

# Ian M. Nesbitt

Orono, ME, USA

School of Earth and Climate Sciences, University of Maine

Member of the *Geodynamics Numerical Modeling Laboratory*

✉ [ian.nesbitt@gmail.com](mailto:ian.nesbitt@gmail.com)

🌐 [www.iannesbitt.org](http://www.iannesbitt.org)

🔗 [iannesbitt](#)

🆔 0000-0001-5828-6070

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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.

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## 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.

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## Publications

### Peer-reviewed scientific articles

- in prep. **GPR use 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](https://doi.org/10.13140/RG.2.2.11567.05281)
- in review **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](https://doi.org/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, Frédéric Massin, Gregor Hillers, Robert E Anthony, Maria-Theresia Apoloner, ... Ian M. Nesbitt et al.  
doi: [10.1126/science.abd2438](https://doi.org/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](https://doi.org/10.1016/j.dsr2.2016.02.006)

## Conference proceedings, presentations, and datasets

- 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
- 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 **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
- 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
- 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**, *Geological Society of America, Northeastern Section - 48th Annual Meeting*, Bretton Woods, NH.  
Ian M. Nesbitt and David P. Dethier

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## Open-source software

- 2021 **SeidarT: Seismic and radar survey modeling toolbox.**  
Steven P. Bernsen, [Christopher C. Gerbi](#), [Ian M. Nesbitt](#), and Ben Hills  
<https://github.com/UMainedynamics/SeidarT>
- 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](https://doi.org/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](https://doi.org/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](https://doi.org/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

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