



KEMENTERIAN RISET, TEKNOLOGI DAN PENDIDIKAN TINGGI
UNIVERSITAS NEGERI MAKASSAR (UNM)
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Subject: **Cover Letter**

Dear Editor of Indonesian Journal of Geography

Please consider the submitted manuscript paper for publication in Indonesian Journal of Geography.

I declare the manuscript paper has not been published elsewhere and it has not been submitted simultaneously for publication elsewhere.

Biomass carbon stock assessment of mangrove ecosystem in Pannikiang Island South Sulawesi Indonesia

The objective of this study is to assess biomass carbon stocks of the mangrove tree and root to provide baseline data for policy decision-making in climate change mitigation. The results showed that the mean value of above-ground carbon (AGC) tree and below-ground carbon (BGC) root stocks are $5.34 \pm 0.17 \text{ Mg C ha}^{-1}$ and $1.68 \pm 0.04 \text{ Mg C ha}^{-1}$, respectively. *Bruguiera gymnorrhiza* was the greatest AGC tree and BGC root stocks, followed by *Scyphiphora hydrophyllacea*. The AGC tree and BGC root stocks are strongly affected by the size of the tree diameter. However, the mean value of AGC tree and BGC root stocks are much lower than other places in Indonesia and Southeast Asia counties due to lower in tree diameter. Besides, deforestation of mangrove in this area has caused CO₂ emissions about 137.18 Mg and 43.16 Mg from both two pools in the last two decades. More attention from decision-makers in this region to halt the further expansion of aquaculture ponds and settlements to avoid and reduce CO₂ emissions is part of climate change strategy.

This manuscript is important and contributes to mangrove and climate change studies, especially from monitoring the mangrove biomass carbon stock in the Sulawesi region which is still rarely published.

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Sincerely yours,

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