Ian M. Nesbitt

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Education

Since 2017 **Masters Student in Earth and Climate Sciences**, *School of Earth and Climate Sciences, College of Natural Sciences, Forestry, and Agriculture, University of Maine*, Orono, ME, USA.
Thesis: Using diverse methods to determine the volume and stratigraphy of sediment in a formerly glaciated lake in central Maine, USA
Advisor: Seth W. Campbell, *Co-advisor*: Sean M.C. Smith
Associated Projects: readgssi, a Python tool to read and process radar data; SeidarT, a seismic and radar survey modeling toolbox

2009–2013 **Bachelor of Arts in Geosciences with Honors**, *Williams College*, Williamstown, MA, USA.
Thesis: A comparative study of snowmelt-driven water budgets in adjacent alpine basins, Niwot Ridge, Colorado Front Range
Advisor: David P. Dethier

Awards and Scholarships

2021 Golden Key (invited)
2018–2023 Co-President, Williams College class of 2013
2013 Sigma Xi induction
2012 Williams College Class of 1960 Scholar in Geosciences

Work Experience

2021 **Geophysicist**, *International Thwaites Glacier Collaboration, Project GHC*, Orono, ME, USA.
Duties: Processed ground-penetrating radar (GPR) survey data from the Hudson Mountains, West Antarctica, in collaboration with John Woodward, Joanne S. Johnson, Brent Goehring, and Seth W. Campbell.

2019–2020 **Lead Geophysicist**, *Allan Hills Antarctic Expedition I-165-M, Princeton University - NSF Award Number 1744993*, McMurdo Station, Antarctica.
Duties: Collected and processed 100 km of ground-penetrating radar (GPR) survey data from a blue ice area on the eastern side of the Trans-Antarctic Mountains.

2018–2020 **Lead Scientist**, *Raspberry Shake, S.A.*, Boquete, Chiriqui, Panama.
Duties: Technical support, software development, QA/QC of seismic instruments, development and QA/QC of educational materials.
Projects: https://github.com/raspishake/rsudp

2014–2017 **Geophysical Scientist**, *e4sciences LLC*, Newtown, CT, USA.
Duties: Led field team for many types of geophysical survey including Mobile LiDAR, ground-penetrating radar, high-precision GPS, multibeam echosounding, sub-bottom seismic, sidescan sonar. Field interpretation, and on-the-ground operations decision-making including boat handling.
Projects: Created survey-to-delivery workflow for 3D LiDAR end-user deliverables.

2013–2014 **Assistant Nordic Ski Coach**, *St. Michael's College*, Colchester, VT, USA.
Duties: Created and supervised individualized training plans for athletes, technique instruction, race day logistics including ski preparation.

Teaching

2019 **Ground-Penetrating Radar Theory and Applications to Geological Mapping – SC2**, *Northeastern Section Meeting, Geological Society of America*, Portland, ME, USA.
Seth W. Campbell and Ian M. Nesbitt (filling in for Steven A. Arcone) taught short course at NEGSA annual meeting, covering radar application, data collection, processing, and interpretation.

2018 **Global Environmental Change – ERS 201**, *University of Maine*, Orono, ME, USA.
Karl J. Kreutz and Ian M. Nesbitt instructed students in accepted and debated climate theory from an earth systems perspective.

2017 **Earth Systems – ERS 200**, *University of Maine*, Orono, ME, USA.
Aaron E. Putnam, Sean M.C. Smith, Peter O. Koons, and Ian M. Nesbitt instructed students in earth systems theory.

2012–2013 **GIS and Remote Sensing – GEOS 214**, *Williams College*, Williamstown, MA, USA.
David P. Dethier and Ian M. Nesbitt instructed students in traditional and emerging geomorphologic theory, methods, and practice.

2012 **Geomorphology – GEOS 201**, *Williams College*, Williamstown, MA, USA.
David P. Dethier and Ian M. Nesbitt instructed students in geographical information systems (GIS) theory, technology and software, and advised in the application of these methods via end-of-term projects.

Publications

Peer-reviewed scientific articles

in prep. **The use of pulse radar in paleolimnology**.
Ian M. Nesbitt, Seth W. Campbell, Steven A. Arcone, and Sean M.C. Smith

in review **The sediment delivery continuum from deglaciation to the modern watershed based on lake sedimentary deposits in the Northeastern USA**, *Quaternary Research*.
Ian M. Nesbitt, Seth W. Campbell, Sean M.C. Smith, Bess G. Koffman, Steven A. Arcone, and Kristin M. Schild
preprint: 10.13140/RG.2.2.11567.05281

2021 **rsudp: A Python package for real-time seismic monitoring with Raspberry Shake instruments**, *Journal of Open Source Software*.
Ian M. Nesbitt, Richard I. Boaz, and Justin Long
doi: 10.21105/joss.02565

2020 **Global quieting of high-frequency seismic noise due to COVID-19 pandemic lockdown measures**, *Science*.
Thomas Lecocq, Stephen P Hicks, Koen Van Noten, Kasper van Wijk, Paula Koelemeijer, Raphael SM De Plaen, Frédérick Massin, Gregor Hillers, Robert E Anthony, Maria-Theresia Apoloner, ... Ian M. Nesbitt et al.
doi: 10.1126/science.abd2438

2016 **Tracing subarctic Pacific water masses with benthic foraminiferal stable isotopes during the LGM and late Pleistocene**, *Deep-Sea Research Part II: Topical Studies in Oceanography*.
Mea S. Cook, A. Christina Ravelo, Alan C. Mix, Ian M. Nesbitt, and Nari V. Miller
doi: 10.1016/j.dsr2.2016.02.006

Conference proceedings, presentations, and datasets

2022 **Post-glacial sediment delivery continuum to an impounded valley reach in central Maine: a multi-disciplinary approach**, *Geological Society of America Abstracts with Programs*, Invited talk.
Ian M. Nesbitt, Sean M.C. Smith, Seth W. Campbell, Bess G. Koffman, Steven A. Arcone, and Kristin M. Schild
doi: 10.1130/abs/2022NE-374798

2021 **Unprecedented present deglaciation of Pine Island Glacier Inferred from Ice Penetrating Radar Studies of Localised Ice Domes in the Hudson Mountains**, *International Thwaites Glacier Collaboration Conference*, Poster.
John Woodward, Joanne S. Johnson, Seth W. Campbell, Ian M. Nesbitt, Brenda L. Hall, Scott Braddock, Meghan Spoth, Brent Goehring, Ryan Venturelli, Dylan H. Rood, Kier Nichols, Johnathan Adams, and Greg Balco

2019 **A decision-making framework for sedimentation analyses in dammed river corridor impoundments**, *Geological Society of America Abstracts with Programs 51*, Portland, ME, Talk.
Ian M. Nesbitt, Sean M.C. Smith, Bess G. Koffman, Seth W. Campbell, and Steven A. Arcone
doi: 10.1130/abs/2019NE-328587

2018 **Sedimentary architecture and accumulation rates of multiple lakes in New England, USA**, *AGU Fall Meeting Abstracts 2018*, Washington, D.C., Poster NS41B-0830.
Ian M. Nesbitt, Seth W. Campbell, Steven A. Arcone, Sean M.C. Smith, and Bess G. Koffman

2018 **Sedimentary architecture of Maine lakes derived with ground-penetrating radar**, *Maine Water and Sustainability Conference*, Augusta, ME, Poster.
Ian M. Nesbitt, Seth W. Campbell, Steven A. Arcone, and Sean M.C. Smith

2018 **Holocene sediment volume determined by ground-penetrating radar and sidescan sonar in Maine, USA**, *Geological Society of America, Northeastern Section - 53rd Annual Meeting*, Talk.
Ian M. Nesbitt, Seth W. Campbell, Steven A. Arcone, and Sean M.C. Smith
doi: 10.1130/abs/2018NE-311370

2017 **Using ground-penetrating radar and sidescan sonar to compare lake bottom geology in New England**, *AGU Fall Meeting Abstracts 2017*, New Orleans, LA, Talk PP44B-01.
Ian M. Nesbitt, Seth W. Campbell, Steven A. Arcone, and Sean M.C. Smith

2017 **New England lake bottom geology and sedimentation rates derived from ground-penetrating radar**, *GSA Annual Meeting*, Seattle, WA.
Seth W. Campbell, Ian M. Nesbitt, Steven A. Arcone, Sean M.C. Smith
doi: 10.1130/abs/2017AM-306235

2015 **Geophysical imaging of dams and levees in the Northeast US**, *Society of Exploration Geophysicists Abstracts With Programs*, New Orleans, LA.
Daniel A. Rosales, William F. Murphy IV, Matthew B. Art, Ian M. Nesbitt, Salvatore Triano, David C. Herron, Kurt Schollmeyer, James Trotta, W. Bruce Ward, Lisa Stewart, and William F. Murphy III

2014 **Tracing Bering Sea circulation with benthic foraminiferal stable isotopes during the Pleistocene**, *AGU Fall Meeting Abstracts 2014*, PP23D-08.
Mea S. Cook, A. Christina Ravelo, Alan C. Mix, Ian M. Nesbitt, and Nari V. Miller

2013 **A comparative study of snowmelt-driven water budgets in adjacent alpine basins, Niwot Ridge, Colorado Front Range**, *Thesis, Department of Geosciences, Williams College*, Williamstown, MA.
Ian M. Nesbitt
Advisor: David P. Dethier
Available via Williams College Libraries
doi: 10.13140/RG.2.2.33197.20966

2013 **A comparative study of snowmelt-driven water budgets in adjacent alpine basins, Niwot Ridge, Colorado Front Range**, *Geological Society of America, Northeastern Section - 48th Annual Meeting*, Bretton Woods, NH.
Ian M. Nesbitt and David P. Dethier

2013 **A comparative study of snowmelt-driven water budgets in adjacent alpine basins, Niwot Ridge, Colorado Front Range**, *Twenty-sixth annual Keck Research Symposium in Geology, proceedings 2013*, Pomona, CA.
Ian M. Nesbitt and Robert Varga

Open-source software

2021 **SeidarT: Seismic and radar survey modeling toolbox**.
Steven P. Bernsen, Christopher C. Gerbi, Ian M. Nesbitt, Ann Hill, Senthil Vel, Knut Christianson, Seth W. Campbell, and Ben Hills
https://github.com/UMainedynamics/SeidarT
doi: 10.5281/zenodo.5498194

2020 **rsudp: Continuous visual display, sudden motion monitoring, and historical replay of Raspberry Shake data**.
Ian M. Nesbitt, Richard I. Boaz, and Justin Long
https://github.com/raspishake/rsudp
doi: 10.21105/joss.02565

2019 **gpx2dzg: a tool to convert GPX files to GSSI's proprietary DZG format, and plot comparisons of marks in GPX and DZT/DZX files**, *Zenodo*.
Developer and maintainer
https://github.com/iannesbitt/gpx2dzg
doi: 10.5281/zenodo.3260948

2019 **readgssi: an open-source tool to read and plot GSSI ground-penetrating radar data**, *Zenodo*.
Developer and maintainer
https://github.com/iannesbitt/readgssi
doi: 10.5281/zenodo.1439119

Technical Skills

Programming	Python, bash, javascript
Markup	Markdown, LaTeX, HTML, CSS
Tools	GNU/Linux, Unix Terminal, bash, zsh, git, GitHub, Jupyter Notebooks, GNU Make, QGIS, ArcGIS, Inkscape, GIMP, Illustrator, Photoshop, ReflexW, RADAN

Languages

English	Native
Spanish	Beginner

Certifications

2013, 2018	Wilderness First-Aid
2016	CPR, First-Aid, and Defibrillator
2019	Antarctic Deep Field Survival
2020	T3 Alliance certified instructor