

# Dr. Ryan Love

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**Address** 15-30 Glencoe St.,  
Ottawa, Ontario, K2H 8S6

**Home Phone:** +1 (613) 818 4461  
**Email:** ryan.love095@gmail.com  
**Website:** <http://rlove.linuxd1.com>

## Education

- 2014 - 2021** Ph.D., Physics & Physical Oceanography, The Impacts of Glacial Runoff and pCO<sub>2</sub> on Centennial- to Millennial-Scale Climate Variability During the Last Glacial Cycle  
L. Tarasov, Memorial University of Newfoundland
- 2012-2014** M.Sc., Physics, Projections of Sea Level Along the East Coast of North America  
G. A. Milne, University of Ottawa
- 2008-2012** B.Sc., Physics, Uncertainties in Earth Density Structure and their Influence on Output From a Model of Glacial Isostatic Adjustment  
G. A. Milne, University of Ottawa

## Publications

Love, R., Andres, H. J., Condrón, A., and Tarasov, L.: Freshwater routing in eddy-permitting simulations of the last deglacial: the impact of realistic freshwater discharge, *Clim. Past*, 17, 23272341, <https://doi.org/10.5194/cp-17-2327-2021>, 2021.

Milne, G. A., Al-Attar, D., Whitehouse, P.L., Crawford, O., and Love, R. (2019). Advances in glacial isostatic adjustment modeling. (2019). *Past Global Changes Magazine*, 27(1). <https://doi.org/10.22498/pages.27.1.16>

Stein, R. (2019): The Expedition PS115/2 of the Research Vessel POLARSTERN to the Arctic Ocean in 2018, *Berichte zur Polar-und Meeresforschung=Reports on polar and marine research*, Bremerhaven, Alfred Wegener Institute for Polar and Marine Research, 728, 249p.. doi:10.2312/BzPM\_0728\_2019 (*Contributions in various sections as member of scientific crew and marine-geology workgroup*)

Yousefi, M., Milne G., Love, R., Tarasov, L. (2018). Glacial isostatic adjustment along the Pacific coast of central North America. *Quaternary Science Reviews*, 193. <https://doi.org/10.1016/j.quascirev.2018.06.017>

Kuchar, J., Milne, G., Wolstencroft, M., Love, R., Tarasov, L. and Hijma, M. (2017). The Influence of Sediment Isostatic Adjustment on Sea-Level Change and Land Motion along the US Gulf Coast. *Journal of Geophysical Research: Solid Earth*, 122. <https://doi.org/10.1002/2017JB014695>

Love, R., Milne, G. A., Tarasov, L., Engelhart, S. E., Hijma, M. P., Latychev, K., Horton, B. P., Törnqvist, T. E., Projections of Sea Level Along the East and Gulf Coasts of North America. *Earth's Future*, 4: 440464.  
<https://doi.org/10.1002/2016EF000363>

## Conference Presentations

- Love, R., Tarasov, L., Condrón, A. (2018) *Towards more physically constrained freshwater injection: The role of gateways in glacial runoff export from the Arctic Ocean*. EGU 2018, Vienna, Austria (Poster)
- Love, R., Tarasov, L., Condrón, A. (2018) *Comparing the Response of Climate Models to Freshwater Fingerprints and Hosing*. PALMOD International Open Science Conference, Vienna, Austria (Poster)

- Love, R., Milne, G. A., Tarasov, L., Engelhart, S. E., Hijma, M. P., Latychev, K., Horton, B. P. and Törnqvist, T. E. (2017) *The Contribution of Glacial Isostatic Adjustment to Projections of Sea Level Change Along the Atlantic and Gulf Coasts of North America*. AGU 2017, New Orleans, USA, (Invited Talk)
- Love, R., Tarasov, L., Condrón, A. (2017) *Towards more physically constrained freshwater injection and its associated impact on paleoclimate variability*. EGU 2017, Vienna, Austria (Poster)
- Love, R., Milne, G. A., Tarasov, L., Engelhart, S. E., Hijma, M. P., Kuchar, J., Latychev, K., Horton, B. P. and Törnqvist, T. E. (2016) *The Contribution of Glacial Isostatic Adjustment to Projections of Sea Level Change Along the Atlantic and Gulf Coasts of North America*. AGU 2016, San Francisco, USA (Poster)
- Scales and Scaling in the Climate System (SSCS), Jouvence, 2015: *High Frequency Climate Variability During the Last Deglaciation* (Poster)
- ArcTrain Annual Meeting, Montreal, 2015: *High Frequency Climate Variability During the Last Deglaciation* (Talk)
- American Geophysical Union (AGU) Annual Meeting, San Francisco, 2012: *Past and Future Changes of Sea Level Along the East Coast of the United States of America* (Poster)
- PALSEA2 Rome Meeting, Rome, 2012: *Past and Future Changes of Sea Level Along the East Coast of the United States of America* (Poster)

## Skills and Experience

### Computing Technical Skills

- Proficient with a variety of programming and command languages to create bespoke software to solve unique problems, most often FORTRAN, Python, and Bash
- Adept with using \*nix, WindowsOS, and OSX environments with a focus on usage and systems administration of OSs upstream/downstream of RHEL for high performance and scientific computing
- Capable of configuring \*nix servers for both general purpose usage and high performance computing having built and/or maintained bespoke systems for previous employers
- Comfortable with variety of productivity software ranging from specialized publishing software such as LaTeX to more common software utilities such as Libreoffice or Microsoft Office
- Regular generator/end-user of GB-TB scale datasets and familiar with a variety of data management techniques and storage platforms such as LTO tape via LTFS and HPSS

### Data Analysis Skills

- Familiar with a variety of spatial data analysis, management, and visualization software such as SOEST's Generic Mapping Tools, the NetCDF API (specifically FORTRAN and Python)
- Well versed in spatial and timeseries analysis of various geophysical data, generally from the output of numerical models of coupled climate models but also field data characterising climate such as ice core records, sea level indicators, and marine geology derived datasets
- Used to both ensemble approaches as well as bespoke experiment approaches for the analysis of geophysical data

### Project Reporting, Technical Writing, and Management

- Experienced in technical scientific writing having produced multiple published scientific documents
- Capable of condensing complex topics for presentation having done so for both specialist and broad scientific audiences
- Adept at producing technical documentation for subjects such as bespoke software
- Proficient at producing publication quality figures having created multiple for several different peer reviewed publications
- Coordinated multiple parties to collaborate on publication projects
- Supervising and teaching adults in laboratory and classroom settings

## Soft/Misc Skills

- Proficient in team and solo work environments
- Comfortable performing scientific work on moving vessels and in inclement weather
- Practised in sales customer service situations as well as client interaction
- Capable with variety of hand and power tools with a focus on wood working and automotive mechanics

## Languages, Software, Models Ported & Used

- Python
- Fortran
- Generic Mapping Tools (GMT)
- Bash/Ksh/Tcsh Shells
- LaTeX
- Duplicity
- MITGCM
- PLASIM
- NEMO
- R
- Octave
- Climate Data Operators (CDO)
- NetCDF Operators (NCO)
- NCAR Command Language (NCL)
- GnuPG
- CESM
- COSMOS
- MPIESM

## Employment History

**July 2021** Marine Institute at Memorial University of Newfoundland, St. John's, NL

**Dec 2021** *Research Associate*

- Implementation of a geolocation model for marine fish tracking in Python
- Visualization of geolocation model output and fish tag data

**Sept 2014** Memorial University of Newfoundland, St. John's, NL

**May 2021** *Teaching Assistant*

- Grading and occasional instruction of 40-80 students per semester along with associated administrative functions
- Implement Just-In-Time-Teaching evaluations as well as the associated analysis and summary of results

**Sept 2012** - Research Groups of G.A. Milne & L. Tarasov

**Ongoing** *Research Group Systems Administrator (Informal)*

- Monitor, maintain, replace, and acquire hardware associated with the upkeep of research group resources, primarily 2 Rocks clusters consisting of 80 nodes with >768 cores and multiple network fabrics.
- Assist in troubleshooting user issues with respect to group resources
- Advise users on the use of backup software utilities and disk and LTO tape storage for data archiving
- Teach users on new and existing software tools to enhance productivity
- Assist users in migrating software to existing HPC resources
- Advise on acquisition of new hardware for enhancing compute capability
- Create documentation for using new hardware and software tools

**Sept 2012** - University of Ottawa, Ottawa, ON

**Apr 2014** *Laboratory Teaching Assistant*

- Instruction, supervision and grading of 60-80 students per semester along with associated administrative functions
- Demonstrations of basic physics concepts, experiment instructions, and safety procedures

**Summer 2011** Austco Canada, Richmond Hill, ON  
*Low Voltage Electronics Technician*

- Installation and maintenance of nurse-call equipment in health care facilities
- Integration of nurse-call systems with existing infrastructure (Ethernet, door security systems, wander prevention systems, etc.)

**Summer 2008-2011** Cintel & Wireless RNA, Nepean, ON  
*Low Voltage Electronics Technician*

- Installation and maintenance of nurse-call equipment in health care facilities
- Installation, maintenance and integration of low voltage systems (Ethernet, door security systems, wander prevention systems, security cameras, Audio-Visual, etc.)
- System design and planning
- Site management