

UMA S. BHATT

University of Alaska Fairbanks

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Education and Training

U. of Pittsburgh	B.S.E Mechanical Engineering & B.A. Russian	1983
U. of Wisconsin-Madison	M.S. Atmospheric Sciences	1989
U. of Wisconsin-Madison	Ph.D. Atmospheric Sciences, Minor Comp. Sci.	1996
COLA, Calverton, Maryland	Postdoctoral Researcher in Climate Variability	1997-98

Professional Experience

Professor, 2014-present, College of Natural Science and Mathematics, Department of Atmospheric Sciences Geophysical Institute, University of Alaska Fairbanks

Director NOAA Cooperative Institute for Alaska Research (CIFAR), July 2015-present

Associate Professor, 2004-2014 (Tenured 2008) College of Natural Science and Mathematics, Department of Atmospheric Sciences Geophysical Institute, University of Alaska Fairbanks

Sabbatical Leave: Dpto. Biología Vegetal II, Univ. Complutense, Madrid Spain (Sept. 2012-July 2013)

Primary Current Research Areas

- Impact of sea ice variations on the climate (e.g. on atmosphere and vegetation)
- Use of complex systems measures to characterize climate and climate models
- Multi-decadal climate variability in the Arctic
- Climate of Alaska: climate variability and climate downscaling for applications
- Seasonal forecasting for Alaska (e.g., sea ice and fire weather)

Educational responsibilities

Chair of Department of Atmospheric Sciences (July 2013 – August 2018)

Student Supervision in Research Training

- Currently mentoring 4 Ph.D. and 2 M.S. students, details below

Teaching

- Undergraduate - Guest lectures on Climate for Biology, Geology, Political Science, and Physics courses
- Graduate Courses Taught: Climate Journal Club, Atmospheric Dynamics I, Climate and Climate Change, Analysis Methods in Meteorology and Climate, Climate Change Processes: Past, Present, and Future, Introduction to Atmospheric Sciences, and Scientific Presentation Seminar.
- Graduate committee member for numerous M.S. and Ph.D. students in Atmospheric Sciences, Oceanography, Geophysics, Computer Science, and Interdisciplinary Program.

Supervisory responsibilities

- Mr. Jack Miller, Computer Programmer (2000 - 2006).
- Ms. Heather Angeloff, Support Scientist (May-Oct 2011)

Service activities

- SEARCH Science Steering Committee 2009-2017

- NOAA Science Challenge Workshop on "Predicting Arctic Weather and Climate and Related Impacts: Status and Requirements for Progress", Boulder CO, program committee and workshop participant (Feb - May 2014)
- National Academies Committee on Linkages between Arctic Warming and Mid-Latitude Weather Patterns, workshop program committee and workshop participant (April 2013-September 2013)
- AMS Polar Met. and Oceanography Program Committee (2001-2006, member & chair)
- UAF Faculty Senate Committee on the Status of Women (2004-2006, 2007-2009)
- Geophysical Institute (UAF) Mather Library committee member (1999-present) and chair (2007 – 2015)
- Guest co-editor International Polar Year thematic series in Computing in Engineering and Science (2006-2007)

Research Associate Professor, IARC, University of Alaska Fairbanks, 2003

Research Assistant Professor, IARC, University of Alaska Fairbanks, 1998 - 2003

Post Doctoral Researcher, Center for Ocean-Land-Atmosphere Studies, 1997 - 1998

- Investigated impact of land variability on the ocean in global coupled models.

Research Scientist, Ross Computational Resources, 1996 - 1997

- Evaluated and developed software used to interpolate climate data using krigging techniques.

Research Assistant, 1989 - 1995

- Doctoral research - Investigated role of coupling in the North Atlantic on interannual climate variability using a mixed layer ocean model and an atmospheric GCM.
- Assisted with 'Wonders of Physics' (science education show at U. of Wisconsin) presentations

Graduate Fellowship, Patricia Roberts Harris Graduate Fellowship, 1986 - 1989.

- Masters research - Examined observed relationships between hydrological anomalies in the African-Asian monsoon belt and concurrent climate anomalies in the tropical oceans.

U.S. Peace Corps Volunteer, 1983 - 1985.

- Secondary school teacher at Sochoi Secondary School, Kenya. Subjects: Math and Biology.

Students

Ph.D.

- Cecilia Borries-Strigle, Sea ice predictability (current)
- M. Bu Khader, Climate relevant for fire danger in Alaska, (current)
- J. Allen, Interdisciplinary degree in coastal hazards (current)
- A. Hendricks, Browning in Yukon-Kuskokwim delta (current)
- I. Majhi, Are there links between Arctic sea ice and Indian monsoon? (PhD May 2018, currently Research Associate at U Oklahoma)
- P. Bieniek, Climate predictability for Alaska (PhD August 2012, currently Research Assistant Professor at IARC CSC)
- O. Francis, Ocean wave heights in the Bering Sea (PhD May 2012, currently Associate Professor at University of Hawaii)

M.S.

- Z. Toureville, Climate drivers of sea ice (current, MS Physics)
- Jonathan Chriest, Lightning and fire weather (current)
- R. Winnan, Changing synoptic climatology of North Pacific SLP (Fall 2015, currently a Meteorologist at Risk Management Solutions, New Jersey)

- G. Deemer, Sea ice forecasting in the Bering Sea (MS. Jan 2015, co-advised with H. Eicken, PhD student at U. N Hampshire in engineering)
- R. Lader, Reanalysis product evaluation for stakeholder use in Alaska (MS. Aug 2014, finished Ph.D. at UAF in 2018, currently postdoc with Alaska Climate Adaptation Science Center)
- J. Talbot, Complex Systems measures to evaluate GCMs (MS. December 2011, UAF Physics Department Lab Manager until June 2018)
- D. Dammann, Sea ice impact on climate (MS August 2011, finished Ph.D. at UAF in Geophysics in 2017 and Researcher at U. of Gottenberg, Sweden)
- S. Bourne, Inversions in Fairbanks in observations and models (MS August 2008, Business Director, Renewable Energy Project Development at DNV GL in Cape Town Area, South Africa)
- K. Sterling, Multi-Decadal Variability of Atlantic Water Heat Transports as Seen in the Community Climate Systems Model Version 3.0, (MS May 2006, At NOAA Tsumani Warning Center in Palmer, AK).
- A. Tivy, Investigation of North Pacific Sea Ice Anomalies in the Context of Atmospheric and Oceanic Variability (MS Dec. 2001, Ice Engineer at National Research Council Canada).
- C. Hannay, Single Column Model Simulations of Arctic Cloudiness and Surface Radiative Fluxes during the SHEBA Experiment (August 2001, Research Scientist at the National Center for Atmospheric Research).

Undergraduate Students

- Hannah Mevencamp, Jan-May 2019, Undergraduate research on Tundra Browning.
- Moeka Ono, Jan-May 2018, Undergraduate research on validation of dynamical downscaled data.
- Kimberley Giroux, Jan-May 2010, Undergraduate Research on Climate of Alaska.
- B. Selpulveda, June-Aug 2009, ARSC REU
- Lisa Phillips, Downscaling of Climate in Alaska, June-August 2005, GI REU.
- Y. Umekawa, Climate variability in the North Pacific Sector, Jan-May 2005, International exchange student.
- Emily Reymeyer, Three-dimensional visualization of climate data using MAYA, June-Aug 2004, ARSC REU.
- Tim Morgan, Scripting language to simplify 3-D visualizations of climate data, June-Aug 2004, ARSC REU.
- Antonia Shull, Hydrological response to changes in summer sea-ice, June-Aug 2002, GI REU.
- Steve Hudson, Arctic Simulation in the COLA model, May-Aug 1999, GI REU.

Graduate Student Committees Served (not as primary advisor) where Degree Completed

A. Semenov (Atmospheric Sciences, PhD 2019), R. Lader (Atmospheric Sciences, PhD 2018), L. Cai (Atmospheric Sciences, PhD 2018), D. Campbell (Interdisciplinary MS 2017), D.O. Damman (Geophysics PhD 2017), K. Kontar (Interdisciplinary PhD 2017), C. Triplet (Atmos. PhD 2016), S. Edwin (Atmos. MS 2016), A. Hendricks (Atmos. MS 2016), V. Kayetha (Atmos. PhD 2015), M. Butwin (Atmos. MS 2015), S. Basu (Atmos. PhD 2014), J. Walston (Atmos. MS 2014), M. Pirhalla (Atmos. MS 2014), C. Borries (Atmos. MS 2014), A. Phillips (Computer Science PhD 2013), K. Leelasakultum (Atmos. MS 2013), H. Tran (Atmos. PhD 2012), T. Fathauer (Atmos. MS 2012), B. Irving (Atmos. MS 2012), R. Heim-Legatt (Atmos. MS 2010), J. Malingowski (Atmos. MS 2010), V. Radic (Geophys. PhD 2009), M. Brown (Atmos. MS 2009), S. Porter (Atmos. MS 2009), B. Thurairajah (Atmos. PhD 2009), D. PaiMazumdar (Atmos. PhD 2009), M. dos Santos Mesquita (Atmos. PhD 2009), Z. Li (Atmos. PhD 2007), P. Bieniek (Atmos. M.S. 2007), M. Rawashan, (Atmos. MS, 2006), C. Murray, (Atmos. MS 2006), B. Narapusetty (Atmos. MS 2005), M. Jankov (Atmos. MS 2005), I. Majhi (Atmos. MS 2004), D. Dukhovskoy (Ocean. PhD 2004), S. Moon (Ocean, MS 2004), S. Zimmerman (Ocean MS 2003), J. Sheedy (Atmos. M.S. 2001)

Select Past and Ongoing Outreach Activities 1986 - present

- K-12 Climate lectures, science fair judging (Fairbanks, Alaska).
- Assisted with 'Wonders of Physics' (science education show at U. of Wisconsin) activities.
- Oceanography/Meteorology presentations to students from the middle school to undergraduate level.
- Farthest North Chapter of the American Meteorological Society, Chair, 9/2000-9/2005.
- Brief Dr. Kathie L. Olssen, Associate Director for Science for the Office of Science and Technology in the Executive Office of the President. I provided an overview of the role of low frequency climate variability in climate change analysis in the Arctic (2002).
- Brief Dr. K. Sullivan, Director of NOAA, August 2015 with team on fire preparedness in Alaska, Ft. Wainwright, Fairbanks, Alaska.

Awards

2015 Katrina Moore Prize in Research, Geophysical Institute
2009 CNSM Outstanding Teaching Award (Dean)
2008 CNSM Outstanding Teaching Award (Dean)
2008 EPSCOR Travel Award (NSF)
2007 CNSM Outstanding Teaching Award (Dean)
2005 Carol Feist Award for Outstanding Undergraduate Academic Advising at UAF (Chancellor)
2002 UAF Faculty Exceptional Performance Bonus (Provost)
1993 Travel Grant for 17th Stanstead Seminar, Lennoxville, Quebec, Canada, 14-18 June 1993 (NSF)
1990 NCAR CCM Tutorial Workshop (NSF)
1990 AMS/NSF Student Travel Scholarship to First Symposium on Global Change Studies
1986-1989 Patricia Roberts Harris Graduate Fellowship

Invited Talks

- Alaska Birders Conference (March 2019): *Consequences of Sea Ice Decline for the Earth System.*
- NOAA Fire weather webinar series (April 2018): *Towards Co-Production of Seasonal Forecast Products for Fire Managers in Alaska.*
- American Geophysical Union Fall Meeting in New Orleans LA, Session: Drivers of Vegetation Change and Impacts on Biogeochemical and Biogeophysical Processes in Arctic Tundra Ecosystems (December 2017), *Possible causes of Arctic Tundra Vegetation Productivity Declines.*
- American Geophysical Union Fall Meeting in New Orleans LA, Session: Drivers of Vegetation Change and Impacts on Biogeochemical and Biogeophysical Processes in Arctic Tundra Ecosystems (December 2017), *Humidification of the Arctic: Effects of more open ocean water on land temperatures and tundra productivity along continental and maritime bioclimate transects* (Invited poster).
- Svalbard Biomass Workshop, Longyearbyen, Norway (October 2017), *Humidification of the Arctic: Effects of changing sea-ice on summer land temperatures, continentality and NDVI along transects in Eurasia and North America.*
- Finnish Meteorological Institute Arctic Science Networking Workshop, Helsinki Finland, (August 2017), *Arctic observations from the point of view of a data user.*
- Women's Leadership Workshop, Fairbanks Alaska (August 2017), *Best Practices in Communication.*
- Earth-to-sky-Alaska, Climate Change Communication Course, Anchorage, AK (October 2015), *Extreme Weather Events and their Implications for Alaska*

- IARC Summer School 2015, Fairbanks, Alaska (May 2015), *Changing Seasonality of Tundra Vegetation in Relationship to Climatic Variables*.
- Pacific Anomalies Science and Technology Workshop, La Jolla CA, Tuesday May 5, 2015, *Pacific SST Influences on Alaska*.
- Greenfaith Climate Webinar via Climate Voices, Thursday April 23, 2015: *Climate Change and Variability*.
- Department of Geosciences Seminar, Fairbanks, Alaska, Friday October 31, 2014: *The Climate Hiatus: Global and Arctic Perspectives*.
- Science for Alaska Public Lecture, Westmark Hotel, Fairbanks Alaska, (February 2014): *Greening of the Arctic*. Team talk by Bhatt, US, Walker, DW, Reynolds, MK, Romanovsky, V, Frost JJ, R Daanen, and I Timling.
- GI Graduate Student Association Lunch Seminar, Fairbanks Alaska (September 2013): *The importance of conducting climate-tundra vegetation research in Madrid Spain: Recent Declines in Warming and Arctic Vegetation Greening Trends over Pan-Arctic Tundra*.
- Nansen Lecture, Nansen Environmental and Remote Sensing Center, Bergen Norway (February 2013): *Impact of Daily Arctic Sea Ice Variability in a Climate Model*.
- Geophysical Institute, Bjerknes Center, University of Bergen, Bergen, Norway (February 2013): *Links between Pan-Arctic Tundra Vegetation Change and Climate*.
- Dpto. Biología Vegetal II, F. Farmacia, Univ. Complutense, Madrid Spain (February 2013): *Pan-Arctic Tundra Vegetation Change and its Links to Climate*.
- Alaska Summer Research Academy (ASRA), Fairbanks, Alaska, (July 2012): *Climate Variability and Change in Alaska*.
- IARC Modeling Summer School 2012, Fairbanks, Alaska (July 2012), *Atmospheric downscaling techniques and applications & Dynamical downscaling for glacier studies*.
- CSC Workshop on Integrated Scenarios of the Future Environment, Portland, Oregon (June 2012): *Alaska CSC Scenarios Approaches*.
- CEC Yup'ik Environmental Knowledge Project, Bethel Alaska (January 2012): *SW Alaska tundra vegetation trends and their links climate*.
- Osher Lifelong Learning Institute, Fairbanks Alaska (October 2011): *Climate Variability and Change in Alaska*.
- Department of Atmospheric Sciences Research Experience for Undergraduates Seminar, Fairbanks, Alaska (August 2011): *Climate Variability and Change in Alaska*.
- International Arctic Research Center Modeling Summer School, Fairbanks, Alaska, (May 2011): *Climate Downscaling: Process and Application in Alaska*.
- Dept. of Interior Downscaling Workshop, Anchorage, Alaska (April 2011): *The Importance of Climate Variability in the Arctic*.
- National Oceanic and Atmospheric Administration (NOAA) Climate Change Needs and Related Research Priorities, Fairbanks, Alaska (March 2011): *Dynamical downscaling in Alaska: Process and Application*.
- Chinook Elementary School, Fairbanks, Alaska (March 2011): *Climate Variability and Change in Alaska: Why would anyone want to become an Atmospheric Scientist?*
- The Natural and Cultural History of the Bering Sea Coast, Anchorage, AK (January 2011): *Greening of Tundra Vegetation*.
- SCAR/IARC IARC-CliC Joint Workshop Rapid Change in Arctic Sea Ice: Assessing Drivers and Future Trajectories, Fairbanks, Alaska, (October 2010): *What drives recent Arctic tundra vegetation changes?*

- Society for the Advancement of Chicanos and Native Americans in Science (SACNAS) Annual Meeting, Anaheim California (Sept 2010): *Circumpolar Arctic Tundra Vegetation Change is Linked to Sea-Ice Decline*.
- Alaska Summer Research Academy (ASRA) Monday Marvels, Fairbanks Alaska (August 2010): *Climate Variability and Change in Alaska*.
- Workshop on Snow, ice, permafrost, and water in a warming Arctic, Fairbanks, AK (June 2010): *Arctic climate scenarios and dynamical downscaling for glacier studies*.
- National Association for Interpretation Workshop on “Communicating Climate Change in a Changing World”, U.S. Forest Service, Chugach National Forest, Begich, Boggs Visitor Center, Portage Valley, Alaska (April 2010): *Observing a Changing Climate in Alaska*.
- American Association of Physics Teachers (January 2006): *Using Computer Models to Understand Arctic Natural Climate Variability and Climate Change*.
- SCAR Workshop on Recent High Latitude Climate Change (Dec 2004): *The Influence of Sea-Ice on the Atmosphere*.
- International Arctic Research Center (IARC) 2004 Summer School (July 2004): *Climate Response to Sea Ice Anomalies*.
- University of Alaska Fairbanks Geophysical Institute Monthly Group Lecture Series, Fairbanks, Alaska, (March 2004): *Modeling to Better Understand Climate Processes at High Latitudes*.
- Atmospheric Science Program and Geophysical Institute at University of Alaska Fairbanks, Fairbanks, Alaska (2003): *Climate Response to Sea Ice Anomalies*.
- International Arctic Research Center (IARC) Arctic Climate Modeling Summer School, Fairbanks, Alaska (2003): *Climate Response to Sea Ice Anomalies*.
- International Arctic Research Center (IARC) Workshop on the modeling of the Arctic Atmosphere, Madison, WI, (May 2002): *The atmospheric response to Arctic sea ice anomalies: summer*.
- UAF Institute of Marine Science, Fairbanks, Alaska (March 2000): *Arctic Variability in Climate Models*.
- University of Alaska Fairbanks-IARC, Fairbanks, Alaska: (September 1998): *Climate Variability in Coupled Models*.
- Auburn University Physics Department, Auburn, Alabama, (March 1998): *El Niño and Climate Variability*.
- NASA Goddard Space Flight Center, Greenbelt, Maryland, (April 1998): *Atmosphere-Ocean Interaction in the North Atlantic: Near Surface Climate Variability*.
- Center for Ocean-Land-Atmosphere Studies (COLA), Calverton, Maryland (April 1997): *Atmosphere-Ocean Interaction in the North Atlantic: Near Surface Climate Variability*.
- Center for Ocean Atmosphere Prediction Studies (COAPS) at Florida State University, Tallahassee, Florida (February 1997): *Atmosphere-Ocean Interaction in the North Atlantic: Near Surface Climate Variability*.

Professional Societies

American Meteorological Society (1987 - Present)

American Geophysical Union (1990 – Present)

PEER-REVIEWED PUBLICATIONS (Students are underlined>)

Peter A. Bieniek, Uma S. Bhatt, Alison York, John Walsh, Rick Lader, Heidi Strader, Robert Ziel, Randi R. Jandt, and Richard L. Thoman, 2019: *Lightning variability in dynamically downscaled simulations of Alaska’s present and future summer climate*, (in revision), J. Applied Meteorology and Climate.

- Thoman Jr., Richard L., Uma S. Bhatt, Peter A. Bieniek, Brian R. Brettschneider, Michael Brubaker, Seth L. Danielson, Zachary Labe, Rick Lader, Walter N. Meier, Gay Sheffield, John E. Walsh, 2019: *The Record Low Bering Sea Ice Extent in 2018: Content, Impacts and an Assessment of the Role of Anthropogenic Climate Change*, (in revision) Bulletin of the American Meteorological Society Special Report Explaining Extreme Events of 2018 from a Climate Perspective.
- Wagner, Penelope, Nick Hughes, Pascale Bourbonnais, Julianne Stroeve, Lasse Rabenstein, Uma Bhatt, Joe Little, and Helen Wiggins, 2019: *Sea-ice Information and Forecast Needs for Industry Maritime Stakeholders*, (in revision) Polar Geography.
- Myers-Smith, Isla, Jeffrey T. Kerby, Gareth K. Phoenix, Jarle W. Bjerke, Howard E. Epstein, Jakob Assmann, Christian John, Laia Andreu-Hayles, Sandra Angers-Blodin, Pieter S.A. Beck, Logan T. Berner, Uma S. Bhatt, Anne D. Bjorkman, Daan Blok, Ander Bryn, Casper T. Christiansen, J. Hans C. Cornelissen, Andrew M. Cunliffe, Sarah C. Elmendorf, Bruce C. Forbes, Scott J. Goetz, Robert D. Hollister, Rogier de Jong, Michael Loranty, Marc Macias-Fauria, Kadmiel Maseyk, Signe Normand, Johan Olofsson, Thomas C. Parker, Frans-Jan W. Parmentier, Eric S. Post, Gabriela Schaeppman-Strub, Frode Stordal, Patrick Sullivan, Haydn J. D. Thomas, Hans Tømmervik, Rachael Treharne, Craig E. Tweedie, Donald A. Walker, Martin Wilmsking, Sonja Wipf, 2019: *Complexity revealed in the greening of the Arctic*, (in revision) Nature Climate Change, link to text on EcoEvoRxiv <https://ecoevorxiv.org/mzyjk/>.
- Cohen, J., X. Zhang, J. Francis, T. Jung, R. Kwok, J. Overland, T. Ballinger, U. S. Bhatt, H. W. Chen, D. Coumou, S. Feldstein, D. Handorf, G. Henderson, M. Ionita, M. Kretschmer, F. Laliberte, S. Lee, H. W. Linderholm, W. Maslowski, Y. Peings, K. Pfeiffer, I. Rigor, T. Semmler, J. Stroeve, P. C. Taylor, S. Vavrus, T. Vihma, S. Wang, M. Wendisch, Y. Wu, J. Yoon, 2019: *Divergent consensus on the influence of Arctic amplification on mid-latitude severe winter weather*, 2019 (in revision) Nature Climate Change.
- Lader, RT, Walsh, JE, Bhatt, US, Bieniek PA, 2019: Anticipated changes to the snow season in Alaska: Elevation dependency, timing and extremes. (in press) International J. Climatology.
- Epstein, E., U. Bhatt, M. Reynolds, D. Walker, B. Forbes, G. Phoenix, J. Bjerke, H. Tømmervik, S.-R. Karlsen, R. Myneni, T. Park, S. Goetz, and G. Jia, 2019: Tundra Greenness —The Arctic [in “State of the Climate in 2018”]. Bull. Amer. Meteor. Soc., 100 (9), S163–S165, doi:10.1175/2019BAMSStateoftheClimate.1
- Overland, J.E., E. Hanna, I. Hanssen-Bauer, S.-J. Kim, J. E. Walsh, M. Wang, and U. S. Bhatt, 2019: Surface air temperature—The Arctic [in “State of the Climate in 2018”]. Bull. Amer. Meteor. Soc., 100 (9), S142–S146, doi:10.1175/2019BAMSStateoftheClimate.1
- Park, Taejin, Chi Chen, Alexander Winkler, Hans Tømmervik, Sungho Choi, Marc Macias-Fauria, Uma S. Bhatt, Donald A. Walker, Shilong Piao, Victor Brovkin, Ramakrishna R. Nemani, Ranga B. Myneni, 2019: Changes in timing of seasonal peak photosynthetic activity in northern ecosystems, Global Change Biology, <https://doi.org/10.1111/gcb.14638>.
- Box, Jason; Colgan, William; Brown, Ross; Wang, Muyin; Overland, James; Walsh, John; Bhatt, Uma; Christensen, Torben; Schmidt, Niels; Lund, Magnus; Parmentier, Frans-Jan; Euskirchen, Eugenie; Romanovsky, Vladimir; Corell, Robert; Meier, Walter; Wouters, Bert; Mernild, Sebastian; Mård, Johanna; Pawlak, Janet; Andersen, Morten, **2019: Key Indicators of Arctic Climate Change: 1971-2017**, Environmental Research Letters, 045010. **Associated materials:** video available at journal web site <https://iopscience.iop.org/article/10.1088/1748-9326/aafc1b/meta> .
- Walker, D, H Epstein, J Šibík, US Bhatt, V Romanovsky, ABreen, S Chasnikova, R Daanen, L Druckenmiller, K Ermokhina, JJ Frost, J Geml, E Kaarlejärvi, O Khitun, A Khomutov, P Kuss, G Matyshak, N Moskalenko, P Orekhov, J Peirce, M Reynolds, I Timling, 2019: *Vegetation on mesic loamy and sandy*

- soils along a 1700-km maritime Eurasia Arctic Transect*. Journal of Vegetation Science, 22:150–167. <https://doi.org/10.1111/avsc.12401>.
- Devi U, Shekhar MS, Singh GP, Rao NN, Bhatt US, 2019: Methodological application of quantile mapping to generate precipitation data over Northwest Himalaya. Int J Climatol., 1–11. <https://doi.org/10.1002/joc.6008>.
- Data set associated with Bhatt et al. 2017, Bhatt, U.S., 2018: ABoVE: Climate Drivers of Pan-Arctic Tundra Vegetation Productivity, 1982-2015. ORNL DAAC, Oak Ridge, TN, USA. <https://doi.org/10.3334/ORNLDAAC/1606>.
- Overland, J.E., E. Hanna, I. Hanssen-Bauer, S. -J. Kim, J. E. Walsh, M. Wang, U. S. Bhatt, R. L. Thoman, 2018: Surface Air Temperature, [in Arctic Report Card 2018], <https://www.arctic.noaa.gov/Report-Card>.
- Epstein, H., U. Bhatt, M. Reynolds, D. Walker, B. Forbes, G. Phoenix, J. Bjerke, H. Tømmervik, S. -R. Karlsen, R. Myneni, T. Park, S. Goetz, G. Jia, 2018: Tundra Greenness, [in Arctic Report Card 2018], <https://www.arctic.noaa.gov/Report-Card>.
- Cai, L., VA Alexeev, JE. Walsh, and US Bhatt, 2018: Patterns, Impacts, and Future Projections of Summer Variability in the Arctic from CMIP5 Models, Journal of Climate, <https://doi.org/10.1175/JCLI-D-18-0119.1>.
- Lader, RT, Walsh, JE, Bhatt, US, Bieniek PA, 2018: *Agro-climate projections for a warming Alaska*, Earth Interactions, <https://doi.org/10.1175/EI-D-17-0036.1>. pdf.
- Walsh, J.E., US Bhatt, J Littell, M Leonawicz, M Lindgren, PA Bieniek, R Thoman, S Gray, TS Rupp, 2018: *Downscaling climate model output for Alaskan stakeholders*, Environmental Modelling and Software, <https://doi.org/10.1016/j.envsoft.2018.03.021>. pdf.
- Reichle, L., H. Epstein, U.S. Bhatt, M.K. Reynolds, and DA Walker, 2018: *Spatial Heterogeneity of the Temporal Dynamics of Arctic Tundra Vegetation*. Geophysical Research Letters, 45, 9206–9215. <https://doi.org/10.1029/2018GL078820>.
- Overland, JE, E. Hanna, I. Hanssen-Bauer, S.-J. Kim, J. E. Walsh, M. Wang, U. S. Bhatt, and R. L. Thoman, 2018: Surface air temperature—The Arctic [in “State of the Climate in 2017”]. Bull. Amer. Meteor. Soc., 99 (8), S144–S146, doi:10.1175/2018BAMSStateoftheClimate.1.
- York, A., U. Bhatt, R. Thoman, AND R. Ziel, 2018: Wildland fire in Boreal and Arctic North America —The Arctic [in “State of the Climate in 2017”]. Bull. Amer. Meteor. Soc., 99 (8), S167–S169, doi:10.1175/2018BAMSStateoftheClimate.1.
- Epstein, H E, U. Bhatt, M. Reynolds, D. Walker, J. Pinzon, C. J. Tucker, B. C. Forbes, T. Horstkotte, M. Macias-Fauria, A. Martin, G. Phoenix, J. Bjerke, H. Tømmervik, P. Fauchald, H. Vickers, R. Myneni, T. Park, and C. Dickerson, 2018: Tundra Greenness —The Arctic [in “State of the Climate in 2017”]. Bull. Amer. Meteor. Soc., 99 (8), S165–S166, doi:10.1175/2018BAMSStateoftheClimate.1.
- Bieniek, P., US Bhatt, JE Walsh, RT Lader, B Griffith, J. Roach, and R Thoman, 2018: *Variability, drivers, and impacts of Alaska winter rain-on-snow events*, J. Met and Applied Climatology, 57(8), 1847–1863 <https://doi.org/10.1175/JAMC-D-17-0276.1>.
- Lader, RT, Walsh, JE, **Bhatt, US**, Bieniek P., 2018: *Agro-climate projections for a warming Alaska*, (online) J. Met and Applied Climatology, <https://doi.org/10.1175/JAMC-D-17-0276.1>
- Cohen, J., X. Zhang, J. Francis, T. Jung, R. Kwok, J. Overland, P. C. Talyer, S. Lee, F. Laliberte, S. Feldstein, W. Maslowski, G. Henderson, J. Stroeve, D. Coumou, D. Handorf, T. Semmler, T. Ballinger, M. Hell, M. Kretschmer, S. Vavrus, M. Wang, S. Wang, Y. Wu, T. Vihma, **U. Bhatt**, M. Ionita, H. Linderholm, I. Rigor, C. Routson, D. Singh, M. Wendisch, D. Smith, J. Screen, J. Yoon, Y. Peings, H. Chen, and R. Blackport, 2018: Arctic change and possible influence on mid-latitude climate and weather. US CLIVAR Report

2018-1, 41pp, doi:10.5065/D6TH8KGW.

- Deemer, G. J., U. S. Bhatt, H. Eicken, P. G. Posey, J. K. Hutchings, J. Nelson, R. Heim, R. Allard, H. Wiggins, and K. Creek, 2018: Broadening the sea-ice forecaster toolbox with community observations: A case study from the Bering Sea. *Arctic Science*, 4 (1), 42-70, <https://doi.org/10.1139/as-2016-0>.
- Walsh, John E., Richard L. Thoman, Uma S. Bhatt, Peter A. Bieniek, Brian Brettschneider, Michael Brubaker, Seth Danielson, Rick Lader, Florence Fetterer, Kris Holderied, Katrin Iken, Andy Mahoney, Molly McCammon, James Partain, 2017: *The high latitude marine heat wave of 2016 and its impacts on Alaska*, (in press) Bulletin of the American Meteorological Society Special Report Explaining Extreme Events of 2016 from a Climate Perspective.
- York, A., U. Bhatt, R. Thoman, and R. Ziel, 2017: *Wildland Fire in High Latitudes [in Arctic Report Card 2017]*, <http://www.arctic.noaa.gov/Report-Card>.
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