

## Education

- 2018 **Ph.D. in Meteorology and Atmospheric Science**, Department of Meteorology and Atmospheric Science, The Pennsylvania State University, University Park, Pennsylvania. Dissertation: Toward improved regional estimates of carbon dioxide sources and sinks through coupled carbon–atmospheric data assimilation. Advisor: Fuqing Zhang. Co-advisors: Richard Alley, Thomas Lauvaux.
- 2012 **M.S. in Atmospheric Sciences, Oceanography and Climate**, Department of Meteorology, Stockholm University, Stockholm, Sweden. Thesis: The Barents Oscillation and its impact on the Arctic climate. Advisor: Heiner Körnich. Co-advisor: Qiong Zhang.
- 2010 **B.S. in Meteorology**, Department of Meteorology, Stockholm University, Stockholm, Sweden. Thesis: Local impact of soot on surface temperature in India and Sweden. Advisor: Annica Ekman. Co-advisor: Henning Rodhe.

## Employment

- 2018–present **Postdoctoral Fellow**, Department of Physical Geography and Ecosystem Science, Lund University, Lund, Sweden.

## Peer-Reviewed Publications

- 2020 Cohen, J., X. Zhang, J. Francis, T. Jung, R. Kwok, J. Overland, T. Ballinger, U. S. Bhatt, **H. W. Chen**, D. Coumou, S. Feldstein, D. Handorf, G. Henderson, M. Ionita, M. Kretschmer, F. Laliberte, S. Lee, H. W. Linderholm, W. Maslowski, Y. Peings, K. Pfeiffer, I. Rigor, T. Semmler, J. Stroeve, P. C. Taylor, S. Vavrus, T. Vihma, S. Wang, M. Wendisch, Y. Wu, and J. Yoon (2020): Divergent consensus on the influence of Arctic amplification on mid-latitude severe winter weather. *Nature Climate Change*, **10**, 20–29. doi:10.1038/s41558-019-0662-y.
- 2019 **Chen, H. W.**, L. N. Zhang, F. Zhang, K. J. Davis, T. Lauvaux, S. Pal, B. Gaudet, and J. P. DiGangi (2019): Evaluation of regional CO<sub>2</sub> mole fractions in the ECMWF CAMS real-time atmospheric analysis and NOAA CarbonTracker Near-Real Time reanalysis with airborne observations from ACT-America field campaigns. *Journal of Geophysical Research–Atmospheres*, **124**, 8119–8133. doi:10.1029/2018JD029992.
- 2019 **Chen, H. W.**, F. Zhang, T. Lauvaux, K. J. Davis, S. Feng, M. P. Butler, and R. B. Alley (2019): Characterization of regional-scale CO<sub>2</sub> transport uncertainties in an ensemble with flow-dependent transport errors. *Geophysical Research Letters*, **46**, 4049–4058. doi:10.1029/2018GL081341.
- 2016 **Chen, H. W.**, R. B. Alley, and F. Zhang (2016): Interannual Arctic sea ice variability and associated winter weather patterns: A regional perspective for 1979–2014. *Journal of Geophysical Research–Atmospheres*. **121**, 14,433–14,455, doi:10.1002/2016JD024769.

- 2016 **Chen, H. W.**, F. Zhang, and R. B. Alley (2016): The robustness of midlatitude weather pattern changes due to Arctic sea ice loss. *Journal of Climate*, **29**, 7831–7849, doi:10.1175/JCLI-D-16-0167.1.
- 2013 **Chen, H. W.**, Q. Zhang, H. Körnich, and D. Chen (2013): A robust mode of climate variability in the Arctic: The Barents Oscillation. *Geophysical Research Letters*, **40**, 2856–2861, doi:10.1002/grl.50551.
- 2013 Chen, D. and **H. W. Chen** (2013): Using the Köppen classification to quantify climate variation and change: An example for 1901–2010. *Environmental Development*, **6**, 69–79, doi:10.1016/j.envdev.2013.03.007.

## Publications Under Review

- 2020 Fang, M., X. Li, D. Chen, and **H. W. Chen** (2020): Arctic amplification over the past millennium mainly driven by internal climate variability. Under review at *Nature Communications*.
- 2020 Kaminski, T., M. Scholze, P. Rayner, M. Voßbeck, M. Buchwitz, M. Reuter, W. Knorr, **H. W. Chen**, A. Agusti-Panareda, A. Löscher, and Y. Meijer (2020): Atmospheric CO<sub>2</sub> observations from space can support national inventories. Under review at *Nature Communications*.

## Other Publications

- 2019 Ying, Y., X. Chen, Y. Zhang, M. Minamide, R. Nystrom, **H. Chen**, J. Poterjoy, C. Melhauser, Y. Weng, Z. Meng, A. Aksoy, F. Zhang (2018): PSU WRF EnKF/4DVar Hybrid Regional Data Assimilation System: Technical Notes.
- 2018 Cohen, J., X. Zhang, J. Francis, T. Jung, R. Kwok, J. Overland, P. C. Tayler, S. Lee, F. Laliberte, S. Feldstein, W. Maslowski, G. Henderson, J. Stroeve, D. Coumou, D. Handorf, T. Semmler, T. Ballinger, M. Hell, M. Kretschmer, S. Vavrus, M. Wang, S. Wang, Y. Wu, T. Vihma, U. Bhatt, M. Ionita, H. Linderholm, I. Rigor, C. Routson, D. Singh, M. Wendisch, D. Smith, J. Screen, J. Yoon, Y. Peings, **H. Chen**, and R. Blackport (2018): Arctic change and possible influence on mid-latitude climate and weather: a US CLIVAR White Paper. *U.S. CLIVAR White Paper 2018-1*, 41 pp. doi:10.5065/D6TH8KGW

## Awards and Honors

- 2018 **Outstanding Student Paper Award**, American Meteorological Society, 20th Conference on Atmospheric Chemistry.
- 2016 **Öfverdirektör Elis Sidenbladhs fond**, Royal Swedish Academy of Sciences.
- 2014 **Hans Neuberger Award**, The Pennsylvania State University, for excellent teaching of meteorology.
- 2014 **Chi Epsilon Pi**, The Pennsylvania State University, national meteorology honor society.

## Teaching Experience

- 2019 **Lund University**  
*Co-Instructor*: Theory and Methods of Physical Geography (Fall 2019)
- 2013–2017 **The Pennsylvania State University**  
*Co-Advisor*: High school research project (Summer 2017)

*Lead Instructor:* Introduction to Programming Techniques for Meteorology (Spring 2015)

*Co-Instructor:* Applications of Computers to Meteorology (Fall 2013)

*Teaching Assistant:*

- Synoptic Meteorology Laboratory (Fall 2015)
- Applications of Computers to Meteorology (Fall 2014, Spring 2014)
- Introduction to Programming Techniques for Meteorology (Spring 2013)

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## Service

2020–present **Organizer of Department Seminar Series**, Department of Physical Geography and Ecosystem Science, Lund University, Lund, Sweden.

**Peer-Reviewer** for the following journals:

Nature Climate Change, Atmospheric Chemistry and Physics.

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## Outreach

**Outreach via the Web**, over 184,000 views and 75,000 unique visitors since 2013, example: <http://hanschen.org/koppen>.

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## Non-Academic Work

2008 **Computer Programmer**, IVL Swedish Environmental Research Institute, Gothenburg, Sweden.

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## Computer Skills

OS	Linux, Unix, Windows, macOS	graphics	Adobe Photoshop, Inkscape
programming	Python, Fortran, C++, C	typography	L <sup>A</sup> T <sub>E</sub> X
numerical	MATLAB, Mathematica	office suites	Microsoft Office, LibreOffice
shell script	Bash, Z shell	miscellaneous	Git, regular expressions, HTML, CSS

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## Languages

native	<b>Swedish</b>
fluent	<b>English</b>
mother tongue	<b>Mandarin</b> , fluent speaking, basic reading and writing.
basic	<b>German</b>

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## Workshops

2016 **Advanced Study Program Summer Colloquium**, Advances in Air Quality Analysis and Prediction: The Interaction of Science and Policy, National Center for Atmospheric Research, Colorado.