

List of Publications

1. Peer reviewed journal publications

- **Kumar S., S. Verma, Abhishek Lodh (2025)** “Unravelling the dynamical characteristics of tropical cyclones: Amphan and Nisarga using ERA5 reanalysis”, *Front. Environ. Sci. , Sec. Atmosphere and Climate*, Volume 12 - 2024, <https://doi.org/10.3389/fenvs.2024.1475324>
- **Lodh A., Routray. A, Dutta, D, Vivek Singh, John P. George (2024)** “ Impact of INSAT-3D land surface temperature assimilation via simplified extended Kalman filter-based land data assimilation system on forecasting of surface fields over India”, *Meteorological Applications*, Wiley, <https://doi.org/10.1002/met.70019>
- **Lodh A. and S. Haldar (2024)** “Investigating the impact of tropical deforestation on Indian monsoon hydro-climate: a novel study using a regional climate model”, **Natural Hazards, Springer**, 120, 11399–11431 (2024). <https://doi.org/10.1007/s11069-024-06615-z>
- Routray. A, **Lodh A.**, Dutta, D, John P. George, A. K. Mitra (2023) “Influence of ASCAT Soil Moisture on Prediction of Track and Intensity of Landfall Tropical Cyclones”, **International Journal of Remote Sensing, Taylor and Francis**, Volume 44, 2023 - Issue 1, 341-380, <https://doi.org/10.1080/01431161.2022.2164232>.
- **Lodh A.**, Routray. A, Dutta, D, John P. George, A. K. Mitra (2022) “Improving the prediction of monsoon depressions by assimilating ASCAT soil moisture in NCUM-R modeling system””, **Atmospheric Research, Elsevier**, <https://doi.org/10.1016/j.atmosres.2022.106130>.
- Dutta, D., Routray, A., **Lodh, A.**, John P. George, A. K. Mitra, “Impact of DWR radial wind on simulation of western disturbances using NCUM-R modeling system”. **Meteorology and Atmospheric Physics**, 134, 81 (2022). <https://doi.org/10.1007/s00703-022-00919-0>
- **Lodh A.**, (2021) “Simulating the impact of extended desertification on Indian hydro climate using ICTP-RegCM4.4.5.10 model”, **Journal of Hydrology, Elsevier**, <https://doi.org/10.1016/j.jhydrol.2021.126405>.
- A. Routray, Devajyoti Dutta, **Abhishek Lodh**, John P. George (2021) “Impact of the Assimilation of DWR-derived Precipitation Rates through Latent Heat Nudging on Simulation of Rainfall Events over Indian Region using NCUM-R”, **Journal of Hydrology, Elsevier**. <https://doi.org/10.1016/j.jhydrol.2021.126072>
- **Lodh A.**, (2020) “Reassessment of land–atmosphere interactions over India during summer monsoon using state-of-the-art regional climate models” **Theor. Appl. Climatol.** <https://doi.org/10.1007/s00704-020-03395-x>
- A. Routray, **Abhishek Lodh**, Devajyoti Dutta, John P. George, (2020) “Study of an Extremely Severe Cyclonic Storm “Fani” over Bay of Bengal using regional NCUM modeling system: A case study”, **Journal of Hydrology**, <https://doi.org/10.1016/j.jhydrol.2020.125357>.
- Unnikrishnan C. K., John P. George, **Abhishek Lodh**, Devesh Kumar Maurya, Swapan Mallick, E. N. Rajagopal and Saji Mohandas, (2016) “Validation of two gridded soil moisture products over India with in-situ observations”, **Journal of Earth System Science**, 125(5), 935-944.

2. Technical Report

- **Lodh A.**, Ashish Routray, Devajyoti Dutta, John P. George and E.N. Rajagopal, “**A Regional Land Data Assimilation System for NCUM-R**”, NCMRWF Technical Report, NMRF/TR/07/2020, July 2020. (<http://www.ncmrwf.gov.in/reports.php>).
- Sumit Kumar, M. T. Bushair, Buddhi Prakash J., **Abhishek Lodh**, Priti Sharma, Gibies George, S. Indira Rani, John P. George, A. Jayakumar, Saji Mohandas, Sushant Kumar, Kuldeep Sharma, S. Karunasagar, and E. N. Rajagopal, 2020, **NCUM Global NWP System: Version 6 (NCUM-G: V6)**, Technical Report, NMRF/TR/06/2020.
- S. Karunasagar, Kuldeep Sharma, **Abhishek Lodh** and Raghavendra Ashrit, MoES-India Research report titled “**MoES Model Forecast Verification during JJAS2019: Systematic Errors in Winds, Temperature and Humidity**”. Ministry of Earth Science - NCMRWF Research Report, NMRF/RR/03/2020.
- **Lodh A.**, Gibies George, Harvir Singh, John. P. George and E.N. Rajagopal, “**Assimilation of INSAT-3D Land Surface Temperature in an EKF based Land Data Assimilation System**”, NCMRWF Technical Report, NMRF/TR/07/2019, May 2019.
- Raghavendra Ashrit, Kuldeep Sharma, Anumeha Dube, Sushant Kumar, T. Arulalan, S. Karunasagar, D. Rajan, **Abhishek Lodh**, John P. George, Abhijit Sarkar, Ashu Mamgain, Paromita Chakraborty, Saji Mohandas, A. Jayakumar, Indira Rani, Sumit Kumar, A. K. Mitra and E. N. Rajagopal, “**NCMRWF Monsoon report titled “Performance of NCMRWF Unified Model during the South-West Monsoon 2018”**”. IMD Met Monograph: ESSO/IMD/Synoptic Met/01(2019)/23
- Sumit Kumar, A. Jayakumar, M. T. Bushair, Buddhi Prakash J., Gibies George, **Abhishek Lodh**, S. Indira Rani, Saji Mohandas, John P. George and E. N. Rajagopal, 2018, **Implementation of New High Resolution NCUM Analysis-Forecast System in Mihir HPCS**, Technical Report, NMRF/TR/01/2018.
- **Lodh A.**, John. P. George and E.N. Rajagopal, 2016, **Extended Kalman Filter based Land Data Assimilation System for Soil Moisture Analysis at NCMRWF**, Technical Report, NMRF/TR/06/2016
- John P George, S. Indira Rani, A. Jayakumar, Saji Mohandas, Swapan Mallick, **A. Lodh**, R. Rakhi, M. N. R. Sreevathsa and E. N. Rajagopal, 2016, **NCUM Data Assimilation System**, Technical Report, NMRF/TR/01/2016.
- Raghavendra Ashrit, Kuldeep Sharma, Anumeha Dube, Harvir Singh, Sushant Kumar, Abhijit Sarkar, Ashu Mamgain, Paromita Chakraborty, Saji Mohandas, A. Jayakumar, Indira Rani, Sumit Kumar, **Abhishek Lodh**, John P. George, and E. N. Rajagopal, “**Performance of NCMRWF Unified Model during the South-West Monsoon 2017**”, Monsoon 2017 A report, IMD Met. Monograph.
- Raghavendra Ashrit, Kuldeep Sharma, Anumeha Dube, Abhijeet Sarkar, Paromita Chakraborty, R. Rakhi, A. Jayakumar, M.N.R. Sreevathsa, Indira Rani, Sumit Kumar, **Abhishek Lodh**, John P. George, V.S. Prasad and E. N. Rajagopal, “**Performance of NCMRWF Unified Model during the South-West Monsoon 2016**”, Monsoon 2016 A report, IMD Met. Monograph: ESSO / IMD / SYNOPTIC MET / 01(2017) / 21.