



CURRICULUM VITAE

Dr. Manish Soni (Ph.D, MCA)
Post-Doctoral Research Associate
Center for Environmental Modeling for Policy Development
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RESEARCH INTERESTS

- Air quality modelling; Numerical Weather Modeling; satellite remote sensing of air pollution; Statistical Modeling;
- Field measurements of air pollutants and meteorological variables.

PROFESSIONAL EDUCATION

- 2019** **PhD Dept of Physics, BIT Mesra Ranchi, India.**
Title: Numerical Modeling of Air Quality Over North West India.
GPA: 8.6
- 2006** **Master of Computer Applications (MCA)**
Mohan Lal Sukhadia University, Udaipur, Rajasthan, India.
67.91 %

SKILLS

- Model Experience WRF, WRF-Chem and CMAQ
- Operating Systems known- Windows, Linux, Unix
- Experiences in using GrADS, CDO, Microsoft Office, Python, FORTRAN
- Softwares- Origin, NCL
- Presentation, Technical Writing, Sampling and Statistical Analysis and Visualisation

PROJECTS EXPERIENCE

- Lightning impact on ozone precursors over Indian region and its implications on tropospheric ozone sponsored by Ministry of Earth Sciences, India. Responsibilities: WRF-Chem Modeling, Satellite Data Analysis, Validation.
- The AERONET campaign: base station at Jaipur, India” in collaboration with GSFC, NASA. Responsibilities: Data Download, Site Maintenance.
- The Impact of Climate Change on Glaciers in Utrakhand with Special reference to Gangotri & related Glaciers sponsored by WWF- India.
Responsibilities: Site Monitoring and AWS Data Downloading and handling.

INTERNATIONAL PUBLICATIONS (CIF ≈50)

1. **Manish Soni**, Sunita Verma, Manoj K. Mishra, R K Mall, Swagata Payra(2021). Estimation of Particulate Matter Pollution using WRF-Chem during dust storm event over India. Urban Climate, **IF =6.66**, Published:01st July 2022, DOI:, 10.1016/j.uclim.2022.101202, Indexing: scie, scopus.
2. Sunita Verma, **Manish Soni**, Harshbardhan Kumar, Swagata Payra,Manoj Mishra,Rohini Bhanwar (2022). Characterizing Aerosols during Forest Fires over Uttarakhand Region in India using Multi-Satellite Remote Sensing Data. Advances in Space Research. IF =**2.61**, Published: 30th May 2022, DOI: 10.1016/j.asr.2022.05.051, Indexing:sci,scie,scopus.
3. **Manish Soni**, Amit Singh Chandel , Sunita Verma, Swagata Payra, Divya Prakash, Brent Holben (2021). Aerosols properties over desert influenced locations situated in four different continents. Atmospheric Environment, DOI:10.1016/j.atmosenv.2021.118232, **IF=5.75**, Published:31 January 2021 , Vol 248,ISSN:1352-2310, Indexing: sci, scopus.
4. **Manish Soni**, Sunita Verma, Hiren Jethava, Swagata Payra, Lok Lamsal, Priyanshu Gupta, and Janhavi Singh (2020). Impact of COVID-19 on the Air Quality over China and India Using Long-term (2009-2020) Multi-Satellite Data. Aerosol and Air Quality Research ,21,DOI:10.4209/aaqr.2020.06.0295, **IF=4.53**, ISSN: 1680-8584, Published: 19 November 2020, Vol 21, Issue 3,Indexing:scie,scopus.
5. Pramod Kumar Yadava, **Manish Soni**, Sunita Verma, Harshbardhan Kumar, Ajay Sharma, & Swagata Payra (2020). The major lightning regions and associated casualties over India. Natural Hazards, 1-13, DOI:10.1007/s11069-020-03870-8, **IF= 3.15**, ISSN: 0921-030X,Published:12 February 2020, Indexing:scie,scopus.
6. **Manish Soni**, Swagata Payra & Sunita Verma (2018). Particulate matter estimation over a semi arid region Jaipur, India using satellite AOD and meteorological parameters. Atmospheric Pollution Research, DOI: 10.1016/j.apr.2018.03.001, **IF=4.83**,ISSN:1309-1042, Available Online 21st March, 2018, Vol 9, Issue 5, pp. 949–958, Indexing:sci,scie,scopus.
7. Swagata Payra, Pramod Kumar, Sunita Verma, Divya Prakash and **Manish Soni** (2016). Potential source identification for aerosol concentrations over a site in Northwestern India. Atmospheric Research, 169 (2016): 65-72, DOI:

- 10.1016/j.atmosres.2015.09.022, **IF=5.96**, ISSN: 0169-8095, Published: 1 March 2016, Vol 169 Part A, pp 65-72, Indexing:sci,scie,scopus.
8. Swagata Payra, **Manish Soni**, Anikender Kumar, Divya Prakash and Sunita Verma (2015). Intercomparison of Aerosol Optical Thickness Derived from MODIS and in Situ Ground Datasets over Jaipur, a Semi-arid Zone in India, Environmental Science and Technology, 2015. DOI: 10.1021/acs.est.5b02225, **IF= 11.35**, ISSN: 0013-936X, Published: 4 August 2015, Vol 49, Issue 15 ,pp 9237-9246, Indexing:scie,scopus.
 9. Sunita Verma, Divya Prakash Yadav, Phillippe Ricaud Swagata Payra, J-L Attié and **Manish Soni** (2015). A New Classification of Aerosol Sources and Types as Measured over Jaipur, India, Aerosol and Air Quality Research, Vol 15, No. 3, pp. 985 – 993. DOI: 10.4209/aaqr.2014.07.0143, **IF=4.53**, ISSN: 1680-8584, Published: 1 June 2015, Indexing:scie,scopus.
 10. Divya Prakash, Swagata Payra, Sunita Verma and **Manish Soni** (2013) Aerosol particle behavior during Dust Storm and Diwali over an urban location in North Western India, Natural Hazards, Vol 69, pp. 1767 – 1779. DOI: 10.1007/s11069-013-0780-1, **IF= 3.15**, ISSN: 0921-030X, Published: 1 Decemeber 2013, Indexing:scie,scopus.
 11. Sunita Verma, Swagata Payra, Ritesh Gautam, Divya Prakash, **Manish Soni**, Brent Holben, and Shaun Bell (2013). Dust events and their influence on aerosol optical properties over Jaipur in Northwestern India, Environmental Monitoring and Assessment, Vol 185, Issue 9, pp. 7327 – 7342, DOI: 10.1007/s10661-013-3103-9, **IF= 3.30**, ISSN: 0167-6369, Published: 1 September 2013, Indexing:scie,scopus.
 12. Swagata Payra, Sunita Verma, Divya Prakash, Pramod Kumar, **Manish Soni**, Brent Holben (2013). Aerosols properties during dust-storm episodes over Jaipur, Northwestern India, AIP Conference Proceedings, vol. 1527, pp. 515–518, ISSN: 094-243X, Published: 24 May 2013.

NATIONAL PUBLICATIONS

- Sunita Verma, **Manish Soni** and Swagata Payra (2018). Role of Meteorology and Satellite Retrievals in Estimating the Ground Particulate Matter During the Pre-Monsoon Period Over Jaipur, India, International Journal of Earth and

- Atmospheric Science, Vol 5, Issue 1, ISSN: 2349-9222, Pages 62-72, Published: 30th March 2018.
- **Manish Soni**, Sunita Verma, Swagata Payra: Impact of Spatial Resolution on Meteorological Parameters using WRF Model over Jaipur, India, NCACE 2016, NCACE 2016, International Journal of Engineering Research and Technology (IJERT), Vol 4, I 23.
 - **Manish Soni**, Swagata Payra, Palash Sinha, and Sunita Verma (2014). A Performance Evaluation of WRF Model Using Different Physical Parameterization Scheme during Winter Season over a Semi-Arid Region, India, International Journal of Earth and Atmospheric Science, October-December, 2014, Vol 1, Issue 3, ISSN: 2349-9222, Pages 104-114, Published: 02 December 2014.
 - Swagata Payra, Divya Prakash, **Manish Soni**, and Sunita Verma (2014). Size-Segregated aerosol Particles: an observational study at urban location in Northwestern India, Vayumandal, 2014 02/2014 38(3-4):66-70, ISSN: 0970-1397.

BOOK CHAPTER

Sunita Verma, Divya Prakash, **Manish Soni** and Kirpa Ram: Atmospheric Aerosols Monitoring: Ground and Satellite-based Instruments, Advances in Environmental Monitoring and Assessment, IntechOpen, Published: April 30th 2019, Doi:10.5772/intechopen.80489, <https://www.intechopen.com/online-first/atmospheric-aerosols-monitoring-ground-and-satellite-based-instruments>

CONFERENCE PRESENTATIONS

- **Manish Soni**, Swagata Payra, Sunita Verma, Anikender Kumar: Estimation of tropospheric Ozone during a lightning event in pre-monsoon season over India, ICCMTRI 2023, BIT Mesra Jaipur Campus, Rajasthan, India, July 27-28, 2023.
- **Manish Soni**, Christos Efstathiou, Ramarao Mandavalli, Christopher Rick, Jonathan I. Levy, Pat Kinney, Laura Buckley, Matt Raifman, Frederica Perera, Kathleen Lau, Katy Coomes, Jonathan Buonocore, Saravanan Arunachalam : High-resolution modeling of air quality and health benefits of transportation policies in the Boston Metropolitan area (Poster), AGU Fall Meeting, Chicago, Illinois, 12th-16th December, 2022.

- **Manish Soni**, Christos Efstathiou, Ramarao Mandavalli, Saravanan Arunachalam, Christopher Rick, Jonathan I. Levy, Pat Kinney, Laura Buckley, Matt Raifman, Jonathan Buonocore: High-resolution modeling of air quality and health benefits of transportation policies in the Boston Metropolitan area, 2022 CMAS Conference UNC Chapel Hill NC, 17th-19th October, 2022.
- **Manish Soni**, Swagata Payra and Sunita Verma: Particulate Matter Pollution over North Western India using integrated modeling approach: Case Study of Pre-monsoon Event (Poster), 16th IGAC Scientific Conference, 12-20 September, 2021.
- Swagata Payra, **Manish Soni**, and Sunita Verma: Estimation of Ozone during lightning event in pre-monsoon season (Poster), 16th IGAC Scientific Conference, 12-20 September, 2021.
- **Manish Soni**, Swagata Payra and Sunita Verma: Impact on Air quality parameters during the Raikoke Volcano eruption using Satellite Observations (Poster), AGU Fall Meeting 2020, 1-17 December 2020.
- Swagata Payra, **Manish Soni**, Divya Prakash and Sunita Verma: Aerosol properties and their influences over a semi arid zone over India, 5th International Skynet workshop, Ministry of Earth Sciences, Lodhi Road New Delhi, 13-15 February 2019.
- **Manish Soni**, Swagata Payra and Sunita Verma: Radiative forcing estimation of aerosols at four locations in India and Pakistan using ground based remote sensing instruments, IASTA -2018, CAS, IIT Delhi, 26-28, November, 2018.
- **Manish Soni**, Swagata Payra and Sunita Verma: Application of Artificial Neural Networks for fog forecast over Delhi, NCITCE 2018, Poornima University, 13-14 April, 2018.
- Swagata Payra, **Manish Soni** and Sunita Verma: Application of WRF-Chem to simulate a dust event over North-West India at Invitation to Workshop & Science-Policy Dialogue, Air pollution, Climate and Health in Southern Asia and the Hindukush Himalaya, 27-30 November 2017, ICIMOD Kathmandu, Nepal.
- **Manish Soni**, Swagata Payra, Sunita Verma : Role of Meteorology and Satellite Retrievals in Estimating the Ground Particulate Matter During the Pre-Monsoon Period Over Jaipur, India , 5th Rajasthan Science Congress, Amity University, Jaipur, 13-15, October 2017.
- **Manish Soni**, Sunita Verma and Swagata Payra: Multiple Regression approach for air quality assessment using integrated surface, satellite, and meteorological data

over Jaipur, Rajasthan India, The Third ACAM Workshop, Jinan University, Guangzhou, China, 5-9 June 2017.

- **Manish Soni**, Sunita Verma, Swagata Payra: Impact of Spatial Resolution on Meteorological Parameters using WRF Model over Jaipur, India, NCACE 2016, Poornima University, 1-2 April, 2016.
- Divya Prakash Yadav, Sunita Verma, Swagata Payra, **Manish Soni**: Understanding the aerosol behaviour during dust epochs using GRIMM aerosol spectrometer, TROPMET 2015, National Symposium on WEATHER & CLIMATE EXTREMES, Punjab University, Chandigarh.
- Swagata Payra, **Manish Soni**, Sunita Verma and Divya Prakash Yadav: AOT from MODIS and ground based remote sensing observations over Northwestern India, IASTA-2014, 11 – 13th November, 2014, Varanasi, India
- Divya Prakash, Sunita Verma, Swagata Payra and **Manish Soni**: Study of aerosol behavior over an urban location Jaipur, in north western India. National Hindi Scientific Conference on "Climate change, Monsoon variability, Forecasting and Climate Services: Scientific Approach" during 30-31st July 2014 at Indian Institute of Tropical Meteorology, Pune.
- **Manish Soni**, Swagata Payra, Anikender Kumar, Sunita Verma and Divya Prakash: Validation of Aerosol retrieved Products obtained from MODIS with AERONET over an urban location, Jaipur, India, ICIMOD's SARAS workshop, 7-9 June, 2014, Pokhara, Nepal.
- Sunita Verma, Divya Prakash, Swagata Payra and **Manish Soni**: Aerosols sources over Jaipur in Northwestern India from ground based AERONET measurements, MOZAIC- IAGOS Symposium, Toulouse, France, 10-14 May 2014.
- Divya Prakash, Sunita Verma, **Manish Soni**, Swagata Payra: Size characteristics of atmospheric aerosol using GRIMM over an urban environment, INTROMET, 21-24 Feb 2014.
- Sunita Verma, Swagata Payra, **Manish Soni**, and Divya Prakash: Ground based observation of aerosols over a site in Northwestern India, Future Directions for Weather and Climate Research in the Tropics, CAS, IITD, 3-5 December, 2012.
- Swagata Payra, Sunita Verma, **Manish Soni**, Divya Prakash and Brent Holben: Aerosols characteristics over an urban location in Northwestern India, OCHAMP-2012, IITM 21-26 Feb 2012.

- Sunita Verma, Swagata Payra, **Manish Soni**, Divya Prakash, Brent Holben: Assessment on Aerosols Optical Properties from the Observations During AERONET Campaign Over an Urban Location in India, World Climate Research Programme Open Science, Conference 24 -28 October, 2011, Denver, Colorado USA.
- Swagata Payra, Sunita Verma, **Manish Soni**, Divya Prakash and Brent Holben: Seasonal Variability of Aerosols Parameters over an Urban Location in India, 30th Annual Conference of American Association for Aerosol Research, Orlando, Florida, 3 – 7 October, 2011

TRAINING WORKSHOP

- Introduction to CMAQ Modeling System Online, Community Modeling and Analysis System (CMAS), 26th April-29 April, 2022.
- National Oceanographic and Maritime Institute (NOAMI) and Bangladesh Centre for Analytics (BCA) Certificate course on Data Science & Machine Learning with Python, 27th July-19th September 2021.
- International Summer School SOLar Radiation Based Established Techniques for aTmospheric Observations: SORBETTO ONLINE, ISAC-CNR, Sapienza University of Rome, Italy, 13 – 15 September 2021.
- International Workshop on ICTP Regional Climate Model: Application over South Asian CORDEX Domain, 22-28 February 2021, Dibrugarh University, Assam.
- TERI-Uni Research Climate Research School on Climate Extremes, 18-22 September, 2017 held at Teri University, New Delhi.
- Second ACAM Training School on Observations and modeling of atmospheric chemistry and aerosols in asian monsoon, 10-12 June 2017, Jinan University, Guangzhou, China.
- Satellite Remote Sensing of Particulate Matter Air Quality-Data , Tools, Methods and Applications (Aka AOD-PM), NASA, Applied Remote Sensing Training ARSET Air Quality, 01- 29 Oct, 2015.
- Third Training Workshop on “Climate Modelling: Simulations and Analysis’ (01 –12 June 2015) at Center of Atmospheric Sciences, IIT, Delhi
- NASA Earth Observations and Tools For Air Quality Applications in South East Asia, 2015, APPLIED REMOTE SENSING TRAINING ARSET Air Quality.
- Second Training Workshop on “Climate Modelling: Simulations and Analysis’ (23 June –05 July 2014) at Center of Atmospheric Sciences, IIT, Delhi.

- First Training Workshop on “Climate Modelling: Simulations and Analysis’ (9–21 December 2013) at Center of Atmospheric Sciences, IIT, Delhi.

AWARDS AND HONORS

- Best Trainee for certificate course on on Data Science & Machine Learning with Python organized by NOAMI and BCA, 27th July-19th September 2021.
- Second Best Conference Paper presentation at Poornima University, Jaipur in National Conference in Innovative Trends in Civil Engineering (NICTCE-2018)
- Full paid International travel Grant to present paper at III ACAM workshop and II ACAM training school , 05-12, June 2017, Jinan University, Guangzhou, China
- Best Conference Paper presentation at Poornima University, Jaipur in National Conference On Advances In Civil Engineering (NCACE-2016) .
- International travel Grant to present paper at ICIMOD, Pokhara Nepal(SARAS-2014).