

Nepal's candidate for IPCC WG I Vice-Chair



Dr. Maheswar Rupakheti

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Profile

Dr. Rupakheti is a research group leader at the Research Institute for Sustainability - Helmholtz Centre Potsdam (RIFS), Potsdam, Germany. His group focuses on using disciplinary and transdisciplinary approach together with stakeholders for exploring and understanding extreme air pollution, including short-lived climate-forcers (SLCFs) in South Asia (a global hotspot), its impacts on climate, weather, and other systems, and identifying pathways to mitigate their impacts, especially in the Himalayan-Tibetan Plateau Mountain regions with sensitive ecosystems of global importance. He has 26 years of experience in atmospheric/climate science research, notably in characterization of atmospheric aerosols and aerosol-climate interactions. He has published 73 papers in peer-reviewed journals, mainly on observations in the greater Himalayan region, a relatively poorly sampled region of the world, and contributed to 9 major **global/regional assessment reports/books on air pollution and climate change**, including on SLCFs. He has proven track records in scientific research, capacity building in developing countries, building and maintaining collaboration networks of science, policy, and civil society communities, leadership, coordination, planning and organization, and teamwork in multi-cultural/multi-national environment. He has research and work experiences in Asia, Europe, North America, and Africa in collaboration with scientists and experts from these regions.

Contributions to global/regional assessments on climate change/air pollution, methodology reports

1. **Section Editor** (w/Prof. Mark Lawrence): International Initiatives for Co-controlling Air Pollution and Climate Change in the Handbook on Air Quality and Climate Change, and CA to a chapter on Regional Air Pollution in South Asia (eds. Prof. H. Akimoto and Dr. H. Tanimoto), Springer (2023)
2. **Expert on emission inventory**: IPCC TFI's Methodology Report on SLCFs (2020-22)
3. **Lead Author (LA)**: Air Pollution in Asia and the Pacific: Science-based Solutions, UNEP (2019)
4. **Contributing Author (CA)**: The Hindu Kush Himalaya Assessment, Springer-Nature (2019)
5. **LA**: Atmospheric Brown Clouds Emission Inventory Manual, UNEP (2013)
6. **Contributor**: On Thin Ice: How Cutting Pollution Can Slow Warming & Save Lives, World Bank (2013)
7. **LA**: Atmospheric Brown Clouds: Regional Assessment Report with Focus on Asia, UNEP (2008)
8. **CA**: Integrated Assessment of Black Carbon and Tropospheric Ozone, UNEP/WMO (2011)
9. **Contributor**: Climate Change in the Hindu Kush-Himalayas, ICIMOD (2011)

Professional services

International Committees: iCACGP (International Commission on Atmospheric Chemistry and Global Pollution) (2023-); Member: AAKASH Project, Research Institute for Humanity and Nature (RIHN), Japan (2023-); WG3 (Nutrients and pollutants) of the Earth Commission (2021-); South Asia Working Group of TOAR II (Tropospheric ozone assessment report II) (2021-). **Visiting Scientist**: International Centre for Integrated Mountain Development (07/2012-12/2015). **Professional Consultancy**: Asian Institute of Technology (2021-2026)); Stockholm Environment Institute (SEI), UK (2018-19); Common Market for

Eastern and Southern Africa (COMESA) and Ministry of Education, Rwanda (2014); International Centre for Integrated Mountain Development (ICIMOD), Nepal (2013). **Invited Expert:** 30 plus invited talks at atmospheric/climate science conferences, UN agencies, UNFCCC COPs, high level panels, science-policy dialogues, universities; Judge for oral and poster presentations in the international conferences; Senior scientist for interactions between early career and senior scientists; Evaluator of research proposals on research and development issues (e.g., UNEP's programs); **Presentations:** Since 2006, 130+ presentations at the international conferences, summer schools, and science-policy dialogues. **Co-director/Convener/Chair:** 50+ international summer schools, seminars, conferences, science-policy forums, side-events (e.g., at UNFCCC COPs). **Research Supervision:** 4 post-doctoral fellows; in supervision committees of 3 PhD (1 mentor), 7 MSc (supervised - 2, co-supervised-2), 4 Special research; 2 research associates, and 5 research fellows (hosted 3 senior fellows) who studied various aspects of air pollution, climate change, and energy. **Journal Editorial Board:** Guest Editor: Science of the Total Environment (2023-); Guest Editor: Remote Sensing (June 2020-2-22); Associate Editor: "Elementa - Science of the Anthropocene" (2013 -2017); Review Editor: Frontiers in Sustainable Cities (Sep 2020 -) and Frontiers in Environmental Science (until Mar. 2019); Member: Air, Soil and Water Research (Jun. 2019-); Reviewer: More than a dozen scientific journals in atmospheric/climate issues (e.g., Environ. International, Sci. Total Environ., Environ. Poll., Atmos. Chem. Physics, Atmos. Environ., J. Geophys. Res., Atmos. Res.). **Member of the professional societies:** European Geosciences Union (EGU).

Academic qualifications

- **PhD (Atmospheric Science)**, Dalhousie University, Canada, 2006 (Advisor: Prof. Ulrike Lohmann)
- **MSc (Environ. Eng. and Management)**, Asian Institute of Technology (AIT), Thailand, 2000 (Advisor: Prof. N.T. Kim Oanh)
- **MSc (Physics)**, Tribhuvan University, Nepal, 1997 (Advisor: Prof. Shekhar Gurung)

Academic and professional experience

- **Research Group Leader:** Research Institute for Sustainability – Helmholtz Centre Potsdam (RIFS) (formerly Institute for Advanced Sustainability Studies (IASS)), Potsdam, Germany (5/2012- to date). Principal Investigator (PI) of a major initiative on studying air pollution and its impacts and mitigation in South Asia, PI of a major international atmospheric observation campaign in South Asia in 2012-13 (*SusKat-ABC*); and participant in atmospheric characterization field campaigns in the past.
- **Guest Lecturer:** Atmospheric Science in the Anthropocene (Main Instructor: Prof. Mark G. Lawrence) at University of Potsdam, Potsdam, Germany (2014 -)
- **Lecturer** for MSc thesis supervision at Technische Universität-Berlin, Germany (9/2014-2/2015)
- **Coordinator of the Asia Secretariat of the** UNEP's Project Atmospheric Brown Cloud (ABC), UNEP Regional Resource Center for Asia and the Pacific (UNEP RRCAP), Thailand (1/2010-4/2012)
- **Senior Program Officer** for UNEP's Project ABC, UNEP RRCAP, Thailand (3/2006-12/2009)
- **Research/Teaching Assistant:** Dalhousie University, Halifax, Canada (9/2001-4/2006)
- **Research Associate:** Asian Institute of Technology (AIT), Bangkok, Thailand (9/2000-8/2001)
- **Lecturer (Assistant Professor):** Central Department of Physics, Tribhuvan University (TU), Kathmandu, Nepal (12/1997-12/1998)

Peer-reviewed scientific papers on atmospheric/climate science (journals only)

1. Ramachandran, S., Rupakheti, M., Cherian, R., Lawrence, M.G.: Aerosols heat up the Himalayan climate, *Sci. Total Environ.*, *xx(x)*, 164733, 2023
2. Rupakheti, D., Aculinin, A., Rupakheti, M., Dahal, S., Rai, M., Yin, X.F., Yu, X.G., Abdullaev, S.F., Hu, J.L.: Insights on aerosol properties using two decades-long ground-based remote sensing datasets in Moldova, Eastern Europe, *Environ. Pollut.*, *under review*, 2023
3. Yin, X.F., Rupakheti, D., Zhang, G.S., Luo, J.L., Kang, S.C., de Foy, B., Yang, J.H., Ji, Z.M., Cong, Z.Y., Rupakheti, M., Li, P., Zhang, Q.G.: Surface ozone over high-mountain Asia controlled by stratospheric intrusion, *Atmos. Chem. Phys.*, *revised*, 2023
4. Zhou, W.T., Ma, T., Yin, X.F., Wu, X.D., Li, Q.L., Rupakheti, D., Xiong, X., Zhang, Q.G., Mu, C.C., de Foy, B., Rupakheti, M., Kang, S.K., Qin, D.: Dramatic carbon loss in permafrost thaw slump in the

- Tibetan Plateau is dominated by loss of microbial necromass carbon, *Environ. Sci. Technol.*, 57(17), 6910-6921, 2023
5. Shakya, S.R., Nakarmi, A.M., Prajapati, P., Pradhan, B.B., Rajbhandari, U.S., Rupakheti, M., Lawrence, M.G.: Environmental, energy security, and energy equity (3E) benefits of net-zero emission strategy in a developing country: A case study of Nepal, *Energy Reports*, 9, 2359-2371, 2023
 6. Rupakheti, D., Rupakheti, M., Rai, M., Yu, X.N., Yin, X.F., Kang, S.C., Orozaliyev, M.D., Sinyakov, V.P., Abdullaev, S.F., Sulaymon, S.D., Hu, J.L.: Characterization of columnar aerosol over a background site in Central Asia, *Environ. Pollut.*, 316, 120501, 2023
 7. Kirago, L., Gustafsson, Ö., Gaita, S.M., Haslett, S.L., deWitt, L. H., Gasore, J., Potter, K.E., Prinn, R.J., Rupakheti, M., Ndikubwimana, J.D., Safari, B., Andersson, A.: Atmospheric black carbon loadings and sources over eastern sub-Saharan Africa are Governed by the regional savanna fires, *Environ. Sci. Technol.*, 56(22), 15460-15469, 2022
 8. Shakya, S.R., Adhikari, R., Poudel, S., Rupakheti, M.: Energy equity as a major driver of energy efficiency in South Asia, *Renew. Sustain. Energy Reviews*, 170, 112994, 2022
 9. Dhital, S., Rupakheti, D., Rupakheti, M., Yin, X.F., Liu, Y.L., Mafiana, J.J., Alareqi, M.M., Mohamednour, H., Zhang, B.Z.: A scientometric analysis of indoor air pollution research during 1990-2019, *J. Environ. Manag.*, 320, 115736, 2022
 10. Werden, B., Giordano, M.R., Goetz, J.D., Islam, M.D., Bhawe, P.V., Puppala, P.S., Rupakheti, M., Saikawa, E., Panday, A.K., Yokelson, R.J., Stone, E.A., DeCarlo, P.F.: Pre-monsoon submicron aerosol composition and source contribution in the Kathmandu Valley, Nepal, *Environ. Sci.: Atmospheres*, 2, 978-999, 2022
 11. Ramachandran, S. and Rupakheti, M.: Trends in types and absorption characteristics of aerosols over Indo-Gangetic Plain and North China Plain in last two decades, *Sci. Total Environ.*, 831, 154867, 2022
 12. Ramachandran, S., Rupakheti, M., Cherian, R., Lawrence, M.G.: Climate benefits due to cleaner energy transitions in East and South Asia through black carbon reduction, *Frontiers Environ. Sci.*, 10, 842319, 2022
 13. Shakya, S.R., Bajracharya, I., Vaidya, R.A., Bhawe, P., Sharma, A., Rupakheti, M., Bajracharya, T.R.: Estimation of air pollutant emissions from captive diesel generators and its mitigation through micro-grid and solar energy, *Energy Reports*, 8(5), 3251-3262, 2022
 14. Yadav, S., Tripathi, S.N., Rupakheti, M.: Current status of source apportionment of ambient aerosols in India, *Atmos. Environ.*, 274, 118987, 2022
 15. Ramachandran, S. and Rupakheti, M.: Trends in physical, optical and chemical columnar aerosol characteristics, and radiative effects over South and East Asia: Satellite and ground-based observations, *Gondwana Research*, 105, 366-387, 2022
 16. Ramachandran, S., Rupakheti, M. Cherian, R.: Insights into recent aerosol trends over Asia from observations and CMIP6 simulations, *Sci. Total Environ.*, 807(1), 150756, 2022
 17. Dumka, U.C., Kaskaoutis, D.G., Khatri, P., Ningombam, S.S., Sheoran, R., Jade, S., Shringeshwara, T.S., Rupakheti, M.: Water vapor characteristics and radiative effects at high-altitude Himalayan sites, *Atmos. Pollut. Res.*, 13(2), 101303, 2022
 18. Bhattarai, H.R., Tripathi, L., Kang, S.C., Chen, P.F., Sharma, C.M., Ram, K., Guo, J.M., Rupakheti, M.: Nitrogenous and carbonaceous aerosols in PM_{2.5} and TSP during pre-monsoon: characteristics and sources in the highly polluted mountain valley, *J. Environ. Sci.*, 115, 10-24, 2022
 19. Talukdar, S., Tripathi, S.N., Lalchandani, V., Rupakheti, M., Bhowmik, H.S., Shukla, A., Murari, V., Sahu, R., Jain, V., Tripathi, N., Dave, J., Rastogi, N., Sahu, L.: Air pollution in New Delhi during late winter: an overview of a group of campaign studies focusing on composition and sources, *Atmosphere*, 12(11), 1432, 2021
 20. Pradhan, P., Subedi, D., Khatiwada, D., Joshi, K., Kafle, S., Chhetri, R., Dhakal, S., Gautam, A., Khatiwada, P., Mainaly, J., Onta, S., Pandey, V., Parajuly, K., Pokharel, S., Satyal, P., Singh, D., Talchabhadel, R., Tha, R., Thapa, B., Adhikari, K., Adhikari, S., Bastakoti, R., Bhandari, P., Bharati, S., Bhusal Y.R., BK, M., Bogati, R., Kafle, S., Khakda, M., Khatiwada, N.R., Lal, A., Neupane, D., Neupane, K., Ojha, R., Regmi, N., Rupakheti, M., Sapkota, A., Sapkota, R., Sharma, M., Shrestha, G., Shrestha, I., Shrestha, K., Tandukar, S., Upadhyaya, S., Kropp, J., Bhuju, D.: COVID-19 pandemic not only poses challenges, but also opens opportunities for sustainable transformation, *Earth's Future*, 9(7), e2021EF001996, 2021
 21. Yin, X.F., Kang, S.C., de Foy, B., Rupakheti, D., Rupakheti, M., Cong, Z.Y., Wan, X., Zhang, G.S., Zhang, Q.G.: Impacts of Indian summer monsoon and stratospheric intrusion on air pollutants in the inland Tibetan Plateau, *Geosci. Frontiers*, 12(6), 101255, 2021

22. Rupakheti, D., Rupakheti, M., Yin, X.F., Hofer, J., Rai, M., Hu, Y.L., Abdullaev, S.F., Kang, S.C.: Modifications in aerosol physical, optical and radiative properties during heavy aerosol events over Dushanbe, Central Asia, *Geosci. Frontiers*, 12(6), 101251, 2021
23. Yin, X.F., Kang, S.C., Rupakheti, M., de Foy, B., Li, P., Yang, J.H., Wu, K.P., Zhang, Q.G., Rupakheti, D.: Influence of transboundary air pollution on air quality in southwestern China, *Geosci. Frontiers*, 12(6), 101239, 2021
24. Rupakheti, D., Kang, S.C., Rupakheti, M., Chen, P.F., Gautam, S., Rai, M., Yin, X.F., Kang, H.H.: Black carbon in surface soil and its sources in three central Asian countries, *Archives Environ. Contamin. Toxicol.*, 80, 558-566, 2021
25. Rupakheti, D., Yin, X.F., Rupakheti, M., Zhang, Q.G., Li, P., Rai, M., Kang, S.C.: Spatio-temporal characteristics of air pollutants over Xinjiang, northwestern China, *Environ. Pollut.*, 268, 115907, 2021
26. Ramachandran, S., and Rupakheti, M.: Inter-annual and seasonal variations in optical and physical properties of columnar aerosols over the Pokhara Valley in the Himalayan foothills, *Atmos. Res.*, 248, 105254, 2021
27. Kim, S.-W., Cho, C.-Y., Rupakheti, M.: Estimating contributions of black and brown carbon absorption from aethalometer and AERONET measurements in the highly polluted Kathmandu Valley, Nepal, *Atmospheric Research*, 247, 105164, 2021
28. Ramachandran, S., Rupakheti, M., Lawrence, M.G.: Aerosol-induced atmospheric heating rate decreases over South and East Asia as a result of changing content and composition, *Sci. Reports*, 10(1), 20091, 2020
29. Ramachandran, S., and Rupakheti, M.: Year-round aerosol characteristics and radiative effects in the South Asian pollution outflow over a background site in the Maldives, *Atmos. Environ.*, 240, 117813, 2020
30. Rupakheti, D., Kang, S.C., Rupakheti, M.: Two heavy haze events over Lumbini in southern Nepal: enhanced aerosol radiative forcing and heating rates, *Atmos. Environ.*, 236, 117658, 2020
31. Rupakheti, D., Rupakheti, M., Abdullaev, S.F., Yin, X.F., Kang, S.C.: Columnar aerosol properties and radiative effects observed over Dushanbe, Tajikistan in central Asia, *Environ. Pollut.*, 265(B), 114872, 2020
32. Ramachandran, S., Rupakheti, M., Lawrence, M.G.: Black carbon dominates the aerosol absorption over the Indo-Gangetic Plain and the Himalayan foothills, *Environ. Int.*, 142, 105814, 2020
33. Ramachandran, S., and Rupakheti, M.: Inter-annual and seasonal variations in columnar aerosol characteristics and radiative effects over the Pokhara Valley in the Himalayan foothills: composition, radiative forcing and atmospheric heating, *Environ. Pollut.*, 264, 114799, 2020
34. Anderson, A., Kirillova, E.N., Decesari, S., DeWitt, L., Gasore, J., Potter, K.E., Prinn, R.G., and Rupakheti, M., de Dieu Ndikubwimana, J., Nkusi, J., Safari, B.: Seasonal source variability of carbonaceous aerosols at the Rwanda climate Observatory, *Atmos. Chem. Phys.*, 20(8), 4561-4571, 2020
35. Islam, M.R., Jayarathne, T., Simpson, I.J., Werden, B., Maben, J., Gilbert, A., Praveen, P.S., Adhikari, S., Panday, A.K., Rupakheti, M., Blake, D.R., Yokelson, R.J., DeCarlo, P., Keene, W.C., Stone, E.A.: Ambient air quality in the Kathmandu Valley, Nepal during the pre-monsoon: Concentrations and sources of particulate matter and trace gases, *Atmos. Chem. Phys.*, 20(5), 2927-2951, 2020
36. Chen, P.F., Kang, S.C., Tripathi, L., Ram, K., Rupakheti, M., Panday, A.K., Zhang, Q.G., Guo, J.M., Wang, X.X., Pu, T., Li, C.L.: Light absorption properties of elemental carbon (EC) and water-soluble brown carbon (WS-BrC) in the Kathmandu Valley, Nepal: a 5-year study, *Environ. Pollut.* 261, 114239, 2020
37. Chen, P.F., Kang, S.C., Tripathi, L., Panday, A.K., Rupakheti, M., Rupakheti, D., Zhang, Q.G., Guo, J.M., Li, C.L., Pu, T.: Severe air pollution and characteristics of light-absorbing particles in a typical rural area of the Indo-Gangetic Plain, *Environ. Sci. Pollut. Res.*, 27(10), 10617-10628, 2020
38. Sadavarte, P., Rupakheti, M.*, Bhave, P.V., Shukla, K., Lawrence, M.G.: Nepal Emission Inventory – part I: Technologies and combustion sources (NEEMI-Tech) for 2001-2016, *Atmos. Chem. Phys.*, 19(20), 12953–12973, 2019
39. Chen, P.F., Kang, S.C., Li, C.L., Zhang, Q.G., Guo, J.M., Tripathi, L., Zhang, Y., Li, G., Gul, C. Cong, Z.Y., Wan, X., Niu, H.W., Panday, A.K., Rupakheti, M., Ji, Z.M.: Carbonaceous aerosol characteristics on the Third Pole: a primary study based on the atmospheric pollution and cryospheric change (APCC) network, *Environ. Pollut.*, 253, 49-60, 2019
40. Kang, S.C., Zhang, Q.G., Qian, Y., Ji, Z.M., Li, C.L., Cong, Z.Y., Zhang, Y., Guo, J.M., Du, W., Huang, J., You, Q.L., Panday, A.K., Rupakheti, M., Chen, D.L., Gustafsson, Ö., Thiemens, M.H., Qin, D.:

Linking atmospheric pollution to cryospheric change in the Third Pole Region: Current progress and future prospects, *Nat. Sci. Review*, 6(4), 796-809, 2019

41. Zhong, M., Saikawa, E., Avramov, A., Chen, C., Sun, B., Ye, W., Keene, W.C., Yokelson, R.J., Jayarathne, T., Stone, E.A., Rupakheti, M., Panday, A.K.: Nepal Ambient Monitoring and Source Testing Experiment (NAMaSTE): Emissions of particulate matter and sulfur dioxide from vehicles and brick kilns and their impacts on air quality in the Kathmandu Valley, Nepal, *Atmos. Chem. Phys.*, 19(12), 8209-8228, 2019
42. Rupakheti, D., Kang, S.C., Rupakheti, M., Cong, Z.Y., Panday, A.K., Holben, B.N.: Identification of absorbing aerosol types at a site in the northern edge of Indo-Gangetic Plain and a polluted valley in the foothills of the central Himalayas, *Atmos. Res.*, 223, 15-23, 2019
43. Wan, X., Kang, S.C., Rupakheti, M., Zhang, Q.G., Tripathee, L., Guo, J.M. Chen, P.F., Rupakheti, D., Panday, A.K., Stone, E.A., Lawrence, M.G., Kawamura, K., Cong, Z.Y.: Molecular characterization of organic aerosols in the Kathmandu Valley, Nepal: insights into primary and secondary sources, *Atmos. Chem. Phys.*, 19(5), 2725-2747, 2019
44. DeWitt, H.L., Gasore, J., Rupakheti, M., Potter, K.E., Prinn, R.G., de Dieu Ndikubwimana, J., Nkusi, J., Safari, B.: Seasonal and diurnal variability of O₃, black carbon, and CO measured at the Rwanda Climate Observatory, *Atmos. Chem. Phys.*, 19(3), 2063-2078, 2019
45. Singh, A., Mahata, K.S., Rupakheti, M.*, Junkermann, W., Panday, A.K., Lawrence, M.G.: An overview of airborne measurement in Nepal, - part 1: Vertical profile of aerosol size, number, spectral absorption and meteorology, *Atmos. Chem. Phys.*, 19(1), 245-258, 2019
46. Rupakheti, D., Kim Oanh, N. T., Rupakheti, M., Sharma, R.K., Panday, A.K., Puppala, S.P., Lawrence, M.G.: Indoor levels of black carbon and particulate matters in relation to cooking activities using different cook stove-fuels in rural Nepal, *Energy Sustain.e Develop.*, 48(C), 25-33, 2019
47. Mahata, K.S., Rupakheti, M.*, Panday, A.K., Bhardwaj, P., Naja, M., Singh, A., Mues, A., Cristofanelli, P., Pudasainee, D., Bonasoni, P., Lawrence, M.G.: Observation and analysis of spatiotemporal characteristics of surface ozone and carbon monoxide in the Kathmandu Valley, Nepal, *Atmos. Chem. Phys.*, 18(19): 14113-14132, 2018.
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50. Rupakheti, D., Kang, S.C., Rupakheti, M., Tripathee, L., Zhang, Q.G., Chen, P.F., Yin, X.F.: Long-term trends in the total columns of ozone and its precursor gases derived from satellite measurements during 2004-2015 over three different regions in South Asia: Indo-Gangetic Plain, Himalayas and Tibetan Plateau, *Int. J. Remote Sens.*, 39(21), 7384-7404, 2018
51. Rupakheti, D., Kang, S., Cong, Z.Y., Rupakheti, M., Tripathee, L., Panday, A.K., Holben, B.: Study of aerosol optical properties over two sites in the foothills of the central Himalayas, *Int. Archives Photo., Remote Sens. Spat. Inform. Sci.*, 42(3), 1493-1497, 2018
52. Rupakheti, D., Kang, S., Rupakheti, M., Cong, Z., Tripathee, L., Panday, A., Holben, B.: Observation of optical properties and sources of aerosols at Buddha's birthplace, Lumbini, Nepal: environmental implications, *Environ. Sci.Pollut. Res.*, 25(15): 1-14, 2018.
53. Putero, D., Marinoni, A., Bonasoni, P., Calzolari, F., Rupakheti, M., Cristofanelli, P.: Black carbon and ozone variability at the Kathmandu Valley and at the southern Himalayas: a comparison between a "hot spot" and a downwind high-altitude site, *Aerosol Air Qual. Res.*, 18(3), 623-635, 2018.
54. Cho, C.Y., Kim, S.W., Rupakheti, M., Park, J.S., Panday, A., Yoon, S.C., Kim, J.H., Kim, H.J., Sung, M.Y., Kim, B.M., Hong, S.K., Park, R.J., Rupakheti, D., Mahata, K.S., Praveen, P.S., Lawrence, M.G., Holben, B.: Wintertime aerosol optical and radiative properties in the Kathmandu Valley during the SusKat-ABC Field Campaign, *Atmos. Chem. Phys.*, 17, 12617-12632, 2017
55. Mahata, K., Panday, A., Rupakheti, M.*, Singh, A., Naja, M., Lawrence, M.G.: Seasonal and diurnal variability in methane and carbon dioxide in the Kathmandu Valley in the foothills of the central Himalayas, *Atmos. Chem. Phys.*, 17,12573-12596, 2017
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