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As of 1 September 2015: Visiting senior research fellow
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Summary of professional experience and scientific interests

Professional experience and scientific interest: Over 40 years of experience with hydrological research in the humid tropics of South- and South-East Asia, the Pacific, the Caribbean, and Central and South America. Primary focus on hydrological processes (rainfall and cloud water interception, transpiration, runoff generation, sediment delivery) as well as the influence of land cover and land use change (both deforestation and reforestation / land rehabilitation) on water yield, soil erosion and sedimentation, nutrient cycling and productivity, and ecosystem services. Special interest in fog-affected ecosystems ('cloud forests') and tree plantations.

(Co-)authored over 235 *scientific publications* [current Google Scholar H-index = 46], including three widely cited state-of-knowledge reviews (*Hydrology of Moist Tropical Forests and Effects of Conversion* (UNESCO, 1990), *Forests, Water and People in the Humid Tropics* (Cambridge University Press, 2005), *Tropical Montane Cloud Forests* (Cambridge University Press, 2010), a monograph on *Highland-lowland interactions in the Ganges-Brahmaputra River Basin* (Int. Centre for Integrated Mountain Development, 1989), and a documentary DVD on the biodiversity and hydrological values of cloud forests (*Forests in the Mist*, Halsundbeinbruch-CH, 2004).

Member of the editorial boards of the *Journal of Tropical Ecology*, *Hydrological Processes* (until 2012), *Ecohydrology*, and *Geo_Oekologie*; associate editor of the *Encyclopaedia of Forest Sciences* (Forest hydrology section). Member of the International Steering Committees of IHP-UNESCO's Humid Tropics Programme (1996-2001) and the IHP-UNESCO/WWF/IUCN Tropical Montane Cloud Forest Initiative (2000+). Member of the Commission on Ecosystem Management of IUCN (2006+). Recipient of the Busk Medal of the Royal Geographical Society (UK) for Biosphere research in the humid tropics (June 2005). 35 years of teaching hydrology at (post)graduate level, supervision of 26 PhD students and post-docs plus over 120 MSc dissertations. Numerous guest lectures and keynote presentations on tropical forests and water issues across the world (see e.g. <http://www.youtube.com/user/usaskqiws>).

Strategic planning of educational and research programmes in Critical Zone Hydrology. Five years of part-time *environmental consultancies* (1987-1991, Indonesia; DHV Consultants) plus short-term consultancies on forests and streamflow (Mexico/Worldbank; Philippines/DGIS; Guatemala-Peru/WWF-CARE).



Formal education

1963-1969	Gymnasium, NL	Mathematical side
1969-1972	VU University, Amsterdam, NL	BSc programme in geology & basic sciences (degree obtained <i>cum laude</i>)
1972-1976	VU University, and University of A'dam	MSc programme in hydrology, with meteorology and soil chemistry (degree obtained <i>cum laude</i>)
1976-1983	Netherlands Foundation for the Advancement of Tropical Research	Hydrology and nutrient dynamics of plantation forests in Java, Indonesia (PhD degree awarded at VUA on 14 January 1983).

Teaching experience

1978-2002	Lecturer (Assistant Professor), FALW–VUA (0.5 ftu between mid-1985 and April 1991).
2002-2007	Senior-lecturer (Associate Professor), FALW–VUA.
2008-2015	Full professor of Land Use and Hydrology, FALW–VUA (retired per 1 March 2015).

<i>Courses:</i>	Unsaturated zone and near-surface hydrological processes (MSc level) (1980-2011) Ecohydrology (MSc level) (1982-2013) Soil and environment (BSc level) (2006-2011) Co-supervision of 3 rd -year BSc excursion to Scotland (2004-2005) Co-supervision of 1 st -year geology fieldwork, Provence, France (1978-1985) Co-supervision of field instrumentation course (MSc level; 1978-1996)
1988	Lecturer in tropical forest hydrology at the Department of Forestry, Wageningen Agricultural University (0.5 ftu) within International MSc course in Tropical Forestry.
1989+	Numerous guest lectures on forest-water relations, erosion and sedimentation or cloud forest hydrology at universities, research and government institutions, and NGOs across the world.
2005, 2007	Lecturer in Ecohydrology Summer Schools (Amsterdam, Utrecht).
2009	Guest lecturer on tropical forest hydrology at the University of Pennsylvania, Philadelphia, as part of UPENN's 'Distinguished International Scholar' programme.
2010	Nominated best hydrology teacher at FALW-VUA, 2009-2010 lecturing season.
2010, 2012	Lecturer in the <i>Curso Internacional de Ecohidrologia Tropical</i> , La Molina University, Lima, Peru (July 2010) and Universidad Nacional de Colombia, Medellin, Colombia (July 2012).
-	Supervision of thesis work of MSc students in Hydrology, Environmental Sciences, Soil Ecology or Quaternary Geology (mostly in the humid tropics, occasionally in Europe).
-	Supervision of PhD students (18 studies completed to date, 2 active at the time of writing; see below) and six post-doc researchers (2 active).

Research experience

- 1976-1983 *Hydrological and biogeochemical aspects of man-made forests in South-Central Java, Indonesia* (WOTRO grant nos. W76-45 and WR84-221).
- 1980-1984 *Acid deposition in mixed deciduous forest, Winterswijk, The Netherlands* (participation in project of Department of Physical Geography, University of Amsterdam).
- 1986-1987 *Soil moisture regime and forest stature on contrasting rock types around Mt. Bloomfield, Palawan, the Philippines* (collaboration with Universities of Stirling and Sheffield in the UK and National Museum of the Philippines, Manila).
- 1987-1989 *Hydrological and pedological characterisation of montane rain forests on Mt. Silam, a small coastal mountain in Sabah, Malaysia* (collaboration with University of Stirling and Forest Research Center, Sepilok, Sabah, Malaysia).
- 1987-1991 *Sediment dynamics of the upper Konto Watershed, East Java, Indonesia* (collaboration with DHV Consultants; programme design, overall supervision of measurements and reporting by author).
- 1988-1989 *Highland-lowland interactions in the Ganges-Brahmaputra River Basin* (literature review on behalf of the International Centre for Integrated Mountain Development (ICIMOD), Kathmandu, Nepal).
- 1992-1993 *Hydrological and ecological studies in lowland and montane rain forests on the island of Rakata (Krakatau), Indonesia* (collaboration with Herbarium Bogoriense, Bogor and University of Oxford, UK).
- 1992-1995 *Erosion and soil conservation in bench-terraced terrain, Gunung Kidul District, Java, Indonesia* (collaboration with Universitas Gadjah Mada, Yogyakarta, Indonesia and the Centre for Development Cooperation Services, VUA).
- 2002-2006 *Hydrological impacts of converting montane cloud forest to pasture in northern Costa Rica* (collaboration with the Technological Institute of Costa Rica (Cartago), the National University of Costa Rica (Heredia), the University of Bern (Switzerland), and King's College, London. UK-DFID-FRP project R-7991).

(Co-)design and/or (co-)supervision of the following PhD or post-doc projects:

- 1985-1990 *Effects of forest clearance, natural regeneration and "taungya" cultivation on water, nutrient, and sediment outputs in upland West Java, Indonesia* (C.A. Bons, WOTRO project no. W84-238; terminated in 1990 upon departure of researcher).
- 1986-1993 *Spatial heterogeneity of nutrient cycling in a Bornean rain forest* (Th.B.A. Burghouts, WOTRO project no. W84-253; thesis defended in October 1993).
- 1989-1994 *Water and nutrient dynamics of plantations of Pinus caribaea on degraded grassland soils in SW Viti Levu, Fiji* (M.J. Waterloo, WOTRO project no. W84-295; thesis defended in June 1994).
- 1993-1996 *Nutrient cycling in pristine and logged tropical rain forest, Guyana* (L.C. Brouwer; TROPENBOS Foundation and University of Utrecht as prime contractor; thesis defended in November 1996).
- 1994-1999 *Erosion and sediment delivery in an upland agricultural catchment in West Java, Indonesia* (E. Purwanto, funding by the Indonesian Ministry of Forestry; thesis defended in March 1999).

- 1994-2000 *Forest stunting on wet tropical mountains, with special reference to the Blue Mountains, Jamaica* (R.R.L.J. Hafkenscheid, WOTRO project no. W84-371; thesis defended in May 2000).
- 1992-2000 *New perspectives on soil erosion and soil conservation in the tropics* (W.R.S. Critchley, VU University Research Stimulation Fund-VUA funding; thesis defended in May 2000).
- 1995-2000 *Hydrological modelling in a humid tropical island setting: with special reference to the Luquillo Experimental Forest, Eastern Puerto Rico* (J. Schellekens, VUA/USDA-Forest Service funding; thesis defended in September 2000).
- 1996-2001 *Hydrometeorological impacts of forest conversion in Eastern Puerto Rico* (M.K. van der Molen, VUA/USDA-Forest Service funding; thesis defended in March 2002).
- 1998-2001 *Modelling soil erosion and sediment delivery in an upland agricultural catchment, West Java, Indonesia* (A.I.J.M. van Dijk, WOTRO project no. W76-193; thesis defended in September 2002).
- 2000-2005 *Water and energy budgets of rain forests along an elevation gradient under maritime tropical conditions* (F. Holwerda, WOTRO project W76-201; thesis defended in May 2005).
- 2000-2005 *The effects of natural reforestation on the hydrology, river morphology and sediment budget of the Dragonja River, SW Slovenia* (S.D. Keesstra, VUA funding; thesis defended in May 2006).
- 2001+ *Water and nutrient dynamics of Heath forests of contrasting stature in Central Kalimantan, Indonesia* (R.R.E. Vernimmen, WOTRO project no. W76-217; defense expected in 2016).
- 2001-2006 *Soil and water impacts of converting montane cloud forest to pasture in northern Costa Rica* (post-doctoral fellow Dr C. Tobón, DFID-FRP project no. R7991 completed in March 2006).
- 2005-2006 *An ecohydrological and soils study in a subtropical montane cloud forest in the National Park of Garajonay, La Gomera, Canary Islands, Spain* (G. Garcia Santos, with University of La Laguna, Tenerife, Spain; thesis defended in April 2007).
- 2005-2008 *The ecohydrological significance of fog in the eastern Sierra Madre, Central Veracruz, Mexico* (post-doctoral fellow Dr F. Holwerda, WOTRO project W76-252, with follow-up funding from INE-Mexico, completed August 2008).
- 2005-2008 *Transpiration in old-growth and secondary mesophyllous cloud forest in the eastern Sierra Madre, Central Veracruz, Mexico* (M. Gomez-Cardenas, project funded by Conacyt (Mexico) and coordinated by Iowa State University, Ames, USA; thesis examined in July 2008).
- 2008-2013 *Land-use change impacts on dry season flows at the pan-tropical scale* (J. Peña-Arancibia). Collaborative effort with King's College London (Dr M. Mulligan) and CSIRO (Dr A.I.J.M. van Dijk), with funding from Microsoft Research Ltd. and Conservation International for the first two years. Thesis defended in May 2013 (King's College London).
- 2008-2013 *Ecohydrological controls on watershed response to land use change in the montane cloud forest zone in Central Veracruz, Mexico* (post-docs L.E. Muñoz-Villers, F. Holwerda, and S. Gotsch; promovendi S.M. Alvarado and G. Goldsmith). Collaborative effort coordinated by Dr H. Asbjornsen (Univ. New Hampshire), with Oregon State University (Prof. J. McDonnell), University of California, Berkeley (Prof. T.E. Dawson), and the Instituto de Ecología, Xalapa, Mexico (Dr M. Equihua); funded by US National Science Foundation. Thesis by S. Alvarado defended in April 2013 at UNH.

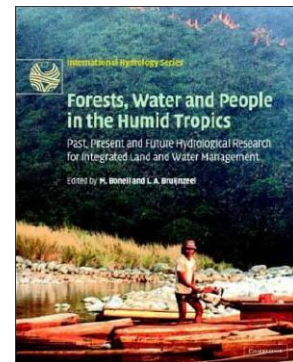
- 2008-2013 *Linkages between streamflow, climate and catchment characteristics: a global analysis* (H. Beck, funding by Deltares). Collaborative effort with Deltares (Dr J. Schellekens) and CSIRO Land and Water (Dr A.I.J.M. van Dijk). Thesis defended in October 2013.
- 2009-2010 *Soil chemical criteria for sustainable harvesting of eucalypt plantations in Brazil* (post-doctoral researcher Dr G. de Castro Andrade), Funding by EMBRAPA, Brazil.
- 2009-2013 *Hydrological impact of reforesting degraded lands in the Middle Mountains of Nepal* (C.P. Ghimire). Funded by ITC-Univ. Twente, Enschede and VU University Amsterdam. Collaborative effort with UT-ITC Enschede (Dr. M. Lubczynski) and the UNESCO-HELP Institute at the University of Dundee, UK (Prof. M. Bonell). Thesis defended in June 2014.
- 2011-2016 *Changes in soil physical characteristics and hydrological response after reforesting degraded grasslands in Leyte, Philippines* (J. Zhang, funded by the China Scholarship Council and the Australian Council for International Agricultural Research). Collaborative effort led by University of the Sunshine Coast, Australia (Prof. J. Herbohn) with Visayas State University (Prof. A. Pasa). VU University responsible for hydrology part of the project. Defense expected by late 2016.
- 2011+ *Climate dynamics of Mt. Kilimanjaro, Tanzania* (E. Mwangomo and T. Appelhans). Funded by the Deutsche Forschungsgemeinschaft and University of Marburg, Germany. Collaborative project led by Univ. Marburg (Prof. T. Nauss) and University of Bayreuth (Dr. A. Hemp). VUA involvement concerns quantification of fog and inclined rainfall.
- 2012+ *Development of a new approach towards cost-effective ground-based remote sensing techniques for the detection of fog and vegetation changes on Mt. Kilimanjaro* (I. Otte). Funded by University of Marburg. Collaborative project led by the University of Marburg (Prof. T. Nauss).
- 2012+ *Hydrological functioning of contrasting land covers in the Cuitzeo basin, Michoacan, Mexico* (Dr. A. Gomez-Tagle Chavez). Collaborative work with the Universidad Michoacana de San Nicolas de Hidalgo, Morelia, Mexico. VUA involvement with regards to student supervision, advice on forest hydrological measurements and international publication of key research results.
- 2013-2015 *Fog effects on hydrometeorological conditions and vegetation zonation in the Serra da Mantiqueira, Brazil* (P. Vieira Pompeu). Funded by CAPES-Brazil, Minas Gerais State and Lavras Federal University, Brazil (Prof. M. A. Lete Fontes). Collaboration with King's College London (Dr. M. Mulligan). Thesis defended in February 2015.
- 2014-2016 *Can capturing global ecosystem service values reduce poverty?* (post-doctoral researcher C.P. Ghimire; prospective PhD student B. Zwartendijk). Funded by ESPA (NERC-DFID-UK). Collaborative sub-project on hydrology with King's College London (Dr. M. Mulligan), University of Zurich (CH, Dr. H.J. van Meerveld) and Twente University (Dr. M.W. Lubczynski); overall project led by Univ.of Wales, Bangor (Dr. J. Jones).
- 2014-2015 *Characterizing cloud water deposition on Mt. Marsabit, Kenya* (post-doc researcher A. Cuni-Sanchez). Informal collaborative work within EU-funded project on climate change impacts in East Africa led by University of Copenhagen; VUA involvement through student supervision (Ms. L. Kiewiet) and technical advice; collaboration with King's College London (Dr. M. Mulligan).
- 2014-2015 *Streamflow regime, sediment loads and dissolved loads as a function of forest degradation in Garhwal Himalaya, India* (Dr. N. Qazi). Research led by the National Institute of Hydrology, Roorkee (Dr. S.P. Rai, Dr. J.V. Tiyagi) and FRI Dehradun (M.P. Singh). VUA involvement in support of international publication of key research findings.

2015 – 2018 Hillslope hydrological functioning along a forest degradation gradient in the Lesser Himalaya of India (Dr. N. Qazi). DST-funded collaborative project coordinated by the Indian National Institute of Hydrology, Roorkee (Dr. S. Jain, Dr. S.P.Rai, Dr. J.V. Tyagi).

Published material (cf. http://scholar.google.com/citations?hl=en&user=RZgpgVkAAAAJ&view_op=list_works)

Monographs and books

- Bruijnzeel, L.A. (1983). *Hydrological and biogeochemical aspects of man-made forests in South-Central Java, Indonesia*. PhD thesis, Vrije Universiteit, Amsterdam, 256 pp.
- Bruijnzeel, L.A. & Bremmer, C.N. (1989). Highland-Lowland Interactions in the Ganges-Brahmaputra River Basin: a Review of Published Literature. *ICIMOD Occasional Paper* no. 11, International Centre for Integrated Mountain Development, Kathmandu, Nepal, 136 pp.
- Bruijnzeel, L.A. (1990). *Hydrology of Moist Tropical Forests and Effects of Conversion: a State of Knowledge Review*. Humid Tropics Programme of the International Hydrological Programme of UNESCO, Paris, and Vrije Universiteit, Amsterdam, 224 pp.
- Bonell, M. & Bruijnzeel, L.A. (Editors) (2005). *Forests, Water and People in the Humid Tropics*. Cambridge University Press, Cambridge, 925 pp. www.cambridge.org
- Bruijnzeel, L.A., Scatena, F.N. & Hamilton, L.S. (Editors) (2010). *Tropical Montane Cloud Forests: Science for Conservation and Management*. Cambridge University Press, Cambridge, 740 pp. [www.cambridge.org/9780521760355]



Documentary DVD

- Wohlgroth, A. (direction), Kunz, D. (camera), Schmid, S. (script) & Bruijnzeel, L.A. (concept and production) (2004). *Mountains in the Mist*. DVD documentary film (47 min). Halsundbeinbruch Films, Zurich, Switzerland, and VU University, Amsterdam (www.halsundbeinbruch.ch).



Peer-reviewed papers and book chapters

- Duysings, J.J.H.M., Verstraten, J.M. & Bruijnzeel, L.A. (1983). The identification of runoff sources in a forested lowland catchment. *Journal of Hydrology* 64, 357-375.
- Bruijnzeel, L.A. (1984a). Elemental content of litterfall in a Lower Montane Rain Forest. *Malayan Nature Journal* 37, 199-208.
- Bruijnzeel, L.A. (1985). Nutrient content of litterfall in coniferous forest plantations in central Java, Indonesia. *Journal of Tropical Ecology* 1, 353-372.
- Bruijnzeel, L.A. & Wiersum, K.F. (1985). A nutrient balance sheet for *Agathis dammara* Warb. plantation forest under various management conditions in central Java, Indonesia. *Forest Ecology & Management* 10, 195-208.
- Bruijnzeel, L.A. (1986). Environmental impacts of (de)forestation in the humid tropics: a watershed perspective. *Wallaceana* 46, 3-13.
- Duysings, J.J.H.M., Verstraten, J.M., Bruijnzeel, L.A. & Bouten, W. (1986). Relationships between precipitation chemistry and some meteorological parameters in the Netherlands: a statistical evaluation. *Water, Air, and Soil Pollution* 28, 213-223.
- Bruijnzeel, L.A. & Wiersum, K.F. (1987). Rainfall interception by a young *Acacia auriculiformis* (A. Cunn.) plantation forest in West Java, Indonesia: application of Gash's analytical model. *Hydrological Processes* 1, 309-319.

- Bruijnzeel, L.A. (1988). Estimates of evaporation in plantations of *Agathis dammara* Warb. in south central Java, Indonesia. *Journal of Tropical Forest Science* 1, 145-161.
- Bruijnzeel, L.A. (1989a). Nutrient content of bulk precipitation in south central Java, Indonesia. *Journal of Tropical Ecology* 5, 187-202.
- Bruijnzeel, L.A. (1989b). (De)forestation and dry-season flow in the tropics: a closer look. *Journal of Tropical Forest Science* 1, 229-243.
- Bruijnzeel, L.A. (1989c). Moist tropical forest nutrient cycling: the hydrological framework. Pp. 383-415 in J. Proctor (editor). *Mineral Nutrients in Tropical Forest and Savanna Ecosystems*. Special Publication no. 9 of the British Ecological Society. Blackwell Scientific, Oxford.
- Bruijnzeel, L.A. (1991a). Nutrient input-output budgets of moist tropical forest ecosystems: a review. *Journal of Tropical Ecology* 7, 1-24.
- Bruijnzeel, L.A. (1991b). Hydrological impacts of land use changes in the humid tropics. *Nature and Resources* 27, 36-46.
- Bruijnzeel, L.A. (1992a). Managing tropical forest watersheds for production: where contradictory theory and practice co-exist. Pp. 37-75 in F.R. Miller & K.L. Adam (editors). *Wise Management of Tropical Forests 1992*. Oxford Forestry Institute, Oxford.
- Bruijnzeel, L.A. (1992b). Sustainability of fast-growing plantation species in the humid tropics, including nutritional aspects. Pp. 51-67 in C.F. Jordan *et al.* (editors). *Taungya: Forest Plantations with Agriculture in Southeast Asia*. Commonwealth Agricultural Bureaux, Wallingford, U.K.
- Bruijnzeel, L.A., Waterloo, J.M., Proctor, J., Kuiters, A.T. & Kotterink, B. (1993). Hydrological observations in montane rain forests on Gunung Silam, Sabah, Malaysia, with special reference to the "Massenerhebungseffekt". *Journal of Ecology* 81, 145-167.
- Bruijnzeel, L.A. & Proctor, J. (1995). Hydrology and biogeochemistry of tropical montane "cloud forests": what do we really know? Pp. 38-78 in L.S. Hamilton, J.O. Juvik & F.N. Scatena (editors), *Tropical Montane Cloud Forests*. *Ecological Studies* no. 110. Springer, New York.
- Bruijnzeel, L.A. (1996). Predicting the hydrological impacts of land cover transformation: the need for integrated research. Pp. 15-55 in J.H.C. Gash *et al.* (editors), *Amazonian Deforestation and Climate*. J. Wiley, Chichester.
- Bruijnzeel, L.A. & Critchley, W.R.S. (1996). A new approach towards quantifying contributions of runoff and eroded sediment from bench-terraces in humid tropical steeplands and its application in South-Central Java, Indonesia. Pp. 921-937 in M.G. Anderson & S.M. Brooks (editors.), *Advances in Hillslope Processes, Volume 2*. J. Wiley, Chichester.
- Bruijnzeel, L.A. (1997). Hydrology of forest plantations in the humid tropics. Pp. 125-167 in E.K.S. Nambiar & A.G. Brown (editors), *Management of Soil, Nutrients and Water in Tropical Plantation Forests*. ACIAR, Canberra and CIFOR, Jakarta.
- Hamilton, L.S. & Bruijnzeel, L.A. (1997). Mountain watersheds: integrating water, soils, gravity, vegetation, and people. Pp. 337-370 in Messerli, B. & Ives, J.D. (editors), *Mountains of the World. A Global Priority*. Parthenon Publishers, London.
- Rozema, J., Chardonens, A., Tosserams, M., Hafkenscheid, R. & Bruijnzeel, L.A. (1997). Leaf thickness and UV-B absorbing pigments of plants in relation to an elevational gradient along the Blue Mountains, Jamaica. *Plant Ecology* 128, 150-159.
- Waterloo, M.J., Schellekens, J., Bruijnzeel, L.A., Assenberg, P.N., Vugts, H.F. & Rawaqa, T.T. (1997). The chemical composition of bulk precipitation in south-western Viti Levu, Fiji. *Journal of Tropical Ecology* 13, 427-447.
- Bruijnzeel, L.A. (1998). Soil chemical responses to tropical forest disturbance and conversion: the hydrological connection. Pp. 45-61 in A. Schulte & D. Ruhayat (editors), *Tropical Forest Soils and Their Management*. World Scientific Publications, Singapore.
- Bruijnzeel, L.A. & Veneklaas, E. (1998). Climatic conditions and tropical montane forest productivity: the fog has not lifted yet. *Ecology* 78, 3-9.
- Burghouts, Th.B.A., Van Straalen, N.M. & Bruijnzeel, L.A. (1998). Spatial heterogeneity of element turnover and litter decomposition in a Bornean rain forest. *Journal of Tropical Ecology* 14, 477-506.
- Purwanto, E. & Bruijnzeel, L.A. (1998). Soil conservation on rainfed bench terraces in upland West Java, Indonesia: towards a new paradigm. *Advances in GeoEcology* 31, 1267-1274.

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- Proctor, J., *Bruijnzeel, L.A.* & Baker, A.M.J. (1999). What causes the vegetation types on Mount Bloomfield, Palawan? *Global Ecology & Biogeography* 8, 347-354.
- Schellekens, J., Scatena, F.N., *Bruijnzeel, L.A.*, & Wickel, A.J. (1999). Modelling rainfall interception by a lowland tropical rain forest in Eastern Puerto Rico. *Journal of Hydrology* 225, 168-184.
- Waterloo, M.J., *Bruijnzeel, L.A.*, Vugts, H.F. & Rawaqa, T.T. (1999). Evaporation from *Pinus caribaea* plantations on former grassland soils under maritime tropical conditions. *Water Resources Research* 35, 2133-2144.
- Bruijnzeel, L.A. (2000). Forest hydrology. Pp. 301-343 in J.C. Evans (Ed.). *The Forests Handbook*. Blackwell Scientific, Oxford.
- Proctor, J., Baker, A.J.M., van Balgooy, M.M.J., *Bruijnzeel, L.A.*, Jones, S.H. & Madulid, D.A. (2000a). The physical environment and contrasts between forests on ultramafic and non-ultramafic rock on Mount Bloomfield, Palawan, Republic of the Philippines. *Journal of the Edinburgh Botanical Society* 57, 121-139.
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- Van Dijk, A.I.J.M. & *Bruijnzeel, L.A.* (2001b). Modelling rainfall interception by vegetation of variable density using an adapted analytical model. Part 2. Model validation for a tropical upland mixed cropping system. *Journal of Hydrology* 247, 239-262.
- Van Dijk, A.I.J.M., *Bruijnzeel, L.A.* & Rosewell, C.J. (2002a). Rainfall intensity – rainfall kinetic energy relationships: a critical literature appraisal. *Journal of Hydrology* 261, 1-23.
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- Van Dijk, A.I.J.M., *Bruijnzeel, L.A.* & Wiegman, S.E. (2003). Measurements of rain splash on bench terraces in a humid tropical steepland environment. *Hydrological Processes* 17, 513-535.
- Van Dijk, A.I.J.M., *Bruijnzeel, L.A.* (2003). Terrace erosion and sediment transport model: a new tool for soil conservation planning in bench-terraced steepplands. *Journal of Environmental Modelling and Software* 18, 839-850.
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- Schellekens, J., Scatena, F.N., *Bruijnzeel, L.A.* & van Hogezaand, R.J.P. (2004). Stormflow generation in a small rain forest catchment in the Luquillo Experimental Forest, Puerto Rico. *Hydrological Processes* 18, 505-530.
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 - Bruijnzeel LA (2014b). On the need for a Critical Zone Observatory network in the Himalayan Middle Mountain Zone. Paper presented at the session on Managing Mountain Ecosystems for Sustaining Ecosystem Services, Tropical Ecology Congress, New Delhi, India, 10-12 December 2014.
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- Pompeu PV, Leite Fontes MA, Mulligan M, Ferreira de Siqueira M, Bueno IT, *Bruijnzeel LA* (2016). Modeling the impact of climate change on the extent of cloud forest in the Brazilian Serra da Mantiqueira. Poster paper #94778 presented at the AGU Chapman Conference on *Emerging Issues in Tropical Ecohydrology*, Cuenca, Ecuador, 5–9 June 2016.
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- Zhang J, Quiñones CMO, Tripoli R, van Meerveld HJ, Asio VB, *Bruijnzeel LA* (2016). Contrasting headwater runoff generating mechanisms in fire-climax grassland and semi-mature secondary forest, Leyte, Philippines. Poster paper #94804 at the AGU Chapman Conference on *Emerging Issues in Tropical Ecohydrology*, Cuenca, Ecuador, 5–9 June 2016.
- Peña-Arancibia JL, *Bruijnzeel LA*, Mulligan M, van Dijk AIJM (2016). Forests as sponges and pumps: Modelling the impact of deforestation on dry-season flows across the tropics. Poster paper #94845 at the AGU Chapman Conference on *Emerging Issues in Tropical Ecohydrology*, Cuenca, Ecuador, 5–9 June 2016.
- Gomez-Tagle Jr. A, Mora Damián E, Bruijnzeel LA (2016a). An open-source automation unit for measuring infiltration flux and (un)saturated soil hydraulic conductivities using tension infiltrometry. Poster paper M-02 at the AGU Chapman Conference on *Emerging Issues in Tropical Ecohydrology*, Cuenca, Ecuador, 5–9 June 2016.
- Gomez-Tagle Jr. A, Rodríguez-Rodríguez J, Dimitrova-Petrova K, Bruijnzeel LA (2016b). Changes in surface (un)saturated soil hydraulic conductivities along a soil degradation–regeneration gradient in upland Central México. Poster paper R-11 at the AGU Chapman Conference on *Emerging Issues in Tropical Ecohydrology*, Cuenca, Ecuador, 5–9 June 2016.

Other professional activities

Membership of national and international scientific committees

- National representative for UNESCO's Humid Tropics Programme within the National Committee for IHP of the Netherlands (1990-2001).
- Member of the scientific advisory committee for the Buginesia Programme, the Netherlands Foundation for the Advancement of Tropical Research (1993-1998).
- Member of the International Steering Committee of IHP-UNESCO's Humid Tropics Programme (1996-2001).
- Member of the International Steering Committee of the IUCN-WWF-WCMC-IHP UNESCO Tropical Montane Cloud Forest Initiative (2000+)
- Member of the Scientific Advisory Committee of The Netherlands Foundation for the Advancement of Tropical Research (WOTRO) (1999-2000).
- Co-convenor of the International Symposium on Forests - Water - People in the Humid Tropics (IHP-UNESCO-IUFRO, Kuala Lumpur, August 2000.
- Member of the Scientific Committee for the Second International Conference on Fog and Fog Collection, St Johns, Newfoundland, Canada, July 2001.
- Co-convenor of the International Symposium on Science for Conservation and Management of Tropical Montane Cloud Forest, Waimea, Hawaii, 27 July – 2 August 2004.
- Member of the Scientific Committee for the Fifth International Conference on Fog and Fog Collection and Dew, Muenster, Germany, July 2010.
- Member of the Advisory Board of WeForest.com (tropical reforestation for climatic improvement; December 2009-2012).
- Member of the Commission on Ecosystem Management of IUCN, the World Conservation Union (2006+).
- Member of Steering Committee of USF Research Coordination Network on tropical montane cloud forest ecology and climate change (2010+).
- Member of the Advisory Board of the Commonland Foundation for worldwide regreening and rehabilitation of degraded lands (2013+) (www.commonland.com).
- Member of the Advisory Group for NERC-MoES Project on *Hydrologic and carbon services in the Western Ghats (India): Response of forests and agro-ecosystems to extreme rainfall events* (2013+).
- International Member of the Indian National Science Association working group on Strengthening research in the Himalayan Region (2013+).
- Member of the Scientific Committee for the International Tropical Ecology Congress, New Delhi, December 2014.
- Invited member of the FAO-CIFOR expert meeting on forests and water, Kunming, China, March 2014.
- Member of programme committee, Chapman Conference on *Emerging Issues in Tropical Ecohydrology*, Cuenca, Ecuador, June 2016 (<http://chapman.agu.org/ecohydrology/>).

Membership of editorial boards, journal reviews, proposal reviews

- Member of the editorial board of *Land Husbandry (International Journal of Soil and Water Conservation)* (1996-1998).
- Member of the editorial board of *The Journal of Tropical Ecology* (1998+)
- Member of the editorial board of *Hydrological Processes* (2001- January 2012)
- Member of the editorial board of *Land Use and Water Resources Research* (e-journal, 2001-2008)
- Associate editor with the *Encyclopedia of Forestry*, Academic Press (Forest hydrology section, 2001-2004).
- Member of the editorial board of *Ecohydrology* (2007+).
- Member of the editorial board of *GeoÖkologie* (2009+).
- Regular peer reviews for: *Agricultural and Forest Meteorology*, *Biogeochemistry*, *Ecohydrology*, *Hydrology and Earth System Science*, *Hydrological Processes*, *Hydrological Sciences Journal*, *Journal of Hydrology*, *Journal of Tropical Ecology*, *Journal of Tropical Forest Science*, *Tree Physiology*, *Water Resources Research*, etc.
- Occasional peer reviews for: *Agriculture, Ecosystems & Environment*, *Catena*, *Earth Science Reviews*, *Earth Surface Processes and Landforms*, *Ecological Applications*, *European Journal of Soil Science*, *GeoJournal*, *Global Change Biology*, *Japanese Journal of Ecology*, *Journal of Soil and Water Conservation*, *Land Degradation and Development*, *Nature*, *Pedosphere*, *Plant Ecology*, *Plant and Soil*, *Quarterly Journal of the Royal Meteorological Society*, *Science*, *Rapid Communications in Mass Spectrometry*, *Singapore Journal of Tropical Geography*, *Trees Structure and Function*, *Trends in Ecology and Evolution*, etc., etc.
- Peer reviews of research proposals for: the Netherlands Foundation for the Advancement of Tropical Research (NWO-WOTRO), the National Science Foundation (NSF-US), Natural Environmental Research Council (NERC-UK), Australian Centre for International Agricultural Research (ACIAR), the Royal Society of the UK, the German Research Association (DFG).



Invited lectures

- 1982+ *Guest lectures* at Amsterdam, Leiden and Utrecht State Universities, Wageningen Agricultural University, IHE-UNESCO (Delft), International Training Institute for Aerial surveys, University of Twente (Enschede), Committee for IUCN (Amsterdam), Directorate General for International Cooperation (DGIS, The Hague), WNF, Tropenbos International (all in the Netherlands); Leuven Catholic University, Leuven (Belgium); Oxford Forestry Institute, Universities of Stirling, Exeter, Oxford, Cambridge, Lancaster, Newcastle, Silsoe Agricultural College (all in UK); Swedish University of Agricultural Sciences, Umea and Uppsala (both in Sweden); Universities of Göttingen, Freiburg, Bayreuth and Münster, Credit Bank for Development, Frankfurt (all in Germany); Alpen-Adria University, Klagenfurt (Austria); Environment & Policy Institute and University of Hawaii, Honolulu; International Institute of Tropical Forestry, Rio Piedras, Puerto Rico; Paul Smiths College, N.Y.; World Bank, Washington DC, Conservation International, Washington DC; University of Pennsylvania, Philadelphia (all in US); University of British Columbia, Kelowna, University of Saskatchewan, Saskatoon (both in Canada) (see <http://www.youtube.com/user/usaskgiws>); Forest Research Institutes of Malaysia (Kempang), the Philippines (Cebu branch), India (Dehradun) and Taiwan (Taipei); Universitas Gadjah Mada (Yogyakarta, Indonesia); Universitas Padjadjaran (Bandung, Indonesia); Universiti Putra Malaysia (Serdang); National University of Singapore; Forest Research Centres of Indonesia (Bogor) and Sabah, East Malaysia (Sepilok); Watershed Technology Centre, Solo (Indonesia); UNESCO Humid Tropics Centre (Malaysia);

Visayas State University, Leyte and Department of Environment and Natural Resources, Manila (Philippines); International Centre for Integrated Mountain Development, Kathmandu, Nepal; G.B. Pant Institute of Himalayan Environment and Development, Almora; Ashoka Trust for Research in Ecology and Environment, Bangalore, National Institute of Hydrology, Roorkee (all in India); Geological Bureau, Hunan Province, P.R. of China; Chinese Academy of Forestry, Beijing; South China Botany Institute, Kunming; University of Queensland, Brisbane; CSIRO Division of Water Resources, Canberra, Australia; University of the West Indies, Kingston, Jamaica; WWF, Oaxaca (Mexico), National Forestry Commission (Veracruz, Mexico), Institute of Ecology, Xalapa (Mexico), Universidad de Michoacan San Nicolas de Hidalgo, Morelia (Mexico); Rafael Llandar University, Guatemala City (Guatemala); Smithsonian Institution, Panama City (Panama); National University of Colombia, Medellin (Colombia); La Molina Agricultural University, Lima, Cajamarca Regional Government, Cajamarca, WWF-Peru (all in Peru).

- 1987+ *Invited keynote presentations* at the following international workshops and symposia: Future of Watershed Research in the Asia-Pacific Region, Taipei, Taiwan (March 1987); Nutrients in Tropical Forest and Savanna Ecosystems, Stirling, UK (September 1987); Wise Management of Tropical Forests, Oxford, UK (March 1992); Tropical Montane Cloud Forests, San Juan, Puerto Rico (June 1993); Hydrology of Warm Humid Regions, Yokohama, Japan (July 1993); Forest Hydrology, Canberra, Australia (November 1993); Meeting on Rain Forests of the Cambridge Philosophical Society (December 1993); ABRACOS Symposium on Amazonian Deforestation and Climate, Brasilia, Brazil (September 1994); Soils, Water and Nutrients in Tropical Tree Plantations, Puncak, Indonesia (March 1995); Gordon Research Conference on Biogeochemistry of Forested Watersheds, New Hampshire, US (August 1995); Soils of Tropical Forest Ecosystems, Balikpapan, Indonesia (October 1995); International Seminar on Dutch Contributions to IHP-OHP, Delft, NL (December 1995); Colloquium on Hydrology of the Humid Tropics, Panama City, Panama (March 1999); Environmental Services and Land Use Change, Chiang Mai, Thailand (June 1999); Annual Meeting of the German Association for Montane Ecology, Goettingen, Germany (February 2002); idem, Bayreuth (February 2004); Session on Improving the functional benefits and ecological services from forest rehabilitation, IUFRO World Congress, Brisbane, Australia (August 2005); Forests and Low Flows in the Seasonal Tropics, Panama City, Panama (November 2005); Session on Forests and Natural Disasters, World Water Forum, Mexico City (March 2006); Ecohydrology workshop, Ecological Institute, Xalapa, Mexico (March 2006); Forest and Water in a Changing Environment, Beijing (August 2006); Planted Forests and Sustainable Development, Bilbao (Oct 2006); Tropical Hydrology Symposium, Panama City, Panama (March 2009); PASI Workshop on Tropical Montane Cloud Forests and Climate Change, Dominican Republic (March 2010); Asia Pacific Workshop on Forest Hydrology, Dehradun, India (September 2013); Workshop on Trees, Water and Food Security in Complex Tropical Landscapes, Uppsala, Sweden (November 2014); Tropical Ecological Congress, New Delhi (December 2014); Fourth International Congress on Forests and Water in a Changing Environment, Kelowna, Canada (July 2015); Chapman Conference on Emerging Issues in Tropical Ecohydrology, Cuenca, Ecuador (June 2016).

External examiner of the following PhD theses:

- 1990 *Rainfall interception and above-ground nutrient fluxes in Colombian montane tropical rain forest* (E.J. Veneklaas, Utrecht University, Utrecht, the Netherlands).
- 1993 *Variation in soil moisture and air vapour pressure deficit relative to tropical rain forest edges near Manaus, Brazil* (J.L.C. Camargo, M.Phil. thesis, Cambridge University, Cambridge, U.K.).
- 1993 *Dynamics of hydrology and nutrient losses in response to establishment of forest plantation: A case study in Sabah, Malaysia* (A. Malmer, Swedish University of Agricultural Sciences, Umea, Sweden).
- 1993 *Decomposition and nutrient flow in a pine forest plantation in Central Java* (B. Gunadi, Department of Soil Ecology, VUA).

- 1994 *Modelling the effects of logging on the water balance of a tropical rain forest. A study in Guyana* (V.G. Jetten, Utrecht University, Utrecht, the Netherlands).
- 1996 *Effects of forest cover changes on hydrological processes* (W. Putuhena, The University of New South Wales, Sydney, Australia).
- 1999 *Monitoring and modelling hydrological fluxes in support of nutrient cycling studies in Amazonian rain forest ecosystems* (C. Tobón-Marin, University of Amsterdam, Amsterdam).
- 2001 *Forest filled with gaps: Effects of gap size on water and nutrient cycling in tropical rain forest. A study in Guyana* (O. van Dam, Utrecht University, Utrecht, the Netherlands).
- 2008 *Assessment of watershed functions to support negotiations in a catchment under conflict in Sumberjaya, Lampung, Indonesia* (B. Verbist, University of Leuven, Belgium) (spring and fall 2008).
- 2010 *Role of interception in the hydrological cycle*. (M. Gerrits, Delft Technical University, Netherlands).
- 2011 *Evaporation in the global water cycle. Analyzing land evaporation using satellite observations*. (D.G. Miralles, VU University, the Netherlands).
- 2011 *Water-use, growth and water-use efficiency of indigenous tree species in a range of forest and woodland systems*. (M.B. Gush, University of Capetown, Republic of South Africa).
- 2011 *Epiphytic bryophytes as cloud forest indicators: stable isotopes, biomass and diversity along an altitudinal gradient in Peru* (A.B. Horwath, University of Cambridge, UK).
- 2013 *Vulnerability to drought and soil carbon exchange of valley forest in Central Amazonia*. (F.B. Zanchi, VU University, the Netherlands).
- 2015 *Tree-water interactions at varying spatio-temporal scales in a water-limited environment*. (J.L. Reyes-Acosta, University of Twente, the Netherlands).
- 2016 *Integrated hydrogeological study of San Cristobal Island (Galapagos)*. (C.G. Domínguez, Université Pierre et Marie Curie, Paris, France).

Membership of tenure committees

Vrije Universiteit, Amsterdam (tenure review, 6x; staff replacements, 3x); Universities of Bern (tenure review), Lancaster UK (promotion review), Pennsylvania, Philadelphia (tenure review), US Forest Service, Puerto Rico (promotion review), King's College London (promotion review), Imperial College London (promotion review) Goettingen, Germany (tenure review), Texas A&M University, Austin (tenure review), University of Hawaii, Honolulu (award review), Iowa State University, Ames (tenure review), Cranfield University, UK (tenure review), University of Aberdeen (tenure review). Plus numerous reviews of post-doctoral and PhD positions (U.S., Germany, U.K., NL).

Membership of university committees

- Member of Faculty library committee (1994-2004, chairman 1996-2004).
- Member of Faculty committee on curriculum development for environmental sciences (1999-2001).
- Member of Faculty educational committee for environmental sciences (1999-2001).
- Member of Faculty committee on the future of environmental sciences (2000-2001).
- Member of the Faculty programme committee (2003-2004).
- Coordinator and Budget controller of the Hydrology Section (2007-2011).

- Director of the Hydrology Master educational programme (2010-2014).
- Head, Amsterdam Critical Zone Hydrology Group (2012–2015).

Languages

- Dutch, English, Bahasa Indonesia: fluent
- German, French, Malaysian: fair
- Spanish: basic.

Non-scientific interests

- Eastern religion / philosophy
- Garden design and gardening
- Percussion
- Hiking and climbing.