

## Publication List

### Matthias Hofmann

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#### CITATION SUMMARY

**Total ISI citations: 1086**

**h-index 16, i.e. 16 papers with 16 or more citations (as of April 2018)**

#### Articles in Peer-Reviewed ISI Journals:

2021

[27] B. Soergel, E. Kriegler, I. Weindl, S. Rauner, A. Dirnaichner, C. Ruhe, **M. Hofmann**, N. Bauer, C. Bertram, B. L. Bodirsky, M. Leimbach, J. Leininger, A. Levesque, G. Luderer, M. Pehl, C. Wignens, L. Baumstark, F. Beier, J. P. Dietrich, F. Humpenöder, P. von Jeetze, D. Klein, J. Koch, R. Pietzcker, J. Strefler, H. Lotze-Campen, and A. Popp, A sustainable development pathway for climate action within the UN 2030 Agenda, *Nature Climate Change*, **11**, 656–664 (2021)

[26] Brugger J., Feulner G., **Hofmann M.**, Petri S., 2021, *A pronounced spike in ocean productivity triggered by the Chicxulub impact*, *Geophysical Research Letters*, **48** (Issue 12, 28 June 2021), e2020GL092260, [doi:10.1029/2020GL092260](https://doi.org/10.1029/2020GL092260)

2020

[25] Landwehrs J.P., Feulner G., **Hofmann M.**, Petri S., 2020, *Climatic fluctuations modeled for carbon and sulfur emissions from end-Triassic volcanism*, *Earth and Planetary Science Letters*, **537** (1 May 2020), 116174. [doi:10.1016/j.epsl.2020.116174](https://doi.org/10.1016/j.epsl.2020.116174)

2019

[24] Hofmann M., Mathesius, S., Kriegler, E., van Vuuren D. P., Schellnhuber H. J. (2019), Strong time dependence of ocean acidification mitigation by atmospheric carbon dioxide removal. *Nat Commun* **10**, 5592 [doi:10.1038/s41467-019-13586-4](https://doi.org/10.1038/s41467-019-13586-4)

[23] Brugger J., **Hofmann M.**, Petri S., Feulner G. (2019), On the sensitivity of the Devonian climate to continental configuration, vegetation cover, orbital configuration, CO<sub>2</sub> concentration and insolation, *Paleoceanography and Paleoclimatology*, **34**, 1375-1398 [doi:10.1029/2019PA003562](https://doi.org/10.1029/2019PA003562)

2015

[22] Mathesius S., **M. Hofmann**, K. Caldeira, and H. J. Schellnhuber, Long-term response of oceans to carbon dioxide removal from the atmosphere (2015). *Nature Climate Change*, doi:10.1038/nclimate2729

2014

[21] Lewandowska A. M., D. G. Boyce, **M. Hofmann**, B. Matthiessen, U. Sommer, and B. Worm (2014), Effects of sea surface warming on marine plankton. *Ecology Letters*, 17(5), 614-623, doi:10.1111/ele.12265

2013

[20] Olonscheck, D., **M. Hofmann**, B. Worm, and H. J. Schellnhuber (2013), Decomposing the effects of ocean warming on chlorophyll(a) concentrations into physically and biologically driven contributions, *Environmental Research Letters*, 8 014043, doi:10.1088/1748-9326/8/1/014043

2011

[19] **Hofmann, M.**, B. Worm, S. Rahmstorf, and H. J. Schellnhuber (2011), Declining ocean chlorophyll under unabated anthropogenic CO<sub>2</sub> emissions. *Environmental Research Letters*, 6 034035 doi:10.1088/1748-9326/6/3/034035

[18] **Hofmann, M.**, and M. A. Morales Maqueda (2011), The response of Southern Ocean eddies to increased mid-latitude westerlies: A non-eddy resolving model study. *Geophysical Research Letters*, 38, L03605, doi:10.1029/2010GL045972

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[17] **Hofmann, M.**, and H. J. Schellnhuber (2010), Ocean Acidification: A Millennial Challenge. *Energy and Environmental Science (RSC)*, 3, 1883-1896, doi:10.1039/C000820F

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[16] **Hofmann, M.**, and S. Rahmstorf (2009), On the stability of the Atlantic Meridional Overturning Circulation. *Proceedings of the National Academy of Sciences (PNAS)*, 106, 20584-20589, doi:10.1073/pnas.0909146106

[15] Kuhlbrodt, T., S. Rahmstorf, K. Zickfeld, F. Vikerbo, S. Sundby, **M. Hofmann**, P. M. Link, A. Bondeau, W. Cramer, and C. Jaeger (2009), An integrated assessment of changes in the thermohaline circulation. *Climatic Change*, 96, 489-537

[14] **Hofmann, M.**, and H.-J. Schellnhuber (2009), Oceanic acidification affects marine carbon pump and triggers extended marine oxygen holes. *Proceedings of the National Academy of Sciences (PNAS)*, 106, 3017-3022, doi:10.1073/pnas.0813384106

[13] **Hofmann, M.**, and M. A. Morales Maqueda (2009), Geothermal heat flux and its influence on the oceanic abyssal circulation and radiocarbon distribution. *Geophysical Research Letters*. 36, L03603, doi:10.1029/2008GL036078

2008

[12] Brovkin, V., J. Kim, **M. Hofmann**, and R. Schneider (2008), A lowering effect of reconstructed Holocene changes in sea surface temperatures on the atmospheric CO<sub>2</sub> concentration. *Global Biogeochemical Cycles*, 22, GB1016, doi:10.1029/2006GB002885

2007

[11] Kuhlbrodt, T., A. Griesel, M. Montoya, A. Levermann, **M. Hofmann**, and S. Rahmstorf (2007), On the driving processes of the Atlantic meridional overturning circulation, *Review of Geophysics*, 45, RG2001, doi:10.1029/2004RG000166

2006

[10] **Hofmann, M.**, and M. A. Morales Maqueda (2006), Performance of a second-order moments advection scheme in an Ocean General Circulation Model, *Journal of Geophysical Research*, 111, C05006, doi:10.1029/2005JC003279

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[9] Montoya M., A. Griesel, A. Levermann, J. Mignot, **M. Hofmann**, A. Ganopolski, S. Rahmstorf (2005), The Earth system model of intermediate complexity CLIMBER-3a. Part I: description and performance for present day conditions. *Climate Dynamics*, 25, 237-263

[8] Levermann A., A. Griesel, **M. Hofmann**, M. Montoya, S. Rahmstorf (2005), Dynamic sea level changes following changes in the thermohaline circulation. *Climate Dynamics*, 24, 347-354

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[7] Brovkin, V., **M. Hofmann**, J. Bendtsen, and A. Ganopolski, A. (2002), Ocean biology could control atmospheric d<sup>13</sup>C during glacial-interglacial cycle. *G<sup>3</sup> (Geochemistry, Geophysics, Geosystems)*, 3, doi: 10.1029/2001GC00270

2000

[6] **Hofmann, M.**, Wolf-Gladrow, D.A., Takahashi, T., Southerland, S.C., Six, K., Maier-Reimer, E.

(2000), Stable carbon isotope distribution of particulate organic matter in the ocean: A model study. *Marine Chemistry*, 72(2/4), 131-150, doi: 10.1016/S0304-4203(00)00078-5

1999

[5] Broecker, W., J. Lynch-Stieglitz, D. Archer, **M. Hofmann**, E. Maier-Reimer, O. Marchal, T. Stocker, N. Gruber (1999), How Strong is the Harvardton-Bear Constraint? *Global Biogeochemical Cycles*, Vol.13, No. 4, pp. 817–820

[4] **Hofmann, M.**, W. S. Broecker, J. Lynch-Stieglitz (1999), Influence of a  $[\text{CO}_2(\text{aq})]$  Dependent Biological C-Isotope Fractionation on Glacial  $^{13}\text{C}/^{12}\text{C}$  Ratios in the Ocean. *Global Biogeochemical Cycles*. Vol.13, No.4, pp. 873–883

[3] Kühn, S. F., and **M. Hofmann** (1999), Infection of *Coscinodiscus granii* by the parasitoid nanoflagellate *Pirsonia diadema*: III Effects of turbulence on the incidence of infection. *Journal of Plankton Research* Vol. 21: 2323-2340; doi:10.1093/plankt/21.12.2323

1994

[2] **Hofmann, M.**, A. Zywiets, K. Karch, F. Bechstedt (1994), Lattice dynamics of SiC polytypes within the bond-charge model(1994). *Physical Review B* Vol. 50, 13401-13411

[1] **Hofmann, M.**, D. Strauch, U. Schröder, and E. Rampf (1994), Lattice dynamics and inelastic neutron and synchrotron scattering cross-section in  $\text{Nd}_2\text{CuO}_4$ . *Journal of Physics: Condensed Matter* Vol. 6, 3669-3678

### **Conferences, Abstracts, and Proceedings:**

Landwehrs J., G. Feulner, **M. Hofmann**, and M. Wagnreich (2019) Which impact had CAMP volcanism on the latest Triassic Earth System? Galileo Conferences Mass extinctions, recovery and resilience Utrecht, Netherlands 28–31 August 2019

Brugger J., **M. Hofmann**, S. Petri, and G. Feulner (2019) Simulations of the environmental effects of the Chicxulub impact imply important contribution to the end-Cretaceous mass extinction. Galileo Conferences Mass extinctions, recovery and resilience Utrecht, Netherlands 28–31 August 2019

Brugger J., **M. Hofmann**, S. Petri, and G. Feulner (2018) The sensitivity of the Devonian climate to orbital forcing, continental configuration and vegetation cover Geophysical Research Abstracts Vol. 20, EGU2018-12199-1, 2018 EGU General Assembly 2018

**Hofmann M.**, S. Mathesius & H. J. Schellnhuber (2017) The "Paris Agreement" and its consequences for the future ocean state., Kiel, Germany, 09 February

**Hofmann M.** (2015) The challenge of marine ecosystem modeling, iDiv Workshop: "Global Changes

in Marine Plankton Diversity and Productivity" (invited), Leipzig, Germany, 30 November - 04 December 2015

Mathesius, S., **Hofmann, M.**, Caldeira, K., and Schellnhuber, H.J. (2015) Deep Sea Memory of High Atmospheric CO<sub>2</sub> Concentration, Geophysical Research Abstracts 17, European Geosciences Union: EGU2015-13197-1

**Hofmann, M.**, and Morales Maqueda, M.A. (2011) Changing mid-latitude westerlies and their impact to Southern Ocean eddies in a coarse resolution ocean model, Geophysical Research Abstracts 13, European Geosciences Union: EGU2011-12242

**Hofmann, M.**, and Schellnhuber, H.J. (2009) Ocean acidification triggers extended marine oxygen holes. Eighth International Carbon Dioxide Conference, Jena, Germany, 2009

**Hofmann, M.**, and Schellnhuber, H. J. (2009)  
Marine oxygen holes as a consequence of oceanic acidification  
Geophysical Research Abstracts 11, European Geosciences Union: EGU09-6365

**Hofmann, M.**, and Morales Maqueda, M.A. (2009)  
The impact of geothermal heat flux on the oceanic abyssal circulation  
Geophysical Research Abstracts 11, European Geosciences Union: EGU06-6323

**Hofmann, M.**, and Schellnhuber, H. J. (2007)  
How does oceanic acidification affect the biological carbon pump? A model study  
Geophysical Research Abstracts 9, European Geosciences Union: EGU07-A-09660

**Hofmann, M.**, and Morales Maqueda, M.A. (2006)  
An improved tracer advection scheme for OGCM's: Consequences for the simulated circulation  
Geophysical Research Abstracts 8, European Geosciences Union: EGU06-A-07286

Born, A., **Hofmann, M.**, Levermann, A., Mignot, J. ,and Rahmstorf, S. (2006)  
Hydraulic parameterization of Nordic overflows in a coupled climate model with explicit free surface: Freshwater hosing and global warming  
Geophysical Research Abstracts 8, European Geosciences Union: EGU06-A-00484

Kuhlbrodt, T., Griesel, A. , Montoya, M., Levermann, A. , **Hofmann, M.**, and Rahmstorf, S. (2005)  
What drives the meridional overturning circulation? Geophysical Research Abstracts 7, European Geosciences Union: EGU05-A-01120

Bauer, E., Ganopolski, A. and **Hofmann, M.** (2005)  
Possible linkage of 8.2 ka event to intermediate stable mode of Atlantic circulation  
Geophysical Research Abstracts 7, European Geosciences Union: EGU05-A-05015

**Hofmann, M.**, and Morales Maqueda, M. A. (2005) A more accurate scheme for tracer advection in OGCM's  
Geophysical Research Abstracts 7, European Geosciences Union: EGU05-A-06949

Levermann, A., Griesel, A., **Hofmann, M.**, Montoya, M., and Rahmstorf, S. (2004) Sea level changes due to a weakening of the thermohaline circulation  
Geophysical Research Abstracts 6, European Geosciences Union: EGU04-A-01921

**Hofmann, M.**, and Morales Maqueda, M. A. (2004)  
Transport and distribution of passive tracers in Ocean General Circulation Models (solicited)  
Geophysical Research Abstracts 6, European Geosciences Union: EGU04-A-06464

Griesel, A., Montoya, M., Morales Maqueda, M.A., Kuhlbrodt, T., and **Hofmann, M.** (2003)  
The effects of parameterizing diapycnal mixing based on fixed available energy in an Ocean GCM

**Hofmann, M.**, Maqueda, M.A.M, Griesel, A., and Montoya, M. (2003) On the interhemispheric transport of Carbon in the ocean: A modelers perspective Geophysical Research Abstracts 5, European Geosciences Union: EGU03-A-12433

Brovkin, V., D. Archer, and **M. Hofmann** (2003) Changes in oceanic biogeochemistry during the LGM simulated by a climate system model of intermediate complexity OCEANS: Ocean Biogeochemistry and Ecosystem Analysis; International Open Science Conference, Paris, France, 2003

**Hofmann, M.**, and M. A. M. Maqueda (2003) Modeling the seasonal pCO<sub>2</sub> cycle in the subarctic Pacific ocean OCEANS: Ocean Biogeochemistry and Ecosystem Analysis; International Open Science Conference, Paris, France, 2003

**Hofmann, M.**, and M. A. M. Maqueda (2001) Modeling the seasonal pCO<sub>2</sub> cycle in the subarctic Pacific Ocean: Evidence of iron fertilization provided by aeolian dust supply from eastern Asia. Sixth International Carbon Dioxide Conference, Sendai, Japan, 2001

**Hofmann, M.**, and M. M. Tilzer (2000) The role of atmospheric iron deposition from mineral particles in determining phytoplankton community growth rates in the sea. Ocean Science Meeting (AGU, ASLO), San Antonio, Texas (USA), 2000

**Hofmann, M.**, and D. Wolf-Gladrow (1999) The Distribution of stable c-isotopes in the ocean. Proceedings of the Second International Symposium, CO<sub>2</sub> in the Oceans, pp. 79-82. Center for Environmental Research, National Institute for Environmental Studies, Tsukuba, Japan, 1999

**Hofmann, M.** (1998) The Role of Marine Biology in Determining the 13C/12C Distribution in the Ocean: A 3D Model Study. WOCE Conference, Halifax, Canada

**Hofmann M.**, and D. Wolf-Gladrow (1997) Impact of anthropogenic CO<sub>2</sub> on the d<sup>13</sup>C(DIC) via changes in biological isotope fractionation. Fifth International Carbon Dioxide Conference, Cairns, Australia, 1997

U. Riebesell, S. Burkhardt, **M. Hofmann**, E. Maier-Reimer, M. Pahlow, K. Six, A. Wischmeyer, D. Wolf-Gladrow (1997) Responses of marine phytoplankton to changes in CO<sub>2</sub>. Fifth International Carbon Dioxide Conference, Cairns, Australia, 1997

**Hofmann, M.**, D. Wolf-Gladrow, U. Riebesell, K. Six, and E. Maier-Reimer (1996) Quantitative Modeling of Carbon Isotope Distribution in the Ocean. Ocean Science Meeting (AGU), San Diego, USA, 1996

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**Hofmann M.**, D. Strauch, U. Schröder, *Lattice Dynamics and Charge Transfer in Superconductors*. 13th General Conference of the EPS, Regensburg, 1993

**Hofmann M.** und D. Strauch, *Analyse der Synchrotron- und Infrarot-Spektren von Hochtemperatursupraleitern*. Frühjahrstagung der DPG, Arbeitskreis Festkörperphysik, Regensburg, 1992

**Hofmann M.**, *Ermittlung spezifischer Strukturparameter des InP:Cu<sub>B</sub>-Zentrums aus optischen Absorptionsquerschnitten.* Frühjahrsschule Optik der Phys. Gesellschaft der DDR, Erfurt, 1989