






PERSONAL INFORMATION

David Gustafsson

-  SMHI, SE-60176 Norrköping, Sweden
-  +46-11-4958647  +46-70-2728504
-  david.gustafsson@smhi.se
-  <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 Senior Researcher at Hydrology research unit at SMHI (research lead 2014-2018, 2023-)
 - 2004-2016 Researcher/Research assistant, KTH Royal Institute of Technology
 - 2002-2004 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
- WSL Swiss Federal Institute for Snow and Avalanche Research SLF, Davos, Switzerland
- 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 PhD, Land and water resources eng., KTH, Stockholm, Sweden
 - 1998 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

- Leadership at consortium and work package level in international and national research projects (Belmont Forum, EU H2020, FP7, ESA, FORMAS, Energimyndigheten, Vinnova, Energiforsk).
- Research Leader at SMHI hydrology research unit 2014-2018.

Job-related skills

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

Computer skills

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

ADDITIONAL INFORMATION

- Projects**
- Consortium lead, Belmont Forum project HYPE-ERAS (www.hype-eras.org), 2020-2024
 - WP leader/co-lead Eu H2020 UAWOS 2023-, ESA AI4Arctic 2021-, EU H2020 INTAROS, 2016-2022, ESA TEP Hydrology 2015-2020; EU FP7 CryoLand, 2012-2015, Climate Research Group member in ESA CCI Snow 2018-. Swedish representative in WMO Arctic-HYCOS since 2014.

Publications 56 peer-reviewed articles 1999-2023 with an H-index=24 and a total of 1929 citations (Web of Science, 2024-01-19).

Selected publications:

- Ahmed, M. I., Shook, K., Pietroniro, A., Stadnyk, T., Pomeroy, J. W., Pers, C., & Gustafsson, D. (2023). Implementing a parsimonious variable contributing area algorithm for the prairie pothole region in the HYPE modelling framework. *Environmental Modelling & Software*, 167.
 - Clemenzi, I., Gustafsson, D., Marchand, W.-D., Norell, B., Zhang, J., Pettersson, R. and Pohjala, V. (2023). Impact of snow distribution modelling for runoff predictions. Accepted for publication in *Hydrology Research*. <https://doi.org/10.2166/nh.2023.043>.
 - Hiyama, T., Park, H., Kobayashi, K., Lebedeva, L. and Gustafsson, D. (2023). Contribution of summer net precipitation to winter river discharge in permafrost zone of the Lena River basin. *Journal of Hydrology*, 616, 128797.
 - Lindenschmidt, K.-E.; Alfreksen, K.; Carstensen, D.; Choryński, A.; Gustafsson, D.; Halicki, M.; Hentschel, B.; Karjalainen, N.; Kögel, M.; Kolerski, T.; et al. Assessing and Mitigating Ice-Jam Flood Hazards and Risks: A European Perspective. *Water* 2023, 15, 76. <https://doi.org/10.3390/w15010076>
 - Pimentel, R., Arheimer, B., Crochemore, L., Andersson, J. C. M., Pechlivanidis, I. G., & Gustafsson, D. (2023). Which potential evapotranspiration formula to use in hydrological modeling world-wide? *Water Resources Research*, 59, e2022WR033447. <https://doi.org/10.1029/2022WR033447>
 - Machefer, M.; Perpinyà-Vallès, M.; Escorihuela, M.J.; Gustafsson, D.; Romero, L. Challenges and Evolution of Water Level Monitoring towards a Comprehensive, World-Scale Coverage with Remote Sensing. *Remote Sens.* 2022, 14, 3513. <https://doi.org/10.3390/rs14153513>
 - Hallerback, S, Huning, LS, Love, C, Persson, M, Stensen, K, Gustafsson, D, AghaKouchak, A (2022). Climate warming shortens ice durations and alters freeze and break-up patterns in Swedish water bodies. *The Cryosphere* 16 (6), 2493-2503.
 - Lebedeva, L, Gustafsson, D (2021). Streamflow Changes of Small and Large Rivers in the Aldan River Basin, Eastern Siberia. *Water* 13 (19), 2747
 - 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>
 - 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.
 - 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.
 - 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.
 - Stähli 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 (NRB) since 2015, Chair of Nordic Hydrological Association 2014-2016 (board member 2008-2016), Organization of NRB Workshop and Symposium Sweden 2023, Nordic Hydrological Conference in Stockholm 2014, Chair Swedish Hydrological Council (SHR), 2009-2011.