

Curriculum Vitae

Trude Storelvmo

Yale University
Department of Geology & Geophysics
210 Whitney Ave.
PO Box 208109
New Haven, CT 06520-8109
Phone: 203-432-6551
E-mail: trude.storelvmo@yale.edu

Current Employment

Year

Assistant Professor, Department of Geology and Geophysics,
Yale University, New Haven, CT, USA 2010 - Present

Education and training

Year

ETH-Zurich, Zurich, Switzerland: Postdoctoral Scientist. 2007-2009

University of Oslo, Oslo, Norway: Postdoctoral Scientist. 2006-2007

University of Oslo, Oslo, Norway: PhD in Atmospheric Science. 2003-2006

University of Oslo, Oslo, Norway and
University of Washington, Seattle, WA, USA: M.Sc. in Meteorology. 2000-2002

Norwegian University of Science and Technology and
University of Oslo, Norway: B.Sc in Physics. 1997-2000

Publications

Peer Reviewed

1. Smith, R., J. Minder, A. Nugent, T. Storelvmo, D. Kirshbaum, R. Warren, N. Lareau, P. Palany, A. James, J. French, **2011**: Orographic Precipitation in the Tropics: the Dominica Experiment, In review, Bull. Am. Meteor. Soc.

2. Bond, T. C., S. J. Doherty, D. W. Fahey, P. M. Forster,, T. Storelvmo....., **2011**: Bounding the role of Black carbon in the Climate System: A Scientific Assessment, In review, *J. Geophys. Res.*
3. Myhre, G., C. E. L. Myhre, B. H. Samset, T. Storelvmo, **2011**: Aerosols and their Relation to Global Climate and Climate Sensitivity, Accepted, *Nature Education*.
4. Storelvmo, T., **2011**: The importance of entrainment in deep convection for regional direct and indirect effects. In Press, *Atmos. Res.*
5. Storelvmo, T. and T. Leirvik, **2011**: The use of econometric methods to disentangle the anthropogenic aerosol and greenhouse effect in observations and climate models. *Journal of the American Statistical Association*, 106, 465-467, doi:10.1198/jasa.2011.ap11284.
6. Storelvmo T., C. Hoose and P. Eriksson, **2011**: Global modeling of mixed-phase clouds - The albedo and lifetime effects of aerosols, *J. Geophys. Res.*, 116, D05207, doi:10.1029/2010JD014724.
7. Sesartic, A., U. Lohmann and T. Storelvmo, **2011**: Bacteria in the ECHAM5-HAM global model, *Atmos. Chem. Phys. Disc.*, 11, 1457-1488.
8. Lohmann U., L. Rotstayn, T. Storelvmo, A. Jones, S. Menon, J. Quaas, A. Ekman, D. Koch and R. Ruedy, **2010**: Total aerosol effect: forcing or radiative flux perturbation., *Atmos. Chem. Phys.*, 10, 3235-3246.
9. Hazeleger W., C. Severijns, T. Semmler, S. E. Stefanescu, S. Yang, X. Wang, K. Wyser, J.S. Baldasano, G. Balsamo, P. Bechtold, R. Bintanja, R. Caballero, E. Dutra, A. M. L. Ekman, J. H. Christensen, B. van den Hurk, P. Jimenez, C. Jones, P. Kallberg, T. Koenigk, R. McGrath, P.M. A. Miranda, F. Molteni, T. van Noije, T. Palmer, E. Rodriguez Camino, T. Schmith, F. Selten, T. Storelvmo, A. Sterl, H. Tapamo, P. Viterbo, **2010**: EC-Earth: a seamless earth system prediction approach in action. *Bull. Am. Met. Soc.*, doi: 10.1175/2010BAMS2877.1
10. Storelvmo, T., J. E. Kristjansson and U. Lohmann, T. Iversen, A. Kirkevåg and Ø. Seland, **2010**: Correction to Modeling the Wegener-Bergeron- Findeisen process - implications for aerosol indirect effects. *Env. Res. Lett.*,5 (019801).
11. Storelvmo T., U. Lohmann and R. Bennartz, **2009**: What governs the spread in shortwave forcing in the IPCC AR4 transient simulations. *Geophys Res. Lett.*, doi:10.1029/2008GL036069
12. Isaksen, I., T. K. Berntsen, P. Bosquet, B. Collins, T. Cox, S. B. Dalsoren, V. Eyring, M. Gauss, C. Granier, P. Joeckel, Z. Klimont, G. Myhre, A. Prevo, F. Raas, A. Richter, B. Rognerud, M. Schultz, D. Shindell, K. Shine, D. Stevenson, T. Storelvmo, W.-C. Wang, M. van Weele, M. Wild, D. Wuebbles, **2009**: Atmospheric composition change - Climate-chemistry interaction. *Atm. Env.*, 43, 5138 - 5192.

- 13.** Seland, Ø., T. Iversen, A. Kirkevåg and T. Storelvmo, **2008**: Aerosol-climate interactions in the CAM-Oslo atmospheric GCM and investigations of associated basic shortcomings. *Tellus* 60A, 459-491.
- 14.** Kirkevåg, A., T. Iversen, Ø. Seland, J. B. Debernard, J. E. Kristjansson and Storelvmo T., **2008**: Aerosol-cloud-climate interactions in the climate model CAM-Oslo. *Tellus* 60A, 495-512.
- 15.** Storelvmo T., J. E. Kristjansson, U. Lohmann, A. Kirkevåg, Ø. Seland and T. Iversen, **2008**: Modeling of the Wegener-Bergeron-Findeisen process - implications for aerosol indirect effects, *Env. Res. Lett.*, 5, 019801, doi:10.1088/1748-9326/3/4/055001.
- 16.** Storelvmo T., J. E. Kristjansson and U. Lohmann, **2008**: Aerosol influence on mixed-phase clouds in CAM-Oslo, *J. Atmos. Sci.*, 65, 3214-3230.
- 17.** Storelvmo T., J. E. Kristjansson, S. J. Ghan, A. Kirkevåg, Ø. Seland and T. Iversen, **2006**: Predicting cloud droplet number concentration in Community Atmosphere Model (CAM)-Oslo, *J. Geophys. Res.*, 111, doi: 10.1029/2005JD006300.
- 18.** Storelvmo, T., J. E. Kristjansson, G. Myhre, M. Johnsrud and F. Stordal, **2006**: Combined observational and modeling based study of the aerosol indirect effect. *Atm. Chem. Phys.*, 6, 3583 - 3601.
- 19.** Myhre, G., F. Stordal, M. Johnsrud, Y. J. Kaufman, D. Rosenfeld, T. Storelvmo, J. E. Kristjansson, T. K. Berntsen, A. Myhre, and I. S. A. Isaksen, 2006: Aerosol-cloud interaction inferred from MODIS satellite data and global aerosol models., *Atmos. Chem. Phys.*, 7, 3081-3101.
- 20.** Penner, J., J. Quaas, T. Storelvmo, T. Takemura, O. Boucher, A. Kirkevåg, J. E. Kristjansson and Ø. Seland, 2006: Model intercomparison of the aerosol indirect effect, *Atmos. Chem. Phys.*, 6, 3391 - 3405.
- ISI Web of Science lists 15 publications with an average number of citations per item of 14.6 and an H-index of 9, as of January 5, 2012.*

Books, Conference Proceedings and Popular Science Articles

- 1.** Co-authored Yale Climate and Energy Institute Geoengineering Workshop Report, Lead authors B. Banerjee, G. Collins, S. Low and J. J. Blacstock. **2011**.
- 2.** Co-authored chapters in the book “The Future of the World’s Climate”, Edited by A. Henderson-Sellers and K. McGuffie, Elsevier, Inc., ISBN: 978-0-12-386917-3, **2011**.
- 3.** Iversen, T., Kirkevåg, A., Seland, Ø., Bolding Debernard, J., Kristjansson, J.E. and T. Storelvmo: Aerosoler og klimaeffekten. *Klima* No.4, 40-43, **2008**.

4. Storelvmo, T. and J. E. Kristjansson and U. Lohmann: Aerosol effects on clouds in EC-EARTH, Proceedings, 15th International Conference on Clouds and Precipitation, 2008.
5. Storelvmo, T. and U. Lohmann: Modeling the Wegener-Bergeron-Findeisen process - implications for aerosol indirect effects, Proceedings, 15th International Conference on Clouds and Precipitation, 2008.
6. Storelvmo, T. and J. E. Kristjansson: Particles lead to less cooling than previously assumed. *Cicerone*, 16, 2, 28-29. 2006.
7. Storelvmo, T.: Modeling aerosol influence on clouds in CAM-Oslo, PhD thesis, Meteorology and Oceanography Section, Department of Geosciences, 2006.
8. Translated parts of the book 'Earth' to Norwegian. First published in 2003 by Dorling Kindersley Limited, 80 Strand, London WC2R ORL, 2004.
9. Storelvmo, T. and J. E. Kristjansson, Studies of the aerosol indirect effect in NCAR CAM2.0, Proceedings, 14th International Conference on Clouds and Precipitation, 2003.
10. Stebel, K., G. Hansen, K. Edvardsen, T. Storelvmo and M. Gausa: Implementation of a daylight receiver in the ALOMAR ozone lidar -Final report. NILU: OR 32/2003.
11. Storelvmo, T.: The importance of ice crystal shapes and sizes for Earth's radiative budget, MSc thesis, Meteorology and Oceanography Section, Department of Geosciences, University of Oslo, 2002.

Presentations 2011

Invited

- Yale School of Forestry and Environmental Sciences seminar on Climate and Air Pollution (F&ES705b), January 31
- ETH-Zurich, Atmospheric Physics seminar series, February 22
- University of Madison, Wisconsin seminar series, February 28
- Yale School of Forestry and Environmental Science Seminar series (The Carbon Cycle, F&ES951b), March 30
- Yale Undergraduate Science and Engineering Forum, April 26
- Gordon Research Conference on Radiation and Climate, July 10-15
- Goldschmidt Conference, Prague, Czech Republic, August 14-19
- Yale Climate and Energy Institute's Conference on Geoengineering, September 9-10
- Department of Astronomy, Yale, seminar on Life in the Universe (Astronomy 130), September 29

- AAAR Annual Meeting, Orlando, FL, October 3-7
- University of Washington Atmospheric Physics Seminar, October 17
- Harvard University Seminar on Atmospheric Chemistry, October 28
- Yale University Global Change Seminar, October 31

Other

- Oral Presentation, AMS Annual Meeting, Seattle, WA, January 23-27
- Poster Presentation, IYC-O3 Conference, Washington DC, November 8-10
- Oral Presentation, AGU Fall Meeting, San Francisco, Dec 5-7

Teaching activities

1. Teaching at Yale University:

- GG322/GG522: “Physics of Weather and Climate” (Fall 2010)
- GG470/GG570: “Cloud Physics and Dynamics” (Spring 2011)

2. Previous teaching experience:

- ETH-Zurich: “Atmosphaerenphysik” (Fall 2008 and 2009)
- University of Oslo: “Radiation and Remote Sensing” (Fall 2004, 2005, 2006)
- Narvik Engineering College: Preparation Course in Physics for Engineering Students (Summer 2000, 2001, 2002)

Service 2011

1. Community Service

- Contributing author, Intergovernmental Panel For Climate Change, Assessment Report 5 (IPCC AR5), Chapter 7 on Clouds and Aerosols.
- Reviewer for *Journal of Climate*, *Journal of Geophysical Research*, *Atmospheric Chemistry and Physics*, *Geophysical Research Letters*, *Journal of the American Statistical Association*, *Quarterly Journal of the Royal Meteorological Society*, *International Journal of Climatology*, *Atmospheric Environment*, *NSF*, *DoE ARM Program* and *the Swiss National Science Foundation*. Reviewed ~10 Papers and several proposals in 2011.
- Served as a Reader for a PhD defense at ETH-Zurich, February 2011
- Chaired Yong Scientists Forum at the IYC-O3 Conference in Washington DC, November 7-10
- Serving on the Advisory Board for the Journal Tellus B (Since December 2011)

2. Service, Yale University:

- Freshman Advisor for Yale College

- Part of Yale Recruitment Team at the National Societies of Black and Hispanic Physicists Annual Conference in Austin, TX, September 20-23, 2011
- Serving on Department of Geology and Geophysics graduate student advisory committees, the admission committee and the colloquium committee.

Current and Pending Support

1.

Source: NASA (Pending)

Project Title: Constraining Cloud-Climate Feedbacks from Space

Award Dates: 01-Mar-12 28-Feb-15

Total Award Amount: \$359,992.00

2.

Source: NSF (Pending)

Project Title: Aerosol effects on cirrus clouds: climate impact and potential for geoengineering

Award Dates: 01-Jul-12 30-Jun-15

Total Award Amount: \$373,938.00

3.

Source: Alfred P. Sloan Foundation (Pending)

Project Title: N/A

Award Dates: 01-Mar-12 28-Feb-14

Total Award Amount: \$50,000.00

4.

Source: Yale Climate and Energy Institute (Awarded August 2011)

Project Title: The use of Econometric Methods to Disentangle Greenhouse Warming and Aerosol Cooling in Observations and Climate Models

Award Dates: 01-Sep-11 31-Aug-13

Total Award Amount: \$100,000.00

5.

Source: Norwegian Research Council (Awarded November 2011)

Project Title: Advertent and inadvertent effects of anthropogenic aerosols on clouds and climate

Award Dates: 01-Jan-12 30-Jun-12

Total Award Amount: \$30,000.00

Awards and Honors 2011

- Norwegian Research Council's Leiv Eriksson Award, for Spring 2012
- Yale University Faculty of Arts and Sciences Junior Faculty Fellowship, Academic Year 2011-2012

Supervision / Storelvmo Research Group Members (Spring 2012)

Undergraduates Students

- Rick Russotto (Senior): Analyzing data on Cloud properties from the DOMEX field campaign and comparing to output from a parcel model of cloud droplet activation (Senior Thesis).
- Alexandra Turrini (Junior): Studying regional trends in downwelling solar radiation at the Surface in the GEBA Surface Network data set .

Graduate Students

- Matthew Giguere: Modeling radiative transfer in the atmospheres of Exoplanets (Minor Discourse).
- Ivy Tan: Studying the relationship between different aerosol species and the thermodynamic phase of clouds from satellite data (Minor Discourse).

Postdoctoral Researchers

- Muge Kommurcu: Working on simulations of mixed-phase clouds in eddy-resolving and global climate models, as well as cloud properties from satellites.
- Thomas Leirvik: Joint appointment with Department of Economics, applying econometric analysis on climate data from observations and models.