

**Review Form 3**

Journal Name:	<b>Asian Journal of Probability and Statistics</b>
Manuscript Number:	<b>Ms_AJPAS_122072</b>
Title of the Manuscript:	<b>On some stochastic models of the climate change</b>
Type of the Article	

**Review Form 3**

**PART 1: Review Comments**

<b>Compulsory</b> REVISION comments	Reviewer's comment	Author's Feedback <i>(Please correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here)</i>
<p><b>Please write a few sentences regarding the importance of this manuscript for the scientific community. Why do you like (or dislike) this manuscript? A minimum of 3-4 sentences may be required for this part.</b></p>	<p>The introduction of fractional Poisson and fractional Gamma models for rainfall modeling is interesting. However, a brief explanation of why these models are particularly suitable for this application could enhance understanding.</p>	
<p><b>Is the title of the article suitable? (If not please suggest an alternative title)</b></p>	<p>The current title, "On some stochastic models of the climate change," is somewhat vague and does not fully capture the scope and specific focus of the research. A more descriptive title could help attract the right audience and convey the key aspects of the study.</p> <ol style="list-style-type: none"> <li>1. "Advanced Stochastic Models for Rainfall and Marine Ecosystem Dynamics in Climate Change"</li> <li>2. "Fractional Poisson and Gamma Models for Rainfall: Implications for Climate Change and Marine Ecosystems"</li> <li>3. "Modeling Climate Change: Fractional Stochastic Approaches to Rainfall and Oceanic Ecosystem Dynamics"</li> <li>4. "Integrating Fractional Stochastic Models in Climate Change: Applications in Rainfall and Marine Ecosystems"</li> <li>5. "Enhancing Climate Change Models: Fractional Stochastic Approaches for Rainfall and Ocean Dynamics"</li> </ol>	
<p><b>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.</b></p>	<p>The abstract is well-structured and covers three distinct parts of the research.</p>	
<p><b>Are subsections and structure of the manuscript appropriate?</b></p>	<p>Yes, the subsections and structure of the manuscript appear appropriate. However, it would be beneficial to include a "Related Works" section. This section would provide context by reviewing existing literature, highlighting the contributions of previous studies, and positioning your research within the broader field. It can help readers understand significance of your work in relation to existing research.</p>	
<p><b>Please write a few sentences regarding the scientific correctness of this manuscript. Why do you think that this manuscript is scientifically robust and technically sound? A minimum of 3-4 sentences may be required for this part.</b></p>	<p>The manuscript demonstrates scientific robustness and technical soundness through its comprehensive use of advanced stochastic models, such as fractional Poisson and fractional Gamma models, which are well-suited for handling the complexities of rainfall data. The integration of differential equations and Brownian motion in modeling the interactions between oceanic ecosystems and climate change provides a rigorous mathematical framework that enhances the accuracy and reliability of the findings. Furthermore, the incorporation of fractional Brownian motion to address the limitations of traditional Brownian motion ensures that long-range dependencies and persistent effects are effectively captured, thereby improving the predictive capabilities of the models. These methodological choices reflect a deep understanding of the challenges in climate modeling and underscore the manuscript's contribution to advancing the field.</p>	
<p><b>Are the references sufficient and recent? If you have suggestions of additional references, please mention them in the review form.</b></p> <p>=</p>	<p>Yes, the references in the manuscript are sufficient and recent. However, incorporating updated references from 2024 would further enhance the manuscript's relevance and credibility. Here are some suggested references to include:</p>	

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	<p>1. Sattari, M. T., Bagheri, R., Shirini, K., &amp; Allahverdipour, P. (2024). Modeling Daily and Monthly Rainfall in Tabriz using Ensemble Learning Models and Decision Tree Regression. Scientific Journal of Golestan University, 5(18).</p> <p>2. Sattari, M. T., Shirini, K., &amp; Javidan, S. (1982). Evaluating the efficiency of dimensionality reduction methods in improving the accuracy of water quality index modeling in Qizil-Uzen River using machine learning algorithms.</p>	
<p><u>Minor REVISION</u> comments</p> <p><b>Is the language/English quality of the article suitable for scholarly communications?</b></p>	Yes, the language and English quality of the article are suitable for scholarly communications.	
<p><u>Optional/General</u> comments</p>	<p>The manuscript is generally well-written and clear. Ensuring that complex concepts are explained concisely and accessibly will help a broader audience understand the significance of the research. Including well-labelled figures and tables to illustrate key points and results can significantly enhance the manuscript's readability and impact. Visual aids can make complex data more accessible and comprehensible.</p> <p>While the use of advanced stochastic models is well-founded, providing a brief justification for the choice of each model and method in the context of the research question could strengthen the manuscript.</p> <p>Including a section on potential future research directions would be beneficial. It can highlight the broader implications of your findings and suggest areas for further investigation.</p> <p>Emphasizing the practical implications of your findings, particularly for policy-making and environmental management, can enhance the manuscript's relevance and appeal to a wider audience, including practitioners and policymakers.</p>	

**PART 2:**

	<b>Reviewer's comment</b>	<b>Author's comment</b> <i>(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)</i>
<b>Are there ethical issues in this manuscript?</b>	<i>(If yes, Kindly please write down the ethical issues here in details)</i>	

**Reviewer Details:**

Name:	<b>Kimia Shirini</b>
Department, University & Country	<b>Tabriz University, Iran</b>