10 March 2023

**Prof. Andreas Langousis**

**Editor-in-Chief,**

**Stochastic Environmental Research and Risk Assessment**

**SPRINGER**

**Submission of the revised manuscript “Correlation of 2022 dreadful flood and climatic factors in Bangladesh with risk reduction strategies” intended for publication in the Journal of Stochastic Environmental Research and Risk Assessment**

Dear Dr. Andreas Langousis,

It is a great pleasure for me and my co-authors to re-submit the manuscript entitled *“Correlation of 2022 dreadful flood and climatic factors in Bangladesh with risk reduction strategies*” for consideration for publication in the Stochastic Environmental Research and Risk Asment. To our knowledge, this study is the first to identify the association between meteorological factors and 2022 flood in Bangladesh. The statistical results of this analysis indicate a significant difference between non-flooded areas and flooded for climatic factors and water levels. At the same time, Sunamganj showed the highest mean of wind speed (SD= 2.1), temperature (29.3) (SD= 2.1), rainfall, and surface pressure. This study's findings also indicated that the wind speed, RH, and SP are positively associated (Coefficient = 0.04, 95% CI: 0.02 to 0.30, 0.48 [0.20 to 1.16], 0.04 [-0.21 to 0.29], respectively) with the water level in Sylhet city, but the correlation of SP was not statistically significant with water level according to ARIMAX model. The temperature and WL have been found to be negatively associated (-0.16 [-0.58 to -0.27] and -0.32 [-0.41 to -0.02], respectively) with water level according to the ARIMAX model. The ARIMAX model explains 98.70% of the overall variation with 0.7901 RMSE and 0.5550 MAE. In Sunamganj city, the RH, SP, and WL are positively associated (0.65 [0.16 to 1.46], 0.17 [0.10 to 0.44], and 0.01 [0.01 to 0.05], respectively) with water level according to ARIMAX model. The WS and temperature have negatively associated (-0.04 [-0.29 to -0.01] and -0.24 [-0.72 to -0.11], respectively) with water level according to the ARIMAX model. The ARIMAX model explains 98.79% of the overall variation with 0.8069 RMSE and 0.5497 MAE. To the author's best knowledge, this is the first study indicating the correlation between climatic factors and water level, focusing on the 2022 flood in Bangladesh, which will help policymakers and others to take necessary steps and raise concerns. The study findings will help other researchers and policymakers to take comprehensive actions by considering meteorological parameters for floods. We truly hope that this manuscript would attract the scientific community.

We have experience in writing high-quality research-based and review papers. For example, one of our papers, which is published in the Journal of Environmental Science and Health, Part A (41, 2006), has attracted 1006 citations and is selected as a Highly Cited paper (https://www.tandfonline.com/doi/citedby/10.1080/10934520600873571?scroll=top&needAccess=true&role=tab).

We believe that this manuscript would be suitable for publication in this journal and we truly hope that this manuscript would attract the scientific community as a reference.

*KTH Royal Institute of Technology, Teknikringen 10B, SE-100 44 Stockholm, Sweden will bear the APC of this manuscript on behalf of the corresponding author Professor Prosun Bhattacharya*

Looking forward to positive feedback.

Best regards



Corresponding author

Prosun Bhattacharya, PhD

Professor, Groundwater Chemistry

COVID-19 Research @KTH

KTH Royal Institute of Technology

Department of Sustainable Development, Environmental Science and Engineering

KTH-International Groundwater Arsenic Research Group

Teknikringen 10B

SE-100 44 Stockholm, Sweden

Phone: +46-8-790 73 99

Mobile: +46-70-697 42 41

prosun@kth.se

www.kth.se

Researcher ID: http://www.researcherid.com/rid/B-1564-2010

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