

CURRICULUM VITAE

MARK C. SERREZE

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CONTACT INFORMATION:

National Snow and Ice Data Center
Cooperative Institute for Environmental Sciences
Campus Box 449
University of Colorado, Boulder CO 80309-0449

Telephone: 303-492-2963
email: mark.serreze@colorado.edu

RESEARCH INTERESTS

Arctic climate and climate change, synoptic and dynamic climatology, boundary-layer processes, atmosphere-sea ice interactions, hydro-climatology, permafrost, climate modeling, remote sensing of the cryosphere

EDUCATION

Ph.D. (1989) Geography, University of Colorado Boulder
M.S. (1985) Geography, University of Massachusetts Amherst
B.A. (1982) Geography, University of Massachusetts Amherst

CURRENT POSITIONS

Distinguished Professor, Department of Geography, University of Colorado Boulder

Director, National Snow and Ice Data Center (NSIDC), Cooperative Institute for Research in Environmental Sciences (CIRES), University of Colorado Boulder

Fellow of CIRES, University of Colorado Boulder

PAST POSITIONS

2006-2009 Senior Research Scientist, CIRES, University of Colorado Boulder

1997-2005 Research Scientist III, CIRES, University of Colorado Boulder

6/90-6/97 Research Associate, CIRES, University of Colorado Boulder

5/95-12/05 Fellow, Program in Atmospheric and Oceanic Sciences (PAOS), University of Colorado Boulder

3/91-6/91 Consultant, National Oceanic and Atmospheric Administration, compilation of Arctic temperature inversion climatology for U.S. Navy operations manual

6/89-6/90 Postdoctoral Research Associate, CIRES, University of Colorado Boulder

9/86-6/89 Research Assistant, CIRES and Department of Geography, University of Colorado Boulder

9/85-8/86	Senior Research Assistant, Lamont-Doherty Geological Observatory, Columbia University
3/85-9/85	Research Technician, Lamont-Doherty Geological Observatory, Columbia University
1/84-7/84	Research Assistant, National Academy of Sciences Committee on Monitoring and Assessment of Trends in Acid Deposition, Department of Geology/Geography, University of Massachusetts Amherst
9/83-12/83	Teaching Assistant, Department of Geology/Geography, University of Massachusetts Amherst
9/82-9/83	Research Assistant, Department of Geology/Geography, University of Massachusetts Amherst
1/82-3/82	Research Assistant, Department of Geology/Geography, University of Massachusetts

FIELD EXPERIENCE

Summer 2019	NWT Canada, NASA ABoVe Project, Permafrost Survey
Spring 2015	North Slope, Alaska, IPY Snownet Survey
Spring 2014	North Slope, Alaska, IPY Snownet Survey
Spring 2013	North Slope, Alaska, IPY Snownet survey
Spring 2012	North Slope, Alaska, IPY Snownet survey
Spring 2011	North Slope, Alaska: IPY Snownet survey
Spring 2010	North Slope, Alaska: IPY SnowNet survey
Spring 2009	North Slope, Alaska: IPY SnowNet survey
Spring 2008`	Barrow, Alaska: IPY SnowNet survey
Summer 2000	Seward Peninsula, Alaska: Vegetation/climate relationships, boundary layer variability
Summer 1999	Seward Peninsula, Alaska: Vegetation/climate relationships, boundary layer variability
Spring 1993	Resolute Passage, North West Territories Canada: Observations in support of modeling and remote sensing of Arctic sea ice and atmospheric conditions
Spring 1992	Resolute Passage, North West Territories Canada: Observations in support of modeling and remote sensing of Arctic sea ice and atmospheric conditions
Summer 1983	Northeast Ellesmere Island, North West Territories Canada: Topoclimatic and mass-balance studies of the St. Patrick Bay Ice Cap area
Spring 1983	Canadian High Arctic (Devon, Meighen and Ellesmere Islands): Annual mass-balance survey, conducted under the direction of R.M. Koerner, Polar Continental Shelf Project, Ottawa
Summer 1982	Northeast Ellesmere Island, Canada: Topoclimatic and mass-balance studies of the St. Patrick Bay Ice Cap area

COURSES TAUGHT

Climate and Vegetation (GEOG 1001, Spring 2018, 2020)

Introduction to Arctic Climate and Environment (GEOG 2271, Spring 2017, Autumn 2018, 2019)

Introduction of Physical Hydrology, Department of Geography, University of Colorado Boulder (GEOG 3511, Spring 2011, 2012, 2013, 2016)

The Arctic Climate System, Department of Geography, University of Colorado Boulder (GEOG 4271/5271, Autumn 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, Spring 2019)

Principles of Climate, Department of Geography, University of Colorado Boulder (ATOC-ENVS-GEOG: 3600-3601001, Spring 2015)

Readings in Climatology, Department of Geography, University of Colorado Boulder (GEOG 6211, Autumn 2014)

Topics in Physical Geography: The Arctic Climate System, Department of Geography, University of Colorado Boulder (GEOG 5421, Autumn 2009)

Mountain Weather and Climate; Department of Geography, University of Colorado Boulder (GEOG 4331, Spring 2001)

Topics in Climatology: Climates and Consequences of Snow and Ice; Department of Geography, University of Colorado Boulder (GEOG/APAS 3201, Spring, 1990)

RESEARCH GRANTS

Arctic Institute of North America (1983-1984)	\$600	Air temperature, albedo and glacier ablation - a micro-climatological study (PI)
The Explorers Club (1983-1984)	\$400	Air temperature, albedo and glacier ablation - micro-climatological study (PI)
NSF (1990-1991)	\$114,000	Summer climate interactions in the Arctic Basin (PI)
NOAA (1990-1991)	\$234,000	Analysis and assessment of sea ice fluctuations in relation to atmosphere-ocean processes (Co-PI)
Electric Power Research Institute (1990-1991)	\$91,000	Trend analyses of troposphere temperature and large-scale circulation in the Arctic (Co-PI)
NOAA (1991-1992)	\$91,000	Development and trend analyses of an Arctic TOVS temperature-sounding record (Co-PI)
NSF (1991-1992)	\$151,000	Modeled and observed sea ice variability in the Arctic: Sensitivity to atmospheric conditions and the surface energy budget (Co-PI)
NSF (1991-1992)	\$83,000	Observations in support of remote sensing and modeling of Arctic sea ice and atmospheric conditions (PI)

NSF (1992-1993)	\$162,000	Atmospheric water vapor over the Arctic and its relationships with synoptic variability and surface conditions (PI)
NASA (1995)	\$ 27,283	A summary database of Arctic water vapor characteristics (PI)
NSF (1995-1996)	\$ 89,934	Sea ice and atmospheric characteristics of the SHEBA field area (PI)
NSF (1994-1998)	\$137,000	Collaborative research: Atmospheric controls on Northern Hemisphere cryosphere variability (PI)
NSF (1994-1998)	\$394,520	The Arctic radiation balance (Co-PI)
NSF (1996-1998)	\$219,747	The utility of NCEP/NCAR "reanalysis" fields for Arctic climate studies (PI)
NSF (1995-1999)	\$ 20,630	Aerological estimates over the major Arctic watersheds (PI)
NSF (1996-1999)	\$389,721	Contemporary variability, future changes, and human dimensions of snowpack water resources over the western United States (PI)
NASA (1998-2000)	\$257,503	Arctic regional sea ice anomalies: A diagnosis of ice-atmosphere-ocean interactions and linkages to large-scale climate (Co-PI)
NSF-OPP-LAII (1998-2002)	\$900,000	Transitions: A study of the spatial and temporal transition of climate and ecosystems in the circumpolar Arctic (Co-PI)
NASA (1998-2001)	\$318,609	Investigating downscaling techniques and evaluating climate models for use in estimating regional water resources in mountainous regions under changing climate conditions (Co-PI)
NOAA (1998-2001)	\$150,400	Environmental Working Group Arctic Meteorology CD-ROM-NSIDC-Part 2 (Co-PI)
NSF (1999-2002)	\$361,791	Collaborative research: Hydro-climatology of the major Eurasian Arctic drainages (PI)
NSF (2000-2002)	\$165,413	Collaborative research: A hydrological observing system for the pan-Arctic land mass (PI)
NSF (1999-2002)	\$399,263	Local regional and remote effects of Northern Hemisphere snow cover on western US climate and water resources: A multi-scale investigation (Co-PI)
NASA (2000-2002)	\$354,371	Regional integrated monitoring system for the hydrology of the pan-Arctic Landmass (PI)
NSF (2002-2004)	\$170,000	Characterization of atmospheric moisture transport and the freshwater budget of the Arctic with an improved regional model (PI)
NSF (2003-2007)	\$583,763	Collaborative research: A land surface model hind-cast of the terrestrial Arctic drainage system (PI)

NSF (2003-2007)	\$365,464	Collaborative research: An integrated assessment of the Arctic freshwater system: Analysis of retrospective and contemporary conditions (PI)
NSF (2003-2006)	\$252,919	Characteristics of cyclone development and decay in the Arctic (PI)
NOAA (2004)	\$46,500	NOAA Cooperative agreement: Initiation of Arctic reanalysis activity (PI)
NASA (2004-2007)	\$494,021	Assessment of recent hydrologic change over the Arctic terrestrial drainage system (PI)
NASA (2004-2007)	\$279,825	Integrated analysis of the freshwater cycle in the Arctic terrestrial, cryospheric and oceanic systems (PI)
NSF (2005-2008)	\$436,749	Collaborative Research: A heat budget analysis of the Arctic Climate System (PI)
NSF (2005-2008)	\$244,325	Collaborative Research: Synthesis of modes of Arctic climate, sea ice and land interactions from multivariate century-scale observations (PI)
NASA (2005-2008)	\$594,157	Diagnosing the declining Arctic sea ice cover (Co-PI)
NSF (2007-2012)	\$359,799	Collaborative Research: Arctic system reanalysis (PI)
NSF (2008-2013)	\$594,932	Hydrologic responses to a shrinking Arctic sea ice cover (PI)
NSF (2009-2013)	\$862,974	Seasons of change in the Arctic environment (PI)
Plymouth State University (subcontract on NSF award) (2010-2014)	\$28,445	Collaborative Research RUI: Decadal cycles in NAO proxies from Northwest Iceland lake and soil sediments (PI)
NSF (2010-2013)	\$525,000	Updating IT Infrastructure: Reducing energy consumption and enhancing data flow to researchers
NASA (2010-2013)	\$454,509	Near-real-time science analysis of Arctic sea ice and Northern Hemisphere snow cover (Co-PI)
NSF (2011-2016)	\$3,079,792 (yr. 1-4 funding)	Collaborative Research: Integrated Arctic data management services for support Arctic research (PI)
NASA (2012-2014)	\$308,407	Reducing uncertainty in 21 st century projections of Arctic sea ice loss and associated impacts (PI)
NSF (2014-2017)	\$475,771	Characteristics, variability and hydrologic impact of the summer Arctic Frontal Zone and projected changes through the 21 st century (PI)
NASA (2014-2017)	\$320,750	An integrated observational/modeling assessment of the effects of recent and future Arctic change on weather systems in the United States (Co-PI)
NASA (2016-2019)	\$721,484	Bridging the snow-sea ice gap: A snow on sea ice assimilation system for the Arctic (Co-PI)
NASA (2016-2019)	\$1,196,909	Near-real time science analysis of Arctic and Antarctic sea ice and Greenland melt (Co-PI)
NSF (2016-2019)	\$705,214	Predictability of open water in the Chukchi/Beaufort seas and other regions (PI)

NSF (2013-2018)	\$410, 878	Collaborative Research: The climatic role of permafrost – As permafrost thaws, could a weakening terrestrial freezer and increasingly leaky bathplug amplify Arctic climate change? (PI)
NSF (2018-2021)	\$348, 211	GEO-NERC Collaborative Research: Advancing Predictability of Sea Ice: Phase 2 of the Sea Ice Prediction Network (SIPN2) (PI)
NSF (2019-2024)	\$2,997,944	NNA: A Systematic Pan-Arctic Analysis of Rain on Snow and Extreme Precipitation Events and their Impacts on Human-Environment Systems (PI)

PROFESSIONAL ACTIVITIES

Member, American Geophysical Union (1988-present)
 Member, American Meteorological Society (1993-present)
 Member, American Association for the Advancement of Science (2010-present)

SELECTED SERVICE

Chair, Arctic Climate System Study (ACSYS) Working Group on Polar Products from Reanalysis (1995-2003)

Mentor, Colorado Commission on Higher Education (CCHE) Undergraduate Internship Program (1991-1995) (five students supervised)

Mentor, Kids as Global Scientists (KGS) K-12 Outreach Program (1996)

Associate Editor, International Glaciological Society, *Annals of Glaciology* (1996)

Site review, Meteorological Service of Canada, Ottawa (2000)

Science Steering Committee, Study of Environmental Arctic Change (SEARCH) (2001-2003)

Board of Directors, Arctic Research Consortium of the United States (2002-2003)

Press briefing on the Arctic's changing hydrologic cycle, American Geophysical Union, San Francisco, California (2004)

Contributor, Arctic Climate Impact Assessment (2004-2005)

Testimony to United States Senate Committee on Commerce, Science and Transportation (Senator John McCain, presiding) regarding changes in Arctic sea ice cover (2004)

Science Steering Committee, Arctic and Sub-Arctic Fluxes (ASOF) Program (2004-2007)

Science Steering Committee, National Science Foundation Arctic System Science (ARCSS) program (2004-2006)

Press briefing on Arctic climate change, American Geophysical Union, San Francisco, California (2006)

CIRES Hiring Committee for new oceanography position (2006)

CIRES Visiting Fellows Committee (2006, Chair in 2007)

National Centers for Environmental Prediction (NCEP) Science Steering Committee for Climate Forecast System Reanalysis and Reforecast (CFSRR) effort (2007)

Congressional staffer briefings on Arctic climate change (most recently in 2007)

Numerous public lectures on Arctic climate change, ongoing; most recently at the Parker Colorado Public Library and the Denver Museum of Nature and Science (2007)

Presentation to former Vice President Al Gore on rapid sea ice loss (2007)

Scientific manuscript review, ongoing; including Journal of Climate, Journal of Geophysical Research, Geophysical Research Letters, Tellus, Journal of Applied Meteorology, Reviews of Geophysics, Arctic and Alpine Research

University of Colorado, Department of Geography Executive Committee (2010-2011)

Science Advisory Board, Norwegian Centers of Excellence Program, Interactions between Climate Change and the Cryosphere (2011-2014)

Science Advisory Board, European Center for Medium Range Weather Forecasts ERA-Clim project (2011-2013)

Guest lecturer in various departments across the University of Colorado (ongoing)

Associate Chief Editor, *Annals of Glaciology*, Volume 76, Polar Ice, Polar Climate, and Polar Change (2017-2018)

Associate Chief Editor, *Current Climate Change Reports* (2017-2018)

Frequent (and ongoing) media contact on issues relating to Arctic and global climate change, ongoing; includes but is not limited to interviews with *National Public Radio*, *KOA Radio*, *Lou Dobbs Live*, *British Broadcasting Company*, *Canadian Broadcasting Company*, *ABC News*, *Discovery Channel*, *Discovery Science Channel*, *National Geographic*, *Geotimes*, *Voices*, *New York Times*, *Los Angeles Times*, *Boston Globe*, *Denver Post*, *Al Jazeera*, *Boulder Daily Camera*, *Rolling Stone*

Service to Geography Department: PUEC Member (2013, 2015, 2018, 2019), Post-Tenure Review (2011), Personnel Committee, Teaching Evaluations (2012, 2013, 2017), Performance (song) at Graduation Ceremony (2017, 2018, 2019), Graduate Student Thesis and Dissertation Committees, Senior Honors Thesis Committees

HONORS

1982 Cum Laude graduation honors, University of Massachusetts Amherst

1989 University of Colorado Research and Creative Work Award for outstanding Ph.D. Dissertation

1996 Offered Assistant Professor position, Department of Geography, State University of New York Albany

1996 Nominated for Associate Research Professor position Geography/CIRES

1996 Invited speaker, The Role of Polar Regions on Global Climate Workshop, Cancun, Mexico

1997 Invited speaker, "Modern Views of the Arctic Climate System," Iowa State University

1997 Invited speaker, "The Arctic Hydrologic Budget," Columbia University

1997 Invited speaker, "Characteristics of the Western U.S. Snowpack from SNOTEL Data," University of Iowa

1998 University of Colorado Representative (proxy) for the Arctic Research Consortium of the United States (ARCUS) Annual Meeting, Washington, DC

1998 Invited Expert, ERA-40 Reanalysis Workshop on Boundary Conditions, Reading, UK

- 1999 Invited Expert, Sea Ice Modeling - A Mini-Workshop, Goddard Institute for Space Studies, New York
- 2000 Invited Speaker, The Warming World: Effects on the Alaska Infrastructure, University of Alaska Anchorage
- 2001 Invited Expert, ERA-40 Re-analysis Workshop, Reading, UK.
- 2002 Invited Speaker, "Recent Changes in Northern High Latitudes: Synthesis of Observations and Comparisons with Model Predictions," American Association for the Advancement of Science Annual Meeting, Boston, Massachusetts
- 2003 Invited Speaker, "Atmospheric Aspects of Recent Arctic Environmental Change," American Geophysical Union, San Francisco, California
- 2003 Invited Contributor, NASA Earth Science Update, NASA Headquarters, Washington, DC
- 2003 Invited Speaker, "Drivers and Causes in the SEARCH Context," SEARCH Open Science Meeting, Seattle, Washington
- 2004 Nominated to serve on the United States Arctic Research Commission
- 2004 Invited Speaker, Hot Topics – Changes in the Cryosphere, Geological Society of America, Denver, Colorado
- 2005 Invited Speaker, "The Arctic Amplification Debate," American Geophysical Union, San Francisco, California
- 2005 Invited Speaker, "The Arctic on the Fast Track of Change," University of California, Los Angeles, California
- 2005 Award from the Atmospheric Science Librarians International for the best textbook in atmospheric sciences in 2005 (*The Arctic Climate System*, with Roger Barry)
- 2006 Elected to CIRES Fellow
- 2006 Invited Speaker, "The Arctic on the Fast Track of Change", The Second Annual Rieveschl Geo Lecture, University of Cincinnati
- 2006 Invited Speaker, Stegner Center Eleventh Annual Symposium, Global Climate Change, The Arctic to the Rocky Mountain West, S.J. Quinney Law School, University of Utah Salt Lake City
- 2006 Invited Speaker, "A Large-Scale View of the Arctic Climate System," Jet Propulsion Laboratory, Pasadena, California
- 2006 Invited Speaker, "Large-Scale Heat and Freshwater Budgets of the Arctic," University of Alaska Fairbanks
- 2006 Invited Speaker, "Large-Scale Heat and Freshwater Budgets of the Arctic," Woods Hole Oceanographic Institute, Woods Hole, Massachusetts
- 2007 Invited Speaker, "Moving Toward a Seasonally Ice Free Arctic Ocean," University of Chicago
- 2007 Invited Speaker, "Moving Toward a Seasonally Ice Free Arctic Ocean," McGill University, Montreal
- 2007 Invited Speaker, "The Basis of Recent Climate Change," Annual Meeting of the Wildlife Society, Tucson, Arizona

- 2007 Nye Lecture, "Arctic Climate Change: Where Reality Exceeds Expectations," American Geophysical Union, San Francisco, California
- 2008 Keynote Speaker, "The Emergence of Surface-Based Arctic Amplification," First International Symposium on the Arctic Research (ISAR-1), Tokyo, Japan
- 2008 Keynote Speaker: "Arctic sea ice in 2008: Standing on the Threshold?," Oceans'08 Conference, Quebec City, Canada
- 2009 Invited Speaker: "Environmental Impacts of a Shrinking Arctic Sea Ice Cover", Woods Hole Marine Biological Laboratory, Woods Hole Massachusetts
- 2010 Invited Speaker: "Understanding Recent Arctic Change", Library, University of Colorado, Boulder, Colorado
- 2011 Invited Speaker: "Processes of Arctic amplification", Department of Physics, University of Colorado, Boulder, Colorado
- 2011 Invited Speaker: "The Arctic's Shrinking Sea Ice Cover: Why Should I Care?", The Ohio State University, Columbus, Ohio
- 2011 Invited Speaker: "The Arctic's Shrinking Sea Ice Cover: Why Should I Care?", University of Wisconsin, Madison, Wisconsin
- 2011 Invited Speaker: "Processes of Arctic amplification", University of Wisconsin, Madison, Wisconsin
- 2011 CO-Labs Governor's High Impacts Award for the NSIDC "Green Data Center" project
- 2012 Invited Speaker, "Lessons Learned in Communicating the Science of Climate Change", INSTAAR Noon Seminar, University of Colorado, Boulder
- 2012 Invited Speaker, "The Arctic's Shrinking Sea Ice Cover, Why Should We Care?", American Meteorological Society 40th Broadcast Conference , Boston, Massachusetts
- 2014 Elected Fellow of the American Meteorological Society
- 2014 Invited Speaker, "A New Look at the Arctic Frontal Zone", NASA Goddard Space Flight Center, Greenbelt, Maryland
- 2014 "Global and Planetary Change" Most Cited Publication Award for "Processes and Impacts of Arctic amplification: A research synthesis" (one of the five most cited papers in "Global and Planetary Change" 2011-2012)
- 2014 Thompson Reuters Highly Cited Researcher Award, in recognition of ranking among the top 1% of researchers for most cited documents in their respective field
- 2015 American Meteorological Sigma-XI Distinguished Lecturer (invited lectures given at various universities across the United States)
- 2015 Thompson Reuters Highly Cited Researcher Award, in recognition of ranking among the top 1% of researchers for most cited documents in their respective field
- 2016 Thompson Reuters Highly Cited Researcher Award, in recognition of ranking among the top 1% of researchers for most cited documents in their respective field

- 2016 Invited Speaker "Variability, trends and predictability of seasonal sea ice retreat and advance in the Chukchi Sea", Texas A&M University, College Station, Texas
- 2017 Thompson Reuters Highly Cited Researcher Award, in recognition of ranking among the top 1% of researchers for most cited documents in their respective field
- 2017 Named Professor of Distinction, University of Colorado, Boulder, Colorado
- 2018 Book Tour, for *Brave New Arctic: The Untold Story of the Melting North* (7 cities)
- 2019 Named Distinguished Professor, University of Colorado, Boulder, Colorado

PUBLICATIONS

Masters Thesis and Doctoral Dissertation

Serreze, M.C., 1985: "Topoclimatic investigations of a small sub-polar ice cap with implications for glacierization." Masters Thesis, Department of Geology and Geography, University of Massachusetts, Amherst, 201 pp.

Serreze, M.C., 1989: "Seasonal and interannual variations of sea ice motion in the Canada Basin and their relationships with the Arctic atmospheric circulation." Doctoral Dissertation, Department of Geography, University of Colorado, Boulder, 186 pp.

Papers in Refereed Journals or Monographs:

Robinson, D.A., Scharfen, G., Serreze, M.C. and Kukla, G.J. 1986. Snow melt and surface albedo in the Arctic Basin. *Geophysical Research Letters*, 13, 945-948.

Bradley, R.S. and Serreze, M.C. 1987. Mass balance of two High Arctic plateau ice caps. *Journal of Glaciology*, 33, 123-128.

Bradley, R.S. and Serreze, M.C. 1987. Topoclimatic studies of a High Arctic plateau ice cap. *Journal of Glaciology*, 33, 149-158.

McLaren, A.S., Serreze, M.C. and Barry, R.G. 1987. Seasonal variations of sea ice motion in the Canada Basin and their implications. *Geophysical Research Letters*, 114, 1123-1126.

Scharfen, G., Barry, R.G., Robinson, D.A., Kukla, G.J. and Serreze, M.C. 1987. Large-scale patterns of snow melt on Arctic sea ice from meteorological satellite imagery. *Annals of Glaciology*, 9, 1-6.

Serreze, M.C. and Bradley, R.S. 1987. Radiation and cloud observations on a high Arctic plateau ice cap. *Journal of Glaciology*, 33, 162-168.

Serreze, M.C. and Barry, R.G. 1988. Synoptic activity in the Arctic Basin, 1979-85. *Journal of Climate*, 1, 1276-1295.

Serreze, M.C., Barry, R.G. and McLaren, A.S. 1989. Seasonal variations in sea ice motion and effects on sea ice concentration in the Canada Basin. *Journal of Geophysical Research*, 94(C8), 10955-10970.

Serreze, M.C., McLaren, A.S. and Barry, R.G. 1989. Seasonal variations of sea ice motion in the Transpolar Drift Stream. *Geophysical Research Letters*, 16, 811-814.

Serreze, M.C., Barry, R.G. and McLaren, A.S. 1990. Reply to comment on "Seasonal variations of sea ice motion and effects on sea ice concentration in the Canada Basin." *Journal of Geophysical Research*, 95(C4), 5407-5408.

- Serreze, M.C., Maslanik, J.A., Preller, R.H. and Barry, R.G. 1990. Sea ice concentrations in the Canada Basin during 1988: Comparisons with other years and evidence of multiple forcing mechanisms. *Journal of Geophysical Research*, 95(C12), 22,253-22,367.
- Serreze, M.C. and Rehder, M.C. 1990. June cloud cover over the Arctic Ocean. *Geophysical Research Letters*, 17, 2397-2400.
- Serreze, M.C., Kahl, J.D. and Schnell, R.C. 1991. Low-level temperature inversions of the Eurasian Arctic and comparisons with Soviet drifting station data. *Journal of Climate*, 5, 615-629.
- Kahl, J.D., Serreze, M.C., Shiotani, S., Skony, S.M. and Schnell, R.C. 1992. In-situ meteorological sounding archives for Arctic studies. *Bulletin of the American Meteorological Society*, 73, 1824-1830.
- Robinson, D.A., Serreze, M.C., Barry, R.G., Scharfen, G. and Kukla, G. 1992. Large-scale patterns and variability of snow melt and albedo in the Arctic Basin. *Journal of Climate*, 5, 1109-1119.
- Serreze, M.C., Kahl, J.D., Andreas, E.L., Maslanik, J.A., Rehder, M.C. and Schnell, R.C. 1992. Theoretical heights of buoyant convection above open leads in the winter pack ice cover. *Journal of Geophysical Research*, 97(C6), 8411-9422.
- Serreze, M.C., Maslanik, J.A., Barry, R.G. and Demaria, T.L. 1992. Winter atmospheric circulation in the Arctic Basin and possible relationships to the Great Salinity Anomaly in the northern North Atlantic. *Geophysical Research Letters*, 19, 293-296.
- Barry, R.G., Serreze, M.C., Maslanik, J.A. and Preller, R.H. 1993. The Arctic Sea Ice Climate System: Observations and modeling. *Reviews of Geophysics*, 31, 397-422.
- Kahl, J.D., Serreze, M.C. and Schnell, R.C. 1993. Tropospheric low-level temperature inversions in the Canadian Arctic. *Atmosphere-Ocean*, 30, 511-529.
- Kahl, J.D., Serreze, M.C., Stone, R., Shiotani, S., Kisley, M. and Schnell, R.C. 1993. Tropospheric temperature trends in the Arctic, 1958-1986. *Journal of Geophysical Research*, 98(D7), 12825-12838.
- Kahl, J.D., Charlevoix, D.J., Zaitseva, N.A., Schnell, R.C. and Serreze, M.C. 1993. Absence of evidence for greenhouse warming over the Arctic Ocean in the past 40 years. *Nature*, 361, 335-337.
- Schweiger, A.J., Serreze, M.C. and Key, J.R. 1993. Arctic sea ice albedo: A comparison of two satellite-derived data sets. *Geophysical Research Letters*, 20, 41-44.
- Serreze, M.C., Maslanik, J.A., Scharfen, G. and Barry, R.G. 1993. Interannual variations in snow melt over Arctic sea ice and relationships to atmospheric forcings. *Annals of Glaciology*, 17, 327-331.
- Serreze, M.C., Box, J.E., Barry, R.G. and Walsh, J.E. 1993. Characteristics of Arctic synoptic activity, 1952-1989. *Meteorology and Atmospheric Physics*, 1, 147-164.
- Curry, J.A., Schramm, J.L., Serreze, M.C. and Ebert, E.E. 1994. Water vapor feedback over the Arctic Ocean. *Journal of Geophysical Research*, 100(D7), 14223-14229.
- DeAbreu, R.A., Key, J., Maslanik, J.A., Serreze, M.C. and LeDrew, E.F. 1994. Comparison of in situ and AVHRR-derived surface broadband albedo over Arctic sea ice. *Arctic*, 58, 288-297.
- Key, J., Maslanik, J.A., Papakyriakou, T., Serreze, M.C. and Schweiger, A.J. 1994. On the validation of satellite-derived sea ice surface temperature. *Arctic*, 58, 280-287.

- Serreze, M.C., Rehder, M.C., Barry, R.G. and Walsh, J.E. 1994. A climatological data base of Arctic water vapor characteristics. *Polar Geography and Geology*, 18, 63-75.
- Robinson, D.A., Frei, A. and Serreze, M.C. 1995. Recent variations and regional relationships in Northern Hemisphere snow cover. *Annals of Glaciology*, 21, 71-76.
- Serreze, M.C. 1995. Climatological aspects of cyclone development and decay in the Arctic. *Atmosphere-Ocean*, 33, 1-23.
- Serreze, M.C., Barry, R.G. and Walsh, J.E. 1995. Atmospheric water vapor characteristics at 70°N. *Journal of Climate*, 8, 719-731.
- Serreze, M.C., Maslanik, J.A., Key, J.R., Kokaly, R.F. and Robinson, D.A. 1995. Diagnosis of the record minimum in Arctic sea ice extent during 1990 and associated snow cover extremes. *Geophysical Research Letters*, 22, 2183-2186.
- Serreze, M.C., Rehder, M.C., Barry, R.G., Kahl, J.D. and Zaitseva, N. 1995. The distribution and transport of atmospheric water vapor over the Arctic Basin. *International Journal of Climatology*, 15, 709-727.
- Serreze, M.C., Rehder, M.C., Barry, R.G., Walsh, J.E. and Robinson, D.A. 1995. Variations in aerologically-derived Arctic precipitation and snowfall. *Annals of Glaciology*, 21, 77-82.
- Serreze, M.C., Barry, R.G., Rehder, M.C. and Walsh, J.E. 1995. Variability in atmospheric circulation and moisture flux over the Arctic. *Philosophical Transactions A of the Royal Society*, 352, 215-225.
- Walsh, J.E., Zhou, X., Portis, D. and Serreze, M.C. 1995. Atmospheric contribution to hydrologic variations in the Arctic. *Atmosphere-Ocean*, 34, 733-755.
- Clark, M.P., Serreze, M.C. and Barry, R.G. 1996. Characteristics of Arctic Ocean climate based on COADS data, 1980-1991. *Geophysical Research Letters*, 23, 1953-1956.
- Maslanik, J.A., Serreze, M.C. and Barry, R.G. 1996. Recent decreases in Arctic summer ice cover and linkages to atmospheric circulation anomalies. *Geophysical Research Letters*, 23, 1677-1680.
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GRADUATE STUDENT SUPERVISION/FINANCIAL SUPPORT (all at University of Colorado Boulder)

Martyn Clarke, PhD, Geog. (Graduated 1998)
Ciaran Hurst, M.S., Geog. (Graduated 1998)
Andrew Etringer, M.S, PAOS (Graduated 2001)
Maria Tsukernik, PhD, Geog. (Graduated 2007)
David Kindig, M.S., Geog. (Graduated 2007)
Joel Finnis, PhD, ATOC (Graduated 2008)
David Porter, PdD, ATOC (Graduated 2012)
Glenn Grant, M.A. Geog. (Graduated 2012)
Allison Hurley, M.A., Geog. (Graduated 2014)
Alexander Crawford, M.A. Geog. (Graduated 2014)
Alexander Crawford, PhD, Geog. (Graduated 2017)
Glenn Grant, PhD, Geog. (Graduated 2018)
Alexander Crawford, PhD Geog. (Graduated 2017)
Sara Crepensik, M.A. Geog. (Graduated 2018)
Nick Lewis, M.A. Geog. (Graduated 2018)
Erika Schreiber, PhD Geog. (ongoing)
Jonathan Cavitt, M.A. Geography (ongoing)
Meghan Helmberger, PhD Geog. (ongoing)
Jed Lenetsky, PhD Geog. (ongoing)
Jeffrey Schmidt, M.A. Geog. (ongoing)