

# CURRICULUM VITAE

(updated on 2 May, 2019)

## Personal Information

Name Deliang **CHEN**  
Sex Male  
Date of Birth July 21, 1961  
Place of Birth Jiangsu, China  
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## Education

- 1989-1992 Ph.D. candidate at Johannes Gutenberg-University Mainz. Major: Geosciences; minors: Theoretical Meteorology (Dynamics) and Applied Mathematics (numerical methods for differential equations). Supervisors of the three subjects are Prof. P. J. Crutzen (Nobel Laureate) and Prof. M. Domrös, Prof. W. Zdunkowski, and Prof. W. Börsch-Supan respectively. Title of the Ph.D. thesis: 'Development of a Two-Dimensional Model of Global Climate-Transport'. degree earned on 27 February 1992.
- 1979-1983 B.Sc., majored in Climatology, Department of Meteorology, Nanjing University, Nanjing, China.

## Working experience

- 2012-2018 **Assistant Dean** for Research of the Faculty of Science, University of Gothenburg  
2009-2012 **Executive Director** of the International Council for Science (ICSU)  
2007- The **August Röhss Chair** in Physical Geography at University of Gothenburg  
2006-2007 **Director** for 'Gothenburg Atmospheric Science Centre'  
1993 Senior Lecturer (**Lektor**) in Physical Meteorology at Department of Earth Sciences, University of Gothenburg, Sweden in July 1993. Promoted to Associate Professor (**Docent**) in 1996. Became **Full Professor** of Physical Meteorology in 2000. His research interests include Earth System science, Global Change and regional climate change with a focus on water cycle, environmental change over the Third Pole. In 1995 Deliang Chen funded the Regional Climate Group (RCG: <http://rcg.gvc.gu.se>) who is specialized in past and future regional

climate changes using instrumental and proxy data, as well as advanced statistical techniques and numerical climate models. Recent studies additionally include the impact of climate change on water resources, air quality, and agriculture.

- 1992-1993 **Post-doctoral Research Assistant** focusing on developing simple atmosphere model for studying air-sea interactions, at the Department of Physics II, Alfred-Wegener-Institute for Polar and Marine Research, Bremerhaven, Germany
- 1992 **Post-doctoral Research Assistant** focusing on using regional air quality model to study dry deposition, at the Institute of Geophysics and Meteorology, University of Cologne, Cologne, Germany
- 1989-1992 **Ph.D. student** working on developing two dimensional climate model for air chemistry studies under the guidance of Prof. Paul J. Crutzen at Max-Planck-Institute for Chemistry, Mainz, F.R. Germany
- 1983-1988 **Personal Assistant** to the Director and Research Assistant at Institute of Geography, CAS, Beijing, China. Research works concerns climate productivity of crops and water balances for the northern China during 1984 and 1985, crop water requirements and evapotranspiration during 1985 and 1986, and land surface process modeling in global climate model during 1987 and 1988.

### Awards and honors

- 2018 Elected member of the European Academy of Sciences and Arts
- 2018 Elected Foreign Member of the Norwegian Academy of Science and Letters
- 2017 Elected Foreign Member of CAS
- 2015 Elected Fellow of the World Academy of Sciences (TWAS)
- 2014 Awarded *Pro Arte et Scientia* Medal by the University of Gothenburg
- 2013 Elected Member of the Royal Society of Arts and Sciences in Gothenburg
- 2010 Elected Member of the Royal Swedish Academy of Sciences

### Commissions of trust

- 2019 Vice-Chair of the Science Committee for the International Conference on Silk-road Disaster Risk Reduction and Sustainable Development, 11-12 May, 2019, Beijing, China
- 2018-2023 Mentor for Wallenberg Academy Fellows' mentorship programme supported by the Wallenberg Foundation and the Royal Swedish Academy of Sciences
- 2018-2021 Coordinating Lead Author of the sixth Assessment Report (AR6) of IPCC (International Panel of Climate Change) Working Group I
- 2018- International expert for CAS' pilot project "Big data for Earth Science"
- 2018- Chair of the Earth Science Division of the Royal Swedish Academy of Sciences
- 2017- Member of the Editorial Board of "Big Earth Data"
- 2017- Member of the International Jury for the TWAS-Lenovo Science Prize in Geological Sciences.
- 2017- Member of External Science Advisory Group (ESAG) of the Bolin Centre for Climate Research at Stockholm University.
- 2016- Chair of the Nomination Committee of the Stockholm Water Prize
- 2016- Member of Science Steering Committee of the Future Earth Core Project Integrated Risk Governance (IRG)
- 2016- Chair of the Operational Committee of the board, Stockholm Resilience Centre

- 2016- Member of the Advisory Board for Penn State's Advanced Data Assimilation and Predictability Techniques (ADAPT) Center
- 2015-2017 Member of the Baltic Earth Senior Advisory Board
- 2015-2017 Chief Editor of the Oxford Research Encyclopedia "Regional climate and climate change in the region of Tibet"
- 2014-2016 Associate Editor-in-Chief of "Journal of Geographical Sciences"
- 2014- Associate Editor-in-Chief of "Advances in Climate Change Research"
- 2014-2017 Member of the Advisory Committee for the International Research Prize in Science, Mathematics and Medicine and Support for the Nordic Research Projects for the Olav Thon Foundation
- 2014- Board Member of the Stockholm Resilience Centre
- 2013- Editor of "National Science Review (NSR)" by Chinese Academy of Sciences
- 2013- Member of the Science Committee for the VOLVO Environment Prize
- 2013-2015 Member of the Project Evaluation Committee, Research Institute for Humanity and Nature (RIHN), Japan
- 2012-2017 Member of the Swedish National Committee for Global Environmental Change, Royal Swedish Academy of Sciences
- 2012, 2008 Jury member for the Sixten Heyman Prize
- 2011- Member of the Executive Board of the Third Pole Environment (TPE)
- 2011-2016 Chair of the Scientific Advisory Committee for ECDS (Environment Climate Data Sweden: <http://www.smhi.se/ecds>)
- 2011-2013 Member of the French ANR (the French National Research Agency) Scientific Steering Committee on Earth System Science
- 2011-2013 Member of the Advisory Group for the OECD Programme on Innovation, Higher Education and Research for Development (IHERD)
- 2011-2017 Member of the Editorial Board for 'Environmental Development'
- 2010 Member of the Science Committee for the '3rd Nobel Laureate Symposium on Global Sustainability' organized by the Royal Swedish Academy of Sciences
- 2010-2013 Lead Author of Chapter 1 'Introduction' in the IPCC (International Panel of Climate Change) Working Group I (AR5)
- 2009-2012 Member of the Steering Committee for the World Science Forum
- 2008-2015 Member of the Environment Committee of the Royal Swedish Academy of Sciences
- 2008- Member of the Editorial Board for 'Chinese Geographical Science'
- 2008-2018 Member of the Editorial Board for 'Earth Environment'
- 2007 Guest Editor for 'Atmospheric Chemistry and Physics'
- 2006-2007 Member of the Swedish National Committee for Geophysics (SNG) under Royal Swedish Academy of Sciences
- 2006 Guest Editor for 'Geografiska Annaler'
- 2004-2005 Member of the National Swedish Committee for IGCP (International Geoscience Programme of the United Nations).
- 2004-2008 Member of the Royal Swedish Academy of Sciences' Committee for IGBP/WCRP (International Geosphere-Biosphere Programme/World Climate Research Programme)
- 2004-2015 Editor for 'Acta Meteorologica Sinica' (both English and Chinese).
- 2002- Member of the Editorial Board of 'Advances in Geographical Science' (in Chinese)
- 2000-2003 Member in Atmospheric Sciences Committee at Swedish Space Agency
- 2000 Reviewer for Norwegian Natural Science Research Council
- 2000-2001 Visiting Professor at the University of Cologne, Germany

- 1999-2003 Reviewer for German Ministry of Education and Research (BMBF)  
 1999 Contributing Author of Chapter 10 ‘Regional Climate Simulation -- Evaluation and Projections’ in the IPCC Working Group I (AR3)  
 1998-2002 Member of the Reviewing Committee member in Geosciences at Swedish Natural Science Research Council (NFR and VR)

### **Research interests**

- Earth System Science and global environmental change
- Climate dynamics and modeling
- Atmospheric circulation and water balance in the Third Pole Region
- Recent and future regional climate changes and their impacts on water, ecosystem, environment, and agriculture with a focus on Sweden and China.

### **International evaluation of research**

In 2004, Deliang Chen’s research was evaluated by an international expert panel commissioned by the Swedish Research Council (VR). The panel stated: “...Chen is in a unique position in pursuing regional climate study in Sweden” and concluded “Chen has made an important contribution to the understanding of regional climate in Sweden. ... Clearly, he is considered an international expert in the regional climate community”. The panel ranked his performance as “excellent-outstanding” in an international perspective and “most strongly” recommended further funding for his research. The detailed report including the names of the international experts and their evaluation criterions can be found at <http://rcg.gvc.gu.se/pdf/vr.pdf>.

Also, in a recent evaluation of all research at the University of Gothenburg 2010 (RED10), his research was ranked high by the international expert panel: “The climate theme is an area of major activity, with particularly excellent qualities evident in some aspects of climate modelling, although these have been especially dependent on one senior staff member (Deliang Chen)...”.

### **Teaching experience**

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|-----------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Undergraduate courses | Climate system, Micro climatology, Applied climatology, Climate variation, Integrated assessment of climate change and its impact, Synoptic climatology; Earth System Science, Climate modeling, Fundamental Meteorology, Atmospheric Science, Introduction to GIS, Climate change in an Earth System perspective, Climate and society. |
| Postgraduate courses  | Computerized Environmental Modeling, Modeling in Physical Geography, Climate dynamics, Meteorology today for scientists and engineers, Environmental Statistics, Boundary Layer Meteorology, Climate modeling, Geostatistics, GIS.                                                                                                      |
| Summer school         | ”Climate model simulations”, July 2017 in Lanzhou, June 2018 in Beijing, China; “The Eleventh International Seminar on Climate System and Climate Change”, 14-25 July 2014, Beijing, China; "the downscaling summer course" at Lodz University in Poland,                                                                               |

18-22 June, 2007; “First ECCE Summer School for Advanced Study in Climate and Earth Environment: Modeling of the Climate System”, July 30 - August 12, 2006, Beijing, China.

**Supervision of graduated Ph.D. students**

Gerrit Lohmann	1995	Stability of the thermohaline circulation in analytical and numerical models
Lars Lindkvist	1997	Investigations of local climate variability in a mountainous area--including case studies on air, soil and soil surface properties in complex terrain
Katarina Borne	1998	Observational study of sea and land breeze on the Swedish west coast with focus on an archipelago
Barbro Johansson	2002	Estimation of areal precipitation for hydrological modelling in Sweden
Maj-Lena Linderson	2002	The Spatial Distribution of Precipitation in Scania, Southern Sweden.: Observations, model simulations and statistical downscaling
Cecilia Hellström	2003	Regional climate and climate variability of Sweden
Christine Achberger	2004	Recent and Future regional climate change variations in Sweden in relation to large-scale climate
Fredrik Wetterhall (Assistant supervisor)	2005	Statistical downscaling and hydrological modelling for climate impact assessment in northern Europe
Lijun Fan	2006	Statistical downscaling in China
Junfeng Miao	2006	Meteorological modelling in coastal areas - local climate and air quality
Yanling Song	2007	Impact of climate change on agriculture in China
Elisabeth Simelton	2007	Climate and human impacts on wheat production and land use in the loess plateau region, China
Shiuqing Yin	2008	Characterization and Simulation of Sub-daily Scale Precipitation for China
Lin Tang	2009	Regional and Local Surface Ozone Variations in Relation to Meteorological Conditions in Sweden
Cecilia Bennet	2009	The Tropospheric Aerosol - Measurements and Modelling. Case studies in Tanzania and Southeast Asia and development of models for size resolved aerosol simulations on the regional scale
Matilda Palm	2009	Land Use in Climate Policy - Forest Based Options at Local Level with Cases from India
Christin Eriksson (Assistant supervisor)	2009	Characterizing and reconstructing 500 years of climate in the Baltic Sea Basin
Ge Gao	2010	Changes of evapotranspiration and water cycle in China during past decades
Jenny Sundberg (Assistant supervisor)	2011	Impact of ozone on ecosystems under climate change
Ida Westerberg (Assistant supervisor)	2011	Observational Uncertainties in water-resources modelling in Central America
Sihong Wu (Assistant supervisor)	2011	Impact of cold climate on boreal ecosystem processes-exploring data and model uncertainties
Lars Zetterberg	2011	Instruments for reaching climate objectives -focusing on the time aspects of bioenergy and allocation rules in the

Yaoming Liao	2012	European union's emissions trading system Study and application of stochastic weather generator BCC/RCG-WG
Alexander Walther	2012	Simulated and observed change of precipitation and temperature in Europe with focus on the Greater Baltic Area
Tinghai Ou	2013	Observed and simulated changes in extreme precipitation and cold surges in China: 1961-2005.
Peng Zhang	2015	Summer Climate Variability during the Past 1200 Years in Central Scandinavia: A Tree-Ring Perspective.
Xiaowen Zhang	2018	Contribution of changes in atmospheric circulation patterns to regional temperature and precipitation variation.

### **Postdocs and Visitors**

Postdoc Youmin Chen, Klaus Wyser, Katarina Borne, Madelene Ostwald, Christine Achberger, Hans Linderholm, Lijun Fan, Shuiqing Yin, Jee-Hoon Jeong, David Rayner, Marston Johnston, Changgui Lin, Wenbin Liu, Cesar Azorin-Molina, Xuejia Wang, Xiaorui Niu.

Guest researcher Dr. Aristita Busuoiu from National Meteorological Administration of Romania, Prof. Dr. Manuel Nunez from University of Tasmania, Prof. Xiaodong Li from Beijing University, Prof. Yun Xie from Beijing Normal University, Prof. Yu Liu from Institute of Earth Environment of Chinese Academy of Sciences (CAS), Dr. Yan Wang from Institute of Tibetan Plateau Research of CAS, Prof. Tijian Wang from Nanjing University, Prof. Xuejie Gao from Institute of Atmospheric Physics of CAS, Prof. Ying Xu and Dr. Huanping Wu from National Climate Center of China Meteorological administration, Dr. Yudong Tian from University Maryland/NASA, Prof. Yanhong Gao from Cold and Arid Regions Environmental and Engineering Research Institute of CAS, Dr. Rasmus Benestad from the Norwegian Meteorological Institute, Dr. Keyan Fang from Fujian Normal University of China, Prof. Chang-Hoi Ho from Seoul National University in Korea, Dr. Kaijun Wu, Dr. Ning Jiang, and Prof. Weihong Qian from Peking University, Prof. Xiuzhen Li from Sun Yat-Sen University, Dr. Jianbin Huang from Tsinghua University, Dr. Weiwen Wang and Xiuzhen Li from City University of Hong Kong, Dr. Masoud Irannezhad from Oulu University in Finland, Prof. Seok-Woo Son from Seoul National University in Korea, and Prof. Fei Wang from Institute of Soil and Water Conservation, CAS.

### **Faculty opponent for Ph.D. defenses at other universities**

2016	Patrick W. Keys at Stockholm University: "The Precipitationshed – Methods, Concepts, and Applications"
2015	Feifei Yuan at Lund University: "Impacts of climate change on surface hydrology in the source region of the Yellow River"
2015	Giulio N. Caroletti at University of Bergen: "A Linear Model for Orographic Precipitation in meteorological and climatological downscaling"

2008	Carin Nilsson at Lund University: "Windstorms in Sweden - variations and impacts"
2006	Christer Jansson at KTH Royal Institute of Technology: "Surface energy balance and small-scale climate within the urban environment"
2004	Tony Persson at Uppsala University: "Evaporation and Heat-flux Aggregation in Heterogeneous Boreal Landscapes".

### **Recent research grants (Since I was back to University of Gothenburg in 2012-)**

1. Leading project "Impacts of extremely high summer temperature and drought on forest over Eurasia with a focus on Sweden" supported by Swedish Formas (2018-02858), 2 987 069 SEK, 2019-2021.
2. Leading project " Dynamics and importance of convection for precipitation in the Third Pole region: Satellite and ground-based observation versus model simulations" supported by Swedish National Space Agency (SNSA: 188/18), 2 995 000 SEK, 2019-2021.
3. Co-PI for the Strategic Priority Research Program of Chinese Academy of Sciences (XDA 00000000) "Pan-TPE environmental change and green silk road construction", 1.5 billion Chinese yuan (approximately 2 billion SEK)
4. Participating in project "Safe and Sustainable groundwater-based water supply in Swedish cities and countryside" supported by Swedish Formas (2018- 00302), 1 464 475 SEK, 2018-2019.
5. Participating in project "Variations of precipitation and transpiration on Tibetan Plateau in response to the warming since the Little Ice Age" supported by Swedish Formas (2017-1408), 2 790 270 SEK, 2018-2020.
6. CI for project "Observed trends and future changes in the intensity, frequency, and duration of very hot weather in Hong Kong" supported by General Research Fund of Hong Kong (RGC Ref No. 11306417), 735,000 \$, 2018-2020.
7. Participating in project "Detection and attribution of changes in extreme wind gusts over land" supported by Swedish Research Council (VR: 2017-03780), 3 480 000 SEK, 2018-2021.
8. Participating in project "A novel framework to evaluate the impact of climate change on groundwater resources in Sweden" supported by Swedish Formas (2016-513), 2 996 796 SEK, 2017-2019.
9. Participating in project "S-CMIP: Swedish climate research and contributions to the sixth International Coupled Model Intercomparison Project (CMIP6) - phase 3 (2017)" supported by the Swedish National Supercomputer Centre (SNIC: 2016/34-21:).
10. Leading project "Impact of climate change on water balance on The Third Pole Region" supported by The Swedish Foundation for International Cooperation in Research and Higher Education (STINT: CH2015-6226) , 598 900 SEK, 2016-2018.
11. Participating in project "Impact of climate change on water balance on The Third Pole Region" supported by the National Natural Science Foundation of China (NSFC: 4151101291), 250 000 CNY, 2016-2018.
12. Supervising EU project "STILLING: Towards improved understanding of the worldwide decline of wind speed in a climate change scenario" under the MARIE SKŁODOWSKA-CURIE ACTIONS Individual Fellowships (IF) program, supported by the European Commission (703733), 185 857 EUR+800 000 SEK, 2016-2018.

13. Participating in project “Northern Hemisphere warm-season jet stream variability and its links to climate extremes over the last millennium: JETCLIM” supported by Swedish Research Council (VR: 2015-04031), 3 550 000 SEK, 2016-2019.
14. Leading project "Elevation dependent climate change in The Third Pole Region: impact on water balance", supported by VR (2014-5320), 3 200 000 SEK 2015-2018.
15. Leading project "Cooperative modelling and observation studies on vegetation feedback effect under climate change over the Arctic and high-latitudes", supported by VR (2014-1864), 613 800 SEK, 2015-2017.
16. Participating in project "Cooperative modelling and observation studies on vegetation feedback effect under climate change over the Arctic and high-latitudes" supported by the National Research Foundation of Korea (NRF), 2015-2016.
17. Participating in project “Platform to support Swedish Earth System Modelling”, supported by Sweden's Innovation Agency (VINNOVA: 2015-04761), 1 000 000 SEK, 2016-2017.
18. Participating in project "Assessing Cloud and Precipitation Distributions and their Radiative Impacts in EC-Earth, OpenIFS, and CAM6”, supported by The Swedish National Space Board (SNSB: 127/15), 2 028 000 SEK, 2016-2017.
19. Participating in project "Photochemical Smog in China– Formation, transformation, impact and abatement strategies", supported by Swedish Research Council (VR: 2013-6917), 24 403 000 SEK, 2014-2018.
20. Co-PI for project "Observation and modelling of water vapor exchanges over Tibetan Plateau", supported by National Natural Science Foundation of China (NSFC: 91537210), 4 150 000 CNY, 2016-2019.
21. Participating in National Strategic Research Area "MERGE - Modelling the Regional and Global Earth system", 34 800 000 SEK, 2012-2016.
22. Participating in National Strategic Research Area "BECC - Biodiversity and Ecosystem services in a Changing Climate" supported by the Swedish Government, 100 000 000 SEK, 2012-2016.
23. Participating in project “A novel framework to evaluate the impact of climate change on groundwater resources in Sweden”, supported by the Swedish Research Council Formas (2016-00513 ), 2 996 796 SEK, 2017-2019.
24. Participating in project “Realistic local climate change time-series matched to climate policy goals (eg 1.5 °C)”, supported by the Swedish Research Council Formas (2016-01061), 2 804805 SEK, 2017-2019.
25. Led project "Future rainfall and flooding in Sweden: a framework to support climate-adaptation actions", supported by Swedish Civil Contingencies Agency (MSB), 5 650 000 SEK, 2012-2015.

**Publications (Google Scholar (verified): H-index=60, Total citations: 17128)**

**Peer reviewed articles**

1. Azorin-Molina, C., J. A. Guijarro, T. R. McVicar, B. Trewin, A. J. Frost, **D. Chen**, 2019: An approach to homogenize daily peak wind gusts: an application to the Australian series. *International Journal of Climatology*, 39(4), 2260-2277. doi: 10.1002/joc.5949.
2. Bibi, S., L. Wang, X. Li, X. Zhang, **D. Chen**, 2019: Response of groundwater storage and recharge in the Qaidam Basin (Tibetan Plateau) to climate variations from 2002 to 2016. *JGR-Atmosphere*, accepted.



3. Chen, A., C.-H. Ho, **D. Chen**, C. Azorin-Molina, 2019: Tropical cyclone rainfall in the Mekong River Basin for 1983 - 2016. *Atmospheric Research* 226, 66-75. <https://doi.org/10.1016/j.atmosres.2019.04.012>
4. **Chen, D.**, D. Qin, C. Xiao, B. Su, 2019: Climate resilience and its implications for China. *Advances in Climate Change Research* 15 (2).  
Doi:10.12006/j.issn.1673-1719.2018.144.
5. Estrela, M., D. Corell, C. Azorin-Molina, **D. Chen**, J. A. Valiente, 2019: Spatio-temporal variability of fog-water collection in the eastern Iberian Peninsula: 2003-2012. *Atmospheric Research* 226, 87-101. <https://doi.org/10.1016/j.atmosres.2019.04.016>.
6. Fang, K., **D. Chen**, Z. Guo, Y. Zhao, D. Frank, M. He, F. Zhou, F. Shi, H. Seppä, P. Zhang, R. Neukom, 2019: An interdecadal climate dipole between Northeast Asia and Antarctica over the past five centuries. *Climate Dynamics*, 52, 765-775. <https://doi.org/10.1007/s00382-018-4161-z>.
7. Gou, J., F. Wang, K. Jin, **D. Chen**, 2019: More realistic land-use and vegetation parameters in a regional climate model reduce model biases over China. *International Journal of Climatology*. DOI: 10.1002/joc.6110.
8. Hu, Z., X. Chen, **D. Chen**, J. Li, Q. Zhou, G. Yin, 2019: “Dry gets drier, wet gets wetter”: a case study over the arid regions of Central Asia, *International Journal of Climatology* 39: 1072-1091, DOI: 10.1002/joc.5863.
9. Hu, Z., X. Chen, Q. Ming, **D. Chen**, J. Li, 2019: DISO: A rethink of Taylor diagram. *International Journal of Climatology*, DOI: 10.1002/joc.5972.
10. Kang, S., Q. Zhang, Y. Qian, Z. Ji, C. Li, Z. Cong, Y. Zhang, J. Guo, W. Du, J. Huang, Q. You, A. K. Panday, M. Rupakheti, **D. Chen**, Ö. Gustafsson, M. H. Thieme, D. Qin, 2019: Linking Atmospheric Pollution to Cryospheric Change in the Third Pole Region: Current Progresses and Future Prospects, *National Science Review*, nwz031, <https://doi.org/10.1093/nsr/nwz031>.
11. Kukulies, J., **D. Chen**, H. Wang, 2019: Temporal and spatial variations of convection and precipitation over the Tibetan Plateau based on recent satellite observations. Part I: Cloud climatology derived from CloudSat and CALIPSO. Submitted to *International Journal of Climatology*. Under revision.
12. Kukulies, J., **D. Chen**, H. Wang, 2019: Temporal and spatial variations of convection, clouds and precipitation over the Tibetan Plateau from recent satellite observations. Part II: Precipitation climatology derived from GPM. Submitted to *International Journal of Climatology*. Under revision.
13. Li, Y., K. Fang, **D. Chen**, F. Zhou, Z. Dong, X. Cao, 2019: Growth decline of *Pinus Massoniana* in response to warming induced drought and increasing intrinsic water use efficiency in humid subtropical China. *Dendrochronologia*, conditionally accepted.
14. Li, X., Z. Wen, **D. Chen**, Z. Chen, 2019: Decadal transition of the leading mode of interannual moisture circulation over East Asia-western North Pacific: bonding to different evolution of ENSO. *Journal of Climate*, 32, 289-308. doi:10.1175/JCLI-D-18-0356.1.
15. Liang, E., B. Dawadi, N. Pederson, S. Piao, H. Zhu, S. R. Sigdel, **D. Chen**, 2019: Strong link between large tropical volcanic eruptions and severe droughts prior to monsoon in the central Himalayas revealed by tree-ring records. *Science Bulletin*, in press.
16. Liao, Y.-M., **D.-L. Chen**, Q.-F. Liu, 2019: The spatiotemporal characteristics and long-term trends of surface-air temperatures difference in China. *Advances in Climate Change Research*, in press.
17. Lin, C., H. Wu, T. Ou, **D. Chen**, 2019: A new perspective on solar dimming over the Tibetan Plateau. *International Journal of Climatology*, 39:302–316, DOI: 10.1002/joc.5807.

18. Liu, Y. W. Cai, C. Sun, H. Song, K.M. Cobb, J. Li, S.W. Leavitt, Z. An, W. Zhou, L. Wu, Q. Cai, R. Liu, B. Ng, P. Cherubini, U. Büentgen, Y. Song, G. Wang, Y. Lei, L. Yan, Q. Li, Y. Ma, C. Fang, J. Sun, X. Li, **D. Chen**, H.W. Linderholm, 2019: Anthropogenic aerosols cause recent pronounced weakening of Asian Summer Monsoon relative to last four centuries. *Geophysical Research Letters*. DOI:10.1029/2019GL082497.
19. Lu, X., Y. Lu, **D. Chen**, C. Su, S. Song, T. Wang, H. Tian, R. Liang, M. Zhang, K. Khan, 2018: Climate change induced eutrophication of cold-water lake in an ecologically fragile nature reserve. *Journal of Environmental Sciences*, 75, 359-369. <https://doi.org/10.1016/j.jes.2018.05.018>.
20. Shi, C., C. Sun, X. Wu, **D. Chen**, V. Masson-Delmotte, J. Li, J. Xue, Z. Li, D. Ji, J. Zhang, P. Ciais, 2019: Summer temperature over Tibetan Plateau modulated by Atlantic Multidecadal Variability, *Journal of Climate*, in press.
21. Shi, P., Zhang, G., Kong, F., **Chen, D.**, Azorin-Molina, C., Guijarro, J. A., 2019: Variability of winter haze over the Beijing-Tianjin-Hebei region tied to wind speed in the lower troposphere and particulate sources. *Atmospheric Research* 215, 1-11.
22. Sun, W., B. Wang, J. Liu, **D. Chen**, C. Gao, L. Ning, L. Chen, 2019: How northern high-latitude volcano eruptions in different seasons affect ENSO: A North Pacific cyclone triggering mechanism. *Journal of Climate*, accepted.
23. Wang, Y., K. Yang, X. Zhou, B. Wang, **D. Chen**, H. Lu, C. Lin, F. Zhang, 2019: The formation of a dry-belt in the north side of central Himalaya Mountains. *Geophysical Research Letters*, 46. doi: 10.1029/2018GL081061.
24. Wu, X., W. Guo, H. Liu, X. Li, C. Peng, C. D. Allen, C. Zhang, P. Wang, T. Pei, Y. Ma, Y. Tian, Z. Song, W. Zhu, Y. Wang, Z. Li, **D. Chen**, 2019: Exposures to temperature beyond threshold disproportionately reduce vegetation growth in the northern hemisphere, *National Science Review*, nwy158, <https://doi.org/10.1093/nsr/nwy158>.
25. Yang, J., S. Kang, **D. Chen**, Z. Ji, L. Tripathee, X. Chen, W. Du, G. Qiu, 2019: Quantifying the contributions of various emission sources to black carbon and assessment of control strategies in western China. *Atmospheric Research* 215, 178-192, <https://doi.org/10.1016/j.atmosres.2018.09.003>.
26. Yao, T., Y. Xue, **D. Chen**, F. Chen, L. Thompson, P. Cui, T. Koike, W. Lau, D. Lettenmaire, V. Mosbrugger, R. Zhang, B. Xu, J. Dozier, T. Gillespie, Y. Gu, S. Kang, S. Piao, S. Sugimoto, S., K. Ueno, L. Wang, W. Wang, F. Zhang, Y. Sheng, W. Guo, L., Ai, X. Yang, Y. Ma, S. Shen, Z. Su, F. Chen, S. Liang, Y. Liu, V. P. Singh, K. Yang, D. Yang, X. Zhao, Y. Qian, Y. Zhang, Q. Li, 2019: Recent Third Pole's rapid warming accompanies cryospheric melt and water cycle intensification and interactions between monsoon and environment: multi-disciplinary approach with observation, modeling and analysis. *BAMS*, DOI: 10.1175/BAMS-D-17-0057.1.
27. Zhang, C., Q. Tang, **D. Chen**, R. van der Ent, X., Liu, W. Li, and G. Haile, 2019: Moisture source changes contributed to different precipitation changes over the northern and southern Tibetan Plateau. *Journal of Hydrometeorology* 20: 217-229. <https://doi.org/10.1175/JHM-D-18-0094.1>.
28. Zhang, F., F.-U.-R. Qaiser, C. Zeng, R. R. Pant, G. Wang, H. Zhang, **D. Chen**, 2019: Meltwater hydrochemistry at four glacial catchments in the headwater of Indus River. *Environmental Science and Pollution Research*. Accepted.
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23. Eugensson, M., K. Borne, **D. Chen**, K. Persson, 2003: Development of New Meteorological Ventilation index for urban air quality studies, *IVL (Swedish Environmental Research Institute) Report* 02/70, pp 20.
24. **Chen, D.** and W. Qian, 2000: Precipitation record in China, *Polarfront*, No. 105.

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27. **Chen, D.** And Y. Chen, 1999: Development and verification of a multiple regression downscaling model for monthly temperature in Sweden, in 'Preliminary analysis and statistical downscaling of monthly temperature in Sweden', Chen et al., **Report C16**, Earth Sciences Centre, University of Gothenburg, Sweden, 41-55.
28. Hellström, C. And **D. Chen**, 1999: A 10×10 km dataset of monthly temperature normals (1961-90) for Sweden, in 'Preliminary analysis and statistical downscaling of monthly temperature in Sweden' Chen et al., **Report C16**, Earth Sciences Centre, University of Gothenburg, Sweden, 1-10.
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30. Nunez, M. and **D. Chen**, 1997: A Comparison of urban/rural erythermal UV irradiances for Göteborg, Sweden, presented in EGS conference in Vienna, April, 1997.
31. **Chen, D.** and J. Kling, 1996: On the apparent thermal diffusivity and its usefulness as an indicator for non-conductive processes in soil, *Biometeorology* 14, Part 2 (Volume 2), Ed. A. Hocevar et al., (**Proceedings of the 14th International Congress of Biometeorology, September 1-8, 1996**), Ljubljana, Slovenia, 10-17.
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35. Lohmann, G., R. Gerdes, and **D. Chen**, 1995: Sensitivity of the thermohaline circulation in coupled oceanic GCM-atmospheric EBM experiments, *Bericht aus dem Fachbereich Physik* 57, AWI, Bremerhaven, Germany, pp 68.
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#### **Selected recent manuscripts**

1. Chen, A., K. A. Emanuel, **D. Chen**, C. Lin, F. Zhang, 2019: Rising future tropical cyclone-induced extreme winds in the Mekong River Basin. Submitted to *Nature Climate Change*.
2. Fang, K., **D. Chen**, L. Ilvonen, L. Pasanen, L. Holmström, H. Seppa, G. Huang, T. Ou, H. Linderholm, 2018: Oceanic and atmospheric modes in the Pacific and Atlantic

Oceans since the Little Ice Age (LIA): towards a synthesis. Submitted to *Quaternary Science Reviews*.

3. Gao, K., A. Guan, **D. Chen**, and G. Wu, 2018: Comparison of the surface temperature changes among the Arctic, Antarctic and Tibetan Plateau and their influence factors during 1980 and 2017. Submitted to *Science Bulletin*.
4. He, J., F. Zhang, X. Chen, X. Bao, **D. Chen**, H.-M. Kim, H.-W. Lai, L. R. Leung, X. Ma, Z. Meng, T. Ou, Z. Xiao, E.-G. Yang, K. Yang, and L. Zhu, 2019: Development and Evaluation of an Ensemble-based Data Assimilation System for Regional Reanalysis over the Tibetan Plateau and Surrounding Regions. Submitted to *Journal of Advances in Modeling Earth Systems*.
5. Hu, G., Q. Gao, H. Ganjurjav, C. Liang, E. S. Gornish, H. Wu, M. W. Schwartz, B. Miao, Y. Wan, X. Qin, Y. Yan, Y. Li, Z. Liu, Z. Li, **D. Chen**, 2019: Warming diminishes the stability of primary productivity in global grass- and forb-dominated ecosystems. Submitted to ???.
6. Hu, Z., Q. Zhou, X. Chen, **D. Chen**, M. Guo, G. Yin, Z. Duan, 2019: Groundwater depletion estimated from GRACE: A challenge of sustainable development in an arid region of Central Asia. Submitted to *Remote Sensing*.
7. Huang, J., T. Ou, **D. Chen**, Y. Luo, Z. Zhao, 2019: The amplified Arctic warming in the recent decades is overestimated by CMIP5 models. Submitted to *NSR*.
8. Irannezhad, M., J. Liu, G. Mao, K. Wang, Z. Wang, **D. Chen**, 2018: Arctic wildfire: A growing environmental challenge. To be submitted to ???.
9. Jiang, H., Y. Yi, W. Zhang, K. Yang, D. Chen, 2019: Investigating the sensitivity of soil freeze/thaw dynamics to environmental conditions at different scales in the central Tibetan Plateau. Revision submitted to *Permafrost and Periglacial Processes*.
10. Jin, K., F. Wang, **D. Chen**, H. Liu, W. Ding, and S. Shi., 2019: A new global gridded anthropogenic heat flux dataset with high spatial resolution and long-term series. Revision submitted to *Nature Scientific Data*.
11. Jung, M.-I., S.-W. Son, H. C. Kim, S.-W. Kim, R. J. Park, and **D. Chen**, 2019: Contrasting synoptic weather patterns between non-dust high particulate matter events and Asian dust events in Seoul, South Korea. Submitted to *Atmospheric Environment*.
12. Kang, J. M., J. Lee, S.-W. Son, J. Kim, and **D. Chen**, 2019: Explosive cyclones over Northeast Asia: Synoptic structure and surface impacts around the Korean Peninsula. Submitted to *JGR*.
13. Lai, H.-W., F. Zhang, E. E. Clothiaux, D. R. Stauffer, B. J. Gaudet, J. Verlinde, and D. Chen, 2019: Modeling Arctic boundary layer cloud streets at grey-zone resolutions. Submitted to ???.
14. Lee, J., S.-W. Son, H.-O. Cho, J. Kim, D.-H. Cha, J. R. Gyakumd, and **D. Chen**, 2019: Extratropical cyclones over East Asia: Climatology, seasonal cycle, and long-term trend. Submitted to *Climate Dynamics*.
15. Liao, W., L. Wu, X. Wang, D. Chen, 2019: Impacts of Synoptic Weather Types on Ozone Concentrations in Guangzhou, China. Submitted to *Atmospheric Research*.
16. Lin, C., K. Yang, **D. Chen**, T. Yao, N. Guyennon, T. Ou, X. Yang, R. Balestrini, F. Salerno, 2018: Glacier-air interaction may extend the lifetime of Himalayan glaciers. To be submitted to ???.
17. Lu, Y., Y. Zhang, X. Cao, C. Wang, Y. Wang, M. Zhang, R. C. Ferrier, A. Jenkins, J. Yuan, M. J. Bailey, **D. Chen**, H. Tian, H. Li, E. U. von Weizsäcker, and Z. Zhang, 2019: Forty years of reform and opening up: towards a sustainable path of China? Revision submitted to *Science Advances*.
18. Niu, X., J. Tang, S. Wang, C. Fu, **D. Chen**, 2019: On the sensitivity of seasonal and diurnal precipitation to cumulus parameterization over CORDEX-EA-II. Submitted to



### *Climate Dynamics*

19. Ou, T., **D. Chen**, X. Chen, F. Zhang, C. Lin, K. Yang, H.-W. Lai, 2019: Simulated diurnal cycle of summer precipitation over the Tibetan Plateau at gray-zone grid spacing. Submitted to *Climate Dynamics*.
20. Qi, W., J. Liu, J. Xia, **D. Chen**, 2019: Divergent sensitivity of surface water and energy variables to precipitation product uncertainty in the Tibetan Plateau. Submitted to *Journal of Hydrology*.
21. Ren, F., D. Zhang, **D. Chen**, C. Ding, H. Ren, W. Qiu, 2018: A Dynamical-Statistical-Analog Ensemble Forecast Model for Applications to Weather and Climate Prediction. Submitted to *Monthly Weather Review*.
22. Song, Y., J. Tian, H. W. Linderholm, C. Wang, Z. Ou, **D. Chen**, 2019: The contributions of climate change and expanded production areas to the drought risk for maize in China over the last four decades. Submitted to ????
23. Su, B., C. Xiao, **D. Chen**, D. Qin, Y. Ding, 2018: Cryospheric services and human well-being. Submitted to *Ambio*.
24. Sun, S., P. Shi, Q. Zhang, J. Wang, J. Wu, **D. Chen**, 2018: Increasing variability in a warmer-wetter world revealed by a new climate change regionalization scheme. To be submitted to ?????.
25. Sun, W., B. Wang, Q. Zhang, F.S.R. Pausata, D. Chen, G. Lu, M. Yan and J. Liu, 2018: Global land monsoon precipitation increased by the Green Sahara during mid-Holocene. Submitted to *GRL*.
26. Xing, C., F. Liu, B. Wang, **D. Chen**, J. Liu, and B. Liu, 2019: Boreal-winter global warming after large volcanic eruptions in CMIP5 models. Revision submitted to *Journal of Climate*.
27. Yang, J. H., S. C. Kang, X. T. Chen, S. X. Yang, S. Y. Lee, B. de Foy, Z. Y. Cong, L. Tripathi, Z. M. Ji, and **D. Chen**, 2018: A hybrid method for PM<sub>2.5</sub> source apportionment through WRF-Chem simulations and an assessment of emission control strategies in western China. Submitted to *Atmospheric Environment*.
28. Zhang, G., C. Azorin-Molina, D. Chen, J. A. Guijarro, F. Kong, L. Minola, T. R. McVicar, P. Shi, 2019: Trends of daily maximum wind speed across China, 1975-2016: An examination of likely causes. Submitted to *Journal of Climate*.
29. Zhang, Q., K. Fan, J. Li, **D. Chen**, C.-Y. Xu, P. Sun, X. Zhu, H. Yu, Z. Shen, P. Hu, 2019: Dry-get-wetter and wet-get-drier: a potential challenge to the management of water resources and agricultural activities in China. Submitted to *GRL*.
30. Zhang, X., Q. Ge, X. Li, **D. Chen**, H. Cui, 2019: Overestimated climate warming and climate variability due to spatially homogeneous CO<sub>2</sub> in climate modelling over the Northern Hemisphere since the mid-19th century. Submitted to *Nature Communications*.
31. Zhang, Z., K. Wang, **D. Chen**, J. Li, R. Dickinson, 2019: Increase in surface friction dominates the observed surface wind speed decline in the Northern Hemisphere. Revision submitted to *Journal of Climate*.
32. Zheng, X. Y. Lu, J. Yuan, B. Yvette, S. Zhang, N. Chr. Stenseth, D. O. Hessen, H. Tian, M. Obersteiner, **D. Chen**, 2019: China's energy-related CO<sub>2</sub> emissions since 1978: drivers of change. Submitted to ????

### **Selected invited lecturers and keynotes since 2001**

1. Keynote "Observations, reanalysis, and modeling of the regional climate and water cycle at the earth's Third Pole" at **American Meteorological Society's Third Symposium on**

- Multi-scale Predictability: Data-model Integration and Uncertainty Quantification for Climate and Earth System Monitoring and Prediction**, organized by AMS, 7-11 January 2018, Austin, TX.
2. Invited Lecture “Towards global sustainability: The role of research across disciplines and national boundaries” at **the Norwegian Academy of Science and letters** on 14 September, 2017.
  3. Keynote “Regional climate change in Tibet: past and future” at **Symposium on Advanced Assimilation and Uncertainty Quantification in Big Data Research for Weather, Climate and Earth System Monitoring and Prediction**, organized by Penn State’s Center on Advanced Data Assimilation and Predictability Techniques (ADAPT), May 23-24, 2016, College State.
  4. Keynote “Factors influencing variability of the Indian monsoon” at **International Workshop on Indian Monsoon and Earth System**, organized by Third Pole Environment (TPE), March 28-29, 2016, Kathmandu, Nepal.
  5. Keynote “A Climate Scientist’s Reflection on Big Data” at **Workshop on Big Data for International Scientific Programmes: Challenges and Opportunities**, organized by CODATA, WDS, IRDR, Future Earth, GEO, RDA, ISDE, RADI, June 8-9, 2014, Beijing.
  6. Keynote “Evolution of climate science: moving towards transdisciplinarity?” at **Agricultural Research Towards Sustainable Development Goals**, organized by Agri4D, SIANI, SLU Global, Focali SLU, Future Forests and Future Agriculture, September 25-26, 2013, Uppsala.
  7. Invited panelist for a public event “**Climate Change: the State of the Science**” in connection to the approval of the IPCC AR5 WG1, organized by Intergovernmental Panel on Climate Change, International Geosphere-Biosphere Programme, Nobel Museum, Royal Swedish Academy of Sciences, Stockholm Environment Institute, and Swedish Secretariat for Environmental Earth System Sciences, September 28, 2013, Stockholm.
  8. Keynote “Using the Köppen classification as a tool to quantify changes in climatic portion of ecoregions” at **the SCOPE-ZHONGYU Environmental Forum 2012**, organized by SCOPE, October 11-14, 2012, Taiyuan.
  9. Keynote “Evolution of Climate Science: Grand Challenges” at **the Open Science Symposium on Western Pacific Ocean Circulation and Climate**, organized by NPOCE and SPICE under the auspices of WCRP/CLIVAR, October 15-17, 2012, Qingdao.
  10. Keynote “Grand Challenges in Earth System Science with a focus on climate” at **the 31st IUBS (International Union of Biological Sciences) General Assembly and Conference on Biological Sciences and Bioindustry**, July 5-9, 2012, Suzhou.
  11. Keynote “Climate Research in the Next Decade of Earth System Research”, the **World Climate Research Programme (WCRP) Open Science Conference**, October 24-28, 2011, Denver.
  12. Invited lecture “Grand Challenges in Earth System Science with a focus on climate “, **Inaugural KIT Climate Lecture**, Organized by the KIT Climate and Environment Center, October 18, 2011, Karlsruhe.
  13. Keynote “Visioning: Towards a new initiative on Earth system research for global sustainability research“, **International Conference on Science and Technology for Sustainability 2011, - Building up Regional to Global Sustainability: Asia vision**, Organized by the Science Council of Japan, September 14-16, 2011, Kyoto.
  14. Invited talk “Visioning: Towards a new initiative on Earth system research for global sustainability”, **The 3rd Third Pole Environment (TPE) Workshop**, organized by The Third Pole Environment (TPE), August 29 – September 1, 2011, Reykjavik.

15. Invited lecture “Climate Change in an Earth Systems Science perspective”, **Colloque CNSB/IUBS**, Organized by International Union of Biological Sciences, 11 March, 2011, Ecole Normale Supérieure, Paris.
16. Keynote “Global Environmental Change Studies: Past, Present and Future”, 9th CTWF International Workshop Climate and Environmental Change: Challenges for Developing Countries, organized by CAS, TWAS, and WMO, 17-19 November 2010, Beijing, China.
17. Keynote “The Importance of Science in GEOSS”, **GEO-IGOS Symposium**, organized by Group on Earth Observation (GEO), November 19, 2009, Washington, DC.
18. Invited lecture “Atmospheric circulation and climate change over Scandinavia”, **Climate Workshop on Past, Present and Future Climate**, organized by University of Helsinki, November 12-14, 2008, Helsinki.