VARIATION OF ORGANIC SEQUESTRATION IN MANINJAU LAKE INDONESIA, ITS CONTRIBUTION TO THE SEDIMENT CARBON STOCK, AND THEIR ROLE IN THE MITIGATION OF CLIMATE CHANGES

1. Heavy metals and microplastics distribution in Maninjau Lake, West Sumatra Indonesia
2. Analysis of pollutant load of Lake Maninjau, West Sumatra, Indonesia
3. Analysis of pollutant load of Lake Maninjau, West Sumatra, Indonesia
4. Diversity of cladocera in Lake Maninjau (Sumatra) with remarks on cladocera species richness in Indonesia

- Prof. Dr. Tri Retnaningsih Soeprobowati, MAppSc.
- Dr. Noverita Dain Takarina, MSc
- Dr. Puti Sri Komala
- Dr. Luki Subehi (Limnologi dan Sumberdaya Air)
- Marta Wojewódka-Przybył, Ph.D.

Cluster for Paleolimnology CPalim

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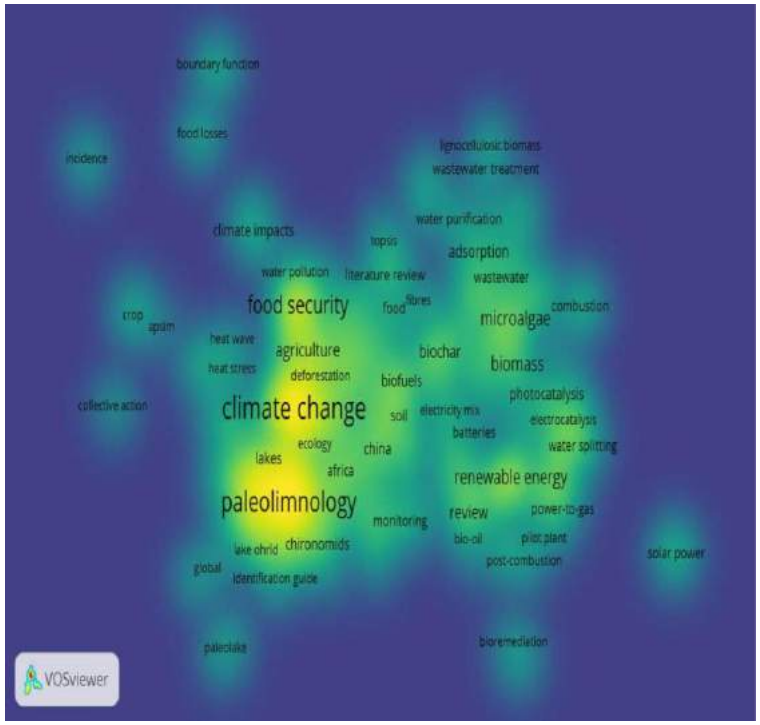

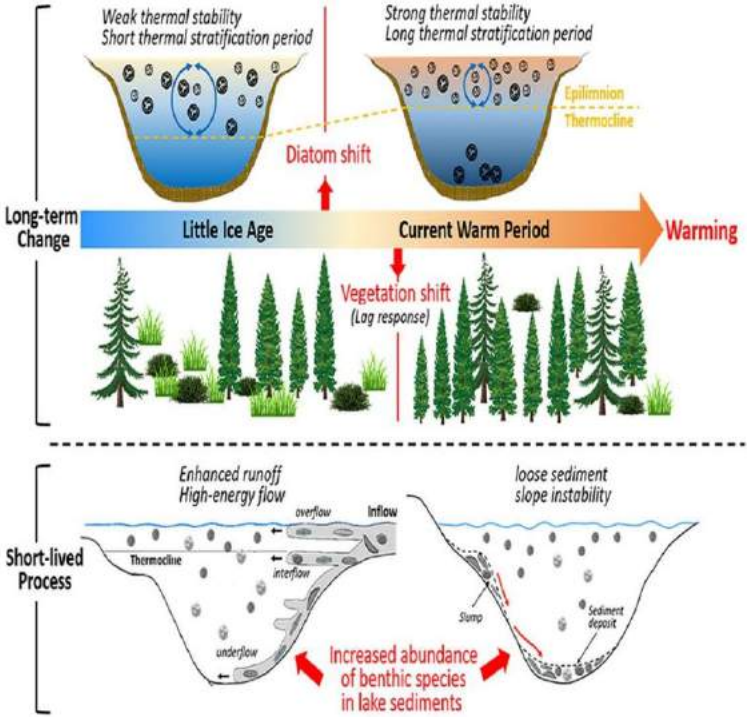

Tujuan

- Menganalisis sekuestrasi karbon organic di Danau Maninjau
- Menganalisis stok karbon sedimen di Danau Maninjau
- Menganalisis distribusi logam berat dan mikropalstik di Danau Maninjau
- Menganalisis ikualitas air spasial dan temporal Danau Maninjau
- Menganalsis beban pencemaran Danau Maninjau

Manfaat

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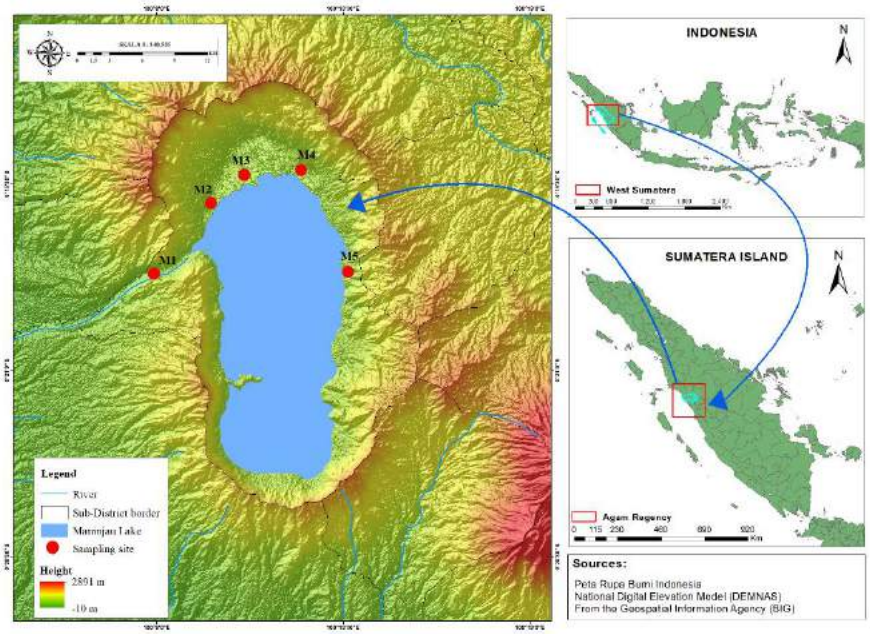
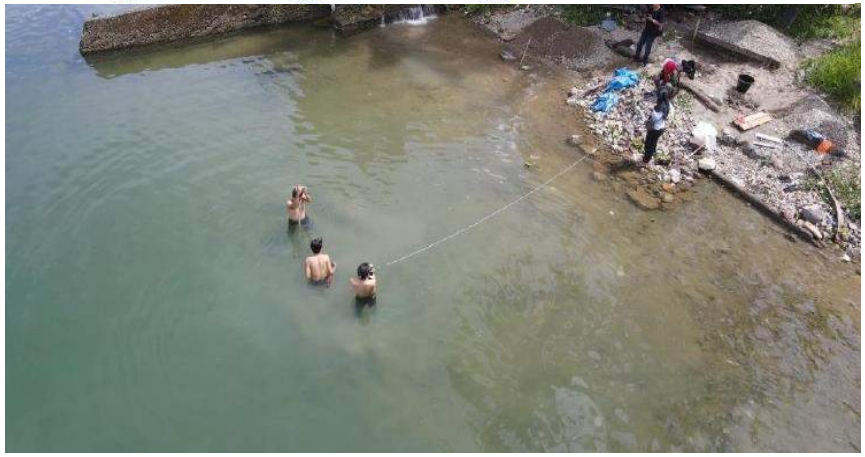


Sources:
Peta Rupa Bumi Indonesia
National Digital Elevation Model (DEMNAS)
From the Geospatial Information Agency (BIG)



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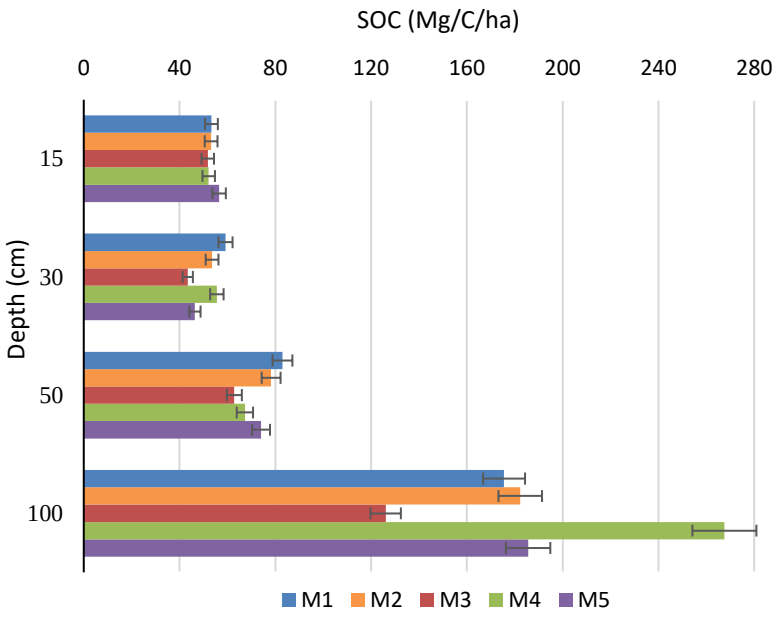
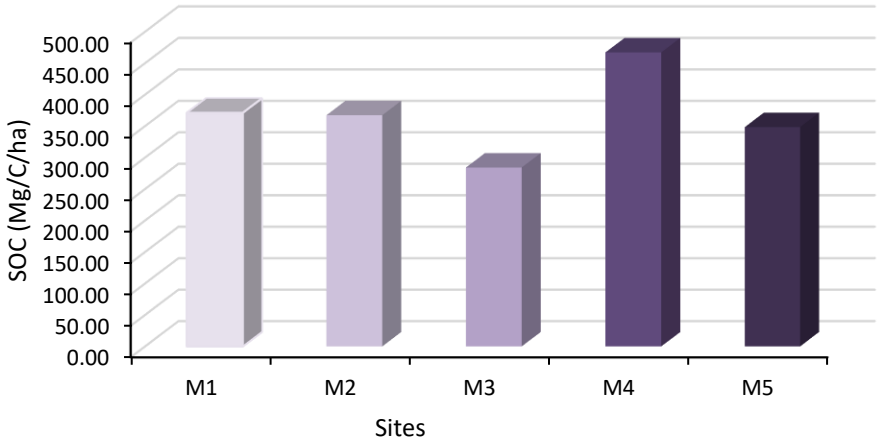
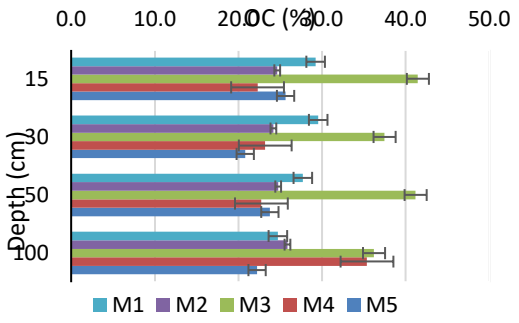
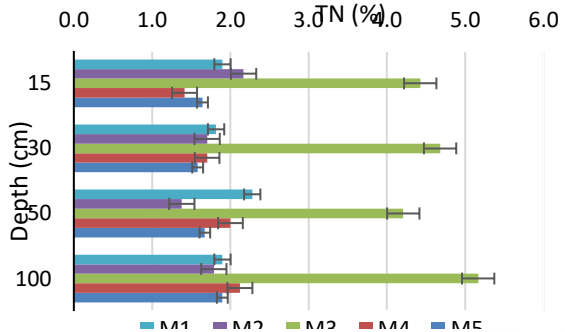
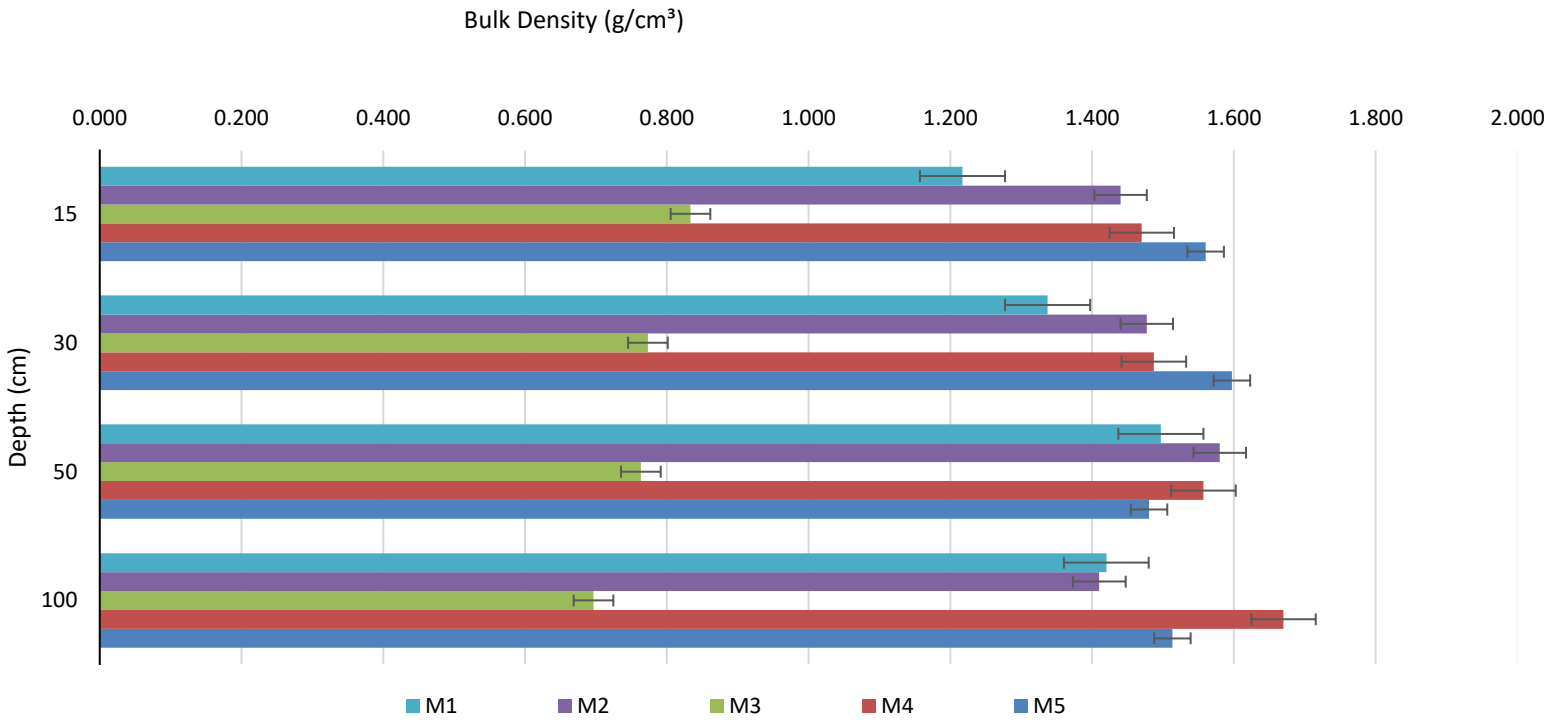




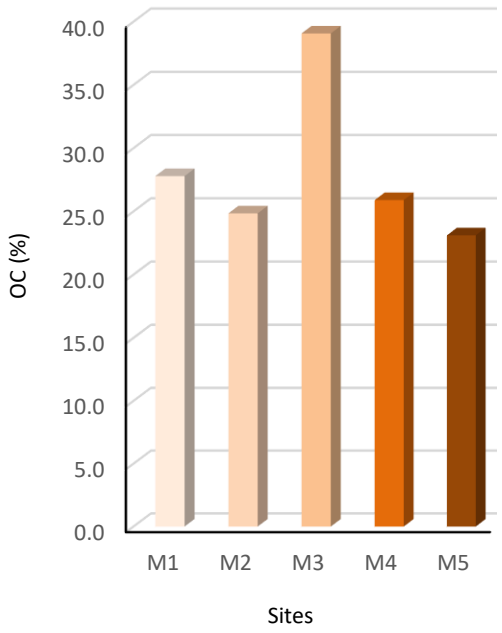


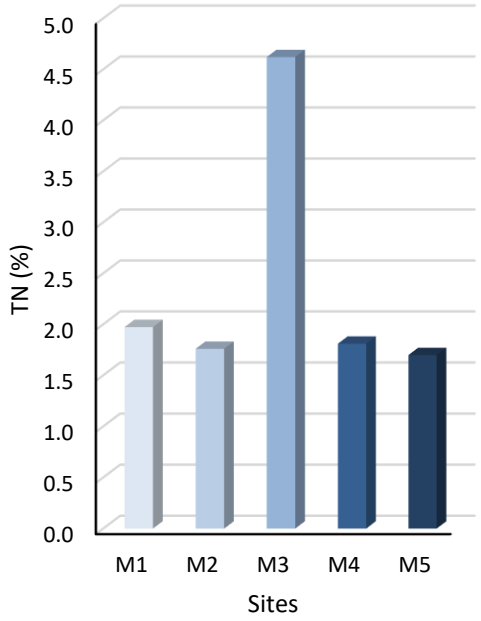


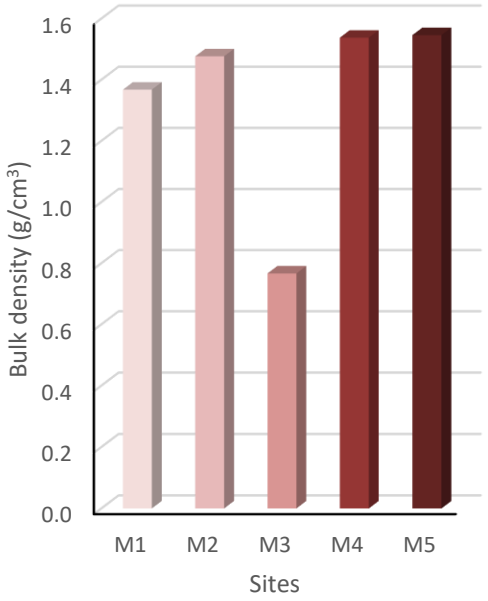
Vertical distribution of bulk density



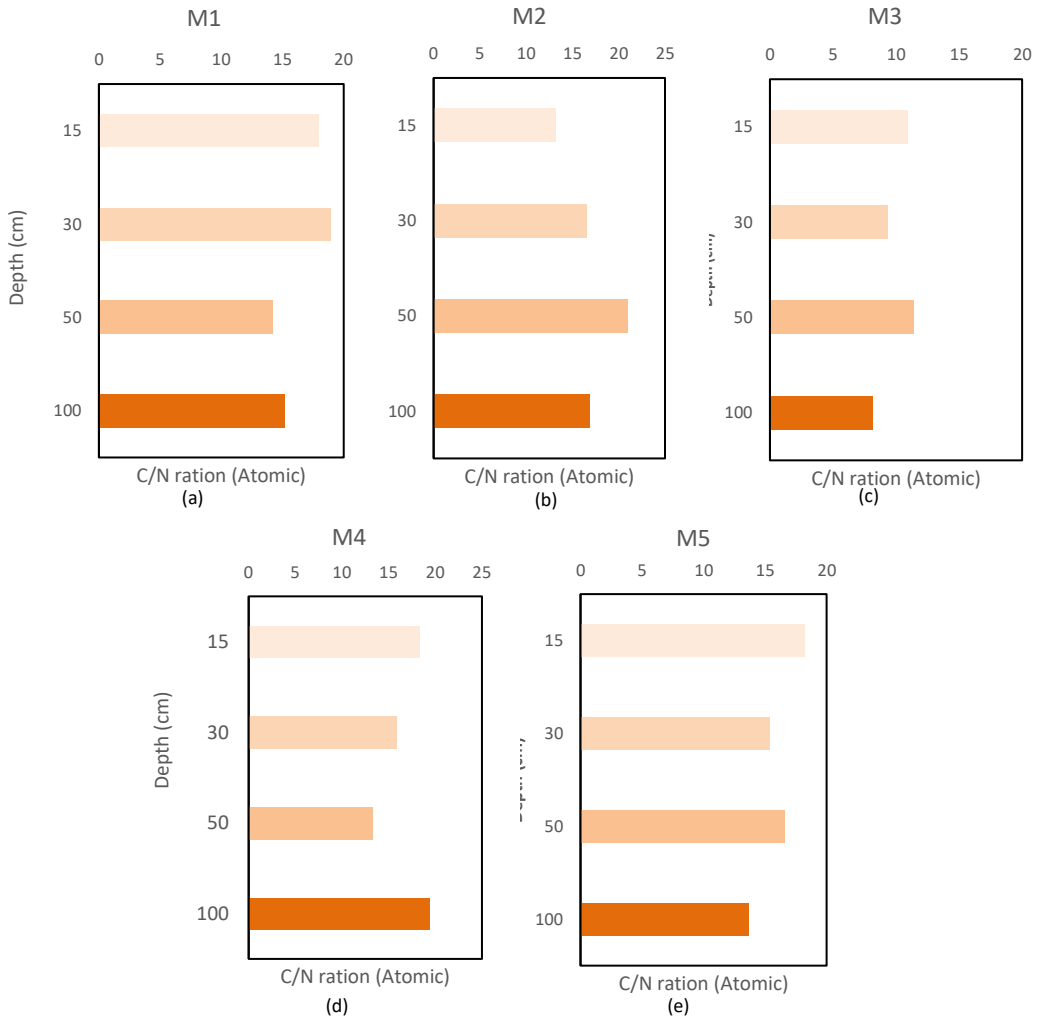
The difference between (a) OC, (b) TN, and (c) bulk density at each site



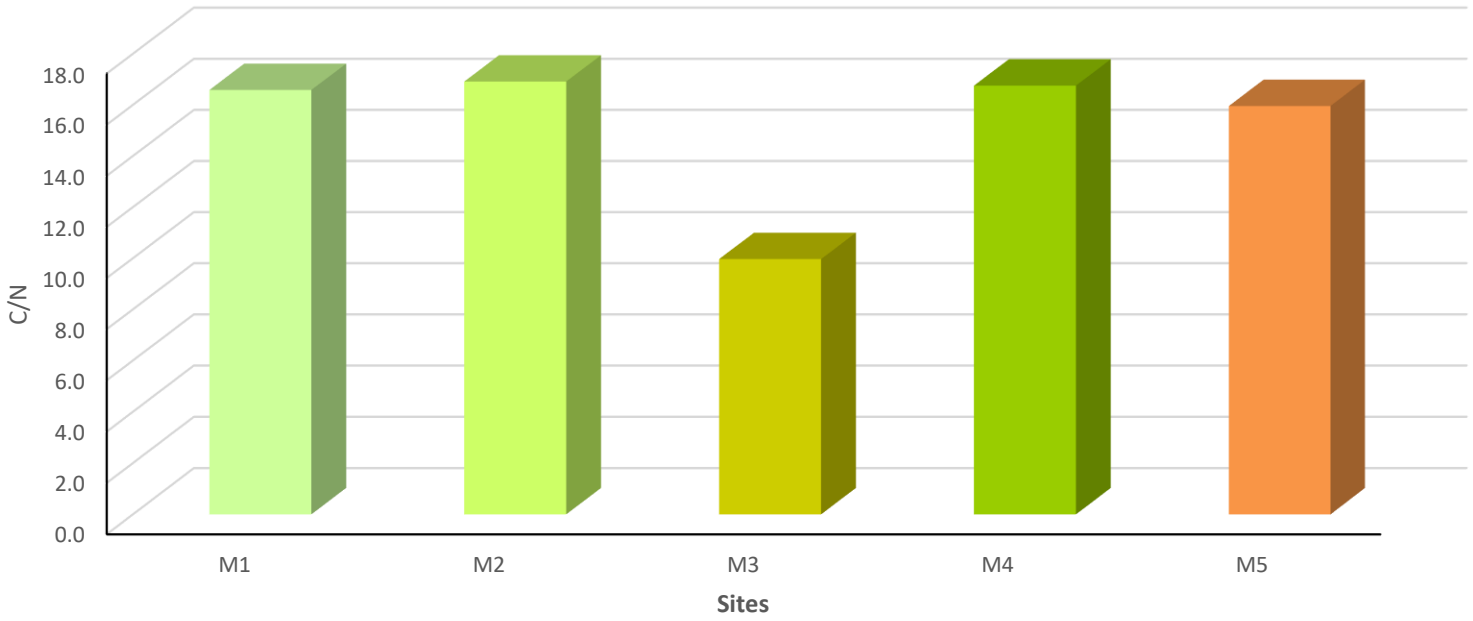


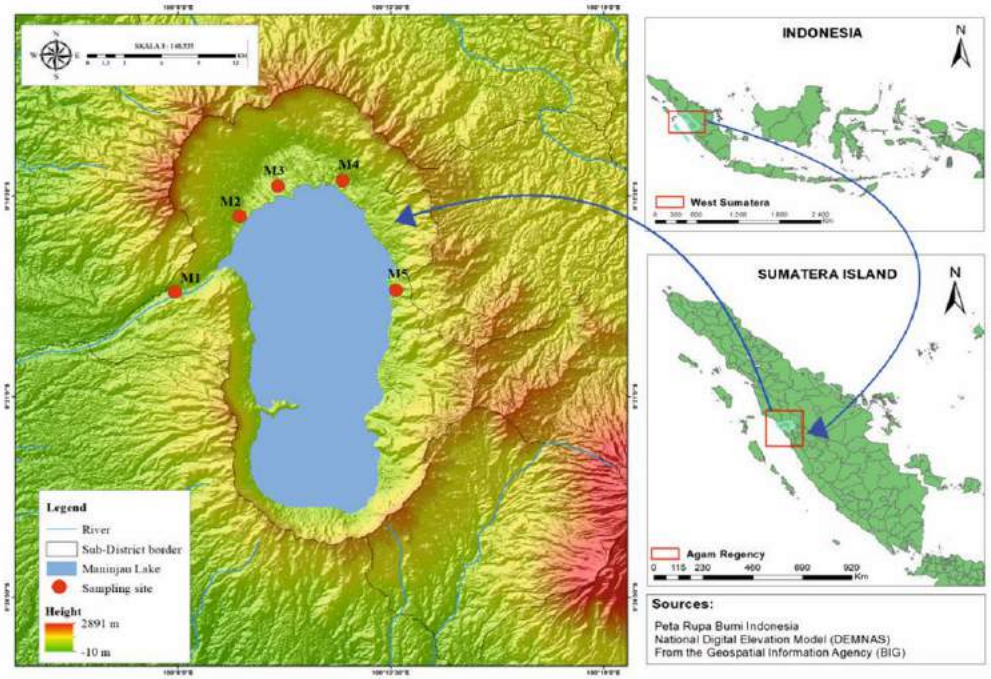


The vertical variation of C/N atomic ratios at each site



The average C/N atomic ratio at each site





Five short sediment cores

Sediment organic carbon stock (SOC)

Total Nitrogen
C/N ratio

Lowest SOC
in M3 site (Koto Kaciak)

riparian area
floating net cage

Highest SOC
in M4 site (Duo Koto)

forest area

Conclusion

- the lakeside wetlands have a relatively large potential and capacity to store carbon stocks, especially in sediments;
- The different estimated SOC stock in lakeside indicates that the environmental conditions, land use, and land cover;
- Carbon and nitrogen ratio indicates the source of organic matter, from phytoplankton, submerged and floating macrophytes, or terrestrial plants
- restoration efforts of the lakeside wetland ecosystem are important initiatives, especially to maintain the sustainability of the water and lakeside environment;
- Preserving and protecting lakeside wetland ecosystems can support global climate change mitigation through sequestration processes that can reduce carbon emissions in the atmosphere.

KELUARAN RISET

HOST:

1. Telah terbit di Global Journal Environmental Science and Management (GJESM) Q1: Sediment organic carbon stocks in tropical lake and its implication for sustainable lake management, https://doi.org/10.22034/gjesm.2023.02.01

2. Accepted AIP Conference: Water Quality of Maninjau Lake, West Sumatera Province Based on Pollution Index and Storet Indices. https://icbbunram-submission.org/index.php/icbb/announcement

https://doi.org/10.22034/gjesm.2023.02.01

Global J. Environ. Sci. Manage. 9(2): 173-192, Spring 2023, Serial #34

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ORIGINAL RESEARCH PAPER

Sediment organic carbon stocks in tropical lakes and its implication for sustainable lake management

T.R. Soeprobowati[1,6,7,*], N.D. Takarina[2], P.S. Komala[3], L. Subehi[4], M. Wojewódka-Przybył[5], J. Jumari[6], R. Nastuti[7]

[1] *Center for Paleolimnology (CPalim), Universitas Diponegoro, Semarang, Indonesia*

[2] *Department Biology, Faculty Mathematics and Natural Sciences, Universitas Indonesia, Depok, Indonesia*

[3] *Department of Environmental Engineering, Faculty of Engineering, Universitas Andalas, Padang, Indonesia*

[4] *Research Center for Limnology and Water Resources, National Research and Innovation Agency, Cibinong, Indonesia*

[5] *Institute of Geological Sciences, Polish Academy of Sciences, Warsaw, Poland*

[6] *Department Biology, Faculty Science and Mathematics, Universitas Diponegoro, Semarang, Indonesia*

[7] *School of Postgraduate Studies, Universitas Diponegoro, Semarang, Indonesia*

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- Water Quality of Maninjau Lake, West Sumatera Province Based on Pollution Index and Storet Indices
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Noverita Dian <noverita.dian@sci.ui.ac.id>

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1 message

Rusli Daik <jsm@ukm.edu.my> 6 December 2022 at 21:10
To: Dr Noverita Dian Takarina <noverita.dian@sci.ui.ac.id>

Dear Dr Noverita Dian Takarina:

Thank you for submitting the manuscript, "MICROFIBERS CONTAMINATIONS IN WATER OF TROPICAL CRATER LAKE MANINJAU, WEST SUMATRA, INDONESIA RELATED TO THE LAND USES" to Sains Malaysiana. With the online journal management system that we are using, you will be able to track its progress through the editorial process by logging in to the journal web site:

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#60026 SUMMARY

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Authors	Noverita Dian Takarina, Tri Retnaningsih Soeprobowati, Puti Sri Komala, Luki Subehi, Marta Wojewodka-Przybyl, Andrio Adiwibowo
Title	MICROFIBERS CONTAMINATIONS IN WATER OF TROPICAL CRATER LAKE MANINJAU, WEST SUMATRA, INDONESIA RELATED TO THE LAND USES
Original file	60026-[illegible].DOCX 2022-12-06
Supp. files	None — ADD A SUPPLEMENTARY FILE
Submitter	Dr Noverita Dian Takarina
Date submitted	December 6, 2022 - 10:10 PM
Section	Environmental Sciences
Editor	None assigned
Author comments	Julie R. Peller Department of Chemistry, Valparaiso University, 1710 Chapel Drive, Valparaiso, IN 46383, USA julie.peller@valpo.edu Peter L. Lenaker Upper Midwest Water Science Center, U.S. Geological Survey, 8505 Research Way, Middleton, Wisconsin 53562, United States *Email: plenaker@usgs.gov Muhammad Reza Cordova Research Center for Oceanography, National Research and Innovation Agency (BRIN), Jalan Pasir Putih I, Ancol Timur, Jakarta 14430, Indonesia muhammad.reza.cordova@brin.go.id

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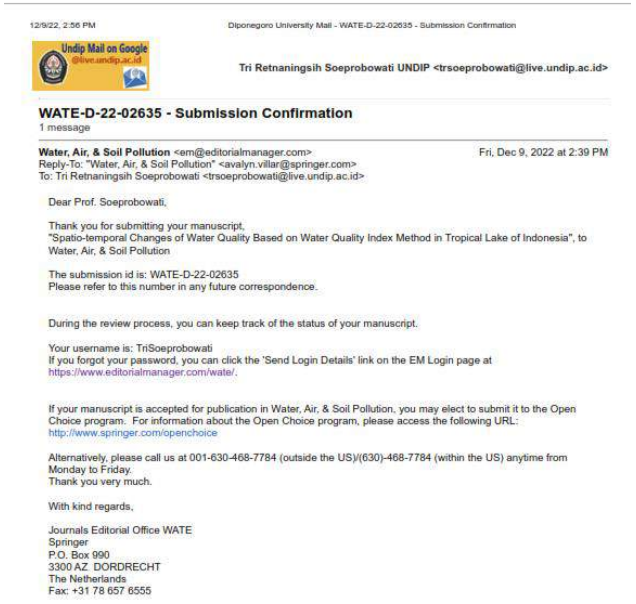

12/9/22, 2:56 PM Diponegoro University Mail - WATE-D-22-02635 - Submission Confirmation

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1 message

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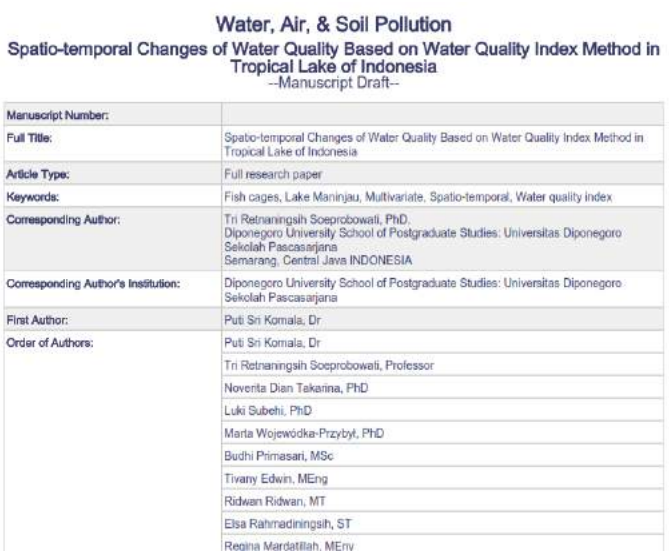

Water, Air, & Soil Pollution

Spatio-temporal Changes of Water Quality Based on Water Quality Index Method in Tropical Lake of Indonesia

--Manuscript Draft--

Manuscript Number:	
Full Title:	Spatio-temporal Changes of Water Quality Based on Water Quality Index Method in Tropical Lake of Indonesia
Article Type:	Full research paper
Keywords:	Fish cages, Lake Maninjau, Multivariate, Spatio-temporal, Water quality index
Corresponding Author:	Tri Retnaningsih Soeprobowati, PhD. Diponegoro University School of Postgraduate Studies: Universitas Diponegoro Sekolah Pascasarjana Semarang, Central Java INDONESIA
Corresponding Author's Institution:	Diponegoro University School of Postgraduate Studies: Universitas Diponegoro Sekolah Pascasarjana
First Author:	Puti Sri Komala, Dr
Order of Authors:	Puti Sri Komala, Dr
	Tri Retnaningsih Soeprobowati, Professor
	Noverita Dian Takarina, PhD
	Luki Subehi, PhD
	Marta Wojewódka-Przybył, PhD
	Budhi Primasari, MSc
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5. IGS PAS

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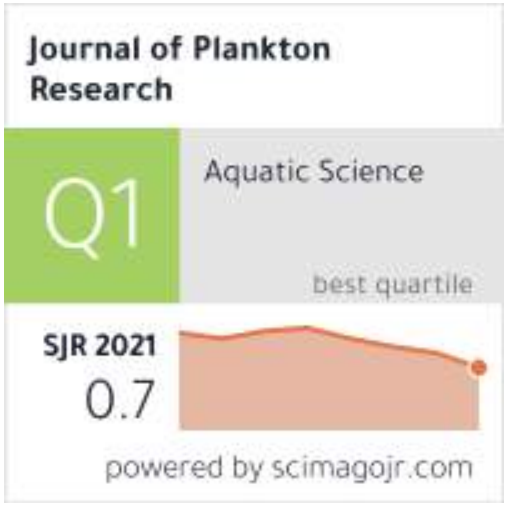
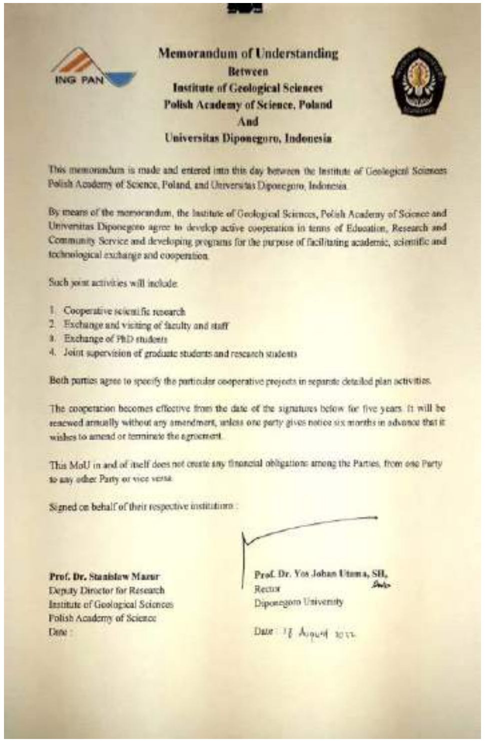


MoU Kerjasama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Institute of Geological Sciences
Polish Academy of Science, Poland
And
Universitas Diponegoro, Indonesia

This memorandum is made and entered into this day between the Institute of Geological Sciences Polish Academy of Science, Poland, and Universitas Diponegoro, Indonesia.

By means of the memorandum, the Institute of Geological Sciences, Polish Academy of Science and Universitas Diponegoro agree to develop active cooperation in terms of Education, Research and Community Service and developing programs for the purpose of facilitating academic, scientific and technological exchange and cooperation.

Such joint activities will include:

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3. Exchange of PhD students
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Both parties agree to specify the particular cooperative projects in separate detailed plan activities.

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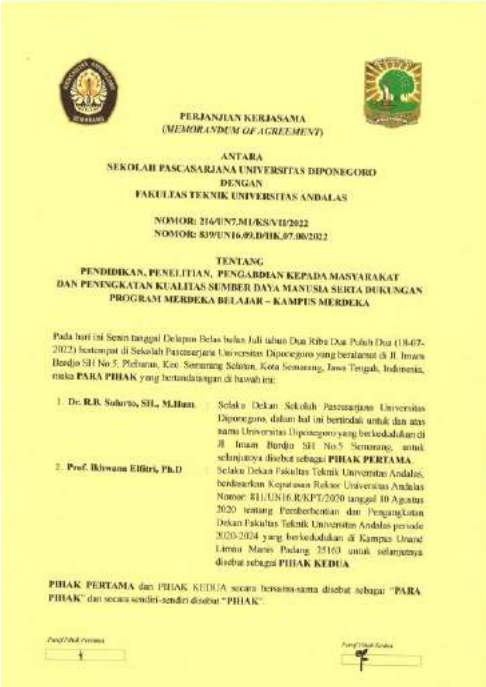
Signed on behalf of their respective institutions:

Prof. Dr. Stanislaw Mazur
Deputy Director for Research
Institute of Geological Sciences
Polish Academy of Science
Date:

Prof. Dr. Yos Johan Utama, SH, M.Hum
Rector
Diponegoro University
Date: 18 August 2022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Pada hari ini Senin tanggal Delapan Belas bulan Juli tahun Dua Ribu Dua Puluh Dua (18-07-2022) bertempat di Sekolah Pascasarjana Universitas Diponegoro yang beralamat di Jl. Imam Bardjo SH No 5. Pleburan, Kec. Semarang Selatan, Kota Semarang, Jawa Tengah, Indonesia, maka **PARA PIHAK** yang bertandatangan di bawah ini:

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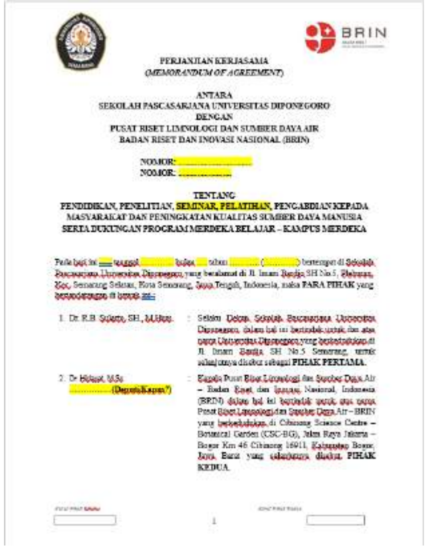
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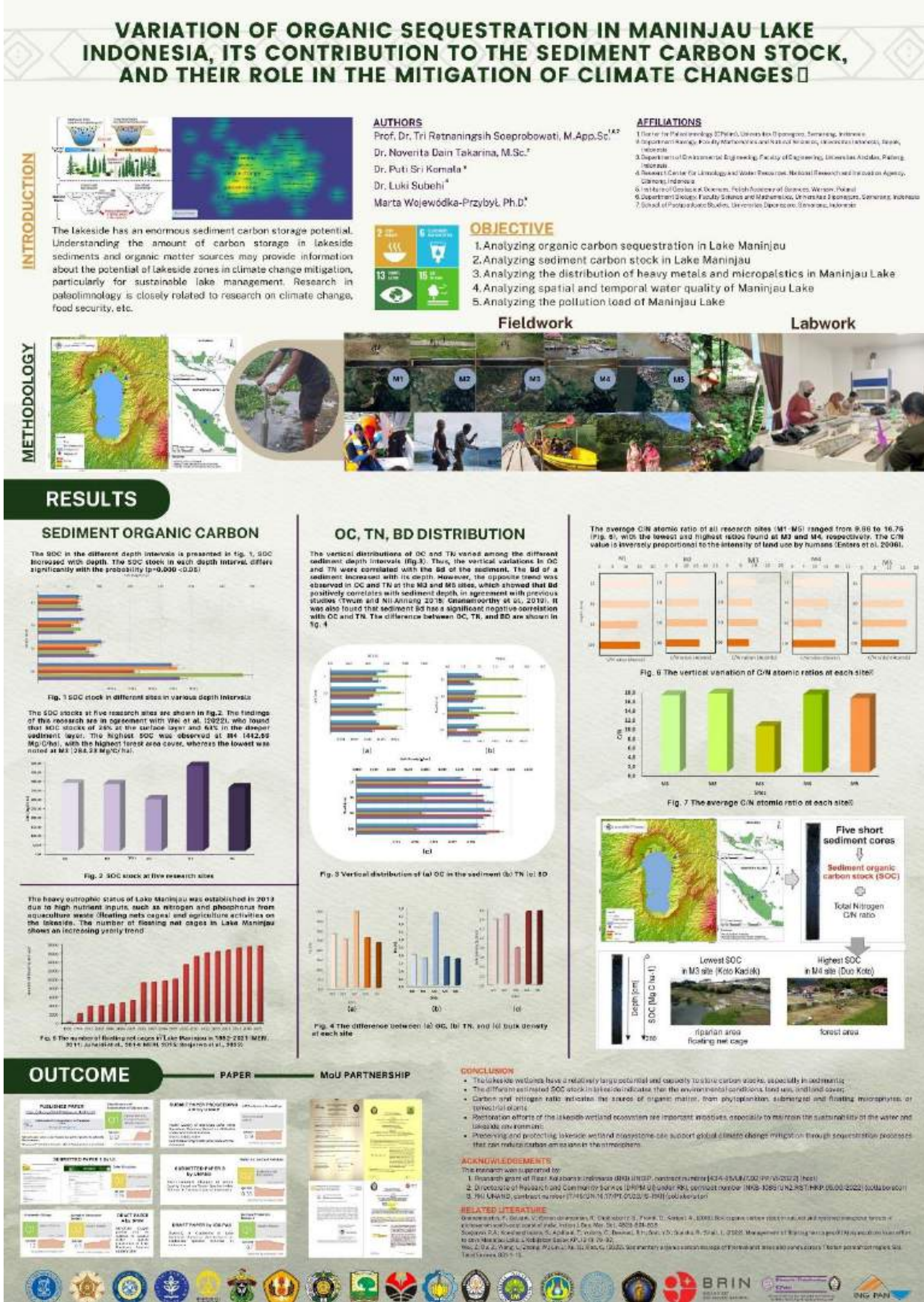

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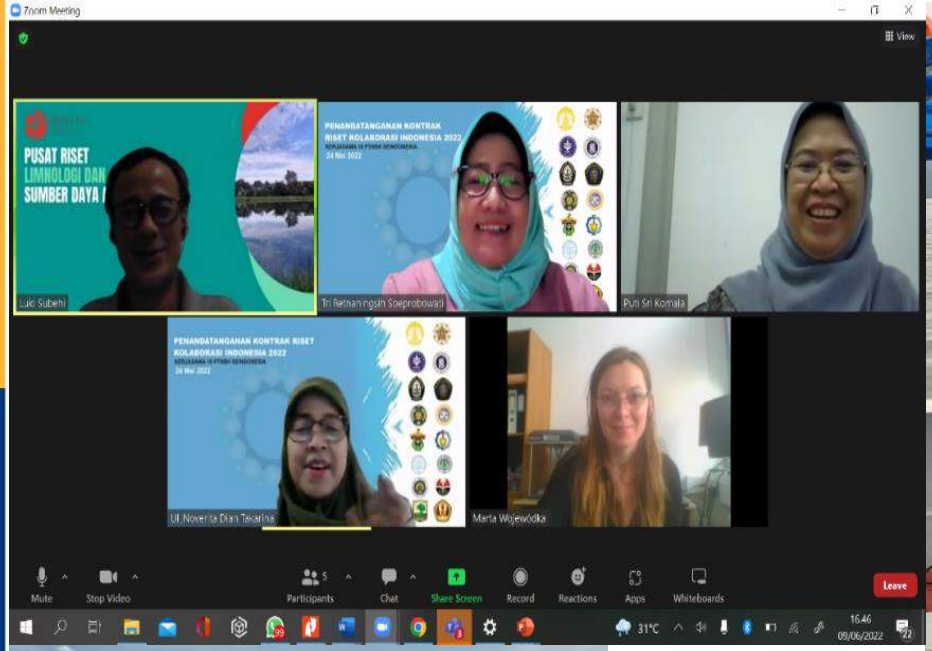

WE NEED WATER
WATER DOES NOT NEED US
SAFE WATER FOR LIFE
Starting from ourself

Center for Paleolimnology
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THANK YOU