

Content

Invited articles

10 Deep-sea exploration of marine ecosystems – Knowledge and solutions for marine biodiversity

Alex David Rogers and Eva Ramirez-Llodra

38 Robotic photogrammetric underwater inspection of hydropower plants Manuela Ammann

Peer-reviewed articles

46 Spatial and temporal coverage of the cargo ship network for GNSS-based tsunami detection

Bruce Enki Oscar Thomas, James Foster and Tasnîme Louartani

64 From volunteer ping to community map – The CHS' Community Hydrography Program

Mathieu Rondeau, Michel Breton, Gabriel Montpetit-Allard, Michel Leger, Yan Bilodeau and Johnny Kasudluak

78 Al-based boulder detection in sonar data – Bridging the gap from experimentation to application

Matthias Hinz, Patrick Westfeld, Peter Feldens, Agata Feldens, Sören Themann and Svenja Papenmeier

100 Improving a ship's energy efficiency in Korean coastal waters using tidal current information

Jinyoung Yang and Do-Seong Byun

112 Exploring the possibility of adding DGGS support to the S-100 Universal Hydrographic Data Model

Kimberly Mason and Jens Schröder-Fürstenberg

Conference papers

- 125 Greetings from HYDRO 2023 Organizing Committee
- 128 Exploration of hydrothermal venting sites using deep-towed multibeam echo sounder data

Tanja Dufek, Ralf Freitag, Thomas Kuhn and Harald Sternberg

136 Closing the data gap – Automated seafloor health maps to accelerate nature-based solutions

Hannah Brocke, Tadzio Holtrop, Raja Kandukuri, Guy Rigot, Anna-Lea Lesage, Nils Oehlmann and Joost den Haan

144 Unlock insights from hydrographic data with GeoAl Matthew Woodlief



Notes / Technical reports

- **150 CSB** as part of the modern hydrographic toolbox Jennifer Jencks and Belen Jimenez Baron
- 162 Citizen Hydrospatial Sciences To csB or not to csB, that is the question! Denis Hains, Steven Geoffrey Keating, Chandana Rathnayake, Victoria Obura, Shereen Sharma and Stephen Hall
- 172 Science Monitoring And Reliable Technology (SMART) to monitor the ocean using submarine cables

Matías Sifón

178 Shared waters, same standards – The Baltic Sea e-Nav project: A partnership for the future of marine navigation

Benjamin Hell, Magnus Wallhagen, Patrick Westfeld, Sophie Hohwü-Christensen, Rainer Mustaniemi, Antti Värre and James Harper

General information

182 Empowering hydrographic professionals: highlights from IFHS Student Awards and insights into the Hydrographic Professional Accreditation Scheme Huibert-Jan Lekkerkerk, David Vincentelli, Tanja Dufek and Yvonne Liversidge

188 FIG Commission 4 Work Plan 2023–2026: Targeting the next challenges in the hydrospatial domain

Gunathilaka, M. D. Eranda K., Gordon Johnston, Geoff Lawes, Samuel Ironside, Wee, K. T. K., Mick Filmer, Tanja Dufek, Jakovljevic Gordana, Denis Hains and Ashraf Dewan

Book review

194 The deepest map – The high-stakes race to chart the world's oceans Douglas Paul Brunt