

Review Form 3

Journal Name:	Asian Journal of Fisheries and Aquatic Research
Manuscript Number:	Ms_AJFAR_130161
Title of the Manuscript:	Variability in Oceanographic Conditions of Chlorophyll-A and Sea Surface Temperature in the Waters Around North Maluku
Type of the Article	Short Research Article

PART 1: Comments

	Reviewer's comment	Author's Feedback (Please correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here)
Please write a few sentences regarding the importance of this manuscript for the scientific community. A minimum of 3-4 sentences may be required for this part.	This manuscript is of significant importance to the scientific community as it provides crucial insights into the variability of oceanographic conditions, specifically chlorophyll-a and sea surface temperature, in the waters surrounding North Maluku. By analyzing seasonal changes and their impacts on marine productivity, the study contributes valuable knowledge about the interplay between oceanographic factors and fish resource abundance. These findings are essential for promoting sustainable fisheries management and addressing the challenges posed by climate-induced changes in marine ecosystems. Furthermore, the study enhances our understanding of the dynamics of primary productivity, which is fundamental for maintaining the health and sustainability of marine food chains.	
Is the title of the article suitable? (If not please suggest an alternative title)	<p>The title of the article, "Variability in Oceanographic Conditions of Chlorophyll-A and Sea Surface Temperature in the Waters Around North Maluku," is descriptive and conveys the primary focus of the study. However, it can be made more engaging and reflective of the study's implications. A potential alternative title could be:</p> <p>"Seasonal Variations in Chlorophyll-A and Sea Surface Temperature: Implications for Marine Productivity in North Maluku Waters."</p>	The title has been revised to "Impact of Oceanographic Variability on Chlorophyll-a Concentration and Sea Surface Temperature in North Maluku Waters and its Influence on Fish Abundance".

Review Form 3

<p>Is the abstract of the article comprehensive? Do you suggest the addition (or deletion) of some points in this section? Please write your suggestions here.</p>	<p>I recommend a few improvements could be made to enhance clarity and highlight key aspects of the research.</p> <ol style="list-style-type: none">Contextualization: The abstract could briefly mention the importance of the North Maluku region in terms of fisheries and marine biodiversity at the start, providing more context for the significance of the study. Example: <i>"The waters surrounding North Maluku are rich in fisheries resources, making them crucial for both local economies and marine biodiversity."</i>Methodology: The methodology section could be slightly condensed to focus on the key aspects, such as the use of satellite data and interpolation methods, without getting into too much technical detail. For example, mentioning "satellite imagery data" and "inverse distance weighted interpolation" is sufficient without elaborating on specific software. Example: <i>"Satellite data on chlorophyll-a, sea surface temperature (SST), and salinity from 2021 were analyzed using spatial interpolation methods to examine seasonal variations."</i>Results and Impact: The results section could be emphasized more by focusing on the key findings, such as the observed relationship between SST, chlorophyll-a, and primary productivity. Highlighting the implications of these findings on fisheries could make the abstract more impactful. Example: <i>"Our analysis revealed seasonal fluctuations in chlorophyll-a concentration and SST, with higher chlorophyll-a concentrations supporting primary productivity and fish abundance in mid-year."</i>Conciseness: The abstract could be slightly shortened to improve flow. For example, details about the negative phase of the Indian Ocean Dipole (IOD) influencing nutrient availability could be briefly mentioned without going into excessive detail. Example: <i>"The negative IOD phase reduced upwelling intensity, impacting nutrient availability and consequently marine productivity."</i>	<p>The abstract has been revised according to the reviewer's suggestion.</p>
<p>Is the manuscript scientifically, correct? Please write here.</p>	<p>Yes, the manuscript is scientifically correct. It effectively uses well-established methodologies and presents its findings in a coherent manner, with accurate interpretations based on the data. Here are the key points confirming its scientific correctness:</p> <ol style="list-style-type: none">Oceanographic Conditions and Marine Productivity: The relationship between chlorophyll-a concentration, sea surface temperature (SST), and marine productivity is accurately portrayed. These factors are well-documented in oceanographic studies as playing a significant role in determining primary productivity, which in turn affects fish populations.Chlorophyll-a and SST Analysis: The manuscript correctly identifies that chlorophyll-a is a proxy for primary productivity and that its seasonal variation is linked to upwelling and other oceanographic processes. SST influences metabolic rates and fish migration, which are also consistent with marine ecology principles.Indian Ocean Dipole (IOD): The influence of the negative phase of the Indian Ocean Dipole (IOD) on upwelling and nutrient availability is scientifically valid. The IOD's effect on regional oceanographic conditions and its impact on primary productivity have been widely studied and are accurately incorporated in the manuscript.Data Sources and Methodology: The use of satellite imagery for chlorophyll-a and SST data collection, as well as the spatial interpolation techniques (Inverse Distance Weighted method), is scientifically sound. These methods are commonly used in remote sensing and environmental monitoring studies.	<p>The values of chlorophyll-a and sea surface temperature exhibit significant variation, as spatially there are areas that are strongly influenced by local environmental factors such as water depth, upwelling, and proximity to land or river mouths. This results in a large standard deviation, which could obscure the interpretation of the data. However, I have included the standard deviation values in this document for the reviewer's consideration.</p>

Review Form 3

	<div>5. Marine Resource Management: The findings contribute to the understanding of how oceanographic variations influence fisheries productivity, which is crucial for sustainable management of marine resources. The study's conclusions about the need for better management strategies based on these dynamics are scientifically relevant.</div> <div>6. Please include the standard deviation or standard error alongside the mean values in the graphs.</div>	<table><tr><th>Month</th><th>CHL</th><th>Stdev</th><th>SPL</th><th>Stdev</th></tr><tr><td>January</td><td>0.145907</td><td>0.178404</td><td>30.43332</td><td>0.638343</td></tr><tr><td>February</td><td>0.103101</td><td>0.11253</td><td>30.27107</td><td>0.621769</td></tr><tr><td>March</td><td>0.131131</td><td>0.142598</td><td>30.7397</td><td>0.481874</td></tr><tr><td>April</td><td>0.147394</td><td>0.146079</td><td>30.68649</td><td>0.474836</td></tr><tr><td>May</td><td>0.172525</td><td>0.170544</td><td>30.31056</td><td>0.433025</td></tr><tr><td>June</td><td>0.212262</td><td>0.272293</td><td>30.06017</td><td>0.393192</td></tr><tr><td>July</td><td>0.207828</td><td>0.218935</td><td>29.89566</td><td>0.661974</td></tr><tr><td>August</td><td>0.187207</td><td>0.20354</td><td>29.87528</td><td>0.63713</td></tr><tr><td>September</td><td>0.136483</td><td>0.180833</td><td>29.93619</td><td>0.841958</td></tr><tr><td>October</td><td>0.157007</td><td>0.183821</td><td>30.82694</td><td>0.487763</td></tr><tr><td>November</td><td>0.162165</td><td>0.189924</td><td>30.99684</td><td>0.402147</td></tr><tr><td>December</td><td>0.141583</td><td>0.169987</td><td>30.29769</td><td>0.622404</td></tr></table>	Month	CHL	Stdev	SPL	Stdev	January	0.145907	0.178404	30.43332	0.638343	February	0.103101	0.11253	30.27107	0.621769	March	0.131131	0.142598	30.7397	0.481874	April	0.147394	0.146079	30.68649	0.474836	May	0.172525	0.170544	30.31056	0.433025	June	0.212262	0.272293	30.06017	0.393192	July	0.207828	0.218935	29.89566	0.661974	August	0.187207	0.20354	29.87528	0.63713	September	0.136483	0.180833	29.93619	0.841958	October	0.157007	0.183821	30.82694	0.487763	November	0.162165	0.189924	30.99684	0.402147	December	0.141583	0.169987	30.29769	0.622404
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Are the references sufficient and recent? If you have suggestions of additional references, please mention them in the review form.	<div>Here are some references that could be added to the manuscript.</div> <div><div>1-</div><div>Saji, N. H., Goswami, B. N., Vinayachandran, P. N., & Yamagata, T. (1999). "A dipole mode in the tropical Indian Ocean." <i>Nature</i>, 401(6751), 360-363. [DOI: 10.1038/43854]</div><div>2-</div><div>Shike Gao, Yixi Shi, Shuo Zhang, Chunmei Gao,Temporal and spatial variation patterns of chlorophyll a in marine ranching under globalinterannual events,Marine Environmental Research,Volume 202,2024,106760,ISSN 0141-1136,https://doi.org/10.1016/j.marenvres.2024.106760.</div><div>3-</div><div>N.A. Sweijd, A.J. Smit,Trends in sea surface temperature and chlorophyll-a in the seven African Large Marine Ecosystems,Environmental Development,Volume 36,2020,100585,ISSN 2211-4645,https://doi.org/10.1016/j.envdev.2020.100585.</div><div>4-</div><div>W A L Ningsih <i>et al</i> 2021 <i>IOP Conf. Ser.: Earth Environ. Sci.</i> 944 012057DOI 10.1088/1755-1315/944/1/012057</div></div>	We have added some of these references to the manuscript.																																																																	
Is the language/English quality of the article suitable for scholarly communications?	The language quality of the manuscript is generally understandable and communicates the main ideas well.																																																																		
Optional/General comments																																																																			

PART 2:

	Reviewer's comment	Author's comment (if agreed with reviewer, correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here)
Are there ethical issues in this manuscript?	(If yes. Kindly please write down the ethical issues here in details)	