBLEMS OF THIS BRANCH OF GEOPHYSICS.**

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Outstanding problems (problèmes pendants).

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1<sup>er</sup> Septembre 1923.)

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(Tidal Bores.)

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