

Curriculum Vitae

Name	Prof. Dr. W.W. IMMERZEEL
First Name	Walter
Date of Birth	21 June 1975
Nationality	Dutch
Civil Status	Married
Main Disciplines	Mountain hydrology Meteorology and Climate Change
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Key Qualifications

Prof. Dr. W.W. (Walter) Immerzeel has twenty years' experience in geo-informatics, water resource management and climate change and is skilled in hydro-meteorological monitoring, the use of remote sensing, simulation models and spatial analysis and he has been doing research on Himalayan hydrology since 2002. He holds a PhD degree in physical geography from Utrecht University and he is a leading scientist on the interface of mountain hydrology, climate change and agriculture, with a particular focus on the Himalaya. He has worked in the Netherlands as well as in numerous developing countries and he has a large international network. He worked at International Centre for Integrated Mountain Development (ICIMOD) in Nepal for two years, was postdoc at ETH Zurich and was associated to the research and consulting firm FutureWater from 2005 to 2015. He has been awarded several prestigious personal grants: NWO-VENI (2011), ERC Starting Grant (2015) and NWO-VIDI (2016) for his pioneering Himalayan research. In 2017 he was awarded the Boussinesque Prize for Hydrology and in 2018 he received the prestigious James B. Macelwane medal and became a fellow of the American Geophysical Union. He currently works as Professor Mountain Hydrology at Utrecht University where he is leading a number of projects on the cutting edge of climate change, glaciology and hydrology, is organizing research expeditions to the Himalayas and is responsible for teaching several courses in the curriculum of the Geosciences faculty.

Educational background

2003 – 2008	PhD physical geography at Utrecht University, the Netherlands. The dissertation is titled "Spatial modeling of mountainous basins; an integrated analysis of the hydrological cycle, climate change and agriculture"
1993-1998	MSc Environmental Sciences, faculty of geography, Utrecht University, The Netherlands

Professional Experience

- 2019 - present Professor Mountain hydrology, Utrecht University, The Netherlands
- 2016 - 2019 Associate Professor, Utrecht University, The Netherlands
- 2014 - 2016 Assistant Professor, Utrecht University, The Netherlands
- 2005 - 2016 Hydrologist, FutureWater, Wageningen, The Netherlands
- 2011 - 2014 Post-doc ETH Zurich, Switzerland
- 2008 - 2013 Post-doc at Utrecht University, the Netherlands (NWO-CASIMIR and NWO-VENI)
- 2003 – 2004 Associate Expert GIS and Natural Resources, International Centre for Integrated Mountain Development (ICIMOD), Kathmandu, Nepal
- 2000 - 2002 GIS-hydrologist, Alterra research institute, Wageningen, The Netherlands
- 1998 - 2000 GIS/RS consultant, Geodan Geodesie, Amsterdam, The Netherlands

Personal grants and awards

- AGU Fellow (2018)
- James B. Macelwane medal (2018)
- Boussinesque Prize (2017)
- NWO-VIDI (2016)
- ERC Starting Grant (2015)
- NWO-VENI (2011)
- NWO-CASIMIR (2007)

Overseas Professional Experience

Resident:

Nepal (2 years), Philippines (7 months)

Non-resident assignments:

India, Bangladesh, China, United States, Kenya, Cambodia, Laos, Uzbekistan, Morocco, Spain, Pakistan, Switzerland

Selection of recent assignments and Projects

- 2019 - to date PI of the “Targeting a climate change hotspot: science to support the SDGs and sustainable water management in the transboundary Indus river basin (SustalIndus)” project funded by the NWO WOTRO
- 2019 - to date PI of the “Tibet’s lakes as a gauge for global warming” project funded by the NWO open competition
- 2018 - to date PI in the Third Pole Environment Study for a Green Silk Road funded by the Chinese Academy of Sciences
- 2016 - to date NWO-VIDI laureate at the department of physical geography of Utrecht University focusing on understanding of the high altitude water cycle

2016 - to date	ERC Starting Grant laureate at the department of physical geography of Utrecht University focusing on climate change impacts and regional difference in hydro-meteorology in the Himalayas and Karakoram.
2011- 2015	NWO-VENI laureate at the department of physical geography of Utrecht University dealing with climate change impacts on the cryosphere and hydrology of the Himalayas and Karakoram.
2011- 2014	Post-doc at ETH Zurich working on a cryospheric monitoring and modelling project in the Nepalese Himalayas.
2014 - 2018	PI of Climate_KIC funded PhD project "IceSpy: drones as smart innovation technology in climate change monitoring of glaciers" by Philip Kraaijenbrink
2014 - 2018	Coordinator of physical science component in the "The Himalayan Adaptation, Water and Resilience (HI-AWARE)" research programme funded by DFID and IDRC
2014 - 2015	Supervisor of Postdoc project "High resolution atmospheric modelling in the Nepalese Himalayas" by Dr. Emily Collier
2014 - 2015	Project leader of a DFID funded project titled "Using unmanned aerial vehicles for glacier monitoring in the Himalayas"
2012 - 2015	Project leader of a DFID funded project titled "Calibrating above and below snow line precipitation as inputs to mountain hydrology models".
2013-2016	Researcher in the project funded by the Swiss National Science foundation titled "UNderstanding COntasts in high MoUNtain hydrology in Asia (UNCOMUN)".
2013 - 2014	Researcher in the USAID funded project titled "Including the Sherpa factor into water resources projections in the Nepalese Himalayas".
2013 - 2014	Project leader of the ICIMOD funded project on assessing climate change impact on the water resources of the upper Indus
2013 - 2014	Project leader of the ICIMOD funded project on the application of Unmanned Airborne Vehicles in glaciology
2012 - 2013	Project leader of the ICIMOD funded project to generate future water availability scenarios for the Indus, Ganges and Brahmaputra river basins in the framework of the Himalayan Climate Change Adaptation Programme (HICAP).
2008 - 2012	Researcher in the EU FP7 project CEOP-AEGIS: an international cooperation project between Europe and Asia to improve knowledge on hydrology and meteorology of the Tibetan Plateau and its role in climate, monsoon and extreme meteorological events.
2008 - 2011	NWO-CASIMIR laureate from the Netherlands Organization for Scientific Research (NWO). In close collaboration with Utrecht University the project is focusing on seasonal forecasting of Asian river discharges from cryosphere and monsoon feedbacks.

Teaching

- Coordinator of Ma course "Hydrology, Climate Change and the Cryosphere" (2016-2019)
- Coordinator of Ma course "Hydrology, Climate Change and Fluvial Systems" (2015-2016)
- Coordinator of Ba course "Earth observation and data analysis" (2015-2016)
- Coordinator of the Ma course "Unsaturated Zone Hydrology" (2014-2015)
- Guest lecturer at Utrecht University for remote sensing and hydrology courses of the Department of Physical Geography.

- Supervision of Master and Bachelor students during their final thesis research at the Department of Physical Geography of Utrecht University.
- Development of several short-courses in the field of hydrology and climate change

Supervision PhD students

Name	University	Defense date	Role
Martine Nyeko	University of Naples	2010	Co-supervisor *
Mohammed Cheema	TU Delft	2010	Co-supervisor*
Silvan Ragettli	ETH Zurich	2014	Co-supervisor*
Arthur Lutz	Utrecht University	2016	Co-promotor
Johannes Hunink	University of Cartagena	2017	Co-supervisor
Pascal Buri	ETH Zurich	2017	Co-supervisor*
Philip Kraaijenbrink	Utrecht University	2018	Co-promotor
René Wijngaard	Utrecht University	2019	Co-promotor
Jakob Steiner	Utrecht University	2020	Promotor
Emmy Stigter	Utrecht University	2020	Promotor
Pleun Bonekamp	Utrecht University	2020	Promotor
Sonu Khanal	VU Amsterdam	2020	Promotor

** Formal co-promotor role does not exist at these universities*

Language Skills

Dutch:	mother tongue
English:	fluent in writing and speech
French:	moderate
German:	moderate
Nepali:	moderate

Computer Skills

GIS/RS:	ArcGIS, Erdas Imagine, IDL/Envi, PC raster, AgiSoft, QGis
Simulation models:	SWAT, SWAP, WEAP, SimGro, SPHY
Programming:	R, Python

Miscellaneous academic achievements

- Co-convenor of the session “Cryospheric changes and its impact on the High-Mountain Water Cycle” at the fall meeting of the American Geophysical Union in December 2019 in San Francisco
- Keynote speaker at the “Mountain in a Changing World” conference in Kathmandu, Nepal in October 2019.
- Co-convenor of the session “Cryosphere-Hydrosphere interactions: The water cycle at the three Poles” at the Polar 2018 conference
- Invited speaker at “From High Pole to Poles: a new perspective into Three Poles environment” session at the Polar 2018 conference (June 2018)

- Invited speaker at the Indus Basin Knowledge Forum at IIASA in Vienna (June 2018)
- Member of the BEGCOM supervision committee for PhD students at the faculty of Geosciences at Utrecht University
- Keynote speaker at the Campus Party event in Utrecht, The Netherlands (May 2016)
- Invited speaker the EGU general assembly in Vienna, Austria (April 2016)
- Invited speaker at the International Symposium on Glaciology in High-Mountain Asia (March 2015).
- Member of the Scientific Committee and editor of the special issue in annals of Glaciology resulting from the International Glaciological Society symposium organized in 2015 in Kathmandu, Nepal.
- Primary convener of a session on “Advances in High-Altitude Glaciohydrology” at the fall meeting of the American Geophysical Union in December 2014, December 2017 and December 2018 in San Francisco
- Invited speaker at the fall meeting of the American Geophysical Union (December 2012, December 2014, December 2016, December 2017, December 2018, December 2019)
- Invited speaker at an international conference titled “The cryosphere of the Hindu-Kush Himalayas” in Kathmandu, Nepal (May 2012)
- Invited speaker at an international workshop titled “Glaciers, snow melt and runoff in the Himalayas” in the framework of the EU funded project HighNoon in Kathmandu, Nepal (January 2012)
- Invited speaker at a workshop on climate change impacts in the Hindu-Kush Himalayas in Kathmandu, Nepal (August 2011)
- Invited speaker at a high level work shop on the "Fate of Mountain Glaciers in the Anthropocene" at Pontifical Academy of Sciences in the Vatican, organized by Nobel prize winner Paul Crutzen (April 2011)
- Reviewer of the Abu Dhabi Dialogue Knowledge Forum Small Grants programme supported by the World Bank (June 2011)
- Invited speaker at an international expert meeting on Climate Change in the Indus Basin (June 2010)
- Keynote speaker at the UNEP International Expert meeting on climate change in the Himalayas in December 2009.
- Reviewer of several scientific journals: Agricultural Water Management, International Journal of Climatology, Nature Geoscience, Sensors, Remote Sensing of Environment, Water Resources Research, Nature Climate Change, Journal of Hydrology
- Reviewer for the EU FP7 European Reintegration Grants (ERG) and International Reintegration Grants (IRG).
- Reviewer for the National Science foundation from Austria, Switzerland, Romania and the United States

Peer reviewed publications (H-index Scopus = 38, Google Scholar = 44)

- De Kok, R.J., Kraaijenbrink, P.D.A., Tuinenburg, O.A., Bonenkamp, P.N.J., **Immerzeel, W.W.**, 2019, Snowfall increase counters glacier demise in Kunlun Shan and Karakoram, The Cryosphere Discussions, <https://doi.org/10.5194/tc-2019-228>
- Immerzeel, W. W.**, Lutz, A. F., Andrade, M., Bahl, A., Biemans, H., Bolch, T., Hyde, S., Brumby, S., Davies, B. J., Elmore, A. C., Emmer, A., Feng, M., Fernández, A., Haritashya, U., Kargel, J. S., Koppes, M., Kraaijenbrink, P. D. A., Kulkarni, A. V., Mayewski, P., Nepal, S., Yao, T. and Baillie, J. E. M., 2019, Importance and vulnerability of the world's water towers, *Nature*, doi: 10.1038/s41586-019-1822-y.
- Zhang, F., Shi, X., Zeng, C., Wang, L., Xiao, X., Wang, G., Chen, Y., Zhang, H., Lu, X. and **Immerzeel, W.**, 2019, Recent stepwise sediment flux increase with climate change in the Tuotuo River in the Central Tibetan Plateau, *Science Bulletin* (online preprint). doi: 10.1016/j.scib.2019.12.017.
- Lievens, H., Demuzere, M., Marshall, H., Reichle, R. H., Brangers, I., Rosnay, P. De, Dumont, M., Giroto, M., **Immerzeel, W. W.**, Jonas, T., Kim, E. J., Koch, I., Marty, C., Saloranta, T., Schöbe, J., Lannoy, G. J. M. De and Accurate, 2019, Snow depth variability in the Northern Hemisphere mountains observed from space, *Nature Communications.*, 10: 1–12, doi: 10.1038/s41467-019-12566-y.
- Zhang, H., Lutz, A.F., Zhang, F., Thapa, S., **Immerzeel, W.W.**, 2019, Water Availability on the Third Pole. *Water Security* 7: 100033.
- Wijngaard, R.R., Steiner, J.F., Kraaijenbrink, P.D.A., Klug, C., Adhikari, S., Banarjee, A., Pellicciotti, F., Van Beek, L.P.H., Bierkens, M.F.P., Lutz, A.F., **Immerzeel, W.W.**, 2019, Modelling the response of the Langtang Glacier and the Hintereisferner to a changing climate since the Little Ice Age Front. *Earth Sci.* 7: 143.
- Kirkham, J., Koch, I., Saloranta, T., Litt, M., Stigter, E., Møen, K., Thapa, A., Melvold, K., **Immerzeel, W.W.**, 2019., Near Real-Time Measurement of Snow Water Equivalent in the Nepal Himalayas, *Front. Earth Sci.* 7: 177.
- Woerkom, T. Van, Steiner, J. F., Kraaijenbrink, P. D. A., Miles, E. S. and **Immerzeel, W.W.**, 2019, Estimating lateral moraine sediment supply to a debris-covered glacier in the Himalaya, *Earth Surface Dynamics* 7: 411-427.
- Biemans, H., Siderius, C, Lutz, A.F., Nepal, S., Ahmad, B., Tanvir Hassan, S.M., von Bloh, W., Wijngaard, R.R., Wester, F., Shrestha, A.B., **Immerzeel, W.W.**, 2019, How important is snow and glacier melt from High Mountain Asia for downstream agriculture? *Nature Sustainability* 2: 594-601.
- Bonekamp, P.N.J., De Kok, R.J., Collier, E.S., **Immerzeel, W.W.**, 2019, Contrasting meteorological drivers of the glacier mass balance between the Karakoram and central Himalaya, *Front. Earth Sci.* 7:107.
- Khanal, S., Lutz, A.F., **Immerzeel, W.W.**, de Vries, H., Wanders, N., Van den Hurk, B., 2019, The impact of meteorological and hydrological memory on compound peak flows in the Rhine river basin, *Atmosphere* 10:171.
- Litt, M.H.V., Shea, J.M., Wagnon, P., Steiner, J.F., Koch, I., Stigter, E., **Immerzeel, W.W.**, 2019, Glacier ablation and temperature indexed melt models in the Nepalese Himalaya, *Nature Scientific Reports* 9:5264.
- Lutz, A. F., ter Maat, H. W., Wijngaard, R. R., Biemans, H., Syed, A., Shrestha, A. B., Wester, P., **Immerzeel, W.W.**, 2018, South Asian river basins in a 1.5 °C warmer world. *Regional Environmental Change* 19(3), pp 833–847

- Wijngaard, R. R., Biemans, H., Lutz, A. F., Shrestha, A. B., and **Immerzeel, W. W.**, 2018, Climate change vs. Socio-economic development: Understanding the South-Asian water gap. *Hydrol. Earth Syst. Sci* 22: 6297-6321
- Brun, F., Wagnon, P., Berthier, E., Shea, J. M., **Immerzeel, W. W.**, Kraaijenbrink, P. D. A., Vincent, C., Reverchon, C., Shrestha, D., Arnaud, Y. 2018. Ice cliff contribution to the tongue-wide ablation of Changri Nup Glacier, Nepal, central Himalaya. *The Cryosphere* 12: 3439-3457
- Bonekamp, P. N. J., S. E. Collier, and **W. W. Immerzeel**, 2018, The impact of spatial resolution, land use and spin up time on resolving spatial precipitation patterns in the Himalayas, *J. Hydrometeorol.* 19:1665-1581
- Steiner, J. F., Litt, M., Stigter, E., Shea, J., Bierkens, M. F. P., and **Immerzeel, W. W.** 2018. The importance of turbulent fluxes in the surface energy balance of a debris covered glacier in the Himalayas. *Front. Earth Sci.* 6:144:1-25
- Stigter, E. E., Litt, M., Steiner, J. F., Bonekamp, P. N., Shea, J. M., Bierkens, M.F.P., **Immerzeel, W.W.**, The importance of snow sublimation on a Himalayan glacier. *Front. Earth Sci.* 6:108:1-16.
- López, P. L., **Immerzeel, W. W.**, Sandoval, E. A. R., Sterk, G., and Schellekens, J. 2018. Spatial downscaling of satellite-based precipitation and its impact on discharge simulations in the Magdalena River basin in Colombia Impact of high spatial resolution precipitation on streamflow simulations. *Front. Earth Sci.* 6:68:1 -23.
- Kraaijenbrink, P.D.A., Shea, J.M., Litt, M., treichler, D., Koch, I., **Immerzeel, W.W.**, 2018, Mapping surface temperatures on debris-covered glaciers with unmanned aerial vehicles. *Frontiers in Earth Science* 6:64:1-19
- Steiner, J. F., P. D. A. Kraaijenbrink, S. G. Jiduc, and **W. W. Immerzeel**. 2018, Brief Communication: The Khurdopin glacier surge revisited - extreme flow velocities and formation of a dammed lake in 2017, *The Cryosphere* 12, 95-101.
- De Kok, R.J., Tuinenburg, O.A., Bonekamp, P.N.J., **Immerzeel, W.W.**, 2018, Irrigation as a potential driver for anomalous glacier mass balance in High Mountain Asia. *Geophysical Research Letters* 45.
- Dimri, A. P., **Immerzeel, W.W.**, Salzman, N., Thayyen, R.J., 2018, Comparison of climatic trends and variability among glacierized environments in the Western Himalayas, *Theor. Appl. Climatol.* 134:155-163.
- Wijngaard, R.R., Lutz, A.F., Nepal, S., Khanal, S., Pradhananga, S., Terink, W., Shrestha, A.B., **Immerzeel, W.W.**, 2017, Future Changes in Hydroclimatic Extremes in the Upper Indus, Ganges, and Brahmaputra River Basins, *PlosOne* 12 (12): e0190224.
- Kraaijenbrink, P.D.A., Bierkens, M.F.P., Lutz, A.F., **Immerzeel, W.W.**, 2017, Impact of a global temperature rise of 1.5 degrees Celsius on Asia's glaciers, *Nature* 549: 257-260.
- Miles, E.S., Steiner, J., Willis, I.C., Buri, P., **Immerzeel, W.W.**, Chesnokova, A., Pellicciotti, F., 2017, Pond dynamics and supraglacial-englacial connectivity on debris-covered Lirung Glacier, *Frontiers Earth Sciences* 5:69:1-19.
- Stigter, E. E., Wanders, N., Saloranta, T. M., Shea, J. M., Bierkens, M. F. P, **Immerzeel, W. W.**, 2017, Climate sensitivity of snow water equivalent and snowmelt runoff in a Himalayan catchment, *The Cryosphere* 11: 1647-1666
- Fujita, K., Inoue, H., Izumi, T., Yamaguchi, S., Sadakane, A., Sunako, S., Nishimura, K., **Immerzeel, W. W.**, Shea, J. M., Kayashta, R. B., Sawagaki, T., Breashears, D. F., Yagi, H. and Sakai, A, 2017, Anomalous winter snow amplified earthquake induced disaster of the 2015 Langtang avalanche in Nepal, *Natural Hazards and Earth System Sciences.*, 749-764.
- Orr, A., Couttet, M., Listowski, C., Collier, E., **Immerzeel, W. W.**, Deb, P., 2016, Sensitivity of simulated summer monsoonal precipitation in Langtang Valley, Himalaya to cloud

- microphysics schemes in WRF, *Journal of Geophysical Research : Atmospheres* 122: 6298-6318.
- Buri, P., Miles, E. S., Steiner, J. F., **Immerzeel, W.W.**, Wagnon, P., Pellicciotti, F., 2016, A physically-based 3D model of ice cliff evolution on a debris-covered glacier, *Journal of Geophysical Research: Earth Surface* 121, 2471-2493.
- Lutz, A. F., **Immerzeel, W. W.**, Kraaijenbrink, P. D. A. and Shrestha, A. B., 2016, Climate change impacts on the upper Indus hydrology: sources, shifts and extremes, *PLoS One* 11: e0165630, 1-33
- Kraaijenbrink, P. D. A., Shea, J. M., Pellicciotti, F., De Jong, S. M. and **Immerzeel, W. W.**, 2016, Object-based analysis of unmanned aerial vehicle imagery to map and characterise surface features on a debris-covered glacier, *Remote Sensing of Environment* 186: 581-595
- Brun, F., Buri, P., Miles, E. S., Wagnon, P., Steiner, J., Berthier, E., Ragettli, S., Kraaijenbrink, P., **Immerzeel, W. W.** and Pellicciotti, F., 2016, Quantifying volume loss from ice cliffs on debris-covered glaciers using high resolution terrestrial and aerial photogrammetry, *Journal of Glaciology* 62: 684-695
- Lutz, A.F., Ter Maat, H.W., Biemans, H., Shrestha, A.B., Wester, P., **Immerzeel, W.W.**, 2016 Selecting representative climate models for climate change impact studies: an advanced envelope-based selection approach. *International Journal of Climatology* 36: 3988 - 4005
- Ragettli, S., **Immerzeel, W.W.**, Pellicciotti, F., 2016, Contrasting climate change impact on the hydrology of the Andes and the Himalayas, *PNAS* 113, 9222-9227.
- Vincent, C., Wagnon, P., Shea, J. M., **Immerzeel, W. W.**, Kraaijenbrink, P. D. A., Shrestha, D., Soruco, A., Arnaud, Y., Brun, F., Berthier, E., Sherpa, S.F., 2016. Reduced melt on debris-covered glaciers: investigations from Changri Nup Glacier, Nepal. *The Cryosphere* 10: 1845 – 1858.
- Shea, J. M., and **W. W. Immerzeel**, 2016, An assessment of basin-scale glaciological and hydrological sensitivities in the Hindu Kush - Himalaya, *Annals of Glaciology* 57: 308-318.
- Kraaijenbrink, P., Meijer, S.W., Shea, J.M., de Jong, S.M., **Immerzeel, W.W.**, 2016, Seasonal surface velocities of a Himalayan glacier derived by automated correlation of unmanned aerial vehicle imagery, *Annals of Glaciology* 57: 103-113.
- Kargel, J. S., Leonard, G. J., Shugar, D. H., Haritashya, U. K., Bevington, A., Fielding, E. J., Fujita, K., Geertsema, M., Miles, E. S., Steiner, J., Anderson, E., Bajracharya, S., Bawden, G. W., Breashears, D. F., Byers, A., Collins, B., Dhital, M. R., Donnellan, A., Evans, T. L., Geai, M. L., Glasscoe, M. T., Green, D., Gurung, D. R., Heijnen, R., Hilborn, A., Hudnut, K., Huyck, C., **Immerzeel, W. W.**, Jiang Liming, Jibson, R., Kaab, A., Khanal, N. R., Kirschbaum, D., Kraaijenbrink, P. D. A., Lamsal, D., Liu Shiyin, Lv Mingyang, McKinney, D., Nahirnick, N. K., Nan Zhuotong, Ojha, S., Olsenholler, J., Painter, T. H., Pleasants, M., KC, P., Yuan, Q., Raup, B. H., Regmi, D., Rounce, D. R., Sakai, A., Shangguan Donghui, Shea, J. M., Shrestha, A. B., Shukla, A., Stumm, D., van der Kooij, M., Voss, K., Wang Xin, Weihs, B., Wolfe, D., Wu Lizong, Yao Xiaojun, Yoder, M. R. and Young, N., 2015, Geomorphic and geologic controls of geohazards induced by Nepals 2015 Gorkha earthquake, *Science* 351: 140.
- Heynen, M., Pellicciotti, F., Miles, E., & **Immerzeel, W.W.** 2015. Air temperature variability in a high elevation Himalayan catchment. *Annals of Glaciology* 57: 212 - 222.
- Buri, P., Pellicciotti, F., Steiner, J. F., Evan, S., & **Immerzeel, W. W.**, 2015. A grid-based model of backwasting of supraglacial ice cliffs over debris-covered glaciers. *Annals of Glaciology* 57: 199 -211.

- Collier, E., & **Immerzeel, W. W.**, 2015. High-resolution atmospheric modelling of valley meteorology and precipitation dynamics in the Nepalese Himalaya. *Journal of Geophysical Research* 120: 9882-9896.
- Steiner, J. F., Pellicciotti, F., Buri, P., Miles, E.S., **Immerzeel, W.W.**, Reid, T.D., 2015, Modeling ice cliff backwasting on a debris covered glacier in the Nepalese Himalayas, *Journal of Glaciology* 61: 889-907.
- Immerzeel, W. W.**, Wanders, N., Lutz, A.F., Shea, J.M., Bierkens, M.F.P., 2015, Reconciling Indus high altitude precipitation with glacier mass balances and runoff, *Hydrology and Earth System Sciences* 19, 4673–4687.
- Terink, W., Lutz, A., Simons, G., **Immerzeel, W. W.**, & Droogers, P., 2015, SPHY v2 . 0 : Spatial Processes in Hydrology. *Geoscientific Model Development* 8: 2009-2034.
- Collier, E., Maussion, F., Nicholson, L. I., **Immerzeel, W. W.**, & Bush, A. B. G., 2015. Impact of debris cover on glacier ablation and atmosphere-glacier feedbacks in the Karakoram. *The Cryosphere* 9: 1617-1632.
- Ragetti, S., Pellicciotti, F., **Immerzeel, W.W.**, Miles, E.S., Petersen, L., Heynen, M., Shea, J.M., Stumm, D., Joshi, S., Shrestha A.B., 2015, Unraveling the hydrology of a Himalayan watershed through integration of high resolution in- situ data and remote sensing with an advanced simulation model, *Advances in Water Resources* 78: 94-111.
- Shea, J.M., **Immerzeel, W.W.**, Wagnon, P., Vincent, C., Bajracharya, S., 2015, Modelling glacier change in the Everest region, Nepalese Himalayas, *The Cryosphere* 9: 1105-1128.
- Shea, J. M., Wagnon, P., **Immerzeel, W.W.**, Biron, R., Brun, F., Pellicciotti, F., 2015, A comparative high-altitude meteorological analysis from three catchments in the Nepalese Himalaya, *International Journal of Water Resources Development* 31, 174-200.
- Bajracharya, S.R., Shrestha, F., Guo, W., Liu, S., **Immerzeel, W.W.**, & Shrestha, B. R. 2015. The glaciers of the Hindu Kush Himalayas : current status and observed changes from the 1980s to 2010. *International Journal of Water Resources Development* 31:161–173.
- Pellicciotti, F., Stephan, C., Miles, E., Herreid, S., **Immerzeel, W.W.**, Bolch, T., 2015, Mass balance changes of the debris-covered glaciers in the Langtang Himal in Nepal between 1974 and 1999. *Journal of Glaciology* 61: 373-386.
- Simons, G.W.H., Bastiaanssen, W.G.M., **Immerzeel, W.W.**, 2015, Water Reuse in River Basins with Multiple Users: a Literature Review, *Journal of Hydrology* 522: 558 - 571
- Lutz, A. F., **Immerzeel, W.W.**, Shrestha, A.B., Bierkens, M.F.P., 2014, Consistent increase in High Asia ' s runoff due to increasing glacier melt and precipitation, *Nature Climate Change* 4, 1–6
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