

**DR RAKESH BHAMBRI**  
**WIHG, DEHRADUN, INDIA**



**GOOGLE SCHOLAR PAGE**

<https://scholar.google.co.in/citations?user=zbLJG2IAAAAJ&hl=en>

**RESEARCH GROUP: GLACIAL DYNAMICS, GLACIER HYDROLOGY, MOUNTAIN METEOROLOGY AND RELATED HAZARDS**

**FIELD OF SPECIALIZATION:**

HIMALAYAN CRYOSPHERE AND ASSOCIATED HAZARDS

ASSESSMENT OF GLACIERS DYNAMICS

CLIMATE CHANGE IN HIMALAYAS AND THEIR IMPACTS

MOUNTAIN GEOMORPHOLOGY AND SURFACE PROCESSES

**EDUCATION:**

2012 PhD Geography, Chaudhary Charan Singh University, Meerut

2003 M.Sc. Geography, Kurukshetra University, Kurukshetra, Haryana

2001 BA (Honours), Geography, Swami Shraddhanand College, University of Delhi, Delhi

**PROFESSIONAL EXPERIENCE:**

1. **Scientist-C** at Wadia Institute of Himalayan Geology, Dehradun from May 2022 to till date.
2. **Senior Lecturer** at Department of Geography, South Asia Institute, Heidelberg University, Germany from March 2021 to May 2022.
3. **Scientist-B** at Centre for Glaciology, Wadia Institute of Himalayan Geology, Dehradun from March 2012 to June 2020.
4. **Research Associate** at Centre for Glaciology, Wadia Institute of Himalayan Geology, Dehradun from August 2010 to March 2012.

5. **Research Associate** at Central Soil Salinity Research Institute, Karnal, Haryana from May 2009 to August 2010.
6. **Lecturer**, Geography Department, Guru Nanak Khalsa College, Karnal, Haryana from July 2004 to April 2005.
7. **Lecturer**, Geography Department, Guru Nanak Khalsa College, Karnal, Haryana from August 2003 to April 2004.

**VISITING POSITIONS: NONE**

**TEACHING EXPERIENCE:**

**Senior Lecturer** at Department of Geography, South Asia Institute, Heidelberg University, Germany from March 2021 to May 2022.

**Lecturer**, Geography Department, Guru Nanak Khalsa College, Karnal, Haryana from July 2004 to April 2005.

**Lecturer**, Geography Department, Guru Nanak Khalsa College, Karnal, Haryana from August 2003 to April 2004.

**SERVICES:**

**a. Supervision/Guidance to PhD. Students:** None

**b. Training:** 10 M.Sc. / M.Tech Dissertation and 15 summer interns

**c. Teaching:** None

**d. Membership:** AGU (annual), Himalayan Geology (lifetime member)

**e. Editorial Board:** Scientific Editor since 2019, Journal of Glaciology, International Glaciological Society and Editorial Board member of Himalayan Geology.

**f. International/National Seminars/Workshop:**

None

**g. External Research Fund received & Project Handled:**

None

**h. Member of important Committees:**

None

**AWARDS/FELLOWSHIPS/HONORS/MEMORIAL LECTURES:**

**a. Awards/Medals/Prizes:**

1. University Gold medalist-2003 for getting 1<sup>st</sup> Rank in M.Sc. (Geography), Kurukshetra University.
2. Best Research Paper Award 2019 from Wadia Institute of Himalayan Geology, Dehradun.

**b. Fellowships:**

1. Research Fellowship of the Federal State of Baden-Württemberg, Germany in 2020-2021.

**c. Memorial Lectures:** None

**d. Recognition/Honors:**

1. Nominated as Scientific Editor since 2019, Journal of Glaciology, International Glaciological Society.

**COUNTRIES VISITED:** Germany, Nepal and Pakistan

**NATIONAL/INTERNATIONAL (outside WIHG) COLLABORATION:**

1. Professor Kenneth Hewitt, Canada
2. Professor Umesh Haritashya, USA
3. Professor Marcus Nüsser, Germany
4. Dr Susanne Schmidt, Germany
5. Dr Prashant Kawishwar, India
6. Dr Pritam Chand Sharma, India
7. Professor Tobias Bolch, UK

**Inside WIHG Collaborator:**

1. Dr Manish Mehta
2. Dr Sameer Tiwari
3. Dr Jairam Singh Yadav

**PATENT- NONE**

**SCHOLARSHIPS AWARDED**

University scholarship from Kurukshetra University

**PHD. ADVISOR:** DR SUBHASH CHANDRA KULSHRESHTHA, CHAUDHARY CHARAN SINGH UNIVERSITY & DR RAVINDER KUMAR CHAUJAR, WADIA INSTITUTE OF HIMALAYAN GEOLOGY

**LIST OF PUBLICATIONS**

**(a) SCI Papers**

1. **Bhambri R.**, Hewitt, K., Haritashya, U.K., Chand, P., Kumar, A., Verma, A., Tiwari, S.K. and Rai, S.K., 2022. Characteristics of surge-type tributary glaciers, Karakoram. *Geomorphology*, 403, p.108161. <https://doi.org/10.1016/j.geomorph.2022.108161>
2. Shugar, D.H., Jacquemart, M., Shean, D., Bhushan, S., Upadhyay, K., Sattar, A., Schwanghart, W., McBride, S., de Vries, M.V.W., Mergili, M., Emmer, A., Deschamps-Berger, C., McDonnell, M., **Bhambri R.**, Allen, S., Berthier, E., Carrivick, J.L., Clague, J.J., Dokukin, M., Dunning, S.A., Frey,

- H., Gascoïn, S., Haritashya, U.K., Huggel, C., Kääb, A., Kargel, J.S., Kavanaugh, J.L., Lacroix, P., Petley, D., Rupper, S., Azam, M.F., Cook, S.J., Dimri, A.P., Eriksson, M., Farinotti, D., Fiddes, J., Gnyawali, K.R., Harrison, S., Jha, M., Koppes, M., Kumar, A., Leinss, S., Majeed, U., Mal, S., Muhuri, A., Noetzli, J., Paul, F., Rashid, I., Sain, K., Steiner, J., Ugalde, F., Watson, C.S., Westoby, M.J., (2021) A massive rock and ice avalanche caused the disaster at Chamoli, Indian Himalaya. *Science* (80-). 373, 300 LP – 306.
3. Marta, S.; Azzoni, R.S.; Fugazza, D.; Tielidze, L.; Chand, P.; Sieron, K.; Almond, P.; Ambrosini, R.; Anthelme, F.; Alviz Gazitúa, P.; **Bhambri R.**; Bonin, A.; Caccianiga, M.; Cauvy-Fraunié, S.; Ceballos Lievano, J.L.; Clague, J.; Cochachín Rapre, J.A.; Dangles, O.; Deline, P.; Eger, A.; Cruz Encarnación, R.; Erokhin, S.; Franzetti, A.; Gielly, L.; Gili, F.; Gobbi, M.; Guerrieri, A.; Hågvær, S.; Khedim, N.; Kinyanjui, R.; Messenger, E.; Morales-Martínez, M.A.; Peyre, G.; Pittino, F.; Poulénard, J.; Seppi, R.; Chand Sharma, M.; Urseitova, N.; Weissling, B.; Yang, Y.; Zaginaev, V.; Zimmer, A.; Diolaiuti, G.A.; Rabatel, A.; Ficetola, G.F. The Retreat of Mountain Glaciers since the Little Ice Age: A Spatially Explicit Database. *Data* (2021), 6, 107. <https://doi.org/10.3390/data6100107>
  4. Dobhal, D.P., Pratap, B., **Bhambri R.** and Mehta, M., (2021) Mass balance and morphological changes of Dokriani Glacier (1992–2013), Garhwal Himalaya, India. *Quaternary Science Advances*, p.100033. <https://doi.org/10.1016/j.qsa.2021.100033>
  5. Mal, S., Kumar, A., **Bhambri R.**, Schickhoff, U. and Singh, R.B., 2020. Inventory and Spatial Distribution of Glacial Lakes in Arunachal Pradesh, Eastern Himalaya, India. *Journal of the Geological Society of India*, 96(6), pp.609-615.
  6. Singh R M, Govil H, Shahi A S, and **Bhambri R\*** (2020) Characterizing the Glacier Surge Dynamics in Yarkand basin, Karakoram using Remote Sensing. *Quaternary International*. <https://doi.org/10.1016/j.quaint.2020.06.042>
  7. Misra A, Kumar A, **Bhambri R.**, Haritashya U K, Verma A, Gupta A K, Dobhal D P, Gupta G. and Upadhyay R. (2020): Topographic and climatic influence on seasonal snow cover: Implications for the hydrology of ungauged Himalayan basins, India. *Journal of Hydrology* 585, June 2020, 124716 <https://doi.org/10.1016/j.jhydrol.2020.124716>
  8. **Bhambri R.**, Watson C S, Hewitt K, Haritashya U, Kargel J S, Shahi A P, Sharma P, Kumar A, Verma A, and Govil H (2020): The hazardous 2017-2019 surge and river damming by Shispare Glacier, Karakoram. *Scientific Report* 10, 4685. <https://doi.org/10.1038/s41598-020-61277-8>
  9. King O, Bhattacharya A, **Bhambri R.** and Bolch T (2019). Glacial lakes exacerbate Himalayan glacier mass loss. *Scientific Reports*, 9(1), pp.1-9.

10. **Bhambri R**, Hewitt K, Kawishwar P, Kumar A, Verma A, Snehmani, Tiwari S, Misra A (2019) Ice-dams, outburst floods, and movement heterogeneity of glaciers, Karakoram. *Global and Planetary Change* 180, 100-116. <https://doi.org/10.1016/j.gloplacha.2019.05.004>
11. Kumar A, **Bhambri R\***, Tiwari S K, Verma A, Gupta A K, and Kawishwar P (2019) Evolution of debris flow and moraine failure in the Gangotri Glacier region, Garhwal Himalaya: Hydro-geomorphological aspects. *Geomorphology* 333, 152-166. <https://doi.org/10.1016/j.geomorph.2019.02.015>
12. Kumar, A., Gupta, A. K., **Bhambri R**, Verma, A., Tiwari, S. K., and Asthana, A.K.L. (2018) Assessment and review of hydrometeorological aspects for cloudburst and flash flood events in the third pole region (Indian Himalaya). *Polar Science* 18, 5-20. <https://doi.org/10.1016/j.polar.2018.08.004>
13. Kumar, A., Verma, A., Gokhale, A.A., **Bhambri R.**, Misra, A., Sundriyal, S., Dobhal, D.P. and Kishore, N., (2018) Hydrometeorological assessments and suspended sediment delivery from a central Himalayan glacier in the upper Ganga basin. *International Journal of Sediment Research* 33(4), 493-509. <https://doi.org/10.1016/j.ijsrc.2018.03.004>
14. Verma A, Kumar A, Gupta AK, Tiwari SK, Bhambri R, Naithani S (2018) Hydroclimatic significance of stable isotopes in precipitation from glaciers of Garhwal Himalaya, Upper Ganga Basin (UGB), India. *Hydrological Processes*. 32:1874–1893. <https://doi.org/10.1002/hyp.13128>
15. Tiwari S K, Kumar A, Gupta A K, Verma A, **Bhambri R**, Sundriyal S, and Yadav J (2018) Hydrochemistry of meltwater from Dokriani Glacier during early and draining late ablation season, West Central Himalaya. *Himalayan Geology* 39(1) pp. 121-132.
16. **Bhambri R**, Mishra A, Kumar A, Gupta A K, Verma A and Tiwari S K (2018) Glacier Lake inventory of Himachal Pradesh. *Himalayan Geology* 39(1) pp.1-32.
17. **Bhambri R**, Hewitt, K., Kawishwar, P. and Pratap, B., (2017). Surge-type and surge-modified glaciers in the Karakoram. *Scientific Reports*, 7(1), p.15391.
18. **Bhambri R**, Mehta M, Singh S, Jayangondaperumal R, Gupta A K and Srivastava P (2017): Landslide inventory and damage assessment in the Bhagirathi Valley, Uttarakhand, during June 2013 flood. *Himalayan Geology*, 38(2), pp.193-224.
19. Chand P, Sharma M C, **Bhambri R**, Sangewar C V and Juyal, N (2017): Reconstructing the pattern of the Bara Shigri Glacier fluctuation since the end of the Little Ice Age, Chandra valley, north-western Himalaya. *Progress in Physical Geography*, 41(5), pp.643-675.
20. Mehta M, Shukla T, **Bhambri R**, Gupta A K and Dobhal D P (2017): Terrain changes, caused by the 15–17 June 2013 heavy rainfall in the Garhwal Himalaya, India: A case study of Alaknanda and Mandakini basins. *Geomorphology*, 284, pp.53-71.

21. **Bhambri R**, Mehta M, Dobhal D P, Gupta A K, Pratap B, Kesarwani K and Verma A (2016): Devastation in the Kedarnath (Mandakini) Valley, Garhwal Himalaya during 16th-17th June 2013: A remote sensing and ground-based assessment. *Natural Hazards*. Volume 80, Issue 3, pp 1801-1822.
22. Pratap B, Dobhal D P, **Bhambri R** and Mehta M (2015): Four Decades of Glacier Mass balance Observations in Indian Himalaya: A Review. *Regional Environmental Change*. 1-16.
23. Pratap B, Dobhal D P, Mehta M and **Bhambri R** (2015): Influence of debris cover and altitude on glacier surface melting: A case study on Dokriani Glacier, Central Himalaya, India. *Annals of Glaciology*, 56(70), 9-16.
24. Paul F, Bolch T, Kääb A, Nagler T, Nuth C, Scharrer K, Shepherd A, Strozzi T, Ticconi F, **Bhambri R**, Berthier E, Bevan S, Gourmelen N, Heid T, Jeong S, Kunz M, Lauknes T R, Luckman A, Merryman J, Moholdt G, Muir A, Neelmeijer J, Rankl M, VanLooy J and Van Niel T (2015): The Glaciers Climate Change Initiative: Methods for creating glacier area, elevation change and velocity products. *Remote Sensing of Environment*, 162(1), 408–426. DOI:10.1016/j.rse.2013.07.043.
25. **Bhambri R**, Bolch T, Kawishwar P, Dobhal D P, Srivastava D and Pratap B (2013): Heterogeneity in glacier response in the upper Shyok valley, northeast Karakoram. *The Cryosphere*, 7, 1385-1398, doi:10.5194/tc-7-1385-2013.
26. Srivastava P, **Bhambri R**, Kawishwar P and Dobhal D P (2013): Water level changes of high altitude lakes in Himalaya-Karakoram from ICESat altimetry. *Earth System Science*, 122 (6), 1533–1543.
27. Pratap B, Dobhal D P, **Bhambri R** and Mehta M (2013): Near-surface temperature lapse rate in Dokriani Glacier catchment, Garhwal Himalaya, India. *Himalayan Geology*, 34 (2), 183-186.
28. **Bhambri R**, Bolch T and Chaujar R K (2012): Frontal recession of Gangotri Glacier, Garhwal Himalayas, from 1965-2006, measured through high resolution remote sensing data. *Current Science*, 102 (3), 489-494.
29. **Bhambri R**, Bolch T, Chaujar R K and Kulshreshta S C (2011): Glacier changes in the Garhwal Himalayas, India 1968 - 2006 based on remote sensing. *Journal of Glaciology*, 57 (203), 543-556.
30. **Bhambri R**, Bolch T and Chaujar R K (2011): Mapping of Debris-covered Glaciers in the Garhwal Himalayas using ASTER DEMs and Thermal Data. *International Journal of Remote Sensing*, 32 (23), 8095-8119.
31. **Bhambri R** and Bolch T (2009): Glacier Mapping: A Review with Special Reference to the Indian Himalayas. *Progress in Physical Geography*, 33 (5), 672-704.

**(b) Non-SCI Articles**

None

**(c) Chapter in Books**

1. Kumar, A., Verma, A., **Bhambri R.** and Sain, K., (2021) Time series analysis of hydrometeorological data for the characterization of meltwater storage in glaciers of Garhwal Himalaya. In *Basics of Computational Geophysics* (pp. 373-388). Elsevier.
2. Mehta M, **Bhambri R**, Perumal J, Srivastava P and Gupta A K (2018): Uttarakhand Calamity: A Climate Revelation in the Bhagirathi River Valley Uttarakhand, India. In *Disaster Risk Governance in India and Cross Cutting Issues* (pp. 193-207). Springer, Singapore.
3. Racoviteanu A, Arnaud Y, Baghuna I M, Bajracharya S, Berthier E, **Bhambri R**, Bolch T, Byrne M, Chaujar R K, Käab A, Kamp U, Kargel J, Kulkarni A V, Leonard G, Mool P, Frauenfelder R and Sossna I (2014): Himalayan glaciers, in *Global Land and Ice Monitoring from Space: Satellite Multispectral Imaging of Glaciers*, edited by: Kargel, J. S., Bishop, M. P., Käab, A., and Raup, B. H., Praxis Springer, 549–582, doi:10.1007/978-3-540-79818-7, 2014.
4. **Bhambri R** and Chaujar R K (2009) Recession of Gangotri glacier (1962-2006) measured through Remote Sensing Data. *Proceedings of National Seminar on Management Strategies for the Indian Himalaya: Development and Conservation*, 1, 254-264.

**(d) Books-authored/Edited volume:**

**Bhambri R**, Mehta M, Dobhal D P, and Gupta A K (2015): Glacier lake inventory of Uttarakhand. *Special Publication of Himalayan Geology*. PP-78.

**(e) Abstract volume:** None

**(f) Reports/Other Documents:**

1. Arendt A, Bolch, T, Cogley J G, Gardner A, Hagen J O, Hock R, Kaser G, Pfeffer W T, Moholdt G, Paul F, Radic V, Andreassen L, Bajracharya S, Beedle M, Berthier E, **Bhambri R**, Bliss A, Brown I, Burgess E, Burgess D, Cawkwell F, Chinn T, Copland L, Davies B, de Angelis H, Dolgova E, Filbert K, Forester R, Fountain A, Frey H, Giffen B, Glasser N, Gurney S, Hagg W, Hall D, Haritashya U K, Hartmann G, Helm C, Herreid S, Howat I, Kapustin G, Khromova T, Kienholz C, Koenig M, Kohler J, Kriegel D, Kutuzov S, Lavrentiev I, LeBris R, Lund J, Manley W, Mayer C, Miles E, Li X, Menounos B, Mercer A, Moelg N, Mool P, Nosenko G, Negrete A, Nuth C, Pettersson R, Racoviteanu A, Ranzi R, Rastner P, Rau F, Rich J, Rott H, Schneider C, Seliverstov Y, Sharp M, Sigurðsson O, Stokes C, Wheate R, Winsvold S, Wolken G, Wyatt F and Zheltyhina N: Randolph Glacier Inventory – A Dataset of Global Glacier Outlines: Version 3.2. *Global Land Ice Measurements from Space*, Boulder Colorado, USA. Digital Media.
2. Sethi M, Khurana ML, **Bhambri R**, Bundela DS, Gupta SK, Ram S, Chaudhari SK and Sharma DK (2012): Appraisal of Salt Affected Waterlogged Soils in Rohtak, Bhiwani, Jind and Jhajjar

Districts of Haryana Using Remote Sensing and GIS. Technical Bulletin:  
*CSSRI/Karnal/Bulletin/2012/02 Central Soil Salinity Research Institute*; Karnal (Haryana).

**(g) Articles in other journals**

1. Kesarwani K, Pratap B, **Bhambri R**, Mehta M, Kumar A, Karakoti I, Verma A & Dobhal D P (2012): Meteorological observations at Chorabari and Dokriani glaciers, Garhwal Himalaya, India. *Journal of Indian Geological Congress* 4 (1), 125-128.
2. **Bhambri R**, Bolch T and Chaujar R K (2010): Glacier Mapping in Indian Himalaya since the 19th century. *The Himalayan Journal* 66, 173-182.