Curriculum Vitae

Dr. Waliur Rahaman

Date of Birth 06, 1981

Scientist-E

Isotope Geoscience Sciences Division
National Centre for Antarctic and Ocean Research,
Ministry of Earth Sciences, Govt. India
Vasco-Da-Gama, Goa 403804,
Email: waliur1981@gmail.com, waliur@ncaor.gov.in
Phone: 0832-2525637

AREA OF RESEARCH

- Isotope geochemistry.
- Antarctic climate variability from ice core records.
- Trace elements and isotopes in oceans
- Paleo-oceanography using radiogenic and stable isotope proxies
- Weathering and erosion in the Himalaya
- Cosmogenic nuclides ^{10}Be and ^{26}Al and their applications to earth surface processes.
- Non-traditional stable metal/metalloid isotopes (Ω^{7}Li, Ω^{11}B, Ω^{30}Si, Ω^{98}Mo etc.) and their applications to understand earth surface and oceanic processes.
- Development of non-traditional stable isotopes measurement using MC-ICP-MS.

ACADEMIC PROFILE

2005-2011 PhD (Geochemistry) at Physical Research Laboratory, Ahmedabad, India

2002-2004 M.Sc. (Applied Geology), Aligarh Muslim University, India

1999-2002 B.Sc. (Geology Hons. with Physics & Mathematics), Aligarh Muslim University, India.

PROFESSIONAL CAREER

2020- Cont… Scientist-E, National Centre for Antarctic & Ocean Research, Goa.

2016- 2019 Scientist-D, National Centre for Antarctic & Ocean Research, Goa.

2012- 2015 Scientist-C, National Centre for Antarctic & Ocean Research, Goa.

2012-2013 Alexander von Humboldt Postdoctoral Fellow at GFZ, Germany.

2011-2011 Research Scientist at National Geophysical Research Institute, Hyderabad

2010-2011 Postdoctoral Fellow at Physical Research Laboratory, Ahmedabad, India

AWARDS & HONOURS

1	Research Fellowship at Physical Research Laboratory, Ahmedabad.	Dept. of Space, Govt. of India	2005
2	Junior Research Fellowship and Lectureship (CSIR-JRF NET).	UGC-CSIR, Govt. of India	2007
3	Alexander von Humboldt Postdoctoral Fellowship	Humboldt Foundation, Germany	2011
4	Certificate of Merit Award for the outstanding contribution in the field of Polar Science and Technology	Ministry of Earth Sciences, Govt. of India.	2019
5	Young Researcher Award	Ministry of Earth Sciences, Govt. of India	2021
6	Alexander Humboldt Fellowship for Senior Researchers	Humboldt Foundation, Germany	2022
7	National Geoscience Award (NGA)	Ministry of Mines, Govt. of India	2023

PROJECTS

Study of radiogenic and stable metal isotopes using MC-ICPMS: Applications to earth, ocean and cryospheric processes.

Details of Ph.D. students currently working or worked under my supervision

S.No	Name	Current position	Registration, date	Topic
1	Ms. Lathika N	Scientist D	Goa University, 9/11/2017	Tracing past water masses and circulation in the Indian Ocean using Neodymium isotopes
2	Dr. Mohd. Tarique	PhD awarded, Post-Doc at Cambridge University, UK	Mangalore University, 17/03/2017	Trace elements and boron isotope study in marine carbonates: Reconstruction of paleo-pH and oceanographic conditions
3.	Priyesh Prabhat	Research Scientist	Goa University, 18/06/2018	Study of Neodymium isotope records from the Arabian Sea and the Amundsen Sea: Spatio-temporal evaluation of water mass circulation during the late Cenozoic.
4.	Dr. Ejin Georg	Research Scientist	Working as a Research Scientist	Cd isotope study in southern ocean
5.	Ms. Alvia Begum	JRF	Goa University, 2023	In processes, yet to decide

PEER-REVIEWED PUBLICATIONS

1. Singh, U., Suresh, K., Prabhat, P., Rahaman, W. & Kumar, A. Geochemical tracing of synoptic scale modern dust transport over the Northeast Arabian Sea during the southwest monsoon. Science of The Total Environment, 164438 (2023).
2. Rahaman, W. & Singh, S. K. Behaviour of barium in the tropical estuaries: Implications to its marine budgets and paleo-oceanographic applications. Marine Chemistry 254, 104278 (2023).
3. Rahaman, W. et al. Eolian versus fluvial supply to the northern Arabian Sea during the Holocene based on Nd isotope and geochemical records. Geoscience Frontiers 14, 101618 (2023).
4. Kumar, D. et al. U-Pb Neoproterozoic age and petrogenesis of a calc-alkaline shoshonitic lamprophyre from Simdega area, Chhotanagpur Gneissic Complex (Eastern India): Implication for the evolution of the Central Indian Tectonic Zone and Rodinia tectonics. Chemical Geology 631, 121512 (2023).
5. Amir, M., Paul, D., Anchana, P., Tarique, M. & Rahaman, W. Geochemical evidence for west-flowing paleo-Yamuna River in northwest India during the late Quaternary and its implication for the Harappan Civilization. Geochemistry, 126021 (2023).
6. Tiwari, R. K. et al. Geochemistry of uranium in the Ganga (Hooghly) River estuary, India: The role of processes in the water column and below the sediment-water interface. Marine Chemistry 247, 104173 (2022).
7. Tarique, M. & Rahaman, W. Recent ocean acidification trends from boron isotope (δ 11B) records of coral: Role of oceanographic processes and anthropogenic CO2 forcing. Journal of Earth System Science 131, 165 (2022).
8. Ramiz, M. M., Ahmad, I., Mondal, M. & Rahaman, W. Geosystems and Geoenvironment. (2022).
9. Ramiz, M. M., Ahmad, I., Mondal, M. & Rahaman, W. Multistage Neoarchean magma genesis in the Bundelkhand Craton, India: evidence from whole-rock elemental and Nd isotopic study of mafic magmatic enclaves and granitoids. Geosystems and Geoenvironment 1, 100085 (2022).
10. Rahaman, W., Tarique, M., Fousiya, A., Prabhat, P. & Achyuthan, H. Tracing impact of El Niño Southern Oscillation on coastal hydrology using coral 87Sr/86Sr record from Lakshadweep, South-Eastern Arabian Sea. Science of The Total Environment 843, 157035 (2022).
11. Prabhat, P. et al. Modern-like deep water circulation in Indian Ocean caused by Central American Seaway closure. Nature Communications 13, 7561 (2022).

12. Pandey, A., Rao, N. C., Rahaman, W., Seth, V. & Sahoo, S. Paleoproterozoic metaluminous syenites synchronous with the c. 2.21 Ga mafic dyke swarms from the Eastern Dharwar Craton, India: implications for alkaline magmatism associated with the breakup of supercraton Superia. (2022).
13. Kumar, D., Rao, N. C., Prabhat, P., Chatterjee, A. & Rahaman, W. Petrochemistry and Sr-Nd isotopes of post-collisional Neoproterozoic (ca. 950 Ma) amphibolite dykes of continental flood basalt affinity from the Simdega area: Implications for the geodynamic evolution of the Chhotanagpur Gneissic Complex, Eastern India. Lithos 428, 106810 (2022).
14. Hamidullah, I. S., Mondal, M. E. A., Ahmad, I., Rahaman, W. & Dash, J. K. Geochemistry and Sr-Nd isotopic studies of Precambrian gneisses from central Aravalli Craton, NW India: Implications for crustal evolution and reworking. Journal of Asian Earth Sciences: X 8, 100125 (2022).
15. Hamidullah, I. S., Mondal, M. E. A., Ahmad, I., Dash, J. K. & Rahaman, W. Rift-related multistage evolution of the Mangalwar Complex, Aravalli Craton (NW India): Evidence from elemental and Sr–Nd isotopic features of Proterozoic amphibolites. Geological Journal 57, 3199-3229 (2022).
16. EJAZ, T., Rahaman, W., Laluraj, C., Mahalinganathan, K. & Thamban, M. Rapid warming over East Antarctica since 1940s caused by increasing influence of ENSO and SAM. Frontiers in Earth Science, 1186 (2022).
17. V. Balarama, W. R., P. Roy. Recent advances in MC-ICP-MS applications in Earth and environmental sciences: Challenges and solutions. Geosystems and Geoenvironment (2021).
18. Tarique, M. et al. Surface pH record (1990–2013) of the Arabian Sea from boron isotopes of Lakshadweep corals—trend, variability, and control. Journal of Geophysical Research: Biogeosciences 126, e2020JG006122 (2021).
19. Satyabrata Das, S. K. R., Waliur Rahaman, Saurabh Singhal, Shushanta Sarangi. Chemical weathering and Sr flux from the silicate lithology dominated fluvial system: Insights from major ions, dissolved Sr and 87Sr/86Sr of the Teesta headwaters, Sikkim Himalaya. Applied Geochemistry (2021).
20. Samal, A. K., Srivastava, R. K. & Rahaman, W. Sr-Nd isotope geochemistry and petrogenesis of ca. 2.26–2.25 Ga and ca. 2.08 Ga mafic dyke swarms from the Dharwar craton, India: Insights into their mantle sources and geodynamic implications. Lithos 406, 106503 (2021).
21. Rohit Kumar Giria, N. V. C. R., Waliur Rahaman, Alok Kumar, M.Satyanarayanan, A.Keshav Krishna. Paleoproterozoic calc-alkaline lamprophyres from the Sidhi Gneissic complex,

India: Implications for plate tectonic evolution of the Central Indian Tectonic Zone. Precambrian Research 362, 106316 (2021).

22. Lathika, N. et al. Deep water circulation in the Arabian Sea during the last glacial cycle: Implications for paleo-redox condition, carbon sink and atmospheric CO2 variability. Quaternary Science Reviews 257, 106853 (2021).
23. Gohl, K. et al. Expedition 379 methods. Volume 379: Amundsen Sea West Antarctic Ice Sheet History (2021).
24. Gohl, K. et al. Expedition 379 summary. Proceedings of the International Ocean Discovery Program (2021).
25. Gohl, K., Wellner, J. & Klaus, A. Amundsen Sea West Antarctic Ice Sheet History. Proceedings of the International Ocean Discovery Program 379 (2021).
26. Gohl, K. et al. Evidence for a highly dynamic West Antarctic ice sheet during the Pliocene. Geophysical Research Letters 48, e2021GL093103 (2021).
27. Ejaz, T., Rahaman, W., Laluraj, C.M., Mahalinganathan, K., Thamban, M. Sea Ice Variability and Trends in the Western Indian Ocean Sector of Antarctica During the Past Two Centuries and Its Response to Climatic Modes. Journal of Geophysical Research: Atmospheres 126 (2021).
28. TRIPATHY, G. R., Nuruzzama, M., Patil, S., Rahaman, W. & Mohan, R. Dissolved major ions, Sr and 87Sr/86Sr of coastal lakes from Larsemann hills, East Antarctica: Solute sources and chemical weathering in a polar environment. (2020).
29. TRIPATHY, G. R., DANISH, M. & Rahaman, W. Submarine groundwater discharge to a tropical coastal lagoon (Chilika lagoon, India): An estimation using Sr isotopes. (2020).
30. Thamban, M., Rahaman, W. & Laluraj, C. Millennial to quasi-decadal variability in Antarctic climate system as evidenced from high-resolution ice core records. Current Science 119, 255-264 (2020).
31. Rahaman, W. et al. Reduced Arctic sea ice extent during the mid-Pliocene Warm Period concurrent with increased Atlantic-climate regime. Earth and Planetary Science Letters 550, 116535 (2020).
32. Mohammad Nuruzzama, W. R., Rahul Mohan. Sources, distribution and biogeochemical cycling of dissolved trace elements in the coastal lakes of Larsemann Hills, East Antarctica. Science of The Total Environment (2020).
33. Laluraj, C., Rahaman, W., Thamban, M. & Srivastava, R. Enhanced dust influx to South Atlantic sector of Antarctica during the late-20th Century: Causes and contribution to radiative forcing. Journal of Geophysical Research: Atmospheres (2020).

34. Kumar, A., Suresh, K. & Rahaman, W. Geochemical characterization of modern aeolian dust over the Northeastern Arabian Sea: Implication for dust transport in the Arabian Sea. Science of The Total Environment 729, 138576 (2020).
35. Danish, M., Tripathy, G. R. & Rahaman, W. Submarine groundwater discharge to a tropical coastal lagoon (Chilika lagoon, India): An estimation using Sr isotopes. Marine Chemistry 224, 103816 (2020).
36. Turner, J. et al. The dominant role of extreme precipitation events in Antarctic snowfall variability. Geophysical Research Letters 46, 3502-3511 (2019).
37. Subha Anand, S. et al. Trace elements and Sr, Nd isotope compositions of surface sediments in the Indian Ocean: An evaluation of sources and processes for sediment transport and dispersal. Geochemistry, Geophysics, Geosystems 20, 3090-3112 (2019).
38. Rahaman, W., Chatterjee, S., Ejaz, T. & Thamban, M. Increased influence of ENSO on Antarctic temperature since the Industrial Era. Scientific Reports 9, 6006 (2019).
39. Ajit T. Singh, W. R., Parmanand Sharma, C. M. Laluraj, Lavkush K. Patel, Bhanu Pratap, Vinay Kumar Gaddam & Thamban, M. Moisture Sources for Precipitation and Hydrograph Components of the Sutri Dhaka Glacier Basin, Western Himalayas. Water 11, doi:10.3390/w11112242 (2019).
40. Abhinay Sharma, R. K. G., N. V. Chalapathi Rao, Waliur Rahaman, Dinesh Pandit, Samarendra. Arc-Related Pyroxenites Derived from a Long-Lived Neoarchean Subduction System at the Southwestern Margin of the Cuddapah Basin: Geodynamic Implications for the Evolution of the Eastern Dharwar Craton, Southern India. The Journal of Geology 127, 000 (2019).
41. Rahaman, W., Wittmann, H. & von Blanckenburg, F. Denudation rates and the degree of chemical weathering in the Ganga River basin from ratios of meteoric cosmogenic 10Be to stable 9Be. Earth and Planetary Science Letters 469, 156-169 (2017).
42. Laluraj, W. R. M. T. C. Twentieth-century sea ice variability in the Weddell Sea and its effect on moisture transport: Evidence from a coastal East Antarctic ice core record. The Holocene (2016).
43. Rahaman, W., Goswami, V., Singh, S. K. & Rai, V. K. Molybdenum isotopes in two Indian estuaries: Mixing characteristics and input to oceans. Geochimica et Cosmochimica Acta 141, 407-422 (2014).
44. Goodbred Jr, S. L. et al. Piecing together the Ganges-Brahmaputra-Meghna River delta: Use of sediment provenance to reconstruct the history and interaction of multiple fluvial systems during Holocene delta evolution. Bulletin 126, 1495-1510 (2014).
45. Rahaman, W., Singh, S. K. & Shukla, A. D. Rhenium in Indian rivers: Sources, fluxes, and contribution to oceanic budget. Geochemistry, Geophysics, Geosystems 13 (2012).

46. Rahaman, W. & Singh, S. K. Sr and $^{87}Sr/^{86}Sr$ in estuaries of western India: Impact of submarine groundwater discharge. Geochimica et cosmochimica acta (2012).
47. Rahaman, W. & Singh, S. K. Sr and 87Sr/86Sr in estuaries of western India: Impact of submarine groundwater discharge. Geochimica et Cosmochimica Acta 85, 275-288 (2012).
48. Rahaman, W., Singh, S. K., Sinha, R. & Tandon, S. Sr, C and O isotopes in carbonate nodules from the Ganga Plain: Evidence for recent abrupt rise in dissolved 87Sr/86Sr ratios of the Ganga. Chemical geology 285, 184-193 (2011).
49. Rahaman, W., Singh, S. K., Sinha, R. & Tandon, S. Climate control on erosion distribution over the Himalaya during the past~ 100 ka: REPLY. Geology 38, e217-e217 (2010).
50. Rahaman, W., Singh, S. K. & Raghav, S. Dissolved Mo and U in rivers and estuaries of India: Implication to geochemistry of redox sensitive elements and their marine budgets. Chemical Geology 278, 160-172 (2010).
51. Rahaman, W. & Singh, S. K. Rhenium in rivers and estuaries of India: Sources, transport and behaviour. Marine Chemistry 118, 1-10 (2010).
52. Rahaman, W., Singh, S. K., Sinha, R. & Tandon, S. Climate-erosion coupling over the Himalaya during past~ 100 ka. Geochimica et Cosmochimica Acta Supplement 73, A1069 (2009).
53. Rahaman, W., Singh, S. K., Sinha, R. & Tandon, S. Climate control on erosion distribution over the Himalaya during the past~ 100 ka. Geology 37, 559-562 (2009).

>>>>>>>>>>>>>>>>>>>> Updated on 25 August 2023 >>>>>>>>>>>>>>>>>>>>