

Curriculum vitae Dr. Laurens Bouwer

Institution: Climate Service Center Germany (GERICS),
Helmholtz-Zentrum Hereon, Hamburg
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Profile, expertise and skills

- Hydrological risk and vulnerability assessment, adaptation planning
- Climate change impact analysis and damage modelling
- (Lead) Author for IPCC reports: TAR; SREX; AR5; SROCC; AR6
- Country experience: Germany, Netherlands, and Europe, Algeria, India, Vietnam, USA
- Editorial board member of the journals *Climate Services*; *Water*; and *Frontiers in Climate*

Employment record

2018 - present	Helmholtz-Zentrum Hereon , Hamburg Climate Service Center Germany (GERICS)	Senior Scientist (<i>main employment</i>)
2020 - present	Universität Hamburg , Faculty of Mathematics, Informatics and Natural Sciences, Institute of Geography	Lecturer (<i>Lehrbeauftragter</i>)
2017 - 2018	Deltares , Delft, The Netherlands, Inland Water Systems Unit, Department of Flood Risk Management	Expert Researcher
2013 - 2016	Deltares , Delft, The Netherlands, Inland Water Systems Unit, Department of Flood Risk Management	Senior Researcher /Consultant
March - May 2008	University of California , Santa Barbara, Department of Geography	Visiting Scientist
2001 - 2013	VU University Amsterdam , The Netherlands Institute for Environmental Studies, Department of Spatial Analysis and Decision Support	Researcher
Oct 2000 - Feb '01	Munich Reinsurance Company, Germany Geoscience Research Group	Intern
1999 - 2000	VU University Amsterdam, The Netherlands Institute for Environmental Studies, Department of Spatial Analysis and Decision Support	Assistant

Education

- 2006 - 2010: Doctoral thesis on Flood Risk and Climate Change;
Vrije Universiteit Amsterdam, Netherlands
- 1995 - 2001: MSc Physical Geography;
Vrije Universiteit Amsterdam, Netherlands

Evaluation panels

- External evaluator for the IPCC Scholarship Programme (2023)
- External evaluator for New Frontiers in Research Fund of the Social Sciences and Humanities,
Research Council of Canada (2023)
- External evaluator for Province of Bozen, Department of Innovation and Research (2023)
- External evaluator for the Deutsche Forschungsgemeinschaft (DFG) (2021-present)
- External evaluator for the Austrian Science Fund (FWF) (2020-present)
- External evaluator of the Institute for Environment and Human Security, United Nations
University (UNU-EHS), Bonn (2019)
- Government Reviewer, Expert Reviewer for Intergovernmental Panel on Climate Change: Fourth
Assessment Report 2007; Special Report on Extremes 2012
- Reviewer for UK Government Foresight report on Improving Future Disaster Anticipation and
Resilience (2012)
- Reviewer/contributor to European Environment Agency reports:
Climate Change Impact Indicators (EEA report 12/2012)
Natural Hazards and Technological Accidents (EEA report 13/2010)
Climate Change Impact Indicators (EEA report 4/2008)

Session and workshop/conference organisation

- Conference Committee Member for ECWS-6 The Impact of Climate Change and Human
Interventions on Coastal Zones (15-30 November, 2021) <https://ecws-6.sciforum.net/>
- Co-organiser: Workshop: Machine Learning in Earth System Science. DKRZ, Hamburg,
Germany (May 3 and 4, 2021) <https://www.dkrz.de/up/news-and-events/workshops-and-trainings/ml-workshop-2021>
- Scientific Committee Member for Flood Risk 2020: Fourth European Conference on Flood Risk
Management. Online (21-25 June, 2021) <https://floodrisk2020.net/>
- Co-organiser: Workshop: Machine Learning in Earth System Science. DKRZ and HZG,
Hamburg, Germany (February 3 and 4, 2020)
https://www.dkrz.de/communication/news-archive/AI-ML_Workshop_Febr2020
- Co-organiser, session NH9.2 on Costs of Natural Hazards, European Geosciences Union (EGU)
General Assembly, Vienna, Austria (2012-2018)
- Co-organiser: Workshop “Validation in Flood Risk Modelling: combining scientific, policy and
market perspectives” (20-21 November, 2017) (with Polytechnical University Milan)
- Chair, session “Moving towards tailored climate services in the Water Sector”. Rotterdam, The
Netherlands, Adaptation Futures Conference (10 May, 2016)
- Organiser, EGU Topical Meeting: Validation in Flood Risk Modelling, Delft, The Netherlands (9-
10 December, 2014)
- Co-chair, session on Urban Flood Risks, International Geographical Congress, Cologne, Germany
(29 August, 2012)

Organising team member, Workshop on Climate and Disaster Losses, Munich, Germany (25-26 May 2006)

Co-chair, session on Financing weather and climate related risks, Red Cross Work Conference on Climate Change and Disaster Risk Reduction, The Hague, The Netherlands (21-24 June, 2005)

Co-chair, session “It pays off to be prepared: risks, insurance and finance”, Third World Water Forum, Kyoto, Japan (16 March, 2003)

Editorial roles

Editorial Board Member for the journals:

Water, Hydrology Section (MDPI) CiteScore: 5.5

<https://www.mdpi.com/journal/water>

Climate Services (Elsevier) CiteScore: 5.1

<https://www.sciencedirect.com/journal/climate-services>

Frontiers in Climate, Section Climate and Decision Making (Frontiers Media) CiteScore: 2.1

<https://www.frontiersin.org/journals/climate>

Recent research projects:

- 2024-2026 **HYDROLINE – Retrospective and pseudo-global-warming simulations of extreme HYDRO-meteorological events using an INtegrated hydrometeorological modEling approach**
Client: Helmholtz Association
Location: Germany
Role: Principal Investigator, expert flood hazard assessment
- 2022-2024 **CASCO: Risk workflow for CAScading and COmpounding hazards in COastal urban areas**
Client: Helmholtz Association, Innovation Pool
Location: Germany and Italy
Role: Principal Investigator, expert urban flood risk assessment
- 2022-2024 **Modelling urban dynamics affected by climate change for coastal spatial planning and management (MUCCCS)**
Client: Helmholtz Institute for Climate Service Science (HICSS)
Location: Germany
Role: Principal Investigator, expert coastal flood risk
- 2022-2025 **Strategies and Technologies for United and Resilient Critical Infrastructures and Vital Services in Pandemic-Stricken Europe (Horizon Europe SUNRISE)**
Client: European Commission, DG Research
Location: Germany, Europe
Role: Principal Investigator, expert climate change impacts and adaptation
- 2022-2027 **Infectious Disease decision-support tools and Alert systems to build climate Resilience to emerging health Threats (Horizon Europe IDAlert)**
Client: European Commission, DG Research
Location: Germany, Europe
Role: Work package leader “Projecting infectious disease risk under climate change adaptation and mitigation scenarios”

- 2019-2021 **Machine Learning methods for assessing links between Climate Change and Health**
 Client: Helmholtz Association, Impulse and Network Fund
 Location: Germany
 Role: Project leader, expert on extreme weather events
- 2018-2021 **Digital Earth: towards smart monitoring and integrated data exploration in the Earth System**
 Client: Helmholtz Association, Impulse and Network Fund
 Location: Germany
 Role: Senior scientist, climate change scenario explorer software, evaluation framework
- 2018-2020 **Collaboration Project “Bandwidths”: Hydrological and hydraulic impact modelling of projected regional climate change**
 Client: Helmholtz Association
 Location: Germany
 Collaboration with TUHH
 Role: Expert on impacts and hydrology

Recent journal publications:

Full publication list: <https://orcid.org/0000-0003-3498-2586>

- Juhola, S., Bouwer, L.M., Huggel, C., Mechler, R., Muccione, V. & Wallimann-Helmer, I. (submitted). A new dynamic framework is required to assess adaptation limits. *Global Environmental Change*.
- Knutzen, F., Averbeck, P., Barrasso, C., Bouwer, L.M., Gardiner, B., Grünzweig, J.M., Hänel, S., Haustein, K., Johannessen, M.R., Kollet, S., Pietras-Couffignal, K., Pietikainen, J.P.S., Pinto, J., Rechid, D., Rousi, E., Russo, A., Suarez-Gutierrez, L., Wendler, J., Xoplaki, E. & Gliksman, D. (preprint). Impacts and damages of the European multi-year drought and heat event 2018 - 2022 on forests, a review. *NHESS/ASCMO/WCD inter-journal Special Issue*. <https://doi.org/10.5194/egusphere-2023-1463>
- Jonkman, S.N., Curran, A. & Bouwer, L.M. (in press). Floods have become less deadly: an analysis of global flood fatalities 1975-2022. *Natural Hazards*. <https://doi.org/10.21203/rs.3.rs-3571907/v1>
- Nikolaou, N., Bouwer, L.M., Dallavalle, M., Valizadeh, M., Stafoggia, M., Peters, A., Wolf, K. & Schneider, A. (2023). Improved daily estimates of relative humidity at high resolution across Germany: a Random Forest approach. *Environmental Research*, 238, 117173. <https://doi.org/10.1016/j.envres.2023.117173>
- Rocklöv, J., Semenza, J.C., Dasgupta, S., Robinson, E.J.Z., Abd El Wahed, A., Alcayna, T., Arnés-Sanz, C., Bailey, M., Bärnighausen, T., Bartumeus, F., Borell, C., Bouwer, L.M., Bretonnière, P.A., Bunker, A., Chavardes, C., Van Daalen, K.R., Encarnação, J., González-Reviriego, Guo, J., Johnson, K., Koopmans, M.P.G., Máñez-Costa, M., Michaelakis, A., Montalvo, T., Omazic, A., Palmer, J.R.B., Preet, Ra., Romanello, M., Shafiul Alam, M., Sikkema, R.S., Terrado, M., Treskova, M., Urquiza, D. & Lowe, R. (2023). Decision-support tools to build climate resilience against emerging infectious diseases in Europe and beyond. *The Lancet Regional Health - Europe*, 32, 100701. <https://doi.org/10.1016/j.lanepe.2023.100701>
- Sengupta, S., Kovalevsky, D.V., Bouwer, L.M. & Scheffran, J. (2023). Urban planning of coastal adaptation under sea-level rise: an agent-based model in the VIABLE framework. *Urban Science*, 7(3), 79. <https://doi.org/10.3390/urbansci7030079>
- Wübbelmann, T., Förster, K., Bouwer, L.M., Dworczyk, C., Bender, S. & Burkhard, B. (2023). Urban flood regulating ecosystem services under climate change: how can nature-based solutions contribute? *Frontiers in Water*, 5, 1081850. <http://doi.org/10.3389/frwa.2023.1081850>

- Nikolaou, N., Dallavalle, M., Stafoggia, M., Bouwer, L.M., Peters, A., Chen, K., Wolf, K. & Schneider, A. (2023). High-resolution spatiotemporal modeling of daily near-surface air temperature in Germany over the period 2000-2020. *Environmental Research*, 219, 115062. <https://doi.org/10.1016/j.envres.2022.115062>
- Wübbelmann, T., Bouwer, L.M., Förster, K., Bender, S. & Burkhard, B. (2022). Urban ecosystems and heavy rainfall. A flood regulating ecosystem service modelling approach for extreme events on the local scale. *One Ecosystem*, 7, e87458. <https://doi.org/10.3897/oneeco.7.e87458>
- Marien, L., Valizadeh, M., Zu Castell, W., Nam, C., Rechid, D., Schneider, A., Meisinger, C., Linseisen, J., Wolf, K. & Bouwer, L.M. (2022). Machine learning models to predict myocardial infarctions from past climatic and environmental conditions. *Natural Hazards and Earth System Sciences*, 22(9), 3015-3039. <https://doi.org/10.5194/nhess-22-3015-2022>
- Huggel, C., Bouwer, L.M., Juhola, S., Mechler, R., Muccione, V., Orlove, B. & Wallimann-Helmer, I. (2022). The existential risk space of climate change. *Climatic Change*, 174 (1-2), 8. <https://doi.org/10.1007/s10584-022-03430-y>
- Pakdaman, M., Babaeian, I. & Bouwer, L.M. (2022). Improved monthly and seasonal multi-model ensemble precipitation forecasts in Southwest Asia using Machine Learning algorithms. *Water*, 14(17), 2632. <https://doi.org/10.3390/w14172632>
- Bouwer, L.M., Cheong, S.M., Jacot Des Combes, H., Frölicher, T.L., McInnes, K., Ratter, B. & Rivera-Arriaga, E. (2022). Risk management and adaptation for extremes and abrupt changes in climate and oceans: current knowledge gaps. *Frontiers in Climate*, 3, 785641. <https://doi.org/10.3389/fclim.2021.785641>
- Koedel, U., Schuetze, C., Fischer, P., Bussmann, I., Sauer, P.K., Nixdorf, E., Kalbacher, T., Wichert, V., Rechid, D., Bouwer, L.M. & Dietrich, P. (2022). Challenges in the evaluation of data trustworthiness from a data producers viewpoint (FAIR+). *Frontiers in Environmental Science*, 9, 772666. <https://doi.org/10.3389/fenvs.2021.772666>
- Sieck, K., Nam, C., Bouwer, L.M., Rechid, D. & Jacob, D. (2021). Weather extremes over Europe under 1.5°C and 2.0°C global warming from HAPPI regional climate ensemble simulations. *Earth System Dynamics*, 12(2), 457-468. <https://doi.org/10.5194/esd-12-457-2021>
- Dreier, N., Nehlsen, E., Fröhle, P., Rechid, D., Bouwer, L.M. & Pfeifer, S. (2021). Future changes in wave conditions at the German Baltic Sea coast based on a hybrid approach using an ensemble of regional climate change projections. *Water*, 13(2), 167. <https://doi.org/10.3390/w13020167>
- Kok, S., Bisaro, A., De Bel, M., Hinkel, J. & Bouwer, L.M. (2021). The potential of nature-based flood defences to leverage public investment in coastal adaptation: cases from the Netherlands, Indonesia and Georgia. *Ecological Economics*, 179, 106828. <https://doi.org/10.1016/j.ecolecon.2020.106828>
- Wagenaar, D., Hermawan, T., Van den Homberg, M.J.C., Aerts, J.C.J.H., Kreibich, H., De Moel, H. & Bouwer, L.M. (2021). Improved transferability of multi-variable damage models through sample selection bias correction. *Risk Analysis*, 41(1), 37-55. <https://doi.org/10.1111/risa.13575>
- Bisaro, A., De Bel, M., Hinkel, J., Kok, S. & Bouwer, L.M. (2020). Leveraging public finance for adaptation through urban land reclamation projects: cases from Germany, the Netherlands and the Maldives. *Climatic Change*, 160(4), 671-689. <https://doi.org/10.1007/s10584-019-02507-5>
- Haasnoot, M., Van Aalst, M., Rozenberg, J., Dominique, K., Matthews, J., Bouwer, L.M., Kind, J., LeRoy Poff, N. (2020). Investments under non-stationarity: economic evaluation of adaptation pathways. *Climatic Change*, 161(3), 451-463. <https://doi.org/10.1007/s10584-019-02409-6>
- Mechler, R., Singh, C., Ebi, K., Djalante, R., Thomas, A., James, R., Tschakert, P., Wewerinke-Singh, M., Schinko, T., Ley, D., Nalau, J., Bouwer, L.M., Huggel, C., Huq, S., Linnerooth-Bayer, J., Surminski, S., Pinho, P., Jones, R., Boyd, E. & Revi, A. (2020). Loss and Damage and limits to adaptation: recent IPCC insights and implications for climate science and policy. *Sustainability Science*, 15(4), 1245-1251. <https://doi.org/10.1007/s11625-020-00807-9>
- Kreibich, H., Blauhut, V., Aerts, J.C.J.H., Bouwer, L.M., Van Lanen, H.A.J., Mejia, A., Mens, M. & Van Loon, A.F. (2020). Approaches to analyse and model changes in impacts: reply to discussions of “How to improve attribution of changes in drought and flood impacts”. *Hydrological Sciences Journal*, 65(3), 491-494. <https://doi.org/10.1080/02626667.2019.1701194>

- Wagenaar, D.J., Dahm, R.J., Diermanse, F.L.M., Dias, W.P.S., Dissanayake, D.M.S.S., Vajja, H.P., Gehrels, J.C. & Bouwer, L.M. (2019). Evaluating adaptation measures for reducing flood risk: a case study in the city of Colombo, Sri Lanka. *International Journal of Disaster Risk Reduction*, 37, 101162. <https://doi.org/10.1016/j.ijdr.2019.101162>
- Kreibich, H., Blauhut, V., Aerts, J.C.J.H., Bouwer, L.M., Van Lanen, H.A.J., Mejia, A., Mens, M. & Van Loon, A.F. (2019). How to improve attribution of changes in drought and flood impacts. *Hydrological Sciences Journal*, 64(1), 1-18. <https://doi.org/10.1080/02626667.2018.1558367>
- Dahm, R., Bhardwaj, A., Sperna-Weiland, F., Corzo, G. & Bouwer, L.M. (2019). A temperature-scaling approach for projecting changes in short duration rainfall extremes from GCM data. *Water*, 11(2), 313. <https://doi.org/10.3390/w11020313>
- Molinari, D., De Bruijn, K., Castillo-Rodriguez, J.T., Aronica, G.T. & Bouwer, L.M. (2019). Validation of flood risk models: current practice and possible improvements. *International Journal of Disaster Risk Reduction*, 33(1), 441-448. <https://doi.org/10.1016/j.ijdr.2018.10.022>
- Vousdoukas, M.I., Bouziotas, D., Giardino, A., Bouwer, L.M., Mentaschi, L., Voukouvalas, E. & Feyen, L. (2018). Understanding epistemic uncertainty in large-scale coastal flood risk assessment for present and future climates. *Natural Hazards and Earth System Sciences*, 18(8), 2127-2142. <https://doi.org/10.5194/nhess-18-2127-2018>
- Bouwer, L.M. (2018). Next generation coastal risk models. *Nature Climate Change*, 8(9), 765-766. <https://doi.org/10.1038/s41558-018-0262-2>

Edited books

- Bouwer, L.M., Dransch, D., Ruhnke, R., Rechid, D., Frickenhaus, S. & Greinert, J. (eds.) (2022). *Integrating Data Science and Earth Science: Challenges and Solutions*. Briefs in Earth System Sciences, Springer, Cham, 148 pp. <https://doi.org/10.1007/978-3-030-99546-1>
- Mechler, R., Bouwer, L.M., Schinko, T., Surminski, S. & Linnerooth-Bayer, J. (eds.) (2019). *Loss and Damage from Climate Change: Concepts, Principles and Policy Options*, Springer, Cham, 557 pp. <https://doi.org/10.1007/978-3-319-72026-5>

Peer-reviewed book chapters (including Chapters for IPCC)

- New, M., Reckien, D., Viner, D., Adler, C., Cheong, S.M., Conde, C., Constable, A., Coughlan de Perez, E., Lammel, A., Mechler, R., Orlove, B., Solecki, W., Bezner Kerr, R., Bharwani, S., Biesbroek, R., Bouwer, L.M. et al. (2022). Decision making options for managing risk. Chapter 18 in: Pörtner, H.O., et al. (eds.). *Climate Change 2022: Impacts, Adaptation and Vulnerability. Contribution for Working Group II to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change*. <https://doi.org/10.1017/9781009325844.029>
- Collins, M., Sutherland, M., Bouwer, L.M., Cheong, S.M., Frölicher, T., Jacot Des Combes, H., Koll Roxy, M., Losada, I., McInnes, K., Ratter, B., Rivera-Arriaga, E., Susanto, R.D., Swingedouw, D. & Tibig, L. (2019). Extremes, abrupt changes and managing risk. Chapter 6 in: IPCC Special Report on the Ocean and Cryosphere in a Changing Climate. [Pörtner, H.O., Roberts, D.C., Masson-Delmotte, V., Zhai, P., Tignor, M., Poloczanska, E., Mintenbeck, K., Alegría, A., Nicolai, M., Okem, A., Petzold, J., Rama, B., Weyer, N.M. (eds.)], Cambridge University Press, Cambridge, UK and New York, NY, USA, pp. 589-655. <https://doi.org/10.1017/9781009157964.008>

Other book chapters

- Bouwer, L.M. & Trümper, S. (in press). Zunahme der Katastrophen durch den Klimawandel? In: *Resiliente Infrastrukturen*. Erich Schmidt, Berlin.
- Birkmann, J., Bouwer, L.M., Greiving, S., Serdeczny, O.M. (2024). Die Bewertung von Gefahren, Expositionen, Verwundbarkeiten und Risiken. Chapter 25 in: *Klima-wandel in Deutschland*. Springer, Heidelberg, 333-344. https://doi.org/10.1007/978-3-662-66696-8_25
- Greinert, J., Henkel, D., Dransch, D., Bouwer, L.M., Brix, H., Dietrich, P., Frickenhaus, S., Petzold, A., Rechid, D., Ruhnke, R. & Zu Castell, W. (2022). Lessons learned in the Digital Earth project. Chapter 9 in: Bouwer, L.M. et al. (eds.). *Integrating Data Science and Earth Science: Challenges and Solutions*. Briefs in Earth System Sciences, Springer, Cham, 145-148. https://doi.org/10.1007/978-3-030-99546-1_9

- Bouwer, L.M., Rechid, D., Fritsch, B., Henkel, D., Kalbacher, T., Köckeritz, W. & Ruhnke, R. (2022). Evaluating the success of the Digital Earth project. Chapter 8 in: Bouwer, L.M. et al. (eds.). *Integrating Data Science and Earth Science: Challenges and Solutions*. Briefs in Earth System Sciences, Springer, Cham, 131-143. https://doi.org/10.1007/978-3-030-99546-1_8
- Dransch, D., Eggert, D., Abraham, N., Bouwer, L.M., Brix, H., Callies, U., Kalbacher, T., Lüdtke, S., Merz, B., Nam, C., Nixdorf, E., Rabe, D., Rechid, D., Schröter, K., Tiedje, B., Wendi, D. & Wichert, W. (2022). Data analysis and exploration with scientific workflows. Chapter 5 in: Bouwer, L.M. et al. (eds.). *Integrating Data Science and Earth Science: Challenges and Solutions*. Briefs in Earth System Sciences, Springer, Cham, 55-84. https://doi.org/10.1007/978-3-030-99546-1_5
- Wichert, V., Bouwer, L.M., Abraham, N., Brix, H., Callies, U., González Ávalos, E., Marien, L.C., Matthias, V., Michaelis, P., Rabe, D., Rechid, D., Ruhnke, R., Scharun, C., Valizadeh, M., Vlasenko, A. & Zu Castell, W. (2022). Data analysis and exploration with computational approaches. Chapter 4 in: Bouwer, L.M. et al. (eds.). *Integrating Data Science and Earth Science: Challenges and Solutions*. Briefs in Earth System Sciences, Springer, Cham, 29-53. https://doi.org/10.1007/978-3-030-99546-1_4
- Ruhnke, R., Rechid, D., Dransch, D., Bouwer, L.M., Brix, H., Dietrich, P., Frickenhaus, S., Greinert, J., Henkel, D., Petzold, A. & Zu Castell, W. (2022). The Digital Earth project: focus and agenda. Chapter 2 in: Bouwer, L.M. et al. (eds.). *Integrating Data Science and Earth Science: Challenges and Solutions*. Briefs in Earth System Sciences, Springer, Cham, 7-16. https://doi.org/10.1007/978-3-030-99546-1_2
- Zu Castell, W., Ruhnke, R., Bouwer, L.M., Brix, H., Dietrich, P., Dransch, D., Frickenhaus, S., Greinert, J. & Petzold, A. (2022). Data Science and Earth System Sciences. Chapter 1 in: Bouwer, L.M. et al. (eds.). *Integrating Data Science and Earth Science: Challenges and Solutions*. Briefs in Earth System Sciences, Springer, Cham, 1-6. https://doi.org/10.1007/978-3-030-99546-1_1
- Bouwer, L.M. (2022). The roles of climate risk dynamics and adaptation limits in adaptation assessment. Chapter 24 in: Climate Adaptation Modelling, Kundrup, C., et al. (eds.), 209-216. https://doi.org/10.1007/978-3-030-86211-4_24
- Bouwer, L.M. (2019). Observed and projected impacts from extreme weather events: implications for Loss and Damage. In: Mechler, R., Bouwer, L.M., Schinko, T., Surminski, S. & Linnerooth-Bayer, J. (eds.) *Loss and Damage from Climate Change: Concepts, Principles and Policy Options*, Springer, 63-82. https://doi.org/10.1007/978-3-319-72026-5_3
- Linnerooth-Bayer, J., Surminski, S., Bouwer, L.M., Noy, I., Mechler, R. (2019). Insurance as a response to Loss and Damage? In: Mechler, R., Bouwer, L.M., Schinko, T., Surminski, S. & Linnerooth-Bayer, J. (eds.) *Loss and Damage from Climate Change: Concepts, Principles and Policy Options*, Springer, 483-512. https://doi.org/10.1007/978-3-319-72026-5_21
- Mechler, R., Calliari, E., Bouwer, L.M., Schinko, T., et al. (2019). Science for loss and damage: findings and propositions. In: Mechler, R., Bouwer, L.M., Schinko, T., Surminski, S., Linnerooth-Bayer, J. (eds.). *Loss and Damage from Climate Change*. Springer, Cham, 3-37. https://doi.org/10.1007/978-3-319-72026-5_1
- Botzen, W.J.W., Bouwer, L.M., Scussolini, P., Kuik, O., et al. (2019). Integrated disaster risk management and adaptation. In: Mechler, R., Bouwer, L., Schinko, T., Surminski, S., Linnerooth-Bayer, J. (eds.). *Loss and damage from climate change*, Springer, Cham, 287-315. https://doi.org/10.1007/978-3-319-72026-5_12

Technical reports

- Hoffmann, P., Bouwer, L.M. & Huang-Lachmann, J.T. (2023). Understanding the climate change impact on health. Open Access Government, 2 pp. <https://doi.org/10.56367/OAG-039-9508>
- Guo, J., Semenza, J., Rocklöv, J., Farooq, Z., Maquines, S., Sjödin, H., Lowe, R., Lotto Batista, M., Van Daalen, K., Mániz Costa, M., Bouwer, L., Bosello, F., Chavardes, C., Dasgupta, S. & Robinson, E.J.Z. (2023). First Report on Indicator Delivery to WP3, WP6, and WP7. Deliverable D2.1, IDAlert project.
- Lange, B., Hovardovska, O., Rodiah, I., Mwazighe, R., Nyirenda, J., Heinsohn, T., Badanai, E., Calabrese, A., D'Antonio, P., Pedrazzi, M., Scippa, M., Sergiani, F., Bouwer, L.M., Huang-Lachmann, J.T., Nam, C., Lierhammer, L., Wübbelmann, T., Pfeifer, S., Latzenhofer, M., Schauer, S., Lykou, A., D'Avenio, G., La Rosa, G., Suffredini, E. & Grigioni, M. (2023). Pandemic-specific critical infrastructures, their dependencies, risks, cascading effects, and measures. Deliverable D2.1, SUNRISE project.

- Bouwer, L.M. (2023). Machine Learning helps to improve Climate Services. Open Access Government, 4 pp. <https://doi.org/10.56367/OAG-037-9508>
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