VICTORIA V. MILES, PhD

Research Scientist

REMOTE SENSING • GIS • ENVIRONMENTAL CHANGE

Research Themes

Arctic Remote Sensing • Urban Climate • Socio-Ecological Systems • Climate Adaptation • Web GIS & Geovisualization • Open Science • Stakeholder Co-production • Transdisciplinary Research

Nansen Environmental and Remote Sensing Center (NERSC)
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PROFESSIONAL PROFILE

I am a remote sensing and geospatial scientist with more than 25 years of experience in environmental change, Earth observation, and geographic information science. My research integrates satellite remote sensing, geospatial analytics, environmental modelling, and digital geovisualization to investigate the interactions between climate change, urbanization, and socio-ecological systems across Arctic and northern environments. I have established an academically independent research profile through a sustained record of first-author publications, multidisciplinary research leadership, and long-standing international collaborations. Beyond conventional scientific publications, I develop open-access datasets, Web GIS platforms, and interactive StoryMaps that translate research into practical decision-support tools for municipalities, policymakers, and local communities. By combining Earth observation, urban climate science, digital geospatial technologies, and stakeholder co-production, my research bridges scientific discovery and evidence-based decision-making to support sustainable and climate-resilient development in Arctic and northern regions.

RESEARCH PROFILE AT A GLANCE

Research Profile at a Glance	Metrics & Highlights
Academic Experience	25+ years in Earth observation, remote sensing, GIS, and environmental change research
Research Independence	45+ peer-reviewed publications and technical reports with a sustained record of first-author publications
Scientific Impact	h-index: 18 • i10-index: 22 • >1,200 citations (Google Scholar)
Research Trajectory	Approximately 76% of citations accumulated since 2021, indicating sustained and increasing international impact
Research Leadership	Principal Investigator and Project Leader for ARCA, SERUS, and URSA-MAJOR
Open Science & Digital Innovation	Open-access datasets (Arctic Data Center), Web GIS platforms, StoryMaps, and digital decision-support tools
Societal & Policy Impact	Research supporting urban climate adaptation and planning, including applications by Bergen Municipality
International Recognition	Research featured by NASA Earth Observatory, NASA Earthdata, and AGU's Eos magazine
Research Translation	Bridging Earth observation, geospatial science, and stakeholder engagement through interactive digital platforms

EDUCATION

1998: PHD IN GEOGRAPHY
Department of Geography, St. Petersburg State University, Russia

1993: MASTER OF SCIENCE IN FORESTRY AND LANDSCAPE DESIGN
St. Petersburg Forestry Academy, Russia

CURRENT AND PREVIOUS POSITIONS

2009 – PRESENT: Research Scientist / Senior Scientist
Nansen Environmental and Remote Sensing Center (NERSC), Bergen, Norway

2004 – 2009: [MATERNITY LEAVE – 5 YEARS OFficial Career Break]
Note: Academic age adjusted accordingly for grant evaluations.

2002 – 2004: Research Scientist
Nansen Environmental and Remote Sensing Center (NERSC), Bergen, Norway

1998 – 2001: Research Scientist
Nansen International Environmental and Remote Sensing Center (NIERSC), St. Petersburg, Russia

1997 & 2000: Visiting Scientist
Joint Research Centre (JRC) of the European Commission, Space Application Institute, Ispra, Italy

1996: Visiting Ph.D. Student
Nansen Environmental and Remote Sensing Center (NERSC), Bergen, Norway

1995 – 1998: Nansen Fellowship Ph.D. Candidate
Nansen International Environmental and Remote Sensing Center (NIERSC), St. Petersburg, Russia

1992 – 1995: Junior Scientist
Laboratory of Complex Problems of Environmental Protection, Institute for Lake Research, Russian Academy of Sciences, St. Petersburg, Russia

RESEARCH LEADERSHIP & PROJECT MANAGEMENT

2024 – 2027: PRINCIPAL INVESTIGATOR / PROJECT MANAGER | ARCA
Project: Can urban biocultural heritage contribute to climate change adaptation and mitigation?

2022 – 2026: WORK PACKAGE LEADER / CORE RESEARCHER | URSA-MAJOR
Project: URban Sustainability in Action: Multi-disciplinary Approach through Jointly Organized Research schools.

2020 – 2023: PROJECT MANAGER & GIS LEAD | SERUS
Project: Building Socio-Ecological Resilience through Urban Green, Blue and White Space *(Belmont Forum)*.

2001 – 2004: CORE RESEARCHER | EON 2000+
Project: Earth Observation for Nature 2000+ *(European Commission Framework Programme)*.

CORE INSTITUTIONAL CONTRIBUTOR: Actively contributed geospatial and socio-ecological expertise to high-profile EU projects, including **TURBAN** and Belmont Forum initiatives (**HIARC**).

RESEARCH IMPACT & KNOWLEDGE TRANSFER

Scientific impact & bibliometrics

h-index 18 with **1,219 total citations** (Google Scholar metrics).

High contemporary research relevance: **931 citations accumulated since 2021 (~76% of total)**.

Distinct academic autonomy validated by a dominant record of **first and leading authorship** on core publications.

Research data & digital infrastructure (open science)

Lead Developer & Visual Storyteller: Creator of high-impact interactive Web Map Portfolios and ArcGIS StoryMaps used for public outreach: **ARCA (2024), URSA-MAJOR (2023), TURBAN / Bergen Puster (2021–2023), SERUS (2022)**.

Open-Access Datasets:

Miles, V. (2020): Arctic surface Urban Heat Island (UHI), MODIS Land Surface Temperature (LST) data, 2000-2016. *Arctic Data Center*. doi:10.18739/A2TB0XW4T

Miles, M. W., Miles, V., and Esau, I. (2019): Northern West Siberia Normalized Difference Vegetation Index (NDVI) and Climate Data, 2000-2016. *Arctic Data Center*. doi:10.18739/A28911Q99

Technical Frameworks: *Miles, V. (2023):* WEB GIS for Urban Climate. *NERSC Technical Report (426)*. doi:10.5281/zenodo.7541357

Policy, societal & international impact

Municipal Decision Support: Developed Web GIS products directly used by **Bergen Municipality (Bergen kommune)** Health and Environmental Units for local urban stress and blue-green infrastructure adaptation (2022).

International Monograph: Co-authored the research monograph *"Warmer Climate of Arctic Cities"* in *The Arctic: Current Issues and Challenges* (NOVA Publishers, 2020).

Global Visibility: Research findings featured twice by **NASA Earth Observatory & Earthdata** (*"A Ring of Green Around Surgut"*, *"A Spread of Green"*) and highlighted globally in AGU's **Eos magazine** (2020).

Science–Art Transdisciplinarity: Invited presentation and art exhibition *"Walking, Seeing, Feeling"*through the **ArtSLInK** network at Arctic Science Summit Week (ASSW 2023).

MAJOR INTERNATIONAL COLLABORATIONS

Pan-Eurasian Experiment (PEEX): Institutional collaboration with Helsinki University, Finland.

North American & European Academic Partners: Department of Atmospheric Sciences, University of Alaska Fairbanks (USA); Department of Environmental Sciences, University of Virginia (USA); George Washington University (USA); Institute of Arctic and Alpine Research (INSTAAR), University of Colorado (USA); Dept. of Energy & Technology, Swedish University of Agricultural Sciences (Uppsala, Sweden); University of Novi Sad (Serbia).

Norwegian Research Consortium: Department of Biology, University of Bergen (UiB); Norwegian Research Centre (NORCE); SINTEF; Arctic University of Norway (UiT, Tromsø); Norwegian University of Science and Technology (NTNTU, Trondheim).

TRACK RECORD: SELECTED PUBLICATIONS

1. **Miles, V.**, Esau, I., and Kuklina, V. (2026). Thermal Amplification by Large-Footprint Buildings in Cold-Climate Cities: Implications for Urban Heat Mitigation. *Building and Environment*, 114345.

2. Laanti, T. M., Aarne, A., Durand, M., Noe, S. M., **Miles, V.**, Krasnov, D., Kulmala, M., ... (2026). Explainable machine learning highlights the role of diffuse radiation in ecosystem carbon uptake of boreal forest. *Environmental Data Science*, 5, e15.

3. **Esau, I. and Miles, V.** (2024). A local climate perspective on possible development pathways for Longyearbyen, Svalbard. *Polar Record*, 60, e23. doi:10.1017/S0032247424000214

4. **Esau, I., Belda, M., Miles, V.**, et al. (2024). A city-scale turbulence-resolving model as an essential element of integrated urban services. *Urban Climate*, 56, 102059. doi:10.1016/j.uclim.2024.102059

5. **Miles, V.**, Esau, I., and Pettersson, L. (2023). Using web GIS to promote stakeholder understanding of scientific results in sustainable urban development: a case study in Bergen, Norway. *Sustainable Development*, 1–13. doi:10.1002/sd.2787

6. **Miles, V.**, Esau, I., and Miles, M. W. (2023). The urban climate of the largest cities of the European Arctic. *Urban Climate*, 48, 101423. doi:10.1016/j.uclim.2023.101423

7. Lappalainen, H., **Miles, V.**, et al. (2022). Overview: Recent advances on the understanding of the Northern Eurasian environments and of the urban air quality in China-Pan Eurasian Experiment (PEEX) program perspective. *Atmospheric Chemistry and Physics Discussions*, 1-106.

8. Esau, I., Bobylev, L., ... **Miles, V.**, et al. (2021). An enhanced integrated approach to knowledgeable high-resolution environmental quality assessment. *Environmental Science and Policy*, 122, 1–13. doi:10.1016/j.envsci.2021.03.018

9. Esau, I., **Miles, V.**, Soromotin, A., Sizov, O., Varentsov, M., and Konstantinov, P. (2021). Urban heat islands in the Arctic cities: an updated compilation of in situ and remote-sensing estimations. *Advances in Science and Research*, 18, 51-57. doi:10.5194/asr-18-51-2021

10. **Miles, V.** and Esau, I. (2020). Surface urban heat islands in 57 cities across different climates in northern Fennoscandia. *Urban Climate*, 31, 100575. doi:10.1016/j.uclim.2019.100575

11. Beamish, A., ... **Miles, V.**, et al. (2020). Recent trends and remaining challenges for optical remote sensing of Arctic tundra vegetation: A review and outlook. *Remote Sensing of Environment*, 246, 111872. doi:10.1016/j.rse.2020.111872

12. Miles, M. W., **Miles, V.**, and Esau, I. (2019). Varying climate response across the tundra, forest–tundra and boreal forest biomes in northern West Siberia. *Environmental Research Letters*, 14(7), 074029. doi:10.1088/1748-9326/ab2364

13. Esau, I., **Miles, V.**, Varentsov, M., et al. (2019). Spatial structure and temporal variability of a surface urban heat island in cold continental climate. *Theoretical and Applied Climatology*, 137, 2011–2027. doi:10.1007/s00704-018-02754-z

14. Varentsov, M., Konstantinov, P., Baklanov, A., Esau, I., **Miles, V. V.**, and Davy, R. (2018). Anthropogenic and natural drivers of a strong winter urban heat island in a typical Arctic city. *Atmospheric Chemistry and Physics*, 18, 17573–17587. doi:10.5194/acp-18-17573-2018

15. **Miles, V. V.** and Esau, I. (2017). Seasonal and spatial characteristics of surface urban heat islands in northern West Siberian cities. *Remote Sensing*, 9(10), 989. doi:10.3390/rs9100989

16. **Miles, V. V.** and Esau, I. (2016). Spatial heterogeneity of greening and browning between and within bioclimatic zones in northern West Siberia. *Environmental Research Letters*, 11(11), 115002. doi:10.1088/1748-9326/11/11/115002

17. Esau, I., **Miles, V. V.**, Davy, R., Miles, M. W., and Kurchatova, A. (2016). Trends in normalized difference vegetation index (NDVI) associated with urban development in northern West Siberia. *Atmospheric Chemistry and Physics*, 16, 9543–9554. doi:10.5194/acp-16-9543-2016

18. **Miles, V. V.**, Miles, M. W., and Johannessen, O. M. (2016). Satellite archives reveal abrupt changes in behavior of Helheim Glacier, southeast Greenland. *Journal of Glaciology*, 62(232), 251–261. doi:10.1017/jog.2016.24

19. Esau, I. and **Miles, V.** (2016). Warmer urban climates for development of green spaces in northern Siberian cities. *Geography, Environment, Sustainability*, 9(4), 48-62. doi:10.24057/2071-9388-2016-9-4-17-23

20. **Miles, V.**, Bobylev, L., Maksimov, S. V., Johannessen, O. M., and Pitulko, P. M. (2003). An approach for assessing boreal forest conditions based on combined use of satellite SAR and multispectral data. *International Journal of Remote Sensing*, 24(22), 4447-4466. doi:10.1080/0143116031000070436

PROFESSIONAL SERVICE & COMMISSIONS OF TRUST

Peer Reviewer for Top-Tier Journals: *Environmental Research Letters, Journal of Environmental Management, Science of the Total Environment, Journal of Geophysical Research – Biogeosciences, Urban Climate, Sustainable Development.*

Scientific Committee Member: 12th International Conference on Urban Climate (ICUC12, 2025).

Session Organizer: *"Understanding, Applying and Governing for Sustainable Future"* at the UArctic Congress (2026).

Organizing Committee Member: Bjerknes Science Days, Bergen, Norway (2016).

MEMBERSHIPS OF SCIENTIFIC SOCIETIES

2024 – Present: Norwegian Geophysical Society

2023 – Present: Arts, Science, Local and Indigenous Knowledge (ArtSLInK)

2019 – Present: International Association for Urban Climate (IAUC)

2015 – Present: Pan-Eurasian Experiment (PEEX) Program

2013 – Present: Bjerknes Centre for Climate Research

1996 – Present: International Co-operative Programme on Assessment and Monitoring of Air Pollution Effects on Forests