Curriculum Vitae

Carmen N. Moelders aka Nicole Mölders

Fairbanks, Alaska, 9/24/2019

Personal Data

Address (office):	Geophysical Institute and College of Natural Sciences and Mathematics, University of Alaska Fairbanks, 903 Koyukuk Drive, Fairbanks, AK 99775-7320
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Education

2018-2019	EPIC
2017	iTeach2
2016	iTeach
2014-2015	WordPress Blogging University
2013-2015	Faculty Learning Community on Flipped Classrooms
1999	Dr. habil. rer. nat.[1], Meteorology, University of Leipzig, Germany
1992	Ph.D., Geophysics, University of Cologne, Germany
1988	Diploma (comp. with M.S.), Meteorology, University of Cologne, Germany
1986	Rapport du stage, Atmospheric Physics, University of Clermont-Ferrand, France
1983	B.S., Meteorology, University of Cologne, Germany

Professional Experience

Since 2015	Editorial board member of Climate
Since 4/2014	Geophysical Institute's Atmospheric Science Group Head
2013	Editorial board member of Remote Sensing
Since 2013	Editorial board member of Atmosphere
2012-2015	Founding Editor-in-Chief of Climate
Since 7/2006	Professor of Atmospheric Science at University of Alaska Fairbanks (UAF), Geophysical Institute (GI) and College of Natural Science, and Mathematics (CNSM)
2/2008 – 4/2013	Founding Chair of the Department of Atmospheric Sciences
7/2005 – 1/2008	Chair of the Atmospheric Science Graduate Programs (ASGP)
1/2005 – 6/2005	Acting Chair of the ASGP
1/2005 – 6/2005	Acting Head of the GI's Atmospheric Science group
8/2003 – 1/2005	Deputy Chair of the ASGP
Spring 2002	Deputy of the GI's Atmospheric Science group head while interim group head was on sabbatical
2001 – 2006	Associate Professor of Atmospheric Science at UAF, GI and College of Sciences, Engineering and Mathematics

[1] "Habilitation is the highest academic qualification a person can achieve by their own pursuit in certain European and Asian countries. Earned after obtaining a doctorate, the habilitation requires the candidate to write a second dissertation, reviewed by and defended before an academic committee in a process similar to that for the doctoral dissertation. Sometimes a book publication is required for the defense to take place. Whereas in the United States, the United Kingdom and most other countries, the doctorate is sufficient qualification for a faculty position at a university, in other countries only the habilitation qualifies the holder to supervise doctoral candidates." (quote from Wikepedia)

2000	Sabbatical at National Center for Atmospheric Research (NCAR), Boulder, CO
1999 – 2001	University of Leipzig, Heisenberg-fellow[2] of the Deutsche Forschungsemeinschaft (German Science Foundation, DFG) for Physical Hydrology, responsibility equivalent to a German C2 Professor[3]
1997 – 1999	University of Leipzig, Habilitanden-scholar of DFG, Physical Hydrology, responsibility equivalent to a German C1 rank
1996 – 2001	University of Leipzig, principal investigator on various grants (see acquisition)
1995 – 2001	University of Leipzig, teaching various classes (see teaching experience)
1994 – 1997	University of Leipzig, research associate, *Hydrological cycle, coupling of an atmospheric and a hydrological model*
1993	Fraunhofer-Institut für Atmosphärische Umweltforschung, Garmisch-Partenkirchen, post-doc, *Regional climate modeling*
1988 – 1993	University of Cologne, research assistant, European Acid Deposition Model (EURAD), *Parameterization of clouds in a chemistry transport model*
1986 – 1990	Nuclear Research Facility Jülich, summer intern for support in five *Field campaigns on trace gas transport over complex terrain*
1989	State University of New York (SUNY) at Albany, visiting graduate student, *Comparison of the cloud modules RSM, RADM and ADOM*
1986 – 1988	University of Cologne, research assistant, *Radiation and clouds*
1985 – 1986	University of Clermont-Ferrand, research assistant, *Radar observations*
1984 – 1985	University of Cologne, research assistant, *Earth's radiation budget experiment* (ERBE)

Teaching Experiences

Classes

- E-campus class: Introduction to computational meteorology https://intro-comp-meteo.community.uaf.edu/
- E-campus class: Introduction to atmospheric science http://intro-atmos-sci.community.uaf.edu/
- E-campus class: Physical Hydrometeorology https://physhydro.community.uaf.edu/
- Flipped classroom: Introduction to atmospheric science
- Flipped classroom: Physical Hydrometeorology
- Advanced computational meteorology
- Cloud physics
- Human impacts on weather and climate
- Hydrometeorology
- Introduction to atmospheric sciences
- Introduction to computational meteorology https://intro-comp-meteo.community.uaf.edu/
- Mesoscale dynamics
- Numeric modeling and parameterization methods
- Physical hydrometeorology
- Physical hydroclimatology
- Parameterization of hydrometeorological processes
- Paleoclimatology
- Satellite meteorology

Seminars

- Atmospheric Science Informal Seminar http://ATM688.community.uaf.edu
- Meteorological seminar

[2] A Heisenberg professorship is one of the most prestigious awards conferred by the DFG. To be eligible for this Heisenberg fellowship, it was mandatory to finish the habilitation not later than the age of thirty-five.
[3] In Germany, C1 was the lowest and C4 (corresponds to Full Professor) was the highest rank a faculty can hold.

- Geophysical seminar

Summer Schools
- Science Teacher Education Program. GI, Fairbanks, AK, July 7 – August 1, 2008.
- Mölders, N., Modeling of frozen soil. IARC Summer School on *Climate Modeling*, Fairbanks, AK, August 2-6, 2004.
- Mölders, N., Soil-vegetation: Introduction and modeling. IARC Summer School on *Arctic Modeling*, Fairbanks, AK, July 14-25, 2003.

Students, and Post-Docs Sponsored and/or Advised

Undergraduate Students
1. Haley Alcock (undergraduate research, spring 2015)
2. Dinah Khordakova (BS thesis, spring 2014)
3. Julian Childs-Walker (REU summer intern 2012)
4. Vicky Espinosa (REU summer intern 2012)
5. Laura Fleming (REU summer intern 2011)
6. Bret Potts (REU summer intern 2011)
7. Evelyn Jackson (spring 2011 – winter 2015)
8. Kelcy N. Brunner (spring 2010 – summer 2011)
9. Jessica Beres (REU summer intern 2009)
10. Todd Fortun (REU summer intern 2009)
11. David Henderson (REU summer intern 2007)
12. Anastasia Gennady Yanchilina (REU summer intern 2006)
13. Anne Cherry (REU summer intern 2003)
14. Pam Spier (REU summer intern 2003)
15. Leslie Prochaska (REU summer intern 2002)
16. Amy Rulo (REU summer intern 2002)
17. Mark A. Olson (2001-2002)
18. Sebastian Schmidt (1997-1998)
19. Katja Friedrich (1994-1996)
20. Claudia Stolle (1997-1998)
21. Manuela Barth (1999-2000)

Graduate Students
1. Akila Sampath (Ph.D., since fall 2019)
2. Tyler Summers (M.S., since fall 2019)
3. Josuha Hostler (M.S., since fall 2019)
4. Jake Stohl (Ph.D., 2018-2019)
5. Hannah Brink (M.S., since fall 2017)
6. Stanley G. Edwin (M.S., fall 2014 – summer 2016, PhD since fall 2016)
7. Mary K. Butwin (M.S., fall 2013 – summer 2015)
8. Hélène Hameau (M.S., spring 2014 aeronautic engineering)
9. Antoine Lescure (M.S., spring 2014 aeronautic engineering)
10. Michael A. Pirhalla (M.S., fall 2012 – spring 2014)
11. James M. Madden (M.S., fall 2012 – spring 2014)
12. Manatchanok Tantiphiphatthana (fall 2011 – spring 2012)
13. Rathawat Daengngern (fall 2011 – spring 2012; changed major)
14. Ketsiri Leelasakultum (M.S., fall 2010 - summer 2013; Ph.D., fall 2013 - fall 2014, withdrawn)
15. Manbharat Singh Dhadly (summer 2009 - spring 2010)
16. Trang T. Tran (spring 2009 – summer 2012)
17. Huy N.Q. Tran (Ph.D., 2009-2012)
18. Ted Fathauer (M.S., 2005-2012; Ph.D. spring 2013, deceased spring 2013)

19. Stacy E. Porter (M.S., 2007-2009)
20. Debasish PaiMazumder (Ph.D., 2005-2009)
21. Morgan E. Brown, now Morgan B. Yarker (M.S., 2006-2008)
22. Zhao Li (Ph.D., 2002-2007)
23. Balachandru Narapussety (M.S., 2004-2005)
24. Mihailo Jankov (M.S., 2002-2005)
25. Ipshita Majhi (M.S., 2002-2004)
26. Kristina Fröhlich (Diploma, 2000-2001)
27. Martin Simmel (Ph.D., 1997-2001)
28. Wolfram Rühaak (1999-2000)
29. Holger Fritsch (Diploma, 1998-1999)
30. Katja Friedrich (Diploma, 1997-1999)

Visiting Graduate Students
1. Xianbiao Kang (Ph.D., spring 2009)
2. Surti Chigullapalli (Ph.D., summer 2008)
3. Hanneke Luijting (M.S., 2004)
4. Sven Goers (Ph.D., 2002)
5. Franklin Opijha (Ph.D., 1997-1998)

Personnel Supervised

Research Associates
1. Detlef Hinneburg (1997-1999)
2. Dieter Haenel (1997)

Post-Docs
1. Christoph Jacobi (1999)
2. Gary Selhorst (2015)

Technicians
1. Michael A. Pirhalla (2014-2015)
2. Stanley G. Edwin (2018)

Office Manager
1. Barbara D. Day (2005-2013)

Awards and Honors

- 2018 Best Faculty Paper Award (2019)
- Best Fairbanks Stylist Award (2019)
- Sunshine Award (2019)
- EPIC (2018-2019)
- NASA EPSCoR Travel award to the TIM workshop at Goddard Space Flight Center (2018)r
- Fohr Top Brand Influencer of April (2018)
- QM certificate of successful completion (2017)
- iTeach2 (2017)
- Over 40 Style Influencer Award (2017)
- Top 30 Fashion over 40 Blog (2017)
- College of Natural Science and Mathematics Outstanding Teaching Award (2016)
- iTeach (2016)

- Nomination for Usibelli prize for research (2015)
- Nomination for Moore Price (twice)
- Very Inspiring Blogger Award (2014)
- Shine On Award (2013)
- Liebster Award (2013)
- Travel award by International Arctic Science Committee (2013)
- Recognition by CNSM for serving as chair for more than eight years (2013)
- College of Natural Science and Mathematics Teaching Award (2011)
- College of Natural Science and Mathematics Faculty Bonus (2009)
- Outstanding Graduate Student Mentoring and Advising Award, College of Natural Science and Mathematics (2008-2009)
- Who is Who in Science and Engineering (2008, 2009)
- Who is Who in America (2008)
- US Citizenship (2007)
- Invitation to attend the Head and Chair Workshop for Future Departments in Geosciences at Carleton College, Northfield, Minnesota (2007)
- NSF travel award to attend OPP's Antarctic New Investigators Workshop (2006)
- Tenure (2004)
- Geophysical Institute Merit Bonus for Excellence in soil moisture research (2003)
- Heisenberg Professor (1999)
- Scholarship of the DFG for habilitation (1996)
- Scholarship of the University of Clermont-Ferrand, France (1985-1986)
- Travel award of the DAAD (1985)

Professional Services and Memberships

Memberships on Professional Boards/Panels

- NASA proposal review panel chair (2019)
- Unidata Governing Committee (since 2019)
- UCAR Governance Task Group (since 2019)
- NASA proposal review panel (2017, 2018)
- MDPI Travel Award for Young Scientists-Evaluation Committee Member (Since 2016)
- Review Panel of the US Army Engineer Research and Development Center (ERDC) (2016)
- UAF representative for atmospheric sciences on the Association of Public and Land-grant Universities Board on Oceans, Atmosphere, and Climate (Since 2015)
- SOARS student mentor (2015)
- External member of the search committee for a professorship in Meteorology at Technical University of Munich (2014)
- Committee member for the Earth Atmosphere and Planetary Sciences Department review at Purdue university (2014)
- Editorial board member of Atmosphere (since 2013)
- Editorial board member of Climate (Since 2017)
- Founding Editor-in-Chief of Climate (2012-2016)
- Advisory board member for Springer Briefs in Climatic Studies (Since 2012)
- University Corporation for Atmospheric Research (UCAR) university relationship site visit committee (2012)
- Editorial board InTech (2011-2012)
- American Meteorological Society's Atmospheric Chemistry Program Committee (2011-2014)
- NFS Cyber-enabled Discorvery Innovations review panel (2010)
- Alaska Space Grant NASA/EPSCoR review panel (2009)
- UCAR Membership Relation Committee (2008-2011, 2012-2015)

- AGU Budget and Finance Committee (2008-2010)
- UCAR nomination committee (2007-2011), chair (2011)
- German Science Foundation (DFG): Special focus program „Antarctic Research with Comparative Investigations in Arctic Ice Areas“ review panel (2006)
- UAF member representative at the UCAR (since 2005)

Memberships in Professional Organizations
- American Geophysical Union
- American Meteorological Society
- Academic Bloggers

Guest Editor
- Mölders, N., Contini, D., Curci, G., Costabile, F., Kajii, Y., Kumar, P., Schade, G.W., Singh, H.B., Tzanis, C.G., Talbot, R.W., 2019-2020. 10th Anniversary of Atmosphere: Air Quality. *Atmosphere*
- Mölders, N., 2018-2019. Impacts of atmospheric chemistry on local weather and local climate. *Climate*
- Lupo, A.R., Gimeno, L., Market, P.S., Mokhov, I.I., Mölders, N., Wang, Y., 2017-2018. Selected papers from The 2nd International Electronic Conference on Atmospheric Sciences. *Atmosphere*
- Mölders, N., 2016-2017. Changes in global precipitation. *Atmosphere*
- Mölders, N., 2013. Alaska Weather Symposium. *Meteorol. Atmos. Phys.*
- Mölders, N., Morton, D., Newby, G.B., 2010. Polar Weather. *Atmos. Res.*
- Raschke, E., Flossmann, A., Mölders, N., Ohmura, A., 1999. Clouds and their impacts on radiation and photochemical processes. *Physics and Chemistry of the Earth*. Part B, Hydrology, Oceans and Atmosphere

Reviewer of International Journals
1. Advances in Geophysics
2. Advances in Water Resources
3. Agriculture and Forest Meteorology
4. Atmosphere
5. Atmospheres
6. Atmosphere and Climate Sciences
7. Atmosphere-Ocean
8. Atmospheric Chemistry and Physics
9. Atmospheric Environment
10. Atmospheric Pollution Research
11. Atmospheric Research
12. Atmospheric Science Letters
13. Arid Land Research and Management
14. Boundary Layer Meteorology
15. Climate
16. Climate Dynamics
17. Contributions to Atmospheric Physics
18. Dynamics of Atmosphere and Oceans
19. Earth Interactions
20. Environmental Science and Technology
21. Geoderma
22. International Journal of Wildland Fire
23. Journal of Applied Meteorology
24. Journal of Applied Meteorology and Climatology
25. Journal of Basic and Applied Research International
26. Journal of Arid Environments
27. Journal of Climate
28. Journal of Environmental Informatics
29. Journal of Environmental Management

30. Journal of Environmental Protection
31. Journal of Geophysical Research - Atmosphere
32. Journal of Geophysical Research - Biogeosciences
33. Journal of Global Ecology and Environment
34. Journal of Hydrometeorology
35. Journal of Hydrology
36. Journal of Meteorological Society of Japan
37. Meteorologische Zeitschrift
38. Meteorology and Atmospheric Physics
39. Natural Hazards
40. Open Journal of Air Pollution
41. Physical Science International Journal
42. Quarterly Journal of the Royal Meteorological Society
43. Regional Environmental Change
44. Theoretical and Applied Climatology
45. Sensors
46. Water Resource Research
47. National Park Service Report Series

Reviewer of Articles in Conference Proceedings

- Proceedings of the Ninth International Conference on Permafrost
- Proceedings of the Air and Waste Management Association

Reviewer of Textbooks

- 6 book reviews
- 2 book proposal reviews

Reviewer of Research Proposals

- MIPStrack University of Maryland and Small Business collaborations for Research to Application Transfer (2018 1 proposal)
- US Army Engineer Research and Development Center (2016 1 proposal)
- NASA – EPSCoR (2015 3 proposals)
- NASA (2015 3 proposals; 2017 16 proposals; 2018 12 proposals; 2019 11 proposals)
- SMART scholarship evaluation panel, Department of Defense (2014, 2016)
- New Jersey Agricultural Experiment Station (2010 1 proposal)
- Netherlands Organisation for Scientific Research (2009 1 proposal)
- U.S. Civilian Research and Development Foundation (2009 1 proposal)
- Center for Global Change and Arctic System Research (2002, 2003, 2004, 2005, 2007, 2009, 2010 1 proposal each year)
- Department of the Army (2003 1 proposal)
- Deutsche Forschungsgemeinschaft (2002 1 proposal; 2003 4 proposals; 2004 3 proposals; 2005 1 proposal; 2006 7 proposals; 2008 2 proposals)
- Norwegian Research Council (2004 3 proposals)
- NSF (2002, 2004, 2006, 2007, 2008, 2009, 2011, 2012, 2014, 1 proposal each year, 2010 8 proposals)
- NOAA Climate and Global Change Program (1996 2 proposals; 1997 2 proposals; 2006 1 proposal; 2009 1 proposal)
- Schweizerischer Nationalfonds zur Förderung der wissenschaftlichen Forschung (2001 2 proposals)

Convener of Conferences/Workshops

- National Research Laboratory Visit workshop at the Geophysical Institute, Fairbanks, AK, July 22-23, 2014
- Alaska Weather Symposium, 2009, 2010, 2011, 2012, 2013, Fairbanks, AK, 2015, Anchorage, AK
- “Little” Alaska Weather Symposium, 2008, Fairbanks, AK

- Great Alaska Weather Modeling Symposium, 2007, Fairbanks, AK
- DACH (German-Austrian-Swiss Meteorologists' Conference) 2001, Vienna, Austria
- Deutsche Meteorologen-Tagung (German Meteorologists' Conference) 1998, Leipzig, Germany, member of the program committee
- EGS European Geophysical Society XXIII General Assembly 1998, Nice, France

Membership in Working Groups
- Member of the Lower Atmospheric Observing Facilities synthesis committee (2012)
- Member of the CCSM land surface modeling group (2002-2008)
- Member of the CCSM biogeochemistry group (2003-2007)
- Member of the CCSM climate change and variability group (2002-2007)
- Member of the MM5 working group on land-surface modeling (2000-2005)
- Member of the working group of the International Hydrological Program (IHP) of UNESCO, *Development and calibration of coupled hydro-ecological/atmospheric models* (1999-2005)
- Member of the expert working group on hydrometeorology of the German Meteorological Society (1998-2002)

External Reviewer of PhD Theses
- Birla Institute of Technology, Academic Council

University Service
- Keith Mather library committee (Since 2017)
- Society of Women in Engineering lunch talk (2014, 2016, 2018)
- Faculty adviser Leadership Student Club (Since 2016)
- Geophysical Institute – atmospheric science group head (Since 2014)
- RSC advisory committee (Since 2014)
- Faculty Learning Community – Flipped Classroom http://flipped.community.uaf.edu/, http://intro-atmos-sci.community.uaf.edu (2013-2015)
- Faculty advisor UAF Latin Dance Club (2011-2017)
- ARSC task force (2011)
- UAF Appeal Board (2010-2011), Chair (2011)
- Search committee to hire a tenure track atmospheric scientist (2010-2011)
- Search committee to hire a tenure track micrometeorologist (2009-2010)
- Various search committees to hire administrative or technical assistants
- Unit criteria revision committee (2009), Acting chair of the unit criteria revision committee (2/2009)
- UAF Appeal Board (2008)
- Usibelli Award Committee (2008)
- (Founding) Chair of the Department of Atmospheric Sciences (2/2008-4/2013)
- Member of 4, 1, 3, 4 peer-unit review committees at UAF 2002, 2006, 2008, 2013
- Member of the ASGP evaluation committee at UAF (2005)
- External member of the search committee for a professorship in Meteorology at University of Cologne (2005)
- Chair and/or member of several graduate student committees in Atmospheric Sciences, Geology, Environmental Chemistry, and Remote Sensing (2005)
- Convener and member of the Geology and Geophysics Department evaluation committee at UAF (2005)
- Chair of the Atmospheric Sciences Graduate Program (7/2005 – 1/2008)
- Acting Chair of the Atmospheric Sciences Graduate Program (1/2005 – 6/2005)
- Acting Head of the Geophysical Institute's Atmospheric Science group (Spring 2002, 1/2005 – 6/2005)
- Deputy Chair of the Atmospheric Sciences Graduate Program (8/2003 – 1/2005)
- UAF senate alternate (2003 - 2006)
- Convener of the atmospheric sciences informal seminar (since 7/2002)

- Member of the Scientific Steering Committee, Center for Global Change and Arctic System Research (2001-2015)
- External examiner on graduate student defenses/oral examinations in Physics, Geology, Geophysics, Remote Sensing, Engineering

Community Service
- Forest Roundtable (Since 2019)
- Wood Energy Roundtable (2017-2018)
- Discover Alaska (2016)
- College of Natural Science and Mathematics' Science Café on the Physics of Clothes (2014)
- Rotary luncheon speech on Fairbanks' air pollution problem and its mitigation possibilities (2014)
- Climate Policy Commission poster presentation (2013)
- Radio broadcast on air pollution and health (2013)
- UAF Family Night (2013)
- Research Showcase (2013)
- Science for Alaska Lecture Series (2013)
- Energy Task Force (2008-2009)
- Chair of the University Women Association scholarship committee (2002-2003)
- Deputy Chair of the University Women Association scholarship committee (2004-2006)
- Member of the University Women Association scholarship committee (2001-2011)
- Science fairs (2002-2006)
- Lectures in the OLLI seminar series
- Participating scientist in community educational meetings on $PM_{2.5}$ (2009-2012)

Acquisition

Grants/Contracts	Amount[4]	Period	Agency
Using satellite retrieved aerosol data for detection of changes in atmospheric composition due increases in Arctic shipping	$171,529.00	9/1/2019-8/31/2021	NASA
Community-Based Black Carbon and Public Health Assessment Project, Black Carbon desk study of three villages	€137,500 My share €15,780	9/1/2017-12/31/2018	NEFCO
Grant to the AIA for the workshops on project development consultations for an IPCAP-project on reduction of BC-emissions from indigenous people settlements in northeast Russia and Alaska	300,000 SEK (~$35,000)[5]	11/1/2014-10/31/2015	Swedish Environmental Protection Agency
Investigating the impact of current and future cruise-ship emissions on air quality, visibility, and contaminant deposition in southeastern Alaska National Parks and Wilderness – additional analysis of chemical observations	$58,000	7/1/2014-9/30/2016	National Park Service
Local sources of pollution and their impacts in Alaska - Travel award for an invited talk	$950	10/8/2013-12/14/2013	International Arctic Science Committee
Arctic air quality impact assessment modeling	$50,000	10/1/2013-9/30/2018	BOEM
Fairbanks NSB $PM_{2.5}$ non-attainment area CMAQ modeling – Phase II	$122,239	11/1/2011-8/31/2012	Department of Environmental Conservation

[4]Acquisation as PI, Co-PI, Co-I and contributoring member on the proposal writing team since joining UAF ~4.9 million
[5]This grant is administered by AIA. I contributed to the proposal to the Swedish EPA. My travel to help developing the step II proposal will be paid by AIA.

Thesis completion stipends for DAS graduate students O. Dammann and T.T. Tran	$82,924.5	5/20/2011-12/19/2012	Graduate School
Investigating the impact of current and future cruise-ship emissions on air quality, visibility, and contaminant deposition in southeastern Alaska National Parks and Wilderness areas	$235,873	10/1/2011-9/30/2016	National Park Service
Quantifying fuel impacts on wildfire behavior and emissions by coupling small unmanned aircraft in-situ measurements with satellite observations	$749,948	7/1/2011-6/30/2015	NASA
Fairbanks NSB $PM_{2.5}$ non-attainment area CMAQ modeling	$98,375	3/1/2011-11/30/2011	Department of Environmental Conservation
MRI-R2: Acquisition of a Configurable Supercomputer for Arctic Research**	$1,480,000	7/1/2010-6/30/2012	NSF
Assessment of the contribution of traffic emissions to the mobile vehicle measured $PM_{2.5}$ concentrations by means of WRF-CMAQ simulations	$97,157.40	8/1/2010-12/31/2011	Department of Transportation
Role of ice in high latitude nitrogen atmospheric chemistry*	$161,037	1/1/2010-8/31/2011	NSF
Investigation of means for $PM_{2.5}$ mitigation through atmospheric modeling	$150,282	12/1/2008-11/30/2010	Fairbanks North Star Borough
Permafrost-freshwater modeling	$120,000	7/1/2008-30/6/2011	NSF
Interaction between climate, permafrost and vegetation changes	$31,846	9/1/2007-6/30/2008	EPSCOR
Investigation of the impact of ship emission on air quality and atmospheric deposition in Alaska coastal landscapes	$23,346	8/20/2007-5/19/2008	Graduate School
Transformation of larch-dominated forests and woodlands into mixed taiga	$89,984	7/1/2007-6/30/2010	NASA
WCR: Impact of land-use changes and/or radiative forcing on water availability and the pathways and interactions of the global and regional water cycles – Supplemental award	$27,965	3/1/2007-8/31/2008	NSF
Investigation of the impact of western Arctic volcanic eruption on weather and climate	$13,126	11/15/2006-6/30/2009	CIFAR/NOAA-IPY
IARC cooperative agreement, subproject: Modeling of frozen ground	$128,406	6/30/2005-6/30/2008	NSF
Development of a new numerical scheme for HTSVS	$18,154	9/1/2004-6/30/2005	Graduate School
IARC cooperative agreement, subproject: Modeling of soil freezing and thawing	$77,974	3/1/2004-2/28/2005	NSF
Search for indirect aerosol effects on Arctic clouds	$375,000	10/1/2003-2/28/2008	NASA
WCR: Impact of land-use changes and/or radiative forcing on water availability and the pathways and interactions of the global and regional water cycles	$333,244	3/1/2003-2/28/2007	NSF
IARC cooperative agreement, subproject: Modeling the impact of permafrost and snow on the thermal and hydrologic regimes of the	$58,831	5/1/2002-30/4/2004	NSF

Arctic			
Soil frost and snow metamorphism simulations for the BALTEX-region with a complex hydro-thermodynamic soil-vegetation scheme	$100,678	9/1/2001-12/31/2004	BMBF
Uncertainty analysis on the parameterization of processes of the biosphere and hydrosphere in atmospheric models	$99,086	6/1/2001-3/31/2004	BMBF
Investigations on the impact of urban aerosol release and heat island effect on downwind precipitation in high latitudes	$8,325	6/1/2001-10/31/2002	ASAHI foundation
Investigations on regional water availability under changed climate conditions	DM 225,830	9/1/1999-6/30/2001	DFG
Development of a module for the investigation of ground water recharge	DM 236,826	11/1/1998-12/31/2000	BMBF
Effects of accumulated changes in land-use on the interaction between evapotranspiration, cloud and precipitation formation	DM 93,940	1/1/1997-1/31/1999	DFG
Development of modules for dry deposition in complex terrain with heterogeneous surface characteristics	DM 347,800	1/1/1996-12/31/1999	BMBF

*Co-PI, **contributed to writing the proposal, but not listed as Co-PI

Peer-Reviewed Journals

1. Kramm, G., Mölders, N., Dlugi, R. 2019. On the solar climate of Earth analogs. *Natural Science*. In prep.
2. Kramm, G., Berger, M., Dlugi, R., Mölders, N., 2019. Historical zonal averages and their use to quantify the global and spheroidal mean near-surface temperature of the terrestrial atmosphere. *Natural Science*. In review.
3. Mölders, N. 2019. Outdoor universal thermal comfort climatology for Alaska. *Atmosphere and Climate Sciences*. Accepted
4. Kramm, G., Mölders, N., Cooney, J., Dlugi, R., 2019. Near-surface wind-speed stilling in Alaska during 1984-2016 and its impact on the sustainability of wind power. J. Power and Energy Engineering. 7: 71-124. doi: 10.4236/jpee.2019.77006
5. Mölders, N., Fochesatto, G.J., Edwin, G., Kramm, G., 2019. Geothermal, oceanic, wildfire, meteorological and anthropogenic Impacts on $PM_{2.5}$ concentrations in the Fairbanks metropolitan area. Open J. Air Pollution. 19-68. doi: 10.4236/ojap.2019.8200.
6. Edwin, S.G., Mölders, N., 2018. Baseline of Particulate Matter Exposure of Rural Eastern Interior Communities as Observed by the First Tribal Air Quality Network in the Alaska Yukon Flats. J. Environ. Protection. 13: 1425-1448 doi: 10.4236/jep.2018.913088.
7. Mölders, N., Edwin, S.G., 2018. Review of Black Carbon in the Arctic – Origin, measurement methods, and observations. *Open J. Air Poll.*, 7: 181-213 doi: 10.4236/ojap.2018.72010.
8. Mölders, N., Kramm, G., 2018. Climatology of air quality in Arctic cities — Inventory and Assessment. *Open J. Air Poll.*, 7: 48-93 doi: 10.4236/ojap.2018.71004.
9. Kramm, G., Mölders, N., Dlugi, R., Hartmann, B., 2018. On the decrease of wind speed and its impact on the wind power potential in Alaska. *J. Power and Energy Engineering*, in review
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231. Mölders, N., Elbern, H., Majhi, I., Klioutchinova, A., 2003. Soil frost and snow metamorphism simulations for the BALTEX-region with a complex hydro-thermodynamic soil-vegetation scheme. Tagungsband zum DEKLIM Treffen in Bad Münstereifel.
232. Majhi, I., Zhang, J., Tilley, J.S., Mölders, N., 2003. On the performance of two advanced land surface schemes as applied to simulations of Arctic land environments. Polar meteorology conference of the AMS, 11 pp.
233. Mölders, N., Kramm, G., 2003. A hydro-thermodynamic soil module to describe soil frost in climate models. Combined preprints CD-ROM, 83rd AMS annual meeting, 9-13 February 2003, Long Beach, CA, 14 pp.
234. Mölders, N., Elbern, H., 2002. Bodenfrost und Schneemetamorphose-Simulationen für die BALTEX-Region mit einem komplexen hydro-thermodynamischen Boden-Vegetationsschema. In: *DEKLIM, Kick-off-meeting 2002*, pp. 68-71.
235. Mölders, N., 2001. On the influence of open-pit mining on hydrological processes. In: Simmer, C. (ed.), *Regional hydrological processes – remote sensing, assimilation and validation*. Rheinische Friedrich-Wilhelm-Universität Bonn, pp. 121-130.
236. Mölders, N., 2000. On the effects of lakes on energy and water fluxes. In: *Parameterization of surface fluxes, atmospheric planetary boundary layer and ocean mixed layer turbulence for BRIDGE - What can we learn from field experiments?* BALTEX Baltic Sea Experiment Publication, 17: 80-86.
237. Simmel, M., Mölders, N., Tetzlaff, G., 2000. A numerical method for the solution of the stochastic collection equation using two prognostic moments. In: *Proceedings of 13th International Conference on Clouds and Precipitation - Volume 1*, pp. 489-492.
238. Mölders, N., 2000. HTSVS - A new land-surface scheme for MM5. In*: The tenth PSU/NCAR Mesoscale model users' workshop,* pp. 33-35.

239. Mölders, N., 1999. Zur Auswirkung akkumulierter Landnutzungsänderungen auf die Evapotranspiration. In: Grünewald, U., Tetzlaff, G. (eds.), *Materialienband zum Workshop Hydrometeorologie*, University Cottbus, pp. 176-199.
240. Mölders, N., Haferkorn, U., Knappe, S., Döring, J., Kramm, G., 1999. Evaluation of simulated water budget by means of measurements at Brandis lysimeter station. In: Tetzlaff, G., Grünewald, U. (eds.), *2. Tagung des Fachausschusses Hydrometeorologie am 15./16. November 1999 in Leipzig*, Wiss. Mitt. Leipzig, **16**: 67-83.
241. Mölders, N., 1998. Zwei-Wege-Kopplung eines hydrologischen Modells mit einem meteorologischen Modell - Vorläufige Ergebnisse einer 6-Tage-Episode. In: Bronstert, A., Krysanova, V., Schröder, A., Becker, A., Bork, H.-R. (eds.), *Modellierung des Wasser- und Stofftransportes in großen Einzugsgebieten*. PIK-Report, **43**: 183-192.
242. Mölders, N., 1997. On the impact of subgrid-scale landuse on hydrologically relevant quantities predicted by a meteorological non-hydrostatic model. In: Diekkrüger, B., Richter, O., (eds.), *Regionalization in Hydrology*, Inst. f. Geographie u. Geoökologie TU Braunschweig, **25**: 177-180.
243. Mölders, N., Raabe, A., Kramm, G., Laube, M., 1996. A comparative analysis of two bulk microphysics parameterizations used in a Meso-β-*scale non-hydrostatic meteorological model. In: Proceedings of the 12th International Conference on Clouds and Precipitation*, Zürich, Switzerland, August 19-23, Vol. 2, pp. 1259-1262.
244. Mölders, N., 1995. Multiphasensysteme in der Mesoskala α (Eine Übersicht). In: *Multiphasen-Modellierungs-Workshop*, IfT Leipzig, pp. 91-125.
245. Mölders, N., Laube, M., Kramm, G., 1995. Eine bulk-Parametrisierung der Wolkenmikrophysik in Klimamodellen. *Annalen der Meteorologie*, **31**: 102-103.
246. Mölders, N., Raabe, A., 1995. Modellierung der Wasser- und Energieflüsse für heterogene Landoberflächen. *Annalen der Meteorologie*, **31**: 166-167.
247. Kramm, G., Dlugi, R., Foken, T., Mölders, N., Müller, H., Seiler, W., Sievering, H., 1995. Modellierung der trockenen Deposition von Ozon und reaktiven Stickstoffverbindungen. *Annalen der Meteorologie*, **31**: 174-175.
248. Kramm, G., Dlugi, R., Foken, T., Mölders, N., Müller, H., Paw U, K.T., 1995. Zur Bestimmung der 'sublayer'-Stanton-Zahlen von Wärme, Wasserdampf und Spurengasen für aerodynamisch glatte und rauhe Oberflächen. *Annalen der Meteorologie*, **31**: 374-375.
249. Mölders, N., Ebel, A., Hass, H., Jakobs, H.J., Laube, M., 1992. Transformation, deposition and transport of air pollutants in a frontal system. In: *Proceedings of the 11th International Conference on Clouds and Precipitation in Montreal*, pp. 932-934.
250. Raschke, E., Bauer, P., Mölders, N., 1988. Clouds over both Polar Regions from the ISCCP pilot data sets. In: *Second conference on Polar Meteorology and Oceanography, March 29-31, Madison Wisconsin*. American Meteorological Society, Boston, MA.

Presentations

Invited Presentations

251. Mölders, N., Heat exchange between the human body and its environment in Alaska. BLAST health seminar, Fairbanks, AK, April 3, 2017.
252. Mölders, N., Energy exchanges between bodies and the atmosphere. Geophysical Institute Graduate Student Lunch Seminar Series, April 10, 2017.
253. Mölders, N., Alaska's climate in March: Consequences for the energy exchange between the skin-surface and atmosphere. University of Houston, Engineering Undergraduate Research Seminar, via Skype, December 9, 2016.
254. Mölders, N., Gende, S., Cruise ships, air quality, and climate change in Glacier Bay. National Park Service Centennial Science and Stewardship Symposium, Fairbanks, AK, October 19, 2016.
255. Mölders, N., The physics of clothes - Alaska climate regions: What they mean for body heat exchange, Summer Session - Discover Alaska series, Fairbanks, AK, July 27, 2016.
256. Mölders, N., Smoke forecasting with the Weather Research and Forecasting inline with Chemistry (WRF/Chem) model and application of UAV technology. IARC Salon Talks, May 19, 2016.

257. Mölders, N., What is new and exciting research in the Atmospheric Science Group? Geophysical Institute, Lunch Seminar Series, Fairbanks, February 8, 2016.
258. Mölders, N., Air quality and shipping emissions, UAF EPA region 10 and AK Department of Environmental Conservation briefing, Fairbanks, AK, August 20, 2015.
259. Mölders, N., NWP performance in predicting mesoscale phenomena. Meeting of NOAA and Department of Atmospheric Sciences, Fairbanks, July, 2015.
260. Mölders, N., Alaska is no escape from air pollution, Geophysical Institute, Graduate Student Seminar, Fairbanks, AK, May 11, 2015.
261. Mölders, N., The physics of layering and insulation of clothes, UAF Women Association, Fairbanks, AK, February 21, 2015.
262. Mölders, N., Dress for success – in engineering, UAF Society of Women Engineers, Fairbanks, AK, November 11, 2014.
263. Mölders, N., The physics of fashion, College of Natural Science and Mathematics' Science Café, Fairbanks, AK, May 2, 2014.
264. Mölders, N., Winter air quality, College Rotary presentation, Fairbanks, AK, January 7, 2014.
265. Mölders, N., Local sources of pollution and their impacts in Alaska. American Geophysical Union Annual Meeting, San Francisco, December 13, 2013.
266. Mölders, N., Implications of speed regulations and ECA conditions for visibility in Glacier Bay, National Park Service Seminar, Juneau, November 4, 2013.
267. Mölders, N., How to dress for success in Europe, Family Cultural Night, UAF Summer Sessions, Fairbanks, AK, June 10, 2013.
268. Mölders, N., Air pollution in Fairbanks - Causes & search for mitigation, 2nd Annual Interior Public Health Summit - Healthy Alaskans looking to the future, Fairbanks, AK, March 19, 2013.
269. Mölders, N., Improved air anyone? Research Showcase seminar, Fairbanks, January 23, 2013.
270. Mölders, N., Air pollution in Fairbanks - Causes & search for mitigation, Science for Alaska – Lecture Series, January 19, 2013.
271. Mölders, N., Cryosphere interface, Lower Atmospheric Observing Facilities workshop, Boulder, CO, June 18-20, 2012.
272. Mölders, N., Comparative assessment of emission-control measure impact on cold-season $PM_{2.5}$-concentrations in Fairbanks, REU seminar, Fairbanks, AK, June 16, 2012.
273. Mölders, N., CMAQ simulations: January and November episode, Air quality symposium, January 4-7, 2012.
274. Mölders, N., Air pollution in Fairbanks, Osher Life-long Learning Institute, November 7, 2011.
275. Mölders, N., Investigating the impact of current and future cruise-ship emissions on air quality, visibility, and contaminant deposition in southeastern Alaska National Parks and Wilderness areas, National Park Service, Juneau, October 17, 2011.
276. Mölders, N., Leelasakultum, K., Fairbanks CMAQ modeling achievements. DEC-EPA-UAF phone conference, August 10, 2011.
277. Mölders, N., Tran, H.N.Q., Leelasakultum, K., Tran T.T., WRF/Chem – Model performance/control measure benefits. Fairbanks $PM_{2.5}$ modeling symposium. Fairbanks, AK, June 14-16, 2011.
278. Mölders, N., Leelasakultum, K., CMAQ – January/February episode: Results/challenges. Fairbanks $PM_{2.5}$ modeling symposium. Fairbanks, AK, June 14-16, 2011.
279. Mölders, N., Cahill, C.F., Newby, G., Weingartner, T., Weather, atmospheric conditions, and physical oceanography, UAF Arctic Oil Spill Workshop, Fairbanks, AK, April 28-29, 2011.
280. Mölders, N., Impact of unregulated ship emissions on air and water quality in southern Alaska. International Air Quality Advisory Board Expert Consultation, Whitehorse, Canada, August 17-19, 2010.
281. Mölders, N., Decreasing air quality in Alaska – What is going on with Alaska's air? GI REU seminar, Fairbanks, AK, June 28, 2010.
282. Mölders, N., Department of Atmospheric Sciences, GI REU seminar, Fairbanks, AK, June 16, 2010.
283. Mölders, N., Tran, H.N.Q., Tran, T.T., Brunner, K., Kramm, G., Sassen, K., Implications for WRF/CMAQ modeling, SO_2 workshop of the Fairbanks North Star Borough, Fairbanks, AK, May 26-28, 2010.

284. Mölders, N., Impact of unregulated ship emissions on air and water quality in southern Alaska – domestic and imported. Science seminar of the School of Fish and Ocean Science, University of Alaska Southeast, Juneau, March 26, 2010.
285. Mölders, N., Arctic weather and the exchange of matter at the surface-atmosphere interface - Impact of ship emissions on atmospheric concentrations. Symposium of Computational Science at the University of Alaska, Fairbanks, AK, February 15-26, 2010.
286. Mölders, N., Status of the investigations of means for $PM_{2.5}$ mitigation through atmospheric modeling. Geophysical Institute, January 15, 2010.
287. Mölders, N., Numerical investigations of the exchange of heat and matter at the surface-atmosphere interface and its atmospheric impact, Symposium of Computational Science at the University of Alaska, Fairbanks, AK, February 16-18, 2009.
288. Mölders, N., Impact of young fire scars on microclimate under extreme stable conditions. Dynamics of Complex Systems workshop, Fairbanks, AK, August 6-8, 2008.
289. Mölders, N., Key considerations for simulating Arctic weather and climate with limited area models. Arctic System Model workshop, Fairbanks, AK, August 6-7, 2007.
290. Mölders, N., Efficacy of calculating fire indices from weather forecasts. Dynamics of Complex Systems workshop, Fairbanks, AK, July 25-27, 2007
291. Mölders, N., Land surface-atmosphere interaction: Why scales matter. Seminar at University of California at Davis, Department of Land, Air, and Water Resources, January 10, 2007.
292. Mölders, N., Examples of cross-campus collaborations: Using the Weather Research and Forecasting model. Enhancing UA Climate Change Research Capabilities workshop, University of Alaska, Fairbanks, AK, November 10, 2006.
293. Mölders, N., Kramm, G., Development of a tool for downscaling of operational climate forecasts to regional and local fire indices. 31st Climate Diagnostics and Prediction Workshop, Boulder, CO, October 23-26, 2006.
294. Mölders, N., Li, Z., Narapusetty, B., PaiMazumder, D., Kramm, G., Influence of wildfires on environmental conditions at various temporal and spatial scales. University of Cologne, Institute for Geophysics and Meteorology, EURAD, Cologne, Germany, March 23, 2006.
295. Mölders, N., The atmospheric sciences group at GI. Presentation to the chancellor of UAF, Fairbanks, AK, April 19, 2005.
296. Mölders, N., Land-surface albedo and the impact of its uncertainty on model results. 85th annual meeting of the American Meterological Society, San Diego, CA, January 9-13, 2005.
297. Mölders, N., Improving NWP model physics for high latitude applications: The importance of organic soils, Dufour- and Ludwig-Soret effects, and soil frost. Workshop on short-to-medium range regional NWP in the Arctic and Antarctic, Fairbanks, AK, October 8-10, 2003.
298. Mölders, N., Human impacts on weather and climate. Adventure of life-long learning. Fairbanks, AK, April 24, 2003.
299. Mölders, N., The role of vegetation in the simulation of water and energy exchange at the biosphere-atmosphere interface. Seminar of the Institute of Arctic Biology, Fairbanks, AK, April 18, 2003.
300. Mölders, N., Future goals of the Atmospheric Sciences group at the Geophysical Institute. GI Advisory Board meeting, Fairbanks, AK, April 1, 2003.
301. Mölders, N., Landflächenmodellierung in Atmosphärenmodellen. Seminar at Institut für Geophysik und Meteorologie, Universität zu Köln, Köln, Germany, February 27, 2002.
302. Mölders, N., Unsicherheitsanalysen zur Parametrisierung von Prozessen der Biosphäre und Hydrosphäre in atmosphärischen Modellen. "kick-off meeting", Jena, Germany, April 23-25, 2001.
303. Mölders, N., Auswirkungen von Landnutzungsänderungen auf die Wasserverfügbarkeit - Übersichtsvortrag. Workshop Modellierung in meso- bis makroskaligen Flusseinzugs-gebieten. Lauenburg, Germany, November 17, 2000.
304. Mölders, N., A new land surface scheme for MM5 climate model. Geophysical Institute, University of Alaska, Fairbanks, AK, June 15, 2000.
305. Mölders, N., Landoberflächenmodellierung - Eine Bestandsaufnahme. Fortbildungs-veranstaltung der Deutschen Meteorologischen Gesellschaft, Zweigverein Leipzig. Tharandt, Germany, May 17, 2000.

306. Mölders, N., Evaluation of a hydro-thermodynamic soil-vegetation scheme (HTSVS) by means of data measured at Brandis (Germany) lysimeter station. University of California, Department of Land, Air and Water Resources, Davis, CA, March 2, 2000.
307. Mölders, N., Aspekte des Wasserhaushalts. Kolloquium am Institut für Meteorologie, Freie Universität Berlin, Berlin, Germany, January 17, 2000.
308. Mölders, N., Aspekte des Wasserhaushalts. Kolloquium am Institut für Physik der Atmosphäre, Universität Mainz, Mainz, Germany, December 1, 1999.
309. Mölders, N., Lysimeterdaten in meteorologischen Modellen. Festkolloquium anlässlich der Einweihung des Umbaus der Lysimeterstation Brandis, Brandis, Germany, November 5, 1999.
310. Mölders, N., Auswirkungen von akkumulierten Landnutzungsänderungen auf Evapo-transpiration, Wolken- und Niederschlagsbildung. Kolloquium am Alfred-Wegener-Institut, Bremerhaven, Germany, October 25, 1999.
311. Mölders, N., Anwendungen meteorologischer Verfahren zur Bestimmung des Wasser- und Energiehaushalts. Kolloquium am Institut für Meteorologie und Klimatologie, Universität Hannover, Hannover, Germany, June 2, 1999.
312. Mölders, N., On the influence of open-cast mining on hydrological processes. Workshop on Regional Hydrological Processes - Remote Sensing - Assimilation and Validation. Bonn, Germany, February 18-19, 1999.
313. Mölders, N., Friedrich, K., Kramm, G., Parametrisierung des Energie- und Wasser-austausches in hochauflösenden Mesoskala-Modellen. Deutsche Meteorologen Tagung. Leipzig, Germany, September 14-18, 1998.
314. Mölders, N., Numerische Untersuchungen zum Wasserkreislauf. Meteorologisches Kolloquium, Fakultät für Physik und Geowissenschaften, Universität Leipzig, Leipzig, Germany, July 28, 1998.
315. Mölders, N., Numerische Untersuchungen zum Wasserkreislauf. Institut für Physische Geographie und Geoökologie, Universität Potsdam, Golm, Germany, June 16, 1998.
316. Mölders, N., Landschaftswandel und der Einfluß auf lokale Konvektion und Niederschlag. STUMETA'98, Leipzig, Germany, May 21, 1998.
317. Mölders, N., Experiences in the coupling of the model NASMO and GESIMA at the Institut für Meteorologie, Leipzig. Workshop on the coupling of MIKE SHE to a high resolution nonhydrostatic limited area model, Offenbach, Germany, July 30-31, 1996.
318. Mölders, N., Multiphasensysteme in der Mesoskala α (Review). Multiphasen-Modellierungs-Workshop, Leipzig, Germany, June 13-14, 1995.
319. Mölders, N., Numerical experiments with MM4 on parameterized cloud microphysics. MMM Seminar at the National Center for Atmospheric Research (NCAR), Boulder, CO, February 24, 1994.
320. Mölders, N., Effects of different cloud parameterizations in a tropospheric chemistry model on calculated gas phase distributions of O_3, NO_2 and sulfate. Atmospheric Science Special Seminar of the University of California at Davis, CA, November 16, 1993.
321. Mölders, N., Parametrisierung der Wolken im EURAD-Modell. Seminar of the Fraunhofer-Institut für Atmosphärische Umweltforschung (IFU), Garmisch-Partenkirchen, Germany, May 20, 1992.

Other Oral Presentations

322. Mölders, N., Gende, S., Cruise ship tourism, and climate change in Glacier Bay - an air quality management challenge in a dynamic system. Atmospheric sciences informal seminar, Fairbanks, AK, December 7, 2016.
323. Mölders, N., Assessment of the 2006-2012 summer climatological fields and mesoscale features obtained by WRF/Chem over the Panhandle. Atmospheric Sciences Informal Seminar, Fairbanks, AK, September 10, 2014.
324. Mölders, N., Natural and anthropogenic emissions – Impacts on air quality, weather and climate in Alaska, National Research Laboratory Visit Workshop, Fairbanks, AK, July 22-23, 2014.
325. Mölders, N., Development and first applications of an activity-based ship emission model. Atmospheric Sciences Informal Seminar, Fairbanks, AK, October 30, 2013.
326. Mölders, N., Gende, S., An activity based ship-emission inventory for Southeast Alaska, Alaska Weather Symposium, Fairbanks, AK, March 11-12, 2013.

327. Mölders, N., Gende, S., Assessment of cruise-ship emissions in Southeast Alaska National Parks and Wilderness Areas. American Meteorological Society annual conference, Austin, TX, January 6-10, 2013.
328. Mölders, N., Tran, H.N.Q., Cahill, C.F., Leelasakultum, K., Tran, T.T., WRF/Chem performance during the 2008/09 field campaign, Alaska Weather Symposium, Fairbanks, AK, March 13-14, 2012.
329. Mölders, N., Daengngern, Tran, T.T., Gende, S., Ship emission impacts in Southeast Alaska, Alaska Weather Symposium, Fairbanks, AK, March 13-14, 2012.
330. Mölders, N., Tran, T.T., Investigation on the impacts of ship-emission control measures on visibility in Alaska coastal regions, American Meteorological Society annual meeting, New Orleans, LA, January 22-26, 2012.
331. Mölders, N., Tran, H.N.Q., Leelasakultum, K., Tran T.T., WRF/CHEM – investigations on ways to improve winter air quality in Fairbanks. GI REU seminar, Fairbanks, AK, June 13, 2011.
332. Mölders, N., Tran, H.N.Q., Assessment of aerosol modeling, Atmospheric Sciences Informal Seminar, Fairbanks, AK, April 26, 2011.
333. Mölders, N., Simpson, W.R., Tran, T.T., Joyce, P., Investigations on the role of N_2O_5 deposition on nitrate chemistry, Alaska Weather Symposium, Fairbanks, AK, March 15-16, 2011.
334. Mölders, N., Pollution transport modeling and detection, Arctic Oil Spill workshop, Fairbanks, AK, March 3, 2011.
335. Mölders, N., Brunner, K., Tran, H.N.Q., Kramm, G., Impacts of simulated stability on simulated $PM_{2.5}$ concentrations, American Meteorological Society Annual Meeting, Seattle, January 23-27, 2011.
336. Mölders, N., Tran, T.T., Newby, G., Simpson, W.R., Stockwell, W.R., Nitrate radical chemistry over the sub-Arctic Pacific, 11th annual WRF users' workshop, Boulder, CO, June 21-25, 2010.
337. Mölders, N., Tran, T.T., Newby, G.R., The impact of unregulated ship emissions on air quality and atmospheric input for the northern Pacific, Alaska, and Eastern China, Alaska Weather Symposium, Fairbanks, AK, March 9-10, 2010.
338. Mölders, N., Tran, H.N.Q., Conner, J., Quinn, P., Sassen, K., Shaw, G.E., Kramm, G., Evaluation of WRF/Chem's ability to capture winter atmospheric boundary layer characteristics by radiosonde, SODAR, aerosol and station data, Alaska Weather Symposium, Fairbanks, AK, March 9-10, 2010.
339. Mölders, N., Investigating causes for poor air quality in Fairbanks in wintertime. Preliminary results, Atmospheric Sciences Informal Seminar, Geophysical Institute, Fairbanks, AK, February 3, 2010.
340. Mölders, N., Tran, H.N.Q., Fortun, T., WRF/Chem model development to assess emission changes on the air quality in the Fairbanks $PM_{2.5}$ nonattainment area. International Aerosol Modeling Algorithms conference, UC Davis, Davis, CA, December 9-12, 2009.
341. Mölders, N., Tran, H.N.Q., Fortun, T., Investigation of means for $PM_{2.5}$ mitigation through atmospheric modeling, Dynamics of Complex Systems Workshop, Fairbanks, AK, August 5-6, 2009.
342. Mölders, N., Tran, H.N.Q., Fortun, T., Tran, T.T., Grid-based modeling, Air Quality Symposium, Fairbanks, AK, July 15-17, 2009.
343. Mölders, N., Tran, H.N.Q., Contribution of point emissions on the $PM_{2.5}$ concentrations at breathing level. 10th WRF Users' Workshop, Boulder, CO, June 23-26, 2009.
344. Mölders, N., Modeling air pollution in the Fairbanks North Star Borough, Atmospheric Sciences Informal Seminar, Fairbanks, AK, April 22, 2009.
345. Mölders, N., Chigullapalli, S., Newby, G., Prakash, A., Shulski, M., A technique to examine the sensitivity of WRF results to the model configuration: Proof of concept. Alaska Weather Symposium, Fairbanks, AK, March 10-12, 2009.
346. Mölders, N., Tran, H.N.Q., Cahill, C.F., Conner, J., Kramm, G., Investigations on Fairbanks' $PM_{2.5}$ problem. Alaska Weather Symposium, Fairbanks, AK, March 10-12, 2009.
347. Mölders, N., Porter, S.E., Cahill, C.F., The role of ship emissions on atmospheric composition and input into South Alaska National Parks. 89th Annual meeting of the American Meteorological Society, Phoenix, AZ, January 11-15, 2009.

348. Mölders, N., Chigullapalli, S., Kramm, G., Investigations on simulating winter inversions causing poor air quality in Fairbanks, Alaska. 89th Annual meeting of the American Meteorological Society, Phoenix, AZ, January 11-15, 2009.
349. Mölders, N., Volcanic eruptions and their impact on weather and climate. Science Teacher Education Program. GI, Fairbanks, AK, July 7 – August 1, 2008.
350. Mölders, N., Ideas on collaborations with NWS on mesoscale forecasts of the hydrological cycle and air quality. Meeting of the Alaska Regional NOAA Office and DAS on collaboration opportunities, Fairbanks, AK, July 8, 2008.
351. Mölders, N., Comparison of CFFDRS and NFDRS fire indices derived from WRF forecasts. “Little” Alaska Weather Symposium, Fairbanks, AK, May 12-13, 2008.
352. Mölders, N., Wildfire impacts on air quality, weather and climate. REU seminar. Fairbanks, AK, July 9, 2007.
353. Mölders, N., Kramm, G., On the prediction of Alaska fire weather, Great Alaska Weather Modeling Symposium, Fairbanks, AK, March 13-15, 2007.
354. Mölders, N., Li, Z., Kramm, G., Influence of radiative forcing and land-cover changes on precipitation recycling in Alaska and Siberia. 7th International Conference on Global Change: Connection to the Arctic (GCCA-7), February 19-20, 2007.
355. Mölders, N., Kramm, G., Impact of wildfire induced land-cover changes on clouds andprecipitation in Interior Alaska. AAAS, Fairbanks, AK, October 3-4, 2006.
356. Mölders, N., Impact of wildfires on environmental conditions. REU seminar. Fairbanks, AK, July 10, 2006.
357. Mölders, N., Narapusetty, B. Elbern, H., Klioutchnikova, A., Soil frost and snow metamorphism-simulations with a complex hydro-thermodynamic soil-vegetation scheme. BALTIMOS DEKLIM final meeting, Hamburg, Germany, February 28, 2005.
358. Mölders, N., Surface atmosphere interaction – Modeling activities during the International Polar Year. International Polar Year workshop at the Geophysical Institute, Fairbanks, AK, November 29, 2004.
359. Mölders, N., Evaluation of HTSVS' frozen soil/permafrost module. Workshop on spatially distributed modeling and remote sensing of permafrost/frozen ground. Fairbanks, AK, October 17-19, 2004.
360. Mölders, N., Modeling of Frozen Soil. IARC OC meeting, Fairbanks, AK, October 5, 2004.
361. Mölders, N., Impact of burnt areas on future thunderstorm formation, GI Boundary fire workshop, Fairbanks, AK, September 29, 2004.
362. Mölders, N., Modeling of Frozen Soil Regimes. IARC Program Steering Group meeting, Fairbanks, AK, August 25, 2004.
363. Mölders, N., Anthropogenic influences on weather. REU seminar. Fairbanks, AK, August 2, 2004.
364. Mölders, N., Model errors caused by prescribed soil physical and plant physiological parameters. Atmospheric Science Informal Seminar, Fairbanks, AK, March 24, 2004.
365. Mölders, N., Development of a frozen soil/permafrost module for GCMs – Preliminary results and future plans. IARC Advisory Board, Fairbanks, AK, February 23-24, 2004.
366. Mölders, N., Human impacts on weather and climate. REU seminar. Fairbanks, AK, July 28, 2003.
367. Mölders, N., Elbern, H., Majhi, I., Klioutchnikova, A., Soil frost and snow metamorphism-simulations with a complex hydro-thermodynamic soil-vegetation scheme. Max-Planck Institute, Hamburg, Germany, March 10, 2003.
368. Mölders, N., A hydro-thermodynamic soil module to describe soil frost in climate models. 83rd AMS annual meeting 2003, Long Beach, CA, February 9-13, 2003.
369. Mölders, N., On the impact of explicitly simulated snow metamorphism and permafrost on MM5 predictions. Atmospheric Science Informal Seminar, Fairbanks, October 16, 2002.
370. Mölders, N., Variability of the water cycle. Symposium of the Atmospheric Science group. Fairbanks, AK, June 17, 2002.
371. Mölders, N., Elbern, H., Bodenfrost und Schneemetamorphose-Simulationen für die BALTEX-Region mit einem komplexen hydro-thermodynamischen Boden-Vegetations-schema. DEKLIM kick-off-meeting 2002, Bad Honnef, Germany, February 25, 2002.
372. Mölders, N., Sensitivity studies on the long-term water budget quantities predicted by the hydro-thermodynamic soil vegetation scheme HTSVS. Atmospheric Science Informal Seminar, Geophysical Institute, Fairbanks, AK, November 7, 2001.

373. Mölders, N., Investigations of the impact of land surface characteristics on cloud- and precipitation formation. GI/ARL workshop, Fairbanks, AK, July 25, 2001.
374. Mölders, N., Modellierung der Wasserverfügbarkeit. 5. Deutsche Klimatagung, Hamburg, Germany, October 2-6, 2000.
375. Mölders, N., HTSVS - a new land surface scheme for MM5. MM5 users' workshop, NCAR, Boulder, CO, June 21, 2000.
376. Mölders, N., Evaluation of a hydro-thermodynamical soil-vegetation scheme (HTSVS) by means of lysimeter data. NCAR's MMM seminar, Boulder, CO, January 28, 2000.
377. Mölders, N., Haferkorn, U., Knappe, S., Kramm, G., Verwendung von Lysimeter- und Tensiometerdaten zur Evaluierung eines Moduls zur Kopplung hydrologischer und meteorologischer Modelle. 3. Workshop zur Heterogenität landschaftlicher Wasser- und Stoffumsätze in Einzugsgebieten, Göttingen, Germany, November 18-19, 1999.
378. Mölders, N., Haferkorn, U., Knappe, S., Döring, J., Kramm, G., Evaluierung des modellierten Wasserhaushalts an Hand der Brandiser Lysimeterdaten. 2. Tagung des Fachausschusses Hydrometeorologie "Verdunstung - detailliert messen, integriert modellieren", Leipzig, Germany, November 15-16, 1999.
379. Mölders, N., Hurrikane und Taifune. Teaching evaluation in partial fulfillment of the requirements for habilitation, Universität Leipzig, Leipzig, Germany, June 25, 1999.
380. Mölders, N., Einfache und akkumulierte Landnutzungsänderungen und ihre Auswirkung auf Evapotranspiration, Wolken- und Niederschlagsbildung. Habilitation Thesis Defense, Universität Leipzig, Leipzig, Germany, May 17, 1999.
381. Mölders, N., Zur Auswirkung akkumulierter Landnutzungsänderungen auf die Evapotranspiration. Workshop des Fachausschusses Hydrometerorologie der DMG und der DVWK-Fachgruppe 1 Wasserwirtschaft und Hydrologie, Cottbus, Germany, February 25-26, 1999.
382. Mölders, N., Kramm, G., Zum Einfluß der Parameterisierung von Boden- und Vegetations-prozessen auf die berechneten wasserkreislaufrelevanten Größen. 2. Workshop zur Modellierung des Wasser- und Stofftransports in großen Einzugsgebieten, Rauischholzhausen, Germany, November 19-20, 1998.
383. Mölders, N., Numerical experiments on the influence of surface cover changes upon the processes of the atmospheric water cycle in the southern Baltic Basin. Second study conference on BALTEX, Juliusruh, Germany, May 25-29, 1998.
384. Mölders, N., Friedrich, K., Kramm, G., On the sensitivity of cloud microphysics to the energy and water fluxes at the interface earth-atmosphere. EGS XXIII General Assembly, Nice, France, April 20-24, 1998.
385. Mölders, N., Comparison of the rainfall and evapotranspiration predicted for a landscape of 1930, 1986 and different opencast mining succession landscapes. EGS XXIII General Assembly, Nice, France, April 20-24, 1998.
386. Mölders, N., Potentielle Einflüsse von Landnutzungsänderungen: Eine regionale Modell-studie. Deutsche Meteorologen Tagung, Leipzig, Germany, September 14-18, 1998.
387. Mölders, N., Strukturen atmosphärischer Modelle und Konsequenzen bei der Parallelisierung. 1. Workshop Parallelisierung der numerischen Modelle ausgewählter meteorologischer und luftchemischer Prozesse für lose gekoppelte Rechnerarchitekturen, Leipzig, Germany, April 16, 1998.
388. Mölders, N., Zur Nutzung von Satellitendaten in der Modellierung. Workshop GPS-gestützte Meteorologie, Anwendung von Satellitendaten, Leipzig, Germany, February 19, 1998.
389. Mölders, N., Zwei-Wege-Kopplung eines hydrologischen Modells mit einem meteoro-logischen Modell - Vorläufige Ergebnisse. Workshop Modellierung des Wasser- und Stofftransportes in großen Einzugsgebieten, Potsdam, Germany, December 15-16, 1997.
390. Mölders, N., On the possible influence of different flooding stages on local evaporation, cloudiness and rainfall in the Brandenburgian part of the Odra river. 7th German-Polish seminar 1997 on coastal and estuary dynamics. Ueckermünde, Germany, November 17-21, 1997.
391. Mölders, N., Considering runoff in a non-hydrostatic mesoscale meteorological model. Second SRNWP-workshop on non-hydrostatical modeling, Offenbach, Germany, October 27-29, 1997.
392. Mölders, N., Auswirkungen von Landnutzungsänderungen auf die regionale Wolken- und Niederschlagsbildung. 4. Deutsche Klimatagung, Frankfurt/Main, Germany, October 1-3, 1997.

393. Mölders, N., Beckmann, T., Raabe, A., Integration eines hydrologischen Modells in einem meteorologischen Modell - erste Ergebnisse. 4. Deutsche Klimatagung, Frankfurt/Main, Germany, October 1-3, 1997.
394. Mölders, N., Evaluierung einer Parametrisierung der subskaligen Heterogenität der Erdoberfläche mittels Fernerkundung. IFT-workshop Austauschprozesse in der Troposphäre mit Schwerpunkt Austausch zwischen planetarer Grenzschicht und freier Troposphäre, Leipzig, Germany, September 29-30, 1997.
395. Mölders, N., Raabe, A., Beckmann, T., On the integration of meteorological forecasts in a rainfall runoff model and of runoff forecasts in a meteorological model - a coupled hydrologic meteorological package. 3rd European Conference on Applications of Meteorology, ECAM'97, Lindau, Germany, September 23-26, 1997.
396. Mölders, N., Numerische Experimente zur Flutung von Tagebauten: Der Einfluß auf die Wolkenmikrophysik. WOPHYS 97, Oberderingen, Germany, September 17-19, 1997.
397. Mölders, N., On the sensitivity of fluxes to type A and B land surface cover. EGS XXII General Assembly, Vienna, Austria, April 21-25, 1997.
398. Mölders, N., Raabe, A., Strasser, U., Schneider, K., Mauser, W., A sensitivity study on the impact of landuse data sets on weather prediction. EGS XXII General Assembly, Vienna, Austria, April 21-25, 1997.
399. Mölders, N., Raabe, A., Beckmann, T., A meteorological model coupled with a hydrological model - The effect on soil wetness, evapotranspiration, cloud-, and precipitation formation. EGS XXII General Assembly, Vienna, Austria, April 21-25, 1997.
400. Mölders, N., On the impact of subgrid-scale landuse on hydrologically relevant quantities predicted by a meteorological non-hydrostatic model. International conference on regionalization in hydrology, Braunschweig, Germany, March 10-14, 1997.
401. Mölders, N., Experiences in the coupling of the model NASMO and GESIMA at the Institut für Meteorologie, Leipzig. Workshop on the coupling of MIKE SHE to a high resolution nonhydrostatic limited area model, Offenbach, Germany, July 30-31, 1996.
402. Mölders, N., Tetzlaff, G., Flächenwichtung von Stoffflüssen über größeren Gebieten. Status-besprechung UBA F+E Vorhaben. Torgau, Germany, July 8-9, 1996.
403. Mölders, N., Raabe, A., Tetzlaff, G., A scheme to provide subgrid-scale precipitation and evapotranspiration as input for hydrological models. EGS XXI General Assembly, The Hague, The Netherlands, May 6-10, 1996.
404. Mölders, N., Raabe, A., Tetzlaff, G., Numerical experiments on different schemes to treat subgrid-scale surface heterogeneity. EGS XXI General Assembly, The Hague, The Netherlands, May 6-10, 1996.
405. Mölders, N., Raabe, A., Tetzlaff, G., Kramm, G., Laube, M., Investigations on the interaction between parameterized microphysics and the dynamics within the ABL. EGS XXI General Assembly, The Hague, The Netherlands, May 6-10, 1996.
406. Mölders, N., Raabe, A., Parameterization of subgrid-scale precipitation and evaporation in a nonhydrostatic meso-β-scale model. First SRNWP-Workshop on nonhydrostatic modeling. Offenbach, Germany, March 11-13, 1996.
407. Mölders, N., Raabe, A., Kopplung mit einem Hydrologiemodel. 3. Workshop zur Entwicklung des nichthydrostatischen Lokal-Modells (LM). DWD-workshop on LM. Offenbach, Germany, November 28-29, 1995.
408. Mölders, N., Raabe, A., Modellierung der Wasser- und Energieflüsse für heterogene Landoberflächen. Deutsche Meteorologen Tagung, Munich, Germany, September 11-15, 1995.
409. Mölders, N., Raabe, A., On the influence of surface heterogeneity on the water cycle. First BALTEX conference, Visby, Sweden, August 28 - September 1, 1995.
410. Mölders, N., Raabe, A., Tetzlaff, G., Simulating hydrologically relevant quantities from heterogeneous surfaces. IUGG XXI General Assembly, Boulder, CO, July 2-14, 1995.
411. Mölders, N., Raabe, A., Aspects of the influence of topography on evapotranspiration and cloud and precipitation formation. IUGG XXI General Assembly, Boulder, CO, July 2-14, 1995.
412. Mölders, N., Raabe, A., Wechselwirkung zwischen Evapotranspiration und Wolken. 7th WOPHYS-Kolloquium, Bad Honnef, Germany, May 29-31, 1995.

413. Mölders, N., Laube, M., Raschke, E., Comparison of model generated and satellite derived cloud cover. EGS XIX general assembly, Grenoble, France, April 29, 1994.
414. Mölders, N., Kramm, G., Laube, M., The role of parameterized ice microphysics on cloud structures and dynamics. Regional Photochemical Measurements and Modeling Studies conference of the Air & Waste Management Association in San Diego, CA, November, 8-12, 1993.
415. Mölders, N., Laube, M., Zur Bedeutung der Eisphase in einem Wettervorhersagemodell der Mesoskala α. WOPHYS-Kolloquium, Konstanz, Germany, May 17-19, 1993.
416. Mölders, N., The impact of cloud parameterizations on the distribution of tracer gases. 7th EUMAC Workshop, Porto Carras, Greece, September 28-29, 1992.
417. Mölders, N., Demands on a cloud module for EURAD. EUMAC Cloud Workshop, Cologne, Germany, June 15, 1992.
418. Mölders, N., New cloud parameterizations in the EURAD model. EUMAC Cloud Workshop, Cologne, Germany, June 15, 1992.
419. Mölders, N., Ebel, A., Jakobs, H.J., Development of a cloud cover parameterization for EURAD by means of satellite data. EGS XVI General Assembly, Wiesbaden, Germany, 1991.
420. Mölders, N., Validation des EURAD-Wolken-Moduls. EURAD-presentation, Cologne, Germany, 1989.
421. Mölders, N., Möglichkeiten der Nutzung von Satellitendaten zur Validierung des EURAD-Wolkenmoduls. Seminar of the Institut für Chemie 2, KFA Jülich, Germany, 1988.
422. Mölders, N., Bauer, P., Raschke, E., Polar cloud identification: Results of polar cloud-detection by a threshold and a maximum-likelihood method. AVHRR data users' meeting, Oxford, UK, December 16-18, 1987.

Poster Presentations

423. Mölders, N., Butwin, M.K., Jackson, E., Madden, J.M., Pirhalla, M.A., Kramm, G., Anthropogenic impacts on weather and climate in Alaska, Climate Policy Commission, Fairbanks, AK, October 28, 2013 (invited).
424. Leelasakultum K., Mölders, N., Adapting CMAQ for Alaska, Alaska Weather Symposium, Fairbanks, AK, March 11-12, 2013.
425. Madden, J.M., Mölders, N., Using WRF/Chem data of the Minto Flats South wildfire of 2009 to develop a pixel 'demixing' method, Alaska Weather Symposium, Fairbanks, AK, March 11-12, 2013.
426. Pirhalla, M.A., Mölders, N., Evaluation of WRF/Chem simulations of the 2008 tourist season to investigate inversion characteristics in Glacier Bay, Alaska, Alaska Weather Symposium Fairbanks, AK, March 11-12, 2013.
427. Leelasakultum, K., Mölders, N., Adapting CMAQ for Alaska, 11th Annual CMAS Conference, Chapel Hill, NC, October 15-17, 2012.
428. Mölders, N., Tran, H.N.Q., Cahill, C.F., Leelasakultum, K., Tran, T.T., Evaluation of WRF/Chem $PM_{2.5}$-simulations using mobile and fixed location monitoring data from the Fairbanks, Alaska 2008/09 winter field campaign, Alaska Weather Symposium, Fairbanks, AK, March 13-14, 2012.
429. Tran, T.T., Mölders, N., Effects of reducing SO_2 and NO_x emission from ships on air quality in Alaska, Alaska Weather Symposium, Fairbanks, AK, March 13-14, 2012.
430. Daengngern, R., Mölders, N., Development of a ship emission inventory for Southeast Alaska, Alaska Weather Symposium, Fairbanks, AK, March 13-14, 2012.
431. Tran, H.Q.N., Leelasakultum, K., Mölders, N., Examination with WRF-CMAQ on the impact of traffic on neighborhoods in Fairbanks, Alaska, Alaska Weather Symposium, Fairbanks, AK, March 13-14, 2012.
432. Mölders, N., Tran, H.N.Q., Cahill, C.F., Leelasakultum, K., Tran, T.T., Evaluation of WRF/Chem $PM_{2.5}$-simulations using mobile and fixed location monitoring data from the Fairbanks, Alaska 2008/09 winter field campaign, American Geophysical Union annual conference, San Francisco, CA, 12-15 December 2011.
433. Tran, T.T., Mölders, N., Effects of reducing SO_2 and NO_x emission from ships on air quality in Alaska, American Geophysical Union annual conference, San Francisco, CA, 12-15 December 2011.

434. Tran, H.Q.N., Leelasakultum, K., Mölders, N., Examination with WRF-CMAQ on the impact of traffic on neighborhoods in Fairbanks, Alaska, 10th Annual CMAS Conference, Chapell Hill, NC, October 24-26, 2011.
435. Leelasakultum, K., Mölders, N., Examination the impact of the use of fuel with reduced sulfur content on the $PM_{2.5}$-concentrations in Fairbanks, Campus Research Day, Fairbanks, AK, May 5, 2011.
436. Brunner, K., Mölders, N., WRF/Chem simulations over Fairbanks, AK: Atmospheric boundary layer and analysis of precursors, atmospheric influences, Campus Research Day, Fairbanks, AK, May 5, 2011.
437. Tran, T.T., Simpson, W.R., Newby, G., Stockwell, W.R., Mölders, N., Impacts of increased ship emissions on nitrate radicals at low irradiation, Alaska Weather Symposium, Fairbanks, AK, March 15-16, 2011.
438. Brunner, K., Mölders, N., WRF/Chem simulations over Fairbanks, AK: Atmospheric boundary layer and analysis of precursors, atmospheric influences, Alaska Weather Symposium, Fairbanks, AK, March 15-16, 2011.
439. Leelasakultum, K., Mölders, N., Examination the impact of the use of fuel with reduced sulfur content on the $PM_{2.5}$ concentrations in Fairbanks, Alaska, Alaska Weather Symposium, Fairbanks, AK, March 15-16, 2011.
440. Tran, T.T., Simpson, W.R., Newby, G., Stockwell, W.R., Mölders, N., Impacts of increased ship emissions on nitrate radicals at low irradiation, American Meteorological Society Annual Meeting, Seattle, January 23-27, 2011.
441. Tran, H.N.Q., Mölders, N., Potential impacts of woodstove replacement on $PM_{2.5}$ concentrations in Fairbanks. 11th annual WRF users' workshop, Boulder, CO, June 21-25, 2010.
442. Mölders, N., Tran, T.T., Newby, G., Impact of ship emissions in the North Pacific on Arctic air quality, State of the Arctic Conference, Miami, 16-19 March 2010.
443. Tran, T.T., Newby, G., Mölders, N., WRF/Chem investigations on the role of emission changes for degrading air quality in Alaska's remote coastal areas, Alaska Weather Symposium, Fairbanks, AK, March 9-10, 2010.
444. Tran, H.N.Q., Mölders, N., Investigation of point source emission impacts on Fairbanks' PM2.5 concentrations in the nonattainment area, Alaska Weather Symposium, Fairbanks, AK, March 9-10, 2010.
445. Tran, H.N.Q., Mölders, N., Relationship between Fairbanks' $PM_{2.5}$ concentration at breathing level and inversion height. Science for Alaska Lecture Series, Fairbanks, February 9, 2010.
446. Beres, J., Prakash, A., Gens, R., Mölders, N., Comparison of WRF model outputs and MODIS image products for cloud presence for the High Latitudes: A case study. Association of American Geographers' Annual Meeting, Washington, 2010.
447. Tran, T.T., Newby, G., Mölders, N., Relation between emission changes and air quality in Alaska coastal areas. International Aerosol Modeling Algorithms conference, UC Davis, Davis, CA, December 9-12, 2009.
448. Tran, H.N.Q., Mölders, N., Assessment of WRF/Chem simulations of $PM_{2.5}$ concentrations for an extreme high pollution event in December 2008. Dynamics of Complex Systems workshop, Fairbanks, AK, August 5-6, 2009.
449. Mölders, N., Porter, S.E., Tran, T.T., Cahill, C.F., Impact of unregulated ship emissions on air and water quality in southern Alaska. 10th WRF Users' Workshop, Boulder, CO, June 23-26, 2009.
450. Tran, H.N.Q., Mölders, N., Relationship between Fairbanks' $PM_{2.5}$ concentration at breathing level and inversion height. Alaska Weather Symposium, March 10-12, 2009.
451. PaiMazumder, D., Mölders, N., Arctic and global climate responses to ecosystem-induced summer albedo changes. Alaska Weather Symposium, March 10-12, 2009.
452. PaiMazumder, D., Mölders, N., Arctic and global climate responses to ecosystem-induced summer albedo changes. International Polar Year Conference at UAF, Fairbanks, March 4-5, 2009.
453. Porter, S.E., Mölders, N., Impact of pollutant emissions from shipping traffic within the Gulf of Alaska on deposition of contaminants into various ecosystems. AAAS, Fairbanks, AK, September 15-19, 2008.

454. Porter, S.E., Mölders, N., Investigations on the atmospheric input of contaminants stemming from ship emissions into South-West Alaska coastal landscapes. Dynamics of Complex Systems workshop, Fairbanks, AK, August 6-8, 2008.
455. PaiMazumder, D., Mölders, N., Reasons for discrepancies between CCSM simulated and gridded observation-based soil-temperature climatologies over Siberia. Ninth International Conference on Permaforst, Fairbanks, AK, June 30 - July 3, 2008.
456. Mölders, N., Levine E., Transformation of larch-dominated forests and woodlands into mixed taiga – Permafrost simulations with HTSVS' soil model. "Little" Alaska Weather Symposium, Fairbanks, AK, May 12-13, 2008.
457. Porter, S.E., Mölders, N., Investigation and formation of a ship emission inventory for the Gulf of Alaska. "Little" Alaska Weather Symposium, Fairbanks, AK, May 12-13, 2008.
458. Mölders, N., Levine E., Transformation of larch-dominated forests and woodlands into mixed taiga – Permafrost simulations with HTSVS' soil model. NASA Carbon Cycle and Ecosystems Joint Science Workshop, University of Maryland, MD, April 28 – May 2, 2008.
459. Brown, M.E., Mölders, N., Impact of the 2006 Augustine volcano eruption on local weather. 88th American Meteorological Society Annual Meeting, New Orleans, Louisiana, 20-24 January 2008.
460. Brown, M.E., Mölders, N., Analysis of volcanic heat release and local weather interaction: A case study for the 2006 Augustine Volcano eruption. Dynamics of Complex Systems workshop, Fairbanks, AK, July 25-27, 2007.
461. PaiMazumder, D., Mölders, N., Assessment of uncertainty in regional averages due to network density and design. Dynamics of Complex Systems workshop, Fairbanks, AK, July 25-27, 2007.
462. PaiMazumder, D., Li. Z., Mölders, N., Evaluation of soil temperature climatology derived from simulations with the fully coupled Community Climate System Model version 3.0 over Russia. 12th Annual Community Climate System Model workshop, Breckenridge, June 19-21, 2007.
463. Brown, M.E., Mölders, N., Impact of volcanic heat release on local weather for the 2006 Augustine Volcano eruption. 8th Annual WRF user's workshop, Boulder, CO, June 11-15, 2007.
464. Brown, M.E., Mölders, N., Evaluation of the Weather Research and Forecasting (WRF) Model for the time of the 2006 Augustine Volcano eruption, Great Alaska Weather Modeling Symposium (GAWMS), Fairbanks, AK, March 13-15, 2007.
465. PaiMazumder, D., Mölders, N., Application of Weather Research and Forecasting Model (WRF) for estimation of uncertainty in area averages, Great Alaska Weather Modeling Symposium (GAWMS), Fairbanks, AK, March 13-15, 2007.
466. Mölders, N., Li, Z., PaiMazumder, D., Kramm, G., Impact of young fire scars on weather and climate of Alaska, Great Alaska Weather Modeling Symposium (GAWMS), Fairbanks, AK, March 13-15, 2007.
467. Mölders, N., Atmospheric Science Program as a link for hypotheses on the changing Arctic System. Head and Chair Workshop for Future Departments in Geosciences, Carleton College, Northfield, Minnesota, April, 2007.
468. Mölders, N., Li, Z., Kramm, G., Numerical examination of precipitation-recycling changes in response to doubling and tripling CO_2 concentrations and concurrent land-cover changes in Alaska. Great Alaska Weather Modeling Symposium (GAWMS), Fairbanks, AK, March 13-15, 2007.
469. PaiMazumder, D., Li, Z., Mölders, N., Evaluation of climate and soil conditions simulated by the Community Climate System Model Version 3.0 (CCSM3.0) for Russia. AAAS, Fairbanks, AK, October 3-4, 2006.
470. Li, Z., Mölders, N., Impact of land-use changes on water cycle properties at various scales using the fully coupled CCSM2.0.1. 86th annual meeting of the American Meteorological Society, Atlanta, GA, January 30 - February 3, 2006.
471. Li, Z., Bhatt, U.S., Mölders, N., Impacts of different radiative forcing on the regional and global water cycle. 10th CCSM workshop. Breckenridge, CO, June 21-23, 2005.
472. Mölders, N., Narapusetty, B., Cherry, A., Spier, P., Majhi, I., Development and evaluation of frozen ground and snow modules in a complex hydro-thermodynamic soil-vegetation scheme. DEKLIM final meeting, Leipzig, Germany, May 10-12, 2005.

473. Mölders, N., Luijting, H., Sassen, K., Parameterizing snow albedo by means of ARM data measured at Barrow, AK. 85th annual meeting of the American Meteorological Society, San Diego, CA, January 9-13, 2005.
474. Mölders, N., Romanovsky, V., Evaluation and further-development of the HTSVS soil frost/permafrost module using data measured at Barrow, AK. 85th annual meeting of the American Meterological Society, San Diego, CA, January 9-13, 2005.
475. Li, Z., Mölders, N., Analysis of water cycle properties in fully coupled CCSM simulations. 85th annual meeting of the American Meteorological Society, San Diego, CA, January 9-13, 2005.
476. Fathauer, T., Anderson, J., Mölders, N., Analysis of pollen and climatological data for application in public health information. AAAS conference, Anchorage, Ak, September 29-30, 2004.
477. Mölders, N., Jankov, M., Uncertainty of simulated surface fluxes caused by empirical parameters in two land surface schemes. AFO2000 Abschlussseminar, Bad Tölz, Germany, March 23-25, 2004.
478. Li, Z., Mölders, N., Diagnosing the influence of radiative forcing on local recycling of precipitation using a three dimensional recycling model. AGU 2003 fall meeting, San Francisco, CA, December 8-12, 2003.
479. Jankov, M., Mölders, N., Analysis of model uncertainties in predicted surface fluxes resulting from prescribed soil and vegetation parameters. AGU 2003 fall meeting, San Francisco, CA, December 8-12, 2003.
480. Majhi, I., Mölders, N., Observations and modeling of land surface hydrological processes. AGU 2003 fall meeting, San Francisco, CA, December 8-12, 2003.
481. Mölders, N., Spier, P., Cherry, A., Majhi, I., A snow frost and snow model for BALTEX: Model description, evaluation, and preliminary results. BMBF status seminar, Bad Münstereifel, Germany, Oct. 5-8, 2003.
482. Mölders, N., Majhi, I., Walsh, J.E., A hydro-thermodynamic formulation for snow and frozen ground. 8th CCSM workshop. Breckenridge, CO, June 24-26, 2003.
483. Mölders, N., Rühaak, W., Development of a hydrometeorological model: An interdisciplinary project of hydrology, biogeophysics, and meteorology. Workshop on student grant proposals by the Center for Global Change and Arctic System Research, December, 2002.
484. Mölders, N., A tool for modeling permafrost and snow in CCSM, AGU 2002 fall meeting, San Francisco, CA, December, 6-12, 2002.
485. Mölders, N., Jankov, M., Prochaska, L., Rulo, A., Unsicherheitsanalysen zur Parametrisierung von Prozessen der Biosphäre und Hydrosphäre in atmosphärischen Modellen. Statusseminar Schliersee, Germany, October, 7-9, 2002.
486. Mölders, N., Hinneburg, D., Zelger, M., Dlugi, R., A parameterization for modeling dry deposition of reactive trace species in complex terrain. AGU spring meeting, Washington, DC, May 28-31, 2002.
487. Elbern, H., Mölders, N., Bodenfrost und Schneemetamorphose-Simulationen für die BALTEX-Region mit einem komplexen hydro-thermodynamischen Boden-Vegetationsschema (Frozen ground and snow metamorphism simulation for the BALTEX region with a complex hydro-thermodynamic soil-vegetation scheme). DEKLIM kick-off-meeting 2002, Bad Honnef, Germany, February 25-26, 2002.
488. Mölders, N., Long-term investigations on the water budget quantities predicted by the hydro-thermodynamic soil vegetation scheme (HTSVS), AGU 2001 fall meeting, San Francisco, CA, December 10-14, 2001.
489. Rühaak, W., Mölders, N., Entwicklung eines hydrologischen Abfluss-Moduls für ein mesoskaliges Atmosphärenmodell (Development of a hydrological runoff model for a mesoscale atmospheric model). Workshop Modellierung in meso- bis makroskaligen Flusseinzugsgebieten. Lauenburg, Germany, November 16-17, 2000.
490. Hinneburg, D., Mölders, N., Development of modules to simulate dry deposition in complex terrain with heterogeneous surface characteristics. TFS-Abschlussseminar, Bonn, Germany, June 28-29, 2000.
491. Rühaak, W., Mölders, N., Development of a hydrologic runoff module for a mesoscale atmospheric model. EGS XXV General Assembly, Nice, France, April 25-29, 2000.

492. Hinneburg, D., Knoth, O., Mölders, N., Münzenberg, A., Wolke, R., Subgrid-modeling of dry deposition, EUROTRAC-2, Symposium 2000, Garmisch-Partenkirchen, Germany, March 27-31, 2000.
493. Hinneburg, D., Mölders, N., Dry deposition modeled with surface-layer subgrid. EGS XXIV General Assembly, The Hague, The Netherlands, April 19-23, 1999.
494. Mölders, N., Haferkorn, U., Knappe, S., Kramm, G., Evaluation of a hydro-thermodynamical soil model by means of lysimeter data. EGS XXIV General Assembly, The Hague, The Netherlands, April 19-23, 1999.
495. Simmel, M., Reilein, R., Rünger, G., Mölders, N., Spectral cloud microphysics to be used in a 3-dimensional mesoscale non-hydrostatic model. EGS XXIV General Assembly, The Hague, The Netherlands, April 19-23, 1999.
496. Friedrich, K., Mölders, N., Tetzlaff, G., Sensitivitätsstudien zum Bowen-Ratio. Deutsche Meteorologen Tagung, Leipzig, Germany, September 14-18, 1998.
497. Simmel, M., Mölders, N., Wolkenuntersuchungen mit dem Modell GESIMA und Parallelisierungsansätze. Deutsche Meteorologen Tagung, Leipzig, Germany, September 14-18, 1998.
498. Raabe, A., Jagusch, F., Mölders, N., Different cloud prediction by use of various types of cloud models included in a mesoscale model. EGS XXIII General Assembly, Nice, France, April 20-24, 1998.
499. Klingspohn, M., Mölders, N., Raabe, A., Testing of an explicit subgrid-scheme within the Deutschland-Modell. EGS XXIII General Assembly, Nice, France, April 20-24, 1998.
500. Klingspohn, M., Mölders, N., Raabe, A., Testing of an explicit subgrid-scheme within DM. Second SRNWP-workshop on non-hydrostatical modeling, Offenbach, Germany, October 27-29, 1997.
501. Kramm, G., Mölders, N., Numerical investigations of the dry deposition and exhalation of reactive trace constituents. EUROTRAC symposium'96, Gramisch-Partenkirchen, March 25-29, 1996.
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