UNM

Abdul Malik <abdulmalik@unm.ac.id>

Journal of Environmental Engineering and Landscape Management - Manuscript ID JEELM-2020-0129 has been submitted online

1 message

Journal of Environmental Engineering and Landscape Management <onbehalfof@manuscriptcentral.com>
Reply-To: jeelm@vgtu.lt
To: abdulmalik@unm.ac.id

Sat, Oct 3, 2020 at 2:42 PM

03-Oct-2020

Dear Dr Malik:

Your manuscript entitled "The Potential Soil Organic Carbon Stocks in Mangrove Areas of Sinjai District, South Sulawesi, Indonesia" has been successfully submitted online and is presently being given full consideration for publication in Journal of Environmental Engineering and Landscape Management.

Your manuscript ID is JEELM-2020-0129.

Please mention the above manuscript ID in all future correspondence or when calling the office for questions. If there are any changes in your street address or e-mail address, please log in to ScholarOne Manuscripts at https://mc.manuscriptcentral.com/seel and edit your user information as appropriate.

You can also view the status of your manuscript at any time by checking your Author Centre after logging in to https://mc.manuscriptcentral.com/seel.

Thank you for submitting your manuscript to Journal of Environmental Engineering and Landscape Management.

Could you please let us know if you have noticed the announcement that Journal of Environmental Engineering and Landscape Management will be published as an Open Access journal starting 2018, and Article Processing Charge (APC) will be applied for every new submission after October 5, 2017.

APC for JEELM journal is € 25 / per page net. (approx. 10 pages per article published in 2016). This charge includes all costs of the review process, systems, typesetting, web publication and long-term archiving.

Please confirm that you agree to pay APC if your manuscript is accepted after a peer review process.

Sincerely,
Journal of Environmental Engineering and Landscape Management Editorial Office

Journal of Environmental Engineering and Landscape Management

Home

Author

Submission Confirmation

Print

Thank you for your submission

Submitted to	Journal of Environmental Engineering and Landscape Management
Manuscript ID	JEELM-2020-0129
Title	The Potential Soil Organic Carbon Stocks in Mangrove Areas of Sinjai District, South Sulawesi, Indonesia
Authors	Malik, Abdul Ichsan Ali, Muhammad Annas, Suwardi Jalil, Abdul Mulya, Restu Gravani, Konstantina
Date Submitted	03-Oct-2020

Author Dashboard

UNM

Abdul Malik <abdulmalik@unm.ac.id>

Journal of Environmental Engineering and Landscape Management - Decision on Manuscript ID JEELM-2020-0129

1 message

Journal of Environmental Engineering and Landscape Management <onbehalfof@manuscriptcentral.com>
Reply-To: jeelm@vgtu.lt
To: abdulmalik@unm.ac.id

Tue, Jan 19, 2021 at 10:20 PM

19-Jan-2021

Dear Dr Malik:

Your manuscript entitled "The Potential Soil Organic Carbon Stocks in Mangrove Areas of Sinjai District, South Sulawesi, Indonesia", which you submitted to Journal of Environmental Engineering and Landscape Management, has been reviewed. The reviewer comments are included at the bottom of this letter.

The reviewer(s) would like to see some revisions made to your manuscript before publication. Therefore, I invite you to respond to the reviewer(s)' comments and revise your manuscript.

When you revise your manuscript please highlight the changes you make in the manuscript by using the track changes mode in MS Word or by using bold or coloured text.

Explanations on how each comment of each reviewer was addressed must be provided in a separate document and uploaded together with the revised version of the manuscript also.

To start the revision, please click on the link below:

*** PLEASE NOTE: This is a two-step process. After clicking on the link, you will be directed to a webpage to confirm. ***

https://mc.manuscriptcentral.com/seel?URL_MASK=274a15b8eca3459890461529114e1f80

This will direct you to the first page of your revised manuscript. Please enter your responses to the comments made by the reviewer(s) in the space provided. You can use this space to document any changes you made to the original manuscript. Please be as specific as possible in your response to the reviewer(s).

This link will remain active until you have submitted your revised manuscript. If you begin a revision and intend to finish it at a later time, please note that your draft will appear in the “Revised Manuscripts in Draft” queue in your Author Centre.

IMPORTANT: Your original files are available to you when you upload your revised manuscript. Please delete any redundant files before completing the submission.

Because we are trying to facilitate timely publication of manuscripts submitted to Journal of Environmental Engineering and Landscape Management, your revised manuscript should be uploaded by 20-Mar-2021. If it is not possible for you to submit your revision by this date, we may have to consider your paper as a new submission.

Once again, thank you for submitting your manuscript to Journal of Environmental Engineering and Landscape Management and I look forward to receiving your revision.

Sincerely,
Dr Grubliauskas
Editor in Chief, Journal of Environmental Engineering and Landscape Management
jeelm@vgtu.lt

Reviewer(s)' Comments to Author:

Referee: 1

Comments to the Author
General comment

The manuscript by Malik et al. presents interesting results of mangrove soil carbon stocks in one of the locations in Indonesia. The manuscript findings are supported by extensive field-based sampling collection and therefore, I see a potential and important dataset for a publication. However, some rooms can be improved from the current manuscript presentation before the manuscript can be published.
The authors should provide more description of the soil sample collection approach (see my below-detailed comment). It seems that the bulk density is very high, I wonder if general mangrove typology such as hydrogeomorphic settings can be further explored and elaborated in the manuscript. For example, a recent study by Sasmito et al 2020a in West Papua suggest that soils from fringe mangrove setting have relatively higher bulk density compared to interior ones. I suggest that authors can provide such as mangrove environmental settings to support and enrich the discussion of your findings. See also Rovai et al. 2018 for a similar discussion topic. It is also unclear on the land cover condition of the sampled sites.
Further, I suggest that authors should perform statistical analysis, such as ANOVA, and apply for comparing soil properties and carbon stocks across soil depths and sites.
Lastly, the language of the current manuscript form should be further improved or reviewed at least by a Professional Editor.

Specific comment

Highlights:
Change first highlight point into “Soil organic carbon (SOC) stocks were estimated in disturbed mangroves of South Sulawesi”

Please note that my comments refer to continues line number
Lines 44-48: this sentence is hard to follow. How high the mangrove capacity in C sequestration? Why does mangrove different compare to other vegetations?
Lines 52-53: what do you mean by robust mitigation tool? I suggest combining this second paragraph with the first one since both described the importance of mangrove in climate change mitigation strategy.
Lines 65-71: nice discussion here. I’d suggest adding more relevant references such as studies from the same region with this paper, ie: Chen et al. 2017; Kusumaningtyas et al. 2019; Sasmito et al. 2020b.
Lines 101-103: please clarify if your study is either located in undisturbed mangrove, degraded mangrove or aquaculture ponds? I see the inconsistency of study site information in the highlights, abstract, intro, and results sections.
Line 139: provide a relevant reference for the soil sample collection approach.
Line 140: what was the type of your sediment corer? What was the volume?
Line 148: what do you mean by dry combustion method? In the data analysis, you mentioned the LOI approach for getting C content? As far as I know, dry combustion is one of the approaches for elemental CHN analysis.
Line 161: I thought the sample volume is the same if you used the same corer and same layer distance.
Lines 163-176: all of this information must be in the sample analysis section rather than here. What was the stats analysis?
Lines 180-183: does bulk density differ across sites or depths? Provide stats analysis such as ANOVA where relevant. This comment applies to other calculated C content and C density.
Line 221: this argument needs to be supported by stats evidence.
Lines 247-256: be careful in comparing your soil carbon stocks with other studies. Specifically, Murdiyarso et al 2015 assessed soil carbon stocks up to 3 meters and often more than 1 meter. Comparing your 0.5 m soil carbon stocks with those studies could be misleading.

References
Chen, G., Azkab, M. H., Chmura, G. L., Chen, S., Sastrosuwondo, P., Ma, Z., ... & Chen, B. (2017). Mangroves as a major source of soil carbon storage in adjacent seagrass meadows. Scientific reports, 7, 42406.
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Sasmito, S. D., Kuzyakov, Y., Lubis, A. A., Murdiyarso, D., Hutley, L. B., Bachri, S., ... & Borchard, N. (2020b). Organic carbon burial and sources in soils of coastal mudflat and mangrove ecosystems. Catena, 187, 104414.
Sasmito, S. D., Sillanpää, M., Hayes, M. A., Bachri, S., Saragi-Sasmito, M. F., Sidik, F., ... & Nugroho, J. D. (2020a). Mangrove blue carbon stocks and dynamics are controlled by hydrogeomorphic settings and land-use change. Global change biology, 26(5), 3028-3039.

Referee: 2

Comments to the Author
Heighlights
Initial two highglights need to remove, i do not think these are highglights. Even authors did not use dry combustion method (authors have used loss of iginition) for soil analysis.

Even though authors have mentioned that site is disturbed site but i feel soil carbon stock is quite high for 50 cm depth and this could be due to soil organic carbon content analysis.

Abstract
Line 31-33 = This sentence need to come earlier in study justification (This could be one reason why this study need to be done to show policy maker that how much carbon is reeasing back to atmosphere)
Line 33-35 make it two sentence one is about conservation and management another is about restoration
Last sentence add how this study is going to help in conservation of remaining mangroves

Keywords: Delete SOC, dry combustion and mangrove forest add new keywords which are not in title and abstract and related to this study

Introduction
Need to add latest refrences
Line 43- 44 = Soper, F. M., MacKenzie, R. A., Sharma, S., Cole, T. G., Litton, C. M., & Sparks, J. P. (2019). Non-native mangroves support carbon storage, sediment carbon burial, and accretion of coastal ecosystems. Global Change Biology, 25(12), 4315-4326.
Line 55- 57 = Sharma, S., MacKenzie, R. A., Tieng, T., Soben, K., Tulyasuwan, N., Resanond, A., ... & Litton, C. M. (2020). The impacts of degradation, deforestation and restoration on mangrove ecosystem carbon stocks across Cambodia. Science of The Total Environment, 706, 135416.
Line 61-62 = Hong Tinh, P., Thi Hong Hanh, N., Van Thanh, V., Sy Tuan, M., Van Quang, P., Sharma, S., & MacKenzie, R. A. (2020). A Comparison of Soil Carbon Stocks of Intact and Restored Mangrove Forests in Northern Vietnam. Forests, 11(6), 660.
Line 69-71 = Jennerjahn, T. C. (2020). Relevance and magnitude of'Blue Carbon'storage in mangrove sediments: Carbon accumulation rates vs. stocks, sources vs. sinks. Estuarine, Coastal and Shelf Science, 247, 107027.
Line 72-75 = Sharma, S., MacKenzie, R. A., Tieng, T., Soben, K., Tulyasuwan, N., Resanond, A., ... & Litton, C. M. (2020). The impacts of degradation, deforestation and restoration on mangrove ecosystem carbon stocks across Cambodia. Science of The Total Environment, 706, 135416.
Also see below reference and above reference for how blue carbon project can be developed for protection of mangroves as well as how restoration can help in climate change mitigation.
Bukoski, J. J., Elwin, A., MacKenzie, R., Sharma, S., Purbopuspito, J., Kopania, B., ... & Potts, M. D. (2020). The role of predictive model data in designing mangrove forest carbon programs. Environmental Research Letters.

Following the latest refreences authors can improve the introduction. In terms of why this study is important what have been reported. How to develop blue carbon project? How restoration can help in climate change and mitigation? Impact of degradation and deforestation and restorationon mangrove soil soil composition.

Line 100 - We hypothesized == this is not a a hypothesis off course there will be potential but is it siginificant or not So i would say either delete or change it something " Soil carbon stock will be lower as compared to other studies have been done in region or indonesia because of disturbance.

Study Area Section move to methodology section in early stage.

Line 133-137 - Rewrite sentence
138-140 - 5 sites x 3 plots = 15 soil core (But authors have mentioned they have collected in total 45 soil cores. So From each plot 3 soil core were collected if yes need to explain.
Line 140 - What kind of sediment corer was used to collect the samples.

Line 148-149 - Its not dry combustion method. Authors did not use CHN analyser for C content analyses. Authors used simple loss of iginition method to measure organic matter and converted into organic carbon using equation. Delete it

Data analysis - authors have sampled data from 5 sites x 3 plots but i do not see any statsitical analysis
Better to compare soil carbon stock among sites
Better to compare soil carbon stock between depth
This could included in hypothesis also (Same for bulk density and organic carbon content)

Results are fine but authors need to do statistaical analysis to compare stocks among sites to better explain results.

Discussion can be improved by following improved results through statistical analyses.
Also what is the mangrove environmental setting at the study site. Is it fringing, estuarine or something else based on that soil carbon accumulation or source can be discussed also. See below reference
Rovai, A. S., Twilley, R. R., Castañeda-Moya, E., Riul, P., Cifuentes-Jara, M., Manrow-Villalobos, M., ... & Pagliosa, P. R. (2018). Global controls on carbon storage in mangrove soils. Nature Climate Change, 8(6), 534-538.
Atwood, T. B., Connolly, R. M., Almahasheer, H., Carnell, P. E., Duarte, C. M., Lewis, C. J. E., ... & Lovelock, C. E. (2017). Global patterns in mangrove soil carbon stocks and losses. Nature Climate Change, 7(7), 523-528.

Conclusion - need to concluded study in terms of soil carbon stock potenial and how it is going to help in conserving and management of the mangroves. And how future restoration projects can help in storing soil carbon.

Editor's Comments to Author:

Executive Editor
Comments to the Author:
(There are no comments.)

UNM

Abdul Malik <abdulmalik@unm.ac.id>

Reminder: Your Revision for Journal of Environmental Engineering and Landscape Management is due in one month on 30-Apr-2021

1 message

Journal of Environmental Engineering and Landscape Management <onbehalfof@manuscriptcentral.com>
Reply-To: jeelm@vgtu.lt
To: abdulmalik@unm.ac.id

Thu, Apr 1, 2021 at 2:00 PM

01-Apr-2021

Dear Dr Abdul Malik:

Recently, you received a decision on Manuscript ID JEELM-2020-0129, entitled "The Potential Soil Organic Carbon Stocks in Mangrove Areas of Sinjai District, South Sulawesi, Indonesia." This email is simply a reminder that your revision is due in one month on 30-Apr-2021.

To start the revision, please click on the link below:

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This will direct you to the first page of your revised manuscript in your Author Centre. The manuscript and decision letter are located here also.

This link will remain active until you have submitted your revised manuscript. If you have already begun a revision, you can click on the link to continue your revision. Please note that your draft will appear in the “Revised Manuscripts in Draft” queue in your Author Centre.

If it is not possible for you to submit your revision by 30-Apr-2021, we will consider your paper as a new submission.

Please contact the Editorial Office if you are unable to submit within this time.

Sincerely,
Jolita Braduliene (Managing&Executive Editor)
Journal of Environmental Engineering and Landscape Management Editorial Office
jeelm@vgtu.lt

UNM

Abdul Malik <abdulmalik@unm.ac.id>

Reminder: Your Revision for Journal of Environmental Engineering and Landscape Management is due in one month on 30-Jun-2021

1 message

Journal of Environmental Engineering and Landscape Management <onbehalfof@manuscriptcentral.com>
Reply-To: jeelm@vgtu.lt
To: abdulmalik@unm.ac.id

Tue, Jun 1, 2021 at 2:05 PM

01-Jun-2021

Dear Dr Abdul Malik:

Recently, you received a decision on Manuscript ID JEELM-2020-0129, entitled "The Potential Soil Organic Carbon Stocks in Mangrove Areas of Sinjai District, South Sulawesi, Indonesia." This email is simply a reminder that your revision is due in one month on 30-Jun-2021.

To start the revision, please click on the link below:

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https://mc.manuscriptcentral.com/seel?URL_MASK=ab038261c1b24d54b162df2eb0bb11ee

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This link will remain active until you have submitted your revised manuscript. If you have already begun a revision, you can click on the link to continue your revision. Please note that your draft will appear in the “Revised Manuscripts in Draft” queue in your Author Centre.

If it is not possible for you to submit your revision by 30-Jun-2021, we will consider your paper as a new submission.

Please contact the Editorial Office if you are unable to submit within this time.

Sincerely,
Jolita Braduliene (Managing&Executive Editor)
Journal of Environmental Engineering and Landscape Management Editorial Office
jeelm@vgtu.lt

Abdul Malik <abdulmalik@unm.ac.id>

Reminder: Your Revision for Journal of Environmental Engineering and Landscape Management is due in one month on 31-Oct-2021

2 messages

Journal of Environmental Engineering and Landscape Management <onbehalfof@manuscriptcentral.com>
Reply-To: jeelm@vgtu.lt
To: abdulmalik@unm.ac.id
Sat, Oct 2, 2021 at 2:01 PM

02-Oct-2021

Dear Dr Abdul Malik:

Recently, you received a decision on Manuscript ID JEELM-2020-0129, entitled "The Potential Soil Organic Carbon Stocks in Mangrove Areas of Sinjai District, South Sulawesi, Indonesia." This email is simply a reminder that your revision is due in one month on 31-Oct-2021.

To start the revision, please click on the link below:

*** PLEASE NOTE: This is a two-step process. After clicking on the link, you will be directed to a webpage to confirm. ***

https://mc.manuscriptcentral.com/seel?URL_MASK=8cd32695a2d34d5fb8e2d1b7c9adfb91

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If it is not possible for you to submit your revision by 31-Oct-2021, we will consider your paper as a new submission.

Please contact the Editorial Office if you are unable to submit within this time.

Sincerely,
Jolita Braduliene (Managing&Executive Editor)
Journal of Environmental Engineering and Landscape Management Editorial Office
jeelm@vgtu.lt

Abdul Malik <abdulmalik@unm.ac.id>
To: jeelm@vgtu.lt
Sat, Oct 16, 2021 at 7:56 PM

Dear Editor of Jolita Braduliene (Managing&Executive Editor)

We have sent a revised version of the manuscript on Oct 15, 2021 (ID: JEELM-2020-0129.R1), supplementary material, and highlights. However, after we checked again, we found a minor mistake but essential. Could we withdraw and revise it, and send it back again soon?

Best regards,
Abdul Malik
Corresponding author

[Quoted text hidden]

--
Abdul Malik, Ph.D.

Department of Geography
Faculty of Mathematics and Natural Sciences
Universitas Negeri Makassar (UNM)
Kampus UNM Parangtambung, Jl.Malengkeri Raya, Makassar, 90224
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Phone: +62-853 9859 2785 Fax: +62-411-880568
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Abdul Malik <abdulmalik@unm.ac.id>

Journal of Environmental Engineering and Landscape Management - Manuscript ID JEELM-2020-0129.R1 has been submitted online

1 message

Journal of Environmental Engineering and Landscape Management <onbehalfof@manuscriptcentral.com>
Reply-To: jeelm@vgtu.lt
To: abdulmalik@unm.ac.id

Mon, Oct 18, 2021 at 6:30 PM

18-Oct-2021

Dear Dr Malik:

Your manuscript entitled "The Potential Soil Organic Carbon Stocks in Mangrove Areas of Sinjai District, South Sulawesi, Indonesia" has been successfully submitted online and is presently being given full consideration for publication in Journal of Environmental Engineering and Landscape Management.

Your manuscript ID is JEELM-2020-0129.R1.

Please mention the above manuscript ID in all future correspondence or when calling the office for questions. If there are any changes in your street address or e-mail address, please log in to ScholarOne Manuscripts at https://mc.manuscriptcentral.com/seel and edit your user information as appropriate.

You can also view the status of your manuscript at any time by checking your Author Centre after logging in to https://mc.manuscriptcentral.com/seel.

Thank you for submitting your manuscript to Journal of Environmental Engineering and Landscape Management.

Sincerely,
Journal of Environmental Engineering and Landscape Management Editorial Office

The Potential Soil Organic Carbon Stocks in Mangrove Areas of Sinjai District, South Sulawesi, Indonesia

Journal:	*Journal of Environmental Engineering and Landscape Management*
Manuscript ID	JEELM-2020-0129.R1
Manuscript Type:	Original paper
Date Submitted by the Author:	n/a
Complete List of Authors:	Malik, Abdul; Universitas Negeri Makassar, Geography Ichsan Ali, Muhammad; Universitas Negeri Makassar, Civil and Planning Annas, Suwardi; Universitas Negeri Makassar, Statistics Jalil, Abdul; Universitas Hasanuddin, Marine Science Mulya, Restu; Universitas Negeri Makassar, Geography Gravani, Konstantina; University of Copenhagen, Geosciences and Natural Resource Management
Keywords:	Environment monitoring, Environmental sustainability

We would like to sincerely thank and appreciate the constructive critics and relevant comments to this manuscript from Referees. We have implemented all the suggestions in the revised version of the manuscript.

Referee: 1

Comments to the Author
General comment
The manuscript by Malik et al. presents interesting results of mangrove soil carbon stocks in one of the locations in Indonesia. The manuscript findings are supported by extensive field-based sampling collection and therefore, I see a potential and important dataset for a publication. However, some rooms can be improved from the current manuscript presentation before the manuscript can be published.
The authors should provide more description of the soil sample collection approach (see my below-detailed comment). It seems that the bulk density is very high, I wonder if general mangrove typology such as hydrogeomorphic settings can be further explored and elaborated in the manuscript. For example, a recent study by Sasmito et al 2020a in West Papua suggest that soils from fringe mangrove setting have relatively higher bulk density compared to interior ones. I suggest that authors can provide such as mangrove environmental settings to support and enrich the discussion of your findings. See also Rovai et al. 2018 for a similar discussion topic. It is also unclear on the land cover condition of the sampled sites.
Further, I suggest that authors should perform statistical analysis, such as ANOVA, and apply for comparing soil properties and carbon stocks across soil depths and sites.
Lastly, the language of the current manuscript form should be further improved or reviewed at least by a Professional Editor.

Response:

Thanks for the suggestions and reference. We have provided a mangrove environmental setting (See lines 127-140 in the study area section) to support the discussion of our results (See lines 271-278 in the discussion section) in the revised version of the manuscript. We provided land cover conditions in the study area section and statistical analysis (ANOVA) to compare soil properties and carbon stock different soil depth and sites in the results section. We have revised the soil organic carbon content analysis. Also, we have improved the language of the manuscript.

Here is the detail of the revisions in the manuscript and our responses to the reviewers' specific comments:

Specific comment

Highlights:
Change first highlight point into “Soil organic carbon (SOC) stocks were estimated in disturbed mangroves of South Sulawesi”

Response:

We have changed it (see the highlight in the revised version of the manuscript)

Please note that my comments refer to continues line number
Lines 44-48: this sentence is hard to follow. How high the mangrove capacity in C sequestration? Why does mangrove different compare to other vegetations?

Response:

We have deleted the sentences in the revised version of the manuscript.

Lines 52-53: what do you mean by robust mitigation tool? I suggest combining this second paragraph with the first one since both described the importance of mangrove in climate change mitigation strategy.

Response:

We have deleted the sentence “robust mitigation tool” and combined these two paragraphs in one paragraph (see lines 42-49 in the revised version of the manuscript)

Lines 65-71: nice discussion here. I’d suggest adding more relevant references such as studies from the same region with this paper, ie: Chen et al. 2017; Kusumaningtyas et al. 2019; Sasmito et al. 2020b.

Response:

Thanks for the comment. We have added these previous studies as reference for this statement (see lines 65-70 in the revised version of the manuscript)

Lines 101-103: please clarify if your study is either located in undisturbed mangrove, degraded mangrove or aquaculture ponds? I see the inconsistency of study site information in the highlights, abstract, intro, and results sections.

Response:

Mangroves in this study area having disturbance. We have revised it in each section. In the intro section, please see lines 110-112 in the revised version of the manuscript.

Line 139: provide a relevant reference for the soil sample collection approach.

Response:

We have implemented the soil sample collection method according to protocol measurement carbon stock by Kauffman & Donato (2012). Please See line 162 in the revised version of the manuscript.

Line 140: what was the type of your sediment corer? What was the volume?

Response:

The type of the sediment corer is Stainless steel Eijkelkamp gouge auger (see lines 156-157 in the revised version of the manuscript).

Line 148: what do you mean by dry combustion method? In the data analysis, you mentioned the LOI approach for getting C content? As far as I know, dry combustion is one of the approaches for elemental CHN analysis.

Response:

You are right. We have used the LOI approach. We have revised it (see lines 164-165 in the revised version of the manuscript).

Line 161: I thought the sample volume is the same if you used the same corer and same layer distance.

Response:

You are right. We have revised it (see line 178 in the revised version of the manuscript).

Lines 163-176: all of this information must be in the sample analysis section rather than here. What was the stats analysis?

Response:

You are right. We have moved all this information in the sample analysis section and used statistical test ANOVA (see lines 163-192 in the revised version of the manuscript)

Lines 180-183: does bulk density differ across sites or depths? Provide stats analysis such as ANOVA where relevant. This comment applies to other calculated C content and C density.

Response:

Yes, the Soil Bulk Density (SBD) differs in soil depth. We have provided ANOVA stat analysis for this (See lines 200-201 in the revised version of the manuscript). We have also implemented an ANOVA statistical test for calculation C content and C density (See all information lines 202-236 in the revised version of the manuscript)

Line 221: this argument needs to be supported by stats evidence.

Response:

We have added stats evidence for this argument (see line 245 in the revised version of the manuscript)

Lines 247-256: be careful in comparing your soil carbon stocks with other studies. Specifically, Murdiyarso et al 2015 assessed soil carbon stocks up to 3 meters and often more than 1 meter. Comparing your 0.5 m soil carbon stocks with those studies could be misleading.

Response:

You are right. We have revised this statement by comparing our finding (soil carbon stock) to other previous studies (Taberima (2014) and Kauffman et al. (2011)). Please see lines 284-289 in the revised version of the manuscript.

References

Chen, G., Azkab, M. H., Chmura, G. L., Chen, S., Sastrosuwondo, P., Ma, Z., ... & Chen, B. (2017). Mangroves as a major source of soil carbon storage in adjacent seagrass meadows. Scientific reports, 7, 42406.

Kusumaningtyas, M. A., Hutahaean, A. A., Fischer, H. W., Pérez-Mayo, M., Ransby, D., & Jennerjahn, T. C. (2019). Variability in the organic carbon stocks, sources, and accumulation rates of Indonesian mangrove ecosystems. Estuarine, Coastal and Shelf Science, 218, 310-323.

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Sasmito, S. D., Kuzyakov, Y., Lubis, A. A., Murdiyarso, D., Hutley, L. B., Bachri, S., ... & Borchard, N. (2020b). Organic carbon burial and sources in soils of coastal mudflat and mangrove ecosystems. Catena, 187, 104414.

Sasmito, S. D., Sillanpää, M., Hayes, M. A., Bachri, S., Saragi-Sasmito, M. F., Sidik, F., ... & Nugroho, J. D. (2020a). Mangrove blue carbon stocks and dynamics are controlled by hydrogeomorphic settings and land-use change. Global change biology, 26(5), 3028-3039.

Response:

Thank you very much for providing the related references for improving the quality of the manuscript. We have added all these references in the revised version of the manuscript.

Referee: 2

Comments to the Author

Heighlights

Initial two highglights need to remove, i do not think these are highglights. Even authors did not use dry combustion method (authors have used loss of iginition) for soil analysis.

Even though authors have mentioned that site is disturbed site but i feel soil carbon stock is quite high for 50 cm depth and this could be due to soil organic carbon content analysis.

Response:

We have removed the two highlights.

You are right. We used LOI for soil analysis. In addition, we have revised the soil organic carbon content analysis.

Abstract
Line 31-33 = This sentence need to come earlier in study justification (This could be one reason why this study need to be done to show policy maker that how much carbon is reeasing back to atmosphere)

Response:

You are right. We have moved this sentence earlier in the study justification in the abstract (see lines 24-25 in the revised version of the manuscript).

Line 33-35 make it two sentence one is about conservation and management another is about restoration
Last sentence add how this study is going to help in conservation of remaining mangroves

Response:

We have made it in two sentences and added it in the last sentence (see lines 33-35 in the revised version of the manuscript).

Keywords: Delete SOC, dry combustion and mangrove forest add new keywords which are not in title and abstract and related to this study

Response:

We have deleted and revised it (See lines 37-38 in the revised version of the manuscript).

Introduction
Need to add latest refrences
Line 43- 44 = Soper, F. M., MacKenzie, R. A., Sharma, S., Cole, T. G., Litton, C. M., & Sparks, J. P. (2019). Non-native mangroves support carbon storage, sediment carbon burial, and accretion of coastal ecosystems. Global Change Biology, 25(12), 4315-4326.

Response:

Thank you for providing the reference. We have added it (see lines 42-44 in the revised version of the manuscript).

Line 55- 57 = Sharma, S., MacKenzie, R. A., Tieng, T., Soben, K., Tulyasuwan, N., Resanond, A., ... & Litton, C. M. (2020). The impacts of degradation, deforestation and restoration on mangrove ecosystem carbon stocks across Cambodia. Science of The Total Environment, 706, 135416.

Response:

Thank you for providing the reference. We have added it (see lines 51-53 in the revised version of the manuscript).

Line 61-62 = Hong Tinh, P., Thi Hong Hanh, N., Van Thanh, V., Sy Tuan, M., Van Quang, P., Sharma,

S., & MacKenzie, R. A. (2020). A Comparison of Soil Carbon Stocks of Intact and Restored Mangrove Forests in Northern Vietnam. Forests, 11(6), 660.

Response:

Thank you for providing the reference. We have added it (see lines 62-64 in the revised version of the manuscript).

Line 69-71 = Jennerjahn, T. C. (2020). Relevance and magnitude of'Blue Carbon'storage in mangrove sediments: Carbon accumulation rates vs. stocks, sources vs. sinks. Estuarine, Coastal and Shelf Science, 247, 107027.

Response:

Thank you for providing the reference. We have added it (see lines 68-70 in the revised version of the manuscript).

Line 72-75 = Sharma, S., MacKenzie, R. A., Tieng, T., Soben, K., Tulyasuwan, N., Resanond, A., ... & Litton, C. M. (2020). The impacts of degradation, deforestation and restoration on mangrove ecosystem carbon stocks across Cambodia. Science of The Total Environment, 706, 135416.

Response:

Thank you for providing the reference. We have added it (see lines 71-73 in the revised version of the manuscript).

Also see below reference and above reference for how blue carbon project can be developed for protection of mangroves as well as how restoration can help in climate change mitigation.
Bukoski, J. J., Elwin, A., MacKenzie, R., Sharma, S., Purbopuspito, J., Kopania, B., ... & Potts, M. D. (2020). The role of predictive model data in designing mangrove forest carbon programs. Environmental Research Letters.

Response:

Thank you for providing the reference. We have input this issue and added the reference (see lines 105-109 in the revised version of the manuscript).

Following the latest references authors can improve the introduction. In terms of why this study is important what have been reported. How to develop blue carbon project? How restoration can help in climate change and mitigation? Impact of degradation and deforestation and restoration on mangrove soil composition.

Response:

Thank you for providing the references. We have addressed this at the end of the introduction section (see lines 103-109 in the revised version of the manuscript).

Line 100 - We hypothesized == this is not a a hypothesis off course there will be potential but is it siginificant or not
So i would say either delete or change it something " Soil carbon stock will be lower as compared to other studies have been done in region or indonesia because of disturbance.

Response:

You are right. We have changed it according to your suggestion (see lines 109-110 in the revised version of the manuscript).

Study Area Section move to methodology section in early stage.

Response:

We have moved it to the methodology section in the early stage (see lines 113-114 in the revised version of the manuscript).

Line 133-137 - Rewrite sentence

Response:

We have revised it (see lines 150-153 in the revised version of the manuscript).

Line 138-140 - 5 sites x 3 plots = 15 soil core (But authors have mentioned they have collected in total 45 soil cores. So from each plot 3 soil core were collected if yes need to explain.

Response:

You are right, 15 soil cores. We have revised it (see lines 153-156 in the revised version of the manuscript).

Line 140 - What kind of sediment corer was used to collect the samples.

Response:

The type of the sediment corer is Stainless steel Eijkelkamp gouge auger (see lines 156-157 in the revised version of the manuscript).

Line 148-149 - It's not dry combustion method. Authors did not use CHN analyser for C content analyses. Authors used simple loss of iginition method to measure organic matter and converted into organic carbon using equation. Delete it

Response:

You are right. We have used the LOI approach. We have revised it (see lines 164-165 in the revised version of the manuscript).

Data analysis - authors have sampled data from 5 sites x 3 plots but i do not see any statsitical analysis
Better to compare soil carbon stock among sites
Better to compare soil carbon stock between depth
This could included in hypothesis also (Same for bulk density and organic carbon content)

Response:

Thanks for the suggestions. We have added statistical test ANOVA to compare soil carbon stock among sites and between depth and bulk density and organic carbon content in the results section (see lines 197-236 in the revised version of the manuscript).

.

Results are fine but authors need to do statistaical analysis to compare stocks among sites to better explain results.

Response:

Thanks, we have added statistical analysis in the results section

Discussion can be improved by following improved results through statistical analyses.

Response:

Thanks for the suggestion. We have added it in the discussion section.

Also what is the mangrove environmental setting at the study site. Is it fringing, estuarine or something else based on that soil carbon accumulation or source can be discussed also. See below reference
Rovai, A. S., Twilley, R. R., Castañeda-Moya, E., Riul, P., Cifuentes-Jara, M., Manrow-Villalobos, M., ... & Pagliosa, P. R. (2018). Global controls on carbon storage in mangrove soils. Nature Climate Change, 8(6), 534-538.
Atwood, T. B., Connolly, R. M., Almahasheer, H., Carnell, P. E., Duarte, C. M., Lewis, C. J. E., ... & Lovelock, C. E. (2017). Global patterns in mangrove soil carbon stocks and losses. Nature Climate Change, 7(7), 523-528.

Response:

Thanks for providing the references and suggestions. Mangroves in this area are fringe mangroves. We have added information about mangrove environmental setting in this area (See lines 127-140 in the revised version of the manuscript) and discussed its relation to soil organic carbon accumulation (See lines 271-278 in the revised version of the manuscript)

Conclusion - need to concluded study in terms of soil carbon stock potential and how it is going to help in conserving and management of the mangroves. And how future restoration projects can help in storing soil carbon.

Response:

Thanks for the suggestion. We have revised the conclusion section according to your advice.

Highlights

- ~~Soil organic carbon (SOC) stocks in disturbed mangroves of South Sulawesi.~~
- Soil organic carbon (SOC) stocks were estimated in disturbed mangroves of South Sulawesi
- ~~Dry Combustion method used for soil sample analysis.~~
- The mean values of ~~soil organic carbon (~~ the SOC~~)~~ stock are 137.70 ± 12.37 ~~604.07 ± 52.54~~ Mg C ha^{-1}~~.~~
- Mangrove restoration can maintain and increase the SOC stock.

The Potential Soil Organic Carbon Stocks in Mangrove Areas of Sinjai District, South Sulawesi, Indonesia

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Abstract. The sSoil pool is the primary sink for carbon in mangrove wetlands and plays an essentiala major role in mitigating climate change mitigation. However, the aquaculture pond expansions have been continuing andgo further to disrupt disturbing mangrove carbon storage in mangroves. Theis research aims of this study is to estimate the stock of soil organic carbon (SOC) stocks in the mangrove area of South Sulawesi, Indonesia. The mangroves of the Sinjai District in , South Sulawesi are , represent a disturbed region with no previous study that has not been subject to studies regarding theon SOC stock. We implemented a line transect method in at five study sites and, collected 45 15 soil samples cores at a intervals depth of 0 cm -15 cm, 15 cm-30 cm, and 30 cm - 50 cm, and performed soil analysis using used athe Dry Combustion methodLoss on Ignition method. We find that the mean values of SOC stock is 137.70 ± 12.37 604.07 ± 52.54 Mg C ha^{-1}. However, the aquaculture pond expansions have been continuing and disturbing mangrove carbon storage. More attention to the conservation e and restoration of e lost mangrove areas lost is a of high priority for maintaining. It may also and possibly increases SOC stocks to help mitigate climate change. This study will help in the preservation of the remaining mangroves.

Keywords: Soil organic carbon; dry combustion; mangrove forest; coastal blue carbon; climate change mitigation; disturbed mangroves; mangrove soil properties.

Introduction

Climate change mitigation is one of the ~~essential~~ essential ~~mangrove~~ ecosystem services provided by mangroves (Duncan et al., 2016; Soper et al., 2019; Malik et al., 2020). Although mangroves cover only a small portion of the planet, they store considerable organic carbon (Hopkinson et al., 2012; Nóbrega et al., 2015). Mangroves are one of the most carbon-rich forests (Donato et al., 2011), ~~Mangroves have a high capacity to sequester carbon~~with a global average total forest stock of 738.9 Mg C ha^{-1} (Alongi, 2020) ~~dioxide (CO_2) and other forms of carbon to reduce the accumulation of greenhouse gases (GHGs) into the atmosphere released by the burning of fossil fuels and other anthropogenic activities (Tripathi et al., 2010; Sedjo & Sohngen, 2012)~~.

~~Despite mangroves cover only a small portion of the planet, they store significant of organic carbon (Hopkinson et al., 2012; Nóbrega et al., 2015) and they are among the most carbon-rich forests (Donato et al., 2011).~~ Therefore, they represent a ~~crucial~~ critical component in carbon sequestration ~~and a robust mitigation tool against~~for climate change mitigation (IPCC, 2014; Murdiyarso et al., 2015).

Mangroves ~~have the function to~~can store carbon ~~not only in plant materials but also in~~in plant materials and soil pools (Howard et al., 2014). However, ~~the largest~~ most of the carbon ~~content found~~is in soil pools, which account for

~~constitutes~~ up to 50-90% of the total carbon stock of ~~the~~ mangroves (Donato et al., 2011; Kauffman et al., 2011; Sharma et al., 2020).

Hamilton & Friess (2018) demonstrated that 70.65% of global mangrove carbon is ~~stored~~deposited in mangrove soils. Alongi et al. (2015) and Murdiyarso et al. (2015) both reported that the mean proportion of organic soil carbon storage in several mangrove areas of Indonesia was about 78%. Abino et al. (2014) revealed that the sediment carbon stock in the natural mangrove forest in Palawan, Philippines was 50%. Besides, Nam et al. (2016) demonstrated that the percentage of soil organic carbon stores from two different mangrove areas (natural and restoration area) in Mekong Delta, Vietnam was similar and reached 90%, respectively. This is also confirmed by the results of Hong Tinh et al. (2020) in nothern Vietnam, who found that the SOC stock of 20-25 years of restored and intact mangroves was not significantly different.

The ~~large~~ significant carbon content in soil is due to rapid rates of net primary production from autochthonous (in the form of ~~litter fall~~litterfall and belowground fine root growth) and sedimentation from allochthonous (supply from upstream rivers and sea) (Donato et al., 2011; Alongi, 2012). However, ~~Bouillon et al. (2008) and Nam et al. (2016) both noted that~~ the autochthonous have a higher contribution than allochthonous in soil carbon production ~~(Bouillon et al. (2008) and Nam et al. (2016~~Chen et al., 2017; Kusumaningtyas et al., 2019; Sasmito et al., 2020b; Jennerjahn, 2020)~~)~~.

Unfortunately, mangrove soils might become a significant source of CO_2 emissions if disturbed by land-use change activities, such as conversion into settlements, ~~agriculture~~ agricultural lands, and aquaculture ponds (Donato et al., 2011; Murdiyarso et al., 2015; Sharma et al., 2020). In Indonesia and other Southeast Asian countries, the conversion of mangrove forests into aquaculture ponds is the ~~main~~ primary land-use activity within the mangrove area (Richards & Friess, 2016). It has occurred rapidly in recent decades (Pendleton et al., 2012) and contributed to about 0.08-0.48 Pg CO_2, translating to 10% of the total global emissions (Donato et al., 2011). Moreover, Hamilton & Friess (2018) ~~demonstrated~~ have shown that the annual rate ~~average~~ of mangrove deforestation ~~rate~~ (0.26 %) since 2000 has emitted between 5.76 Tg CO_2e and 13.95 Tg CO_2e due to conversion to aquaculture ponds in Indonesia ~~that has emitted between 5.76 Tg CO_2e and 13.95 Tg CO_2e~~ (Sidik & Lovelock, 2013).

When mangrove forests ~~is~~are being cleared, and the soil is being excavated, the soil carbon is exposed to air, and subsequently, the accelerated microbial activity releases large amounts of CO_2 and other GHGs into the atmosphere (Howard et al., 2014). Consequently, conversion to aquaculture has become one of the primary sources of CO_2 emissions (Sidik & Lovelock, 2013).

The mangrove area in South Sulawesi province is one of Indonesia's most important areas for the blue carbon program (Malik et al., 2020). Mangroves are distributed in the districts of East Luwu, Luwu, Bone, Sinjai, Takalar, Barru,

Pangkep and Pinrang (Rahardian et al., 2019). However, ~~In South Sulawesi,~~ aquaculture development has been ~~trusted is~~ the primary driver of mangrove deforestation in the past decades (Malik et al., 2017; 2020). It can be declined the potential carbon stock of the mangrove area and increase a significant CO_2 emission to the atmosphere. Giesen et al. (1991) ~~reported~~ estimated that the mangrove forests ~~cover areas~~ of South Sulawesi accounted for a total area of ~~were around~~ 100 thousand hectares ~~in~~ during the 1950s. However, approximately 10 thousand mangroves were deforested in 2017 due to woodcutting, primarily for aquaculture pond expansion ~~wood cutting activity for many purposes and primary for expansion of aquaculture ponds caused mangrove deforested to around 10 thousand in 2017~~ (Rahadian et al., 2019), with annual deforestation rates between 1% and 5% (Malik et al., 2017). Furthermore, ~~Unfortunately,~~ the policymakers related to climate change mitigation policies often overlook the significant amount of carbon stocks in the ~~case of mangrove deforestation in this reg~~is region's case of mangrove deforestation (Malik et al., 2020).

Global climate negotiations have promoted mangroves' potential contribution and conservation in mitigating GHG emissions (Sasmito et al., 2020a). Many countries that own mangroves are interesting in blue carbon programs or fund mangrove protection and restoration through forest carbon programs (Bukoski et al., 2020). One critical step to developing a blue carbon program is data availability and accurate estimates of baseline carbon stocks (Bukoski et al., 2020). This area's soil carbon stock will be lower than other

studies done in the region or Indonesia because of the disturbance ~~as we hypothesized, they have a potential of soil organic carbon stocks~~. Therefore, th~~e objective of this research i~~is research aims to estimate soil organic carbon stocks in the disturbance mangrove area of South Sulawesi, Indonesia, for helping mitigate climate change.

~~1. Study Area~~

~~The study area is located in the mangrove area of Sinjai District, South Sulawesi, focusing in East Sinjai sub-District (latitudes 5°7'00"- 5°14'00" and longitudes 120°15'00"-120°19'00", Figure 1). The distance is 220 km from the capital of South Sulawesi, Makassar City. East Sinjai sub-District area covers 7,188 ha and borders north Sinjai sub-District to the north, the Bone Bay to the east, Tellu Limpoe sub-District to the south, and north Sinjai and central Sinjai sub-Districts to the West. The population was 30,550 people in 2016, and most of the inhabitants live in the coastal area and are working as fishermen and shrimp farmers (BPS Kabupaten Sinjai, 2017).~~

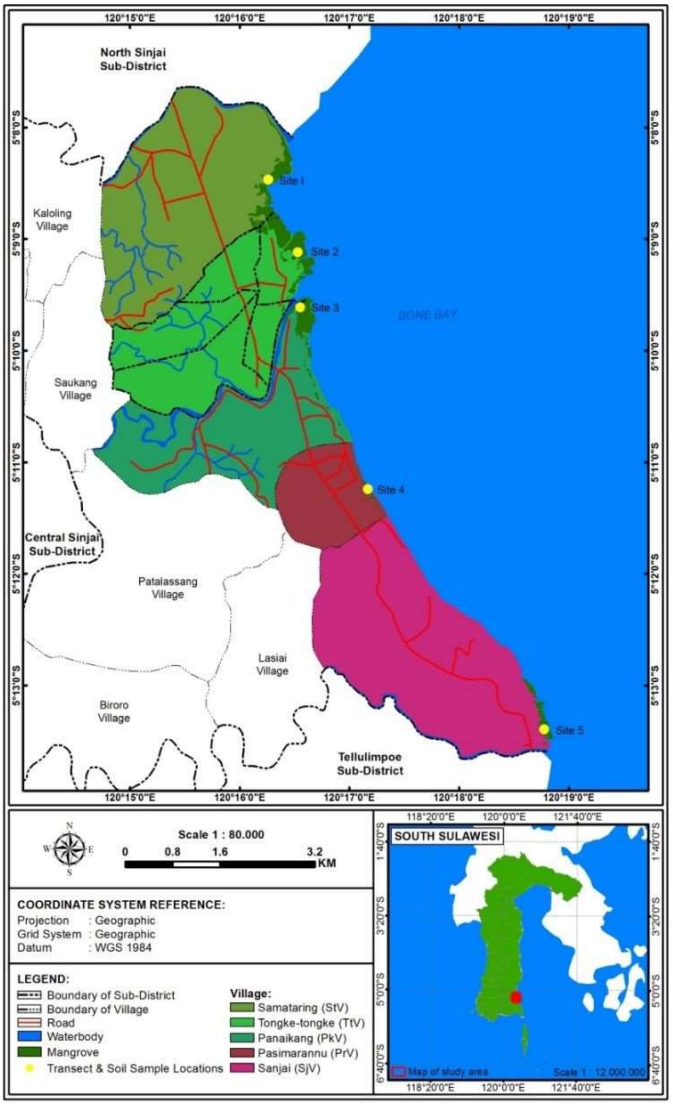


Figure 1. Study area: Sinjai District, South Sulawesi, Indonesia

The area of mangrove covers is 761 ha in 2017 (covered around 77% of the total mangrove area in Sinjai District) and distributed in five villages, including Samataring, Tongke-tongke, Panaikang, Pasimarannu, and Sanjai (Malik & Rahim, 2017). Mangrove soils are mostly clayey with rich organic matter content and are associated with dominant mangrove vegetation from *Rhizophora* sp. (Suharti et al., 2016). Expansion of aquaculture ponds by clearing mangroves in

~~this area had begun in the 1930s (Amri, 2008), but the most significant development occurred in the past three decades (Malik & Rahim, 2017).~~

~~Mangrove reforestation had started in 1984 by its initiative of the local community (Amri, 2008). This action has been seen success since the early 2000s for preventing the area from coastal erosion and storms and providing spaces for the ecotourism area. However, the disturbances to the mangrove area have been continuing, primarily from the expansion of aquaculture ponds (Malik & Rahim, 2017).~~

~~2.~~1. Materials and Methods

1.1. Study Area

The study area is situated in the mangrove area of Sinjai District, South Sulawesi, focusing in East Sinjai sub-District (latitudes 5°7'00"- 5°14'00" and longitudes 120°15'00"-120°19'00", Figure 1). The distance to the capital of South Sulawesi, Makassar City, is 220 km. The area of East Sinjai Sub-District covers 7,188 ha and is bordered by North Sinjai Sub-District to the north, Bone Bay to the east, Tellu Limpoe Sub-District to the south, and North Sinjai and Central Sinjai Sub-Districts to the west. The population was 30,550 people in 2016, and most of the inhabitants live in the coastal area and work as fishermen and shrimp farmers (BPS Kabupaten Sinjai, 2017).

The mangrove area in 2017 was 761 ha (which is about 77% of the total mangrove area in Sinjai District) and distributed among five villages, including

Samataring (StV), Tongke-tongke (TtV), Panaikang (PkV), Pasimarannu (PrV), and Sanjai (SjV) (Malik & Rahim, 2017). Mangroves in these areas grow in a fringing hydrogeomorphic environment, and the tidal regime in this area is semi-diurnal (On most days, there are two tidal cycles, often with not significantly different amplitudes), with the tidal range being about 122 cm (Malik & Rahim, 2017).

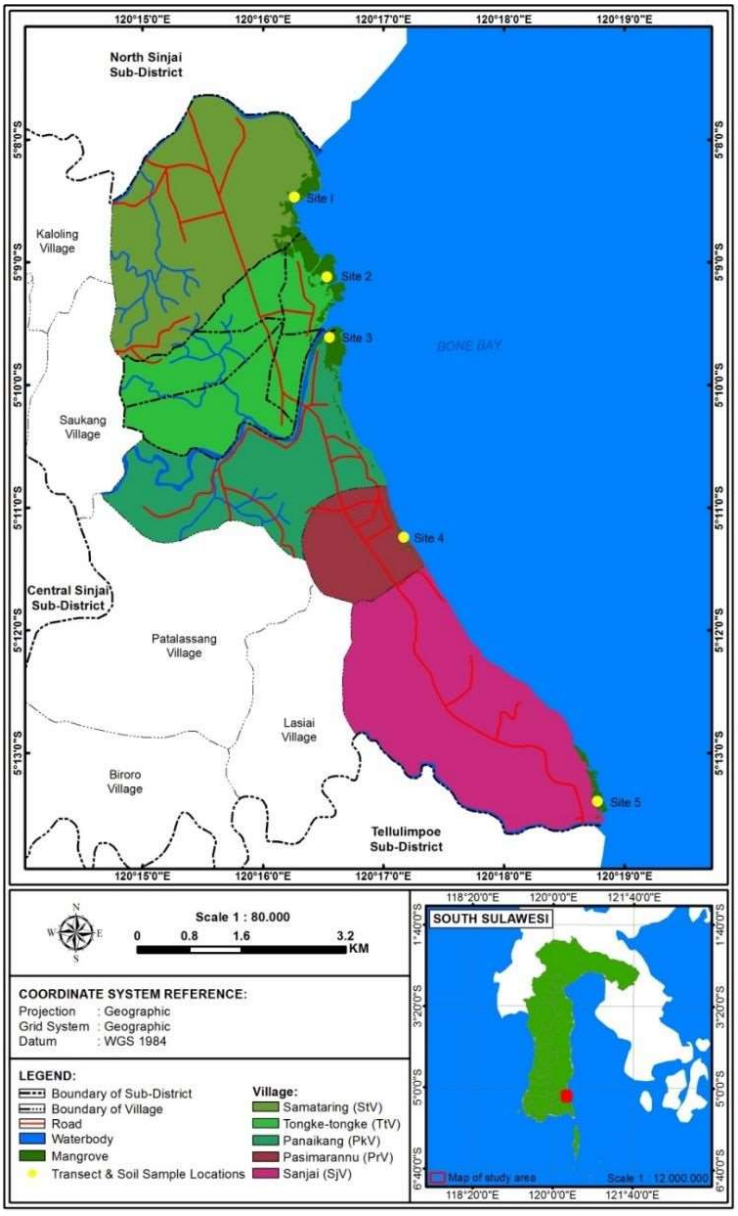


Figure 1. Study area: Sinjai District, South Sulawesi, Indonesia

Mangroves soils are mostly clayey with rich organic matter content and are associated with dominant mangrove vegetation from *Rhizophora* sp. (Suharti et al., 2016; Malik et al., 2020). Moreover, the climatic situation in these areas is characterized by the average annual rainfall of 2697 mm with 211 rainy days in

2017, whereas the mean daily air temperature is between 21°C and 32°C (BPS Kabupaten Sinjai, 2017).

The expansion of aquaculture ponds through the clearing mangroves in these areas began in the 1930s (Amri, 2008), but the most significant development occurred in the last three decades (Malik & Rahim, 2017). The mangrove reforestation began in 1984 at the initiative of the local community (Amri, 2008). Since the early 2000s, this action has flourished to protect the area from coastal erosion and storms and provide land for the ecotourism area. However, the disturbances to the mangrove area continue, mainly due to the expansion of aquaculture ponds (Malik & Rahim, 2017).

~~2.1.~~1.2. Data Collection

Fieldwork was conducted in April 2017 in five mangrove areas (StV, TtV, PkV, PrV, and SjV). We used a transect line method (Malik et al., 2015), the length of which depended on the thickness of the mangrove forest from seaward to landward at each site~~The fieldwork was carried out in April 2017 using a transect line method (Malik et al., 2015) with the length depending on the thickness of the mangrove forest from the seaward to the landward in five study sites including, Samataring village (StV), Tongke-tongke village (TtV), Panaikang village (PkV), Pasimarannu village (PrV) and Sanjai village (SjV)~~. ~~For each transect, we established three sampling plots of 10 m x 10 m~~ We established three 10 m x 10 m sampling plots for each transect using a ~~measuring~~ tape measure and plastic ropes (Malik et al., 2015). W~~Inside~~ ithin each plot, we

collected ~~45~~15 ~~-~~soil ~~samples~~ cores at ~~interval~~ depth of 0 cm - 15 cm, 15 cm - 30 cm, and 30 cm - 50 cm. We inserted the sediment core (stainless steel Eijkelkamp gouge auger) vertically into the soil until the top of the sampler was level with the ~~at the level of the soil surface~~soil surface. When the soil core was extracted, we measured the depth of the gathered samples using a measuring tape and collected a sub-sample with a length of 5 cm ~~**in the middle of each sample depth.**~~ from the midpoint each of intervals depth. Soil samples were extracted, ~~and then~~ stored in labeled plastic bags, ~~-~~and ~~brought~~ taken to the laboratory for soil analysis (Kauffman & Donato, 2012).

1.3. ~~Sample Analysis~~Sample Analysis

~~**2.2.**~~

Soil analysis was ~~conducted~~ performed using the Loss on Ignition (% LOI) method by burning the soil sample at high temperatures (Kauffman & Donato, 2012). We placed a 118.73 cm^3 soil sample from different depths in each plot in a pre-weighed ceramic crucible and put them in the drying oven at a temperature of 60˚C for 72 hours to maintain a constant dry matter. The soil samples were carefully broken into smaller pieces to accelerate the drying process. The value of oven-dried soil samples was weighed and subtracted from the net weight of the ceramic crucible~~Dry Combustion method (Kauffman & Donato, 2012)~~. ~~-~~ We also placed 20g of oven-dried sub-sample from each sample in a muffle furnace at 540˚C for five hours to ignite it (Kauffman & Donato, 2012).

~~We placed a 118.73 cm3 soil sample from different depths in each plot into pre-weighed ceramic crucible dishes and loaded into the drying oven with a temperature of 60˚C for 72 hours for getting the constant dry mass. Soil samples were carefully broken into smaller pieces for accelerating the drying process. The value of oven-dry soil samples was weighed and subtracted by the net weight of ceramic crucible dishes (Kauffman & Donato, 2012).~~ ~~We used the percentage of loss on ignition (% LOI) method (Kauffman & Donato, 2012) to determine the soil organic matter (SOM) content. We placed 20g of oven-dried sub-sample from each sample in a muffle furnace at 540˚C for five hours for ignition~~

~~2.3. Data Analysis~~

To calculate the ~~mangrove soil~~ bulk density ~~(SBD)~~of mangrove soil (SBD), we divided the mass of the oven-dry soil sample ~~mass~~ by the volume of the pre-dried sample (equation 1): (Kauffman & Donato, 2012)

$$\text{SBD (g cm}^{-3}) = \frac{\text{oven} - \text{dry sample mass (g)}}{\text{pre} - \text{dried soil sample volume (cm}^3)} \quad (1)$$

where: volume of p~~P~~re-dried soil sample ~~volume = [πr²(radius core barrel)] x h (depth of the sample~~118.73 cm^3~~)~~.

~~We used the percentage of loss on ignition (% LOI) method (Kauffman & Donato, 2012) to determine the soil organic matter (SOM) content. We placed 20g of oven-dried sub-sample from each sample in a muffle furnace at 540˚C for~~

~~five hours for ignition.~~ The % LOI, which ~~that~~ indicated the soil organic matter ~~SOM~~ content, was estimated by using equation 2: (Kauffman & Donato, 2012)

$$\%\text{LOI} = \frac{[\text{dry mass before combustion (mg)} - \text{dry after combustion (mg)}]}{\text{dry mass before combustion (mg)}} x\ 100 \quad (2)$$

~~Moreover, to~~To calculate the soil organic carbon concentration/SOCC (% C_{org}), we also used ~~the~~ equation 3 as ~~suggested~~ proposed by (Kauffman et al., 2011):

$$\text{SOCC} = 0.415 \text{ x } \%\text{LOI} + 2.89 \quad (3)$$

To ~~obtain~~ determine the soil organic carbon density (SOCD) and the soil organic carbon (SOC) stocks at each sampled depth, we used ~~the~~ equations 4 and 5, respectively (Kauffman & Donato, 2012).

$$\text{SOCD } (gcm^{-3}) = \text{SBD } (gcm^{-3}) \text{ x } (\%C_{org}/100) \quad (4)$$

$$\text{SOC } (Mg\ ha^{-1}) = \text{SBD } (g\ cm^{-3}) \text{ x soil depth interval (cm) x SOCC} \quad (5)$$

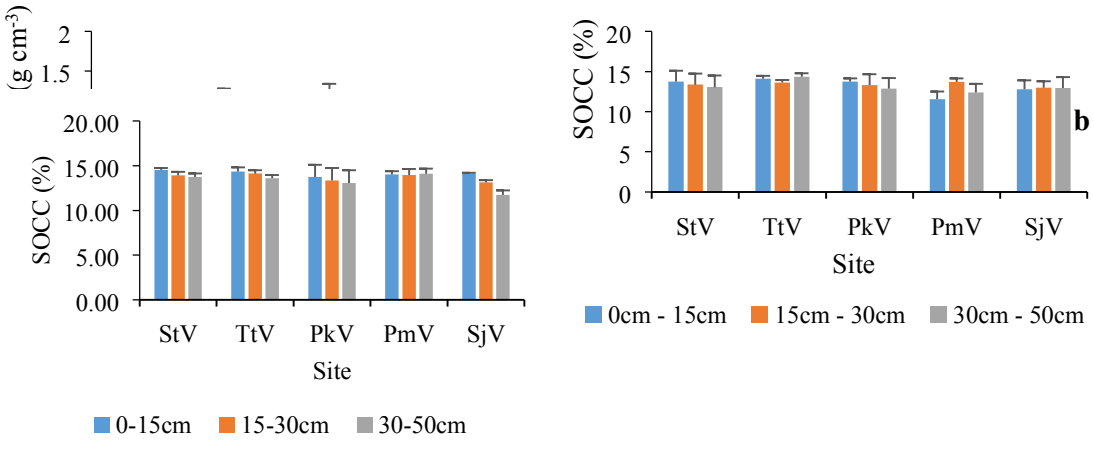
Finally, statistical tests using One-Way Analysis of Variance (ANOVA) were performed to compare different soil properties within depth intervals and carbon stock at different sites.

~~3.~~2. Results

~~The values and trend of~~ Ssoil property values and trends ~~ies~~ (SBD, SOCC, SOCD, and SOC) ~~from~~ of mangrove areas of Sinjai District, ~~in~~ South Sulawesi, Indonesia, ~~is~~ are summarized in Figure 2a-2d and Table S1.

We found that the SBD value across sites and soil depths ranged from 0.~~49~~ 42 ± 0.~~10g~~ 13g cm^{-3} at ~~the~~a depth of 0-15 cm ~~depth of~~ at the ~~PmV~~ SjV site to ~~1~~0.~~23~~ 77 ± 0.~~05~~ 06 g cm^{-3} at ~~the~~ a depth of 15 cm - 30 cm ~~depth at~~of the TtV site, or the mean value of all ranges ~~was~~ was 0.~~91~~ 60 ± 0.~~07g~~ 05g cm^{-3} ~~(Figure 2a, Table S1)~~. The SBD value with interval depth had an increasing trend at all sites and showed a significant difference (p <0.05) (Figure 2a, Table S1).

The lowest SOCC value of 11.74 ± 0.50% was observed at a depth of 30-50 cm at site SjV, whereas the highest value of 14.54 ± 0.20% was observed at the 0 cm - 15 cm at site StV, resulting in the mean SOCC of all sites 13.70 ± 0.22 %. The SOCC value of each site tended to decrease with depth but did not differ significantly (p = 0.18) (Figure 2b, Table S1). The mean SOCD value of soil depth was significantly different at all sites (p < 0.05), ranging from the mean value of 0.06 ± 0.0004 at site SjV to 0.10 ± 0.0004 at site TtV (Figure 2c, Table S1).



c d

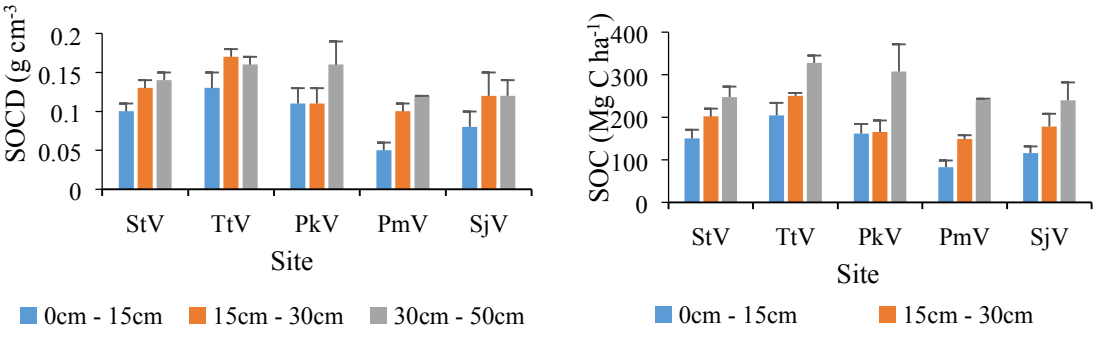


Figure 2. Soil properties: SBD (a), SOCC (b), SOCD (c), and SOC (d) in the mangrove forests of Sinjai District, South Sulawesi

~~The SOCC value was between 11.56 ± 0.94% at the 0-15 cm depth of the PmV site and 14.34 ± 0.46% at the 30 cm - 50 cm depth of the TtV site, with mean value being 13.23 ± 0.25 % (Figure 2b, Table S1). The SOCD ranged from 0.05 ± 0.01 g cm^{-3} at the 0 cm -15 cm depth of the PmV site to 0.17 ± 0.01 g cm^{-3} at the 15 cm -30 cm depth of the TtV site or mean value were 0.12 ± 0.01 gr C cm^{-3} (Figure 2c, Table S1).~~

~~Furthermore~~In addition, we estimated the total SOC stock at the five study sites to be 2,065.50 Mg C, resulting in a mean SOC stock of 137.70 ± 12.37 Mg C ha^{-1}, with the lowest value at 0 cm -15 cm depth at site SjV (88.28 ± 26.14 Mg C ha^{-1}) and the highest SOC stock ~~value was found in the~~at a soil depth of 30 cm - 50 cm ~~of~~ at ~~the~~ site TtV ~~site~~ (~~327~~210.~~55~~ 35 ± ~~17~~18.~~90~~ 80 Mg C ha^{-1})~~,~~. T ~~whereas the lowest value at 0 cm -15 cm depth of the PmV site (82.46 ± 15.81 Mg C ha^{-}~~

~~^{1}). The total SOC stock of five-study sites was 3,020.38 Mg C, resulting in the mean SOC stock 604.07 ± 52.54 Mg C ha^{-1} (Table S1).~~he mean of SOC stock between sites was not significantly different (p = 0.26) (Figure 2d, Table S1).

~~4.~~3. Discussion

The mean value of SBD (0.~~91~~ 60 ± 0.0~~5~~ 7g cm^{-3}) in this area was ~~in the range~~ lower ~~of~~ than ~~mangrove~~ the SBD values of mangroves in many mangrove areas in the world (0.73 g cm^{-3} ~~-~~ 1.42 g cm^{-3}, Hossain & Nuruddin, 2016), but higher than in Indo-Pacific and several mangrove areas in Indonesia (0.35 - 0.55 g cm^{-3}) as reported by Donato et al. (2011) and in Can Gio Mangrove Biosphere Reserve (CGMBR), Mekong Delta, Vietnam (0.52 g cm^{-3}) as detected by Nam et al. (2016)~~as reported by Donato et al. (2011) and Murdiyarso et al. (2015)~~. The value of SBD ~~at all sites~~ increased with increasing soil depth at all sites ~~along with the increase of the soil depth~~ and was significantly different (p= <0.05) (Figure 2a, Table S1). It is due to ~~reduced~~ lower organic matter content ~~and~~, soil accumulation, and compaction ~~of the soil~~due to ~~caused by~~ the weight of the ~~the~~ overlying layer. The trend showed similarities with other mangrove areas in Indonesia (~~Murdiyarso et al~~Donato et al.~~.~~, ~~2015~~2011) and in the Mekong Delta, Vietnam (Nam et al., 2016), ~~and~~ as well as in Shenzhen Bay, China (Lunstrum & Chen, 2014). However, the SOCC tended to decrease with increasing depth ~~increase~~ (Figure 2b), which attributes to ~~due to~~ the high SBD that ~~indicated~~ indicating higher soil density and small soil pores (Lunstrum & Chen, 2014). ~~This~~

A similar trend was also ~~was~~ observed~~found~~ in the Indo-Pacific and several mangrove areas in Indonesia, as reported by ~~Murdiyarso et al~~Donato et al.~~.~~ (201~~1~~5) and consistent with the report of ~~in line with~~ Kauffman et al. (2014) ~~report~~ in the Dominican Republic.

~~The~~ SOCD was ~~obtained~~ determined by multiplying the value of SBD and organic carbon content (% C_{org}) at each soil depth. Dorji et al. (2014) ~~noted~~ stated that ~~the~~ SOCD is ~~important~~ required for carbon accounting, accumulation, budgeting, and developing ~~design for~~ carbon sequestration strategies. ~~-~~The mean ~~value of~~ SOCD (0.~~12~~ 08 ± 0.01 gr C cm^{-3}, Table S1) in this area was higher compared to several mangrove areas in the world, including the ~~(~~western and eastern Atlantic and Pacific coasts, the Indian Ocean, the Mediterranean ~~Ocean~~Sea, and the Gulf of Mexico (~~;~~ 0.055 ± 0.004 gr C cm^{-3}), as demonstrated by Chmura et al. (2003). However, this value ~~here~~ was ~~similar~~ lower ~~to the~~than the mangrove rehabilitation ~~area~~ site in Bali (0.13 gr C cm^{-3}), as Mahasani et al. (2016) reported~~reported by Mahasani et al. (2016)~~. ~~The~~ SOCD tended to increase~~s along with the soil depth (Figure 2c). The increase of SOCD in each layer depth was affected by~~ along with soil depth (Figure 2c) and influenced ~~the~~ SBD and SOCC content~~s~~ (Dariah et al., 2012). In contrast, Dorji et al. (2014) and ~~Nguyen~~ Cuc et al. (2009) ~~both~~ found that ~~the~~ SOCD decreases with ~~the increase of~~ soil depth. The inconsistent trend of ~~the~~ SOCD values with the soil depth is due to the fact that SBD and SOCC values may vary with soil depth and location (Howard et al., 2014).

The mean SOC stock was 137.70 ± 12.37 ~~604.07 ± 52.54~~ Mg C ha^{-1} in this area (Table S.1). With a total mangrove area of 761 ha in 2017 (Malik & Rahim, 2017), the total stock of SOC in this area is estimated to be approximately 0.10 Tg C. Being a mangrove fringe area, the accumulation of autochthonous SOC in this mangrove area is influenced by tidal hydrodynamic which includes biogeochemical and physical processes. Tidal inundation brings abundant sediment, encouraging lateral deposition of mud due to reduced water flow within the mangroves (Rovai et al., 2018). Besides, warm temperatures and abundant rainfall in the area are associated with primary productivity and decomposition can affect the levels of SOC (Ontl & Schulte, 2012). However, the mean SOC stocks in this area were lower compared to other mangrove areas in Indonesia, such as Java and Kalimantan (Donato et al., 2011), Sumatra (Alongi et al., 2015), Bali (Sidik, 2014), and West Papua and Papua (Taberima et al., 2014). The loss of mangroves, mainly due to aquaculture development, affects the decline of SOC in the area.

~~was in the range of the SOC stocks values in several mangrove areas in Indonesia (572 Mg C ha^{-1} - 1059 Mg C ha^{-1}, Murdiyarso et al., 2015).~~ Based on the soil depth layer per site, the mean SOC stock tended to increase from the topsoil (Figure 2d). This pattern ~~here~~ was similar to mangrove areas in ~~Teminabuan and Bintuni (~~West Papua~~)~~ and ~~Timika (~~Papua~~)~~, and Micronesian mangrove forests, as demonstrated by Taberima et al. (2014) and Kauffman et al.

(2011), respectively. The ~~substantial difference of the mean SOC stock valu~~mean SOC stock value difference between soil layers was ~~due to~~ continuously high throughout ~~SOCC throughout~~ the soil layer (Kauffman et al., 2011).

~~Besides, the development of mangrove roots in depth of 50 cm plays important roles as a source of organic carbon accumulation in mangrove soil (Nguyen et al., 2004).~~ Almost half of the total ~~SOC~~ values of SOC ~~in~~ at each site are at the 30 cm - 50 cm ~~found in the~~ depth ~~of 30 cm - 50 cm~~ (Figure 2d, Table S1). Donato et al. (2011) ~~revealed~~ showed that 49-98% of the carbon ~~stock~~ is stored ~~in~~ at a depth of 0.5m to 3m. Taberima et al. (2014) found that most SOC in West Papua and Papua were found at depth 10 cm to 200 cm, but the highest value was above 100cm. Mangrove root growth at a depth of 50 cm plays a significant role in accumulating SOC (Nguyen et al., 2004). Ontl & Schulte (2012) found that the levels of SOC are primarily derived from root biomass and litter deposited by plants. Plant roots contribute SOC directly and indirectly through root growth and death and the transfer of carbon-rich compounds from roots to the soil.

~~Furthermore, considering a total mangrove cover area of 761 ha in 2017 (Malik & Rahim, 2017), the total SOC stock in this area is estimated to be approximately 0.46 Tg C.~~

~~These datasets inform a clear message of the potential soil organic carbon stocks stored in this mangrove area. Therefore, it is a high priority to implement~~

~~strong conservation policies in mangrove protection and prevention more expansion of aquaculture ponds in maintaining and increasing the SOC stocks in this area for contributing to climate change mitigation.~~

Conclusions

The study has demonstrated the potential stock of soil organic carbon (SOC) from the mangrove area in Sinjai District, South Sulawesi, Indonesia. The mean SOC stock was 137.70 ± 12.37 Mg C ha^{-1}. However, the observed mean stock of SOC from this area was lower than that studied in several mangrove areas of Indonesia due to human-induced exploitation, mainly for aquaculture expansion.

Wise use and restoration of mangroves is a top priority for sustainable use of mangroves, preserving SOC currently hold, and rebuilding and increasing SOC to mitigate climate change.

~~The results presented in this study demonstrate the potential soil organic carbon (SOC) stock from the mangrove area in Sinjai District, South Sulawesi, Indonesia. The mean value of SOC stock was 604.08 ± 52.54 Mg C ha^{-1}. This value was in the range of the SOC stock values in several mangrove areas in Indonesia. The SOC stock value tended to increase along with the increase of the soil depth.~~

~~More attention from decision-makers is necessary to conserve and maintain the mangrove areas, mainly from aquaculture pond expansions. These are the~~

~~main concerns to preserve and potentially increase the SOC stocks in this region to help mitigate climate change.~~

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Conflicts of interest

The authors declare no conflicts of interest.

Author Contributions

~~All authors have contributed to writing this~~All authors wrote the manuscript ~~manuscript~~.

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Supplementary Material

~~Table S1. Soil properties in the mangrove area of east Sinjai sub-District South Sulawesi Indonesia~~

~~Site~~	~~Depth (cm)~~	~~SBD (g cm^{-3})~~	~~SOCC (%)~~	~~SOCD (g C cm^{-3})~~	~~SOC (Mg C ha^{-1})~~
~~StV~~	~~0-15~~	~~0.72 ± 0.05~~	~~13.74 ± 1.36~~	~~0.10 ± 0.01~~	~~150.12 ± 20.86~~
~~-~~	~~15-30~~	~~1.02 ± 0.11~~	~~13.36 ± 1.38~~	~~0.13 ± 0.01~~	~~201.75 ± 18.20~~
~~-~~	~~30-50~~	~~1.07 ± 0.11~~	~~13.05 ± 1.45~~	~~0.14 ± 0.01~~	~~247.37 ± 25.13~~
~~Site mean~~	~~-~~	~~0.97 ± 0.11~~	~~13.38 ± 0.20~~	~~0.12 ± 0.01~~	~~199.75 ± 28.09~~
~~Site total~~	~~-~~	~~-~~	~~-~~	~~-~~	~~599.24 ± 28.09~~
~~TtV~~	~~0-15~~	~~0.97 ± 0.14~~	~~14.11 ± 0.37~~	~~0.13 ± 0.02~~	~~204.20 ± 29.40~~
~~-~~	~~15-30~~	~~1.23 ± 0.05~~	~~13.61 ± 0.34~~	~~0.17 ± 0.01~~	~~250.30 ± 6.75~~
~~-~~	~~30-50~~	~~1.14 ± 0.07~~	~~14.34 ± 0.46~~	~~0.16 ± 0.01~~	~~327.55 ± 17.90~~
~~Site mean~~	~~-~~	~~1.11 ± 0.08~~	~~14.02 ± 0.22~~	~~0.15 ± 0.01~~	~~260.68 ± 35.98~~
~~Site total~~	~~-~~	~~-~~	~~-~~	~~-~~	~~782.05 ± 35.98~~
~~PkV~~	~~0-15~~	~~0.78 ± 0.12~~	~~13.74 ± 0.39~~	~~0.11 ± 0.02~~	~~161.37 ± 22.77~~
~~-~~	~~15-30~~	~~0.82 ± 0.07~~	~~13.30 ± 1.37~~	~~0.11 ± 0.02~~	~~165.38 ± 27.17~~
~~-~~	~~30-50~~	~~1.18 ± 0.16~~	~~12.88 ± 1.30~~	~~0.16 ± 0.03~~	~~307.62 ± 63.81~~
~~Site mean~~	~~-~~	~~0.93 ± 0.13~~	~~13.31 ± 0.25~~	~~0.13 ± 0.02~~	~~211.46 ± 48.10~~
~~Site total~~	~~-~~	~~-~~	~~-~~	~~-~~	~~634.37 ± 48.10~~
~~PmV~~	~~0-15~~	~~0.49 ± 0.10~~	~~11.56 ± 0.94~~	~~0.05 ± 0.01~~	~~82.46 ± 15.81~~
~~-~~	~~15-30~~	~~0.72 ± 0.04~~	~~13.70 ± 0.45~~	~~0.10 ± 0.01~~	~~148.37 ± 9.50~~
~~-~~	~~30-50~~	~~0.98 ± 0.08~~	~~12.40 ± 1.05~~	~~0.12 ± 0.00~~	~~240.66 ± 2.77~~
~~Site mean~~	~~-~~	~~0.73 ± 0.14~~	~~12.55 ± 0.62~~	~~0.09 ± 0.02~~	~~157.16 ± 45.88~~
~~Site total~~	~~-~~	~~-~~	~~-~~	~~-~~	~~471.49 ± 45.88~~
~~SjV~~	~~0-15~~	~~0.60 ± 0.03~~	~~12.79 ± 1.11~~	~~0.08 ± 0.02~~	~~115.53 ± 16.10~~
~~-~~	~~15-30~~	~~0.90 ± 0.11~~	~~13.00 ± 0.80~~	~~0.12 ± 0.03~~	~~178.05 ± 30.16~~
~~-~~	~~30-50~~	~~0.91 ± 0.09~~	~~12.94 ± 1.37~~	~~0.12 ± 0.02~~	~~239.65 ± 42.24~~
~~Site mean~~	~~-~~	~~0.80 ± 0.10~~	~~12.91 ± 0.06~~	~~0.11 ± 0.01~~	~~177.74 ± 35.83~~
~~Site total~~	~~-~~	~~-~~	~~-~~	~~-~~	~~533.23 ± 35.83~~
~~Grand mean~~	~~-~~	~~0.91 ± 0.07~~	~~13.23 ± 0.25~~	~~0.12 ± 0.01~~	~~604.07 ± 52.54~~
~~*Grand total*~~	~~-~~	~~-~~	~~-~~	~~-~~	~~3020.38 ± 52.54~~

~~StV: Samataring village; TtV: Tongke-tongke village; PkV: Panaikang village; PmV: Pasimarannu village; SjV: Sanjai village; n: number of soil sample; SBD: soil bulk density; SOCC: soil organic carbon concentration; SOCD: soil organic carbon density; SOC: soil organic carbon.~~

Table S1. Soil properties and carbon stock in the mangrove area of Sinjai District South Sulawesi Indonesia

Site	**Depth**	**n**	**SBD (g cm^{-3})**		**SOCC (%)**		**SOCD (g C cm^{-3})**		**SOC (Mg ha^{-1})**	
-	-	-	Mean	SE	Mean	SE	Mean	SE	Mean	SE
StV	0-15	3	0.62	0.07	14.54	0.20	0.09	0.01	134.87	16.11

	15-30	3	0.67	0.04	13.92	0.40	0.09	0.005	139.56	7.32
	30-50	3	0.73	0.04	13.74	0.39	0.10	0.003	199.00	5.30
	Mean	-	0.67	0.03	14.06	0.24	0.09	0.003	157.81	20.64
	Total	9	-		-		-		473.43	
	p-value		0.34		0.29		0.64		0.01	
TtV	0-15	3	0.65	0.14	14.34	0.47	0.09	0.02	139.65	23.48
	15-30	3	0.75	0.12	14.12	0.37	0.11	0.01	159.13	19.77
	30-50	3	0.77	0.06	13.61	0.35	0.11	0.01	210.35	18.80
	Mean	-	0.72	0.04	14.02	0.22	0.10	0.004	169.71	21.08
	Total	9	-		-		-		509.13	
	p-value		0.62		0.46		0.74		0.12	
PkV	0-15	3	0.48	0.10	13.74	1.36	0.06	0.01	96.20	11.85
	15-30	3	0.54	0.14	13.36	1.38	0.07	0.02	112.08	37.06
	30-50	3	0.75	0.08	13.05	1.45	0.10	0.02	199.37	38.79
	Mean	-	0.59	0.08	13.38	0.20	0.08	0.01	135.88	32.07
	Total	9	-		-		-		407.65	
	p-value		0.28		0.94		0.44		0.12	
PmV	0-15	3	0.44	0.10	14.03	0.37	0.09	0.00	91.53	18.93
	15-30	3	0.56	0.05	13.96	0.68	0.08	0.01	119.15	16.68
	30-50	3	0.59	0.07	14.10	0.60	0.08	0.01	167.36	24.90
	Mean	-	0.53	0.05	14.03	0.04	0.08	0.002	126.01	22.16
	Total	9	-		-		-		378.04	
	p-value		0.40		0.99		0.89		0.10	
SjV	0-15	3	0.42	0.13	14.10	0.12	0.06	0.02	88.28	26.14
	15-30	3	0.46	0.04	13.13	0.25	0.06	0.005	90.22	7.28
	30-50	3	0.51	0.02	11.74	0.50	0.06	0.002	118.75	3.27
	Mean	-	0.46	0.03	12.99	0.68	0.06	0.0004	99.08	9.85
	Total	9	-		-		-		297.25	
	p-value		0.74		0.01		1.00		0.37	
p-value			0.02		0.18		0.002		0.26	
Grand mean		-	0.60	0.05	13.70	0.22	0.08	0.01	137.70	12.37
Grand total		45							2065.50	

StV: Samataring village; TtV: Tongke-tongke village; PkV: Panaikang village; PmV: Pasimarannu village; SjV: Sanjai village; n: number of soil sample; SBD: soil bulk density; SOCC: soil organic carbon concentration; SOCD: soil organic carbon density; SOC: soil organic carbon.

Journal of Environmental Engineering and Landscape Management

Submission Confirmation

Print

Thank you for your revision

Submitted to
Journal of Environmental Engineering and Landscape Management

Manuscript ID
JEELM-2020-0129.R1

Title
The Potential Soil Organic Carbon Stocks in Mangrove Areas of Sinjai District, South Sulawesi, Indonesia

Authors
Malik, Abdul
Ichsan Ali, Muhammad
Annas, Suwardi
Jalil, Abdul
Mulya, Restu
Gravani, Konstantina

Date Submitted
15-Oct-2021

Author Dashboard

UNM

Abdul Malik <abdulmalik@unm.ac.id>

Status of manuscript JEELM-2020-0129.R1

6 messages

Abdul Malik <abdulmalik@unm.ac.id> Sat, Jan 29, 2022 at 3:55 AM
To: jeelm@vgtu.lt

Dear Editor of JEELM

We would like to know the status of our manuscript with ID number: JEELM-2020-0129.R1 since we have sent the revised version of the manuscript on Oct, 18, 2021.
We hopefully the manuscript can be accepted and published in your journal.

Best regards,

Abdul Malik
Corresponding author

JEELM Editorial Office <jeelm@vilniustech.lt> Mon, Jan 31, 2022 at 6:40 PM
To: Abdul Malik <abdulmalik@unm.ac.id>

Dear Author,

we are very sorry that the review process has taken a long time. This happens with many articles. Due to the current pandemic situation, many reviewers agree to review, but after a long time without receiving any response from them, we start the search again. We currently have one review for your article and would like to receive at least one more.

Sincerely,
Journal of Environmental Engineering and Landscape Management Editorial Office

Doc. dr. Raimondas Grubliauskas (Editor in chief)

Doc. dr. Jolita Bradulienė (Managing Editor)

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[Quoted text hidden]

Abdul Malik <abdulmalik@unm.ac.id> Sun, May 22, 2022 at 3:00 PM
To: JEELM Editorial Office <jeelm@vilniustech.lt>

Dear Editor of JEELM

Following my email and your email reply on Jan 31, 2022, we would like to know the status of our manuscript with ID number: JEELM-2020-0129.R1 since we sent the revised version of the manuscript on Oct 18, 2021.
We hope the manuscript can be accepted and published in your journal.

Best

Abdul Malik
(Corresponding author)
[Quoted text hidden]
--
Abdul Malik, Ph.D.

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JEELM Editorial Office <jeelm@vilniustech.lt> Tue, May 24, 2022 at 2:49 PM
To: Abdul Malik <abdulmalik@unm.ac.id>

Dear author,

Reviewer romises to provide feedback in 2-3 weeks.

Sincerely,
Journal of Environmental Engineering and Landscape Management Editorial Office

Doc. dr. Raimondas Grubliauskas (Editor in chief)

Doc. dr. Jolita Bradulienė (Managing Editor)

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From: Abdul Malik [mailto:abdulmalik@unm.ac.id]
Sent: Sunday, May 22, 2022 9:59 AM
To: JEELM Editorial Office <jeelm@vilniustech.lt>
Subject: Re: Status of manuscript JEELM-2020-0129.R1

Dear Editor of JEELM

Following my email and your email replying on Jan 31, 2020, we would like to know the status of our manuscript with ID number: JEELM-2020-0129.R1 since we sent the revised version of the manuscript on Oct 18, 2021.

We hope the manuscript can be accepted and published in your journal.

Best regards,

Abdul Malik

Corresponding author

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[Quoted text hidden]

Abdul Malik <abdulmalik@unm.ac.id> Thu, Jun 30, 2022 at 3:17 PM
To: JEELM Editorial Office <jeelm@vilniustech.lt>

Dear Editor of JEELM

Has the reviewer provided feedback on the revised version of the manuscript (ID number: JEELM-2020-0129.R1)? We hope the manuscript can be accepted & published in your journal.

Best,
Abdul Malik

[Quoted text hidden]

JEELM Editorial Office <jeelm@vilniustech.lt> Thu, Jun 30, 2022 at 3:20 PM
To: Abdul Malik <abdulmalik@unm.ac.id>

yes, we got just now. you will receive feedback soon

Sincerely,
Journal of Environmental Engineering and Landscape Management Editorial Office
Doc. dr. Raimondas Grubliauskas (Editor in chief)
Doc. dr. Jolita Bradulienė (Managing Editor)

Nuo: Abdul Malik <abdulmalik@unm.ac.id>
Išsiųsta: 2022 m. birželio 30 d. 10:17:36
Iki: JEELM Editorial Office
Tema: Re: Status of manuscript JEELM-2020-0129.R1

[Quoted text hidden]

UNM

Abdul Malik <abdulmalik@unm.ac.id>

Journal of Environmental Engineering and Landscape Management - Decision on Manuscript ID JEELM-2020-0129.R1

6 messages

Journal of Environmental Engineering and Landscape Management <onbehalfof@manuscriptcentral.com> Thu, Jun 30, 2022 at 3:29 PM
Reply-To: jeelm@vilniustech.lt
To: abdulmalik@unm.ac.id

30-Jun-2022

Dear Dr Malik:

Ref: The Potential Soil Organic Carbon Stocks in Mangrove Areas of Sinjai District, South Sulawesi, Indonesia

Our reviewers have now considered your paper and have recommended publication in Journal of Environmental Engineering and Landscape Management. We are pleased to accept your paper in its current form which will now be forwarded to the publisher for copy editing and typesetting. The reviewer comments are included at the bottom of this letter, along with those of the editor who coordinated the review of your paper.

You will receive proofs for checking, and instructions for transfer of copyright in due course.

The publisher also requests that proofs are checked through the publisher's tracking system and returned within 48 hours of receipt.

Thank you for your contribution to Journal of Environmental Engineering and Landscape Management and we look forward to receiving further submissions from you.

Sincerely,
Dr Grubliauskas
Editor in Chief, Journal of Environmental Engineering and Landscape Management

Reviewer(s)' Comments to Author:

Referee: 1

Comments to the Author
I would like to congtratulate authors for valuble studies.

Referee: 2

Comments to the Author
Dear authors
To improve your paper, it is better to provide a better quality map of the study area and to specify the sampling locations.

Editor's Comments to Author:

Executive Editor
Comments to the Author:
(There are no comments.)

Abdul Malik <abdulmalik@unm.ac.id> Fri, Jul 1, 2022 at 3:13 PM
To: JEELM Editorial Office <jeelm@vilniustech.lt>

Dear Editor of JEELM

Thank you very much for accepting the manuscript for publishing in your journal. We are very glad to hear it.
We are waiting for proof for checking, and instructions for the transfer of copyright of the article.

We also will revise the map and specify the sample location as suggested by referee 2.

Best regards,
Abdul Malik
[Quoted text hidden]

--
Abdul Malik, Ph.D.

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E-mail: abdulmalik@unm.ac.id

Abdul Malik <abdulmalik@unm.ac.id> Tue, Jul 26, 2022 at 5:38 AM
To: JEELM Editorial Office <jeelm@vilniustech.lt>

Dear Editor of JEELM

Following my last email to you, we are waiting for the next step after the acceptance of the manuscript (ID JEELM-2020-0129.R1) for the publishing process.

Best regards,
Abdul Malik
(Corresponding Author)
[Quoted text hidden]

JEELM Editorial Office <jeelm@vilniustech.lt> Tue, Jul 26, 2022 at 1:41 PM
To: Abdul Malik <abdulmalik@unm.ac.id>

Dear author,

Your manuscript was forwarded to the publisher. The publisher will contact you soon

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Journal of Environmental Engineering and Landscape Management Editorial Office

Doc. dr. Raimondas Grubliauskas (Editor in chief)

Doc. dr. Jolita Bradulienė (Managing Editor)

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[Quoted text hidden]

Abdul Malik <abdulmalik@unm.ac.id> Wed, Aug 24, 2022 at 2:01 PM
To: JEELM Editorial Office <jeelm@vilniustech.lt>

Dear editor of JEELM

We just want to inform you that the publisher has not yet contacted us for proof of the checking and instructions for the transfer of copyright of the article (ID JEELM-2020-0129.R1) after the acceptance process.

Best regards,

Abdul Malik
(Corresponding Author)

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JEELM Editorial Office <jeelm@vilniustech.lt> Mon, Aug 29, 2022 at 5:40 PM
To: Abdul Malik <abdulmalik@unm.ac.id>

Dear author,

Thank you for informing us.

Produce department informed, that they are editing manuscript so you will soon get email for the proof

Sincerely,
Journal of Environmental Engineering and Landscape Management Editorial Office

Doc. dr. Raimondas Grubliauskas (Editor in chief)

Doc. dr. Jolita Bradulienė (Managing Editor)

VILNIUS TECH
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From: Abdul Malik [mailto:abdulmalik@unm.ac.id]
Sent: Wednesday, August 24, 2022 9:01 AM
To: JEELM Editorial Office <jeelm@vilniustech.lt>
Subject: Re: Journal of Environmental Engineering and Landscape Management - Decision on Manuscript ID JEELM-2020-0129.R1

Dear editor of JEELM

We just want to inform you that the publisher has not yet contacted us for proof of the checking and instructions for the transfer of copyright of the article (ID JEELM-2020-0129.R1) after the acceptance process.

Best regards,

Abdul Malik

(Corresponding Author)

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Journal of Environmental Engineering and Landscape Management

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2 Manuscripts with Decisions

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Manuscripts with Decisions

ACTION	STATUS	ID	TITLE	SUBMITTED	DECISIONED
	EO: Bradulienė, Jolita Accept (30-Jun-2022) view decision letter Contact Journal	JEELM-2020-0129.R1	The Potential Soil Organic Carbon Stocks in Mangrove Areas of Sinjai District, South Sulawesi, Indonesia View Submission	18-Oct-2021	30-Jun-2022

ACTION	STATUS	ID	TITLE	SUBMITTED	DECISIONED
a revision has been submitted (JEELM-2020-0129.R1)	EO: Bradulienė, Jolita • Major Revision (19-Jan-2021) • a revision has been submitted view decision letter Contact Journal	JEELM-2020-0129	The Potential Soil Organic Carbon Stocks in Mangrove Areas of Sinjai District, South Sulawesi, Indonesia View Submission	03-Oct-2020	19-Jan-2021