# Saurav Dey Shuvo

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## Education

***Ph.D.*** in Atmospheric Sciences and Meteorology, The Ohio State University — *begun in 2023*
Supervisor: Professor Dr. David H. Bromwich

***M.Sc.*** in Meteorology, University of Dhaka — 2019
Thesis title: A Study on the Application of Numerical Models for Analyzing Flash Flood Events in Bangladesh

***B.S.*** in Geography and Environment, University of Dhaka — 2017

## Professional Experiences

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| *Graduate Research Assistant*; Polar Meteorology Group, Byrd Polar and Climate Research Center, The Ohio State University | August, 2023 – present |
| *Student Research Assistant*; Polar Meteorology Group, Byrd Polar and Climate Research Center, The Ohio State University | July, 2023 – August, 2023 |
| *Assistant Professor;* Department of Meteorology, University of Dhaka | April, 2023 – July, 2023 [currently on Study Leave] |
| *Lecturer*; Department of Meteorology, University of Dhaka | December, 2019 – April, 2023 |
| *Teaching Assistant*; Department of Meteorology, University of Dhaka | September, 2019 – December, 2019 |
| *Laboratory Assistant*; Department of Geography and Environment, University of Dhaka | July, 2017 – February, 2018 |
| *Member Secretary*; International Conference on Meteorology and Climate Science (ICMCS) | 2020 – 2021 |
| *Member Secretary*; International Conference on Climate Change (ICCC) | 2022 |
| *Co-editor*; Advancement of the Department of Meteorology: Future Challenges and Road Map | Published in June, 2022 |

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| *Intern*; India Meteorological Department, New Delhi, India | 2019 |
| *Intern*; Bangladesh Meteorological Department, Dhaka, Bangladesh | 2019 |
| *Intern*; Department of Atmospheric Science, School of Earth Sciences, Central University of Rajasthan | 2019 |

## Received Funding for Research

1. *Principal Investigator*; Centennial Research Grant, University of Dhaka — BDT 400,000.00 — 2020-21
Project Title: Arrival and Withdrawal of Southwest Summer Monsoon over Bangladesh and their Impacts on Major Crops
2. *Co-Investigator*; UGC Research Grant — BDT 345,000.00 — 2021-22
Project Title: Analyzing Thermodynamic Condition of different Atmospheric Hazards that affect Lives and Livelihoods of the People in Bangladesh
3. *Co-Investigator*; UGC Research Grant — BDT 345,000.00 — 2022-23
Project Title: Developing Short-term Forecasts for Pre-monsoon Flash Flood in North eastern Bangladesh using CETEMPS Hydrological Model (CHyM)
4. *Principal Investigator*; R&D Project, Ministry of Science and Technology, Government of the People's Republic of Bangladesh — BDT 75,000.00 — 2022-23
Project Title: Investigating the Relationship Between Suspended Particulate Matters in the Atmosphere and the Process of Fog Formation over Dhaka City
5. *Co-Investigator*; UGC Research Grant — BDT 225,000.00 — 2023-24
Project Title: Improving the Hydrometeorological Aspects of Flash Flood Forecasts in Bangladesh

## Trainings

I) Completed 15 hours of training in the *"Community WRF-Hydro Modeling System Abridged Virtual Training"* presented by NCAR and CUAHSI. (Duration: October 6 – 8, 2021)

II) Completed the *"Remote Sensing Principles, Products, Application, and Data Analysis Training"* presented by Earth Observing Systems LLC in Madison, Wisconsin, USA. (Duration: March 21 – 24, 2022)

III) Completed the *"Cyclone Landfall Processes"* training program held at Bangladesh Meteorological Department presented jointly by Bangladesh Meteorological Department and Grant Thornton Bangladesh Limited; under the Bangladesh Weather and Climate Services Regional Project. (Duration: October 11 – 20, 2022)

IV) Completed the *"Regional NWP Forecast and Data Assimilation Training"* program hosted by UCAR/National Center for Atmospheric Research's The Research Applications Laboratory. (Duration: January 7 – 19, 2023)

V) Participated in the *"MPAS-A and MPAS-JEDI Tutorials"* hosted by Mesoscale and Microscale Meteorology (MMM) Laboratory, National Center for Atmospheric Research (NCAR). (Duration: September 18 – 22, 2023)

VI) Completed Lecture series of the "*GPM Mentorship Program 2024*" (8 hours), this program is a collaboration between the University of Coimbra and NASA GPM mission. (Duration: March – April, 2024)

## Peer-reviewed Publications

1. **Shuvo, S.D.**, Rashid, T., Panda, S.K., Das, S., & Quadir, D.A. (2021). Forecasting of pre-monsoon flash flood events in the northeastern Bangladesh using coupled hydrometeorological NWP modelling system. *Meteorology and Atmospheric Physics*, 133, 1603 – 1625. https://doi.org/10.1007/s00703-021-00831-z
2. Sarker, M. M. A., Quadir, D. A., Rashid, T., Ahasan, M. N., **Shuvo, S. D.**, Meandad, J., Rabbani, K. M. G., & Fariha, T. R. (2021). Simulation of Structure, Intensity and Track of Super Cyclone Amphan Using High Resolution WRF-ARW Model. *The Dhaka University Journal of Earth and Environmental Sciences*, 8(2), 17–23. https://doi.org/10.3329/dujees.v8i2.54835
3. Islam, M. A., Meandad, J., **Shuvo, S. D.**, & Kabir, A. (2021). Modeling of Lightning Events using WRF-derived Microphysical Parameters. *The Dhaka University Journal of Earth and Environmental Sciences*, 8(2), 41–50. https://doi.org/10.3329/dujees.v8i2.54838
4. **Shuvo, S. D.**, & Awal, M. R. (2021). Assessing Atmospheric Instability over the Bay of Bengal during October and November Months between 2007 – 2018. *The Dhaka University Journal of Earth and Environmental Sciences*, 9(2), 45–54. https://doi.org/10.3329/dujees.v9i2.55089
5. **Shuvo, S. D.** (2021). Climatology of Frequency, Life Period, Energy and Speed for Tropical Disturbances and Cyclones over the Bay of Bengal. *The Dhaka University Journal of Earth and Environmental Sciences*, 10(1), 23–31. https://doi.org/10.3329/dujees.v10i1.56277
6. Ferdaus, J., Quadir, D. A., Alam, M. S., Panda, S. K., Das, S., Ahasan, M. N., Rabbani, K. M. G., & **Shuvo, S. D.** (2021). Prediction of Thunderstorms based on Atmospheric Instability Indices over Bangladesh using WRF-ARW Model. *Jalawaayu*, 1(2), 21–37. https://doi.org/10.3126/jalawaayu.v1i2.41008
7. **Shuvo, S. D.**, & Sultana, S. S. (2022). Assessing the Climatology and Synoptic Conditions of Tropical Cyclone Recurvature over the Bay of Bengal. *The Dhaka University Journal*

*of Earth and Environmental Sciences*, 10(3), 131–141. https://doi.org/10.3329/dujees.v10i3.59079

8. Akter, S., Rashid, T., Quadir, D. A., Ahasan, M. N., **Shuvo, S. D.**, & Hasan, M. S. (2023). Study of Arrival and Withdrawal of Southwest Summer Monsoon over Bangladesh and Analysis of Extreme Early and Late Arrival Events Using RegCM. *The Dhaka University Journal of Earth and Environmental Sciences*, 11(2), 101–111. https://doi.org/10.3329/dujees.v11i2.68868
9. Islam, M. M., Paul, P., **Shuvo, S. D.**, Akter, F., & Khan, S. M. (2024). Exploring the Use of WRF-ARW Model for Analyzing Heatwaves in Bangladesh. *The Dhaka University Journal of Earth and Environmental Sciences*, 12(1), 9–28. https://doi.org/10.3329/dujees.v12i1.70461

## Conference Proceedings, Conference Participations, and Other Publications

1) Ashrafi, Z.M., **Shuvo, S.D.** and Mahmud, M.S. (2016, December). Change In Course Pattern Of The Teesta River: After Effect Of An Engineering Project. In *AGU Fall Meeting 2016*. (https://agu.confex.com/agu/fm16/meetingapp.cgi/Paper/135346)
2) **Shuvo, S.D.** (2017, July). Environmental awareness among urban residents in Bangladesh: a case study of Sylhet City Corporation. In *Symposium on Environmental Chemistry for Securing Water Quality Abstract Book, Bangladesh J. Sci. Ind. Res.* Volume: 52 (Special Issue), page: 43. (http://www.banglajol.info)
3) **Shuvo, S.D.** (2018, March). Climate change in Sundarbans after Cyclone Sidr and Aila: An interpretation of Meteorological Data. In *Proceedings of the 5th International Conference on Natural Science and Technology (ICNST'18)*. (http://www.auw.edu.bd/ICNST/)
4) **Shuvo, S.D.**, Rashid, T., Hassan, S.M.Q., Das, S. and Panda, S.K. (2019, November). A Study on the Application of Numerical Models for Analyzing Flash Flood Events in Bangladesh. In *International Conference on Contemporary Research and Applications of Meteorology*.
5) **Shuvo, S.D.**, Rashid, T., Hassan, S.M.Q., Das, S. and Panda, S.K. (2020, January). Prediction of Flash Flood Events Using Numerical Weather Prediction Models. In *International Conference on Earth and Environmental Sciences & Technology for Sustainable Development* (ICEEST 2020).
6) Awal, M. R. and **Shuvo, S.D.** (2020, January). Numerical Analysis of Post-Monsoonal Convective Activities over Bay of Bengal in Recent Years. In *International Conference on Earth and Environmental Sciences and Technology for Sustainable Development* (ICEEST 2020).

7) Rabbani, K.M.G. and **Shuvo, S.D.** (2021, August). Application of WRF-Chem for Monitoring Suspended Hydrometeors Available on Atmosphere. In *AOGS2021 Virtual: 18th Annual Meeting*. DOI: 10.13140/RG.2.2.34299.44326
8) **Shuvo, S.D.** and Rashid, T. (2021, August). Prediction of Coastal Flood in Bangladesh using WRF-Hydro Model: A Case Study for Super Cyclone Amphan. In *AOGS2021 Virtual: 18th Annual Meeting*. DOI:10.13140/RG.2.2.29921.63842
9) **Shuvo, S.D.** and Sultana, S.S. (2022, December). Are Tropical Cyclones in Bay of Bengal Getting Stronger? In *AGU Fall Meeting 2022*. (https://agu.confex.com/agu/fm22/meetingapp.cgi/Paper/1162036)
10) Sultana, S.S. and **Shuvo, S.D.** (2022, December). Fog Stability Index: A Combination of NWP Model and Machine Learning Algorithm for Forecasting Fog over Bangladesh during Winter Season. In *AGU Fall Meeting 2022*. (https://agu.confex.com/agu/fm22/meetingapp.cgi/Paper/1156314)
11) **Shuvo, S.D.** and Sultana, S.S. (2023, January). Investigating the Recent Trends of Unusual Winter Monsoon over Bangladesh. In *23rd Conference on Air-Sea Interaction (AMS 2023)*. (https://ams.confex.com/ams/103ANNUAL/meetingapp.cgi/Paper/421283)
12) Sultana, S.S. and **Shuvo, S.D.** (2023, December). Hydro-Meteorological Analysis of Satellite-Derived Products for Tracking Flash Drought over Myanmar. In *AGU Fall Meeting 2023*. (https://agu.confex.com/agu/fm23/meetingapp.cgi/Paper/1381943)
13) **Shuvo, S. D.**, Bai, L., Bromwich, D. H., Kennedy, A., and Sczepanski, A. (2024, June). Simulating Blowing Snow Events in the Northern Great Plains with Polar WRF. In *19th Workshop on Antarctic Meteorology and Climate (WAMC).*

## Book Chapters

1. Rashid, T. and **Shuvo, S.D.** (2022) Opportunities and future challenges in progress of the Department of Meteorology. *Advancement of the Department of Meteorology: Future Challenges and Road Map*. Dhaka: BCS Printing. pp. 113 – 128. ISBN: 978-984-35-2649-6
2. Ahasan, M.N. and **Shuvo, S.D.** (2022) Notable contribution in achieving national and international goals and targets. *Advancement of the Department of Meteorology: Future Challenges and Road Map*. Dhaka: BCS Printing. pp. 53 – 62. ISBN: 978-984-35-2649-6
3. Quadir, D.A. and **Shuvo, S.D.** (2022) Background of the Department of Meteorology in nation building process. *Advancement of the Department of Meteorology: Future Challenges and Road Map*. Dhaka: BCS Printing. pp. 1 – 16. ISBN: 978-984-35-2649-6

## Professional Engagements, Industry Involvements, and Public Speaking

i) Participated as *Panel Discussant* in "Climate and Remote Sensing: A Panel Discussion" at the 5th Annual Byrd Center Symposium on Climate Change Research at the Byrd Polar and Climate Research Center (October 20, 2023)

ii) Attended (virtually) the "6th NOAA AI Workshop on Leveraging Artificial Intelligence in Environmental Sciences" (September 16-20, 2024)