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Division of Water Resources Engineering
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Research

Studies urban hydrological processes, especially during extreme rainfall events. In my doctoral thesis, I studied the consequences of pluvial flooding in Malmö. One of my core interests is to study blue-green infrastructure (sustainable urban drainage systems) and their function during different rainfall scenarios.

Qualifications

Water Resources Engineering, PhD, Division of Water Resources Engineering
2012 Sep 3 → 2018 Sep 14
Award Date: 2018 Sep 14
Environmental engineering, M.Sc. in Engineering, Faculty of Engineering, LTH
2003 Aug 22 → 2008 Jan 1
Award Date: 2008 Jan 1

Research outputs

Trends in soil frost formation in a warming maritime climate and the impacts on urban flood risk

Zaqout, T., Andradóttir, H. Ó. & Sörensen, J., 2022 Dec 15, In: Journal of Hydrology. 617, 15 p., 128978.

Natural hazard insurance outcomes at national, regional and local scales: A comparison between Sweden and Portugal

Leal, M., Hudson, P., Mobini, S., Sörensen, J., Madeira, P. M., Tesselaar, M. & Zêzere, J. L., 2022 Nov 15, In: Journal of Environmental Management. 322, 116079.

The challenge of unprecedented floods and droughts in risk management

Kreibich, H., Mobini, S., Sörensen, J. & Panta Rhei, 2022 Aug 4, In: Nature. 608, 7921, p. 80-86

Data Management Framework for Climate Change Adaptation with Blue-Green Infrastructure

Sörensen, J., Persson, A. S. & Alkan Olsson, J., 2022 May 17.

Management of urban floods based on tolerable consequences in an uncertain future

Haghighatafshar, S., Becker, P., Moddemeyer, S., Persson, A., Sörensen, J., Aspegren, H. & Jönsson, K., 2022, *Proceedings of the 39th IAHR World Congress (Granada, 2022)*. The International Association for Hydro-Environment Engineering and Research (IAHR), p. 6955-6963 19 p.

Panta Rhei benchmark dataset: socio-hydrological data of paired events of floods and droughts

Panta Rhei, 2022

Sanning och konsekvens för svenska vattenledningar

Sörensen, J., Nilsson, E., Bjarke, M., Giertz, T. & Nilsson, D., 2021 Dec 2, In: Vatten: tidskrift för vattenvård /Journal of Water Management and research. 77, 4, p. 253-268

A data management framework for strategic urban planning using blue-green infrastructure

Sörensen, J., Persson, A. S. & Alkan Olsson, J., 2021 Dec 1, In: Journal of Environmental Management. 299, 10 p., 113658.

An Analysis of (Sub-)Hourly Rainfall in Convection-Permitting Climate Simulations Over Southern Sweden From a User's Perspective

Olsson, J., Du, Y., An, D., Uvo, C. B., Sørensen, J., Toivonen, E., Belušić, D. & Dobler, A., 2021 Jul 2, In: *Frontiers in Earth Science*. 9, 681312.

Basement floods in Augustenborg and Malmö

Sørensen, J., 2021 Jun 1, *The Eco-City Augustenborg: Experiences and lessons learned*. Månsson, M. & Persson, B. (eds.). Malmö: Malmö Municipality, Malmö, Sweden, p. 214-215 2 p. (Arkus).

ANN in decision support for strategic planning of water network management

Sørensen, J., 2021 May 28, p. 1. 1 p.

Local model development: Deliverable 4.3 in project Model-based Global Assessment of Hydrological Pressure (GlobalHydroPressure)

Olsson, J., Sørensen, J., Elenius, M., Silva, B., Fragoso Jr., C. R., Li, H. & Beldring, S., 2021 Apr 30, *Water JPI*. 38 p.

Gröna tak, dagvatten och hållbarhet – Augustenborg som forskningsarena

Sørensen, J. & Emilsson, T., 2020 Dec, *Ekostaden Augustenborg: Erfarenheter och lärdomar*. Månsson, M. & Persson, B. (eds.). 1 ed. Malmö: Malmö Municipality, Malmö, Sweden, p. 162-171 (Arkus; no. 78).

Källaröversvämningar i Augustenborg och Malmö

Sørensen, J., 2020 Dec, *Ekostaden Augustenborg: Erfarenheter och lärdomar*. Månsson, M. & Persson, B. (eds.). Malmö: Malmö Municipality, Malmö, Sweden, p. 214-215 (Arkus; no. 78).

Paradigm shift in engineering of pluvial floods: From historical recurrence intervals to risk-based design for an uncertain future

Haghighatafshar, S., Becker, P., Moddemeyer, S., Persson, A., Sørensen, J., Aspegren, H. & Jönsson, K., 2020 Jun 6, In: *Sustainable Cities and Society*. 61, 102317.

Green roofs, stormwater and sustainability: Augustenborg as a research site

Sørensen, J. & Emilsson, T., 2020 Jun 1, *The Eco-City Augustenborg: Experiences and lessons learned*. Månsson, M. & Persson, B. (eds.). 1 ed. Malmö Municipality, Malmö, Sweden, p. 162-171 10 p. (Arkus).

Synthesis report on stakeholder and end-user needs: Deliverable 2.1 in project Model-based Global Assessment of Hydrological Pressure (GlobalHydroPressure)

Beldring, S., Eisner, S., Sørensen, J., Olsson, J., Silva, B., Fragoso Jr., C. R. & Li, H., 2020 May 18, *Water JPI*. 73 p.

Nature-based solutions in an urban perspective

Sørensen, J., 2019 Sep 4.

Which types of rainfall cause urban flooding

Sørensen, J., 2019 Jun 13, p. 40-41. 2 p.

Pluviala översvämningar i stort och smått

Sørensen, J., 2019 Mar 22, In: *Vatten: tidskrift för vattenvård / Journal of Water Management and research*. 74, 4, p. 207-220 14 p.

Evaluating Flood Risk Reduction by Urban Blue-Green Infrastructure Using Insurance Data

Sørensen, J. & Emilsson, T., 2019 Feb, In: *Journal of Water Resources Planning and Management*. 145, 2, 11 p.

Assessment of barriers and drivers for implementation of blue-green solutions in Swedish municipalities

Wihlborg, M., Sørensen, J. & Alkan Olsson, J., 2019 Jan, In: *Journal of Environmental Management*. 233, p. 706-718 13 p.

Drivers of changing urban flood risk: A framework for action

Berndtsson, R., Becker, P., Persson, A., Aspegren, H., Haghigatafshar, S., Jönsson, K., Larsson, R., Mobini, S., Mottaghi, M., Nilsson, J., Nordström, J., Pilesjö, P., Scholz, M., Sternudd, C., Sörensen, J. & Tussupova, K., 2019, In: Journal of Environmental Management. 240, March, p. 47-56 10 p.

Tendenser och trender i tidskriften Vattens artiklar under 75 år

Persson, M., Hallin, C., Larson, M., Larsson, R., Persson, K. M. & Sörensen, J., 2019, In: Vatten: tidskrift för vattenvård /Journal of Water Management and research. 75, 1, p. 7-22

Urban infiltration in cold climate

Zaqout, T., Ólöf Andradóttir, H. & Sörensen, J., 2019.

Utvärdering av icke-förstörande mätmetoder för lokalisering av skador på rörledningar i mark: Rapportering av projektet Pipe Status

Sörensen, J. & Penttinen, O., 2019, Vinnova. 14 p.

Urban, pluvial flooding: Blue-green infrastructure as a strategy for resilience

Sörensen, J., 2018 Aug 6, Lund: Faculty of Engineering (LTH), Lund University. 176 p.

Pluvial, urban flood mechanisms and characteristics – Assessment based on insurance claims

Sörensen, J. & Mobini, S., 2017 Dec 1, In: Journal of Hydrology. 555, p. 51-67 17 p.

Recent advancements in the treatment and management of urban stormwater

Sörensen, J., Larsson, R., Aljaradin, M. & Persson, K. M., 2017 Jun 13. 1 p.

Framework for city planning including nature-based solutions (NBS)

Alkan Olsson, J., Sörensen, J. & Persson, A. S., 2017 Apr, p. 17904.

Insurance data as way to evaluate the performance of a sustainable urban drainage system (SUDS) in Augustenborg, Malmö

Sörensen, J. & Emilsson, T., 2017 Apr.

The link between land use and flood risk assessment in urban areas

Sörensen, J. & Kalantari, Z., 2017 Apr, p. 5348.

Klimatanpassning mot urbana översvämningar genom transprofessionell samverkan

Sörensen, J., Johansson, A., Nordgren, M., Sternudd, C. & Persson, M., 2016 Nov 25, In: Vatten: tidskrift för vattenvård /Journal of Water Management and research. 72, 3, p. 177-185 9 p.

Kostnads-nyttoanalys av införandet av hållbar dagvattenhantering som riskreducerande åtgärd mot översvämning: med fokus på monetär värdering av ekosystemtjänster

Read, K. E., Karras, M., Sörensen, J. & Cedergren, A., 2016 Nov 25, In: Vatten: tidskrift för vattenvård /Journal of Water Management and research. 72, 3, p. 159-168 10 p.

Re-thinking urban flood management – time for a regime shift

Sörensen, J., Persson, A., Sternudd, C., Aspegren, H., Nilsson, J., Nordström, J., Jönsson, K., MOTTAGHI, MISAGH., Becker, P., Pilesjö, P., Larsson, R., Berndtsson, R. & Mobini, S., 2016 Aug 4, In: Water. 8, 8, 15 p., 332.

Open LID stormwater system tested during severe flood event

Sörensen, J., 2016 Jun 26, p. 1-4. 4 p.

Quantifying Low Impact Development Measures in Water Resources Management: A Case Study

Zhang, L., Sörensen, J., Yu, H., Li, J. & Persson, K. M., 2016 Jun 26, *2016 International Low Impact Development Conference China 2016*. Beijing, China

Blå-gröna lösningars effektivitet – Erfarenheter från Augustenborg, Malmö

Haghighatafshar, S., Sörensen, J. & Roldin, M., 2016.

Importance and Challenges of Sharing Experiences among an International and Interdisciplinary Group of Doctoral Students Introduction

Kurki, V., Sörensen, J., Sidaraviciute, R., Kibocha, S. N., Retike, I., Ikobe, G., Tichonovas, M., Elijosiute, E. & Rajala, R., 2015, In: *Ympäristöhistoria Finnish Journal of Environmental History*. 5, 1, p. 45-51 7 p.

Interdisciplinary Water Research Network Building within Nordic and Baltic Countries

Sörensen, J., Kurki, V., Sidaraviciute, R., Kibocha, S. N., Retike, I., Ikobe, G., Tichonovas, M., Elijosiute, E. & Rajala, R., 2015, In: *Vatten: tidskrift för vattenvård /Journal of Water Management and research*. 71, 2, p. 79-83 5 p.

Combined effects of high water level and precipitation on flooding of Gothenburg, Sweden

Sörensen, J. & Bengtsson, L., 2014. 8 p.

Comparative Analysis of Flooding in Gothenburg, Sweden and Mumbai, India: A Review

Sörensen, J. & Rana, A., 2013. 9 p.

Activities

Grand seminar: The recent IPCC report, extreme weather events and implications for society.

Lina Nikoleris (Organiser), Josefin Madjidian (Organiser), Juliana Dänhardt (Organiser), Kimberly Nicholas (Chair), Markku Rummukainen (Keynote/plenary speaker), Deliang Chen (Keynote/plenary speaker), Natascha Kljun (Invited speaker), Yann Clough (Invited speaker), Johanna Sörensen (Invited speaker), Per Becker (Invited speaker) & Thomas Sterner (Invited speaker)

2021 Sep 16

Martin Bjarke

Kenneth M Persson (First/primary/lead supervisor), Johanna Sörensen (Joint second supervisor) & Magnus Larson (Joint second supervisor)

2020 Aug 1 → ...

Supervision of PhD student in the Cold Climate SuDS project

Johanna Sörensen (Second supervisor) & Hrund Andradóttir (First/primary/lead supervisor)

2018 Sep 1 → 2022 Oct 1

Imperial College London

Johanna Sörensen (Role not specified)

2015 Nov 2 → 2015 Nov 15

Prizes and Distinctions

The New Generation prize by The Swedish Association for Water

Sörensen, Johanna (Recipient), 2018 Mar 14

Projects

Green is Gold

Sörensen, J. & Alkan Olsson, J.

2019/03/01 → 2019/09/01

GlobalHydroPressure: Model-based Global Assessment of Hydrological Pressure

Uvo, C. B., Hashemi, H., Sørensen, J. & Olsson, J.

2019/03/01 → 2022/07/30

RörANN – a smart artificial neural network model for minimizing leakages in water distribution systems

Sørensen, J. & Nilsson, E.

2019/07/01 → 2021/07/01

StormMan – A synthesis of governance structures and policy instruments to overcome economic, environmental and social implementation challenges moving toward sustainable stormwater management

Sørensen, J., Hanson, H., Alkan Olsson, J. & Berndtsson, R.

2023/03/01 → 2024/08/31

Sustainable urban drainage in cold climate

Andradóttir, H., Sørensen, J. & Zaqout, T.

2018/10/01 → 2022/10/01

Sustainable Urban Flood Management

Berndtsson, R., Larsson, R., Sørensen, J., Mobini, S., Scholz, M., Jönsson, K., Mottaghi, M., Aspegren, H.,

Haghighatafshar, S., Becker, P., Sternudd, C., Nordström, J., Nilsson, J., Pilesjö, P. & Persson, A.

2015/10/01 → 2018/09/30

Urban Arena

Karvonen, A., Dahl, P., Sveningsson, H., Rapuano, V., Sandström, I., Neij, L., Mukhtar-Landgren, D., Pries, J., Paulsson, A., Alkan Olsson, J., Oudin, A., Knutagård, M., Koglin, T., Sørensen, J., Mattisson, K., Thidell, A., Ståhl, A., Sopasakis, A., Elgh, A., Lund Hansen, A., Wretstrand, A., Varhelyi, A., Norrman, A., Wierzbicka, A., Åkerman, A., Ekberg, A., Petersson, A., Wahlöö, A., Persson, A., Thomasson, A., Linden, A., Landin, A., Knaggård, Å., Ness, B., Holmberg, B., Eriksen, B., Kiss, B., Nordquist, B., Badersten, B., Magnusson Staaf, B., Wickenberg, B., Dalhammar, C., Martinez, C., Sternudd, C., Fredriksson, C., Wittbom, C., Malmgren, C., Malmström, C., Larsson, C., Wamsler, C., Uvo, C. B., Mukhtar-Landgren, D., Andréen, D., Koca, D., Johansson, D., Brink, E., Malmqvist, E., Pedersen, E., Dalholm Hornyánszky, E., Högdahl, E., Kjellsson, E., Boyd, E., Clark, E., Serrano, E., Nilsson, F., Kopsch, F., Hallberg Skåtar, F., Paulsson, G., Sandin, G., Magnusson, H., Bagge, H., Hanson, H., Hanson, H., Busch, H., Hassel, H., Pålsson, H., Smith, H., Davidsson, H., Smith, H., Corvellec, H., Sandström, I., Pålsson Skarin, I., Arroyo, I., Khan, J., Ryan, J., Palm, J., Arfvidsson, J., Richter, J., Rahm, J., Martinsson, J., Sørensen, J., Alkan Olsson, J., Åstrand, J., Kanters, J., Lundquist, K., Salomonsson, K., Steen, K., Hennig, V. K. R., Molina-Besch, K., Persson, K. M., Sernhed, K., Barup, K., McCormick, K., Maini Gerhardsson, K., Mattisson, K., Foroughanfar, L., Bengtsson, L., Wadsö, L., Harrie, L., Jönsson, L., Ståhl, L., Liuke, L., Fünfschilling, L., Eskilsson, L., Winslott Hiselius, L., Neij, L., Röjnert, L., Lundmark, L., Eklund, L., Enochsson, L., Persson, M., Holst-Ekström, M., Johansson, M., Rasmussen, M., Wall, M., Esaiasson, M., Dubois, M., Grillitsch, M., Dahlblom, M., Hultman, M., Kärrholm, M., Klintman, M., Molnar, M., Mottaghi, M., Baruti, M. M., Yahia, M. W., Bocken, N., Egan, N., Mont, O., Mattisson, O., Thufvesson, O., Kolte, O., Samuelsson, O., Blomqvist, O., Christensson, O., Larsson Ivanov, O., Strandberg, P., Prieto de La Fuente, P., Hjorth, P., Arnfalk, P., Bengtsen, P., Sjöström, P., Olsson, P., Persson, P., Wallentén, P., Saagi, R., Bernardo, R., Hildingsson, R., Larsson, R., Berndtsson, R., Alrabadi, S., Hyler, S., Kopljär, S., Sandin Lompar, S., Olander, S., Wandel, S., Curtis, S., Dahlgaard-Park, S. M., Lindhqvist, T., Laike, T., Germundsson, T., Hellström, T., Tägil, T., Jeppsson, U., Ramberg, U., Chudnikova, V., Shoaib, W. M., Voytenko Palgan, Y., Miranda, P., Chu, A. C., Brinck, I., Shabb, K., Wahlund, M., Reindl, K., Macgregor, F., Libertson, F., Johansen, K. & Litsmark, A.
2022/03/03 → ...

Urban flooding in a changing climate

Sørensen, J.

2012/09/03 → 2018/12/31