

# BULLETIN OF THE MARINE GEOLOGY

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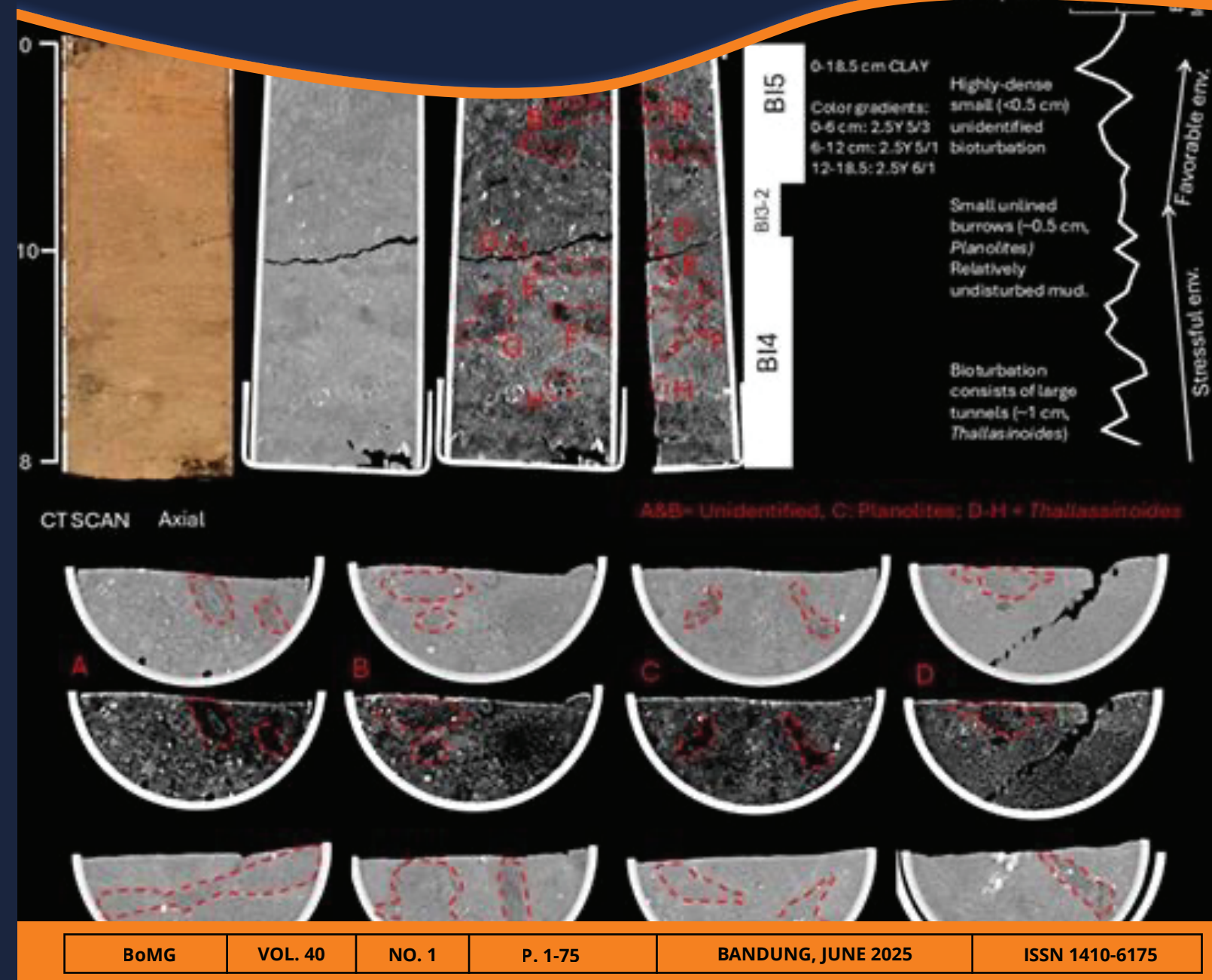


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**BALAI BESAR SURVEI DAN PEMETAAN GEOLOGI KELAUTAN**  
BADAN GEOLOGI  
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# BULLETIN OF THE MARINE GEOLOGY

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Vol. 40, No. 1, JUNE 2025

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## Preface

The first edition of the Bulletin of the Marine Geology (BOMG), published in June 2025, includes five scientific articles. This publication is part of an ongoing effort to disseminate scientific research in marine geology, encompassing oceanography, sediment dynamics, environmental geology, and geotechnical studies within Indonesian waters and surrounding regions.

The first article, study of heavy metal lead (Pb) content in the northern waters of Belitung Regency, examines the distribution of Pb concentrations in sediments and the water column, as well as the influence of seasonal variations (ocean currents) on their spatial distribution.

The second article in this edition discusses the variability of significant wave height, wind speed, and precipitation, and their impact on shipping safety along the Indonesian Archipelagic Sea Lanes (ALKI). The study aims to understand the risks by analyzing patterns of waves, wind, and rainfall in the ALKI, in order to enhance shipping safety and reduce maritime accidents.

The next article presents a study of thermocline temperature gradients along the Indonesian Throughflow (ITF) pathway during the Last Glacial Maximum (LGM). It examines ITF strength during the LGM in comparison to the Pre-Industrial (PI) period across the Makassar Strait, Maluku Sea, and Banda Sea as key segments of the ITF route. Seasonal temperature variations in the thermocline layer at these locations indicate that the ITF was significantly weakened during both the LGM and PI periods.

The fourth paper examine the impact of upwelling on environmental changes and sedimentation dynamics based on trace fossils in the Maluku Sea. This study analyzes bioturbation patterns and Zr/Rb ratios in sediment cores from the Maluku Sea to reconstruct past environmental conditions and assess the suitability of the sediments for age determination.

The last paper presents a study on bearing capacity and settlement behavior of coastal soils for the proposed development of Balongan Port, West Java. It reviews the bearing capacity and predicts settlement behavior through the integration of field and laboratory test data.

It is expected that the articles published in the first edition of 2025 will make a meaningful contribution to the advancement of science and technology, and serve as a valuable reference for policy development in sustainable coastal and marine management.

We sincerely thank the authors for their valuable contributions through the submission of scientific articles, and the peer reviewers for dedicating their time and expertise to providing critical and constructive feedback. Our appreciation also goes to the editorial team and all individuals and institutions who have supported the successful publication of this journal.

Finally, we invite readers to share feedback, comments, and suggestions for improving the quality of the Bulletin of the Marine Geology in the future.

Bandung, June, 2025

Chief Editor

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