Popat U. Salunke

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Education

07/2014-02/2022	Ph. D.	Atmospheric Sciences Centre for Atmospheric Sciences, Indian Institute of Technology Delhi, India Title: Changing Climate of the Himalaya-Tibetan Highland and its Association with the Climate of India
2012	M. Tech.	Atmospheric Sciences Department of Atmospheric and Space Sciences University of Pune & Indian Institute of Tropical Meteorology, Pune, India
2009	M. Sc.	Physics University of Pune, Pune, India
2007	B. Sc.	Physics University of Pune, Pune, India

Research Interest

Climate Modelling, Orography induced climate variations over High mountains Asia, Climate data analysis, Climate Variability and Change, Climate Extremes, Dynamics of Indian Monsoon and Geoengineering

Research Experience

02/2022-present	Research Associate DST CoE in Climate Modeling, Indian Institute of Technology Delhi, India Advisor: Prof. S. K. Mishra Title: Data Analysis and Climate Simulation
02/2021-02/2022	Research Assistant DST CoE in Climate Modeling, Indian Institute of Technology Delhi, India Advisor: Prof. S. K. Mishra Title: Data Analysis and Climate Simulation
07/2019- 09/2019	Visiting Research Student King Abdullah University of Science and Technology (KAUST), Thuwal, Saudi Arabia Advisor: Prof. Ibrahim Hoteit Title: Projecting Future Climate of the Kingdom of Saudi Arabia and Adjoining Region
02/2014-07/2014	Senior Research Fellow Centre for Atmospheric Sciences, Indian Institute of Technology Delhi, India Advisor: Prof. Sagnik Dey Title: Impact of Air Quality and Heat Stress on Health: Future Projection for India
07/2013-02/2014	Project Assistant Centre for Atmospheric Sciences, Indian Institute of Technology Delhi, India Advisor: Prof. S. K. Dash Title: Asian Cities Adapt: Impacts of Climate Change in Target Cities in India and The Philippines and Local Adaptation Strategies
01/2013-03/2013	Junior Research Fellow Department of Atmospheric and Space Sciences, University of Pune, India Advisor: Prof. A. K. Karipot Title: Calibration and Validation of Land Surface Model by using INSAT-3D Observation and In Situ Measurements
06/2011-04/2012	M. Tech. (Dissertation) Indian Institute of Tropical Meteorology, Pune, India Advisor: Dr. M. N. Patil (Scientist E) Title: Variability of Fluxes in Atmospheric Boundary Layer by Using Micrometeorological Tower

Computer Proficiency

Operating Systems:	Linux, Mac, Windows, High Performance Computing (HPC)
Software's:	NCL, MATLAB, GrADS, Origin Pro-9, CDO, NCO, Shell Scripting, Python (Learning)
Languages known:	Fortran90

Numerical Modeling: NCAR CESM-CAM, RegCM4

Honours, Awards, and Grants

2019	Research Excellence Travel Award (RETA) from IRD, Indian Institute of Technology Delhi (IIT Delhi)
2019	CSIR Travel Grant (Not Availed)
2014-2019	Research Scholarship, Indian Institute of Technology Delhi (IIT Delhi)
2017	Student Travel Grant and Scholarship AGU fall Meeting 2017 (Not Availed)
2010-2012	Research Scholarship, Indian Institute of Tropical Meteorology (IITM)

Professional Memberships

2019-Present	Science Working Group, Young Earth System Scientists (YESS) Community.
2017-Present	American Geophysical Union
2017-Present	European Geosciences Union

Teaching Assistant

(Responsibility: Proctor of minors and major exam, Evaluation of answer sheet, climate modelling lab, Conduct tutorials and labs)

09/2019-01/2020	Climate Modeling
07/2017-07/2019	The Earth's Atmosphere: Physical Principles
01/2016-04/2017	Tropical Weather and Climate (80 Students)
07/2015-12/2015	Numerical Modeling of the Atmospheric and Oceanic Phenomena

Peer Reviewed Journal Publications

1. Tiwari K., S. K. Mishra, **P. Salunke**, H. Ozawa, and A. Dewan, 2022: Potential Effects of the Projected Antarctic Sea-Ice Loss on the Climate System. Climate Dynamics. Accepted. (IF: 4.4)
2. Tiwari K., S. K. Mishra, **P. Salunke**, and A. Dewan, 2022: Future Projections of Temperature and Precipitation for Antarctica. Environmental Research Letters. 17, 014029. (IF: 6.8)
3. Zebaze S., R. Pathak, A. J. K. Mbienda, W. M. Pokam **P. Salunke**, A. Anand, D. A. Vondou, A. Lenouo, and S. K. Mishra, 2022: An Investigation into the Role of Synoptic Conditions on Central African Precipitation Variability. Acta Geophysica. Accepted. (IF: 2.1)
4. Mishra S. K., S. Jain, A. Anand, **P. Salunke**, and J. T. Fasullo, 2021: Historical and Projected Low-Frequency Variability in the Somali Jet and Indian Summer Monsoon. Climate Dynamics, 56, 749-765. (IF: 4.4)
5. Bal P. K., H. R. Dasari, N. Prasad, **P. Salunke**, and R. S. Parihar, 2021: Variations of Energy Fluxes with ENSO, IOD and ISV of Indian Summer Monsoon Rainfall over the Indian Monsoon Region. Atmospheric Research, Volume 258. DOI: 10.1016/j.atmosres.2021.105645 (IF: 5.4)
6. Bhowmick M., S. K. Mishra, B. Kravitz, S. Sahany, and **P. Salunke**, 2021: Response of the Indian Summer Monsoon to Global Warming, Solar Geoengineering and its Termination. Scientific Reports, 11, 9791. DOI: 10.1038/s41598-021-89249-6 (IF: 4.4)
7. **Salunke P.**, S. Jain, and S. K. Mishra, 2019: Performance of the CMIP5 models in the simulation of the Himalaya-Tibetan Plateau monsoon. Theoretical and Applied Climatology, 137, 909-928. DOI:10.1007/s00704-018-2644-9 (IF: 3.2)
8. Jain S., **P. Salunke**, S. K. Mishra, and S. Sahany, 2019: Advantage of NEX-GDDP over CMIP5 and CORDEX Data: Indian summer Monsoon. Atmospheric Research, Volume 228, 152-160. (IF: 5.4)
9. Mishra S. K., S. Jain, **P. Salunke**, and S. Sahany, 2019: Past and Future Climate Change over the Himalaya-Tibetan Highland: Inferences from APHRODITE and NEX-GDDP data. Climatic Change, 156,315-322. DOI: 10.1007/s10584-019-02473-y (IF: 4.7)
10. Jain S., **P. Salunke**, S. K. Mishra, and S. Sahany, 2019: Performance of CMIP5 models in the simulation of Indian summer monsoon. Theoretical and Applied Climatology, 137,1429-1447. (IF: 3.2)
11. Jain S., S. K. Mishra, **P. Salunke**, and S. Sahany, 2019: Importance of the Resolution of Surface Topography Vis-à-Vis Atmospheric and Surface Processes in the Simulation of the Climate of Himalaya-Tibet Highland. Climate Dynamics, 52,4735-4748. DOI:10.1007/s00382-018-4411-0 (IF: 4.4)
12. Sahany S., S. K. Mishra, and **P. Salunke**, 2019: Historical Simulations and Climate Change Projections over India by NCAR CCSM4: CMIP5 vs. NEX-GDDP. Theoretical and Applied Climatology, 135,1423-1433. DOI:10.1007/s00704-018-2455-z (IF: 3.2)
13. Zebaze S., S. Jain, **P. Salunke**, S. Shafiq, and S. K. Mishra, 2019: Assessment of CMIP5 multimodal mean for the historical climate of Africa, Atmospheric Science Letters, 20,1-12. DOI: 10.1002/asl.926 (IF: 2.4)
14. Parihar S. R., P. K. Bal, V. Kumar, S. K. Mishra, S. Sahany, **P. Salunke**, S. K. Dash and R. Dhiman, 2019: Numerical Modeling

of the Dynamics of Malaria Transmission in a Highly Endemic Region of India, Scientific Reports 9(1): 11903. DOI: 10.1038/s41598-019-47212-6 (IF: 4.4)

15. Mishra, S. K., S. Sahany, **P. Salunke**, In-Sik Kang, and S. Jain, 2018: Fidelity of CMIP5 Multi Model Mean in Assessing Indian Monsoon Simulations. npj Climate and Atmospheric Sciences, 1, Article number 39. DOI: 10.1038/s41612-018-0049-1 (IF: 8.8)
16. Mishra S. K., S. Sahany, and **P. Salunke**, 2017: CMIP5 vs. CORDEX over the Indian region: how much do we benefit from dynamical downscaling? Theoretical and Applied Climatology, Volume 133, Issue 3-4, pp 1133-1141. DOI:10.1007/s00704-017-2237-z (IF: 3.2)
17. Mishra S. K., S. Sahany, and **P. Salunke**, 2017: Linkages between MJO and summer monsoon rainfall over India and surrounding region. Meteorology and Atmospheric Physics, Volume 129, pp 283-296. DOI:10.1007/s00703-016-0470-0 (IF: 2.1)
18. Dash S. K., S. Dey, **P. Salunke**, M. Dalal, V. Saraswat, S. Chowdhury, and R. K. Choudhary, 2017: Comparative Study of Heat Indices in India Based on Observed and model Simulated Data. Current World Environment, 12(3). DOI:10.12944/CWE.12.3.06 (IF: NA)

Manuscript in Review

1. **Salunke P.**, N. P. Keshri, S. K. Mishra, S. K. Dash and In-Sik Kang: Degree of Success in the simulation of Indian Summer Monsoon Rainfall over a Decade – Results of Twenty Models. npj Climate and Atmospheric Sciences, 2022.

Manuscripts in Preparation

1. **Salunke P.**, and S. K. Mishra: Orographic Effects on Tropical Easterly Jet and Indian Summer Monsoon using Numerical Simulations. (*In Process)*
2. **Salunke P.**, S. K. Mishra, and A. Saini: Orographic effects of the Himalaya-Tibetan Highland on Somali Jet, Tropical Easterly Jet, summer monsoon Rainfall. (*In Process)*
3. **Salunke P.**, S. K. Mishra, and C. P. Abdulla: Association of the Climate Change of Himalaya-Tibetan Highland and Indian Summer Monsoon. *(In Process)*

Workshop/Training/Meeting Attended

1. Workshop, 2021, Recent Advances in AI and ML for Climate Sciences, organized by Technology Innovation Hub, ISI, Kolkata, India. (Virtual Mode)
2. Global Initiative of Academic Neatwork's (GIAN) 2019, Tropical Meteorology Asian-Australian Monsoon Tropical Cyclones and Climate Change, short term course, IIT Delhi, New Delhi, India.
3. WILEY, 2018, Author Workshop on How to Publish a Technical Paper, IIT Delhi, New Delhi, India.
4. Meeting, 2017, DST Expert Committee Meeting, IIT Delhi, India.
5. Meeting, 2016, National Level Brainstorming Workshop on Climate Modeling: National Status, IIT Delhi, India.
6. Meeting, 2014, DST Climate Change Science and Modeling Program: Monitoring Process, IIT Delhi, India.
7. Workshop, 2014, Climate Modeling: Simulation and Analysis, Centre for Atmospheric Sciences, IIT Delhi, New Delhi, India.
8. Workshop, 2013, Climate Change and Health, Sri Ramachandra University, Porur, Chennai, India.
9. Raman Memorial Conference 2013, Department of Physics, University of Pune, Pune, India.

Conference/Contributed Presentations

1. **P. Salunke**, S. K. Mishra**,** 2022: Evaluation of Indian Summer Monsoon Precipitation using CMIP5 and CMIP6 models EGU General Assembly 2022, Vienna, Austria, 23-27 May, (Virtual).
2. D. P. Bhuyan, **P. Salunke**, S. K. Mishra**,** 2022: Assessment of Extreme Precipitation Indices over India CMIP6 Models EGU General Assembly 2022, Vienna, Austria, 23-27 May, (Virtual).
3. P. Upadhyaya, S. K. Mishra, S. Jain, **P. Salunke**, 2022: Seasonal Prediction of Indian Summer Monsoon: Influence of Well-resolved Stratosphere, EGU General Assembly 2022, Vienna, Austria, 23-27 May, (Virtual).
4. **Salunke P.**, S. K. Mishra, and A. Anand, 2020: Impact of the Himalayan-Tibetan Highland Orography on Somali Jet and Tropical Easterly Jet and the Indian Summer Monsoon, Virtual Poster presentation at American Geophysical Union (AGU) Fall Meeting 2020. USA (Virtual).
5. **Salunke P.**, and S. K. Mishra, 2019: Past and Future of Tropical Easterly Jet and it's association with Indian Summer Monsoon, Poster presentation at European Geophysical Union (EGU) General Assembly 2019, Austria International Centre, Vienna, Austria.
6. Parihar S. R., H. P. Dasari, A. Anand, **P. Salunke**, S. K. Mishra, A. Thapliyal, and I. Hoteit, 2020: Impact of Climate Change

on Transmission Dynamics of malaria in the KSA region using Dynamical Model, Poster presentation at TROPMET, Shilong, India.

7. **Salunke P.**, S. Jain, S. K. Mishra, and S. Sahany, 2018: Evaluation of CMIP5 Models for Indian Summer-Monsoon Precipitation and Temperature, Oral presentation at TROPMET 2018, Banaras Hindu University, Varanasi, Uttar Pradesh, India.
8. Parihar S. R., **P. Salunke**, P. K. Bal, H. Dwivedi, S. K. Mishra, S. Sahany, and S. N. Naik, 2018: Analysis of Potential Effects of Climate Change on Malaria Transmission Dynamics in Odisha, India, Poster presentation at TROPMET 2018, Banaras Hindu University, Varanasi, Uttar Pradesh, India, 2018.
9. Parihar S. R., **P. Salunke**, S. K. Mishra, and S. N. Naik, 2018: Response of Climatic Conditions and Human Health over India to Geo engineering (G3), Poster presentation at Eighth Annual GeoMIP Meeting, at ETH Zurich, Switzerland.
10. Jain S., S. K. Mishra, **P. Salunke**, and S. Sahany, 2018: Importance of the Resolution of Surface Topography Vis-à-Vis Atmospheric and Surface Processes in the Simulation of the Climate of Himalaya-Tibet Plateau, Oral presentation at TROPMET 2018, Banaras Hindu University, Varanasi, Utter Pradesh, India.
11. Bhowmick M., S. K. Mishra, **P. Salunke**, and M. Chakraborty, 2018: Indian Monsoon in the Geoengineered world (G2) and after its Termination, Oral presentation at Eighth Annual GeoMIP Meeting, at ETH Zurich, Switzerland.
12. Mishra S. K., S. Sahany, and **P. Salunke**, 2017: SRM Research in India: Future Prospects, Oral presentation at SRMGI Global Forum at Berlin Germany.
13. Mishra S. K., S. Sahany, and **P. Salunke**, 2017: SRM Research in India, Oral presentation at SRMGI Global Forum at Berlin Germany.
14. Mishra S. K., S. Sahany, S. K. Dash, A. Anand, R. Pathak, and **P. Salunke**, 2017: Need for Reliable Simulations of Indian Climate: Climate Projections to Climate Engineering, Oral presentation at ICTP, Italy.
15. **Salunke P.**, S. K. Mishra, S. Sahany, and S. Bhagat, 2016: Simulation of Indian Monsoon is CORDEX Model, Poster presentation, at 13th Annual Meeting of the Asia Oceania Geosciences Society, Beijing, China.
16. Pathak R., S. Sahany, S. K. Mishra, K. Gupta, **P. Salunke**, and A. Anand, 2016: CMIP5 vs CORDEX in the Context of Indian Monsoon, Poster presentation at 13th Annual Meeting of the Asia Oceania Geosciences Society, Beijing, China.
17. Mishra S. K., **P. Salunke**, S. Sahany, and S. K. Dash, 2016: Climate Change and Climate Variability in India: Reliability of Present-day Models, Oral presentation at International Conference on Climate change and Adaptation: Empowering small holders and ensuring food security, Chennai, India.

References

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