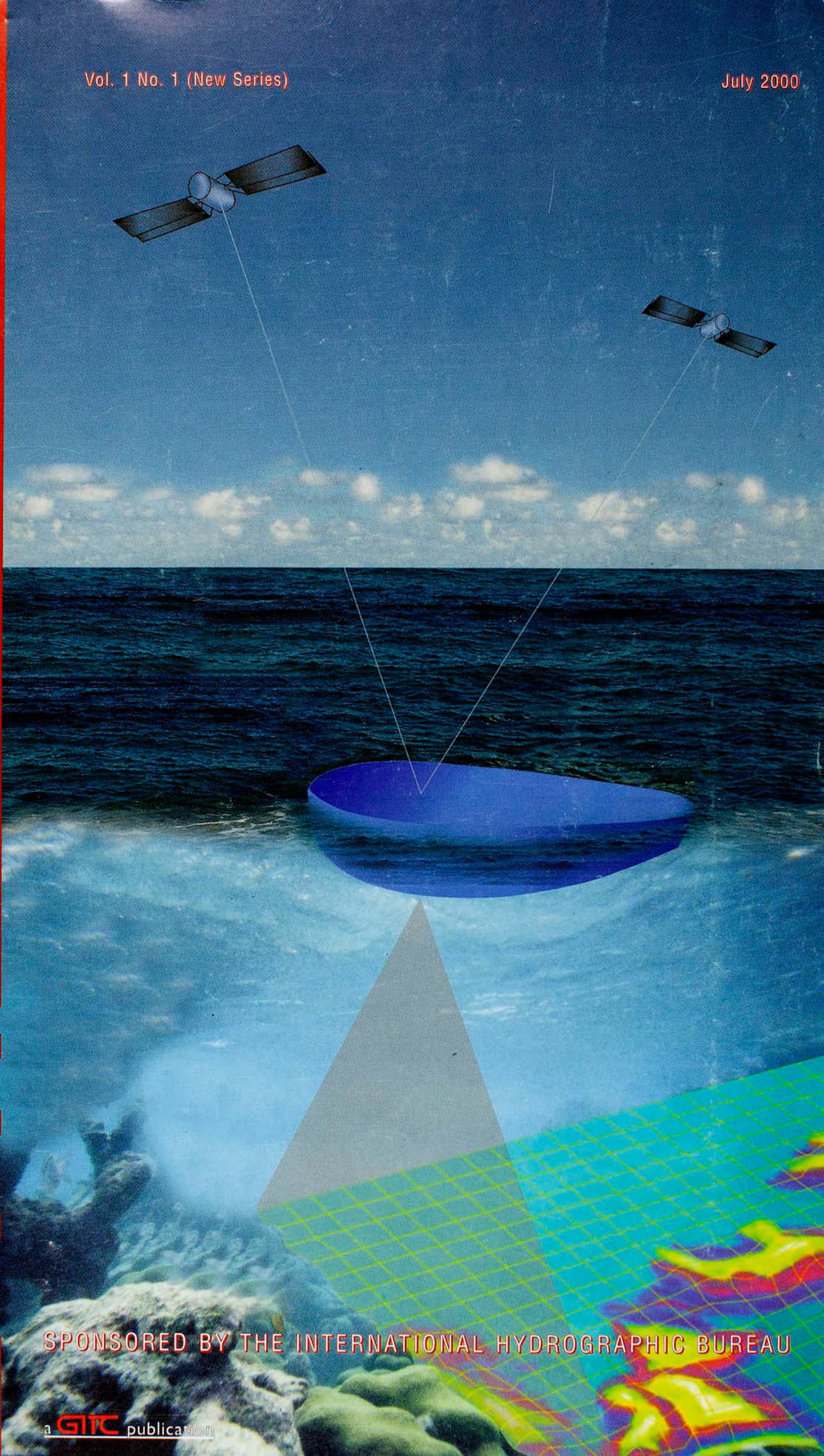


THE INTERNATIONAL HYDROGRAPHIC REVIEW

Vol. 1 No. 1 (New Series)

July 2000

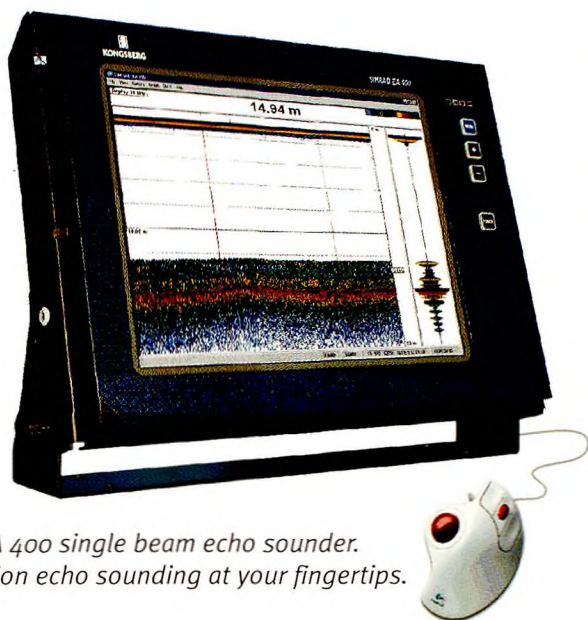


SPONSORED BY THE INTERNATIONAL HYDROGRAPHIC BUREAU

a **GITC** publication

If...

- Ease of operation
- Ease of installation
- Windows NT
- Easily expandable
- Simultaneous multiple channel operation
- Individual screen presentation
- Ultra-high dynamic range
- Raw data storage
- Favourite memory settings



*The EA 400 single beam echo sounder.
Precision echo sounding at your fingertips.*

...are important features to you, please contact Kongsberg Simrad and we will introduce you to our single beam echo sounders.

E-mail horten.sales@kongsberg-simrad.com



KONGSBERG
SIMRAD

Kongsberg Simrad AS, PO Box 111, Strandpromenaden 50, N-3191 Horten, Norway Tel +47 33 03 4400 Fax +47 33 04 4753

for further information visit our website at www.kongsberg-simrad.com

Vol. 1 No. 1 (New Series)

July 2000

THE INTERNATIONAL HYDROGRAPHIC REVIEW

SPONSORED BY THE INTERNATIONAL HYDROGRAPHIC BUREAU

Published by:
GITC bv, Nieuwedijk 43, 8531 HK Lemmer
Tel.: 0514-561854, Fax: 0514-563898
E-mail: mailbox@gitc.nl, Website: www.gitc.nl

CONTENTS

Editorial	5
Adam J. Kerr	
A Brief History of 19th Century Deep Sea Sounding	6
Steve Ritchie	
Articles	
Use of a Multi-reference GPS Station Network for Precise 3D Positioning in Constricted Waterways	15
Luiz P. Fortes, Gérard Lachapelle, M. Elizabeth Cannon, Sam Ryan, Guy Marceau, Sun Wee, John Raquet	
Something Old, Something New	30
Compiling Historic and Contemporary Data to Construct Regional Bathymetric Maps, with the Arctic Ocean As a Case Study	
Ron Macnab, Martin Jakobsson	
ENC Protection Schemes:	45
Central Technology and Policy Issues	
Michael J. Casey	
Potential Markets for Electronic Charts	54
Evgeny Komrakov	
NOAA Contractor Partnership	62
How NOAA Uses Private Industry to Support Nautical Charting	
Samuel P. DeBow Jr., C.Brian Greenawalt, Jeffrey Ferguson	
Shallow Waters and Deep Pockets	69
The Legal Liabilities of the Hydrographer	
Richard Shaw	
Notes	
Review of Special Publication No. 55 Status of Hydrographic Surveying and Nautical Charting Worldwide	78
G.R. Douglas and S.B. MacPhee	
WEND and RENC: Keywords for IHO's Distribution System for ECDIS Data - An Evaluation of Terminology and Concept	81
Horst Hecht	

The International Hydrographic Review

Publishing Company : GITC bv
 President : Ing. Johan Boesjes
 Publication Director : Drs. Ing. Floris Siteur
 Editor-in-Chief : Adam J. Kerr
 Editorial Board : Michael Casey
 : Horst Hecht
 : Commodore John W. Leech (International Hydrographic Bureau)
 Editorial Manager : Jose Zijlstra
 Account Manager : Wilmiene Bakker

Instructions for Contributors

The International Hydrographic Review is an international journal publishing original works on all aspects of hydrography and associated subjects, ranging from the latest technical developments to history. It also provides a medium for discussions in the form of shorter articles and notes. Submissions should be sent to:

Mr. Adam Kerr
 Flagstaff Cottage
 Lamorna P.O.
 Penzance
 Cornwall TR19 6XQ
 UNITED KINGDOM
 Tel./Fax.: +44 (0)1736 - 731 976
 E-mail: kerr@cwcom.net

or
 Jose Zijlstra
 GITC bv
 Box 112
 8530 AC Lemmer
 THE NETHERLANDS
 Tel.: +31 (0)514 - 56 18 54
 Fax: +31 (0)514 - 56 38 98
 E-mail: jose.zijlstra@gitc.nl

Submissions should be either as attached e-mail files or as two hard copies.

ARTICLES should be 4,000-6,000 words long, although longer articles may be considered. Authors are responsible for ensuring that all manuscripts are typed accurately before final submission. Contributions are normally received with the understanding that they comprise original, unpublished material and are not being submitted for publication elsewhere. Most articles will be refereed to ensure both accuracy and relevance and amendments to the script may be required before final acceptance. On acceptance, contributions are subject to editorial amendment. When time permits, authors will receive a copy of the final article before publication.

NOTES of approximately 1,500-2,000 words may be accepted if the subject does not lend itself to a full article. These will not be refereed but will be subject to editorial comment and amendments.

MEETING REPORTS. When appropriate, the Review may contain reports of relevant meetings.

BOOK REVIEWS are welcome. These should normally be approximately 1,000 words in length.

LETTERS TO THE EDITOR are welcome.

Layout of Articles

- Short title (up to 40 characters including spaces), subtitle (if desired), author(s) name(s) and affiliation(s)
- Abstract of approximately 100 words, outlining in a single paragraph the aims, scope and conclusions of the paper
- Main body of text, with sub-titles to emphasise changes of topic. Ideally in blocks of approximately 500 words
- References
- Appendices as required
- Illustrations in original form with captions, provided separately from the text. The use of coloured illustrations should be discussed prior to submission of the articles

References

Bibliographical references should be listed at the end of the articles in the standard Harvard form. Footnotes should be kept to a minimum and the metric system used throughout.

Delivery of Material

Typescript: Deliver the manuscript on disc or by e-mail, preferably on Microsoft Word or RTF. Send an identical hard copy by mail or fax.

Illustrations: We prefer to receive hard copy illustrations (e.g. photographs, slides or negatives). If you decide to deliver digital illustration material, please note that the minimum resolution of the illustrations should be 367 dpi at reproduction size and conform to one of the following formats: TIFF, JPEG, BMP, GIF or TIF.

Reprints

Reprints of all articles (including articles published in earlier issues) can be ordered. For more information, please contact Jose Zijlstra at GITC.

Copyright

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

The publisher is not responsible for statements made in the articles or advertisements nor is responsible for typing or converting errors.

No material may be reproduced in whole or in part without written permission of GITC bv

Subscription Information

The Journal is published twice a year by GITC bv. Subscription rates are available upon request from the publisher. The Journal can be ordered only by subscription. Subscription orders should be sent to the publisher.