

THE INTERNATIONAL HYDROGRAPHIC REVIEW

FOREWORD

The *International Hydrographic Review* is published twice a year (January and July) in separate English and French editions.

Original articles are welcomed on hydrography, oceanography, cartography, photogrammetry, geodesy, navigation and allied subjects, radio aids, automation, new instruments, equipment and hydrographic vessels, as well as on the history and organization of hydrographic offices.

The latest date for receipt of manuscripts is :

- 1 August for the January issue,
- 1 February for the July issue,

but earlier submission greatly facilitates the work of preparing translations.

Articles should be addressed to : The Directing Committee, International Hydrographic Bureau, B.P. 345, MC MONACO (Principality of Monaco).

Up to 50 reprints per article can be supplied free to the author(s). They must be ordered prior to publication, and may be in either language or a proportion in each. Further copies ordered at cost price, plus postage.

The Directing Committee does not hold itself responsible for statements or opinions expressed by contributors to the Review.

Notes for contributors

Papers should be as concise as possible for maximum reader value, and an abstract of up to 150 words is desirable. Uncommon expressions or constructions should be avoided since a large proportion of readers are necessarily reading the Review in a language that is not their mother tongue.

Any permission needed to incorporate material published elsewhere is the responsibility of authors, and it will be assumed that such permission has been obtained.

Texts should be submitted in English or French (or both), though by special arrangement articles in Spanish, Italian or German could be accepted for translation in the Bureau.

Two copies of the article are required, typed in double spacing with adequate margins and on one side of the paper only. Authors should check manuscripts very carefully as no responsibility can be taken for errors of fact or presentation.

Bibliographic references should be listed at the end of the article in the standard Harvard form. Footnotes should be kept to a minimum, and metric measures used throughout.

Illustrations, already numbered and titled, should be supplied ready for reproduction by the offset method and for reduction to 12.5 × 21 cm, the effective size of a Review page. Positive or negative transparencies (repromats) are preferred. Photographs should be black and white glossy prints and be limited to those necessary for an understanding of the text.

As the Review is a two-language publication a minimum of wording should be shown on the illustrations themselves, explanations being confined to the legend beneath.

Printer's proofs are corrected in the Bureau and are not normally sent to authors.

THE INTERNATIONAL HYDROGRAPHIC REVIEW

Vol. LIX

No 1



(No 110 OF THE SERIES)

PUBLISHED BY

THE

INTERNATIONAL HYDROGRAPHIC BUREAU

B. P. 345 - 7, avenue Président J. F. Kennedy

MC MONACO

PRINCIPALITY



JANUARY 1982

IMPRIMERIE LOUIS-JEAN

GAP

INTERNATIONAL HYDROGRAPHIC ORGANIZATION

MEMBERS OF THE IHO

ARGENTINA
AUSTRALIA
BELGIUM
BRAZIL
CANADA
CHILE
CHINA
CUBA
DENMARK
DOMINICAN REPUBLIC
ECUADOR
EGYPT,
ARAB REPUBLIC OF
FINLAND
FRANCE
GERMANY,
FEDERAL REPUBLIC OF
GREECE
GUATEMALA
ICELAND
INDIA
INDONESIA
IRAN
ITALY
JAPAN
MALAYSIA
MONACO

NETHERLANDS
NEW ZEALAND
NIGERIA
NORWAY
PAKISTAN
PERU
PHILIPPINES
POLAND
PORTUGAL
REPUBLIC OF KOREA
REPUBLIC OF SOUTH AFRICA
SINGAPORE
SPAIN
SWEDEN
SYRIAN ARAB REPUBLIC
THAILAND
TRINIDAD AND TOBAGO
TURKEY
UNION OF SOVIET
SOCIALIST REPUBLICS
UNITED KINGDOM OF GREAT
BRITAIN AND NORTHERN
IRELAND
UNITED STATES OF AMERICA
URUGUAY
VENEZUELA
YUGOSLAVIA
ZAIRE

INTERNATIONAL HYDROGRAPHIC BUREAU

DIRECTING COMMITTEE

President : Rear Admiral G.S. RITCHIE, C.B., D.S.C., F.R.I.C.S., Royal British Navy (Ret.).

Directors : Rear Admiral D.C. KAPOOR, AVSM, Indian Navy (Ret.).
Captain J.E. AYRES, U.S. Navy (Ret.).

Price 75.00 French Francs. For conditions of sale see *List of Publications 1982.*

TABLE OF CONTENTS

- Obituary - Dr Günther BÖHNECKE (G.S.R.)	7
- Report by the President of the Directing Committee 1977-1982 (G.S. RITCHIE)	11
- 19.9-metre survey launch of the Danish Administration of Navigation and Hydrography (J.M. KILT)	19
- NAVSTAR Global Positioning System (J.H. NORTON)	23
- Satellite geodesy and offshore oil (J.A. WEIGHTMAN)	31
- Automatic positioning by redundant measurements (J.F. BÖHME)	59
- Sounding data processing by mini-computer (J.M. BARBIER, M. CHAUMET-LAGRANGE, C. FOURCASSIES)	71
- U.K. charting practice in the implementation of IALA Maritime Buoyage System "A" (P. WAINWRIGHT)	81
- Satellite systems for cartography (F.J. DOYLE)	93
- Loran-C coordinate converters - Plague or panacea (D.H. GRAY & T. MORTIMER)	109
- The advantages of stereographic projection: charts 2812 and 2813 of the "Deutsches Hydrographisches Institut" (G. ZICKWOLFF)	119
- Analysis of fortnightly and monthly tides (W.R. CRAWFORD)	131
- On Karunaratne's method of checking hourly tidal heights (A.S. FRANCO)	143
- Maritime boundaries (P.B. BEAZLEY)	149
- Fifty years ago	161