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| Book Name: | [**Geography, Earth Science and Environment: Research Highlights**](https://www.bookpi.org/bookstore/product/geography-earth-science-and-environment-research-highlights-vol-1/) |
| Manuscript Number: | **Ms\_BPR\_5296** |
| Title of the Manuscript:  | **Ecological Changes over a Century in the Western Coastal Area of Jakarta Bay: Based on a Short Core Sample** |
| Type of the Article | **BOOK CHAPTER** |

**Special note:**

**A research paper already published in a journal can be published as a Book Chapter in an expanded form with proper copyright approval.**

**Source Article:**

**This chapter is an extended version of the article published by the same author(s) in the following journal.**

**AIP Conf. Proc. 2026, 020019 (2018).**

[**https://doi.org/10.1063/1.5064979**](https://doi.org/10.1063/1.5064979)

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| PART 1: Comments |
|  | Reviewer’s comment**Artificial Intelligence (AI) generated or assisted review comments are strictly prohibited during peer review.** | Author’s Feedback *(Please correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here)* |
| **Please write a few sentences regarding the importance of this manuscript for the scientific community. A minimum of 3-4 sentences may be required for this part.** | This manuscript provides valuable insights into the historical ecological degradation in Jakarta Bay using a multi-proxy approach. The integration of benthic foraminiferal indices and heavy metal concentrations from sediment cores offers a reliable method to reconstruct past hypoxic conditions. Given the ongoing anthropogenic pressures on coastal ecosystems globally, this study contributes meaningfully to the understanding of long-term environmental change in tropical marine environments. It may also inform future coastal management strategies in similar urbanized estuarine systems. |  |
| **Is the title of the article suitable?****(If not please suggest an alternative title)** | Yes, the title reflects the content and methodology. However, a slightly more precise version could be:**“Reconstructing Ecological Changes and Hypoxia in the Western Coastal Area of Jakarta Bay Over a Century Using a Short Core Sample”** |  |
| Is the abstract of the article comprehensive? Do you suggest the addition (or deletion) of some points in this section? Please write your suggestions here. | The abstract contains the essential points but lacks clarity and has several grammatical errors. I suggest:* Rewriting the sentence: “Hypoxia in aquatic leads to a double impact…” to “Hypoxia in aquatic systems leads to dual impacts…”.
* Adding a brief mention of the significance of using ²¹⁰Pb dating and the A–E index.
* Clarifying that the increased metal concentrations are linked to anthropogenic activities.
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| **Is the manuscript scientifically, correct? Please write here.**  | The scientific basis is acceptable, but the manuscript lacks statistical analysis to support correlations between metal concentration and the A–E index. Additionally, the rationale for selecting the single core site and the representativeness of the data should be better justified. |  |
| **Are the references sufficient and recent? If you have suggestions of additional references, please mention them in the review form.****-** | Some references are valid, but most are outdated. It is recommended to add more recent studies (post-2015), especially concerning:* Recent developments in the use of foraminiferal indices for pollution/hypoxia monitoring.
* Hypoxia events in tropical coastal environments. Suggestions:
* Diaz, R.J., Rosenberg, R. (2008). Spreading dead zones and consequences for marine ecosystems. Science.
* Levin, L.A. (2018). Manifestation, drivers, and emergence of open ocean deoxygenation. Ann Rev Mar Sci.
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| Is the language/English quality of the article suitable for scholarly communications? | Not yet. The manuscript requires **language revision by a fluent English speaker**. Several grammatical errors, awkward phrasing, and inconsistent sentence structures hinder readability and comprehension. Professional editing is strongly advised. |  |
| Optional/General comments |  The inclusion of a map and better-quality figures would enhance the paper. The conclusion should be expanded to highlight policy implications and suggest directions for future monitoring.**General Comments:**This manuscript addresses an important topic: the long-term ecological changes in a heavily impacted coastal area, Jakarta Bay. By combining benthic foraminiferal indices with sediment metal content, the study presents a multi-proxy approach to reconstruct hypoxic conditions over a century. The Ammonia-Elphidium (A-E) index is appropriately used as a proxy for hypoxia, and the application of ²¹⁰Pb dating is suitable for the time scale investigated. However, the manuscript requires substantial improvements before it can be considered for publication. These concern the scientific structure, clarity of the language, precision in the methodological details, and depth of the discussion. Several sections are insufficiently developed, and the writing style needs revision for clarity and grammatical accuracy.**Specific Comments:****1. Scientific Relevance and Originality*** The topic is highly relevant to coastal environmental monitoring and historical ecology.
* The approach is based on established proxies and has scientific merit.
* However, the manuscript lacks a clearly defined research question or hypothesis.
* The rationale for selecting only one core site is not sufficiently explained. What makes this location representative?

**2. Methodology*** The methods are generally appropriate but require more detail:
	+ How many subsamples were analyzed?
	+ Were any replicates taken?
	+ Were quality controls or standard reference materials used in metal analyses?
* The A-E index formula is presented, but its biological significance should be further elaborated.
* It is unclear whether total or bioavailable metal concentrations were measured.
* There is no mention of statistical analyses. Correlation or trend analysis would strengthen the study's findings.

**3. Results and Discussion*** The data presented are valuable, and temporal patterns are evident.
* However, the discussion lacks depth and critical analysis:
	+ Trends in metals and A-E index should be correlated more explicitly.
	+ There is no comparative analysis with other regions or historical studies, which could give more context.
	+ Possible causes of the observed changes (e.g., urban development, river input) should be discussed more thoroughly.

**4. Figures*** Figures 2 and 3 are referenced but not properly described in the text.
* Figure quality is not assessable in the review version, but captions need to be more informative.
* Consider adding a simplified timeline highlighting key peaks and environmental events (e.g., industrial expansion, regulation changes).

**5. Language and Structure*** The manuscript contains numerous grammatical errors and awkward sentence constructions. Examples include:
	+ “the increased of toxicity” → “the increase in toxicity”
	+ “researchused” → “research used”
* The abstract should be rewritten for clarity and conciseness.
* Some sections (especially Results & Discussion) are poorly organized and would benefit from subsections or clearer transitions.

**6. Conclusion*** The conclusion needs to better highlight the contribution of this study to environmental monitoring or policy.
* Recommendations for future monitoring or research are missing.
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| **PART 2:**  |
|  | Reviewer’s comment | Author’s comment *(if agreed with the reviewer, correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here)* |
| **Are there ethical issues in this manuscript?**  | *(If yes, Kindly please write down the ethical issues here in detail)* |  |

**Reviewer details:**

**RIOUCHI Ouassila, Morocco**