

Curriculum Vitae

PERSONAL INFORMATION

AMRIT THAPA

Permanent Address: Panauti-4, Kavrepalanchok, Nepal

E-mail: amrit.thapa@icimod.org, aamritjnu@gmail.com

MEMBERSHIP

2015 - 2016

2019 onwards

2021

Member at International Glaciological Society (**IGS**)

Member at Nepal Environmental Society (**NES**)

Member at SINTER: Snow International

EDUCATION

September 2014 - August 2016

M.S. by Research in Glaciology (*GPA Obtained=3.86/4*)

Kathmandu University, Dhulikhel, Nepal

August 2012 - July 2014

M.Sc. in Environmental Sciences (*CGPS Obtained =8.75/9*)

Jawaharlal Nehru University, New Delhi, India

2007- 2010

B. Sc. in Environment Science (*Percentage Obtained=79.50%*)

Tri-Chandra Campus, Kathmandu, Nepal

SCHOLARSHIPS AND AWARD

March 2015 - August 2016

Dissertation of M.S. by research in Glaciology (SNOW-COVER MODELLING OF LANGTANG RIVER CATCHMENT, NEPAL USING SENORGE MODEL) funded by Norwegian Ministry of Foreign Affairs administered by ICIMOD

September 2014 - August 2016

Fellowship to study M.S. by Research in Glaciology at Kathmandu University under Contribution to High Asia Runoff from Ice and Snow (CHARIS) Project implemented by University of Colorado, Boulder, USA, funded by USAID

August 2012 - July 2014

Silver Jubilee Scholarship by Embassy of India, Kathmandu to study M. Sc. Environmental Sciences at Jawaharlal Nehru University, New Delhi, India

WORK EXPERIENCE

August 2019 – till date

Research Analyst

International Centre for Integrated Mountain Development (ICIMOD), Nepal

- Analysis of snow cover and snow water equivalent over the HKH region using freely available satellites, simulate high resolution snow variables using SeNorge and flexible snow model, analyze shift in snowline altitude using free remote sensing product, precipitation and temperature change analysis, installation and maintenance of high-altitude automatic weather station and in-situ measurement of snow and glacier mass balance, support permafrost distribution mapping and modelling

September 2016 – July 2019

Research Associate

International Centre for Integrated Mountain Development (ICIMOD), Nepal

- Support snow cover, precipitation, and temperature analysis over Hindu Kush Himalayan (HKH) region using freely available satellite imageries, prepare gridded temperature data for Bhutan using geostatistical methods, conduct glacio-hydrological modelling in high altitude catchment, assist in maintenance of snow stations, field-based monitoring of the snow properties and discharge measurement, develop enhanced snow cover product from MODIS snow product

PUBLICATIONS

2021

Sahadeep Thapa, Fan Zhang, Hongbo Zhang, Chen Zeng, Li Wang, Chong-Yu Xu, **Amrit Thapa**, Santosh Nepal, Assessing the snow cover dynamics and its relationship with different hydro-climatic characteristics in Upper

Ganges River basin and its sub-basins, *Science of The Total Environment*, <https://doi.org/10.1016/j.scitotenv.2021.148648>

- 2021 Muhammad, S. and **Thapa, A.**: Daily Terra–Aqua MODIS cloud-free snow and Randolph Glacier Inventory 6.0 combined product (M*D10A1GL06) for high-mountain Asia between 2002 and 2019, *Earth Syst. Sci. Data*, 13, 767–776, 2021 <https://doi.org/10.5194/essd-13-767-2021> ,
- 2020 **Amrit Thapa**, and Sher Muhammad. "Contemporary Snow Changes in the Karakoram Region Attributed to Improved MODIS Data between 2003 and 2018." *Water* 12.10 (2020): 2681 <https://doi.org/10.3390/w12102681>
- 2020 Tiwari, Varun, Vinay Kumar, Mir Abdul Matin, **Amrit Thapa**, Walter Lee Ellenburg, Nishikant Gupta, and Sunil Thapa. "Flood inundation mapping-Kerala 2018; Harnessing the power of SAR, automatic threshold detection method and Google Earth Engine." *Plos one* 15, no. 8 (2020) <https://doi.org/10.1371/journal.pone.0237324>
- 2020 Sher, Muhammad, and **Amrit Thapa**. "An improved Terra–Aqua MODIS snow cover and Randolph Glacier Inventory 6.0 combined product (MOYDGL06*) for high-mountain Asia between 2002 and 2018." *Earth System Science Data* 12, no. 1 (2020): 345-356. <https://doi.org/10.5194/essd-12-345-2020>
- 2019 Kirkham, James David, Inka Koch, Tuomo Mikael Saloranta, Maxime Litt, Emmy Stigter, Knut Møen, **Amrit Thapa**, Kjetil Melvold, and Walter W. Immerzeel. "Near real-time measurement of snow water equivalent in the Nepal Himalayas." *Frontiers in Earth Science* 7 (2019): 177 <https://doi.org/10.3389/feart.2019.00177>
- 2019 Saloranta, Tuomo Mikael, **Amrit Thapa**, James Kirkham, Inka Koch, Kjetil Melvold, Emmy Stigter, Maxime Litt, and Knut Møen. "A model setup for mapping snow conditions in High-Mountain Himalaya." *Frontiers in Earth Science* 7 (2019): 129 <https://doi.org/10.3389/feart.2019.00129>
- 2015 **Thapa, Amrit**, and Rijan Bhakta Kayastha. "Extraction of Periodic Components and Time Adaptive Long-term Trends of Temperature and Precipitation as Climate Variables in Langtang River Basin, Nepal Using Empirical Mode Decomposition." *Journal of Climate Change* 1, no. 1, 2 (2015): 99-107 [10.3233/JCC-150008](https://doi.org/10.3233/JCC-150008)

TRAINER

19 – 24 June, 2022

Regional training on “Analysing permafrost in the Hindu Kush Himalaya using open access tools” co-organized by ICIMOD, Kathmandu University and Tribhuvan University

23 – 27 August, 2020

Regional training on “Snow data analysis in the Hindu Kush Himalaya region using R and Google Earth Engine” organized by ICIMOD

14 – 22 December, 2020

Regional training on “Glacier mass balance modelling using R” organized by ICIMOD

17 – 20 December, 2019

Regional training on “Glacio-hydrological analysis using R” organized by ICIMOD

23 – 29 June, 2018

“Seven days Crash Course in R” organized by Greenhood Nepal

TRAININGS

3-5 August, 2022	HydroSAR data products and web application organized by ICIMOD and University of Alaska Fairbanks within the framework of the SERVIR-HKH initiative
8 June, 21-23 June, 2021	Modelling surface flow hazard conducted by Himalayan University Consortium, ICIMOD and University of BRISTOL
26 April - 05 May, 2021	Monitoring Snow Water Equivalent (SWE) for estimating snow water volume in the HKH region conducted by SERVIR HKH, ICIMOD and Cold World Consulting (CWC) USA
26– 29 January, 2021	HydroSAR training: Extracting flood information from SAR organized by SERVIR HKH ICIMOD facilitated by the University of Alaska Fairbanks
19 – 23 October, 2020	Knowledge Management and Communication organized by Cryosphere Initiative, ICIMOD
29 September – 14 October, 2020	Participated in Machine Learning Training organized by SERVIR HKH, ICIMOD facilitated by NASA and Development Seed
29 February – 7 January, 2020	“Hydrology and use of models and satellite images in water resources mapping” organized by Norwegian Water Resources and Energy Directorate (NVE), Oslo, Norway at Oslo
23 – 27 April, 2018	“HEC RAS Flood Modelling” organized by ICIMOD, at ICIMOD, Kathmandu, Nepal with the support from the Government of Norway
9 – 13 April, 2018	“Beginner training on Google Earth Engine” organized by ICIMOD, at ICIMOD, Kathmandu, Nepal within the framework of SERVIR-HKH supported by USAID and NASA
21 – 23 May, 2017	“Hydrological modelling in the Hindu Kush Himalaya using VIC model” organized by ICIMOD, at ICIMOD, Kathmandu, Nepal
16 – 19 May, 2017	“Hydrological Modelling in the Hindu Kush Himalaya using SPHY model” organized by ICIMOD at ICIMOD, Kathmandu, Nepal
27 – 31 March, 2017	“Digital soil mapping” organized by the International Maize and Wheat Improvement Center (CIMMYT) and ISRIC at Lalitpur, Nepal
30 January – 3 February, 2017	“Sentinel Satellites Data Analysis” organized by the ICIMOD and EURAC RESEARCH Bozen/Bolzano, Italy at ICIMOD, Nepal
23 – 24, October 2016	“Field techniques and data tools for monitoring high mountain environments: Applications in permafrost” jointly organized by University of Zurich and the WSL Institute for Snow and Avalanche Research (SLF), Switzerland at KU
22 – 24 June, 2016	“Data Analysis Using R” organized by KU at KU
12 – 15 January, 2016	“Data Analysis with R” organized by ICIMOD at ICIMOD
18 – 22 January, 2016	“Application of Remote Sensing and Geographic Information Systems for Mapping and Monitoring of Glaciers” organized by ICIMOD at ICIMOD
31 August - 11 September, 2015	“Snow modeling, model sensitivity and uncertainty analysis, snow measurement techniques, data-assimilation and operational flood forecasting, as well as practical lessons on programming in “R” statistical software and on river discharge measurements” organized by Norwegian Water Resources and Energy Directorate (NVE), Oslo, Norway at Oslo

- 13-16 December, 2014 “Glacio-Hydrological Training” organized by Himalayan Cryosphere, Climate and Disaster Research Centre (HiCCDRC), Kathmandu University at Pokhara, Nepal
- 14 – 17 October, 2014 “Glacier Mass Balance Monitoring” organized by ICIMOD at ICIMOD
- 17 – 20 September, 2010 “International Youth leadership Camp, 2010” organized by Youth Action Nepal and Leaders in Community (UK)

CONFERENCE AND WORKSHOP

- 14 - 17 June, 2022 “Developing a strategy to monitor permafrost changes in the Hindu Kush Himalaya” organized by ICIMOD
- 13 - 17 December, 2021 AGU Fall Meetings, 2021 (virtual poster presentation: Assessment of snow persistence over central Himalaya in relation to climate variability)
- 18 - 19 October, 2019 Forth International Conference on “Mountains in the Changing World (MoChzwo) 2019” organized by Kathmandu Institute of Applied Sciences (KIAS) (invited speaker: Snow research activities by ICIMOD)
- 28 - 30 September, 2019 International Forum on the Cryosphere and Society – The Voice of the HKH organized by ICIMOD (participant and reporter)
- 24 - 25 October, 2017 HIMALICE workshop on “Himalayan cryosphere: Understanding of water resource and glacier hazards” organized jointly by Tribhuvan University, ICIMOD and IRD, France
- 27 - 28 October, 2017 Second International Conference on “Mountains In The Changing World” organized by Kathmandu Institute of Applied Sciences (KIAS)
- 12 - 14 September, 2017 “4th Conference on modelling hydrology, climate and land surface processes” organized by Norwegian Hydrological Council at Lillehammer, Norway (participation)
- 7 September, 2015 “National Symposium on Hydrology and Meteorology” organized by Society of Hydrologists and Meteorologists (SOHAM) at Kathmandu, Nepal (participation)
- 7 September - 9 September, 2015 “3rd Conference on modelling hydrology, climate and land surface processes” organized by Norwegian Hydrological Council at Lillehammer, Norway (participation)
- 25 March 2015 - 27 March, 2015 “The APN’s 20th Inter- governmental Meeting IGM/Scientific Planning Group, Meeting” held at Kathmandu, Nepal (poster presentation - Extracting Periodic Components and Nonlinear Trend in Temperature Data of Kyangjing Gumpa, Langtang River Basin, Nepal Using Empirical Mode Decomposition)
- 1 March 2015 - 6 March, 2015 “International Symposium on Glaciology in High-Mountain Asia” hosted by International Glaciological Society (IGS), and ICIMOD at Kathmandu, Nepal (participation)

PERSONAL SKILLS

- Mother Tongue Nepali
- Other Languages

English	Listening Excellent	Reading Excellent	Speaking Fluent	Writing Excellent
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- Communication skill Excellent verbal and written communication skill both in office environment and with external stakeholders.

	Experience at giving presentation and speech.
Organizational skill	Excellent organizational skill
Computer skill	Proficient in Microsoft Office programme, Word, Excel, PowerPoint
Specific Software packages	R-Studio, ArcGIS, QGIS, SPSS, ERDAS IMAGINE
Programming Skill	R - Independent user Python - Basic user Google Earth Engine - Basic user
Glacio/Hydrological Modelling Skill	SPHY, SRM, J2000, GRJ4, COSIPY (general), OGGM (general)
Snow Modelling Skill	seNorge, FSM2, CemaNeige

REFEREES

1. Dr. Jakob Friedrich Steiner
Glacier Hydrologist
Water and Air, ICIMOD, Kathmandu, Nepal
Email: jakob.steiner@icimod.org
2. Dr. Rajesh Bahadur Thapa
Senior Remote Sensing & Geoinformation Specialist
Geospatial Solutions, ICIMOD, Kathmandu, Nepal
Email: rthapa@icimod.org
3. Dr. Rijan Bhakta Kayastha
Professor
Department of Environmental Science and Engineering
Kathmandu University, Dhulikhel, Kavre, Nepal
Email: rjian@ku.edu.np
4. Dr. Miriam Jackson
Program Coordinator
Cryosphere Initiative, ICIMOD, Kathmandu, Nepal
Email: miriam.jackson@icimod.org