

CURRICULUM VITAE – Jonas Olsson

Personal data and current employment

Born: 19 February 1964 in Gudmuntorp, Sweden
Citizenship: Swedish
Languages: Swedish and English (fluent);
Japanese, French and German (fair)

Scientific Lead at: Research & Development (hydrology)
Swedish Meteorological and Hydrological Institute
SE-601 76 Norrköping, Sweden
Phone +46-(0)11-495 8322
Fax +46-(0)11-495 8001
E-mail jonas.olsson@smhi.se



Main fields of research

- » Rainfall-runoff modelling and forecasting
- » Climate change impacts on hydrology
- » Rainfall disaggregation and downscaling
- » Uncertainty in hydrological modelling
- » Nonlinear and scaling approaches in hydrology

Work tasks

- » Adjunct professor at Lund University
- » Leader and member of research projects
- » Author and reviewer of applications, papers, etc.
- » Supervisor of young researchers
- » Scientific paper manager

Academic degrees

- » **2010** Awarded the title of Reader (Docent) in Water Resources Engineering at the Faculty of Engineering, Lund University, Sweden
- » **1996** Ph.D. in Water Resources Engineering (hydrology) at the Faculty of Engineering, Lund University, Sweden
- » **1989** M.Sc. in Civil Engineering at the Faculty of Engineering, Lund University, Sweden

Employment etc.

- » **2021-present** Adjunct professor at Lund University, Sweden (20%)
- » **2010-2011** Associate research professor at Tokyo Metropolitan University (6 months)
- » **2005, 2007, 2014** Parental leave (3×6 months)
- » **2001** Research associate at Lund University, Sweden
- » **1997-2000** Post-Doc at Kyushu University, Fukuoka, Japan (EU S&T Fellowship)
- » **1989-1996** Doctoral candidate and Research assistant at Lund University, Sweden

Supervision and teaching

- » **2023-present** Co-supervision of Ph.D. thesis by Louise Petersson, Lund University: *Hydro-meteorological monitoring*
- » **2015-present** Lecturer in M.Sc. course *Water, society and climate change* at Lund University
- » **2021** Co-supervision of M.Sc. thesis by Daniel Elfström and Max Stefansson, Uppsala University: *How design storms with normally distributed intensities customized from precipitation radar data in Sweden affect the modeled hydraulic response to extreme rainfalls*
- » **2021** Co-supervision of M.Sc. thesis by Louis Rulewski Stenberg, Uppsala University: *High frequency rainfall data disaggregation with a random cascade model*
- » **2020** Co-supervision of M.Sc. thesis by Sofia Litsmark, Uppsala University: *Investigating the relationship between circulation patterns and cloudburst character in a changing climate*
- » **2018** Co-supervision of M.Sc. thesis by Samuel Hermelin, Royal Institute of Technology: *Differences in consequences between peak arrivals and movement directions of an extreme rainfall in flood modeling*
- » **2015-2016** Co-supervision of M.Sc. thesis by Cajsa-Lisa Ivarsson, Lund University: *High-resolution ensemble flood forecasting in Høje Å*

- » **2010-2019** Co-supervision of Ph.D. thesis by Kean Foster, Lund University: *Seasonal hydrological forecasting in Sweden*
- » **2009-2011** Co-supervision of M.Sc. thesis by Hiromi Boda, Tokyo Metropolitan University: *Spatio-temporal characteristics of 15-min precipitation in Sweden*
- » **2002-2009** Co-supervision of Ph.D. thesis by Sihem Testouri, Lund University: *Water erosion modelling using fractal rainfall disaggregation*
- » **2002-2003** Co-supervision of M.Sc. thesis by Jörgen Rosberg, Uppsala University: *Modeling phosphorus transport and retention in river networks*
- » **2001-2005** Co-supervision of Ph.D. thesis by Pernilla Öhrström, Lund University: *Unsaturated solute transport in a semiarid catchment*
- » **2000-2001** Co-supervision of M.Sc. thesis by Izumi Ishikawa, Kyushu University: *Rainfall estimation model in the Chikugo River Basin by statistical atmospheric downscaling using artificial neural networks*
- » **1997-1998** Co-supervision of Ph.D. thesis by Tarek Merabtene, Kyushu University: *Decision Support System for water resources management*
- » **1990-2001** Frequent course assistant in hydraulics and hydrological modelling for M.Sc. students

International work

- » **2007, 2010, 2013** Tokyo Metropolitan University, Tokyo, Japan (1+1+2 months; funded by Scandinavia-Japan Sasakawa Foundation and Royal Academy of Sciences/JSPS)
- » **1992, 2002, 2004** Kyushu University, Fukuoka, Japan (1+1+2 months; funded by Royal Academy of Sciences/JSPS, Scandinavia-Japan Sasakawa Foundation and J. G. Richerts Memorial Foundation)
- » **1993/1994** Université Pierre & Marie Curie, Paris, France (4 months; funded by Åke and Greta Lissheds Foundation)
- » **1991** Politecnico di Milano, Milan, Italy (2 months; funded by Axel and Margaret Ax:son Johnsons Foundation)
- » **Since 1996** Short (>1 month) visits to Institute of Hydrology (Wallingford, UK), Swiss Federal Institute of Technology (ETH) (Zürich, Switzerland), Kyushu University (Fukuoka, Japan), Tokyo Metropolitan University (Tokyo, Japan) and Nara Institute of Science and Technology (Nara, Japan)

Scientific commitments

ASSIGNMENTS & AWARDS

- » **2021-2025** Swedish delegate in the Management Committee of COST Action CA20136 OPENSENSE *Opportunistic Precipitation Sensing Network*
- » **2021** Faculty opponent of Jonas Wied Pedersen, Technical University of Denmark, Ph.D. thesis *Using Numerical Weather Prediction and in-sewer sensor data for real-time monitoring and forecasting in urban drainage-wastewater systems*
- » **2020** Invited expert in the project *Sustainable water – climate change* by Royal Swedish Academy of Engineering Sciences
- » **2019** Faculty opponent of Barbara Blumentahl, Karlstad University, Techn.Lic. thesis *Precipitation intensity and other factors affecting cloudburst damage*
- » **2017** Ph.D. dissertation board member of Lotten Wiréhn, Linköping University, Ph.D. thesis *Climate vulnerability assessment methodology – A study for Nordic agriculture*
- » **2015** Faculty opponent of Hong Li, University of Oslo, Ph.D. thesis *Hydrological modelling of mountainous and glacierised regions under changing climate*
- » **2014** Faculty opponent of Hjalte Jomo Danielsen Sørup, Technical University of Denmark, Ph.D. thesis *Modelling of spatio-temporal precipitation relevant for urban hydrology with focus on scales, extremes and climate change*
- » **2013** Ph.D. dissertation board member of Claudia Teutschbein, Stockholm University, Ph.D. thesis *Hydrological modelling for climate change impact assessment*
- » **2013** Ph.D. dissertation board member of Tinghai Ou, University of Gothenburg, Ph.D. thesis *Observed and simulated changes in extreme precipitation and cold surges in China: 1961-2005*
- » **2012** Co-author of paper awarded the large prize of Nordic Association for Hydrology for best publication

in Hydrology Research during the last 2 years.

- » **2012-present** Deputy Auditor of Nordic Association for Hydrology
- » **2012** Faculty opponent of Noora Veijalainen, Finnish Environment Institute, Ph.D. thesis *Estimation of climate change impacts on hydrology and floods in Finland*
- » **2011-2015** Swedish delegate in the Management Committee of COST Action ES1102 VALUE *Validating and Integrating Downscaling Methods for Climate Change Research*
- » **2009-2013** Steering group member of Swedish Road Authority project *Adaptation of road drainage structures to climate change*
- » **2007** Ph.D. dissertation board member of Amad Mohammad Kalteh, Lund University, Ph.D. thesis *Rainfall-runoff modelling using artificial neural networks (ANNs)*
- » **2005-2010** Swedish delegate in the Management Committee of COST Action 731 *Propagation of Uncertainty in Advanced Meteo-Hydrological Forecast Systems*

INVITED TALKS

- » **2023** Vattenstämman, Umeå, Sweden
- » **2023** Conference “How can we better manage cloudburst events?”, Karlstad, Sweden
- » **2022** Sewer Networks and Climate, online
- » **2020** Symposium “Downscaling climate projections – towards better adaptation strategies in the Nordic countries”, online
- » **2020** Sewer Networks and Climate, Malmö, Sweden
- » **2016** Research and Innovation for Sustainable Stormwater Management, Stockholm, Sweden
- » **2015** Modeling Hydrology, Climate and Land Surface Processes, Lillehammer, Norway
- » **2015** European Geosciences Union General Assembly, Vienna, Austria
- » **2011** Urban Hydrology and Storm Water Management, Lund, Sweden
- » **2011** IUGG, Earth on the Edge: Science for a Sustainable Planet, Melbourne, Australia
- » **2010** KlimatGIS-dagar, Stockholm, Sweden
- » **2009** VA-mässan, Stockholm, Sweden
- » **2009** Nordic Hydrology, Fundamentals and Market Analysis, Oslo, Norway
- » **2006** Joint COST Action 731 and NetFAM Workshop on Uncertainty in High-Resolution Meteorological and Hydrological Models, Vilnius, Lithuania
- » **2001** International Workshop on Scaling Problems in Hydrology, Austrian Academy of Sciences, Vienna, Austria

CONFERENCES

- » **2022** Nordic Hydrological Conference, Tallinn, Estonia (scientific committee member)
- » **2018** Hydrofractals’18, Constanta, Romania (scientific committee member)
- » **2012** Nordic Hydrological Conference, Oulu, Finland (scientific committee member)
- » **2009** 9th European Conference on Applications of Meteorology (ECAM), Toulouse, France (co-convener at the session on Hydrology)
- » **2003** Hydrofractals’03, Ascona, Switzerland (scientific committee member)
- » **1997-2000** European Geophysical Society General Assembly (co-convener (and sometimes chairman) at the session on Nonlinear Processes in Geophysics)
- » **1994** International Workshop on Closing the Gap Between Theory and Practice in Urban Rainfall Applications, St. Moritz, Switzerland (chairman)

REVIEWING

- » **Article manuscripts (since 1996)** Journal of Hydrology (>5); Journal of Geophysical Research (>3); Atmospheric Research (>3); Water Resources Research (>3); Hydrology and Earth System Sciences (>1); Soil Science Society of America Journal (>1); Hydrological Processes (>1); Stochastic Environmental Research and Risk Assessment (>1); Urban Water (>1); International Journal of Climatology (1); Water, Air and Soil Pollution (1); Physics and Chemistry of the Earth (1); Water Science and Technology (1); Journal of Applied Meteorology (1); Nonlinear Processes in Geophysics (1); Journal of Contaminant Hydrology (1);

- Nordic Hydrology (1); Hydrological Sciences Journal (1); Climatic Change (1); Advances in Geosciences (1); Advances in Water Resources (1); Climatic Change Letters (1); Climate Dynamics (1); Meteorology and Atmospheric Physics (1); Journal of Hydrometeorology (1); Advances in Science and Research (1)
- » **Project applications (since 2000)** Natural Sciences and Engineering Research Council of Canada (4); National Science Foundation, USA (2); Natural Environment Research Council, UK (1); Netherlands Organisation for Scientific Research (1); French National Research Agency (ANR) (1); Environmental Protection Agency of Ireland (1)
 - » **Conference contributions** 9th Intl. Conf. on Urban Drainage Modelling (2012); XXVII Nordic Hydrological Conference (2012); 18th World IMACS/MODSIM09 Congress (2009); 11th Intl. Conf. on Urban Drainage (2008)
 - » **Book chapters** *Green House Gas Emissions and Climate Change*, ASCE (2011); *Advances in data-based approaches for hydrologic modeling and forecasting*, World Scientific Publishing Company (2008)

Project management

- » **2023-2026** Work Package leader in the Formas project *FairWater*
- » **2023-2025** Work Package leader in the Formas project *SPARC*
- » **2019-2023** Work Package leader in the MSB project *Extreme-Index*
- » **2019-2022** Work Package leader in the EU Water JPI project *GlobalHydroPressure*
- » **2016-2019** Coordinator of the EU Water JPI project *MUFFIN Multi-scale Urban Flood Forecasting*
- » **2016-2017** Work Package leader in the EU Copernicus project *Urban SIS Climate Information for European Cities*
- » **2010-2012** Work Package leader in the EU FP7 project *SUDPLAN Sustainable Urban Development Planner for Climate Change Adaptation*
- » **2010-2014** Project Manager of Formas project *HYDROIMPACTS2.0 Hydrological Climate Impact Scenarios*
- » **2003-2004** Work Package leader in the EU FP5 project *CARPE DIEM Critical Assessment of available Radar Precipitation Estimation techniques and Development of Innovative approaches for Environmental Management*
- » **2001-present** Frequent manager of national research projects

SCIENTIFIC JOURNALS (PEER-REVIEWED)

- J1. Dyrddal, A.V., Médus, E., Dobler, A., Hodnebrog, Ø, Arnbjerg-Nielsen, K., Olsson, J., Thomassen, E.D., Lind, P., Gaile, D., and P. Post (2023) Changes in design precipitation over the Nordic-Baltic region as given by convection-permitting climate simulations, *Weather Clim. Extremes*, submitted.
- J2. Thomassen, E.D., Arnbjerg-Nielsen, K., Sørup, H.J.D., Langen, P.L., Olsson, J., Pedersen, R.A., and O.B. Christensen (2023) Spatial and temporal characteristics of extreme rainfall: Added benefit with sub-kilometre resolution climate model reanalysis? *Q.J.R. Meteorol. Soc.*, in press.
- J3. Amaguchi, H., Olsson, J., Tanouchi, H., and A. Kawamura (2023) Urban flood runoff modelling in Japan: current status and future prospects, *Water*, revised.
- J4. Andersson, J.C.M., Olsson, J., van de Beek, R., and J. Hansryd (2022) OpenMRG: Open data from Microwave links, Radar, and Gauges for rainfall quantification in Gothenburg, Sweden, *Earth System Sci. Data*, 14, 5411-5426, doi: 10.5194/essd-14-5411-2022.
- J5. Fuentes-Andino, D., Hundecha, Y., Lindström, G., and J. Olsson (2022) Exploring the potential for parameter transfer from daily to hourly time step in the HYPE model for Sweden, *Hydrol. Sci. J.*, 67:13, 1988-2001, doi: 10.1080/02626667.2022.2121165.
- J6. Glaas, E., Bohman, A., Karlson, M., Navarra, C., Olsson, J., Hundecha, Y., Opach, T., Cederlund, D., Sjulander, J., Neset, T.-S., and B.-O. Linnér (2022) Development and user testing of the ICT-platform Visual Water supporting sustainable municipal stormwater planning, *Urban Water J.*, 19:9, 962-974, doi: 10.1080/1573062X.2022.2108850.
- J7. Rosbjerg, D., Engeland, K., Førland, E., Haghghi, A.T., Mehr, A.D., and J. Olsson (2022) Nordic contributions to stochastic methods in hydrology, *Hydrol. Res.*, 53, 840-866, doi: 10.2166/nh.2022.137.
- J8. Olsson, J., Dyrddal, A.V., Médus, E., Södling, J., Aniskeviča, S., Arnbjerg-Nielsen, K., Førland, E., Mačiulytė, V., Mäkelä, A., Post, P., Thorndahl, S.L., and L. Wern (2022) Sub-daily rainfall extremes in the Nordic-Baltic region, *Hydrol. Res.*, 53, 807-824, doi: 10.2166/nh.2022.119.
- J9. Médus, E., Thomassen, E.D., Belušić, D., Lind, P., Berg, P., Christensen, J.H., Christensen, O.B., Dobler, A., Kjellström, E., Olsson, J., and W. Yang (2022) Characteristics of precipitation extremes over the Nordic region: added value of convection-permitting modeling, *Natural Hazards Earth System Sci.*, 22, 693-711, doi: 10.5194/nhess-22-693-2022.
- J10. Dyrddal, A.V., Olsson, J., Médus, E., Arnbjerg-Nielsen, K., Post, P., Aniskeviča, S., Thorndahl, S.L., Førland, E., Wern, L., Mačiulytė, V., and A. Mäkelä (2021) Observed changes in heavy daily precipitation over the Nordic-Baltic region, *J. Hydrol. Reg. Stud.*, 38, 100965, doi: 10.1016/j.ejrh.2021.100965.
- J11. Olsson, J., Du, Y., An, D., Uvo, C.B., Toivonen, E., Belušić, D., and A. Dobler (2021) An analysis of (sub-)hourly rainfall in convection-permitting climate simulations over southern Sweden from a user's perspective, *Frontiers Earth Sci.*, 9:681312, doi: 10.3389/feart.2021.681312.
- J12. Olsson, J., Berg, P., and R. van de Beek (2021) Visualization of radar-observed rainfall for hydrological risk assessment, *Adv. Sci. Res.*, 18, 59-64, doi: 10.5194/asr-18-59-2021.
- J13. Uvo, C.B., Foster, K., and J. Olsson (2021) The spatio-temporal influence of atmospheric teleconnection patterns on hydrology in Sweden, *J. Hydrol. Reg. Stud.*, 34, 100782, doi: 10.1016/j.ejrh.2021.100782.
- J14. van de Beek, R., Olsson, J., and J. Andersson (2020) Optimal grid resolution for precipitation maps from commercial microwave link networks, *Adv. Sci. Res.*, 17, 79-85, doi: 10.5194/asr-17-79-2020.
- J15. Hosseini, S.H., Hashemi, H., South, N., Aspegren, H., Berndtsson, R., Larsson, R., Olsson, J., Persson, A., Olsson, L., and A. Marmbrandt (2020) Evaluation of a new X-band weather radar for operational use in South Sweden, *Water Sci. Technol.*, 81, 1623-1635, wst2020066, doi: 10.2166/wst.2020.066.
- J16. Schleiss, M., Olsson, J., Berg, P., Niemi, T., Kokkonen, T., Thorndahl, S., Nielsen, R., Ellerbæk Nielsen, J., Bozhinova, D., and S. Pulkkinen (2020) The accuracy of weather radar in heavy rain: a comparative study for Denmark, the Netherlands, Finland and Sweden, *Hydrol. Earth System Sci.*, 24, 3157-3188, doi: 10.5194/hess-24-3157-2020.
- J17. Du, T.L.T., Lee, H., Bui, D.D., Arheimer, B., Li, H.-Y., Olsson, J., Darby, S.E., Sheffield, J., Kim, D., and E. Hwang (2020) Streamflow prediction in "geopolitically ungauged" basins using satellite observations and regionalization at subcontinental scale, *J. Hydrol.*, 588, 125016, doi: 10.1016/j.jhydrol.2020.125016.
- J18. Kalantari, Z., Santos Ferreira, C.S., Page, J., Goldenberg, R., Olsson, J., and G. Destouni (2019) Meeting sustainable development challenges in growing cities: coupled social-ecological systems modeling of land

- use and water changes, *J. Env. Managem.*, 245, 471-480, doi: 10.1016/j.jenvman.2019.05.086.
- J19. Gidhagen, L., Olsson, J., Amorim, J.H., Asker, C., Belusic, D., Carvalho, A.C., Engardt, M., Hundecha, Y., Körnich, H., Lind, P., Lindstedt, D., Olsson, E., Rosberg, J., Segersson, D., and L. Strömbäck (2019) Towards climate services for European cities: lessons learnt from the Copernicus Climate Change Service Urban SIS, *Urban Clim.*, 31, 100549, doi: 10.1016/j.uclim.2019.100549.
- J20. Persson, M., Selim, T., and J. Olsson (2019) Groundwater contamination risks from point source pollutants in a future climate, *Hydrol. Sci. J.*, 64(13), 1659-1671, doi: 10.1080/02626667.2019.1662022.
- J21. Berg, P., Christensen, O.B., Klehmet, K., Lenderink, G., Olsson, J., Teichmann, C., and W. Yang (2019) Summertime precipitation extremes in a EURO-CORDEX 0.11° ensemble at an hourly resolution, *Natural Hazards Earth System Sci.*, 19, 957-971, doi: 10.5194/nhess-19-957-2019.
- J22. Tanouchi, H., Olsson, J., Lindström, G., Kawamura, A., and H. Amaguchi (2019) Improving urban runoff in multi-basin hydrological simulation by the HYPE model using EEA Urban Atlas: a case study in the Sege River Basin, Sweden, *Hydrology*, 6(1), 28, doi: 10.3390/hydrology6010028.
- J23. Olsson, J., Södling, J., Berg, P., Wern, L., and A. Eronn (2019) Short-duration rainfall extremes in Sweden: a regional analysis, *Hydrol. Res.*, nh2019073, doi: 10.2166/nh.2019.073.
- J24. Grahn, T., and J. Olsson (2018) Insured flood damage in Sweden, 1987-2013, *J. Flood Risk Manag.*, e12465, doi: 10.1111/jfr3.12465.
- J25. Foster, K., Uvo, C.B., and J. Olsson (2018) The development and testing of a hydrological seasonal forecast system prototype for predicting spring flood volumes in Swedish rivers, *Hydrol. Earth System Sci.*, 22, 2953-2970, doi: 10.5194/hess-22-2953-2018.
- J26. Selim, T., Persson, M., and J. Olsson (2017) Impact of spatial rainfall resolution on point source solute transport modelling, *Hydrol. Sci. J.*, 62:16, 2587-2596, doi: 10.1080/02626667.2017.1403029.
- J27. Olsson, J., Bengtsson, L., Pers, B.C., Berg, P., Pechlivanidis, I., and H. Körnich (2017) Distance-dependent depth-duration analysis in high-resolution hydro-meteorological ensemble forecasting: a case study in Malmö, Sweden. *Environ. Model. Softw.*, 93, 381-397, doi:10.1016/j.envsoft.2017.03.025.
- J28. Olsson, J., Arheimer, B., Borris, M., Donnelly, C., Foster, K., Nikulin, G., Persson, M., Perttu, A.-M., Uvo, C.B., Viklander, M., and W. Yang (2016) Hydrological climate change impact assessment at small and large scales: key messages from recent progress in Sweden, *Climate*, 4, 39, doi:10.3390/cli4030039.
- J29. Berg, P., Norin, L., and J. Olsson (2016) Creation of a high resolution precipitation data set by merging gridded gauge data and radar observations for Sweden, *J. Hydrol.*, 541, 6-13, doi:10.1016/j.jhydrol.2015.11.031.
- J30. Pechlivanidis, I.G., Olsson, J., Bosshard, T., Sharma, D., and K.C. Sharma (2016) Multi-basin modelling of future hydrological fluxes in the Indian subcontinent, *Water*, 8, 177, doi:10.3390/w8050177.
- J31. Akselsson, C., Olsson, J., Belyazid, S., and R. Capell (2016) Can increased weathering rates due to future warming compensate for base cation losses at whole-tree harvesting?, *Biogeochemistry*, 128, 89-105, doi:10.1007/s10533-016-0196-6.
- J32. Olsson, J., Uvo, C.B., Foster, K., and W. Yang (2016) Technical Note: Initial assessment of a multi-method approach to spring flood forecasting in Sweden, *Hydrol. Earth System Sci.*, 20, 1-9, doi:10.5194/hess-20-1-2016.
- J33. Yang, W., Gardelin, M., Olsson, J., and T. Bosshard (2015) Multi-variable bias correction: application of forest fire risk in present and future climate in Sweden, *Natural Hazards Earth System Sci.*, 15, 2037-2057, doi:10.5194/nhess-15-2037-2015.
- J34. Olsson, J., Berg, P., and A. Kawamura (2015) Impact of RCM spatial resolution on the reproduction of local, sub-daily precipitation, *J. Hydrometeorol.*, 16, 534-547, doi:10.1175/JHM-D-14-0007.
- J35. Pechlivanidis, I.G., Olsson, J., Sharma, D., Bosshard, T., and K.C. Sharma (2015) Assessment of the climate change impacts on the water resources of the Luni region, India, *Global NEST Journal*, 17(1), 29-40.
- J36. Rana, A., Foster, K., Bosshard, T., Olsson, J., and L. Bengtsson (2014) Impact of climate change on rainfall over Mumbai using Distribution-Based Scaling of Global Climate Model projections, *J. Hydrol. Reg. Stud.*, 1, 107-128, doi:10.1016/j.ejrh.2014.06.005.
- J37. Olsson, J., and K. Foster (2014) Short-term precipitation extremes in regional climate simulations for Sweden, *Hydrol. Res.*, 45.3, 479-489, doi:10.2166/nh.2013.206.
- J38. Olsson, J., Simonsson, L., and M. Ridal (2014) Rainfall nowcasting: predictability of short-term extremes in Sweden, *Urban Water J.*, 11, doi:10.1080/1573062X.2013.847465.
- J39. Rana, A., Bengtsson, L., Jothiprakash, D., Singh, W., and J. Olsson (2013) Development of IDF-curves

- for tropical India by random cascade modeling, *Hydrol. Earth Syst. Sci. Discuss.*, 10, 4709-4738, doi:10.5194/hessd-10-4709-2013.
- J40. Arnbjerg-Nielsen, K., Willems, P., Olsson, J., Beecham, S., Pathirana, A., Bülow Gregersen, I., Madsen, H., and V.T.V. Nguyen (2013) Impacts of climate change on rainfall extremes and urban drainage systems: a review, *Water Sci. Technol.*, 68, 16-28, doi:10.2166/wst.2013.251.
- J41. Olsson, J., Amaguchi, H., Alsterhag, E., Däverhög, M., Adrian, P.-E., and A. Kawamura (2013) Adaptation to climate change impacts on urban storm water: a case study in Arvika, Sweden, *Clim. Chang.*, 116, 231-247, doi:10.1007/s10584-012-0480-y.
- J42. Olsson, J., Gidhagen, L., Gamerith, V., Gruber, G., Hoppe, H., and P. Kutschera (2012) Downscaling of short-term precipitation from Regional Climate Models for sustainable urban planning, *Sustainability*, 4, 866-887, doi:10.3390/su4050866.
- J43. Jebari, S., Berndtsson, R., Olsson, J., and A. Bahri (2012), Soil erosion estimation based on rainfall disaggregation, *J. Hydrol.*, 436-437, 102-110, doi: 10.1016/j.jhydrol.2012.03.001.
- J44. Amaguchi, H., Kawamura, A., Olsson, J., and T. Takasaki (2012) Development and testing of a distributed urban storm runoff event model with a vector-based catchment delineation, *J. Hydrol.*, 420-421, 205-215, doi:10.1016/j.jhydrol.2011.12.003.
- J45. Olsson, J., Willén, U., and A. Kawamura (2012) Downscaling extreme Regional Climate Model (RCM) precipitation for urban hydrological applications, *Hydrol. Res.*, 43, 341-351, doi:10.2166/nh.2012.135.
- J46. Willems, P., Arnbjerg-Nielsen, K., Olsson, J., and V.T.V. Nguyen (2012) Climate change impact assessment on urban rainfall extremes and urban drainage: methods and shortcomings, *Atmos. Res.*, 103, 106-118, doi:10.1016/j.atmosres.2011.04.003.
- J47. Jin, Y.-H., Kawamura, A., Park, S.-C., Amaguchi, H., Nakagawa, N., and J. Olsson (2011) Spatiotemporal classification of environmental monitoring data in the Yeongsan River basin, Korea, using self-organizing map, *J. Environ. Monit.*, 13, 2886-2894, doi:10.1039/c1em10132c.
- J48. Olsson, J., Yang, W., Graham, L.P., Rosberg, J., and J. Andréasson (2011) Using an ensemble of climate projections for simulating recent and near-future hydrological change to Lake Vänern in Sweden, *Tellus*, 63A, 126-137, doi:10.1111/j.1600-0870.2010.00476.x.
- J49. Arheimer, B., Lindström, G., and J. Olsson (2011) A systematic review of sensitivities in the Swedish flood-forecasting system, *Atmos. Res.*, 100, 275-284, doi:10.1016/j.atmosres.2010.09.013.
- J50. Bruen, M., Krahe, P., Zappa, M., Olsson, J., Vehviläinen, B., Kok, K., and K. Daamen (2010) Visualizing flood forecasting uncertainty: some current European EPS platforms - COST731 working group 3, *Atmos. Sci. Lett.*, 11, 92-99, doi:10.1002/asl.258
- J51. Yang, W., Andréasson, J., Graham, L.P., Olsson, J., Rosberg, J., and F. Wetterhall (2010) Distribution-based scaling to improve usability of regional climate model projections for hydrological climate change impact studies, *Hydrol. Res.*, 41, 211-229, doi: 10.2166/nh.2010.004.
- J52. Olsson, J., Berggren, K., Olofsson, M., and M. Viklander (2009) Applying climate model precipitation scenarios for urban hydrological assessment: a case study in Kalmar City, Sweden, *Atmos. Res.*, 92, 364-375, doi:10.1016/j.atmosres.2009.01.015.
- J53. Graham, L.P., Olsson, J., Rosberg, J., Hellström, S.-S., Kjellström, E., and R. Berndtsson (2009) Simulating river flow to the Baltic Sea from climate simulations over the past millennium, *Boreal Env. Res.*, 14, 173-182.
- J54. Persson, M., and J. Olsson (2009) Scaling analyses of high-resolution dye tracer experiments, *Hydrol. Sci. J.*, 53, 1286-1299, doi: 10.1623/hysj.53.6.1286.
- J55. Olsson, J., and G. Lindström (2008) Evaluation and calibration of operational hydrological ensemble forecasts in Sweden, *J. Hydrol.*, 350, 14-24, doi:10.1016/j.jhydrol.2007.11.010.
- J56. Johnell, A., Lindström, G., and J. Olsson (2007) Deterministic evaluation of ensemble stream flow predictions in Sweden, *Nordic Hydrol.*, 38, 441-450, doi:10.2166/nh.2007.022.
- J57. Olsson, J., Persson, M., and K. Jinno (2007) Analysis and modeling of solute transport by breakdown coefficients and random cascades, *Water Resour. Res.*, 43, W03417, doi:10.1029/2005WR004631.
- J58. Nishiyama, K., Endo, S., Jinno, K., Uvo, C.B., Olsson, J., and R. Berndtsson (2007) Identification of typical synoptic patterns causing heavy rainfall in the rainy season in Japan by a Self-Organizing Map, *Atmos. Res.*, 83, 185-200, doi:10.1016/j.atmosres.2005.10.015.
- J59. Olsson, J. (2006) Spatio-temporal precipitation error propagation in runoff modelling: a case study in central Sweden, *Natural Hazards Earth System Sci.*, 6, 597-609, doi:10.5194/nhess-6-597-2006.
- J60. Andersson, L., Rosberg, J., Pers, B.C., Olsson, J., and B. Arheimer (2005) Estimating catchment nutrient

flow with the HBV-NP model - sensitivity to input data, *Ambio*, 34, 521-532, doi:10.1579/0044-7447-34.7.521.

- J61. Persson, M., Haridy, S., Olsson, J., and J. Wendt (2005), Solute transport dynamics by high-resolution dye tracer experiments: image analysis and solute transport modeling, *Vadose Zone J.*, 4, 856-865, doi:10.2136/vzj2004.0129.
- J62. Bengtsson, L., Grahn, L., and J. Olsson (2005) Hydrological function of a thin extensive green roof in southern Sweden, *Nordic Hydrol.*, 36, 259-268.
- J63. Arheimer, B., Andersson, L., Larsson, M., Lindström, G., Olsson, J., and B.C. Pers (2004) Modelling diffuse nutrient flow in eutrophication control scenarios, *Water Sci. Tech.*, 49, 37-45.
- J64. Olsson, J., Uvo, C.B., Jinno, K., Kawamura, A., Nishiyama, K., Koreeda, N., Nakashima, T. and O. Morita (2004) Neural networks for rainfall forecasting by atmospheric downscaling, *J. Hydrol. Eng.*, 9, 1-12, doi: 10.1061/(ASCE)1084-0699(2004)9:1(1).
- J65. Sivakumar, B., Berndtsson, R., Olsson, J., and K. Jinno (2002) Reply to “Which chaos in the rainfall-runoff process?”, *Hydrol. Sci. J.*, 47, 149-158, doi: 10.1080/02626660209492914.
- J66. Olsson, J., Persson, M., Albergel, J., Berndtsson, R., Zante, P., Öhrström, P., and S. Nasri (2002) Multiscaling analysis and random cascade modeling of dye infiltration, *Water Resour. Res.*, 38, 1263, doi: 10.1029/2001WR000880.
- J67. Merabtene, T., Kawamura, A., Jinno, K., and J. Olsson (2002) Risk assessment for optimal drought management of an integrated water resources system using a genetic algorithm, *Hydrol. Proc.*, 16, 2189-2208.
- J68. Olsson, J., and P. Burlando (2002) Reproduction of temporal scaling by a rectangular pulses rainfall model, *Hydrol. Proc.*, 16, 611-630.
- J69. Öhrström, P., Persson, M., Albergel, J., Zante, P., Nasri, S., Berndtsson, R., and J. Olsson (2002) Field-scale variation of preferential flow as indicated from dye coverage, *J. Hydrol.*, 257, 164-173.
- J70. Uvo, C.B., Olsson, J., Morita, O., Jinno, K., Kawamura, A., Nishiyama, K., Koreeda, N., and T. Nakashima, (2001) Statistical atmospheric downscaling for rainfall estimation in Kyushu Island, Japan, *Hydrol. Earth System Sci.*, 5, 259-271.
- J71. Güntner, A., Olsson, J., Calver, A., and B. Gannon (2001) Cascade-based disaggregation of continuous rainfall time series: the influence of climate, *Hydrol. Earth System Sci.*, 5, 145-164.
- J72. Sivakumar, B., Berndtsson, R., Olsson, J., and K. Jinno (2001) Evidence of chaos in the rainfall-runoff process, *Hydrol. Sci. J.*, 46, 131-147.
- J73. Berndtsson, R., Uvo, C., Matsumoto, M., Jinno, K., Kawamura, A., Xu, S., and J. Olsson (2001) Solar-climatic relationship and implications for hydrology, *Nordic Hydrol.*, 32, 65-84.
- J74. Olsson, J., Uvo, C.B., and K. Jinno (2001) Statistical atmospheric downscaling of short-term extreme rainfall by neural networks, *Phys. Chem. Earth*, 26, 695-700.
- J75. Olsson, J., Berndtsson, R., Bahri, A., Persson, M., and K. Jinno (2001) Nonlinear and scaling spatial properties of soil geochemical element concentrations, *Water Resour. Res.*, 37, 1031-1042.
- J76. Sivakumar, B., Berndtsson, R., Olsson, J., Jinno, K., and A. Kawamura (2000) Dynamics of monthly rainfall-runoff process at the Göta basin: a search for chaos, *Hydrol. Earth System Sci.*, 4, 407-418.
- J77. Olsson, J., Singh, V.P., and K. Jinno (1999) Effect of spatial averaging on temporal statistical and scaling properties of rainfall, *J. Geophys. Res.*, 104 (D16), 19117-19126.
- J78. Olsson, J., Uvo, C.B., and K. Jinno (1999) Relationship between air flow indices and local rainfall in Kyushu, Japan, *Annual J. Hydraul. Eng., JSCE*, 43, 263-268.
- J79. Olsson, J. (1998) Evaluation of a scaling cascade model for temporal rainfall disaggregation, *Hydrol. Earth System Sci.*, 2, 19-30.
- J80. Olsson, J., and R. Berndtsson (1998) Temporal rainfall disaggregation based on scaling properties, *Water Sci. Tech.*, 37, 73-79.
- J81. Olsson, J., and J. Niemczynowicz (1996) Multifractal analysis of daily spatial rainfall distributions, *J. Hydrol.*, 187, 29-43.
- J82. Olsson, J. (1996) Validity and applicability of a scale-independent, multifractal relationship for rainfall, *Atmos. Res.*, 42, 53-65.
- J83. Svensson, C., Olsson, J., and R. Berndtsson (1996) Multifractal properties of daily rainfall in two different climates, *Water Resour. Res.*, 32, 2463-2472.
- J84. Olsson, J. (1995) Limits and characteristics of the multifractal behavior of a high-resolution rainfall time series, *Nonlinear Proc. Geophys.*, 2, 23-29.

- J85. Olsson, J., and J. Niemczynowicz (1994) On the possible use of fractal theory in rainfall applications, *Water Sci. Tech.*, 29, 47-52.
- J86. Xu, S., Jinno, K., Kawamura, A., Berndtsson, R., and J. Olsson (1993) Application of the extended Kalman filter for reconstructing systems from chaotic numerical time series, *Annual J. Hydraul. Eng., JSCE*, 37, 853-856.
- J87. Olsson, J., Niemczynowicz, J., and R. Berndtsson (1993) Fractal analysis of high-resolution rainfall time series, *J. Geophys. Res.*, 98 (D12), 23265-23274.
- J88. Olsson, J., Niemczynowicz, J., Berndtsson, R., and M. Larson (1992) An analysis of the rainfall time structure by box-counting - some practical implications, *J. Hydrol.*, 137, 261-277.

MAJOR GREY REFERENCES (BOOKS, REPORTS, ETC.)

- G1. Nyberg, L., Mobini, S., Karagiorgos, K., Olsson, J., Larsson, R., Petersson, L., van de Beek, R., Gustafsson, K., and T. Grahn (2022) New data sources for cloudburst risk assessment and management, *J. Water Manag. Res. (VATTEN)*, 78:2, 77-85 (in Swedish with English abstract).
- G2. Bohman, A., Glaas, E., Karlsson, M., Navarra, C., Olsson, J., Hundecha, Y., Opach, T., Neset, T., and B.-O. Linnér (2021) Visual Water – En visualiseringsplattform för dagvatten- och skyfallsplanering i ett klimat under förändring, Report 2021-4, Svenskt Vatten Utveckling, Box 14057, 167 14 Bromma, Sweden, 20 pp (in Swedish).
- G3. Storränk, B. (Ed.), Stenmark, A., Olsson, J., and A. Dobler (2021) Downscaling climate projections – towards better adaptation strategies in the Nordic countries, Report from a workshop organized by the Nordic Council of Ministers, Nordic Working Paper, Nordic Council of Ministers, Copenhagen, doi: 10.6027/NA2021-901.
- G4. Svensson, G., Berg, P., Dahlström, B., Hernebring, C., and J. Olsson (2020) Precipitation statistics for design of storm water systems – State of the art, Meddelande M148, Svenskt Vatten AB, Sweden, 20 pp (in Swedish).
- G5. Döscher, R. (Ed.), Belusic, D., Berg, P., Bozhinova, D., Barring, L., Eronn, A., Kjellström, E., Klehmet, K., Martins, H., Nilsson, C., Olsson, J., Photiadou, C., Segersson, D., and G. Strandberg (2019) Climate extremes for Sweden, 75 pp., doi: 10.17200/Climate_Extremes_Sweden.
- G6. South, N., Hashemi, H., Olsson, L., Hosseini, S.H., Aspegren, H., Larsson, R., Berndtsson, R., Das, R., Marmbrandt, A., Olsson, J., and A. Persson (2019) Weather radar technology for water and sanitation – test of methodology, Report 2019-3, Svenskt Vatten Utveckling, Box 14057, 167 14 Bromma, Sweden, 74 pp (in Swedish).
- G7. Amorim, J.H., Asker, C., Belusic, D., Carvalho, A.C., Engardt, M., Gidhagen, L., Hundecha, Y., Körnich, H., Lind, P., Olsson, E., Olsson, J., Segersson, D., Strömbäck, L., Joe, P., and A. Baklanov (2018) Integrated urban services for European cities: the Stockholm case. *WMO Bulletin - The journal of the World Meteorological Organization*, 67(2), 33-40. Geneva, Switzerland. ISSN 0042-9767.
- G8. Olsson, J., Berg, P., Eronn, A., Simonsson, L., Södling, J., Wern, L., and W. Yang (2017) Extreme rainfall in present and future climate, SMHI Climatology No 47, SMHI, 601 76 Norrköping, Sweden, 82 pp (in Swedish).
- G9. Ivarsson, C.-L., Olsson, J., Pers, C., and Y. Hundecha (2017) High-resolution ensemble flood forecasting: a case study in Høje Å, Sweden, *J. Water Manag. Res. (VATTEN)*, 73, 85-92.
- G10. Pegram, G., Raynaud, D., Sprokkereef, E., Ebel, M., Rademacher, S., Olsson, J., Alionte-Eklund, C., Johansson, B., Lindström, G. and H. Spångmyr (2017) Present and future requirements for using and communicating hydro-meteorological EPS for short-, medium-, and long-term applications, in Duan, Q., Pappenberger, F., Thielen, J., Wood, A., Cloke, H., and John C. Schaake (Eds.), *Handbook of Hydrometeorological Ensemble Forecasting*, Springer, 2017.
- G11. Olsson, J., and W. Josefsson (Eds.) (2015) The cloudburst commission, SMHI Climatology No 37, SMHI, 601 76 Norrköping, Sweden, 45 pp (in Swedish).
- G12. Eklund, A., Axén Mårtensson, J., Bergström, S., Björck, E., Dahné, J., Lindström, L., Nordborg, D., Olsson, J., Simonsson, L., and E. Sjökvist (2015) The future climate of Sweden, SMHI Climatology No 14, SMHI, 601 76 Norrköping, Sweden, 82 pp (in Swedish).
- G13. Arheimer, B., Olsson, J., and L. Strömbäck (2013) Dissemination and end-user interactions of climate change impact on water resources, *J. Water Manag. Res. (VATTEN)*, 69, 193-199.
- G14. Capell, R., and J. Olsson (2013) Future projections of nutrient fluxes to Lake Mälaren, *J. Water Manag. Res. (VATTEN)*, 69, 209-220.

- G15. Olsson, J., Yang, W., and T. Bosshard (2013) Climate model precipitation in hydrological impact studies: limitations and possibilities, *J. Water Manag. Res. (VATTEN)*, 69, 221-230.
- G16. Persson, M., and J. Olsson (2013) Unsaturated solute transport under different rainfall scenarios, *J. Water Manag. Res. (VATTEN)*, 69, 231-237 (in Swedish).
- G17. Dahné, J., Donnelly, C., and J. Olsson (2013) Post-processing of climate projections for hydrological impact studies, how well is reference state preserved?, IAHS Publications 359, 53-59.
- G18. Olsson, J., Södling, J., and F. Wetterhall (2013) High-resolution precipitation data for hydrological modelling: a preliminary study, SMHI Hydrology No 116, SMHI, 601 76 Norrköping, Sweden, 28 pp (in Swedish).
- G19. Olsson, J., and K. Foster (2013) Extreme short-term precipitation in climate projections for Sweden, SMHI Climatology No 6, SMHI, 601 76 Norrköping, Sweden, 21 pp (in Swedish).
- G20. Willems, P., Olsson, J., Arnbjerg-Nielsen, K., Beecham, S., Pathirana, A., Bülow Gregersen, I., Madsen, H., and V.-T.-V. Nguyen (2012) *Impacts of Climate Change on Rainfall Extremes and Urban Drainage Systems*, IWA Publishing, London, UK.
- G21. Olsson, J., Gidhagen L., and A. Kawamura (2011), Downscaling of short-term precipitation time series for climate change impact assessment. Environmental Software Systems. Frameworks of eEnvironment - 9th IFIP WG 5.11 International Symposium, ISESS 2011, Brno, Czech Republic, June 27-29, doi: 10.1007/978-3-642-22285-6_67.
- G22. Olsson, J., Uvo, C.B., Foster, K., Yang, W., Södling, J., German, J., and B. Johansson (2011) A multi-model system for spring flood forecasts, *Elforsk Rapport 11:72*, The Swedish Electrical Utilities R&D Company, Stockholm, Sweden, 29 pp.
- G23. Olsson, J., Dahné, J., German, J., Westergren, B., von Scherling, M., Kjellson, L., Ohls, F., and A. Olsson (2010) A study of the future discharge load on Stockholm's main sewer system, SMHI Climatology No 3, SMHI, 601 76 Norrköping, Sweden, 42 pp (in Swedish).
- G24. Johansson, B., Lindström, G., Olsson, J., Yacoub, T., Haase, G., Jacobsson, K., Johnell, A., and H. Sanner (2007) Flood forecasting in poorly gauged catchments - method development and evaluation, SMHI Hydrology No 104, SMHI, SE-601 76 Norrköping, Sweden, 65 pp (in Swedish).
- G25. Olsson, J., Lindström, G., Johnell, A., and K. Jacobsson (2006) Hydrological ensemble forecasts, SMHI Reports Hydrology No 21, SMHI, SE-601 76 Norrköping, Sweden, 70 pp (in Swedish).
- G26. Johansson, B., Olsson, J., and G. Haase (2006) Radar observations in the HBV model – an evaluation focused on hydrological forecasts, *Elforsk rapport 06:14*, The Swedish Electrical Utilities R&D Company, Stockholm, Sweden, 19 pp (in Swedish).
- G27. Olsson, J., Lindström, G., and K. Jacobsson (2005) Improved hydrological forecasts based on ensemble technique at ECMWF, *Elforsk rapport 05:43*, The Swedish Electrical Utilities R&D Company, Stockholm, Sweden, 30 pp (in Swedish).
- G28. Arheimer, B., and J. Olsson (2003) Integration and coupling of hydrological models with water quality models: applications in Europe, *WMO Technical Reports in Hydrology and Water Resources*, 75, 49 pp.
- G29. Ishikawa, I., Olsson, J., Jinno, K., Kawamura, A., Nishiyama, K., and R. Berndtsson (2002) Rainfall estimation in the Chikugo River basin by atmospheric downscaling using artificial neural networks, *Memoirs Fac. Eng., Kyushu Univ.*, 62, 85-95.
- G30. Berndtsson, R., Uvo, C., and J. Olsson (1999) Precipitation and runoff analysis using chaos theory and neural networks, Report nr. 3227, Department of Water Resources Engineering, Lund University, Sweden, 47 pp (in Swedish).
- G31. Merabtene, T., Jinno, K., Kawamura, A., and J. Olsson (1998) Drought management of water supply systems: a decision support system approach, *Memoirs Fac. Eng., Kyushu Univ.*, 58, 183-197.
- G32. Olsson, J. (1996) Scaling and fractal properties of rainfall - analysis and modeling of rain gauge data, Ph. D. thesis, Report nr. 1014, Department of Water Resources Engineering, Lund University, Sweden, 218 pp.
- G33. Lidström, V., Olsson, J., and M. Persson (1995) Modelling of solute transport through the unsaturated zone, Report nr. 3187, Department of Water Resources Engineering, Lund University, Sweden, 30 pp.
- G34. Niemczynowicz, J., Linderson, M.-L., Olsson, J., and L. Barring (1993) Rainfall in Scania - characterization of the precipitation in Scania based on 234 daily gauges, Report nr. 3163, Department of Water Resources Engineering, Lund University, Sweden, 77 pp (in Swedish).

SCIENTIFIC CONFERENCE ABSTRACTS

- C1. Du, Y., Olsson, J., Isberg, K., Strömqvist, J., Hundecha, Y., Silva, B.C., Abou Rafee, S.A., Fragoso Jr., R., Beldring, S., and Li, H. (2022) Impact of calibration and forcing data on a global hydrological model, Nordic Hydrological Conference, 15-18 Aug, Tallinn, Estonia.
- C2. Dyrddal, A.V., Olsson, J., Médus, E., Arnbjerg-Nielsen, K., Post, P., Aņisveviča, S., Thorndahl, S., Førland, E., Wern, L., Mačiulytė, V., Mäkelä, A., and Södling, J. (2022) Observed changes in heavy precipitation over the Nordic-Baltic region, EMS Annual Meeting, 5-9 Sep, Bonn, Germany.
- C3. Olsson, J., Dyrddal, A.V., Médus, E., Aņisveviča, S., Arnbjerg-Nielsen, K., Førland, E., Mačiulytė, V., Mäkelä, A., Post, P., Liedke Thorndahl, S., and L. Wern, L. (2022) Rainfall extremes in the Nordic-Baltic region, EGU General Assembly, 23-27 May, Vienna, Austria.
- C4. Toivonen, E., Belušić, D., Thomassen, E.D., Berg, P., Christensen, O.B., Dobler, A., Dyrddal, A.V., Haugen, J.E., Jylhä, K., Kjellström, E., Landgren, O., Lind, P., Lindstedt, D., Matte, D., Mäkelä, A., Olsson, J., Pedersen, R.A., Wang, F., and W. Yang (2020) Evaluation of extreme precipitation over the Nordic region using a convection-permitting regional climate model, EGU General Assembly, 4-8 May, online.
- C5. van de Beek, R., Andersson, J., Olsson, J., J. Hansryd (2020) Five years of commercial microwave link network derived rainfall research in Sweden, EGU General Assembly, 4-8 May, online.
- C6. Olsson, J., Sörensen, J., Du, Y., An, D., Berg, P., Toivonen, E., and D. Belušić (2020) Short-duration rainfall extremes in very high-resolution climate projections: historical evaluation and future projections, EGU General Assembly, 4-8 May, online.
- C7. Nilsson, C., Döscher, R., Berg, P., Bärning, L., Kjellström, E., Martins, H., Olsson, J., and C. Photiadou (2019) Climate extremes for Sweden – State of knowledge and implications for adaptation, Nordic Conference on Climate Change Adaptation, 23-25 October, Norrköping, Sweden.
- C8. Berg, P., Christensen, O.B., Klehmet, K., Lenderink, G., Olsson, J., Teichmann, C., and Wei Yang (2019) Summertime sub-daily precipitation extremes in a EURO-CORDEX 12-km ensemble: evaluation and future projections, EMS Annual Meeting, 9-13 September, Copenhagen, Denmark.
- C9. Olsson, J., Blumentahl, B., Hundecha, Y., Kokkonen, T., Nielsen, R., Niemi, T., Schleiss, M. and S.L. Thorndahl (2019) Pluvial flooding support through rainfall indicators and tailored visualization, EMS Annual Meeting, 9-13 September, Copenhagen, Denmark.
- C10. van de Beek, R., Andersson, J., Berg, P., Hansryd, J., Olsson, J., and B. Arheimer (2019) Observation, evaluation and application of rainfall from microwave link networks in Sweden, EMS Annual Meeting, 9-13 September, Copenhagen, Denmark.
- C11. Olsson, J., Berg, P., and J. Södling (2019) New regional short-duration rainfall statistics for Sweden, EGU General Assembly, 7-12 April, Vienna, Austria.
- C12. Berg, P., Christensen, O.B., Klehmet, K., Lenderink, G., Olsson, J., Teichmann, C., and W. Yang (2019) Precipitation extremes in a EURO-CORDEX 0.11° ensemble at hourly resolution, EGU General Assembly, 7-12 April, Vienna, Austria.
- C13. Andersson, J., van de Beek, R., Berg, P., Hansryd, J., Olsson, J., and B. Arheimer (2018) Rainfall monitoring by microwave link networks in Sweden, 11th International Workshop on Precipitation in Urban Areas, UrbanRain18, 5-7 December, Pontresina, Switzerland.
- C14. Thorndahl, S., Murla Tuyls, D., Vest Nielsen, R., Schleiss, M., and J. Olsson (2018) Influence of flood water contribution from multiple sources in extreme event statistics of urban flooding, 11th International Conference on Urban Drainage Modelling, 23-26 September, Palermo, Italy.
- C15. Olsson, J., Amaguchi, H., Kawamura, A., Takasaki, T., and B. Arheimer (2018) A global service for tailored hydrological climate change impact assessment: application to floods and drought in Tokyo, IWA World Water Congress & Exhibition, 16-21 September, Tokyo, Japan.
- C16. Olsson, J., Andersson, Berg, P., Hansryd, J., and B. Arheimer (2018) Operational rainfall monitoring by microwave links: a case study in Gothenburg, Sweden, IWA World Water Congress & Exhibition, 16-21 September, Tokyo, Japan.
- C17. Olsson, J., Hundecha, Y., Rosberg, J., and A. Johansson (2018) High-resolution hydrological prediction in urbanized areas, Nordic Hydrological Conference, 13-15 August, Bergen, Norway.
- C18. Olsson, J., Södling, J., Berg, P., Wern, L., and A. Eronn (2018) New regional short-duration rainfall statistics for Sweden, Nordic Hydrological Conference, 13-15 August, Bergen, Norway.
- C19. Tanouchi, H., Nakamura, M., Nakamura, Y., Egusa, N., Olsson, J., Kawamura, A., and H. Amaguchi (2018) An analysis on pollutant loads in Kinokawa River Basin by using Hydrological Prediction for the Environment (HYPE) model, Asia Oceania Geophysics Society 15th Annual Meeting, 3-8 June,

Honolulu, Hawaii.

- C20. Olsson, J., Pers, C., Bengtsson, L., Pechlivanidis, I., Berg, P., and H. Körnich (2018) Dealing with rainfall location uncertainty in flood forecasting: a distance-dependent depth-duration approach, EGU General Assembly, 8-13 April, Vienna, Austria.
- C21. Olsson, J., Hundecha, Y., Rosberg, J., Johansson, A., Strömbäck, L., and L. Gidhagen (2017) A tailored service for urban hydrological climate change impact assessment: Urban SIS, 14th IWA/IAHR International Conference on Urban Drainage (ICUD), 10-15 September, Prague, Czech Republic.
- C22. Gidhagen, L., Amorim, J.H., Körnich, H., Olsson, J., Olsson, E., Engardt, M., Lindstedt, D., Lind, P., and Y. Hundecha (2017) The C3S project UrbanSIS: 1-km resolution ECVs and impact indicators over European cities focusing on the health and infrastructure sectors, European Conference for Applied Meteorology and Climatology, 4-8 September, Dublin, Ireland.
- C23. Ivarsson C.-L., Olsson, J., Pers, B.C., Hundecha, Y. and J. Andersson (2017) High-resolution ensemble flood forecasting: a case study in Høje Å, Sweden, 15th International Conference on Environmental Science And Technology, 31 August - 2 September, Rhodes, Greece.
- C24. Tanouchi, H., Egusa, N., Kawamura, A., Amaguchi, H., Olsson, J., and A. Morimoto (2017) Application of the Hydrological Prediction for the Environment (HYPE) model for a watershed mixed urban and rural area, Asia Oceania Geophysics Society 14th Annual Meeting, 6-11 August, Singapore.
- C25. Andersson, J., Berg, P., Hansryd, J., Jacobsson, A., Olsson, J., and J. Wallin (2017) Mobile phone networks improve operational rainfall monitoring in Gothenburg, Sweden, Embrace the Water Conference, 12-14 June, Gothenburg, Sweden.
- C26. Olsson, J., Hundecha, Y., Rosberg, J., Johansson, A., Strömbäck, L., and L. Gidhagen (2017) A tailored service for urban hydrological climate change impact assessment: Urban SIS, Embrace the Water Conference, 12-14 June, Gothenburg, Sweden.
- C27. Olsson, J., Berg, P., Norin, L., and L. Simonsson (2017) Hydrological applications of a high-resolution gauge-adjusted radar precipitation data base for Sweden, International Symposium on Weather Radar and Hydrology, 10-13 April, Seoul, South Korea.
- C28. Foster, K., Olsson, J., Södling, J., and C.B. Uvo (2016) The development and testing of a climate service prototype for the hydropower industry in Sweden, Nordic Water, 8-10 August, Kaunas, Lithuania.
- C29. Olsson, J., Foster, K., Uvo, C.B., and W. Yang (2016) Spring flood forecasting in Sweden: a multi-method approach, 7th International Conference on Water Resources and Environment Research, 5-9 June, Kyoto, Japan.
- C30. Olsson, J., Pers, B.C., Berg, P., Hundecha, Y., Tanouchi, H., and A. Kawamura (2016) Development of a high-resolution flood forecasting system in Sweden, 7th International Conference on Water Resources and Environment Research, 5-9 June, Kyoto, Japan.
- C31. Berg, P., Yang, W., Olsson, J., Simonsson, L., and T. Bosshard (2016) Sub-hourly precipitation extremes in EUR-11 RCA4: evaluation and projected changes, International Conference on Regional Climate - CORDEX 2016, 17-20 May, Stockholm, Sweden.
- C32. Donnelly, C., Andersson, J., Arheimer, B., Berg, P., Bosshard, T., Hundecha, Y., Olsson, J., Pechlivanidis, I.G. and W. Yang (2016) Lessons learnt from top-down large-scale and bottom-up small scale impact studies, EGU General Assembly, 17-22 April, Vienna, Austria
- C33. Donnelly, C., Andersson, J., Olsson, J., Bosshard, T., Yang, W, Berg, P, and B. Arheimer (2015) robust impacts of climate change in Europe: why study scale is important for adaptation, AGU Fall Meeting, 14-18 December, San Francisco, USA.
- C34. Foster, K.L., Uvo, C.B., Olsson, J., Bosshard, T., Berg, P., and J. Södling (2015) A climate service prototype for the hydropower industry: using a multi-model approach to improve seasonal forecasts of the spring flood period in Sweden, AGU Fall Meeting, 14-18 December, San Fransisco, USA.
- C35. Pechlivanidis, I., Spångmyr, H., Bosshard, T., Gustafsson, D., and J. Olsson (2015) Ensemble seasonal hydrological forecasting at the pan-European scale, EGU General Assembly, 12-17 April, Vienna, Austria.
- C36. Pechlivanidis, I., Olsson, J., Bosshard, T., Sharma, D., Sharma, K.C., and B. Arheimer (2015) The impact of climate change on water resources: Assessment at the scale of the Indian subcontinent, EGU General Assembly, 12-17 April, Vienna, Austria.
- C37. Olsson, J., Berg, P., and L. Simonsson (2015) Local short-duration precipitation extremes in Sweden: observations, forecasts and projections, EGU General Assembly, 12-17 April, Vienna, Austria.
- C38. Olsson, J., Berg, P., Pers, C., Norin, L., and L. Simonsson (2014) Radar-observed precipitation and high-resolution flood forecasting in Sweden, Proceedings of XXVIII Nordic Hydrological Conference (Nordic

Water), 11-13 August, Stockholm, Sweden.

- C39. Yang, W., Olsson, J., Bosshard, T., Berg, P., and B. Arheimer (2014) Multi-variable bias correction of RCMs for Climate Change Impact Studies, EGU General Assembly, 27 April-2 May, Vienna, Austria.
- C40. Pechlivanidis, I.G., Bosshard, T., Spångmyr, H., Lindström, G., Olsson, J., and B. Arheimer (2014) Evaluating the performance in the Swedish operational hydrological forecasting systems, EGU General Assembly, 27 April-2 May, Vienna, Austria.
- C41. Pechlivanidis, I.G., Olsson, J., Arheimer, B., Bosshard, T., and D. Gustafsson (2013), Assessment of the climate change impacts on the water resources of the Indian subcontinent, Proceedings of International Conference on Climate Change Impacts and Societal Adaptation (CCISA2013), 6-8 November, Kishangarh, India.
- C42. Bosshard, T., Olsson, J., Foster, K., and I.G. Pechlivanidis (2013) Analysis and bias-correction of three CORDEX-SA projections, Proceedings of International Conference on Climate Change Impacts and Societal Adaptation (CCISA2013), 6-8 November, Kishangarh, India.
- C43. Willems, P., Olsson, J., Arnbjerg-Nielsen, K., Beecham, S., Pathirana, A., Bülow Gregersen, I., Madsen, H., and V.-T.-V. Nguyen (2013) Review of climate change impact analysis on rainfall extremes and urban drainage, Proceedings of 35th IAHR World Congress, 8-13 September, Chengu, China.
- C44. Olsson, J., Strömbäck, L., Arheimer, B., Donnelly, C., Dahné, J., Andersson, J., and L. Gidhagen (2013) Hydrological predictions for sustainable urban planning (SUDPLAN), Proceedings of the IAHS-IAPSO-IASPEI Joint Assembly, 22-26 July, Gothenburg, Sweden.
- C45. Willems, P., Olsson, J., Arnbjerg-Nielsen, K., Beecham, S., Pathirana, A., Bülow Gregersen, I., Madsen, H., and V.-T.-V. Nguyen (2013) Climate change impacts on rainfall extremes and urban drainage, Proceedings of 11th International Precipitation Conference (IPC11), 30 June – 3 July, Wageningen, The Netherlands.
- C46. Pathirana, A., Willems, P., Olsson, J., Arnbjerg-Nielsen, K., Beecham, S., Bülow Gregersen, I., Madsen, H., and V.-T.-V. Nguyen (2013) Climate change impacts on rainfall extremes and urban drainage: state-of-the-art review, Proceedings of Asia Oceania Geophysics Society 10th Annual Meeting, 24-28 June, Brisbane, Australia.
- C47. Hoppe, H., Gruber, G., Gamerith, V., Sander, S., Hochegger, F., and J. Olsson (2013) Flood risk mitigation and integrated urban drainage for climate change adaptation: information management and visualisation within the EU-FP7 SUDPLAN project, Proceedings of NOVATECH, 23-27 June, Lyon, France.
- C48. Willems, P., Olsson, J., Arnbjerg-Nielsen, K., Beecham, S., Pathirana, A., Bülow Gregersen, I., Madsen, H., and V.-T.-V. Nguyen (2013) Climate change impacts on rainfall extremes and urban drainage: a state-of-the-art review, Proceedings of World Environmental & Water Resources Congress, 19-23 May, Cincinnati, USA.
- C49. Willems, P., Olsson, J., Arnbjerg-Nielsen, K., Beecham, S., Pathirana, A., Bülow Gregersen, I., Madsen, H., and V.-T.-V. Nguyen (2013) Climate change impacts on rainfall extremes and urban drainage: state-of-the-art review, Geophysical Research Abstracts, Vol. 15, EGU2013-14093-1: EGU General Assembly, 7-12 April, Vienna, Austria.
- C50. Foster, K., Uvo, C.B., and J. Olsson (2013) Climate and hydrology – understanding the engine that powers our rivers to improve seasonal forecasts, Geophysical Research Abstracts, Vol. 15, EGU2013-14093-1: EGU General Assembly, 7-12 April, Vienna, Austria.
- C51. Willems, P., Olsson, J., Arnbjerg-Nielsen, K., Beecham, S., Pathirana, A., Bülow Gregersen, I., Madsen, H., and V.-T.-V. Nguyen (2012) Limitations and pitfalls of climate change impact analysis on urban rainfall extremes, Proceedings of 9th International Workshop on Precipitation in Urban Areas (UrbanRain12), 6-9 December, St Moritz, Switzerland.
- C52. Strömbäck, L., Arheimer, B., Donnelly, C., Dahné, J., Olsson, J., Andersson, J., and L. Gidhagen (2012) Hydrological predictions for sustainable urban planning (SUDPLAN), Proceedings of HydroPredict 2012, 24-27 September, Vienna, Austria.
- C53. Gruber, G., Gamerith, V., Olsson, J., Camhy, D., Steffelbauer, D., Hochedlinger, M., Schlobinski, S., Dihé, P., and L. Gidhagen (2012) SUDPLAN: developing a decision support system to cope with climate change – urban drainage pilot Linz, Proceedings of IWA World Water Congress & Exhibition, 16-21 September, Busan, S. Korea.
- C54. Olsson, J., and L. Gidhagen (2012) Tailored rainfall input in urban hydrological climate change impact assessment, 9th International Conference on Urban Drainage Modelling, 3-7 September, Belgrade, Serbia.
- C55. Foster, K., Olsson, J., Uvo, C.B., Yang W., and J. Södling (2012) A comparison of different approaches

- for forecasting spring floods in Sweden and the feasibility of a multi-model forecast system, Proceedings of XXVII Nordic Hydrological Conference (Nordic Water), 13-15 August, Oulu, Finland.
- C56. Olsson, J., Gustafsson, A.-M., and M. Persson (2012) Evaluation of short-term precipitation in high-resolution RCM simulations over Sweden, Proceedings of XXVII Nordic Hydrological Conference (Nordic Water), 13-15 August, Oulu, Finland.
- C57. Schlobinski, S., Gidhagen, L., Olsson, J., Frysinger, S., Denzer, R., and P. Kutschera (2012) Integration of climate change effects in local models and urban planning processes, Proceedings of iEMSs 6th International Congress on Environmental Modelling and Software, 1-5 July, Leipzig, Germany.
- C58. Gamerith, V., Olsson, J., Camhy, D., Hochedlinger, M., Kutschera, P., Schlobinski, S., and G. Gruber (2012) Assessment of combined sewer overflows under climate change: urban drainage pilot study Linz, Proceedings of IWA World Congress on Water, Climate and Energy, 13-18 May, Dublin, Ireland.
- C59. Foster, K., Olsson, J., Uvo, C.B., Yang, W., and J. Södling (2012) A comparison of different approaches for forecasting spring floods in Sweden, EGU General Assembly, 22-27 April, Vienna, Austria.
- C60. Kutschera, P., Olsson, J., Havlik, D., and G. Gruber (2012) Future IDF curves for regional planning in Europe – a SUDPLAN result, EGU General Assembly, 22-27 April, Vienna, Austria.
- C61. Johansson, B., Nyström, S., and J. Olsson (2011) Probability spring flood forecasts in Northern Sweden, Proceedings of CSHS Workshop on Operational River Flow and Water Supply Forecasting, 6-7 Oct, Burnaby, Canada.
- C62. Olsson, J., Arheimer, B., and L. Gidhagen (2011) Regional Climate Model projections for urban hydrological planning and adaptation: the SUDPLAN project, Proceedings of World Water Week: Water in an Urbanising World, 21-27 August, Stockholm, Sweden.
- C63. Olsson, J., Willén, U., and K. Foster (2011) Extreme short-term rainfall in regional climate model simulations for Sweden, Proceedings of the XXV IUGG General Assembly, 28 June - 7 July, Melbourne, Australia.
- C64. Olsson, J., Dahné, J., Arheimer, B., Amaguchi, H., and A. Kawamura (2011) Man vs. machine: a Swedish experiment on hydrological model performance assessment (invited talk), Proceedings of the XXV IUGG General Assembly, 28 June - 7 July, Melbourne, Australia.
- C65. Olsson, J., Gidhagen, L., and A. Kawamura (2011) Downscaling of short-term precipitation time series for climate change impact assessment, Proceedings of International Symposium on Environmental Software Systems, 27-29 June, Brno, Czech Republic.
- C66. Boda, H., Kawamura, A., Olsson, J., Amaguchi, H., Nakagawa, N., and B.D. Duong (2010) Spatio-temporal characteristics of 1-min rainfall in Tokyo, Proceedings of the 5th Conference of Asia Pacific Association of Hydrology and Water Resources, 8-9 November, Hanoi, Vietnam.
- C67. Jin, Y.-H., Kawamura, A., Olsson, J., and S.-C. Park (2010) Pattern classification analysis of non-point source pollution using measured runoff and water quality data, Proceedings of the 5th Conference of Asia Pacific Association of Hydrology and Water Resources, 8-9 November, Hanoi, Vietnam.
- C68. Olsson, J., Gidhagen, L., and A. Kawamura (2010) The SUDPLAN project: facilitating urban hydrological climate change impact assessment in Europe, Proceedings of the 5th Conference of Asia Pacific Association of Hydrology and Water Resources, 8-9 November, Hanoi, Vietnam.
- C69. Olsson, J., Arheimer, B., Lindström, G., and J. Dahné (2010) Uncertainties in flood forecasting: experiences from the Swedish system, Proceedings of 6th European Conference on Radar in Meteorology and Hydrology, 6-10 September, Sibiu, Romania.
- C70. Olsson, J., Dahné, J., German, J., and H. Amaguchi (2010) Urban hydrological climate change impact assessment: some Swedish experiences, Proceedings of XXVI Nordic Hydrological Conference, 9-11 August, Riga, Latvia.
- C71. Berndtsson, R., Olsson, J., Sivakumar, B., and K. Jinno (2009) Dynamic links between climate and environmental change, Proceedings of International Symposium on Earth Science and Technology, 8-9 December, Fukuoka, Japan.
- C72. Olsson, J., Yang, W., and U. Willén (2009) Application of RCM output for urban hydrological modeling, Proceedings of the 8th IAHS Scientific Assembly & 37th IAH Congress, 6-12 September, Hyderabad, India.
- C73. Berndtsson, R., Sivakumar, B., Olsson, J. and L.P. Graham (2009) Climate change and its effects on regional hydrology: a case study for the Baltic Sea drainage basin, Proceedings of the 18th World IMACS/MODSIM09 Congress, 13-17 July, Cairns, Australia.
- C74. Yang, W., Andréasson, J., Rosberg, J., Wetterhall, F., Olsson, J., and L.P. Graham (2009) Application of RCM to Climate Change Impact Study in Sweden, presented at FREE Workshop on Precipitation

Downscaling and Modelling, 28-30 April, Norwich, UK.

- C75. Olsson, J., Wetterhall, F., and U. Willén (2009) Estimation of point precipitation statistics from RCM output, EGU General Assembly, 19-24 April, Vienna, Austria, Geophys. Res. Abs., 11.
- C76. Edlund, C., and J. Olsson (2008) WebHypro – a real-time presentation system for hydrological forecasting, presented at COST731 End-user day, 23 October, Dublin, Ireland.
- C77. Olsson, J., Uvo, C.B., and E. Kjellström (2008) Downscaling of Regional Climate Model precipitation for urban hydrology, Proceedings of the 11th International Conference on Urban Drainage, 31 August - 5 September, Edinburgh, Scotland.
- C78. Yang, W., Andréasson, J., Graham, L.P., Olsson, J., Rosberg, J., and F. Wetterhall (2008) A scaling method for applying RCM simulations to climate change impact studies in hydrology, Nordic Water 2008, 11-13 August, Reykjavik, Iceland.
- C79. Olsson, J., and G. Lindström (2008) Can time-lagged meteorological forecasts improve hydrological predictions?, Proceedings of Joint 2nd MAP D-PHASE Scientific Meeting & COST 731 Mid-term Seminar, 19-22 May, Bologna, Italy, 39-41.
- C80. Johansson, B., Olsson, J., and G. Haase (2008) Using radar observations for HBV rainfall-runoff simulations, Proceedings of International Symposium on Weather Radar and Hydrology, 10-15 March, Grenoble, France.
- C81. Olsson, J., Uvo, C.B., and E. Kjellström (2008) Downscaling of ERA-40-driven Regional Climate Model precipitation, Proceedings of the 3rd WCRP International Conference on Reanalysis, 28 January - 1 February, Tokyo, Japan.
- C82. Olsson, J., Graham, L.P., Rosberg, J., Hellström, S.-S., Kjellström, E., and R. Berndtsson (2007) Simulation of runoff in the Baltic Sea drainage basin during the past millennium, Proceedings of 5th Study Conference on Baltex, 4-8 June, Saaremaa, Estonia, 44-45.
- C83. Olsson, J., Olofsson, M., Berggren, K., and M. Viklander (2006) Adaptation of RCA3 climate model data for the specific needs of urban hydrology simulations, Proceedings of 7th International Workshop on Precipitation in Urban Areas, 7-10 December, 2006, St. Moritz, Switzerland.
- C84. Johnell, A., Lindström, G., and J. Olsson (2006) Evaluation of ensemble stream flow predictions in Sweden, Nordic Water 2006, 6-9 August, Vingsted Centret, Denmark.
- C85. Olsson, J., Lindström, G., Johnell, A., and K. Jacobsson (2006) Evaluation of operational hydrological ensemble forecasts in Sweden (invited talk), Proceedings of Joint COST Action 731 and NetFAM Workshop on Uncertainty in High-Resolution Meteorological and Hydrological Models, 26-28 April, Vilnius, Lithuania.
- C86. Lindström, G., Johnell, A., and J. Olsson (2006) Evaluation of ensemble streamflow forecasting at SMHI, Proceedings of WMO CHR-Workshop Ensemble Predictions and Uncertainties in Flood Forecasting, 30-31 March, Bern, Switzerland, 55-59.
- C87. Olsson, J., Scholten, H., Arheimer, B., and L. Andersson (2004) Quality assurance support tool for catchment-based modelling: a test on the HBV-NP model for eutrophication assessment, Proceedings of 8th International Conference on Diffuse/Nonpoint Pollution, 24-29 October, Kyoto, Japan, 241-248.
- C88. Olsson, J., Johansson, B., and S. Fogelberg (2004) Tests of radar-observed precipitation in the HBV model, Proceedings of Third European Conference on Radar in Meteorology and Hydrology, 6-10 September, Visby, Sweden, 31.
- C89. Yasuda, H., Berndtsson, R., Umegaki, Y., Persson, M., Sivakumar, B., Olsson, J., Jinno, K., and P. Öhrström (2003) A chaotic dynamical approach to simulate particle movement in the saturated zone, Proceedings of International Conference on Water and Environment, 15-18 December, Bhopal, India.
- C90. Andersson, L., Arheimer, B., Larsson, M., Lindström, G., Olsson, J., Pers, B.C., Rosberg, J., Tonderski, K., and B. Ulén (2003) Integrated modelling of phosphorus fluxes at the catchment scale, Proceedings of 7th International Specialised Conference on Diffuse Pollution and Basin Management, International Water Association (IWA), 17-22 August, Dublin, Ireland, 2:85-90.
- C91. Andersson, L., Arheimer, B., Larsson, M., Olsson, J., Pers, B.C., Rosberg, J., Tonderski, K., and B. Ulén (2003) HBV-P: a catchment model for phosphorus transport, Proceedings of Quantifying the Agricultural Contribution to Eutrophication, COST 832 Final Meeting, 31 July-2 August, Cambridge, U.K., 59-60.
- C92. Olsson, J., Andersson, L., Arheimer, B., Lindström, G., Pers, B.C., and J. Rosberg (2003) A phosphorus transport model for scenario-based eutrophication assessment in catchments, Proceedings of International Union of Geodesy and Geophysics 2003 General Assembly, June 30-July 11, Sapporo, Japan, B.344.

- C93. Olsson, J., Bengtsson, L., and L. Grahn (2002) Green roofs: a new tool for urban storm water management, Proceedings of International Conference on Urban Hydrology for the 21st Century, 14-16 October, Kuala Lumpur, Malaysia, 562-571.
- C94. Arheimer, B., Andersson, L., Hansson, L.A., Jöborn, A., Lindström, G., Olsson, J., and B.C. Pers (2002) Modelling diffuse nutrient flow in eutrophication control scenarios, Proceedings of 6th International Conference on Diffuse Pollution, International Water Association (IWA), 30 September-4 October, Amsterdam, The Netherlands, 463-470.
- C95. Olsson, J., Andersson, L., Arheimer, B., Hansson, L.A., Johnsson, H., Jöborn, A., Kallner, S., Kyllmar, K., Larsson, M., Leonardsson, L., Lindström, G., Pers, B.C., Tonderski, K., and B. Ulén (2002) Catchment modelling of diffuse nutrient transport in VASTRA – Swedish Water Management Research Programme, Proceedings of 3rd International Conference on Water Resources and Environment Research, 22-25 July, Dresden, Germany, Vol. II, 252-256.
- C96. Öhrström, P., Olsson, J., Albergel, J., Zante, P., Nasri, S., Berndtsson, R., and M. Persson (2001) Nonlinear scaling characteristics of solute transport in a small catchment, Preprints of International Seminar on Small Dams in the Mediterranean World, 28-31 May, Tunis, Tunisia.
- C97. Sivakumar, B., Berndtsson, R., and J. Olsson (2000) Searching for chaos in rainfall-runoff dynamics, Proceedings of 12th Congress of Asia Pacific Division of the International Association for Hydraulic Engineering and Research, 13-26 November, Klongluang, Thailand.
- C98. Olsson, J., Uvo, C.B., Merabtene, T., Kawamura, A., and K. Jinno (2000) Estimating basin rainfall and runoff from atmospheric circulation: a case study in Kyushu Island, Japan, Western Pacific Geophysics Meeting, 27-30 June, Tokyo, Japan, Eos Trans. AGU, 81(22), H51B-08.
- C99. Jinno, K., and J. Olsson (2000) Breakthrough for groundwater research by fully recognizing uncertainty, Western Pacific Geophysics Meeting, 27-30 June, Tokyo, Japan, Eos Trans. AGU, 81(22), H21B-01.
- C100. Sivakumar, B., Berndtsson, R., and J. Olsson (2000) Possibility of chaos in rainfall-runoff process, European Geophysical Society XXV General Assembly, 25-29 April, Nice, France, Geophys. Res. Abs., 2, NP88.
- C101. Olsson, J., Uvo, C.B., and K. Jinno (2000) Statistical atmospheric downscaling of extreme rainfall in Southern Japan by a neural network, European Geophysical Society XXV General Assembly, 25-29 April, Nice, France, Geophys. Res. Abs., 2, HS38.
- C102. Uvo, C.B., Olsson, J., and K. Jinno (1999) Downscaling of meteorological variables and rainfall forecast for Kyushu Island, Japan, European Geophysical Society XXIV General Assembly, 19-23 April, The Hague, The Netherlands, Geophys. Res. Abs., 1, 292.
- C103. Guntner, A., and J. Olsson (1999) Application of a cascade model for rainfall disaggregation in semi-arid tropics, European Geophysical Society XXIV General Assembly, 19-23 April, The Hague, The Netherlands, Geophys. Res. Abs., 1, 291.
- C104. Burlando, P., and J. Olsson (1999) Scaling in stochastically generated continuous rainfall time series, European Geophysical Society XXIV General Assembly, 19-23 April, The Hague, The Netherlands, Geophys. Res. Abs., 1, 296.
- C105. Olsson, J., and R. Berndtsson (1997) Temporal rainfall disaggregation based on scaling properties, Proceedings of Third International Conference on Rainfall in Urban Areas: Use of Historical Rainfall Series for Hydrological Modelling, 4-7 December, Pontresina, Switzerland.
- C106. Olsson, J., and R. Berndtsson (1996) A cascade model for temporal rainfall, Proceedings of International Conference on Water Resources & Environment Research: Towards the 21st Century, 29-31 October, Kyoto, Japan, Vol. I, 309-316.
- C107. Olsson, J., and R. Berndtsson (1996) Empirical cascade generator properties in temporal rainfall, European Geophysical Society XXI General Assembly, 6-10 May, The Hague, The Netherlands, Annales Geophys., 14 (Suppl. II), 383.
- C108. Olsson, J., Svensson, C., Niemczynowicz, J., and R. Berndtsson (1995) Multifractal analyses of rainfall data, European Geophysical Society XX General Assembly, 3-7 April, Hamburg, Germany, Annales Geophys., 13 (Suppl. II), 554.
- C109. Olsson, J. (1994) The existence and applicability of a scale-independent, multifractal relationship in rainfall data, Preprints of International Workshop on Closing the Gap Between Theory and Practice in Urban Rainfall Applications, 30 November-4 December, St. Moritz, Switzerland, 246-258.
- C110. Olsson, J., and J. Niemczynowicz (1994) Multifractal relations in rainfall data, Proceedings of Nordic Seminar on Spatial and Temporal Variability and Interdependencies Among Hydrological Processes, 14-16 September, Kirkkonummi, Finland, NHP Report No 36, 110-119.

- C111. Olsson, J., Svensson, C., Niemczynowicz, J., and R. Berndtsson (1994) Relation between climatic characteristics and fractal properties of rainfall, European Geophysical Society XIX General Assembly, 25-29 April, Grenoble, France, *Annales Geophys.*, 12 (Suppl.II), 409.
- C112. Berndtsson, R., Olsson, J., and A. Bahri (1994) Multiscaling spatial properties of geochemical elements in a clayey soil, presented at European Geophysical Society XIX General Assembly, 25-29 April, Grenoble, France.
- C113. Olsson, J., and J. Niemczynowicz (1993) A multifractal analysis of the spatial rainfall distribution associated with different weather types, Preprints of Hydrofractals '93 - Int. Conf. on Fractals in Hydroscience, 12-15 October, Ischia, Italy.
- C114. Linderson, M.-L., Olsson, J., and L. Barring (1993) Distinct daily precipitation patterns and weather types, In: B. Sevruk and M. Lapin (Editors), *Precipitation Variability & Climate Change, Proceedings of International Symposium on Precipitation and Evaporation*, 20-24 September, Bratislava, Slovakia, Vol. 2, 147-151.
- C115. Niemczynowicz, J., and J. Olsson (1993) On scale invariant properties of rainfall, *Proceedings of 6:th International Conference on Urban Storm Drainage*, 12-17 September, Niagara Falls, Canada, 1-5.
- C116. Olsson, J. (1993) Application of fractal analyzing techniques to rainfall time series, European Geophysical Society XVIII General Assembly, 3-7 May, Wiesbaden, Germany, *Annales Geophys.*, 11 (Suppl. II), 305.
- C117. Olsson, J. (1992) Multiscaling properties of rainfall, *Proceedings of Nordisk Hydrologisk Konf.*, 4-6 August, Alta, Norway, NHP-rapport No 30, 616-621.
- C118. Olsson, J., Niemczynowicz, J., Berndtsson, R., and M. Larson, (1990) Fractal properties of rainfall time series, European Geophysical Society XV General Assembly, 23-27 April, Copenhagen, Denmark, *Annales Geophys.*, special issue, 142.

OTHER GREY REFERENCES (SEMINARS, POPULAR PRESENTATIONS ETC.)

- O1. Destouni, G., Hoffman, M., Gren, I.-M., Högvik, M., Kjellson, H., Lindblom, L., Lindroth, A., Olsson, J., Rahm, T., Sandborgh, U., Thörn, P., and K. Byman (2021) Climate changes and sustainable water supply, Royal Swedish Academy of Engineering Sciences, Stockholm, Sweden, 57 pp. (in Swedish) .
- O2. Olsson, J. (2020) Some reflections on climate knowledge transfer and the impact of climate model resolution, presentation held at the workshop Downscaling climate projections – towards better adaptation strategies in the Nordic countries, Nordic Council of Ministers, 20 November, online.
- O3. Olsson, J., J.C.M. Andersson P. Berg, J. Hansryd and B. Arheimer (2019) Operational rainfall monitoring by microwave links: a case study in Gothenburg, Sweden, *J. Hydrol. System*, 112, 15-17.
- O4. Olsson, J. (2017) New cloudburst statistics for Sweden, Slutseminarium for regeringsuppdrag om skyfall, 8 November, Norrköping, Sweden (in Swedish).
- O5. Olsson, J. (2017) 4DF: distance-dependent forecasts of hydrological cloudburst consequences, Meteorologisk Metodkonferens 2017, 26-27 October, Norrköping, Sweden (in Swedish).
- O6. Olsson, J. (2017) Multi-scale urban flood forecasting (MUFFIN): from local tailored systems to a Pan-European service, poster at Hydrologidagarna, 16-17 March, University of Gothenburg, Sweden.
- O7. Eronn, A., and J. Olsson (2016) Mission: cloudburst, invited talk at Research and Innovation for Sustainable Stormwater Management, 30 November-1 December, Stockholm, Sweden (in Swedish).
- O8. Olsson, J. (2016) Improved short-term forecasts of cloudbursts using radar and mobile masts, invited talk at Modelling for Climate Adaptation, 9 November, Lund, Sweden (in Swedish).
- O9. Olsson, J. (2016) Development of a high-resolution flood forecasting system in Sweden, invited talk at WMO RAVI Hydrological Forum 2016, 20 September, Oslo, Norway.
- O10. Olsson, J. (2015) Short-duration precipitation extremes – now and in the future, presentation at Sustainable Storm Water Management, 2-3 June, Stockholm, Sweden (in Swedish).
- O11. Tanouchi, H, Olsson, J., and A. Kawamura (2015) HYPE model parameter identification for urban watersheds based on infiltration characteristics and geographic information: a preliminary study, presented at Hydrologidagen, 31 March, Chalmers University of Technology, Gothenburg, Sweden (in Swedish).
- O12. Olsson, J. (2014) Intense precipitation and hydrological risk: towards high-resolution flood forecasts, invited talk at Forum för Naturkatastrofer, 18-19 November, Stockholm, Sweden (in Swedish).
- O13. Olsson, J., and K. Foster (2012) Spring flood forecasting in Sweden: new approaches and multi-modelling, presentation at European Centre for Medium-range Weather Forecasting (ECMWF) seminar, 17 April, Reading, UK.
- O14. Strömbäck, L., Olsson, J., and J. Andersson (2012) Hydrological climate services in SUDPLAN,

- presented at Hydrologidagarna, 14-15 March, Swedish Meteorological and Hydrological Institute, Norrköping, Sweden (in Swedish).
- O15. Berndtsson, R., Sivakumar, B., Olsson, J., and P. Graham (2012) Dynamic characteristics of temperature, precipitation and runoff to the Baltic Sea during the past millennium, *Vatten*, 67, 185-192.
- O16. Olsson, J. (2011) Hydrological climate change impacts studies and scientific theory, in K.M. Persson (Ed.), *Lars Bengtsson – a water resource*, Report nr. 3253, Department of Water Resources Engineering, Lund University, 181 pp.
- O17. Olsson, J. (2011) Climate adaptation: analyses of model results and development of tools, invited talk at Urban hydrology and storm water management, 9-10 November, Lund, Sweden (in Swedish).
- O18. Foster, K., Olsson, J., and C. B. Uvo (2011) New approaches to spring flood forecasting in Sweden, *Vatten*, 66, 193-198 (in Swedish).
- O19. Willems, P., Arnbjerg-Nielsen, K., Olsson, J., and V.T.V. Nguyen (2011) Impact of climate variability and change on rainfall extremes and urban drainage, Review report by the IWA/IAHR International Working Group on Urban Rainfall (IGUR), 94 pp.
- O20. Olsson, J., Dahné, J., German, J., Westergren, B., von Scherling, M., Kjellson, L., Ohls, F., and A. Olsson (2010) Impacts from future changes in climate and population on Stockholm main sewer system, *Mistra-SWECIA*, Newsletter nr. 2:10.
- O21. Olsson, J., and U. Willén (2010) Downscaling extreme RCA3-precipitation for urban hydrological applications, *Mistra-SWECIA Working Paper nr. 3*, 32 pp.
- O22. Olsson, J. (2010) Urban hydrological climate change impact assessment, invited talk at KlimatGIS-dagar, 18-19 May, Stockholm, Sweden (in Swedish).
- O23. Olsson, J., and C. B. Uvo (2010) Development of spring flood forecasts, invited talk at HUVA-dagen, 18 March, Stockholm, Sweden (in Swedish).
- O24. Olsson, J. (2010) Climate changes in Lake Mälaren, Course on Mälaren Region and Future Climate (Karlstad University), 28 January, Stockholm, Sweden (in Swedish).
- O25. Olsson, J. (2010) Spring flood forecasts, Nordic Course on Climate and Hydrology (Lund University), 25-27 January, Norrköping, Sweden.
- O26. Olsson, J. (2009) The return of the 10-year rainfall – now and in the future, invited talk at the 2009 Water Fairs, 22-24 September, Stockholm, Sweden (in Swedish).
- O27. Olsson, J. (2009) Estimation of local precipitation and IDF-curves from climate model data, invited talk at Water and Climate Changes – an International Perspective, 28 May, Tyréns AB, Stockholm, Sweden.
- O28. Smith, B., Lagergren, F., Olsson, J., and M. Rummukainen (2009) Integrated impact studies, *Mistra-SWECIA Annual Report 2009*, 21-22 (in Swedish).
- O29. Olsson, J. (2009) Hydrology and climate, invited talk at Nordic Hydrology, Fundamentals and Market Analysis, 21-23 April, Oslo, Norway.
- O30. Olsson, J. (2009) Hydrological forecasting, invited talk at Nordic Hydrology, Fundamentals and Market Analysis, 21-23 April, Montel, Oslo, Norway.
- O31. Olsson, J. (2009) Estimation of local precipitation and IDF-curves from climate model data, presented at Hydrologidagarna, 2-3 March, Chalmers University of Technology, Göteborg, Sweden (in Swedish).
- O32. Olsson, J., and K. Berggren (2008) How will local rainfall change in the future? *Mistra-SWECIA*, Newsletter nr. 1, 11-15.
- O33. Olsson, J. (2008) Focus on water in Stockholm – more water more frequently, or the opposite?, presented at the Mistra-SWECIA seminar Climate Change and Adaptation in the Stockholm Region, 28 November, Stockholm, Sweden (in Swedish).
- O34. Olsson, J. (2005) A test of MoST – a new tool for quality assurance of catchment-based modelling, *Vatten*, 61, 249-256 (in Swedish).
- O35. Graham, L.P., and J. Olsson, (2005) Validation of ELDAS at catchment scale, In: P. Viterbo (Ed.) *Proceedings from ECMWF/ELDAS workshop on Land Surface Assimilation*, Reading, UK, 8-11 November 2004, 179-186.
- O36. Vehviläinen, B., Cauwengerghs, M. K., Cheze, J.-L., Jurczyk, A., Moore, R. J., Olsson, J., Salek, M., and J. Szturc (2004), Evaluation of operational flow forecasting systems that use weather radar, Report to EU Concerted Research Action 717, 15 pp.
- O37. Johansson, B., and J. Olsson (2004) Application of radar precipitation for hydrological forecasting, invited talk at HUVA-dagen, 31 March, ELFORSK, Stockholm, Sweden (in Swedish).
- O38. Lindström, G., and J. Olsson (2004) Improved hydrological forecasting based on ensemble technique?,

invited talk at HUVA-dagen, 31 March, ELFORSK, Stockholm, Sweden (in Swedish).

- 39. Olsson, J., Berndtsson, R., and J. Niemczynowicz,(2001) Fractal analysis and modeling of rainfall at department of Water Resources Engineering, Lund University, In: D. Gutknecht, M. Hantel and H.P. Nachtnebel (Eds.), Scaling Problems in Hydrology, National Committee of the International Hydrological Programme, Austrian Academy of Sciences, Vienna, 7-27.
- 40. Olsson, J. (1995) Is rainfall a cascade process with fractal properties?, The Swedish Natural Science Research Council (NFR) Annual 1995, Swedish Science Press, 23-32 (in Swedish).
- 41. Berndtsson, R., Jinno, K., Kawamura, A., Olsson, J., and S. Xu,(1994) Dynamical systems theory applied to long-term temperature and precipitation time series, In: J. Menon (Ed.), Trends in Hydrology, Counc. Sci. Res. Integr., Trivandrum, India.
- 42. Olsson, J. (1993) Rainfall in Scania, presented at Hydrologidagarna, 9-10 March, Lund Institute of Technology, Lund University, Lund, Sweden (in Swedish).
- 43. Olsson, J. (1992) Deterministic chaos in precipitation, presented at Hydrologidagarna, 10-11 March, Royal Institute of Technology, Stockholm, Sweden (in Swedish).