

List of publications

Internation peer-reviewed journals

1. Tero J. Niemi, Lassi Warsta, Maija Taka, Brandon Hickman, Seppo Pulkkinen, Gerald Krebs, Dmitri N. Moisseev, Harri Koivusalo, Teemu Kokkonen, Applicability of open rainfall data to event-scale urban rainfall-runoff modelling, *Journal of Hydrology*, Volume 547, April 2017, Pages 143-155, ISSN 0022-1694, <https://doi.org/10.1016/j.jhydrol.2017.01.056>.
2. 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.
3. 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.
4. Xin T., ten Veldhuis, M.-C., Schleiss, M., Bouwens, C. and van de Giesen, N., 2019: "Critical rainfall thresholds for urban pluvial flooding inferred from citizen observations", *Science of the total Environment*, vol 689, pp.258-268, <https://doi.org/10.1016/j.scitotenv.2019.06.355>
5. Schleiss, M., Olsson, J., Berg, P., Niemi, T., Kokkonen, T., Thorndahl, S., Nielsen, R., Ellerbæk, J., Bozhinova, D. and Pulkkinen, S.: "The accuracy of weather radar in heavy rain: a comparative study for Denmark, the Netherlands, Finland and Sweden", *Hydrology and Earth System Sciences*, submitted.
6. Reinoso-Rondinel, R. and Schleiss, M.: "Improved rainfall estimates for X- and C-Band weather radars based on raindrop size distribution retrievals from a micro-rain radar", manuscript in preparation.
7. Schleiss, M., ten Veldhuis, M. C., Hutten, R., Schoester, J., de Vos, L. and Leijnse, H.: "The potential of citizen weather stations for urban rainfall monitoring - a case study for Rotterdam", manuscript in preparation
8. Niemi, T., Warsta, L., Taka, M., Hickman, B., Pulkkinen, S., Krebs, G., Moisseev, D., Koivusalo, H., Kokkonen, T. Applicability of open rainfall data to event-scale urban rainfall-runoff modelling. 2017. *Journal of Hydrology*, 547, 143–155. ISSN 0022-1694. DOI:10.1016/j.jhydrol.2017.01.056
9. Niemi T, Kokkonen T, Sillanpää N, Setälä H, Koivusalo H. Automated Urban Rainfall–Runoff Model Generation with Detailed Land Cover and Flow Routing. *Journal of Hydrologic Engineering*. 2019, 24(5). [https://doi.org/10.1061/\(ASCE\)HE.1943-5584.0001784](https://doi.org/10.1061/(ASCE)HE.1943-5584.0001784)
10. Kokkonen T, Warsta L, Niemi TJ, Taka M, Sillanpää N, Pusa M et al. Impact of alternative land cover descriptions on urban hydrological model simulations. *Urban Water Journal*. 2019. 7;16(2):103-113. <https://doi.org/10.1080/1573062X.2019.1634742>
11. Tuyls, D.M., Thorndahl, S., Rasmussen, M.R. (2018.) Return period assessment of urban pluvial floods through modelling of rainfall-flood response. *Journal of Hydroinformatics* 20(4), pp. 829-845. <https://doi.org/10.2166/hydro.2018.133>
12. Nielsen, R.V., Thorndahl, S. (2019) "Sensitivity Analysis of an Integrated Urban Flood Model", *Journal of Environmental Management*, submitted.

13. Nielsen, R. Niemi, T., Thorndahl, S., Hundecha, Y., Schleiss, M., Kokkonen, T., Olsson, J. (2019) "Hydrological vs. Hydrodynamic Modelling – A Comparative Study in Aalborg and Helsinki", manuscript in preparation.
14. Nielsen, R. Thorndahl, S., Hundecha, Y., Olsson, J. (2019) "Large-scale and local flood modelling – Overcoming drawbacks of both domains by combining strengths, manuscript in preparation.
15. Olsson, J., Berg, P., Simonsson, L. (2019) Spatial properties of short-duration rainfall extremes in Sweden, manuscript in preparation.
16. Van Well, L., Hedfors, J., Olsson, J (2019) Identifying end-user needs: Lessons from stakeholder involvement in Multi-scale urban flood forecasting, manuscript in preparation.

International presentations

1. Murla, D., Nielsen, R.V., Thorndahl, S.: Extreme event statistics of urban pluvial floods – return period assessment and rainfall variability impacts. Extended abstract submitted to the 14th International Conference on Urban Drainage, Prague, 10-15 September 2017.
2. Nielsen, R.V., Thorndahl, S. Low-cost remotely sensed environmental monitoring network. Extended abstract submitted to the 14th International Conference on Urban Drainage, Prague, 10-15 September 2017.
3. Banks, R. F. (2017), Comparison of two WRF single moment microphysics schemes during an August 2015 convective event, 2017 GRS Poster Day, April 2017, TU Delft.
4. Banks, R. F., Basu, S., Schleiss, M., and Russchenberg, H. (2017), Towards real-time high-resolution precipitation forecasts for the city of Rotterdam, 2017 European Conference on Severe Storms, 18-22 September 2017, Pula, Croatia.
5. Schleiss, M. (2017), Probabilistic radar nowcasting based on time nuggets, 38th Conference on Radar Meteorology, August 2017, Chicago, United States
6. Ten Veldhuis, M.-C. and Schleiss, M. (2017), High-resolution Hydro-meteorological observations in the city of Rotterdam: a Summer Experiment, 14th International Conference on Urban Drainage, September 2017, Prague, Czech Republic
7. 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.
8. Schleiss, M., 2018: "A new multiplicative random cascade model for downscaling intermittent rainfall fields", 10th European Conference on Radar in Meteorology and Hydrology, 1-6 July, 2018, Wageningen, the Netherlands
9. ten Veldhuis, M.C., Schleiss, M., Hutten, R., Schoester, J., Xin, T. and de Vos, L., 2019: "Rainfall maps from networks of citizen weather stations for urban rainfall information", MOXXI (Measurements and Observations in the 21st century), New York, March 11-13, 2019
10. Schleiss, M., Olsson, J., Berg, P., Niemi, T., Kokkonen, T., Thorndahl, S., Nielsen, R., 2019: "Can we trust radar?", Cities, rain and risk, 13-14 June, 2019, Malmö, Sweden
11. Xin T., ten Veldhuis, M.-C., Schleiss, M., Bouwens, C. and van de Giesen, N., 2019: "Critical rainfall thresholds for urban pluvial flooding inferred from citizen observations" Cities, risk and rain, 13-14 June, Malmö, Sweden
12. Schleiss et al., 2019: "The accuracy of operational radar in times of heavy rain – a comparative study for Denmark, the Netherlands, Finland and Sweden, 39th International Conference on Radar Meteorology, 16-20 September, 2019, Nara, Japan

13. Thorndahl, S. L., Tuyls, D. M., Nielsen, R., Schleiss, M., & Olsson, J. (2018). Influence of Flood Water Contribution from Multiple Sources in Extreme Event Statistics of Urban Flooding. International Conference on Urban Drainage Modelling - Palermo, Italy
14. Nielsen, R., & Thorndahl, S. L. (2018). Sensitivity Analysis of an Integrated Urban Flood Model International Conference on Urban Drainage Modelling - Palermo, Italy
15. Thorndahl, S., Ahm, M., Nielsen, R., Andersen, C.B, Nielsen, J.E., Rasmussen, M.R. Use of weather radar in the water sector in Denmark; what can we learn? CITIES, RAIN and RISK, 13-14 June, Malmö, Sweden
16. Nielsen, R., Niemi, T., Thorndahl, S., Hundecha, Y. Kokkonen, T., Olsson, J, Schleiss, M. Hydrodynamic vs. hydrological modelling: a comparative study in Aalborg and Helsinki. CITIES, RAIN and RISK, 13-14 June, Malmö, Sweden
17. Nielsen, R., Hundecha, Y., Johansson, A., Thorndahl, S., Olsson, J. A web-based visualization prototype of urban flood forecasts from a multi-scale hydrologic-hydrodynamic flood forecasting system in Aalborg, Denmark. CITIES, RAIN and RISK, 13-14 June, Malmö, Sweden
18. Thorndahl, S., Nielsen, R Multi-purpose urban water management in a complex urban basin. CITIES, RAIN and RISK, 13-14 June, Malmö, Sweden
19. Schleiss, M. (2019) Can we trust the radar? High-intensity rainfall in operational radar observations, CITIES, RAIN and RISK, 13-14 June, Malmö, Sweden
20. Schleiss, M. (2019) Relationship between rainfall and pluvial flooding in Rotterdam based on citizen reports, CITIES, RAIN and RISK, 13-14 June, Malmö, Sweden
21. Kokkonen, T., Niemi, T.J. (2019) Urban rainfall-runoff nowcasting with open data and open tools, CITIES, RAIN and RISK, 13-14 June, Malmö, Sweden
22. Olsson, J. (2019) Real-time high-resolution cloudburst visualization prototype, CITIES, RAIN and RISK, 13-14 June, Malmö, Sweden
23. Olsson, J., Hundecha, Y., Rosberg, J., and A. Johansson (2018) High-resolution hydrological prediction in urbanized areas, Nordic Water, 13-15 August, Bergen, Norway.
24. 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.
25. Ivarsson C.-L., Olsson, J., Pers, B.C., Hundecha, Y. and J. Andersson (2017) High-resolution ensemble flood forecasting: a case study in Hölje Å, Sweden, 15th International Conference on Environmental Science And Technology, 31 August - 2 September, Rhodes, Greece.
26. Niemi TJ, Krebs G, Kokkonen T. Automated Approach for Rainfall-Runoff Model Generation. In: Mannina G, editor, New Trends in Urban Drainage Modelling: UDM 2018. 2019. (Green Energy and Technology). https://doi.org/10.1007/978-3-319-99867-1_103
27. 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.

International posters

1. Xin et al., EGU2019-4890: "Critical rainfall thresholds for urban pluvial flooding inferred from citizen observatories", European Geophysical Union, 7-12 April, 2019, Vienna.

2. Van Well, L. (2017) The Needs-Knowledge Gap: Geotechnical Risk in Swedish Planning Processes
Poster profiling stakeholder engagement in several SGI projects, including MUFFIN at 3rd European Climate Change Adaptation Conference: Our Climate Ready Future Glasgow 5th-9th June 2017.
3. Murla, D.T, Thorndahl, S. (2017) Urban flood return period assessment through rainfall-flood response modelling. European Geosciences Union General Assembly 2017, Vienne, Austria.
4. Nielsen, R., Thorndahl, S. (2017) Low-cost remotely sensed environmental monitoring stations, 14th IWA/IAHR International Conference on Urban Drainage, Prague, Czech Republic.
5. Murla, D., Nielsen, R., Thorndahl, S. Extreme event statistics of urban pluvial floods –Return period assessment and rainfall variability impacts. Abstract from the International Conference on Urban Drainage, Prague 10-15 September 2017.

National peer-reviewed journals

Sweden:

1. Ivarsson, C.-L., Olsson, J., Pers, C., and Y. Hundecha (2017) High-resolution ensemble flood forecasting: a case study in Hölje Å, Sweden, J. Water Manag. Res. (VATTEN), 73, 85-92.

National presentations

Sweden

1. Van Well, Lisa "Implementering genom brukarmedverkan – co-creation, living labs och dialog"
Presentation for Vetenskapsrådets nätverk för FoU-myndigheter, 18 oktober 2018.
2. 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.
3. 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).

Finland

1. Kokkonen, T., Niemi, T.J. (2017) Improved precipitation information for hydrological problem solving - focus on open data and simulation, Open radar seminar, Finnish Meteorological Institute, Helsinki, Finland, Jan 17, 2017. Invited presentation.

Netherlands

1. Banks, R. and Basu, S. (2017), High-resolution rainfall forecasting with the WRF model: a first trial, Joint meeting TU Delft – municipality of Rotterdam, 15th February 2017
2. Bouwens, C. (2017), Flooding observations in Rotterdam: mapping of flood-prone locations, flood vulnerability, dominant failure mechanisms, Joint meeting TU Delft – municipality of Rotterdam, 15th February 2017
3. Hill, J. (2017), Investigating the Efficiency of Sustainable Urban Drainage System Implementation on a City, Joint meeting TU Delft – municipality of Rotterdam, 15th February 2017
4. Kriemeyer, A. (2017), Low-cost gNSS receivers for the retrieval of precipitable water vapor spatial variability, Joint meeting TU Delft – municipality of Rotterdam, 15th February 2017
5. Mulder, M. (2017), The effect of the imperviousness on the hydrological response time for the sewer districts of Rotterdam, Joint meeting TU Delft – municipality of Rotterdam, 15th February 2017

6. Schleiss, M. (2017), MUFFIN – Multi-scale Urban Flood Forecasting, Joint meeting TU Delft – municipality of Rotterdam, 15th February 2017
7. Ten Veldhuis, M.-C. (2017), High-resolution rainfall observation for enhanced urban flood risk management, Joint meeting TU Delft – municipality of Rotterdam, 15th February 2017

Dissemination initiatives

Project website

<http://hypewebapp.smhi.se/skyfall/>

Others

De Beus, E., Low Power Weather Sensors – Bringing Open Sensor technologies together,
<https://www.lpw-sensors.eu/> (web site)