Dr. Markus G. Donat

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Google Scholar:	https://scholar.google.com/citations?user=0judg4UAAAAJ
Web sites:	https://www.bsc.es/donat-markus https://www.bsc.es/discover-bsc/organisation/scientific-structure/climate-prediction

CURRENT POSITIONS

2022 – **ICREA Research Professor**
Catalan Institution for Research and Advanced Studies (ICREA)

2018 – **Co-leader** of the Climate Variability and Change Group
Barcelona Supercomputing Center, Barcelona, Spain

PREVIOUS POSITIONS

2015 – 2018 **Senior Research Fellow**
Climate Change Research Centre, UNSW, Sydney, Australia

2011 – 2014 **Postdoctoral Research Fellow**
Climate Change Research Centre, UNSW, Sydney, Australia

2010 **Postdoctoral Researcher**
Institute of Meteorology, Freie Universität Berlin, Germany

2006 – 2010 **Research Assistant and PhD candidate**
Institute of Meteorology, Freie Universität Berlin, Germany

EDUCATION

06/2010 **PhD** (Doctorate in Natural Sciences)
Institute of Meteorology, Freie Universität Berlin, Germany

01/2006 **Diploma degree** (equivalent M.Sc.) in Meteorology
Institute of Meteorology, Freie Universität Berlin, Germany

PERSONAL AWARDS, PRIZES, FELLOWSHIPS AND RECOGNITIONS

2025 listed as **Highly Cited Researcher 2025** by Clarivate (top 1% most cited researchers worldwide, Geosciences)

2024 listed as **Highly Cited Researcher 2024** by Clarivate

2023 listed as **Highly Cited Researcher 2023** by Clarivate

2022 listed as **Highly Cited Researcher 2022** by Clarivate

2022 American Geophysical Union (AGU) 2021 **Editor's Citation for Excellence in Refereeing** for the journal *Earth's Future*

2021 **AXA Award for Climate Science**, inaugural award by the AXA Research Fund to recognise ground-breaking work in the field of climate change

2021 listed as **Highly Cited Researcher 2021** by Clarivate

2019 – 2022 **Ramón y Cajal Fellowship** awarded by the Spanish Ministry of Science and Innovation *(early termination due to being selected for ICREA Professorship)*

2017 **International Data Prize** awarded by World Climate Research Program (WCRP) / Global Climate Observing System (GCOS)

2015 – 2018 **Discovery Early Career Researcher Award** (DECRA) awarded by the Australian Research Council (ARC).

2016 **Prize for Best Published Paper by an Early Career Researcher,** ARC Centre of Excellence for Climate System Science

2014 **Finalist Australian Museum Eureka Prizes**, category Outstanding Early Career Researcher, as part of the "Extremes Team" (with Lisa Alexander and Sarah Perkins)

PHD STUDENT SUPERVISION

2024 – **Gerard Marcet Carbonell**
PhD, Barcelona Supercomputing Center / University of Barcelona
Planned completion in 2027

2022 – **Lluís Palma**
PhD, Barcelona Supercomputing Center / University of Barcelona
Planned completion in 2026

2022 – **Alvise Aranyossy**
PhD, Barcelona Supercomputing Center / University of Barcelona
Planned completion in 2026

2020 – 2024 **Carlos Delgado Torres**
PhD, Barcelona Supercomputing Center / University of Barcelona
Thesis title: "Decadal climate prediction and predictability for climate services"

2016 – 2020 **Yiling Liu**
PhD, University of New South Wales, Australia
Thesis title: "Predictability of temperature and precipitation on interannual to decadal time scales in perfect-model experiments"

2015 – 2019 **Mia Gross**
PhD, University of New South Wales, Australia
Thesis title: "The disproportionate rates of change between extreme and mean temperatures over land"

2015 – 2019 **Steefan Contractor**
PhD, University of New South Wales, Australia
Thesis title: "Global changes in daily precipitation since 1950"

2016 – 2019 **Elisabeth Vogel**
PhD, co-supervisor, University of Melbourne, Australia
Thesis title: "The Impact of Climate Extreme Events on Global Agricultural Yields"

2016 – 2018 **Oliver Angelil**
PhD, University of New South Wales, Australia
Thesis title: "Uncertainty Around Probabilistic Event Attribution Statements for Extreme Weather Events"

MASTER/HONOURS STUDENT SUPERVISION

2025 **Charlotte Bohne**
Master thesis, University of Hamburg
Thesis title: "Assessing the influence of land-atmosphere coupling on seasonal predictions of summer hot extremes over the Mediterranean"

2025 **Pere Bancells i Blazquez**
Master thesis, Universitat Autònoma de Barcelona
Thesis title: "Evaluating Key Predictors for Data-Driven Seasonal Heatwave Forecasts in Europe"

2025 **Arnau Garcia Mesa**
Master thesis, Universitat de Barcelona
Thesis title: "Quantifying drivers of temperature extremes through explainable machine learning models"

2024 **Gerard Marcet Carbonell**
Master thesis, Universitat Autònoma de Barcelona
Thesis title: "Understanding recent changes in the Northern Hemisphere summer circulation and its relation to ocean temperature variations"

2023 **Iñaki Otero Antero**
Master thesis, Universidad Complutense de Madrid
Thesis title: "Winter storm loss potentials in CMIP6 projections"

2019 **Carlos Delgado Torres**
Master thesis, Universidad Complutense de Madrid
Thesis title: "Impact of Model Initialization on Predictability of Weather Regimes over the Euro-Atlantic Region on Inter-annual to Decadal Timescales"

2019 – 2020 **Ferran López Martí**
Master thesis, Universidad de Barcelona
Thesis title: "Understanding the link between the extreme weather conditions in central Europe in spring 2018 and a preceding record-breaking sea ice reduction in the Bering sea"

2016 – 2017 **Laurence Garcia-Villada**
Honours, University of New South Wales, Australia
Thesis title: "Evaluation of El Niño Southern Oscillation Temperature and Precipitation Teleconnections in a Hierarchy of Datasets"

TEACHING UNIVERSITY COURSES AND SUMMER SCHOOLS

2018 **Course coordinator and Lecturer**
Atmospheric Sciences Course CLIM2001 (2 lectures and 1 tutorial per week, 12 weeks), University of New South Wales, Sydney, Australia

2017 **Lecturer**

Climate module of the Atmospheric Sciences course CLIM2001 (4 lectures), University of New South Wales, Sydney, Australia

2014-2017 **Guest Lecturer**
Climate Systems Science course CLIM3001, Lectures and Tutorials on weekly topics (1-2 lectures and 1 tutorial per year), University of New South Wales, Sydney, Australia

2014 **Instructor** for practical tutorials
WCRP-ICTP 2014 Summer school on Attribution and Prediction of Extremes Events, Trieste

CURRENT GRANTS AS PI

2024 – 2028 **EXPECT** (Towards an Integrated Capability to Explain and Predict Regional Climate Changes),
Horizon Europe Research and Innovation Action, with contributions from UK Research and Innovation (UKRI) and Canada's New Frontiers in Research Fund (NFRF)
Project coordinator, PI at BSC
Funding amount: 1.038.611 € (total project budget 8.200.000 €)

2023 – 2026 **CERISE** (CopERnIcus climate change Service Evolution)
Horizon Europe Research and Innovation Action
PI at BSC
Funding amount: 496.250 € (total project budget 10.499.000 €)

2022 – 2026 **AXA Research Fund project "Near-term projections of climate extremes"**
PI
Funding amount: 50.000 €

PREVIOUS GRANTS AS PI

2022 – 2025 **PRECEDE** (Precipitation Predictability in Idealised and Realistic Initialised Climate Simulations)
Agencia Estatal de Investigación Europa Excelencia project
PI
Funding amount: 89.646 €

2022 – 2025 **SGR grant** by Departament de Recerca i Universitats de la Generalitat de Catalunya in support for the Climate Variability and Change Group
PI and group leader
Funding amount: 60.000 €

2020 – 2024 **LANDMARC** (Land-Use Based Mitigation for Resilient Climate Pathways),
Horizon 2020 Research and Innovation Action
PI and work package leader
Funding amount: 471.000 € (total project budget 7.000.000 €)

2019 – 2024 **Ramón y Cajal grant**
Personal fellowship by the Spanish Ministerio de Ciencia y Innovación
Funding amount: 208.600 €

2019 – 2021 **C3S_34c** (Prototype Service for Decadal Climate Predictions)
Copernicus Climate Change Service (C3S) contract

Funding amount: 259.000 € (total project budget: 897.200 €)

2015 – 2018 **Discovery Early Career Researcher Award** (DECRA)
Personal fellowship awarded by the Australian Research Council
Funding amount: AU$ 370.000 (approx. 245.000 €)

2015 – 2016 **Decadal predictability of climate extremes**
Universities Australia – German Academic Exchange Service Joint Research Cooperation Scheme, Grand ID 57219579
Funding amount: AU$ 12.000 (total project budget: 20.000 €)

CURRENT GRANTS AS CO-INVESTIGATOR (OR GROUP SUPERVISOR)

2025 – 2028 **C3S2_375 Development of C3S Decadal Prediction Service**
Copernicus Climate Change Service (C3S) tender
Role Researcher/Co-I and supervisor (PI at BSC: Roberto Bilbao)
Funding amount: 214.875 € (total project budget: 3.000.000 €)

2023 – 2026 **ASPECT** (Adaptation-oriented Seamless Predictions of European ClimaTe)
Horizon Europe Research and Innovation Action
Role: Researcher/Co-I and supervisor (PI at BSC: Albert Soret)
Funding amount: 345.000 € (total project budget: 7.027.623 €)

2022 – 2026 **RESCUE** (Response of the Earth System to overshoot, Climate neUtrality and negative Emissions)
Horizon 2020 Research and Innovation Action
Role: Researcher/Co-I and supervisor (PI at BSC: Raffaele Bernardello
Funding amount: 594.000 € (total project budget: 7.999.400 €)

PAST GRANTS AS CO-INVESTIGATOR, SUPERVISOR OR COLLABORATOR

2017 – 2022 **EUCP** (European Climate Prediction System)
Horizon 2020 Research and Innovation Action
Role: Co-I and BSC supervisor since 2018 (PI at BSC: Francisco Doblas-Reyes)
Funding amount: 1.026.500 € (total project budget: 12.999.000 €)

2019 – 2023 **4C** (Climate-Carbon Interactions in the Current Century)
Horizon 2020 Research and Innovation Action
Role: Co-I and supervisor (PI at BSC: Raffaele Bernardello)
Funding amount: 835.200 € (total project budget: 7.784.750 €)

2017 – 2021 **MEDSCOPE** (MEDiterranean Services Chain based On climate PrEdictions)
Horizon 2020 ERA-NET
Role: Co-I and BSC supervisor since 2018 (PI at BSC: Pablo Ortega)
Funding amount: 352.000 € (total project funding: 4.439.000 €)

2016 – 2021 **APPLICATE** (Advanced Prediction in Polar regions and beyond: Modelling, observing system design and LInkages associated with ArctiC ClimATE change)
Horizon 2020 Research and Innovation Action
Role: Co-I and BSC supervisor since 2018 (PI at BSC: Pablo Ortega)
Funding amount: 738.500€ (total project budget: 8.715.000 €)

2017 – 2024 **CLEX** (Centre of Excellence for Climate Extremes)

Centre of Excellence funded by the Australian Research Council
Role: Associate Investigator
Funding ID: CE170100023

2011 – 2018 **ARCCSS** (Centre of Excellence for Climate System Science)
Centre of Excellence funded by the Australian Research Council
Role: Associate Investigator
Funding ID: CE110001028

2011 – 2014 **CLIMDEX** - global changes in observed climate extremes
Australian Research Council Linkage Project
Role: Postdoctoral Fellow
Funding ID: LP100200690

2009 – 2010 **Assessing future insurance risk from winter storms in Germany**
Research project funded by the German Insurance Association
Role: Research Associate

2006 – 2009 **ENSEMBLES** (Ensemble-based Predictions of Climate Changes and their Impacts)
European Commission's 6th Framework Programme
Role: Research Associate
Funding ID: GOCE-CT-2003-505539

POSTDOCTORAL FELLOWSHIPS OBTAINED BY MEMBERS OF MY GROUP

2025 – 2028 **Lina Teckentrup**, NextGenerationEU AI4Science Fellowship
2025 – 2028 **Stefano Materia**, NextGenerationEU AI4Science Fellowship
2025 – 2027 **Maximilian Kotz**, Marie Skłodowska-Curie Action Individual Fellowship
2022 – 2024 **Paolo De Luca**, Marie Skłodowska-Curie Action Individual Fellowship
2022 – 2024 **Stefano Materia**, Marie Skłodowska-Curie Action Individual Fellowship
2020 – 2022 **Aude Carreric**, STARS Co-fund postdoctoral fellowship
2020 – 2022 **Simon Wild**, Juan de la Cierva-formación postdoctoral fellowship
2018 – 2020 **Yohan Ruprich-Robert**, Marie Skłodowska-Curie Action Individual Fellowship
2018 – 2020 **Rachel White**, Marie Skłodowska-Curie Action Individual Fellowship
2018 – 2020 **Ivana Cvijanovic**, Beatriu de Pinós Postdoctoral Fellow
2018 – 2020 **Xavier Levine**, STARS Co-fund postdoctoral fellowship
2018 – 2020 **Simon Wild**, STARS Co-fund postdoctoral fellowship

ORGANISATION OF SCIENTIFIC MEETINGS

2022 – **Organiser** of WCRP Webinar series “Explaining and Predicting Earth System change”

2025 **Scientific Organizing Committee** for the Open Workshop on Understanding and Predicting Annual to Multi-Decadal Climate Variations, held on 18-20 November 2025 in Bologna, Italy

2025 **Lead convener** of Scientific Session at EGU General Assembly, *Explaining and Predicting Climate Changes on Regional to Global Scales*, April 2025, Vienna, Austria

2023 **Co-organiser** of scientific Session at AGU Fall Meeting, *Extreme Precipitation in Past, Present, and Future Climates*, December 2023, San Francisco, USA

2020 **Lead convener** of scientific session at AGU Fall Meeting, *Extreme Precipitation in Past, Present, and Future Climates*, December 2020 (virtual conference).

2019 **Lead convener** of scientific session at AGU Fall Meeting, *Extreme Precipitation in Past, Present, and Future Climates*, December 2019, San Francisco, USA.

2018 **Lead convener** of scientific session at joint Australian Meteorological and Oceanographic Society / International Conference for Southern Hemisphere Meteorology and Oceanography conference, *Climate extremes and impacts*, February 2018, Sydney, Australia.

2017 **Lead convener** of scientific session at AGU Fall Meeting, *Extreme Precipitation in Past, Present, and Future Climates*, December 2017, New Orleans, USA.

2017 **Lead convener** of scientific session at the Australian Meteorological and Oceanographic Society Annual Conference, *Climate Extremes*, February 2017, Canberra, Australia.

2016 **Program committee and session organizer,** *Climate data homogenization and Climate trends/variability assessment,* 13th International Meeting on Statistical Climatology, June 2016, Canmore, Canada.

2015 **Leading organizer**, Workshop on Understanding Processes Driving Precipitation Extremes, August 2015, Melbourne, Australia.

2015 **Organizing Committee**, WCRP Workshop on Data Requirements to Address the Grand Challenges on Weather and Climate Extremes, February 2015, Sydney, Australia.

2012 **Co-chair**, WMO Workshop (co-organized with UN-ESCWA and League of Arab States) on Climate Prediction/Projection and Extreme Events Indices in the Arab Region, March 2012, Casablanca, Morocco.

2010 **Co-convener** of scientific session at EGU General Assembly, *Climate change impact on economical and industrial activities*, May 2010, Vienna, Austria

COMMISSIONS OF TRUST / SERVICE ACTIVITIES / OUTREACH

2025 **Committee member** at PhD defense and PhD thesis evaluator, for thesis by Thessa M. Beck at Pompeu Fabra University, Barcelona

2023 **Committee member** at PhD defense and PhD thesis evaluator, for thesis by Sem Vijverberg at VU Amsterdam

2023 – **Associate Editor** Frontiers in Climate

2021 – **Member** World Climate Research Program (WCRP) Lighthouse Activity on *Explaining and Predicting Earth System Change*

2021 – 2022 **Scientific Selection panel** for the Federal Science Policy Office of Belgium (BELSPO)

2020 – 2024 **Member** World Meteorological Organization (WMO) Expert Team on Data Requirement for Climate Services (ET-DRC)

2020 – 2021 **Member** of the Science Plan Development team for the World Climate Research Program (WCRP) Lighthouse Activity on *Explaining and Predicting Earth System Change*

2018 – 2020 **Associated Expert** with the World Meteorological Organization (WMO) Commission for Climatology Expert Team on Data Development and Stewardship (ET-DDS)

2017 – 2023 **Editorial board member** of the journal *Atmosphere*, section Climatology

2015 – **Reviewer of funding proposals** for German Research Foundation (Deutsche Forschungsgemeinschaft, DFG), National Science Foundation (NSF) of the USA, Australian Research Council (ARC), Copernicus Climate Change Service (C3S), Israeli Ministry of Innovation, Science and Technology, French National Research Agency (ANR), Research Council of the University of Leuven (KU Leuven), Federal Science Policy Office of Belgium (BELSPO)

2011 – **Reviewer for Scientific Journals:** 162 verified reviews for 28 different journals (https://www.webofscience.com/wos/author/record/506761) including *Nature*, *Nature Climate Change*, *Nature Geoscience*, *Nature Communications*, *PNAS*, *Journal of Climate*, *Geophysical Research Letters*, *Environmental Research Letters*, *Bulletin of the American Meteorological Society*, and others

- **Contributing author** to national and international assessment activities
  - Intergovernmental Panel on Climate Change (IPCC) 5th Assessment Report (WGI, Chapter 2)
  - Intergovernmental Panel on Climate Change (IPCC) 6th Assessment Report (WGI, Chapter 11),
  - Report *Extreme Weather Events in Europe: preparing for climate change adaptation* for The European Academies Science Advisory Council (EASAC)

- **Media appearances** in major news outlets including ABC Radio, BBC, Euronews (TV life interview), TV3, Deutsche Welle TV, Der Spiegel, The Sydney Morning Herald, The Guardian, Herald Sun, Newsweek, News.com.au, Financial Review, ScienceNews, elPeriódico (Spanish newspaper), La Voz de Galicia (Spanish newspaper), and others

- **Making climate information publicly available.** I am part of the development team of
  - http://www.climdex.org: A web platform to disseminate data and analyses of global observed climate extremes for public download. This website attracts on average more than 700 users per month (measured over the past 2 years March 2019 – February 2021).
  - https://decadal.bsc.es: A web service to disseminate operational decadal climate prediction information

SCIENTIFIC PUBLICATIONS

I have published more than **140 peer-reviewed journal articles** and **four book chapters** since 2010. These publications have been **cited more than 25,700 / 19,400 times** using Google Scholar / Scopus, and I have an **h-index of 63 / 60** (Google Scholar / Scopus).

Selected peer-reviewed journal publications

Please see full list at https://scholar.google.com/citations?user=0judg4UAAAAJ, underlined author names indicate students or postdocs under my direct supervision.

Roldán-Gómez, P. J., P. De Luca, R. Bernardello, **M. G. Donat** (2025), Regional irreversibility of mean and extreme surface air temperature and precipitation in CMIP6 overshoot scenarios associated with interhemispheric temperature asymmetries, *Earth System Dynamics*, 16, 1–27, https://doi.org/10.5194/esd-16-1-2025

Petrova, I.Y., D. G. Miralles, F. Brient, **M. G. Donat**, S.-K. Min, Y.-H. Kim, M. Bador (2024), Observation-constrained projections reveal longer-than-expected dry spells. *Nature* **633**, 594–600. https://doi.org/10.1038/s41586-024-07887-y

Materia, S., Palma García, L., van Straaten, C., O, S., Mamalakis, A., Cavicchia, L., Coumou, D., De Luca, P., Kretschmer, M., **Donat, M.** (2024). Artificial intelligence for climate prediction of extremes: State of the art, challenges, and future perspectives. WIREs Climate Change, e914. https://doi.org/10.1002/wcc.914

Donat, M. G., R. Mahmood, P. Cos, P. Ortega, F. Doblas-Reyes (2024), Improving the forecast quality of near-term climate projections by constraining internal variability based on decadal predictions and observations. *Environmental Research: Climate,* **3,** 035013. https://doi.org/10.1088/2752-5295/ad5463

Liu, Y., **M. G. Donat**, M. H. England, L. V. Alexander, A. L. Hirsch, C. Delgado-Torres (2023), Enhanced multi-year predictability after El Niño and La Niña events. *Nature Communications*, 14, 6387. https://doi.org/10.1038/s41467-023-42113-9

Donat, M. G., C. Delgado-Torres, P. De Luca, R. Mahmood, P. Ortega, F. J. Doblas-Reyes (2023), How credibly do CMIP6 simulations capture historical mean and extreme precipitation changes? *Geophysical Research Letters*, 50, e2022GL102466. https://doi.org/10.1029/2022GL102466

De Luca, P., & **M. G. Donat** (2023), Projected changes in hot, dry, and compound hot-dry extremes over global land regions. *Geophysical Research Letters*, 50, e2022GL102493. https://doi.org/10.1029/2022GL102493

Delgado-Torres, C., **M. G. Donat**, A. Soret, N. Gonzalez-Reviriego, P.-A. Bretonnière, A. Ho, N. Pérez-Zanón, M. Samsó Cabré, F. J. Doblas-Reyes (2023), Multi-annual predictions of the frequency and intensity of daily temperature and precipitation extremes. *Environmental Research Letters*, 18 034031. https://doi.org/10.1088/1748-9326/acbbe1

Mahmood, R., **M. G. Donat**, P. Ortega, F. J. Doblas-Reyes, C. Delgado-Torres, M. Samsó, P.-A. Bretonnière (2022), Constraining low-frequency variability in climate projections to predict climate on decadal to multi-decadal timescales – a poor man's initialized prediction system, *Earth System Dynamics*, 13, 1437–1450, https://doi.org/10.5194/esd-13-1437-2022

Delgado-Torres, C., **M. G. Donat**, N. Gonzalez-Reviriego, L.-P. Caron, P. J. Athanasiadis, P.-A. Bretonnière, N. J. Dunstone, A.-C. Ho, K. Pankatz, A. Paxian, N. Pérez-Zanón, M.

S. Cabré, B. Solaraju-Murali, A. Soret, F. J. Doblas-Reyes (2022), Multi-model forecast quality assessment of CMIP6 decadal predictions, *Journal of Climate*, *35*(13), 4363-4382, https://doi.org/10.1175/JCLI-D-21-0811.1

Donat, M. G. (2022), Marine heatwaves are reliably forecast by climate models, *Nature*, 604, 432-433, https://doi.org/10.1038/d41586-022-01028-z (*solicited paper*)

Mahmood, R., **M. G. Donat**, P. Ortega, F. Doblas-Reyes, Y. Ruprich-Robert (2021), Constraining decadal variability yields skillful projections of near-term climate change, *Geophysical Research Letters*, 48, e2021GL094915, https://doi.org/10.1029/2021GL094915

Contractor, S., **M. G. Donat**, L. V. Alexander (2021), Changes in observed daily precipitation over global land areas since 1950, *Journal of Climate*, *34*(1), 3-19, https://doi.org/10.1175/JCLI-D-19-0965.1.

Contractor, S., **M. G. Donat,** L. V. Alexander, M. Ziese, A. Meyer-Christoffer, U. Schneider, E. Rustemeier, A. Becker, I. Durre, R. S. Vose (2020), Rainfall Estimates on a Gridded Network (REGEN) – a global land-based gridded dataset of daily precipitation from 1950 to 2016, *Hydrology and Earth System Sciences*, 24, 919–943, https://doi.org/10.5194/hess-24-919-2020.

Gross, M. H., **M. G. Donat**, L. V. Alexander, S. C. Sherwood (2020), Amplified warming of seasonal cold extremes relative to the mean in the Northern Hemisphere extratropics, *Earth System Dynamics*, 11, 97–111, https://doi.org/10.5194/esd-11-97-2020, 2020.

Vogel, E., **M. G. Donat**, L. V. Alexander, M. Meinshausen, D. K. Ray, D. Karoly, N. Meinshausen, K. Frieler (2019), The effects of climate extremes on global agricultural yields, Environmental Research Letters, 14, 054010, https://doi.org/10.1088/1748-9326/ab154b

Donat, M. G., A. J. Pitman, O. Angélil (2018), Understanding and reducing future uncertainty in midlatitude daily heat extremes via land surface feedback constraints, *Geophysical Research Letters*, 45, 10,627–10,636. https://doi.org/10.1029/2018GL079128

Contractor, S., **M. G. Donat**, L. V. Alexander (2018), Intensification of the daily wet day rainfall distribution across Australia, *Geophysical Research Letters*, 45, 8568–8576. https://doi.org/10.1029/2018GL078875

Oliver, E. C .J. **M. G. Donat**, M. T. Burrows, P. J. Moore, D. A. Smale, L. V. Alexander, J. A. Benthuysen, M. Feng , A. Sen Gupta, A. J. Hobday, N. J. Holbrook, S. E. Perkins-Kirkpatrick, H. A. Scannell, S. C. Straub, T. Wernberg (2018), Longer and more frequent marine heatwaves over the past century, *Nature Communications*, 9, 1324, doi: 10.1038/s41467-018-03732-9

Donat, M. G., A. J. Pitman, and S. I. Seneviratne (2017), Regional warming of hot extremes accelerated by surface energy fluxes, *Geophysical Research Letters*, 44, 7011–7019, doi:10.1002/2017GL073733.

Donat, M. G., A. L. Lowry, L. V. Alexander, P. A. O'Gorman, N. Maher (2016), More extreme precipitation in the world's dry and wet regions, *Nature Climate Change*, 6, 508–513, doi:10.1038/nclimate2941

Seneviratne, S. I., **M. G. Donat**, A. J. Pitman, R. Knutti, R. L. Wilby (2016), Allowable CO2 emissions based on regional and impact-related climate targets, *Nature*, 529, 477–483, doi:10.1038/nature16542

Donat, M. G., A. D. King, J. T. Overpeck, L. V. Alexander, I. Durre, D. J. Karoly (2016), Extraordinary heat during the 1930s US Dust Bowl and associated large-scale conditions, *Climate Dynamics*, 46(1), 413-426, doi: 10.1007/s00382-015-2590-5

Donat, M. G., J. Sillmann, S. Wild, L. V. Alexander, T. Lippmann, F. W. Zwiers (2014), Consistency of temperature and precipitation extremes across various global gridded in situ and reanalysis data sets, *Journal of Climate,* 27, 5019–5035, doi:10.1175/JCLI-D-13-00405.1

Donat, M. G., L. V. Alexander, H. Yang, I. Durre, R. Vose, J. Caesar (2013), Global land-based datasets for monitoring climatic extremes, *Bulletin of the American Meteorological Society*, 94, 997-1006, doi:10.1175/BAMS-D-12-00109.1

Donat, M. G., L. V. Alexander, H. Yang, I. Durre, R. Vose, R. J. H. Dunn, K. M. Willett, E. Aguilar, M. Brunet, J. Caesar, B. Hewitson, C. Jack, A. M. G. Klein Tank, A. C. Kruger, J. Marengo, T. C. Peterson, M. Renom, C. Oria Rojas, M. Rusticucci, J. Salinger, A. S. Elrayah, S. S. Sekele, A. K. Srivastava, B. Trewin, C. Villarroel, L. A. Vincent, P. Zhai, X. Zhang and S. Kitching (2013), Updated analyses of temperature and precipitation extreme indices since the beginning of the twentieth century: The HadEX2 dataset, *J. Geophys. Res. Atmos.*, 118, 2098–2118, doi:10.1002/jgrd.50150

Donat, M. G. and L. V. Alexander (2012), The shifting probability distribution of global daytime and night-time temperatures, *Geophys. Res. Lett.*, 39, L14707, doi:10.1029/2012GL052459.

Donat, M. G., Pardowitz, T., Leckebusch, G. C., Ulbrich, U., and Burghoff, O. (2011), High-resolution refinement of a storm loss model and estimation of return periods of loss-intensive storms over Germany, *Nat. Hazards Earth Syst. Sci.*, 11, 2821-2833, doi:10.5194/nhess-11-2821-2011.

Donat, M. G., D. Renggli, S. Wild, L. V. Alexander, G. C. Leckebusch, and U. Ulbrich (2011), Reanalysis suggests long-term upward trends in European storminess since 1871, *Geophys. Res. Lett.*, 38, L14703, doi:10.1029/2011GL047995.

Donat, M.G., G.C. Leckebusch, S. Wild, and U. Ulbrich (2011), Future changes in European winter storm losses and extreme wind speeds inferred from GCM and RCM multi-model simulations, *Nat. Hazards Earth Syst. Sci.*, 11, 1351-1370, doi:10.5194/nhess-11-1351-2011.

Donat, M. G., G. C. Leckebusch, J. G. Pinto, and U. Ulbrich (2010), Examination of Wind Storms over Central Europe with respect to Circulation Weather Types and NAO phases. *International Journal of Climatology*, 30 (9), 1289 - 1300. doi:10.1002/joc.1982.