

CURRICULUM VITÆ

Vikram Singh

Assistant Professor

Department of Geology

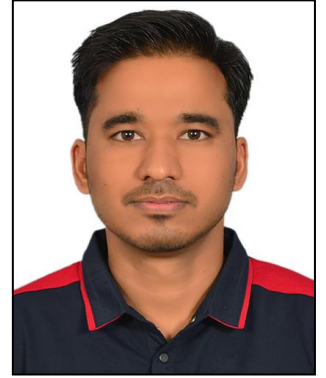
Bhakt Darshan Govt. P.G. College Jaiharikhal

Pauri, Uttarakhand-246193

Mob. No. +918384837393, +917830153048

Email: ynegi850@gmail.com, vikramsinghdendro@gmail.com

Researchgate profile: <https://www.researchgate.net/profile/Vikram-Singh-48>



EDUCATIONAL QUALIFICATION:

- PhD (Geology) from Banaras Hindu University Varanasi in the year 2020
Thesis title: Tree-ring based climate variability in Jammu and Kashmir since Little Ice Age
Supervisors: Prof. A. D. Singh, BHU, Varanasi; Dr. K. G. Misra, BSIP, Lucknow and Dr. R. R. Yadav, WIHG, Dehradun
(Thesis Submitted: 01/08/2020; Thesis Defended: 12/01/2021)
- Post-Graduation (M.Sc., Geology) from Kumaun University, Nainital in the year 2014
- Graduation (B.Sc., Geology, Physics, Mathematics) from Kumaun University, Nainital in the year 2012
- Intermediate from Uttarakhand Board in the year 2009
- High School from Uttarakhand Board in the year 2007

RESEARCH SKILLS/EXPERIENCE, AND DUTIES:

About Ten years of research experience in the field of Palaeoclimate studies.

- ❖ Well versed in developing high-resolution climate records (Precipitation, Temperature, Snow Water Equivalent (SWE), Standardized Precipitation Index (SPI), Standardized Precipitation Evapotranspiration Index (SPEI), etc.) using robust statistical models to analyze the past in proper climatic context.
- ❖ Experience of working in the R-platform for data analysis and climate reconstruction.
- ❖ Experience of working with various tree species viz., *Juniperus polycarpous*, *Betula utilis*, *Pinus wallichiana*, *Pinus gerardiana*, *Cedrus deodara* etc., growing over high-altitude Himalayan regions of Jammu and Kashmir, Himachal Pradesh and Uttarakhand.
- ❖ Experience of extensive field tracking over orography-dominated Indian Himalaya for sample collection.
- ❖ Experience of geological mapping in the Himalayan terrain along the thrust zone in the Kumaun Lesser Himalaya.

DUTIES:

- ❖ **Assistant Professor** at the Department of Geology, Bhakt Darshan Govt. P.G. College Jaiharikhal Pauri, Uttarakhand from 26 July 2024 to Till date.
- ❖ **National Post-Doctoral Fellow (NPDF)** at the Department of Geology, University of Lucknow, Lucknow from 1 February 2023 to 25 July 2024.
 - **Project title:** *Recent variability of winter and summer monsoon over Indian western Himalaya and its linkage with increasing risk of natural hazards*
- ❖ **Research Associate** at the DST-Mahamana Centre of Excellence in Climate Change Research (DST-MCECCR, Institute of Environment & Sustainable Development (IESD), Banaras Hindu University (BHU), Varanasi, India from 25 August 2022 to 31 December 2022.
- ❖ **CSIR-Senior Research fellow** in the Birbal Sahni Institute of Palaeosciences Lucknow from 14 May 2018 to 13 April 2020
 - **Project title:** *Application of tree-rings to understand the hydro-climatic variability over Kishtwar, Jammu and Kashmir, India*
- ❖ **Senior Research fellow** (DST-sponsored project) in the Birbal Sahni Institute of Palaeosciences Lucknow from 7 February 2017 to 31 October 2017
 - **Project title:** *Developing snowfall reconstruction for the Lahaul-Spiti region and its association with glacier dynamics*
- ❖ **Junior Research Fellow** (DST-sponsored project) in the Birbal Sahni Institute of Palaeosciences Lucknow from 6 February 2015 to 6 February 2017
 - **Project title:** *Developing snowfall reconstruction for the Lahaul-Spiti region and its association with glacier dynamics*

RESEARCH SPECIALIZATION AND PRESENT FOCUS:

Ongoing global warming and associated climate change is of serious global concern in recent decades. The unprecedented rise of temperature and huge uncertainty of precipitation on a regional and global scale is leading to climatic variability and related risk at a higher rate. Various studies highlight the consequences of climate change on socio-economic lives and other natural resources. Glaciers are retreating worldwide in recent decades and similarly, the Himalaya known as the “Water tower of Asia” also experienced retreat of glaciers at a high rate. High precipitation events like floods viz., Kedarnath (Uttarakhand), 2013, Jammu and Kashmir 2014, 2017, Rishiganga, Uttarakhand (2021), etc. are increasing manifold in the land regions, and at the same droughts are also becoming intense due to low precipitation. The heterogeneous behavior of climatic parameters needs to be analyzed and understood in a long-term perspective for future adaptive measures. I am working in the field of paleoclimatology and I use tree rings, a high-resolution proxy; to develop climatic records back to the past several centuries and millennia, to understand the past climatic variability, and to analyze its impact on society and lives.

At present, I am focusing on high-altitude Indian western Himalaya from where different tree species such as *Juniperus polycarpous*, *Cedrus deodara*, *Pinus wallichiana*, *Betula utilis*, *Pinus gerardiana*, etc. have been selected and analysed to understand the climate variability beyond the

instrumental records. Important climatic parameters such as temperature, precipitation, & snow-fall variability are the prime object of mine to understand their variability in the long-term perspective under major global climatic episodes, such as the Little Ice Age (LIA) and Medieval Climate Anomaly (MCA). I am also curious to identify their (Climatic Parameters) linkages with Glacier Dynamics, River Discharge, Ecology, and Natural Hazard Events under the background of recent global warming.

RESEARCH PUBLICATION:

15. Vishwakarma, S., Misra, K.G., Ghoshal, N., Maurya, R.S., **Singh, V.**, Misra, S., 2024. Effect of Himalayan cedar forest longevity on soil properties in the Kumaun Himalaya, Uttarakhand, India. **Discover Soil**, 1-15. <https://doi.org/10.1007/s44378-024-00015-2>
14. **Singh, V.**, Misra K.G., Yadav, R.R., Yadava, A.K., 2024. February-March minimum temperature record from cold-arid Lahaul-Spiti, Himachal Pradesh, India, and its hydrological implications. **Trees**, (IF: 2.3). <https://doi.org/10.1007/s00468-024-02510-z>
13. Maurya, R. S., Misra, K. G., Vishwakarma, S., **Singh, V.**, Misra, S., Yadava, A. K., 2023. Analyses of intra-annual density fluctuation (IADF) signals in Himalayan cedar trees from Himachal Pradesh, western Himalaya, India, and its relationship with apple production, **Frontiers in Forests and Global Change**, 6, 1243352. (IF: 3.2).
12. **Singh, V.**, Misra, K.G., Yadava, A.K., Yadav, R.R., 2022. Sub-alpine Himalayan birch in cold arid Lahaul-Spiti: a proxy of winter/early spring minimum temperature, **Current Science**, 123 (1). (IF: 1.169)
11. **Singh, V.**, Misra, K.G., Yadav, R.R., Yadava, A.K., Vishwakarma, S., Maurya, R.S., 2022. High-elevation tree-ring record of 263-year summer temperature for a cold-arid region in the Western Himalaya, India, **Dendrochronologia**, 73, <https://doi.org/10.1016/j.dendro.2022.125956> . (IF: 3.071)
10. **Singh, V.**, Misra, K.G., Singh, A.D., Yadav, R.R., 2022. Increasing incidence of droughts since later part of Little Ice Age over north-western Himalaya, India. **Journal of Geophysical Research: Atmospheres**, 127 (4), 1-16. <https://doi.org/10.1029/2021JD036052>. (IF: 5.22)
9. **Singh, V.**, and Yadav, R.R., 2021. Legendary Old Conifer Trees in Western Himalaya: Environmental Chronicles, **International Journal of Plant and Environment**, 7(04), 243-248.
8. Misra, K.G., **Singh, V.**, Yadava, A.K., Misra, S., Maurya, R.S., Vishwakarma, S., 2021. Himalayan blue pine deduced precipitation record from cold arid Lahaul-Spiti, Himachal Pradesh, India, **Frontiers in Earth Science**, 9, 442 [doi: 10.3389/feart.2021.645959](https://doi.org/10.3389/feart.2021.645959). (IF: 3.661)
7. **Singh, V.**, Misra, K.G., Singh, A.D., Yadav, R.R., Yadava, A.K., 2021. Little Ice Age revealed in tree-ring-based precipitation record from the northwest Himalaya, India. **Geophysical Research Letters**, 48 (6), 1-12. <https://doi.org/10.1029/2020GL091298>. (IF: 5.58)

6. Yadava, A.K., Misra, K.G., **Singh, V.**, Misra, S., Sharma, Y., Kotlia, B.S., 2021. 244-year tree-ring based drought record from Chakrata, western Himalaya, India, **Quaternary International**, <https://doi.org/10.1016/j.quaint.2020.12.038>. (IF: 2.454)
5. Misra, K.G., **Singh, V.**, Yadava, A.K., Misra, S., Yadav, R.R., 2020. Treeline migration and settlement recorded by Himalayan pencil cedar tree-rings in the highest alpine zone of western Himalaya, India, **Current Science**, 118 (2), 192-195. (IF: 1.169)
4. Yadav, R.R., Gupta, A.K., Kotlia, B.S., **Singh, V.**, Misra, K.G., Yadava, A.K., Singh, A.K., 2017. Recent Wetting and Glacier Expansion in the Northwest Himalaya and Karakoram, **Scientific Reports**, 7(1), 6139. (IF: 4.996)
3. **Singh, V.**, Yadav, R.R., Gupta, A.K., Kotlia, B.S., Singh, J., Yadava, A.K., Singh, A.K., Misra, K.G., 2017. Tree ring drought records from Kishtwar, Jammu and Kashmir northwest Himalaya, India, **Quaternary International**, 444, 53-64. (IF: 2.454)
2. Yadava, A.K., Sharma, Y., Dubey, B., Singh, J., **Singh, V.**, Bhutiyani, M.R., Yadav, R.R., Misra, K.G., 2017. Altitudinal treeline dynamics of Himalayan pine in western Himalaya, India, **Quaternary International**, 444, 44-52. (IF: 2.454)
1. Singh, N.D., Yadav, R.R., Venugopal, N., **Singh, V.**, Yadava, A.K., Misra, K.G., Singh, T.B., Sanjita, C., 2016. Climate control on ring width and intra-annual density fluctuations in *Pinus kesiya* growing in a sub-tropical forest of Manipur, Northeast India, **Trees**, 30, 1711–1721. (IF: 2.3)

Book Chapter:

2. **Singh, V.**, Misra, K.G., Yadava, A.K., Yadav, R.R., 2022. Application of tree rings in understanding long-term variability in river discharge of high Himalayas, India. Elsevier (Book: Holocene Climate Change and Environment).
1. Misra, S., Misra, K.G., **Singh, V.**, Yadava, A.K., 2020. Environmental Indicators and Instrumental Records. IGNOU

AWARDS/PRIZES/FELLOWSHIPS:

- **INQUA Young Researcher Grant (Financial Support)** from *International Union for Quaternary Research (INQUA)* to attend the INQUA Congress held in Rome, Italy during 13-20 July 2023.
- **National Post-Doctoral Fellowship (N-PDF)** from *Science and Engineering Research Board, Department of Science and Technology, New Delhi, India* in the year 2022
- **1st Poster Presentation award** at *6th Asian Dendrochronology Conference (AsianDendro 2019)* at Birbal Sahni Institute of Palaeosciences, Lucknow, India.
- **3rd Poster Presentation award** at International conference (*250th birthday of Alexander von Humboldt*) on the “*Climate, Water and Environment (LIMIT-2019)*” at Nainital, India.
- **Senior Research Fellowship (Direct)** from *Council of Scientific & Industrial Research (CSIR), New Delhi, India* in the year 2018.

ABSTRACT PUBLISHED IN CONFERENCE/SYMPOSIA:

- **Singh, V.**, Misra, K.G., Singh, A.D. Yadav, R.R. and Yadava, A.K. 2023. The Little Ice Age over the western Himalaya, India. XXI INQUA Congress held at Sapienza University, Rome Italy.
- Maurya, R.S., Misra, K.G., **Singh, V.** and Vishwakarma, S. 2019. Dendroclimatic application Of Himalayan cedar tree-rings from Chamba, Himachal Pradesh, Western Himalaya at 6th Asian Dendrochronology Conference organized by Asian Dendrochronology Association (AsianDendro 2019) at Birbal Sahni Institute of Palaeosciences, Lucknow, P 31.
- **Singh, V.**, Misra, K.G., Yadava, A.K., Misra, S. and Yadav, R.R. 2019. Tree-ring inferred snowfall variability over Lahaul-Spiti Himachal Pradesh, India at 6th Asian Dendrochronology Conference (AsianDendro 2019) organized by Asian Dendrochronology Association (ADA) at Birbal Sahni Institute of Palaeosciences, Lucknow, P 29.
- Maurya, R.S., Misra, K.G., **Singh, V.**, Misra, S., Yadava, A.K. and Vishwakarma, S. 2019. Status of tree-ring based climatic reconstructions from Himachal Pradesh, western Himalaya, India at 27th Indian Colloquium on Micropaleontology and Stratigraphy (ICMS) organized by Department of Geology, Centre of Advanced Study, Institute of Science, Banaras Hindu University, Varanasi, P 111.
- **Singh, V.**, Misra, K.G., Yadav, R.R. and Singh, A.D. 2019. Tree-ring inferred drought reconstruction and its linkage with recent glacial advancement over north-western Himalaya at 27th Indian Colloquium on Micropaleontology and Stratigraphy (ICMS-2019) organized by Banaras Hindu University (BHU), Varanasi, 113.
- Vishwakarma, S., Misra, K.G., Maurya, R.S., **Singh, V.**, Misra, S. and Yadava, A.K., 2019. Application of tree-ring studies to understand the past climatic variability from western Himalaya, India on “Climate, Water and Environment (LIMIT-2019)” at ATI, Nainital P196-197.
- **Singh, V.**, Misra, K.G., Yadava, A.K., Yadav, R.R. and Kotlia, B.S. 2019. Drought variability over Jammu & Kashmir and its association with recent wetting over north-western Himalaya inferred by tree-ring study at International conference (250th birthday of Alexander von Humboldt) on “Climate, Water and Environment (LIMIT-2019)” at ATI, Nainital, P 236-238.
- Misra, K.G., **Singh, V.**, Misra, S., Yadava, A.K., Yadav, R.R., 2019. Tree-ring based seven century long snowfall reconstruction from semi-arid Lahaul-Spiti, Himachal Pradesh, India. 20th International Union for Quaternary Research (INQUA) congress 2019 held at Dublin, Ireland.
- **Singh, V.**, Misra, K.G., Yadava, A.K., Yadav, R.R., Kotlia, B.S., 2019. Drought reconstruction from Kishtwar, Jammu & Kashmir, North western Himalaya inferred by Tree-rings. Seminar cum workshop on “Recent advances in the Indian Earth Science” at Geology Department, Kumaun University Nainital, India.
- Yadava, A.K., Misra, K.G., **Singh, V.**, Misra, S., Yadav, R.R., 2018. Long-term pre-monsoon precipitation variations over Uttarakhand, western Himalaya using Himalayan cedar chronology. Young Scientist Conference (YSC) in India International Science Festival at Indira Gandhi Pratishthan, Lucknow, India.
- **Singh, V.**, Misra, K.G., Yadava, A.K., Yadav, R.R., 2018. Tree-ring based winter-spring drought reconstruction from Kishtwar, Jammu & Kashmir, India. Young Scientist Conference (YSC) in India International Science Festival at Indira Gandhi Pratishthan, Lucknow, India.

- Misra, K.G., Yadava, A.K., **Singh. V.**, Misra, S., Yadav, R.R., 2018 Tree-ring deduced snowfall variation over the western Himalaya, India. Young Scientist Conference (YSC) in India International Science Festival at Indira Gandhi Pratishthan, Lucknow, India.
- **Singh. V.**, Misra, K.G., Yadava, A.K., Yadav, R.R., 2018. Three century long Drought records from Kishtwar, Jammu & Kashmir, India: inferred by tree-rings. National conference on “Earth system science with special reference to Himalaya: advancement and challenges” at Wadia Institute of Himalayan Geology Dehradun, India.
- **Singh. V.**, Misra, K.G., Yadava, A.K., Yadav, R.R., 2018. Tree-ring inferred drought reconstruction from Kishtwar, Jammu & Kashmir, India. National conference on “Climate change and Natural resources; Impact and Sustainable development in Indian perspective” at Geology Department, University of Lucknow, Lucknow, India.

PERSONAL PROFILE:

Name	Vikram Singh
Father Name	Shri Kishan Singh
Mother Name	Smt. Maya Devi
Date of Birth	25 th October 1992
Nationality	Indian
Languages Known	Hindi and English
Permanent Address	Village – Chapha Post office – Suyalbari District – Nainital State – Uttarakhand Country – Bharat (India)

Date: 19 November 2024

*Place: Pauri Garhwal
Uttarakhand, India*

(DR. VIKRAM SINGH)