

PERSONAL INFORMATION

David Gustafsson



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- 🌐 <http://www.smhi.se/en/research/research-departments/hydrology/david-gustafsson-1.18717>

Sex Male | Date of birth 07/04/1973 | Nationality Swedish

JOB APPLIED FOR

Senior research scientist

WORK EXPERIENCE

2011-present
2004-2016
2002-2004

Senior Researcher at Hydrology research unit at SMHI (research lead 2014-2018)
Researcher/Research assistant, KTH Royal Institute of Technology
Postdoc, Swiss Federal Institute for Snow and Avalanche Research

Swedish Meteorological and Hydrological Institute, SE-601 76 Norrköping, Sweden (www.smhi.se)

KTH Royal Institute of Technology, Department of Sustainable Development, Environmental Science and Engineering, Stockholm, Sweden (www.kth.se)

WSL Swiss Federal Institute for Snow and Avalanche Research SLF, Davos, Switzerland (www.slf.ch)

Business or sector SMHI is a governmental agency under Ministry of Environment and Energy, KTH is technical university, WSL/SLF is an interdisciplinary research and service institute under domain of ETH.

EDUCATION AND TRAINING

2002
1998

PhD, Land and water resources eng., KTH, Stockholm, Sweden
MSc, Aquatic and environmental eng., Uppsala University, Sweden

PhD: Boreal Land Surface Water and Heat Balance - Modelling Soil-Snow-Vegetation-Atmosphere Behaviour.

PERSONAL SKILLS

Mother tongue(s) Swedish

Other language(s)

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken interaction	Spoken production	
English	C2	C2	C2	C2	C2
French	B1	B1	A2	A2	A1

Levels: A1/2: Basic user - B1/2: Independent user - C1/2 Proficient user
Common European Framework of Reference for Languages

Communication skills

Frequent author and reviewer of project proposals, scientific papers and reports. Frequent speaker at national and international conferences/workshops - Lecturer in university courses.

Organisational / managerial skills

- Research Leader at SMHI research unit 2014-2018.
- EU H2020 and FP7 project WP-leader/co-leader, leader of national research projects.

Job-related skills

- 20 years research experience on cold climate hydrology, observations and modelling of hydrological systems in arctic, sub-arctic and alpine environments, data assimilation, and earth observations.

Computer skills

- Fortran, C/C++, R, Python, Matlab, Linux/Unix, Windows.

ADDITIONAL INFORMATION

Projects

- Consortium lead Belmont Forum HYPE-ERAS, 2020-ongoing
- WP-co-lead in EU H2020 INTAROS, 2016-ongoing
- WP-leader in ESA TEP Hydrology 2015-ongoing, EU FP7 CryoLand, 2012-2015, Task leader ESA SHAPE 2016-ongoing, Climate Research Group member in ESA CCI Snow 2018-ongoing.
- Swedish representative in Arctic-HYCOS since 2014.

Publications

53 peer-reviewed articles 1999-2020 with an H-index=26 and a total of 2235 citations (2020-09-28).

Selected publications:

- Musuuza, JL, Gustafsson, D, Pimentel, R, Crochemore, L, Pechlivanidis, P (2020). Impact of satellite and in situ data assimilation on hydrological predictions. *Remote Sens.* 2020, 12(5), 811; <https://doi.org/10.3390/rs12050811>
- Stadnyk, TA, MacDonald, MK, Tefs, A, Déry, SJ, Koenig, K, Gustafsson, D, Isberg, K, Arheimer, B (2020). Hydrological modeling of freshwater discharge into Hudson Bay using HYPE. *Elem Sci Anth*, 8: 43. DOI: <https://doi.org/10.1525/elementa.439>
- de Niet, J., Finger, DC, Bring, A, Egilson, D, Gustafsson, D, Kalantari, Z (2020). Benefits of Combining Satellite-Derived Snow Cover Data and Discharge Data to Calibrate a Glaciated Catchment in Sub-Arctic Iceland. *Water* 12 (4), 975
- MacDonald, M. K., Stadnyk, T. A., Déry, S. J., Braun, M., Gustafsson, D., Isberg, K., & Arheimer, B. (2018). Impacts of 1.5 and 2.0 °C warming on pan-Arctic river discharge into the Hudson Bay Complex through 2070. *Geophysical Research Letters*, 45, 7561–7570.
- Berg, P., Donnelly, C., Gustafsson, D. (2018) Near-real-time adjusted reanalysis forcing data for hydrology. *Hydrology and Earth System Sciences* 22 (2), 989.
- Gelfan, A., Gustafsson, D., Motovilov, Y., Kalugin, A., Krylenko, I., Lavrenov, A. (2017) Climate change impact on the water regime of two great Arctic rivers: modeling and uncertainty issues. *Climatic Change*, 141 (3): 499-515. doi:10.1007/s10584-016-1710-5.
- Vesakoski J-M, Nylén T, Arheimer B, et al. Arctic Mackenzie Delta channel planform evolution during 1983–2013 utilising Landsat data and hydrological time series. *Hydrological Processes*. 2017;31:3979–3995.
- Feiccabrino J, Graff W, Lundberg A, Sandström N, Gustafsson D: Meteorological Knowledge Useful for the Improvement of Snow Rain Separation in Surface Based Models. *Hydrology* 2015, 2.
- Gouttevin I, Lehning M, Jonas T, Gustafsson D, Mölder M (2015): A two-layer canopy model with thermal inertia for an improved snowpack energy balance below needleleaf forest (model SNOWPACK, version 3.2.1, revision 741). *Geoscientific Model Development* 08/2015
- Rasmus S, Gustafsson D, Lundell R, Saarinen T: Observations and snow model simulations of winter energy balance terms within and between different coniferous forests in Southern Boreal Finland. *Hydrology Research*, 47 (1), 201-216.
- Malnes E, Buanes A, Nager T, Bippus G, Gustafsson D, Metsämäki S, Pulliainen J, Luoju K, Larsen HE, Solberg R, Diamandi A, Wiesmann A: User requirements for the snow and land ice services – CryoLand. *The Cryosphere*, 9, 1191-1202.
- Magnusson J, Gustafsson D, Hüsler F, Jonas T (2014): Assimilation of point SWE data into a distributed snow cover model comparing two contrasting methods. *WRR*, 50.
- Juston J, Jansson PE, Gustafsson D (2014): Rating curve uncertainty and change detection in discharge time series: Case study with 44-year historic data from the Nyangores River, Kenya. *Hydrological Processes* 02/2014; 28(4)., DOI:10.1002/hyp.9786
- Sundström S, Gustafsson D, Kruglyak A, Lundberg A: Field evaluation of a new method for estimation of liquid water content and snow water equivalent of wet snowpacks with GPR (2013). *Hydrology Research* 07/2013; 44(4).
- Staehli M, Jonas T, Gustafsson D. The role of snow interception in winter-time radiation processes of a coniferous sub-alpine forest. *Hydrological Processes* 2009;23(17):2498-2512.
- Lehning M, Völsch I, Gustafsson D, Nguyen TA, Stähli M, Zappa M (2006): ALPINE3D: A detailed model of mountain surface processes and its application to snow hydrology. *Hydrological Processes* 06/2006; 20(10)., DOI:10.1002/hyp.6204
- Gustafsson D, M. Stähli, P-E. Jansson (2001): The surface energy balance of a snow cover: Comparing measurements to two different simulation models. *Theor. and Appl. Climatology* 70(1).

Voluntary and professional commissions

- Swedish chief delegate Norther Research Basins Symposium and Workshop, since 2015, Chair of Nordic Hydrological Association (NHF) 2014-2016, NHF board member 2008-2012, 2012-2016, Organization and scientific committee Nordic Hydrological Conference in Stockholm 2014, Chair of Swedish Hydrological Council (SHR), 2009-2011.

