Dr. Juliane Otto

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General research interests:

- User requirements for climate services
- Climate services for nature-based solutions and ecosystem services
- Assessment of robustness/uncertainty of model results at different spatial and temporal scales
- Land-atmosphere interactions at canopy to global scales
- Climate modelling at site to global scale

Work/research experience:

since 07/2014 Scientific associate – Climate Service Center Germany (GERICS) in Hamburg (Germany)

- *Project H2020* ***OPERANDUM*** *(OPEn-air laboRAtories for Nature baseD solUtions to Manage environmental risks, 2018 - 2022): supporting natural and rural areas to reduce hydro-meteorological risks with the help of nature-based solutions and to enhance their resilience to climate change*
- *Project* ***GLORIOUS*** *(GLObal useRs In the cOpernicUs climate change Service, C3S_422_Lot1_SMHI, 2017 - 2019): Development of a quality assurance method for climate impact indicators including guidance material and user support*
- *Project* ***DECM*** *(Data Evaluation for Climate Models, C3S_51 Lot 4, 2016 - 2018): Collection and analysis of user requirements related to climate model data*
- *Project FP7* ***CLIPC*** *(Constructing Europe's Climate Information Portal, 2013-2016): Development of methodology for presenting and assessing expert-based confidence information of climate impact indicators*

11/2010 – 07/2014 Post-Doc – Laboratoire des Sciences du Climat et de l'Environnement (LSCE) in Gif-sur-Yvette (France)

*- Project **DOFOCO** (Do Forests Cool the Earth?, 2010 - 2015): Development of albedo scheme of ORCHIDEE to quantify the effects of the world's managed forests on the climate system*

07/2010 – 10/2010 Post-Doc – Max Planck Institute for Meteorology (MPI-M) in Hamburg (Germany)
- Model development of snow albedo scheme in JSBACH

06/2007 – 06/2010 PhD student – Max Planck Institute for Meteorology (MPI-M) and International Max Planck doctoral program on Earth System Modelling (IMPRS-ESM) in Hamburg (Germany)
- Modelling of vegetation-climate interaction in mid-Holocene climate

Professional qualifications:

Software/ Programming skills	Unix/Linux; Shell-scripting; FORTRAN; Python; IDL; Matlab; climate data operators; NCL; Inkscape; MS-Office applications
Language skills	German (native speaker); English (fluent); French (good); Norwegian (basic)
Participation in successful proposal writing:	2017: Copernicus – GLORIOUS 2016: Horizon2020 - EU proposal 730272 – MARCO 2015: Copernicus EQC Lot4 – ABC4CDE

Publications:

2018: Teichmann, C., Bülow, K., **Otto, J.**, Pfeifer, S., Rechid, D., Sieck, K. and Jacob, D.: Avoiding extremes: Benefits of staying below +1.5 °C compared to +2.0 °C and +3.0 °C global warming, Atmosphere (Basel)., 9(4), 1–19, doi:10.3390/atmos9040115, 2018.

Chen, Y.-Y., Gardiner, B., Pasztor, F., Blennow, K., Ryder, J., Valade, A., Naudts, K., **Otto, J**., McGrath, M. J., Planque, C. and Luyssaert, S.: Simulating damage for wind storms in the land surface model ORCHIDEE-CAN (revision 4262), Geosci. Model Dev., 11(2), doi:10.5194/gmd-11-771-2018, 2018.

2016: **Otto, J.,** C. Brown, C. Buontempo, F. Doblas-Reyes, D. Jacob, M. Juckes, E. Keup-Thiel, B. Kurnik, J. Schulz, A. Taylor, T. Verhoelst, and P. Walton, 2016: Uncertainty: Lessons Learned for Climate Services. *Bull. Amer. Meteor. Soc.,* 97, ES265–ES269, doi: 10.1175/BAMS-D-16-0173.1.

Naudts, K., Y. Chen, M. J. McGrath, J. Ryder, A. Valade, **J. Otto**, and S. Luyssaert, 2016: Europe's forest management did not mitigate climate warming. *Science (80-).*,**351**, 597–600, doi:10.1126/science.aad7270. http://science.sciencemag.org/content/351/6273/597.

Chen, Y., Ryder, J., Bastrikov, V., McGrath, M. J., Naudts, K., **Otto, J.**, Ottlé, C., Peylin, P., Polcher, J., Valade, A., Black, A., Elbers, J. A., Moors, E., Foken, T., van Gorsel, E., Haverd, V., Heinesch, B., Tiedemann, F., Knohl, A., Launiainen, S., Loustau, D., Ogée, J., Vessala, T. and Luyssaert, S.: Evaluating the performance of land surface model ORCHIDEE-CAN~v1.0 on water and energy flux estimation with a single- and multi-layer energy budget scheme, Geosci. Model Dev., 9(9), 2951–2972, doi:10.5194/gmd-9-2951-2016, 2016.

2015: M. J. McGrath, S. Luyssaert, P. Meyfroidt, J. O. Kaplan, M. Bürgi, Y. Chen, K. Erb, U. Gimmi, D. McInerney, K. Naudts, **J. Otto**, F. Pasztor, J. Ryder, M.-J. Schelhaas, and A. Valade, "Reconstructing European forest management from 1600 to 2010," Biogeosciences, vol. 12, no. 14, pp. 4291–4316, 2015.

S. Pfeifer, K. Bülow, A. Gobiet, A. Hänsler, M. Mudelsee, **J. Otto**, D. Rechid, C. Teichmann, and D. Jacob, "Robustness of Ensemble Climate Projections Analyzed with Climate Signal Maps: Seasonal and Extreme Precipitation for Germany," Atmosphere (Basel)., vol. 6, no. 5, pp. 677–698, 2015.

K. Naudts, J. Ryder, M. J. McGrath, **J. Otto**, Y. Chen, a. Valade, V. Bellasen, G. Berhongaray, G. Bönisch, M. Campioli, J. Ghattas, T. De Groote, V. Haverd, J. Kattge, N. MacBean, F. Maignan, P. Merilä, J. Penuelas, P. Peylin, B. Pinty, H. Pretzsch, E. D. Schulze, D. Solyga, N. Vuichard, Y. Yan, and S. Luyssaert, "A vertically discretised canopy description for ORCHIDEE (SVN r2290) and the modifications to the energy, water and carbon fluxes," Geosci. Model Dev., vol. 8, no. 7, pp. 2035–2065, Jul. 2015.

2014: **Otto, J.,** Berveiller, D., Bréon, F.-M., Delpierre, N., Geppert, G., Granier, A., Jans, W., Knohl, A., Kuusk, A., Longdoz, B., Moors, E., Mund, M., Pinty, B., Schelhaas, M.-J., and Luyssaert, S. (2014): Forest summer albedo is sensitive to species and thinning: how should we account for this in Earth system models?, Biogeosciences, 11, 2411-2427, doi:10.5194/bg-11-2411-2014.

Luyssaert, S., Jammet, M., Stoy, P.C., Estel, S., Pongratz, J., Ceschia, E., Churkina, G., Don, A., Erb, KH. Ferlicoq, M., Gielen, B., Grünwald, T., Houghton, R.A., Klumpp, K., Knohl, A., Kolb, T., Kuemmerle, T., Laurila, T., Lohila, A., Loustau, D., Meyfroidt, P., Moors, E.J., Novick, K., **Otto, J.**, Pilegaard, K., Pio, C.A., Rambal, S., Rebmann, C., Ryder, J., Suyker, A. E., Varlagin, A., Wattenbach, M.,

and Dolman, A.J. (2014): Land management and land-cover change have impacts of similar magnitude on surface temperature . Nature Climate Change, 4, 389–393, doi:10.1038/nclimate2196.

Loew, A., van Bodegom, P. M., Widlowski, J.-L., **Otto, J.**, Quaife, T., Pinty, B., and Raddatz, T. (2014): Do we (need to) care about canopy radiation schemes in DGVMs? Caveats and potential impacts, Biogeosciences, 11, 1873-1897, doi:10.5194/bg-11-1873-2014.

2012: Luyssaert, S., Abril, G., Andres, R., Bastviken, D., Bellassen, V., Bergamaschi, P., Bousquet, P., Chevallier, F., Ciais, P., Corazza, M., Dechow, R., Erb, K.-H., Etiope, G., Fortems-Cheiney, A., Grassi, G., Hartmann, J., Jung, M., Lathière, J., Lohila, A., Mayorga, E., Moosdorf, N., Njakou, D. S., **Otto, J.**, Papale, D., Peters, W., Peylin, P., Raymond, P., Rödenbeck, C., Saarnio, S., Schulze, E.-D., Szopa, S., Thompson, R., Verkerk, P. J., Vuichard, N., Wang, R., Wattenbach, M., and Zaehle, S. (2012): The European land and inland water CO2, CO, CH4 and N2O balance between 2001 and 2005, Biogeosciences, 9, 3357-3380, doi:10.5194/bg-9-3357-2012.

2011: **Otto, J.,** Raddatz, T., and Claussen, M. (2011): Strength of forest-albedo feedback in mid-Holocene climate simulations, Clim. Past, 7, 1027-1039, doi:10.5194/cp-7-1027-2011, 2011.

2010: Dallmeyer, A., Claussen, M., and **Otto, J.** (2010): Contribution of oceanic and vegetation feedbacks to Holocene climate change in monsoonal Asia, Clim. Past, 6, 195-218, doi:10.5194/cp-6-195-2010.

2009: **Otto, J.**, T. Raddatz, and M. Claussen (2009): Climate variability-induced uncertainty in mid-Holocene atmosphere-ocean-vegetation feedbacks, Geophys. Res. Lett., 36, L23710, doi:10.1029/2009GL041457.

Otto, J., T. Raddatz, M. Claussen, V. Brovkin, and V. Gayler (2009): Separation of atmosphere ocean vegetation feedbacks and synergies for mid-Holocene climate, Geophys. Res. Lett., 36, L09701, doi:10.1029/2009GL03748.