

# Dr. Irene Fischer-Bruns

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## Work/research experience:

- since 06/2014 Scientist at the Climate Service Center Germany (GERICS) in Hamburg. Administrative deputy of GERICS Director Prof. Dr. Daniela Jacob.
- 02/2009 - 05/2014 Scientific Assistant to Director Prof. Dr. Guy Brasseur at the Climate Service Center in Hamburg.
- 01/2004 - 02/2009 Post-Doc – Max Planck Institute for Meteorology (MPI-M) in Hamburg.  
*Impact of aerosols on North Atlantic climate*
- 08/2001 - 12/2003 Post-Doc – Max Planck Institute for Meteorology (MPI-M) in Hamburg.  
*Historical reconstruction of North Atlantic storm climate*
- 10/1999 – 07/2001 IPCC Assistant – Max Planck Institute for Meteorology (MPI-M) in Hamburg.  
*IPCC Third Assessment Report*
- 01/1999 – 09/1999 Self-employed – Sales of meteorological software and web design
- 01/1994 – 12/1998 Editorial Assistant to Prof. Dr. Mojib Latif – Max Planck Institute for Meteorology (MPI-M) in Hamburg.  
*Scientific journal >Monthly Weather Review<*
- 03/1988 – 12/1993 Maternity leave
- 08/1986 – 02/1988 Post-Doc – Max Planck Institute for Meteorology (MPI-M) in Hamburg.  
*Statistical analysis of global climate model data*

- 1982 – 1986 PhD student and degree (Dr. rer. Nat.) at Universität Hamburg, Meteorological Institute  
*Modelling of heavy gas dispersion*
- 1975 – 1981 Study of meteorology at the Universität Hamburg, University degree: Diploma

### Professional qualifications:

- Scientific management:** First employee of the Climate Service Center. Participation and assistance of the former Director in developing the Center. Redirection of main focus from basic scientific work to science management.
- Software/ Programming skills** Unix/Linux, Shell-scripting, FORTRAN, Grads, climate data operators, MS-Office applications.
- Language skills** German (native speaker), English (fluent), French (basics).

### Former research interests:

- Atmospheric dynamics
- Impact of aerosols on climate change
- Historical and future North Atlantic storm climate
- Northern hemispheric teleconnection patterns (especially North Atlantic Oscillation)
- Climate of the Late Maunder Minimum
- Assessment of uncertainties in projected climatic changes
- Statistics

### Former research projects and initiatives involved:

<b>2001 - 2009</b>	Deutsche Forschungsgemeinschaft, Sonderforschungsbereich SFB 512 "Tiefdruckgebiete und Klimasystem des Nordatlantiks" <i>TP „Historische Rekonstruktion des nordatlantischen Sturmklimas“</i> <i>TP „Einfluss von Aerosolen auf das Klima des Nordatlantiks“</i>
<b>2001</b>	IPCC Third Assessment Report <i>Participation in the preparation of Chapter 9</i>

## Conference contributions

Jacob D, **Fischer-Bruns I**, Petersen J, Seipold P, and Teichmann C (2016): Prototype development of user specific climate services. 16th EMS Annual Meeting & 11th European Conference on Applied Climatology (ECAC), 12–16 September 2016, Triest, Italy

Schuck-Zöllner S, Cortekar J, **Fischer-Bruns I**, Füsers S, Keup-Thiel E, and Rechid D (2016): Evaluating Co-Creation of Knowledge: Quality Criteria and Indicators. 16th EMS Annual Meeting & 11th European Conference on Applied Climatology (ECAC), 12–16 September 2016, Triest, Italy

**Fischer-Bruns I**, and D Jacob, 2016 (invited): Klimadienstleistungen GERICS, 10. Annaberger Klimatage, 11-12 May 2016, Annaberg-Buchholz

**Fischer-Bruns I**, and D Jacob, 2015 (invited): A European research and innovation Roadmap for Climate Services. Nationaler Infotag der NKS Umwelt (beauftragt vom BMBF): Das neue Arbeitsprogramm 2016/17 der Societal Challenge 5. 15 October 2015, Berlin

Schuck-Zoeller S, J Cortekar, **I Fischer-Bruns**, J-T Huang-Lachmann, E Keup-Thiel and D Rechid (2015): Evaluating Co-Design of Knowledge: About Quality and Success of Transdisciplinary Research. ITD-Conference 2015, Sustainability and health: emerging topics and new challenges for inter- and transdisciplinary research, 8-10 September 2015, Basel, Switzerland

**Fischer-Bruns I**, 2014 (invited): Climate Services in Europe. Fourth International Conference on Climate Services, 10-12 December, Montevideo, Uruguay

**Fischer-Bruns I**, M Máñez Costa, and G Brasseur, 2014: CSC - Germany: Lessons learned and the European perspective. 14th EMS (European Meteorological Society) Annual Meeting & 10th European Conference on Applied Climatology (ECAC), 06-10 October 2014, Prague, Czech Republic

**Fischer-Bruns I**, and G Brasseur, 2013 (invited): Climate Service Center Germany: Lessons Learned in Developing Climate Services. Pacific Islands Climate Services Forum, 21-25 January 2013, University of the South Pacific - Laucala Campus, Suva, Fiji

**Fischer-Bruns I**, and G Brasseur, 2010 (invited): Poster "The Need for Climate Services and the German Initiative CSC". AGU – The Meeting of the Americas, 8-12 August 2010, Foz do Iguassu, Brazil

**Fischer-Bruns I**, and G Brasseur, 2010: The German Climate Service Center, 4th WCRP WOAP Meeting, 29-31 March 2010, KlimaCampus Hamburg

**Fischer-Bruns I**, 2010: Report from Climate Service Center Germany. THOR Round-table Workshop, "North Atlantic Thermohaline Circulation and its Impact on Climate Change in Europe", Oct 01, 2010 (ZMAW, Hamburg)

**Fischer-Bruns I**, and D Jacob, 2010 (invited): Klimaänderungen in Deutschland. 28. DECHEMA-Jahrestagung der Biotechnologen. 23 September 2010, Aachen

**Fischer-Bruns I** und G Brasseur, 2009: Das Climate Service Center, DKK Informationsaustausch „Klimaservice-Klimaforschung“ - Eine Standortbestimmung. 14. Dez. 2009 ;Berlin-Brandenburgische Akademie der Wissenschaften

**Fischer-Bruns I** und Brasseur, G., 2009: Delivering climate information and services: Plans at the German Climate Service Center. Rossby Center Day, SMHI, 21.10.2009

**Fischer-Bruns I** und G Brasseur, 2009: Die Aufgaben und Strategien des Climate Service Center. Konferenz 2009 "Klima im System Erde", 2. und 3. November 2009, dbb forum berlin

von Storch H and **I Fischer-Bruns**, 2008: Modelling the variability of midlatitude storm activity on decadal to century time scales (Poster). AGU Fall Meeting, 15-19 Dec 2008, San Francisco

Feichter J, S Kloster, **I Fischer-Bruns**, JV Ardenne, F Dentener, 2008: Climate response of aerosol emissions from specific economic sectors. Geophysical Research Abstracts, Vol. 10, EGU2008-A-09174. SRef-ID: 1607-7962/gra/EGU2008-A-09174. EGU General Assembly, Vienna, Austria, 13-18 April 2008

**Fischer-Bruns I** and J Feichter, 2007: Einfluss auf das Winterklima des Nordatlantiks durch Änderungen der Konzentrationen von Treibhausgasen und Sulfataerosolen. DACH Meteorologentagung, Hamburg, Germany, Sept.10-14, 2007

Hand R, K Krüger, J Flöter, C Timmreck, **I Fischer-Bruns**, M Giorgetta, 2007: Der Einfluss von Vulkanausbrüchen in einem gekoppelten Ozean-Atmosphärenmodell. DACH Meteorologentagung, Hamburg, Germany, Sept.10-14, 2007

Krüger K, J Flöter, R Hand, C Timmreck, **I Fischer-Bruns**, M Giorgetta, B Steil, C Brühl, and E Roeckner, 2007: The influence of Central American volcanic eruptions on the atmosphere as represented in different ECHAM model versions. Second ICESM, Hamburg, Germany, Aug.27-31, 2007

Krüger K, J Flöter, R Hand, C Timmreck, **I Fischer-Bruns**, M Giorgetta, B Steil, C Brühl, and E Roeckner, 2007: The influence of major volcanic eruptions on the atmosphere as represented in different ECHAM model versions. CCMVal Workshop 2007, University of Leeds, Leeds, UK, June 26-28, 2007

**Fischer-Bruns I** and J Feichter, 2007: Impact on North Atlantic winter climate due to changes of greenhouse gas and sulfate aerosol concentrations. AGU Joint Assembly, Acapulco, Mexico, 22-25 May 2007. Eos Trans. AGU, 88(23), Jt. Assem. Suppl., Abstract GC22A-06

**Fischer-Bruns I**, 2004: A Modelling Study on the Variability of Storm Activity on Time Scales of Decades and Centuries. 9th International Meeting on Statistical Climatology, 24-28 May 2004, Cape Town, South Africa

von Storch H, E Zorita, **I Fischer-Bruns**, and J Liu, 2004: Variability on time scales of decades up to a century in a AOGCM simulation with realistic time-variable forcing CRCES-IPRC Workshop on Decadal Climate Variability, Kona, Hawaii, Feb.23-26, 2004

von Storch H, E Zorita, **I Fischer-Bruns**, JF Gonzáles-Rouco and J Liu, 2004: Variability on time scales of decades up to a century in a AOGCM simulation with realistic time-variable forcing. GFDL, Princeton, USA, May 2004

von Storch H, U Cubasch, FJ Gonzalez-Rouco, J Luterbacher, E Zorita, S Legutke, **I Fischer-Bruns**, U Schlese, 2003: Transient simulation of the climate of the last five centuries with a coupled OAGCM. In: International Conference on Earth System Modelling. Hamburg (D), 15.-19.09.2003

von Storch H, U Cubasch, FJ Gonzalez-Rouco, J Luterbacher, E Zorita, S Legutke, **I Fischer-Bruns**, U Schlese, 2003: Transient simulation of the climate of the last 500 years with the climate model ECHAM HOPE. In: 6. Deutsche Klimatagung. Potsdam (D), 22.-25.09.2003

Cubasch U. and **I Fischer-Bruns**, 2002: The behavior of the NAO during the LMM as simulated by a three-dimensional coupled OAGCM. AGU Spring Meeting, 28-31 May 2002, Washington, D.C

## Publications

### Peer reviewed publications

**Fischer-Bruns I**, J Feichter; S Kloster, A Schneidereit, 2010: How present aerosol pollution from North America impacts North Atlantic climate. In: Tellus A. Vol. 62 (2010) 4, 15699. (DOI: 10.1111/j.1600-0870.2010.00446.x)

Kloster S, F Dentener, J Feichter, F Raes, U Lohmann, E Roeckner, and **I Fischer-Bruns**, 2009: A GCM study of future climate response to air pollution reductions. Clim. Dyn., doi: 10.1007/s00382-009-0573-0

Lohmann R, K Bollinger, M Cantwell, J Feichter, **I Fischer-Bruns**, and M Zabel, 2009: Fluxes of soot black carbon to South Atlantic sediments, Global Biogeochem. Cycles, 23, GB1015, doi:10.1029/2008GB003253

**Fischer-Bruns, I**, DF Banse, and J Feichter, 2009: Future Impact of anthropogenic sulfate aerosol on North Atlantic Climate, Clim. Dyn., 32 (4): 511-524, doi: 10.1007/s00382-008-0458-7

Roeckner E, P Stier, J Feichter, S Kloster, M Esch, and **I Fischer-Bruns**, 2006: Impact of carbonaceous aerosol emissions on regional climate change. Clim.Dyn., 27, 6, 553-571, doi:10.1007/s00382-006-0147-3

**Fischer-Bruns I**, H von Storch, JF Gonzales-Rouco, and E Zorita, 2005: Modelling the variability of midlatitude storm activity on decadal to century time scales. *Clim. Dyn.*, 25, 5,461-476, doi:10.1007/s00382-005-0036-1

Zorita E, H von Storch, JF Gonzales-Rouco, U Cubasch, J Luterbacher, S Legutke, **I Fischer-Bruns**, and U Schlese, 2004: Climate Evolution in the Last Five Centuries Simulated by an Atmosphere- Ocean Model: Global Temperatures, the North Atlantic Oscillation and the Late Maunder Minimum. *Meteor. Z.*, 13, 4, 271-289. DOI: 10.1127/0941-2948/2004/0013-0271

Cubasch, U., G. A. Meehl, G. J. Boer, R. J. Stouffer, M. Dix, A. Noda, C. A. Senior, S. Raper and K. S. Yap, (contributing author: **I Fischer-Bruns**), 2001: Projections of future climate change. In: *Climate Change 2001: The Scientific Basis. Contribution of Working Group I to the Third Assessment Report of the Intergovernmental Panel on Climate Change* [Houghton, J. T., Y. Ding, D. J. Griggs, M. Noguer, P. van der Linden, X. Dai, K. Maskell, C. I. Johnson (eds.)]. Cambridge University Press, ISBN 0521 01495 6.

von Storch, H, T Bruns, **I Fischer-Bruns**, and K Hasselmann, 1988: Principal Oscillation Pattern Analysis of the 30- to 60-Day Oscillation in General Circulation Model Equatorial Troposphere. *J. Geophys. Res.*, Vol. 93, No. D9, 11022-11036.

von Storch, H and **I Fischer**, 1982: An Analysis of Geopotential Height at 300 mbar in the Frequency Wavenumber Domain Along 50 N in Observed and Modelled January Climate. *Beitr. Phys. Atmosph.*, Vol. 56, No. 2, 199-212

### Other publications

Jacob D, **I Fischer-Bruns**, P Seipold, 2016: Klimadienstleistungen GERICS: 10. Annaberger Klimatage 11. -12. Mai 2016 in Annaberg-Buchholz. Tagungsband mit Beiträgen anlässlich der Gründung der Wetterwarte Fichtelberg vor 100 Jahren. *Annalen der Meteorologie*, 49, DWD, Offenbach, 146 S., ISBN 978-3-88148-489-3

Brasseur G und **I Fischer-Bruns**, 2015: Das Rundum-Klimapaket. In: Jochem Marotzke und Martin Stratmann (Hrsg.), *Die Zukunft des Klimas - Neue Erkenntnisse, neue Herausforderungen*, Ein Report der Max-Planck-Gesellschaft, Verlag C.H. Beck, München 2015

Brasseur G and **I Fischer-Bruns**, 2015: The All-in-One Climate Package. In: *Max Planck Research* 1/15, ISSN 1616-4172

Brasseur G und **I Fischer-Bruns**, 2014: Das Rundum-Klimapaket. In: *Max Planck Forschung* 4/14, ISSN 1616-4172

Brasseur G, M Latif M und **I Fischer-Bruns**, 2014: Macht die Erderwärmung eine Pause? Globale Erwärmung und Klimavariabilität. *Klima Konkret* 3, Climate Service Center 2.0

Brasseur GP, **I Fischer-Bruns**, M Máñez Costa, 2013: Applying Science to Society: the Climate Service Center, Germany. In: Climate Service Partnership (Hrsg.): Climate Services Partnership Technical Report. 2013

von Storch H, **I Fischer-Bruns**, E Zorita, JF Gonzales-Rouco, 2005: Developing hypotheses about the variability of climate variables using Erik den Røde data – the case of extra-tropical storminess. In: SO&P Meeting. Reading (GB), 03.-04.02.2005

von Storch H, E Zorita, **I Fischer-Bruns**, and J Liu, 2004: Variability on time scales of decades up to a century in a AOGCM simulation with realistic time-variable forcing. Proceedings NASA-CRCES-IPRC Workshop on Decadal Climate Variability, Feb.23-26, 2004

von Storch H, E Zorita, **I Fischer-Bruns**, JF Gonzalez-Rouco, J Liu, 2004: Variability on time scales of decades up to a century in a AOGCM simulation with realistic time-variable forcing. In: GFDL June 2004 Seminars, Geophysical Fluid Dynamics Laboratory. Princeton, NJ (USA), 14.-15.06.2004

von Storch H, E Zorita, **I Fischer-Bruns**, J Liu, JF Gonzalez-Rouco, 2004: Variability on time scales of decades up to a century in a AOGCM simulation with realistic time-variable forcing . In: CRCES-IPRC Workshop on Decadal Climate Variability. Kona, Hi (USA), 23.-26.02.2004

Gonzales-Rouco JF, E Zorita, U Cubasch, H von Storch, **I Fischer-Bruns**, F Valero, JP Montavez, U Schlese and S Legutke, 2003: Simulating the climate since 1000 A. D. with the AOGCM ECHO-G. Proc. ISCS 2003 Symposium, 'Solar Variability as an Input to the Earth's Environment'. Tatranska Lomnica, Slovakia, 23-28 June 2003. ESA SP-535, 329-338

Zorita E, von Storch H, JF Gonzales-Rouco, U Cubasch, J Luterbacher, S Legutke, **I Fischer-Bruns**, U Schlese, 2003: Simulation of the climate of the last five centuries. Report GKSS 2003/12, ISSN 0344-9629

**Fischer-Bruns I.**, U Cubasch, H von Storch, E Zorita, F Gonzales-Rouco, J Luterbacher, 2002: Modelling the Late Maunder Minimum with a 3-dimensional OAGCM. In: Exchanges - Clivar. Vol. 7 (2002) 3-4, 59 – 61. ISSN No. 1026-0471

**Fischer-Bruns I**, U Cubasch, H von Storch, E Zorita, JF Gonzales-Rouco and J Luterbacher 2002: Modelling the Late Maunder Minimum with a 3-dimensional OAGCM. Presentations from workshop 6-7 May 2002 at Kjeller, Norway. In: RegClim, General Technical Report No. 6, DNMI, T. Iversen and C. Lunder (eds), Oslo, p. 13-21. (Available from Norwegian Institute for Air Research, PO Box 100, N-2007 Kjeller, NORWAY)

Cubasch U., **I Fischer-Bruns**, 2000: An Intercomparison of Scenario Simulations Performed with Different OAGCMs. Presentation from workshop 8-9 May 2000 at Jevnaker, Norway, 2000. In: RegClim, General Technical Report No. 4, DNMI, T. Iversen and B.A.K. Hoiskar (eds), Oslo (Available from Norwegian Institute for Air Research, PO Box 100, N-2007 Kjeller, NORWAY)

**Fischer-Bruns I**, U Cubasch, H von Storch, E Zorita, F Gonzales-Rouco, F, J Luterbacher, 2002: Modelling the Late Maunder Minimum with a 3-dimensional OAGCM. In: Iversen, T.; Lunder, C. (Eds.): Regional Climate Development under Global Warming, General Technical Report 6. 2002. 13 - 21

**Fischer-Bruns I.**, 1987: Untersuchungen zur Ausbreitung spontan freigesetzter schwerer Gase. Dissertation, Hamburger Geophysikalische Einzelschriften, Reihe A, Heft 81

**Fischer I**, 1981: Zeitserienanalyse mit der Maximum Entropie Methode. Diplomarbeit, Fachbereich Geowissenschaften der Universität Hamburg