

BIO-DATA OF DR. S. P. RAI

PERSONAL DETAILS

Dr. Shive Prakash Rai
Professor
(Ex-Scientist, National Institute of Hydrology, Roorkee, India)
Geology Department
Institute of Science, Banaras Hindu University, Varanasi-221005, India
sprai1966roorkee@gmail.com; shive.rai@bhu.ac.in
+91-9411100367



ACADEMIC QUALIFICATIONS

- 1990-1995 *Ph.D. in Hydrogeology, Department of Geology, Kumaun University, Nainital
1985-1988 MSc. in Geology (*Specialization: Geochemistry* (66%)), Department of Geology, Banaras Hindu University (BHU), Varanasi
1982-1985 BSc. (Hons.) in Geology (66%) Faculty of Science, Banaras Hindu University, Varanasi
Ph. D. Thesis Topic:* Hydrogeological and Geomorphological Studies of Syahidevi-Binsar Area, District Almora, Kumaun Himalayas with *Prof K S Valdiya, FNA, Padma Shri and Padma Bhushan***

CURRENT AND PREVIOUS EMPLOYMENT

- **Professor** Geology Department, Banaras Hindu University, Varanasi 221005 From -2025
- **Associate Professor**, Geology Department, Banaras Hindu University, Varanasi 221005, from Feb.- 2018 to 2025
- **Scientist-F** at Hydrological Investigation Division, National Institute of Hydrology Roorkee from July 2015 to Jan 2018
- **Scientist-E** at Hydrological Investigation Division, National Institute of Hydrology Roorkee from January 2014 to June 2016
- **Scientist-D** at Hydrological Investigation Division, National Institute of Hydrology Roorkee from July 2009 to December 2013
- **Scientist-C** at Hydrological Investigation Division, National Institute of Hydrology Roorkee from December 2002 to July 2009
- **Scientist-B** at Hydrological Investigation Division, National Institute of Hydrology Roorkee from November 1996 to December 2002

SELECTIVE SIGNIFICANT CONTRIBUTIONS

Presently, I am working as Associate Professor in Geology Department, Banaras Hindu University, Varanasi and involved in teaching of hydrogeology and research work based on application of environmental isotope in the field of hydrogeology. Before to joining at BHU, I was scientist at the National Institute of Hydrology (NIH), Roorkee, a premier Research and Development organization in the field of hydrology under the Ministry of Water Resources, River Development and Ganga Rejuvenation, Government of India. I gained research experience of more than 26 years in area of Isotope Hydrology. I worked as Team Leader as well as Deputy Team leader in various

multi-disciplinary projects funded through International and national organizations. I have completed **5 International and 15 National research Projects along with 21 consultancy projects**. Research papers published in various reputed national and international journals include: **(i) 99 papers in peer-reviewed in which International (55) and National Journals (23), book chapters (21) (ii) 98 papers in International and National conferences/proceedings and (iv) 21 technical reports**. I have also **guided 9 Ph. D.** students (four awarded and five ongoing) and 21 master's degree thesis. I have served in the **Expert Mission of the International Atomic Energy Agency (IAEA)**, Vienna, Austria as an expert in providing training on the application of isotope in groundwater study at Kathmandu, Nepal from 15-20 Dec. 2013 and to assist the collection and interpretation of data to understand groundwater dynamics in coastal areas at Malaysia Nuclear Agency, Malaysia during 23-27 March 2015. Apart from this, I have organized National and international training courses on the application of isotopes in the management of water resources at the National Institute of Hydrology, Roorkee. The isotope laboratory, developed at NIH has gained national and international recognition for its capability to measure environmental concentrations of selected isotopes.

AREA OF RESEARCH

My work is mainly focused on understanding the hydrological processes related to surface and groundwater along with the assessment of impact of climate change on various hydrological processes using isotope and other conventional tools. Presently working on groundwater dynamics of multi-aquifer system of Indo-Gangetic plain to understand the groundwater depletion and water quality deterioration issues and develop strategies based on indigenous knowledge through community participation.

HONORS & AWARDS

➤ UNDP's Technical Co-operation Expert Missions

- Visited Malaysia Nuclear Agency, Malaysia, during March 23-27, 2015, to assist in collection of isotope data and its interpretation to understand groundwater dynamics in coastal areas.
- Visited Kathmandu, Nepal, during December 15-20, 2013, to review the national activities under project and provided training on application of isotope in Groundwater Study.

➤ Member of Coordinated Research Programme (CRP-F33020) of IAEA Vienna

- Attended IAEA Vienna during **December 5-7, 2012; June 9-13, 2014, and May 11-15, 2015** to attend meeting as an invited member of Coordinated Research Programme (CRP-F33020) of IAEA
- Attended 1st Research Coordination Meeting (RCM) on “Development and application of isotope techniques for efficient water resources management in mining areas (F33026)” 18 – 22 July 2022
- Attended 2nd Research Coordination Meeting (RCM) on “Development and application of isotope techniques for efficient water resources management in mining areas held at Morocco (F33026)” 04 – 07 December 2023

➤ **Indo-UK Collaborative Project Missions**

- Visited Imperial College London and Durham University, Durham, UK as expert member to attend the meeting under the CWC project during June 14-27, 2014.
- Best Paper Award (Oral) in National Conference held at National Institute of Hydrology Roorkee during 24-25 October 2011
- Best Paper Award (Oral) in National Conference held at National Institute of Hydrology Roorkee during 26-27 September 2007
- Received Junior Research Fellowship from Central Himalayas Environmental Association, Nanital (under MoEF funded Project) between 13 September 1990 to 1993.
- National Merit Scholarship (July 1980 to 1985) UP State Government, Lucknow
- **Founder Member Australia India Water Centre.** Under this program a draft of MOU has been prepared for collaboration for different academic and social welfare projects between **Indian Universities/Institutes** (Banaras Hindu University, IIT Guwahati, G B Pant Univ. of Tech and Agri., Pantnagar, IISc., Bangalore, NIT Surathkal, SVNIT, Surat, Univ. of Agri. Sciences Bangalore, JNTU, Hyderabad, MP Univ. of Agri. And Tech, Udaipur, NIH Roorkee) and **Australian Universities** (Western Sydney University, ICEWARM, Queensland University of Technology, The University of Melbourne, University of New South Wales and Univ. of Wollongong).

PROJECTS (Ongoing)

S.No.	Project Details	Funding Agency	Duration	Project Budget (INR)
1	Isotopic and geochemical approach to study vulnerable confined and unconfined drinking water aquifers in Varanasi and surrounding areas, India	Under IoE BHU	2021-2024	Rs 10.0 lakh
2	Making Village Groundwater Visible: Outscaling MARVI	ARCH India (Australian Researcher Collaboration Hub) under Research Collaboration Grants (Unnati Research Collaboration Grants)	2023	30000 AUD i.e., ~ Rs.17,00,000

3	Isotope hydrogeochemical approach for tracing the origin of groundwater, its dynamics, and evaluation in the Northern Coalfield, Singrauli, India	IAEA, Vienna, Austria	2021-2024	Rs. 6,61,644
---	---	-----------------------	-----------	--------------

PROJECTS (Completed)

S.No.	Project Details	Funding Agency	Duration	Project Budget (INR)
1	Glaciological Studies of Puche Glacier, Ladakh Range, India (Co. P.I.)	Funded by DST, Govt of India	2009-2015	Rs. 47.832 lacs
2	Assessment of Baseflow and its Impact on Water Quality in the Part of Satluj River in India using Environmental Isotopes and Age Dating Techniques	IAEA, Vienna, Austria	2012-2015	EURO 15000
3	The Use of Environmental Isotopes to Assess Sustainability of Intensively Exploited Aquifer Systems in North Eastern Parts of Punjab, India	IAEA, Vienna, Austria	2012-2015	EURO 15000
4	The Structure and Dynamics of Groundwater Systems in Northwestern India under Past, Present and Future Climates	MOES, Govt. of India (International collaborative project funded by NERC UK and MOES India)	2013-2016	Total Project Cost 216 lakh NIH, Roorkee component Rs. 35.0 lakh
5	Aquifer mapping efforts in India: A pilot study of Upper Yamuna Plains funded by IAEA, Vienna	IAEA, Vienna, Austria	2015-2017	Euro 26500.00
6	Recharge Process of Springs and Its Management to Mitigate Anthropogenic and Climate Change Impact for Water Security: A case study in part of Kumaun Lesser Himalaya,	Funded by MHRD, Govt of India Under SPARC programme	2018-2020	Rs. 75.0 lakh

	India.” Co-PI in collaboration with G B Pant University of Agriculture and Technology, Pantnagar, Western Sydney University, Australia, University of Melbourne, Australia			
7	Understanding of hydrological process in Upper Ganga Basin by using Isotopic Technique” (Sub project -9) P.I. S.P. Rai	Funded by DST, New Delhi Govt. of India	April 2016 to March 2021, Project	Cost:176.22 lacs

PUBLICATIONS IN LAST TEN YEARS (Reputed International Journals)

International Journal:

1. Patel, A., **Rai, S.P.**, Singh, A.K. et al. (2026). Sustainability of groundwater resources in the eastern middle Ganga plain, India: analyzing drivers of storage changes and depletion. *Sustain Water Resour. Manag.* 12, 1 <https://doi.org/10.1007/s40899-025-01301-9> IF 2.1
2. Neeraj Pant, Dharmappa Hagare, Basant Maheshwari, **Shive Prakash Rai**, Abhinav Patel, Nijesh Puthiyottil, Sharad Kumar Jain, Lakhi Narayan Sahu, Sumit Sen, Mayank Upadhyay, (2026). Understanding the influence of landcover on spring dynamics and evaporation, in Himalayan region, using stable isotope and discharge, *Science of The Total Environment*, Volume 1012, 2026, 181215, ISSN 0048-9697, <https://doi.org/10.1016/j.scitotenv.2025.181215>, IF 8.2
3. E. Sacchi, A. Cardona Benavides, C.A. De Carvalho Filho, Y. Dong, A. Ghaffar, S.K. Gurmessa, M.J. Hendry, F. Huneau, S.T. Jiménez-Oyola, A. Mhizha, R.A. Oyarzún Lucero, M. Panasiuk, M. Qurtobi, **S.P. Rai**, V. Ramaroson, J. Samaniego, T. Vitvar, R. Trabelsi, U. Saravana Kumar, (2026). Isotope techniques for sustainable water resources management in mining-related settings: A state-of-the-art review. *Groundwater for Sustainable Development*, Volume 33, 2026, 101577, ISSN 2352-801X, <https://doi.org/10.1016/j.gsd.2026.101577>, IF 5.5
4. Hemant Ojha, Basant Maheshwari, Jeff Camkin, Basundhara Bhattarai, Purnima Banjade, Priyanka Gurung, Karen Delfau, Vishal Narain, Will Allen, Sarah Ransom, Vishal Singh, Roshan Rathod, Ngamindra Dahal, Susana Neto, Monika Giri, **Shive Prakash Rai**, Icyimpaye Adeline (2025). “From Dialogue to Policy Learning: Water Policy Labs for Transformative Water Governance.” *World Water Policy* 11, no. 4: 969–983. <https://doi.org/10.1002/wwp2.70041>, IF 2.2
5. Sandeep Singh, Sandeep K Malyan, Kaptan Singh, Sujata Kashyap, Rajesh Singh, **S P Rai**, Sumant Kumar, Pradeep Kumar (2025). Contamination profile and potential human health risks of radon in groundwater of southwest region of Punjab, Indi, *Environ Geochem Health* 47, 430. <https://doi.org/10.1007/s10653-025-02747-8>, IF 3.8

6. Nijesh, P., Pant, N., **Rai, S. P.**, Jacob, N., Akpataku, K. V., Patel, A. & Hagare, D. (2025). Assessment of spring water vulnerability and hydrogeochemical evolution in the Khulgad micro watershed of Kosi basin, Kumaun Lesser Himalaya, India. *Hydrological Sciences Journal*, IF 2.5.
7. Akpataku, K. V., Halder, J., **Rai, S. P.**, Bawa, L. M., Djaneye-Boundjou, G., Gnazou, D. T. M., & Faye, S. (2025). Assessment of nitrate sources and denitrification potential using chemical, multi-isotopic, and Bayesian mixing model approaches in the Plateaux Region of Togo, West Africa. *Journal of Environmental Chemical Engineering*, 117170, IF 7.6
8. Pant, N., Hagare, D., Maheshwari, B., **Rai, S. P.**, Sharma, M., Dollin, J. & Prasad, J. (2024). Rejuvenation of the Springs in the Hindu Kush Himalayas Through Transdisciplinary Approaches—A Review. *Water*, 16(24), 3675, IF 3.3
9. Patel, A., **Rai, S. P.**, Puthiyottil, N., Singh, A. K., Noble, J., Singh, R., Hagare, D., Kumar, U.D.S., Rai, N. & Akpataku, K. V. (2024). Refining aquifer heterogeneity and understanding groundwater recharge sources in an intensively exploited agrarian dominated region of the Ganga Plain. *Geoscience Frontiers*, 15(4), 101808. IF 8.9
10. Pant, N., Hagare, D., Maheshwari, B., **Rai, S. P.**, Sharma, M., Dollin, J., Bhamoriya, V., Puthiyottil, N. & Prasad, J. (2024). Rejuvenation of the Springs in the Hindu Kush Himalayas Through Transdisciplinary Approaches
11. Joshi, S. K., Kumar, S., Sinha, R., **Rai, S. P.**, Khobragade, S., & Rao, M. S. (2023). Identifying moisture transport pathways for north-west India. *Geological Journal*, 58(12), 4428-4440, IF 2.2
12. **Rai, Shive Prakash**, Kossitse Venyo Akpataku, Jacob Noble, Abhinav Patel, and Suneel Kumar Joshi. "Hydrochemical evolution of groundwater in the northwestern part of the Indo-Gangetic Basin, India: A geochemical and isotopic approach." *Geoscience Frontiers* 14, no. 6 (2023): 101676. IF 8.9
13. Patel, Abhinav, **Shive Prakash Rai**, Kossitse Venyo Akpataku, Nijesh Puthiyottil, Abhinesh Kumar Singh, Neeraj Pant, Rajesh Singh, Prashant Rai, and Jacob Noble. "Hydrogeochemical characterization of groundwater in the shallow aquifer system of Middle Ganga Basin, India." *Groundwater for Sustainable Development* 21 (2023): 100934. IF 5.9
14. Gautam, Anant, S. C. Rai, **S. P. Rai**, and Kripa Ram. "Impact of anthropogenic and geological factors on groundwater hydrochemistry in the unconfined aquifers of Indo-Gangetic plain." *Physics and Chemistry of the Earth, Parts A/B/C* 126 (2022): 103109. IF 3.7
15. Sen Gupta, D., Ghosh, P., Rai, S. P., & Tripathi, S. (2022). Hydrogeochemical variability and appraisal of water quality of groundwater in Mahoba district, Uttar Pradesh, India. *Environmental Earth Sciences*, 81(5), 149.
16. **Rai, Shive Prakash**, Jacob Noble, Dharmaveer Singh, Yadhvir Singh Rawat, and Bhishm Kumar. "Spatiotemporal variability in stable isotopes of the Ganga River and factors affecting their distributions." *Catena* 204 (2021): 105360. IF 6.2
17. Joshi, Suneel Kumar, Sanjeev Gupta, Rajiv Sinha, Alexander Logan Densmore, **Shive Prakash Rai**, Shashank Shekhar, Philippa J. Mason, and W. M. van Dijk. "Strongly heterogeneous patterns of groundwater depletion in Northwestern India." *Journal of Hydrology* 598 (2021): 126492. IF 6.4
18. Gautam, Anant, Suresh Chand Rai, and **Shive Prakash Rai**. "Assessment of groundwater quality beneath agriculturally advanced region of Northern Alluvial Plain, India." *Sustainability* 13, no. 13 (2021): 7053. IF 3.9

19. Ali, Shakir, Shashank Shekhar, Trupti Chandrasekhar, Akhilesh Kumar Yadav, Naresh Kumar Arora, Chandrashekhar Azad Kashyap, Prosun Bhattacharya, **S. P. Rai**, Prabhas Pande, and Dornadulla Chandrasekharam. "Influence of the water–sediment interaction on the major ions chemistry and fluoride pollution in groundwater of the Older Alluvial Plains of Delhi, India." *Journal of Earth System Science* 130, no. 2 (2021): 98. IF 1.9
20. Pant, Neeraj, Prabhat Semwal, Suhas Damodar Khobragade, **Shive Prakash Rai**, Sudhir Kumar, Rajendra Kumar Dubey, Jacob Noble et al. "Tracing the isotopic signatures of cryospheric water and establishing the altitude effect in Central Himalayas: A tool for cryospheric water partitioning." *Journal of Hydrology* 595 (2021): 125983. IF 6.4
21. Neeraj Pant, Prabhat Semwal, Suhas Damodar Khobragade, Shive Prakash Rai, Sudhir Kumar, Rajendra Kumar Dubey, Jacob Noble, Suneel Kumar Joshi, Yadhvir Singh Rawat, Harish Chandra Nainwal, Sunil Shah, Aditya Mishra, Rajeev Saran Ahluwalia (2021) Tracing the isotopic signatures of cryospheric water and establishing the altitude effect in Central Himalayas: A tool for cryospheric water partitioning, *Journal of Hydrology*, 595, 125983, 1-15, <https://doi.org/10.1016/j.jhydrol.2021.125983>, IF 6.4
22. S. Ali Khan, S. Shekhar, T. Chandrashekhar, A.K. Yadav, N. K. Arora, P. Bhattacharya, **Shive Prakash Rai**, P. Pande, D. Chandrashekhar (2021) Influence of the water-sediment interaction on the major ions chemistry and fluoride pollution in groundwater of the Older Alluvial Plains of Delhi, India, . *Earth Syst. Sci.*, 130:98, DOI: [10.1007/s12040-021-01585-3](https://doi.org/10.1007/s12040-021-01585-3), IF 1.9
23. S. K. Joshi, Sanjeev Gupta, Rajeev Sinha, Alex Densmore, **Shive Prakash. Rai**, S. Shekhar, Philippa J. Masson, W.M. Van Dijk (2021) Strongly heterogeneous patterns of groundwater depletion in Northwestern India, *Journal of Hydrology*, DOI: [10.1016/j.jhydrol.2021.126492](https://doi.org/10.1016/j.jhydrol.2021.126492), IF 6.4
24. **Shive Prakash Rai.**, Noble Jacob, Singh, D., Rawat, Y.S., Kumar, B. Kumar, (2021) Spatiotemporal variability in stable isotopes of the Ganga River and factors affecting their distributions, *Catena* DOI: [10.1016/j.catena.2021.105360](https://doi.org/10.1016/j.catena.2021.105360), IF 6.2
25. Neeraj Pant, **Shive Prakash Rai**, Rajesh Singh, Sudhir Kumar, R. K. Saini, P.Nijesh, Y.S. Rawat, Megha Sharma, Kamleshwar Pratap (2021) Impact of geology and anthropogenic activities over the water quality with emphasis on fluoride in water scarce Lalitpur district of Bundelkhand region, India, *Chemosphere*, 279(8), DOI:[10.1016/j.chemosphere.2021.130496](https://doi.org/10.1016/j.chemosphere.2021.130496), IF- 8.8
26. Nijesh Muralidhar, Kossitse Venyo Akpataku, Abhinav Patel, Prashant Rai, **Shive Prakash Rai** (2021) Spatial variability of hydrochemical characteristics and appraisal of water quality in stressed phreatic aquifer of Upper Ganga Plain, Uttar Pradesh, India, *Environmental Earth Sciences*, 80(5), DOI: [10.1007/s12665-021-09410-2](https://doi.org/10.1007/s12665-021-09410-2), IF 2.8
27. Suneel Kumar Joshi, **Shive Prakash Rai**, Rajiv Sinha, 2020: Understanding groundwater recharge processes in Sutlej-Yamuna plain in northwest India using isotopic approach, Geological Society, London, Special Publications, 507, doi:<https://doi.org/10.1144/SP507-2020-174>, corresponding author, IF 3.1.
28. Anant Gautam, Suresh Chand Rai and **Shive Prakash Rai** (2020) Impact of anthropogenic activities on the alluvial aquifers of north-east Punjab, India, *Environmental Monitoring and Assessment*, 192 (8), [10.1007/s10661-020-08496-8](https://doi.org/10.1007/s10661-020-08496-8), IF 3.
29. Prikash N. Meetei, Rajeev Saran Ahluwalia, **Shive Prakash Rai**, Suhas Khobragade, Shushanta Sarangi, Manmohan Goel and Sushil Kumar (2020) Spatio-temporal analysis

- of snow cover and effect of terrain attributes in the Upper Ganga River Basin, central Himalayan *Geocarto International*, DOI: [10.1080/10106049.2020.1762764](https://doi.org/10.1080/10106049.2020.1762764), IF 3.8.
30. Neeraj Pant, Rajendra Kumar Dubey, Anand Bhatt, **Shive Prakash Rai**, Prabhat Semwal & Sumit Mishra (2020) Soil erosion and flood hazard zonation using morphometric and morphotectonic parameters in Upper Alaknanda river basin, *Natural Hazards*, volume, 103, pp 3263–3301, doi.org/10.1007/s11069-020-04129//-y, IF 3.7
 31. Shashank Shekhar, Suman Kumar, A. L. Densmore, W. M. van Dijk, Rajiv Sinha, Manoranjan Kumar, Suneel Kumar Joshi, **Shive Prakash Rai** & Dewashish Kumar (2020) Modelling water levels of northwestern India in response to improved irrigation use efficiency, *Nature Scientific Reports* volume, 10, Article number 13452, IF 4.6
 32. **Shive Prakash Rai**, Singh, D., Jakob, N., Arora, M., Rawat, Y.S., Kumar, B., (2019) Identifying contribution of snowmelt and ice melt to discharge near the snout of Gangotri Glacier using isotopic technique, *Catena*, 173(339-351), IF 6.2
 33. Gopal Krishan, Surjeet Singh, Renoj J. Thayyen, N.C. Ghosh, **Shive Prakash Rai** & Manohar Arora (2019) Understanding river – subsurface water interactions in upper Ganga basin, India, *International Journal of River Basin Management*, <https://doi.org/10.1080/15715124.2019.1683853>, IF 2.5
 34. Kossitse Venyo Akpataku, **Shive Prakash Rai**, Masamaéya Dadja-Toyou Gnazou, Lallébila Tampo, Limam Moctar Bawa, Gbandi Djaneye-Boundjou & Serigne Fayen (2019) Hydrochemical and isotopic characterization of groundwater in the southeastern part of the Plateaux Region, Togo, *Hydrological Sciences, Journal*, 64(2), pp 983-1000, DOI: [10.1080/02626667.2019.1615067](https://doi.org/10.1080/02626667.2019.1615067), IF 3.5.
 35. Suneel Kumar Joshi, **Shive Prakash Rai**, Rajiv Sinha, Sanjeev Gupta, Alexander Logan Densmore, Yadhvir Singh Rawat, Shashank Shekhar (2018) Tracing groundwater recharge sources in the northwestern Indian alluvial aquifer using water isotopes ($\delta^{18}\text{O}$, $\delta^2\text{H}$ and ^3H), *Journal of Hydrology*, 559, 835-847 <https://doi.org/10.1016/j.jhydrol.2018.02.056>, IF 6.4
 36. L. Sardine Varay, **Shive Prakash Rai** (2018) Estimation of snow and glacial melt contribution through stable isotopes and assessment of its impact on river morphology through stream power approach in two Himalayan river basins Sustain. *Water Resource Manag.* DOI 10.1007/s40899-017-0107-6, IF 4.3.
 37. Qazi, N.Q., & **Shive Prakash Rai**. (2018). Sediment transportation under different forest catchments in the Lesser Himalaya, India, *International Journal of Water Resources Development*, *Hydrological Sciences Journal*, 2018, 63, 1, 50–62, <https://doi.org/10.1080/02626667.2017.1410280>. IF 3.5.
 38. A. S Maurya · **Shive Prakash Rai**, N. Joshi, K.S. Dutt, N. Rai (2018) Snowmelt runoff and groundwater discharge in Himalayan rivers: a case study of the Satluj River, NW India, *Environmental Earth Sciences*, 77:694, IF 2.8.
 39. Rambabu Singh, · A. S. Venkatesh, · Tajdarul H. Syed, · L. Surinaidu, · Srinivas Pasupuleti, **Shive Prakash Rai**, Manoj Kumar (2018) Stable isotope systematics and geochemical signatures constraining groundwater hydraulics in the mining environment of the Korba Coalfield, Central India, *Environmental Earth Sciences*, 77:548, <https://doi.org/10.1007/s12665-018-7725-7>. IF 2.8
 40. **Shive Prakash Rai**., Singh, D., Rai, A. K., and Kumar, B., (2017) Application of Environmental Isotopes and Hydrochemistry in Detection of Source of Seepage and

- Likely Connection with Lake Water in Lesser Himalaya, Uttarakhand, India, *Journal of Earth System Science*, Vol. 126(8), 118. DOI:10.1007/s1204, IF 2.8
41. Nuzhat Q. Qazi, L. Adrian Bruijnzeel, **S. P. Rai** & Chandra P. Ghimire (2017) Impact of forest degradation on streamflow regime and runoff response to rainfall in the Garhwal Himalaya, Northwest India, *Hydrological Sciences Journal*, DOI: 10.1080/02626667.2017.130863, IF 3.54.
 42. Dharmaveer Singh, **S. P. Rai**, Bhishm Kumar, • Sanjay K. Jain, Sudhir Kumar (2016) Study of hydro-chemical characteristics of Lake Nainital in response of human interventions, and impact of twentieth century climate change, *Environmental Earth Sciences* 75:1380 DOI 10.1007/s12665-016-6177-1, IF 2.8
 43. Aditya Sarkar, Shashank Shekhar, **S. P. Rai**, Vikram Soni, Pankaj R Kaushik, Anirudh Sharma, ShakirAli, Firdaus Jahan (2016) Factors controlling groundwater quality of Yamuna river flood plain in Noida-Faridabad region, *IJAEEs* (2016) Vol.4, No.2, 7-14.
 44. Aditya Sarkar, Shashank Shekhar, **S. P. Rai** (2017) Assessment of the spatial and temporal hydrochemical facies variation in the flood plains of North-West Delhi using integrated approach, *Environmental Earth Sciences*, 76:665, IF 2.8
 45. Abass Gibrilla, Dickson Adomako, Geophrey Anornu, Samuel Ganyaglo, Tibor Stigter, Joseph R. Fianko, **S. P. Rai**, et al. (2016) $\delta^{18}\text{O}$ and $\delta^2\text{H}$ characteristics of rainwater, groundwater and springs in a mountainous region of Ghana: implication with respect to groundwater recharge and circulation, *Sustainable Water Resources Management*, ISSN 2363-5037 Sustain. DOI 10.1007/s40899-017-0107-6, IF 2.1.
 46. Singh, D., **Rai, S.P.**, Kumar, B., Jain, S.K., & Kumar, S. (2016). Study of Hydro-Chemical Characteristics of Lake Nainital in Response of Human Interventions, and Impact of Climate Change on 20th Century. *Environmental Earth Sciences*, 75:1380 DOI 10.1007/s12665-016-6177-1. IF 2.8.
 47. Dijk, W. M., Densmore, A. L., Singh, A., Gupta, S., Sinha, R., Mason, P. J., & **Rai S.P.** (2016). Linking the morphology of fluvial fan systems to aquifer stratigraphy in the Sutlej-Yamuna plain of northwest India. *Journal of Geophysical Research: Earth Surface*. 1-22, DOI: 10.1002/2015JF003720. IF 2.
 48. Singh, D., Jain, S. K., Gupta, R. D., Kumar, S., **Rai, S. P.**, & Jain, N. (2016). Analyses of Observed and Anticipated Changes in Extreme Climate Events in the Northwest Himalaya. *Climate*, 4(9),1-13.
 49. **Rai, S. P.**, Thayyen, R. J., Purushothaman, P., & Kumar, B. (2016). Isotopic characteristics of cryospheric waters in parts of Western Himalayas, India. *Environmental Earth Sciences*, 75(7), 1-9. IF 2.8
 50. Singh, Dharmaveer, Sanjay Kumar Jain, Rajan Dev Gupta, Sudhir Kumar, **Shive Prakash Rai**, and Neha Jain. "Analyses of observed and anticipated changes in extreme climate events in the Northwest Himalaya." *Climate* 4, no. 1 (2016): 9.
 51. Saran Ahluwalia, Rajeev, **S. P. Rai**, S. K. Jain, D. P. Dobhal, and Amit Kumar. "Estimation of snow/glacier melt contribution in the upper part of the Beas River basin, Himachal Pradesh, using conventional and SNOWMOD modeling approach." *Journal of water and climate change* 6, no. 4 (2015): 880-890. IF 2.8.
 52. Adomako, Dickson, Abass Gibrilla, Piotr Maloszewski, Samuel Yao Ganyaglo, and **Shive Prakash Rai**. "Tracing stable isotopes ($\delta^2\text{H}$ and $\delta^{18}\text{O}$) from meteoric water to groundwater in the Densu River basin of Ghana." *Environmental Monitoring and Assessment* 187 (2015): 1-15. IF 3.0

53. **Rai, S. P.**, P. Purushothaman, B. Kumar, Noble Jacob, and Y. S. Rawat. "Stable isotopic composition of precipitation in the River Bhagirathi Basin and identification of source vapour." *Environmental earth sciences* 71 (2014): 4835-4847. IF 2.8.
54. Tyagi, J. V., **S. P. Rai**, Nuzhat Qazi, and M. P. Singh. "Assessment of discharge and sediment transport from different forest cover types in lower Himalaya using Soil and Water Assessment Tool (SWAT)" *International Journal of water resources and environmental engineering* 6, no. 1 (2014): 49-66.

National Journal: 23

- 1) **Shive Prakash Rai**, D. Singh, R. Saini, D. S. Rathore, S. Kumar, S. K. Jain and N. Pant (2019) Possibility of hydrological connectivity between Manasarovar Lake and Gangotri Glacier, *Current Science*, Vol., 116, 1-6. IF 0.76
- 2) **Shive Prakash Rai**, Ahluwalia, R.S. & Jain S.K. (2016), Runoff process of snow and glacier fed River Western Himalaya", ENVIS Newsletter on Himalayan Ecology, 12 (1), 8., IF 0.76
- 3) Jiwan Singh Rawat, Ajit Govind, Geeta Rawat, Mallickarjun Joshi, **S. P. Rai** and Navneet Gahlot (2016) Perennial to ephemeral transformation of a Lesser Himalayan watershed *Current science*, VOL. 111, NO. 4, 686-693.