
H. Damon Matthews

CURRICULUM VITAE

Department of Geography, Planning and Environment, Concordia University

1455 de Maisonneuve Blvd. W., ~ 6741 Rue Boyer

Montréal, Québec, H3G 1M8, Canada ~ Montreal, Québec, H2S 2J6

damon.matthews@concordia.ca ~ matthews.damon@gmail.com

(514) 848-2424 x2064 ~ (514) 663-2287

<https://www.concordia.ca/faculty/damon-matthews.html> ~ <http://www.matthewsclimatelab.org>

Summary of Experience and Qualifications

CURRENT POSITION

- Professor and Concordia University Research Chair in Climate Science and Sustainability

SELECTED AWARDS AND RECOGNITIONS

- **Member**, College of New Scholars, Artists and Scientist of Royal Society of Canada
- **Review Editor**, Intergovernmental Panel on Climate Change (IPCC) Sixth Assessment Report
- **Member**, Provost's Circle of Distinction, Concordia University
- **Recipient**, CMOS President's Prize
- **Honouree**, Canada Clean50

SUMMARY OF SCHOLARLY WORKS

- **102** refereed journal publications (101 published, 1 in review)
- **10** other refereed publications (including 4 IPCC report chapters)
- **15** articles in the high-impact journals *Nature*, *Science*, *Nature Geoscience*, *Nature Climate Change* and *Proceedings of the National Academy of Sciences*
- **66** invited presentations and seminars (including 4 keynote conference presentations)
- **Total citations:** 25,541 (all publications); 11,562 (excluding IPCC report chapters)
- **h-index:** 44 (all publications); 41 (excluding IPCC report chapters)

SUMMARY OF RESEARCH FUNDING

- **\$3.35M** obtained in research funding as PI (\$3M external; \$350K internal)
- **\$79.5K** current annual NSERC Discovery Grant

SUMMARY OF HQP TRAINING

- **8** post-doctoral researchers (2 current; 6 completed)
- **8** Ph.D. students (4 current; 2 completed)
- **19** M.Sc. students (1 current; 18 completed)
- **12** Undergraduate honours students (12 completed)

SUMMARY OF MEDIA ACTIVITIES

- **17 Op-Eds** published (6 in French, 11 in English)
- **400+ results** for Google News search for <Damon Matthews Concordia> (64 in past year)

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1 Affiliation and Research Experience

Current Affiliation

1. **Concordia University**, Montreal, Canada January 2007 – Present
 Department of Geography, Planning and Environment
 - Tier 1 Concordia University Research Chair in Science and Sustainability (2017 – Present)
 - Professor (2016 – Present)
 - Tier 2 Concordia University Research Chair in Science and Sustainability (2012 – 2017)
 - Graduate Program Director (2011 – 2013; 2016; 2019)
 - Associate Professor (2010-2016)
 - University Research Fellow (2009 / 2010)
 - Assistant Professor (2007 – 2010)

Post-doctoral Research Experience

1. **Carnegie Institution**, Stanford California September – December 2006
 - Postdoctoral Researcher, Department of Global Ecology
 - Supervisor: Dr. Ken Caldeira
2. **University of Calgary**, Calgary, Canada October 2004 – September 2006
 - Postdoctoral Fellow, Department of Geography
 - Supervisor: Dr. Shawn Marshall

2 Educational History

1. **University of Victoria**, Victoria, Canada September 200 – August 2004
 - Doctor of Philosophy in Earth and Ocean Sciences (Climate Science)
 - Date Awarded: November 2004
 - PhD Dissertation Title: *Land Cover Change, Vegetation Dynamics and the Global Carbon Cycle: Experiments with the UVic Earth System Climate Model*
 - Supervisor: Dr. Andrew Weaver
2. **Simon Fraser University**, Vancouver, Canada September 1994 – April 1999
 - Undergraduate Honours Degree in Environmental Sciences (Quantitative Methods)
 - Date Awarded: October 1999

3 Awards, Honours and Recognitions

1. **Tier 1 Concordia University Research Chair**
 - *Awarded By:* Concordia University
 - *Date Awarded:* June 2017
2. **Provost's Circle of Distinction**
 - *Awarded By:* Concordia University
 - *Date Awarded:* April 2017
3. **Induction to the College of New Scholars, Artists and Scientists**
 - *Awarded By:* Royal Society of Canada
 - *Date Awarded:* November 2016
4. **Newsmaker of the Week**
 - *Awarded By:* Concordia University
 - *Date Awarded:* September 2017, August 2016, April 2016, January 2016, September 2015, January 2014, November 2012, March 2012
5. **CMOS President's Prize**
 - *Awarded By:* Canadian Meteorological and Oceanography Society
 - *Category:* Prize awarded for a recent paper of special merit
 - *Date Awarded:* June 2015
6. **IAP Young Scientist Representative at World Science Forum**
 - *Awarded By:* The InterAcademy Partnership
 - *Description:* One of four Canadian young scientists selected
 - *Date Awarded:* May 2015
7. **Canada Clean50 2015 Honouree**
 - *Granting Agency:* Delta Management Group
 - *Category:* Education and Research
 - *Date Awarded:* September 2014
 - *URL:* www.clean50.com
8. **President's Media Outreach Award – International**
 - *Awarded By:* Concordia University
 - *Date Awarded:* June 2014
9. **Tier 2 Concordia University Research Chair**
 - *Awarded By:* Concordia University
 - *Date Awarded:* June 2012
10. **Dean's New Scholar Award**
 - *Awarded By:* Faculty of Arts and Science, Concordia University
 - *Value:* \$500; *Period Held:* 2009
11. **Concordia University Research Fellow**
 - *Award:* University Research Award
 - *Category:* 'Technology, Industry and Environment' Emerging Category
 - *Value:* \$5,000; *Period Held:* 2009
12. **Post-Doctoral Research Fellowships**
 - *Awarded by:* Alberta Ingenuity Fund (\$44,000)
 - *Awarded by:* Natural Sciences and Engineering Research Council of Canada (\$80,000)

4 Scholarly and Professional Contributions

Publications in Refereed Journals

Student author's names are indicated below in **bold**.

PUBLISHED / IN PRESS

1. Bjørn, A., Lloyd, S. and Matthews, H. D. From the Paris Agreement to corporate climate commitments: Evaluation of seven methods for setting “science-based” emission targets. *Environmental Research Letters*, in press.
2. Zickfeld, K., Azevedo, D., Mathesius, S. and Matthews, H. D. Asymmetry in the climate-carbon cycle response to positive and negative CO₂ emissions. *Nature Climate Change*, in press.
3. Matthews, H. D., Tokarska, K. B., Rogelj, J., Forster, P., Hausteijn, K., Smith, C. J., MacDougall, A. H., **Mengis, N.**, Sippel, S. and Knutti, R. An integrated approach to quantifying uncertainties in the remaining carbon budget. *Communications Earth and Environment*, 2, 1-11.
4. Matthews, H. D., Tokarska, K. B., Nicholls, Z. R. J., Rogelj, J., Canadell, J. G., Friedlingstein, P., Frölicher, T. L., Forster, P. M., Gillett, N. P., Ilyina, T., Jackson, R. B., Jones, C. D., Koven, C., Knutti, R., MacDougall, A. H., Meinshausen, M., **Mengis, N.**, Séférian, R., and Zickfeld, K. (2020) Opportunities and challenges in using carbon budgets to guide climate policy. *Nature Geoscience*, 13, 769-779.
5. Goodwin, P., **Leduc, M.**, **Partanen, A.-I.**, Matthews, H. D. and Rogers, A. (2020) A computationally efficient model for probabilistic spatial warming projections constrained by history matching and pattern scaling. *Geoscientific Model Development*, 13, 5389-5399.
6. MacDougall, A. H., Frölicher, T., Jones, C. D., Rogelj, J., Matthews, H. D., Zickfeld, K., Arora, V. K., Barrett, N. J., Brovkin, V., Burger, F. A., Eby, M., Eliseev, A. V., Hajima, T., Holden, P. B., Jeltsch-Thömmes, A., Koven, C., Menviel, L., Michou, M., Mokhov, I. I., Oka, A., Séférian, R., Shaffer, G., Sokolov, A., Schwinger, J., Tachiiri, K., Tjiputra, J., Wiltshire, A., and Ziehn, T. (2020) Is there warming in the pipeline? A multi-model analysis of the zero emission commitment from CO₂. *Biogeosciences*, 17, 2987-3016.
7. **Mengis, N.**, Keller, D. P., MacDougall, A., Eby, M., Wright, N., Meissner, K. J., Oschlies, A., Schmittner, A., Matthews, H. D. and Zickfeld, K. Evaluation of the University of Victoria Earth System Climate Model version 2.10 (UVic ESCM 2.10). *Geoscientific Model Development*, 13, 4183-4204.
8. **Stewart, B. M.**, Turner, S. E. and Matthews, H. D. (2020) Global warming impacts on potential future ranges of non-human primate species. *Climatic Change*, 162, 2301-2318.
9. **Mengis, N.** and Matthews, H. D. (2020) Non-CO₂ forcing changes will likely decrease the remaining carbon budget for 1.5°C. *npg Climate and Atmospheric Science*, 3, 19.
10. **Horen Greenford, D.**, Crownshaw, T., Lesk, C., Stadler, K. and Matthews, H. D. (2020) Shifting economic activity to service sectors will not reduce global environmental impacts. *Environmental Research Letters*, 15, 064019.
11. **Dickau, M.**, **Guertin, É.**, **Seto, D.** and Matthews, H. D. (2020) Projections of declining outdoor skating availability in Montreal due to global warming. *Environmental Research Communications*, 2, 051001.
12. Mattauch, L., Matthews, H. D., Millar, R., Solomon, S. and Venmans, F. (2020) Steering the climate system: using inertia to lower the cost of policy: Comment, *American Economic Review*, 110, 1231-1237.

13. Tokarska, K. B., Schleussner, C.-F., Rogelj, J., Stolpe, M., Matthews, H. D., Pflieferer, P. and Gillett, N. P. (2019) Recommended temperature metrics for carbon budget estimates, model evaluation and climate policy, *Nature Geoscience*, 12, 964-971.
14. Jones, C, Frölicher, T., Koven, C., MacDougall, A., Matthews, H. D., Zickfeld, K., Rogelj, J., Tokarska, K., Gillett, N., Ilyina, T., Meinshausen, M., **Mengis, N.**, Seferian, R. and Eby, M. (2019) The Zero Emissions Commitment Model Intercomparison Project (ZECMIP) contribution to C4MIP: Quantifying committed climate changes following zero carbon emissions. *Geoscientific Model Development*, 12, 4375-4385.
15. **Chavaillaz, Y.**, Roy, P., **Partanen, A.-I.**, Da Silva, L., Bresson, É, Mengis, N., Chaumont, D. and Matthews, H. D. (2019) Exposure to excessive heat and impacts on labour productivity linked to cumulative CO₂ emissions. *Scientific Reports*, 9, 13711.
16. Teufel, B., Sushama, L., Huziy, O., Diro, G. T., Jeong, D. I., Winger, K., Garnaud, C., de Elia, R., Zwiers, F. W., Matthews, H. D. and Nguyen, V.-T.-V. (2019) Investigation of the mechanisms leading to the 2017 Montreal flood. *Climate Dynamics*, 52, 4193-4206.
17. **Mengis, N.**, **Partanen, A.-I.**, Jalbert, H. and Matthews, H.D. (2018) 1.5°C carbon budget dependent on carbon cycle uncertainty and future non-CO₂ forcing. *Scientific Reports*, 8, 5831.
18. Millar, R. J., Fuglestedt, J. S., Grubb, M., Rogelj, J., Skeie, R. B., Friedlingstein, P., Forster, P. M., Frame, D., Matthews, H. D. and Allen, M. R. (2018) Reply to 'Interpretations of the Paris climate target'. *Nature Geoscience*, 11, 222.
19. Hienola, A., **Partanen, A.-I.**, Pietikainen, J.-P., O'Donnell, D., Korhonen, H., Matthews, H. D. and Laaksonen, A. (2018) The impact of aerosol emissions on the 1.5°C pathways. *Environmental Research Letters*, 13, 044011.
20. **Partanen, A.-I.**, **Landry, J.-S.** and Matthews, H. D. (2018) Climate and health implications of future aerosol emission scenarios. *Environmental Research Letters*, 13, 024028.
21. Matthews, H. D., Zickfeld, K., Knutti, R. and Allen, M. R. (2018) Focus on cumulative emissions, global carbon budgets and the implications for climate mitigation targets. *Environmental Research Letters*, 13, 010201.
22. Millar, R. J., Fuglestedt, J. S., Grubb, M., Rogelj, J., Skeie, R. B., Friedlingstein, P., Forster, P. M., Frame, D., Matthews, H. D. and Allen, M. R. (2017) Emissions budgets and pathways consistent with limiting warming to 1.5°C. *Nature Geoscience*, 10, 741-747.
23. Haustein, K., Allen, M. R., Forster, P. M., Otto, F. E. L., Mitchell, D. M., Matthews, H. D. and Frame, D. (2017) A robust real-time Global Warming Index. *Scientific Reports*, 7, 15417.
24. **Brault, M.-O.**, Matthews, H. D. and Mysak, L. A. (2017) The importance of terrestrial weathering changes in multi-millennial recovery of the global carbon cycle: a two-dimensional perspective. *Earth System Dynamics*, 8, 455-475.
25. **Partanen, A.-I.**, Leduc, M. and Matthews, H. D. (2017) Seasonal climate change patterns due to cumulative CO₂ emissions. *Environmental Research letters*, 12, 075002.
26. Matthews, H. D., **Landry, J.-S.**, **Partanen, A.-I.**, Allen, M., Eby, M., Forster, P., Friedlingstein, P. and Zickfeld, K. (2017) Estimating carbon budgets for ambitious mitigation targets. *Current Climate Change Reports*, 3, 69-77.
27. **Landry, J.-S.**, **Partanen, A.-I.** and Matthews, H. D. (2017) Carbon cycle and climate effects of forcing from fire-emitted aerosols. *Environmental Research Letters*, 12, 025002.
28. **Brault M.-O.**, Mysak L. A. and Matthews H. D. (2017) Carbon-cycle implications of terrestrial weathering changes since the last glacial maximum. *FACETS*, 2, 267-285.
29. **Landry, J.-S.** and Matthews, H. D. (2017) The global pyrogenic carbon cycle and its impact on the level of atmospheric CO₂ over past and future centuries. *Global Change Biology*, doi:10.1111/gcb.13603.

30. **Landry, J.-S.**, Parrott, L., Price, D. T., Ramankutty, N. and Matthews, H. D. (2016) Modelling long-term impacts of mountain pine beetle outbreaks on merchantable biomass, ecosystem carbon, albedo, and radiative forcing. *Biogeosciences*, 13, 5277-5295.
31. **Partanen, A.-I.**, Keller, D. P., Korhonen, H. and Matthews, H. D. (2016) Impacts of sea spray geoengineering on marine biogeochemistry. *Geophysical Research Letters*, 43, 10.1002/2016GL070111.
32. **Leduc, M.**, Matthews, H. D. and De Elia, R. (2016) Regional estimates of the Transient Climate Response to cumulative CO₂ Emissions. *Nature Climate Change*, 6, 474-478.
33. Zickfeld, K., MacDougall, A. H. and Matthews, H. D. (2016) On the proportionality between global temperature change and cumulative CO₂ emissions during periods of net negative CO₂ emissions. *Environmental Research Letters*, 055006.
34. **Graham, T. L.**, Matthews, H. D. and Turner, S. E. (2016) Evaluating climatic changes in regions of non-human primate habitat. *International Journal of Primatology*, 37, 158-174.
35. **Landry, J.-S.** and Matthews, H. D. (2016) Non-deforestation fire vs. fossil fuel combustion: the source of CO₂ emissions affects the global carbon cycle and climate responses. *Biogeosciences*, 13, 2137-2149.
36. **Landry, J.-S.**, Price, D. T., Ramankutty, N., Parrott L. and Matthews, H. D. (2016) Implementation of a Marauding Insect Module (MIM, version 1.0) into the Integrated Biosphere Simulator (IBIS, version 2.6 b4) dynamic vegetation-land surface model. *Geoscientific Model Development*, 9, 1243-1261.
37. **Simmons, C.** and Matthews, H. D. (2016) Assessing the implications of human land-use change for the Transient Climate Response to cumulative carbon Emissions. *Environmental Research Letters*, 11, 035001.
38. **Simmons, C. T.**, Matthews, H. D. and Mysak, L. A. (2016) Deglacial climate, carbon cycle and ocean chemistry changes in response to a terrestrial carbon release. *Climate Dynamics*, 46, 1287-1299.
39. Matthews, H. D. (2016) Quantifying historical carbon and climate debts. *Nature Climate Change*, 6, 60-64.
40. Fyke, J. G. and Matthews, H. D. (2015) Probabilistic modelling of cumulative carbon emissions and long-term planetary warming. *Environmental Research Letters*, 10, 125003.
41. **Leduc, M.**, Matthews, H. D. and de Elia, R. (2015) Quantifying the limits of a linear temperature response to cumulative CO₂ emissions. *Journal of Climate*, 28, 9955-9968.
42. MacDougall, A. H., Zickfeld, K., Knutti, R. and Matthews, H. D. (2015) Sensitivity of carbon budgets to permafrost carbon feedbacks and non-CO₂ forcings. *Environmental Research Letters*, 10, 125003.
43. **Moore, T. R.**, Matthews, H. D., **Simmons, C. T.** and **Leduc, M.** (2015) Quantifying changes in extreme weather events in response to global temperature increases. *Atmosphere-Ocean*, 53, 412-425.
44. **Landry, J.-S.**, Matthews, H. D. and Ramankutty, N. (2015) Global carbon cycle and temperature impacts of future changes in fire regime. *Climatic Change*, 133, 179-192.
45. **Gignac, R.** and Matthews, H. D. (2015) Allocating a 2°C cumulative carbon budget to countries. *Environmental Research Letters*, 10, 075004.
46. Matthews, H. D. (2014) A growing commitment to future CO₂ emissions. *Environmental Research Letters*, 9, 111001.
47. Matthews, H. D. (2014) Warming goal: clear link to emissions. *Nature (Correspondence)*, 514, 434.
48. Reid M. G., Hamilton, C., Reid, S. K., Trousdale, W., Hill, C., Turner, N., Picard, C. R., **Lamontagne, C.** and Matthews, H. D. (2014) Indigenous climate change adaptation planning

- using a value-focused approach: A case study with the Gitga'at Nation. *Journal of Ethnobiology*, 34, 401-424.
49. Matthews, H. D., **Graham, T., Keverian, S., Smith, T., Seto, D. and Lamontagne, C.** (2014) National contributions to observed global warming. *Environmental Research Letters*, 9, 014010.
 50. Turner, S. E., Fedigan, L. M., Matthews, H. D. and Nakamicki, M. (2014) Social consequences of disability in a nonhuman primate. *Journal of Human Evolution*, 68, 47-57.
 51. Solomon, S., Pierrehumbert, R., Matthews, H. D., Daniel, J. S. and Friedlingstein, P. (2013) Atmospheric composition, irreversible climate change, and mitigation policy. In: *Climate Science for Serving Society: Research, Modeling and Prediction Priorities*, G.R. Asrar and J.W. Hurrell (eds.) 415-436.
 52. Gillett, N. P., Arora, V. K., Matthews, H. D. and Allen, M. R. (2013) Constraining the ratio of global warming to cumulative CO₂ emissions using CMIP5 simulations. *Journal of Climate*, 26, 6844-6858.
 53. Markovic, M., de Elia, R., Frigon, A. and Matthews, H. D. (2013) A transition from CMIP3 to CMIP5 for climate information providers: the case of surface temperature over eastern North America. *Climatic Change*, 120, 197-210.
 54. Matthews, H. D. and Solomon S. (2013) Reversing excess atmospheric CO₂—Response. *Science*, 340, 1523.
 55. Matthews, H. D. and Solomon, S. (2013) Irreversible does not mean unavoidable. *Science*, 340, 438-439.
 56. **Braut, M.-O.**, Mysak, L. A., Matthews, H. D. and **Simmons, C. T.** (2013) Assessing the impact of late Pleistocene megafaunal extinctions on global vegetation and climate. *Climate of the Past*, 9, 1761-1771.
 57. **Simmons, C.**, Matthews, H. D. and Mysak, L. (2013) Investigating the natural carbon cycle since 8 kyr BP using an intermediate complexity model. *Atmosphere-Ocean*, 51, 187-212.
 58. Matthews, H. D. and Zickfeld, K. (2012) Climate response to zeroed emissions of greenhouse gases and aerosols. *Nature Climate Change*, 2, 338—341.
 59. Matthews, H. D., Solomon, S. and Pierrehumbert, R. (2012) Cumulative carbon as a policy framework for achieving climate stabilization. *Philosophical Transactions of the Royal Society A*, 370, 4365-4379.
 60. **Damyantov, N.**, Matthews, H. D. and Mysak, L. (2012) Observed changes in the outdoor skating season in Canada. *Environmental Research Letters*, 7, 014028.
 61. Akbari, H. and Matthews, H. D. (2012) Global cooling updates: reflective roofs and pavements. *Energy and Buildings*, 55,2-6.
 62. Turner, S. E., Fedigan, L., Matthews, H. D. and Nakamichi, M. (2012) Disability, compensatory behavior and innovation in free-ranging adult female Japanese macaques (*Macaca fuscata*). *American Journal of Primatology*, 74, 788-803.
 63. **Pinsonneault, A.**, Matthews, H. D., Galbraith, E. and Schmittner, A. (2012) Calcium carbonate production response to future ocean warming and acidification, *Biogeosciences*, 9, 2351-2364.
 64. **Ross, A.**, Matthews, H. D., Kothavala, Z. and Schmittner, A. (2012) Assessing the effects of ocean diffusivity and climate sensitivity on the rate of climate change. *Tellus B*, 64, 17733.
 65. Akbari, H., Matthews, H. D. and **Seto, D.** (2012) The long-term effect of increasing the albedo of urban areas. *Environmental Research Letters*, 7, 024004.
 66. Olson, R., Sriver, R., Goes, M., Urban, N. M., Matthews, H. D., Haran, M. and Keller, K. A. (2012) climate sensitivity estimate using Bayesian fusion of instrumental observations and an Earth System model. *Journal of Geophysical Research D*, 117, D04103.
 67. **Nugent, K.** and Matthews, H. D. (2012) Drivers of future Northern latitude runoff change. *Atmosphere-Ocean*, 50, 197-206.

68. Li, Y., Yang, X., Xiaodong, Z., Mulvill, P. R. and Matthews, H. D. (2011) Integrating climate change factors into China's development policy: Adaptation strategies and mitigation to environmental change. *Ecological Complexity*, 8, 294-298.
69. Zickfeld, K., Eby, M., Matthews, H. D., Schmittner, A and Weaver, A. J. (2011) Nonlinearity of carbon cycle feedbacks. *Journal of Climate*, 24, 4254-4274.
70. **Pinsonneault, A.**, Matthews, H. D. and Kothavala, Z. (2011) Benchmarking climate-carbon models against forest FACE data. *Atmosphere-Ocean*, 49, 41-50.
71. Matthews, H. D. and Weaver, A. J. (2010) Committed climate warming. *Nature Geoscience*, 3, 142-143.
72. Davis, S. J., Caldeira, K. and Matthews, H. D. (2010) Future CO₂ emissions and climate change from existing energy infrastructure. *Science*, 329, 1330-1333.
73. Matthews, H. D. (2010) Can carbon cycle geoengineering be a useful complement to ambitious climate mitigation? *Carbon Management*, 1, 135-144.
74. Gillett, N. P. and Matthews, H. D. (2010) Accounting for carbon cycle feedbacks in a comparison of the global warming effects of greenhouse gases. *Environmental Research Letters*, 5, 034011.
75. Turner S. E., Fedigan, L. M., Nakamichi, M., Matthews, H. D., McKenna, K., Nobuhara, H., Nobuhara, T. and Shimizu, K. (2010) Birth in free-ranging *Macaca fuscata*. *International Journal of Primatology*, 31, 15-37.
76. Matthews, H. D., Gillett, N., Stott, P. and Zickfeld, K. (2009) The proportionality of global warming to cumulative carbon emissions. *Nature*, 459, 829-832.
77. Matthews, H. D. and Turner S. E. (2009) Of mongooses and mitigation: Ecological analogues to geoengineering. *Environmental Research Letters*, 4, 045105.
78. **Ross, A.** and Matthews, H. D. (2009) Climate engineering and the risk of rapid climate change. *Environmental Research Letters*, 4, 045103.
79. Zickfeld, K., Eby, M., Matthews, H. D. and Weaver, A. J. (2009) Setting cumulative emissions targets to reduce the risk of dangerous climate change. *Proceedings of the National Academy of Sciences U.S.A.*, 106, 16129-16134.
80. Matthews, H. D., Cao, L. and Caldeira, K. (2009) Sensitivity of ocean acidification to geoengineered climate stabilization. *Geophysical Research Letters*, L10706.
81. Schmittner, A., Urban, N. M., Keller, K. and Matthews, H. D. (2009) Using tracer observations to reduce the uncertainty of ocean diapycnal mixing and climate-carbon projections. *Global Biogeochemical Cycles*, 23, GB4009.
82. Arora, V. and Matthews, H. D. (2009) Characterizing uncertainty in modelling primary terrestrial ecosystem processes. *Global Biogeochemical Cycles*, GB2016.
83. Matthews, H. D. and Caldeira, K. (2008) Stabilizing climate requires near-zero emissions. *Geophysical Research Letters*, L04705.
84. Plattner, G.-K., et al. (2008) Long-term climate commitments projected with climate-carbon cycle models. *Journal of Climate*, 21, 2721-2751. (Matthews, H. D., co-author)
85. Schmittner, A., Oschlies, A., Matthews, H. D. and Galbraith, E. D. (2008) Future changes in climate, ocean circulation, ecosystems and biogeochemical cycling simulated for a business-as-usual CO₂ scenario until year 4000 AD. *Global Biogeochemical Cycles*, GB1013.
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87. Matthews, H. D. and Caldeira, K. (2007) Transient climate-carbon simulations of planetary geoengineering. *Proceedings of the National Academy of Sciences, U.S.A.*, 104, 9949-9954.

88. Matthews, H. D. and Keith, D. W. (2007) Carbon-cycle feedbacks increase the likelihood of a warmer future. *Geophysical Research Letters*, 34, L09702.
89. Matthews, H. D., Eby, M., Ewen, T., Friedlingstein, P. and Hawkins, B. (2007) What determines the magnitude of carbon cycle-climate feedbacks? *Global Biogeochemical Cycles*, 21, GB2012.
90. Matthews, H. D. (2007) Effect of CO₂ fertilization uncertainty on future climate change in a coupled climate-carbon model. *Global Change Biology*, 13, 1068-1078.
91. Matthews, H. D. (2006) Emissions targets for CO₂ stabilization as modified by carbon cycle feedbacks. *Tellus B Special Issue*, 58B, 591-602.
92. Friedlingstein, P. et al. (2006) Climate-carbon cycle feedback analysis, results from the C⁴MIP model intercomparison. *Journal of Climate*, 19, 3337-3353. (Matthews, H. D., co-author)
93. Brovkin, V. et al. (2006) Biogeophysical effects of historical land cover changes simulated by six Earth system models of intermediate complexity. *Climate Dynamics*, 26, 587-600. (Matthews, H. D., co-author)
94. Matthews, D. (2006) The water cycle freshens up. *Nature*, 439, 793-794.
95. Matthews, H. D. (2005) Decrease of emissions required to stabilize atmospheric CO₂ due to positive carbon cycle-climate feedbacks. *Geophysical Research Letters*, 32, L21707.
96. Matthews, H. D., Eby, M., Weaver, A. J. and Hawkins, B. J. (2005) Primary productivity control of simulated carbon cycle-climate feedbacks. *Geophysical Research Letters*, 32, L14708.
97. Matthews, H. D., Weaver, A. J. and Meissner, K. J. (2005) Terrestrial carbon cycle dynamics under recent and future climate change. *Journal of Climate*, 18, 1609-1628.
98. Matthews, H. D., Weaver, A. J., Meissner, K. J., Gillett, N. P. and Eby, M. (2004) Natural and anthropogenic climate change: Incorporating historical land cover change, vegetation dynamics and the global carbon cycle. *Climate Dynamics*, 22, 461-479.
99. Meissner, K. J., Weaver, A. J., Matthews, H. D. and Cox, P. M. (2003) The role of land-surface dynamics in glacial inception: A study with the UVic Earth System Climate Model. *Climate Dynamics*, 21, 515-537.
100. Matthews, H. D., Weaver, A. J., Meissner, K. J. and Eby, M. (2003) Radiative forcing of climate by historical land cover change. *Geophysical Research Letters*, 30, 1055.
101. Weaver, A. J., Eby, M., Wiebe, E. C., Bitz, C. M., Duffy, P. B., Ewen, T. L., Fanning, A. F., Holland, M. M., MacFadyen, A., Matthews, H. D., Meissner, K. J., Saenko, O., Schmittner, A., Wang, H., and Yoshimori, M. (2001) The UVic Earth System Climate Model: Model description, climatology and application to past, present and future climates. *Atmosphere-Ocean*, 39, 361-428.

Other Refereed Contributions

1. Gibson, R. B., Péloffy, K., **Greenford, D. H.**, Doelle, M., Matthews, H. D., Holz, C., Staples, K., Wiseman, B. and Grenier, Frédérique (2019) *From Paris to Projects: Clarifying the implications of Canada's climate change mitigation commitments for the planning and assessment of projects and strategic undertakings*, Report to Metcalf Foundation, 233pp.
2. Potvin, C. et al. (2017) *Re-Energizing Canada: Pathways to a Low-Carbon Future*, Natural Resources Canada and Sustainable Canada Dialogues. (Matthews, H. D., lead author).
3. Matthews, H. D. and **Lamontagne, C.** (2017) Global Climate Models. In: *The International Encyclopedia of Geography: People, the Earth, Environment, and Technology*, ISBN: 9781118786352.
4. Ciais, P. and Sabine, C. et al. (2013) Chapter 6: Carbon and other biogeochemical cycles. In: *Working Group I Contribution to the IPCC Fifth Assessment Report Climate Change 2013: The*

- Physical Science Basis*, Cambridge University Press, Cambridge, U.K. (Matthews, H. D., contributing author).
5. Bindoff, N. and Stott, P. et al. (2013) Chapter 10: Detection and attribution of climate change: from global to regional. In: *Working Group I Contribution to the IPCC Fifth Assessment Report Climate Change 2013: The Physical Science Basis*, Cambridge University Press, Cambridge, U.K. (Matthews, H. D., contributing author).
 6. Collins, M. and Knutti, R. et al. (2013) Chapter 12: Long-term climate change: projections, commitments and irreversibility. In: *Working Group I Contribution to the IPCC Fifth Assessment Report Climate Change 2013: The Physical Science Basis*, Cambridge University Press, Cambridge, U.K. (Matthews, H. D., contributing author).
 7. Solomon, S., et al. (2011) *Climate Stabilization Targets: Emissions, Concentrations and Impacts over Decades to Millennia*, The National Academies Press, Washington, D.C. (Matthews, H. D., co-author)
 8. Matthews, H. D. and Keith, D. (2009) Geoengineering. *The Oxford Companion to Global Change*, Ed. David Cuff and Andrew Goudie, Oxford University Press, Oxford, U.K.
 9. Meehl, G. A., Stocker, T. F. et al. (2007) Chapter 10: Global Climate Projections. In: *Climate Change 2007: The Physical Science Basis*, Fourth Assessment Report of the Intergovernmental Panel on Climate Change, Cambridge University Press, Cambridge, U.K. (Matthews, H. D., contributing author)
 10. Matthews, H. D. (2004) Land Cover Change, Vegetation Dynamics and the Global Carbon Cycle: Experiments with the UVic Earth System Climate Model. Ph.D. Dissertation, University of Victoria.

Non-Refereed Publications

1. Tokarska K. B. and Matthews, H. D. (2021) Refining the remaining carbon budget. Guest post in *Carbon Brief*, January 2021.
2. Matthews, H. D. and Tokarska K. B. (2021) New research suggests 1.5C climate target will be out of reach without greener COVID-19 recovery plans. *The Conversation*, January 2021.
3. Matthews, H. D., Peters, G., Allen, M. and Forster, P. (2018) Climate Clock: Counting down to 1.5°C. *The Conversation*, December 2018.
4. Matthews, H. D. and Potvin, K. (2018) Yes, there is something you can do to fight climate change. *Montreal Gazette*, November 2018.
5. Greenford, D. H. and Matthews, H. D. (2018) Canada's next budget update should include carbon. *The Conversation*, April 2018.
6. Matthews, H. D. and Greenford, D. H. (2018) Good climate policy is incompatible with expanding fossil fuel extraction. *Ricochet*, March 2018.
7. Frame, D. and Matthews, D. (2017) Keeping global warming to 1.5 degrees: really hard, but not impossible. *The Conversation*, September 2017.
8. Matthews, D. and Potvin, C. (2017) Some progress toward low-carbon economy, much more needed. *Policy Options*, June 2017.
9. Matthews, D. (2017) Le transition vers les énergies sobres en carbone est inéluctable. *La Presse*, June 2017.
10. Stoett, P. and Matthews, H. D. (2016) Paris, Marrakech and you: the battle against climate change. *Montreal Gazette*, November 2016.
11. Matthews, H. D. (2016) Montreal emissions targets for 1.5°C and 2°C global warming. *Office de Consultations Public de Montreal*, submitted to the public consultation on emissions targets, February 2016.

12. Matthews, H. D. (2015) After the Paris climate deal, change is now up to all of us. *Montreal Gazette*, December 2015.
13. Matthews, H. D. (2015) We can and should Leap into action against climate change. *Montreal Gazette*, October 2015.
14. Matthews, H. D. (2015) Climate change's big spenders. *Weather Underground Earth Day Blog*, April 2015.
15. Matthews, H. D. (2013) Emissions cuts made now fight global warming immediately. *The Conversation*, May 2013.
16. Open Letter to Minister Joe Oliver, re: Alberta tar sands development. Co-signatory, May 2013.
17. Matthews, H. D. (2013) Use less fossil fuel, save outdoor hockey. *Montreal Gazette*, Feb 2013.
18. Matthews, H. D. (2013) Adieu, les patinoires extérieurs? *Le Devoir*, February 2013.
19. Matthews, H. D. (2012) Sandy a warning about global warming. *Montreal Gazette*, Nov 6, 2012.
20. Matthews, H. D. (2012) Le monstre Sandy: étrange progéniture d'un climat en mutation? *Le Devoir*, November 2012.
21. Matthews, H. D. (2012) Le plan Harper, un développement non durable. *Le Devoir*, April 2012.
22. Matthews, H. D. (2012) Le plan Harper, un développement non durable. *La Presse*, April 2012.
23. Matthews, H. D. and Srivastiva, P. (2011) Canada's complacency on climate change is an embarrassment. *Montreal Gazette*, Op-Ed, July 2011.
24. Matthews, H. D. (2009) Sommet de Copenhague - Un Climat Favorable. Op-Ed in *Le Devoir*, December 2009.

Presentations, Seminars and Workshops

INVITED PRESENTATIONS AND SEMINARS

1. **Climate models and Canadian scenarios – taking stock and planning for a warmer future**
 - Invited Seminar, Balsillie School of International Affairs, October 2020.
2. **Overview of climate change context for aviation CO₂ reductions**
 - Invited Presentation, International Civil Aviation Organization (ICAO), April 2020.
3. **Implications of the remaining carbon budget for climate policy and emission targets**
 - Invited Keynote Presentation, Sustainability and the Climate Crisis: Annual Sustainability Across Disciplines Conference, Montreal, March 2020 (Cancelled due to COVID-19)
4. **Will global warming mean the end of humanity?**
 - Walrus Talks Survival, Montreal, November 2019.
5. **A scientific case for fossil fuel divestment**
 - Invited Presentation, Concordia University Senate, May 2019.
6. **A framework for using the TCRE to estimate the remaining carbon budget**
 - Invited Presentation, European Geophysical Union Conference, Vienna, Austria, April 2019.
7. **The remaining carbon budget: Implications for Canada's emissions targets**
 - Invited Presentation, National Climate Change Science and Knowledge Priorities Workshop, February 2019.
8. **Application of the TCRE to estimating the remaining carbon budget**
 - Invited Presentation, International Workshop on the Remaining Carbon Budget, Jan 2019.
9. **Limiting warming to “Well below 2°C”**
 - Invited Presentation, Shift for Climate: Les forces vives en action vers la COP24, Montreal, December 2018.
10. **A scientific case for ambitious climate action**
 - Invited Seminar, CIREQ Seminar Series, Université du Québec a Montréal, November 2018.

- Invited Seminar, Department of Physics Seminar Series, Université de Montréal, Oct 2018.
11. **Sharing the global carbon pie: Scientific and ethical challenges in international climate negotiations**
 - Invited Presentation, International Environmental Agreements - Bridging the Gap Workshop, Montreal, September 2018.
 12. **Extending the TCRE Framework**
 - Invited Presentation, WCRP Workshop on Extending the Carbon Cycle Feedback Framework, Bern, Switzerland, April 2018.
 13. **Implications du budget d'émissions mondiales sur les cibles nationales**
 - Invited Presentation, Ouranos Annual Symposium, October 2017.
 14. **Towards international equity in climate mitigation efforts**
 - Keynote Speaker, Canadian Society for Ecological Economics Conference, Montreal, October 2017.
 - Keynote Speaker, Sustainability Across Disciplines Conference, Montreal March 2017.
 15. **Global warming and the 2-degree target**
 - Invited Speaker, Moving the Shakers youth climate change event, January 2017.
 16. **After the Paris talks: matching emissions targets to ambitious climate goals**
 - Invited Speaker, Divest Concordia Conference, October 2016.
 - Invited Speaker, St. James Literary Society, Montreal, September 2016.
 - Invited Speaker, Dawson College Social Science Week, Montreal, February 2016.
 17. **Science en support d'un budget carbone pour la Ville de Montreal**
 - Invited Speaker, City of Montreal carbon budget meeting; May 2016.
 18. **Au-Delà de COP21: défis et opportunités d'une cible de 1,5 degrés**
 - Invited Speaker, Development and Peace, Montreal, March 2016.
 19. **Countdown to 2°C**
 - Invited Speaker, Climate Clock projection launch, April 2016.
 - Invited Speaker, Montreal Summit on Innovation, Montreal, November 2015.
 20. **2 degrees of climate change**
 - Invited Speaker, Eco-Quartier NDG, Montreal, November 2015.
 21. **Cumulative emissions, climate debts and the 2°C target**
 - Invited Seminar, Dawson College, Montreal, November 2015.
 22. **Cumulative emissions, climate debts and the 2°C target**
 - Invited Seminar, Department of Geography, Planning and Environment, Concordia University, September 2015.
 23. **Concordia climate lab research update**
 - Invited Presentation, UVic ESCM Developers Workshop, Victoria, May 2015.
 24. **Climate change and sustainability Science**
 - Invited Presentation, Americana Conference, Montreal, March 2015.
 25. **The responsibility of nations: historical contributions to observed warming**
 - Invited Speaker, NCSE Energy and Climate Change Conference, Washington DC, January 2015.
 26. **Quantifying historical climate debts among nations**
 - Invited Presentation, American Geophysical Union Fall Meeting, San Francisco, December 2014.
 27. **Cumulative carbon budgets for climate mitigation targets**
 - Invited Presentation, International Workshop on Risk Information for Climate Change, Yokohama, Japan, November 2014.

28. **Global warming: Hope or Despair?**
 - Invited Speaker, “Walrus Talks Climate,” Ottawa, April 2014.
29. **National contributions to observed global warming**
 - Invited Seminar, Ouranos Research Consortium, Montreal, April 2014.
30. **Cumulative carbon as a new framework for climate mitigation**
 - Invited Seminar, MIT Department of Earth and Planetary Sciences, March 2013.
 - Invited Seminar, Center for Global Change Science, U. Toronto, February 2013.
31. **Global warming in the new millennium**
 - Keynote Speaker, Concordia-Siena Globalization Conference, Montreal, March 2012.
 - Ouranos Consortium, Montreal, June 2011.
32. **Global climate changes and impacts from ongoing greenhouse gas emissions**
 - Managing Climate Change Risks for Pension Investment Funds, Montreal, October 2011.
33. **The oceans and committed climate warming**
 - National Conference on Science, Policy, and the Environment, Wash. DC, January 2011.
34. **Cumulative carbon and the climate mitigation challenge**
 - Department of Biology, Concordia University, February 2011.
 - Department of Geography, University of Montreal, January 2011.
 - Institute for Sustainable Energy, Environment and Economy, University of Calgary, November 2010.
 - Department of Earth and Planetary Sciences, McGill University, October 2010.
35. **Potential for mitigation via CO₂ emissions reductions**
 - Royal Society discussion meeting: “Geoengineering - taking control of our planet's climate,” London, U.K., November 2010.
36. **Geoengineering**
 - Climate Change Conference 2010, Toronto, ON, August 2010.
37. **Climate change: Science and Solutions.**
 - Marionopolis College Green Week Speaker Series, Montreal, QC, October 2009.
38. **What does it take to stabilize climate? Insights from Earth system models**
 - Department of Geography, McGill University, April 2009.
 - Institute for Atmospheric and Climate Science, ETH Zurich, March 2009.
 - Department of Geography, University of Toronto, November 2008.
39. **Solving the climate problem**
 - AlumNights Panel Series, Montreal, Quebec, November 2008.
40. **Quantifying carbon sinks and feedbacks to climate using Earth system models**
 - CIFAR Oceans Nitrogen Workshop, Toronto, Ontario, November 2008.
41. **Solving the climate problem**
 - AlumNights Panel Series, Montreal, Quebec, November 2008.
42. **What does it take to stabilize climate?**
 - Cutting Edge Lectures, McGill University, October 2008.
43. **Carbon-cycle feedbacks increase the likelihood of a warmer future**
 - 10th International Workshop on Next Generation Climate Models for Advanced High Performance Computing Facilities, Waikiki, Hawaii, February 2008.
44. **Climate change: Science and solutions**
 - Department of Geography, Planning and Environment Seminar Series, Concordia University, Montreal, QC, March 2008.
 - Montreal Inter-University Seminar on the History and Philosophy of Science, Montreal, QC, November 2007.

45. **Transient climate-carbon simulations of planetary geoengineering**
 - American Geophysical Union 2007 Fall Meeting, San Francisco, CA, December 2007.
 - NASA/AMES Workshop on Managing Solar Radiation, Moffet Field, CA, November 2006.
46. **Geoengineering**
 - Earth and Environmental Systems Institute Seminar Series, Penn State University, University Park, PA, November 2007.
47. **Coupled climate-carbon cycle simulations using the UVic ESCM**
 - Coupled Climate Carbon Cycle Model Intercomparison Project (C⁴MIP) Workshop, Exeter, U.K., October, 2006.
48. **Coupling climate and the carbon cycle: Implications for future climate change.**
 - Geosciences Department, Penn State University, University Park, PA, September 2006.
 - College of Oceanic and Atmospheric Sciences, Oregon State U., Corvallis, OR, April 2006.
 - Department of Global Ecology, Carnegie Institution, Stanford, CA, March 2006.
 - Department of Geography, Planning and Environment, Concordia University, Montreal, QC, February 2006.
49. **Modeling terrestrial carbon cycle dynamics and feedbacks to climate.**
 - Department of Atm. and Oceanic Sciences, McGill University, Montreal, QC, April 2005.
50. **The terrestrial carbon cycle and the role of historical land cover change in the UVic Earth System Climate Model.**
 - American Geophysical Union/Canadian Geophysical Union 2004 Joint Assembly, Montreal, QC, May 2004.

OTHER CONFERENCE PRESENTATIONS AND SEMINARS

1. **A new framework for understanding and quantifying uncertainties in the remaining carbon budget**
 - European Geophysical Union Annual General Assembly (online session), May 2020.
2. **Carbon budget estimates for the 1.5 degree target**
 - 1.5 Degrees: Meeting the challenges of the Paris Agreement, Oxford, September 2016.
3. **Impact of future climate change on non-human primate species**
 - Annual Meeting of the International Primatological Society, Chicago, August 2016.
4. **Allocating a 2°C carbon budget to nations**
 - American Geophysical Union Fall Meeting, San Francisco, December 2014.
5. **National climate footprints: country contributions to observed global warming**
 - Canadian Meteorology and Oceanography Society Meeting, Saskatoon, SK, June 2013.
6. **Identifying regional vulnerabilities of primate populations to continued global warming**
 - International Primatology Society Meetings, Cancun, Mexico, August 2012.
7. **Climate response to cumulative greenhouse gas and aerosol emissions**
 - Canadian Meteorology and Oceanography Society Meeting, Montreal, QC, June 2012.
8. **Cumulative carbon as a policy framework for achieving climate stabilization**
 - Canadian Meteorology and Oceanography Society Meeting, Victoria, BC, June 2011.
 - European Geophysical Union Annual General Assembly, Vienna, Austria, April 2011.
9. **Impacts of climate change on non-human primates**
 - International Primatology Society Meetings, Kyoto, Japan, September 2010
10. **Cumulative carbon emissions and committed climate warming**
 - CMOS-CGU Joint Assembly, Ottawa, ON, June 2010.
11. **Climate-carbon sensitivity: a new measure of the climate response to carbon emission**

- IAMAS-IAPSO-IACS Joint Assembly, Montreal, QC, July 2009.
- 12. **Sensitivity of ocean acidification to geoengineered climate stabilization**
 - IARU International Climate Change Congress, Copenhagen, Denmark, March 2009.
- 13. **Stabilizing climate requires near-zero emissions**
 - European Geophysical Union Annual General Assembly, Vienna, Austria, April 2008.
- 14. **Coupling climate and the carbon cycle: Implications for future climate change.**
 - Department of Atmospheric Physics, Oxford University, Oxford, U.K., March 2006
 - Hadley Centre for Climate Prediction and Research, Exeter, U.K., March 2006.
 - Dialogues in Geography Series, University of Calgary, Calgary, AB, November 2005.
- 15. **Modeling terrestrial carbon cycle dynamics and feedbacks to climate.**
 - Topics in Atmospheric and Oceanic Sciences Seminar Series, Canadian Centre for Climate Modelling and Analysis, Victoria, B.C., May 2005.
 - Frontier Research Centre for Global Change, Yokohama, Japan, May 2005.
- 16. **Primary productivity control of simulated carbon cycle-climate feedbacks.**
 - European Geophysical Union Annual General Assembly, Vienna, Austria, April 2005.
- 17. **Simulating carbon-cycle feedbacks with the UVic Earth System Climate Model.**
 - Coupled Climate Carbon Cycle Model Intercomparison Project (C⁴MIP) Workshop, Berkeley, CA, December 2004.
- 18. **Terrestrial carbon cycle dynamics under recent and future climate change.**
 - Climate Variability and Predictability Workshop, Victoria, BC, February 2004.
- 19. **Natural and anthropogenic climate change: Incorporating historical land cover change, vegetation dynamics and the global carbon cycle**
 - International Union of Geodesy and Geophysics General Assembly, Japan, July 2003.
- 20. **The UVic Earth System Climate Model: A tool for model-based integrated assessment?**
 - Coupling Climate and Economic Dynamics, Montreal, QC, May 2003.
- 21. **Natural and anthropogenic climate change over the past 300 years: The role of historical land cover change**
 - Canadian Geophysical Union Conference, Banff, AB, May 2003.
 - Canadian Meteorological and Oceanographic Society Congress, Victoria, BC, April 2003.
- 22. **Equilibrium and transient simulations of land-use and CO₂ forcing of climate.**
 - European Geophysical Society XXVII General Assembly, Nice, France, April 2002.

POSTER PRESENTATIONS (SELECTED)

1. **When will we reach 1.5°C of global warming?**
 - American Geophysical Union Fall Meeting, New Orleans, December 2017
 - Canadian Meteorological and Oceanographic Society Meeting, Ottawa, July 2017
2. **Allocating a 2°C carbon budget to countries**
 - American Geophysical Union Fall Meeting, San Francisco, December 2014.
3. **Climate response to cumulative emissions of greenhouse gases and aerosols**
 - Planet Under Pressure (PLAN) Conference, London, England, March 2012.
4. **Climate response to carbon emissions**
 - IARU International Climate Change Congress, Copenhagen, Denmark, March 2009.
5. **Climate commitment and the 2 degree temperature target**
 - American Geophysical Union 2008 Fall Meeting, San Fransisco, CA, December 2008.
6. **Transient climate-carbon simulations of planetary geoengineering**
 - European Geophysical Union Annual General Assembly, Vienna, Austria, April 2008.

7. **Climate sensitivity to carbon emissions**
 - American Geophysical Union 2007 Fall Meeting, San Francisco, CA, December 2007.
8. **Carbon cycle feedbacks increase the likelihood of a warmer future**
 - American Geophysical Union 2006 Fall Meeting, San Francisco, CA, December 2006.
9. **Carbon cycle feedbacks amplify effect of climate sensitivity uncertainty on future warming**
 - European Geophysical Union Annual General Assembly, Vienna, Austria, April 2006.

5 Research Funding

Research Grants Applied For

1. **Team Research Grant** (co-applicant)
 - *Granting Agency:* Fonds Québécois de la Recherche sur la Nature et les Technologies
 - *Title:* Modelling for Life - A new generation of practical and robust models to understand, predict, manage and preserve biodiversity in an era of global change
 - *Principle Investigator:* Pedro Peres-Neto
 - *Value:* \$180,000 *Period Requested:* 2020-2022.

Research Grants Awarded

1. **NSERC Collaborative Research and Training Experience**
 - *Granting Agency:* Natural Sciences and Engineering Research Council of Canada
 - *Title:* NSERC CREATE in Science Leadership for Global Sustainability
 - *Principle Investigator:* H. Damon Matthews
 - *Value:* \$1,650,000 *Period Held:* 2020-2026.
2. **NSERC Discovery Grant**
 - *Granting Agency:* Natural Sciences and Engineering Research Council of Canada
 - *Title:* Spatial patterns of the climate response to cumulative emissions
 - *Principle Investigator:* H. Damon Matthews
 - *Value:* \$397,500 (\$79,500 / year) *Period Held:* 2017-2021.
3. **Horizon Postdoctoral Fellowship Grant**
 - *Granting Agency:* Concordia University
 - *Title:* Estimating impacts due to cumulative CO₂ emissions
 - *Principle Investigator:* H. Damon Matthews
 - *Value:* \$76,000 *Period Held:* 2020-2021.
4. **Concordia University Research Chair Tier 1**
 - *Granting Agency:* Concordia University
 - *Title:* Climate science and sustainability
 - *Principle Investigator:* H. Damon Matthews
 - *Value:* \$100,000 (\$20,000 / year) *Period Held:* 2017-2021.
5. **Research Contract**
 - *Granting Agency:* Environment and Climate Change Canada
 - *Title:* Effect of climate change on future heat stress: a proposed methodology for calculating heat stress indices from daily climate model data

- *Principle Investigator:* H. Damon Matthews
 - *Value:* \$25,000 *Period Held:* 2019.
- 6. Cyberinfrastructure Initiative**
- *Granting Agency:* Canada Foundation for Innovation
 - *Title:* Data Analytics for Canadian Climate Services
 - *Principle Investigator:* Steve Easterbrooke
 - *Value:* \$2,000,000 (2%) *Period Held:* 2019-2023
- 7. FQRNT Regroupement Strategique (co-applicant)**
- *Granting Agency:* Fonds Québécois de la Recherche sur la Nature et les Technologies
 - *Title:* Centre Interdisciplinaire de recherche en opérationnalisation du développement durable (CIRODD)
 - *Principle Investigator:* Mohamed Cheriet
 - *Value:* \$300,000 (5%) *Period Held:* 2019-2024
- 8. Project Grant**
- *Granting Agency:* Peter Gilgan Foundation
 - *Title:* #PledgeToLead: a new website to support ambitious individual climate pledges
 - *Principle Investigator:* H. Damon Matthews
 - *Value:* \$25,000 *Period Held:* 2019.
- 9. Team Seed Research Grant**
- *Granting Agency:* Concordia University
 - *Title:* Mobilizing individual climate action
 - *Principle Investigator:* H. Damon Matthews
 - *Value:* \$20,000 *Period Held:* 2018.
- 10. NSERC Research Tools and Instruments**
- *Granting Agency:* Natural Sciences and Engineering Research Council of Canada
 - *Title:* Computing infrastructure for simulating the global and regional climate response to cumulative emissions
 - *Principle Investigator:* H. Damon Matthews
 - *Value:* \$72,852 *Period Held:* 2017
- 11. Horizon Postdoctoral Fellowship Grant**
- *Granting Agency:* Concordia University
 - *Title:* Quantifying carbon budgets for ambitious mitigation targets
 - *Principle Investigator:* H. Damon Matthews
 - *Value:* \$76,000 *Period Held:* 2017-2019.
- 12. Research Contract**
- *Granting Agency:* Ouranos Research Consortium
 - *Title:* A new framework for using climate scenario data for impacts and assessment studies
 - *Principle Investigator:* H. Damon Matthews
 - *Value:* \$25,000 *Period Held:* 2015-2016.
- 13. Research Contract**
- *Granting Agency:* Ouranos Research Consortium

- *Title:* Un test d'évaluation des performances conçu pour un protocole avancé de prise de décisions
- *Principle Investigator:* H. Damon Matthews and Ketra Schmitt
- *Value:* \$55,000 *Period Held:* 2015-2016.

14. Concordia University Research Chair Tier 2

- *Granting Agency:* Concordia University
- *Title:* Climate science and sustainability
- *Principle Investigator:* H. Damon Matthews
- *Value:* \$75,000 (\$15,000 / year) *Period Held:* 2012-2016

15. NSERC Discovery Grant

- *Granting Agency:* Natural Sciences and Engineering Research Council of Canada
- *Title:* Quantifying the climate response to cumulative greenhouse gas emissions
- *Principle Investigator:* H. Damon Matthews
- *Value:* \$230,000 (\$46,000 / year) *Period Held:* 2012-2016.

16. NSERC Accelerator Supplement

- *Granting Agency:* Natural Sciences and Engineering Research Council of Canada
- *Title:* Quantifying the climate response to cumulative greenhouse gas emissions
- *Principle Investigator:* H. Damon Matthews
- *Value:* \$120,000 *Period Held:* 2012-2014.

17. Collaborative Research and Training Experience (CREATE) (co-applicant)

- *Title:* NSERC CREATE Research and Training via an Institute in Water, Energy and Sustainability
- *Principle Investigator:* Catherine Mulligan (Concordia)
- *Value:* \$1,650,000 (10%) *Period Held:* 2012-2017.

18. CFCAS Project Supplement

- *Granting Agency:* Canadian Foundation for Climate and Atmospheric Sciences
- *Title:* Climate and carbon cycle implications of future land management in Canada
- *Principle Investigator:* H. Damon Matthews
- *Value:* \$20,000 *Period Held:* 2012

19. FQRNT Regroupement Stratégique (co-applicant)

- *Granting Agency:* Fonds Québécois de la Recherche sur la Nature et les Technologies
- *Title:* Global Environmental and Climate Change Center (GEC3)
- *Principle Investigator:* Gail Chmura (McGill)
- *Value:* \$300,000 (5%) *Period Held:* 2011-2012

20. CFCAS Project Grant

- *Granting Agency:* Canadian Foundation for Climate and Atmospheric Sciences
- *Title:* Probabilistic forecasts of the viability of future Canadian carbon sinks
- *Principle Investigator:* H. Damon Matthews
- *Value:* \$190,780. *Period Held:* 2008-2009

21. NSERC Discovery Grant

- *Granting Agency:* Natural Sciences and Engineering Research Council of Canada
- *Title:* Quantifying uncertainties in future carbon cycle feedbacks

- *Principle Investigator:* H. Damon Matthews
- *Value:* \$110,000 *Period Held:* 2007-2011

22. FQRNT Nouveaux Chercheurs

- *Granting Agency:* Fonds Québécois de la Recherche sur la Nature et les Technologies
- *Title:* Probabilistic assessment of future terrestrial carbon cycle and climate changes
- *Principle Investigator:* H. Damon Matthews
- *Value:* \$75,000 *Period Held:* 2007-2008

5 Training of High-Quality Personnel

Summary of Current and Past Supervision

	Current		Completed		Total
	Supervised	Co-supervised	Supervised	Co-supervised	
Honours students			7	5	12
Masters students		1	12	6	19
Ph.D. students	5	1		2	8
Post-docs	1	1	3	3	8
Total	6	3	22	16	47

Current Graduate Students and Post-docs

1. Seth Wynes (Post-doctoral Researcher): September 2020 –
 - *Topic:* Public understanding of climate change and other global risks
2. Jen Gobby (Post-doctoral Researcher): November 2019 –
 - SSHRC post-doctoral fellowship
 - Co-supervised with Bengi Akbulut
 - *Topic:* Mechanisms of social change leading to climate action
3. Étienne Guertin (Ph.D. Student): January 2018 –
 - *Topic:* Modelling climate-socioeconomic feedbacks in a global climate model
 - *Presentation:* Canadian Society for Ecological Economics, Waterloo, ON, May 2019
4. Maida Hadziosmanovic (Ph.D. Student): September 2017 –
 - *Topic:* Corporate contributions to and responsibility for global warming
5. Daniel Horen Greenford (Ph.D. Student): September 2016 –
 - *Topic:* Climate responsibility and ethics.
 - *Presentation:* International Union of Geodesy and Geophysics, Montreal, QC, July 2019
6. Travis Moore (Ph.D. Student): September 2016 –
 - *Topic:* Observed and future extreme weather changes
 - *Poster:* International Union of Geodesy and Geophysics, Montreal, QC, July 2019
7. Mitchell Dickau (M.Sc. Student): September 2019 –
 - *Topic:* Climate response to fuel-specific greenhouse gas emissions

8. Miles Barette-Duckworth (M.Sc. Student): September 2018 –
 - Co-supervised with Leonard Sklar
 - *Topic*: Effect of weathering of gravel road networks on carbon sequestration.

Completed Graduate Students and Post-docs

POST-DOCTORAL RESEARCHERS

1. Nadine Mengis (Post-doctoral researcher): Completed February 2019
 - Horizon post-doctoral fellowship
 - *Topic*: Carbon budgets for ambitious climate mitigation targets.
 - *Presentations*: EGU, AGU and IUGG conferences, April 2018; December 2018; July 2019
2. Yann Chavaillaz (Post-doctoral researcher): Completed May 2019
 - Co-supervised with Philippe Roy (Ouranos)
 - *Topic*: Extreme weather and abrupt climate events.
 - *Presentation*: IUGG conference, Montreal, QC, July 2019
3. Antti-Ilari Partanen (Post-doctoral researcher): Completed December 2017
 - Emil-Altonen Foundation and FRQNT post-doctoral fellowships
 - Co-supervised with Martin Leduc (Ouranos)
 - *Topic*: Climate and health effects of aerosol mitigation scenarios.
 - *Posters*: EGU and AGU conferences, December 2018, April 2019
4. Jean Sébastien Landry (NSERC Post-doctoral fellow): Completed August 2016
 - NSERC post-doctoral fellowship
 - *Topic*: Modelling disturbances in the climate system.
5. Christopher Simmons (Post-doctoral researcher): Completed December 2015
 - *Topic*: Deglacial climate changes, terrestrial carbon cycling and human land-use change.
 - *Presentation*: European Geophysical Union, Vienna, April 2014
 - *Poster*: American Geophysical Union, San Francisco, December 2014
6. Martin Leduc (Post-doctoral researcher): Completed May 2015
 - Co-supervised with Ramon de Elia (Ouranos)
 - *Topic*: Assessing uncertainties and limits associated with the climate response to cumulative greenhouse gas emissions.
 - *Presentation*: Ouranos Research Seminar, Montreal, April 2014
 - *Invited presentation*: Canadian Meteorological and Oceanographic Society, Whistler, BC, June 2014
 - *Poster*: American Geophysical Union, San Francisco, December 2014

PHD STUDENTS

7. Marc-Olivier Brault (Ph.D. Dissertation, McGill University): Completed April 2017.
 - Co-supervised with Lawrence Mysak (McGill)
 - *Topic*: Effect of terrestrial weathering on long-term climate and carbon cycle changes.
 - *Presentation*: European Geophysical Union, Vienna, April 2017.

8. Christopher Simmons (Ph.D. Dissertation, McGill University): Completed October 2013.
 - Co-supervised with Lawrence Mysak
 - *Topic*: Carbon cycle dynamics since the last glacial maximum.
 - *Presentation*: European Geophysical Union, Vienna, April 2013.
 - *Poster*: American Geophysical Union, San Francisco, December 2013.

MASTER'S STUDENTS

9. Samantha Mailhot (M.Sc. Student): Completed September 2020
 - Co-supervised with Bengi Akbulut
 - *Topic*: Capacities and barriers to individual climate mitigation.
10. Alexander MacIsaac (M.Sc. Student): Completed September 2019
 - *Topic*: Reversibility of warming caused by non-CO₂ greenhouse gas emissions
11. Caroline-Sophie Gauvreau (M.Sc. Thesis): Completed August 2018
 - Co-supervised with David Greene
 - *Topic*: Impact of climate change on plant phenology.
12. Tanya Graham (M.Sc. Thesis): Completed January 2018
 - *Topic*: Quantifying mammalian vulnerability to global climate changes.
13. Étienne Guertin (M.Sc. Thesis): Completed November 2017
 - *Topic*: Modelling fire as a climate disturbance.
14. Maida Hadziosmanovic (M.Sc. Thesis): Completed August 2017
 - *Topic*: Assessing corporate responsibility for climate change.
15. Loukia Papadopoulos (M.Sc. Thesis): Completed January 2017
 - *Topic*: Nationally Appropriate Mitigation Strategies.
16. Trevor Smith (M.Sc. Thesis): Completed January 2017
 - *Topic*: Impacts of climate change on Quebec viticulture.
17. Daniel Horen Greenford (M.Sc. Thesis): Completed September 2016
 - *Topic*: Historical national contributions from a range of greenhouse gases and aerosols.
18. Cassandra Lamontagne (M.Sc. Thesis): Completed April 2016
 - Co-supervised with Monica Mulrennan
 - *Topic*: Impacts of climate change on a coastal First Nations community.
19. Travis Moore (M.Sc. Thesis): Completed September 2013
 - *Topic*: Quantifying extreme weather events as a function of global mean temperature change.
20. Marc-Olivier Brault (M.Sc. Thesis, McGill University): Completed August 2012.
 - Co-supervised with Lawrence Mysak
 - *Topic*: Effect of Pleistocene megafauna on early Holocene climate.
21. Nikolay Damyanov (M.Sc. Thesis, McGill University): Completed August 2011.
 - Co-supervised with Lawrence Mysak
 - *Topic*: Effect of winter warming on outdoor skating in Canada.
 - *Presentation*: CMOS Assembly, Victoria, BC, June 2011.
22. Andrew Pinsonneault (M.Sc. Thesis): Completed August 2011.

- *Topic:* Effect of ocean acidification on the marine carbonate cycle.
 - *Presentation:* CMOS Assembly, Victoria, BC, June 2011.
23. Karen Paquin (M.Sc. Thesis): Completed April 2011.
- Co-supervised with Jochen Jaeger
 - *Topic:* Potential for carbon sequestration in boreal forest woodlots.
24. Andrew Ross (M.Sc. Thesis): Completed July, 2010.
- *Title:* Probabilistic assessment of the rate of future climate change.
 - *Poster:* CMOS-CGU Joint Assembly, Montreal, QC, June 2010.
25. Alex Matveev (M.Sc. Thesis): Completed August, 2009.
- *Title:* Evaluating the land use change carbon flux and its impact on climate.
 - *Poster:* European Geophysical Society General Assembly, Vienna, April 2009.
 - *Poster:* IAMAS-IAPSO-IACS Joint Assembly, Montreal, QC, July 2009.

HONOURS STUDENTS

26. Eva-Maria Hanchar (Honours Student): Completed April 2020
- Co-supervised with Sarah Turner
 - *Topic:* Individual carbon footprints and emissions-reduction actions.
27. Carly McGregor (Honours Student): Completed April 2019
- Co-supervised with Pedro Peres-Neto
 - *Topic:* Biodiversity impacts of cumulative CO₂ emissions
28. Mitchell Dickau (Honours Thesis): Completed April 2018
- *Topic:* Climate determinants of changing outdoor skating conditions in Montreal.
 - *Presentation:* International Union of Geodesy and Geophysics, Montreal, QC July 2019
29. Brogan Stewart (Honours Thesis): Completed April 2018
- Co-supervised with Sarah Turner
 - *Topic:* Emergence of novel climates over habitat ranges of non-human primate species.
30. Elisa Cohen-Bucher (Honours Thesis): Completed April 2018
- Co-supervised with Veronique Bussieres
 - *Topic:* Reflection of indigenous peoples in government climate reports.
31. Samantha Maillot (Honours Thesis): Completed April 2017
- *Topic:* Effect of the Climate Clock on public perception of global warming.
32. Tanya Graham (Honours Thesis): Completed April 2013
- Co-supervised with Sarah Turner
 - *Topic:* Impact of climate change on primate populations.
 - *Presentation:* AFCAS conference, Montreal, May 2014
 - *Presentation:* Ouranos Research Seminar, Montreal, April 2014.
33. Trevor Smith (Honours Thesis): Completed April 2012
- *Topic:* Metrics for comparing the climate effect of different greenhouse gases.
 - *Poster:* CMOS Assembly, Montreal, QC, May 2012.
34. Serge Keverian (Honours Thesis): Completed April 2011

- *Topic:* Regional attribution of carbon emissions and climate change.
35. Kelly Nugent (Honours Thesis): Completed April, 2010.
- *Topic:* Drivers of North American continental runoff and implications for ocean circulation.
 - *Poster:* CMOS-CGU Joint Assembly, Montreal, QC, June 2010.
36. Andrew Pinsonneault (Honours Thesis): Completed April, 2009.
- *Title:* Climate model reliability in simulating enhanced forest productivity resulting from CO₂ fertilization.
 - *Poster:* IAMAS-IAPSO-IACS Joint Assembly, Montreal, QC, July 2009.
37. Andrew Ross (Honours Thesis): Completed April, 2008.
- *Title:* Impact of geoengineering on the rate of climate warming.
 - *Poster:* American Geophysical Union Fall Meeting, San Francisco, December 2008

6 Teaching

Courses taught

1. **Geography 478: Climate Change Science, Impacts and Policy**
 - Department of Geography, Planning and Environment, Concordia University.
 - Upper-level (fourth-year) undergraduate course (18 - 27 students), Winter 2008; Fall 2009; Winter 2011; Winter 2016; Winter 2017; Winter 2018; Winter 2019, Winter 2020.
2. **Human Environment 660: Climate Change and Sustainability}**
 - Department of Geography, Planning and Environment, Concordia University.
 - Graduate-level course (20 students), Fall 2015; Fall 2017; Fall 2019.
3. **Human Environment 665Q: Quantitative Research Methods**
 - Department of Geography, Planning and Environment, Concordia University.
 - Graduate-level course (13 students), Fall 2012.
4. **Geology 440: Current Research in Environmental Earth Sciences**
 - Department of Geography, Planning and Environment, Concordia University.
 - Upper-level (fourth-year) undergraduate course (20 students), Fall 2011.
 - *Topics Covered:* Paleoclimate; climate change; water resources; air quality and health; energy resources; life and ecosystems.
5. **Human Environment 615: Research Group Seminar**
 - Department of Geography, Planning and Environment, Concordia University.
 - Graduate-level course (6-12 students), Winter 2009; Fall/Winter 2015.
6. **Human Environment 655: Environmental Modeling**
 - Department of Geography, Planning and Environment, Concordia University.
 - Graduate-level course (8-14 students), Winter 2008; 2009; 2012.
7. **Geography 378: The Climate System**
 - Department of Geography, Planning and Environment, Concordia University.

- Upper-level (third-year) undergraduate course (45-60 students), Fall 2007; 2008.
8. **Geography 398C: Climate Change-Science, Impacts and Policy**
 - Department of Geography, Planning and Environment, Concordia University.
 - Upper-level (third-year) undergraduate course (35 students), Winter 2007.
 9. **Geography 305: Introduction to Weather and Climate**
 - Department of Geography, University of Calgary.
 - Introductory (second-year) undergraduate course (100 students), Fall 2005.
 10. **Environmental Management 6130: Climate Dynamics and Modeling**
 - University of the West Indies, Barbados.
 - 3-week intensive master's level course (6-7 students), April 2004; January 2005.

7 Service and Professional Activities

Journal Editing

1. **Review Editor**, Intergovernmental Panel on Climate Change (IPCC) Sixth Assessment Report, Chapter 7, 2019-Present.
2. **Guest Editor**, Environmental Research Letters Focus Issue: Cumulative Emissions, Global Carbon Budgets and the Implications for Climate Mitigation Targets, 2014-2017.

Conference Session Organization

1. **Session Convenor**, “Climate Change and the Carbon Cycle,” Canadian Meteorological and Oceanographic Society Congress, June 2010, 2011, 2012, 2013, 2016, 2017.
2. **Session Convenor**, “Historic Emissions and the Question of Responsibility for Climate Change Loss and Damage, Adaptation and Mitigation,” Our Common Future under Climate Change, Paris, July 2015.
3. **Session Convenor**, “Fossil fuel infrastructure and climate change mitigation: emerging perspectives,” Our Common Future under Climate Change, Paris, July 2015.
4. **Session Convenor**, “From Carbon Emissions to Climate Change,” Canadian Meteorological and Oceanographic Society Congress, June 2015.
5. **Session Convenor**, “Historic Contributions: the Common but Differentiated Responsibility Challenge,” NCSE Energy and Climate Change conference, January 2015.
6. **Session Convenor**, “Connecting Climate Impacts to Cumulative Carbon Emissions and Linking Biophysical Functions to Human Values,” American Geophysical Union Fall Meeting, San Francisco, December 2014.

7. **Session Convenor**, “Climate Change Impacts and Stabilization III: Stabilization Prospects, Trajectories, and Uncertainties,” American Geophysical Union Fall Meeting, December 2008.

External Committees and Workshops

1. **Member**, NSERC Discovery Grant Evaluation Committee (Geosciences), 2019-Present
2. **Member**, Climate Change Advisory Board, TD Insurance, 2019-Present
3. **Member**, Comité Scientifique, Le Pacte, 2018-Present
4. **Scientific Liaison for Concordia**, Future Earth Montreal Consortium, 2019-Present
5. **Event Organizer** Climate Clock Projection Launch on Earth Day 2016, Montreal, April 2016.
6. **Workshop Organizer** UVic Earth System Climate Model Developers Workshop, Victoria, BC, May 2015.
7. **Member**, U.S. CLIVAR Working Group on Ocean Carbon Cycling in CMIP5 Models, June 2009 - 2013.
8. **Member**, U.S. National Academy of Sciences Committee on Stabilization Targets for Atmospheric Greenhouse Gas Concentrations, Washington DC, September 2009 - April 2010.
9. **Participant**, D.O.E. Carbon Cycling and Biosequestration Workshop, Washington DC, March 2008.
10. **Participant**, Climate Engineering Workshop, Harvard University, Boston, October 2007.

Media and Public Relations

OP-EDS

- Op-Ed published in *The Montreal Gazette*, November 13, 2018.
- Op-Ed published in *Ricochet*, March 7, 2018.
- Op-Ed published in *Policy Options*, June 21, 2017.
- Op-Ed published in *La Presse*, June 6, 2017.
- Op-Ed published in *The Montreal Gazette*, November 6, 2016.
- Op-Ed published in *The Montreal Gazette*, December 14, 2015.
- Op-Ed published in *The Montreal Gazette*, October 14, 2015.
- Op-Ed published in *Le Devoir* and *The Montreal Gazette*, February 20, 2013.
- Op-Ed published in *Le Devoir* and *The Montreal Gazette*, November 5, 2012.
- Op-Ed published in *Le Devoir* and *La Presse*, April 23, 2012.
- Op-Ed published in *The Montreal Gazette*, July 2, 2011.
- Op-Ed published in *Le Devoir*, Montreal, December 7, 2009.

GENERAL MEDIA ACTIVITIES (SELECTED)

- “Climate Change Is Very Real. But So Much of It Is Uncertain” in *WIRED*, July 17, 2019.
- “A Green New Deal for Canada: What it means” in *CBC News*, May 10, 2019.
- “How climate change will have a major impact on hockey's future” in *The Athletic*, December 7, 2018
- “Earth CO₂ levels: Have we crossed a point of no return?” in *Christian Science Monitor* (and other online news), September 29, 2016.
- Feature interview: “Le comptable de l'atmosphère” (the atmospheric accountant), in *La Presse Plus*, December 30, 2013.
- “‘It's not too late’ to stop climate spiral, Montreal scientist says,” in *The Montreal Gazette*, September 27, 2013.
- Live radio call-in show on “Radio Noon”, *CBC Radio Montreal*, December 2009.
- “Concordia prof gets grant for climate research” In: *The Concordian* (Concordia University Weekly Newspaper), September 2008.
- “Damon Matthews: Chasing climate change.” In: *Concordia Journal* (Concordia University Weekly Newspaper), January 2007.

RESEARCH MEDIA COVERAGE

1. *Economic impacts of extreme heat due to climate change* (Chavaillaz et al, 2019)
 - *Le Devoir*, *CTV*, *Science Daily* (and other media), October 2018
2. *Annual update of Concordia's Climate Clock*
 - *The Weather Network*, *La Presse*, *Le Devoir*, *La Monde* (and other news), December 2018
3. *New estimate of the remaining carbon budget* (Millar et al 2017)
 - *Dozens of news networks around the world*, September 2017
4. *Climate change impacts on non-human primates* (Graham et al., 2016)
 - *Science Daily* (and other online news), August 2016.
5. *Climate clock website and projection*
 - *Globe and Mail*, *CTV Montreal*, *City TV* (and others), April 2016.
6. *Regional climate response to cumulative CO₂ emissions* (Leduc et al., 2016)
 - *Ici Radio Canada*, *Métro Montréal*, *VICE Canada* (and others), January 2016.
7. *Quantifying historical carbon and climate debts among nations* (Matthews 2016)
 - *New Scientist*, *Inside Climate News*, *VICE Motherboard*, *La Presse* (and other international news), September 2015.
8. *National contributions to historical global warming* (Matthews et al., 2014)
 - *New Scientist*, *Bloomberg Business Week*, *the Huffington Post*, *the U.K. Times* (and other international news), January 2014.
9. *Irreversible does not mean unavoidable* (Matthews and Solomon, 2013)
 - *Climate Central* and *Huffington Post*, March 2013.
10. *Effect of climate change on outdoor skating* (Damyanov et al., 2012)
 - *New York Times*, *The Guardian*, *Le Monde*, *Toronto Star*, *Globe and Mail*, *National Post*, *PBS Newshour*, *Météo Média* (and other national/international news), March 2012.
11. *Infrastructural Emissions Commitment* (Davis et al., 2010)
 - *Le Monde*, *CBC News*, *Canwest News*, (and other international news), September 2010.

12. *Carbon Emissions for 2-Degrees Warming* (Matthews et al., 2009)
 - *Montreal Gazette, Canwest News, CBC Radio, CBC Television, Radio Canada*, (and other national news) June 2009.
13. *Climate stabilization requires near-zero emissions* (Matthews and Caldeira, 2008)
 - *The Washington Post* (page A1), *New Scientist Environment, The Montreal Gazette, The Victoria Times Colonist* (and other national/international news), February 2008.
14. *Geoengineering* (Matthews and Caldeira, 2007)
 - *Aerospace America, ABC News, Nature Reports Climate Change, New Scientist Environment, ScienceNOW Daily News, Scientific American*, (and other international news), July 2007.

JOURNAL HIGHLIGHTS OF PUBLICATIONS

1. **Nature News and Views**, September 2015.
 - “Fair Shares?”, highlighting Matthews (2016) in *Nature Climate Change*
2. **Environmental Research Web**, September 2015.
 - “Are the December emissions pledges up to scratch?”, highlighting Gignac and Matthews (2015) in *Environmental Research Letters*.
3. **Environmental Research Web**, January 2014.
 - “Climate change: who's the biggest emitted of them all?”, highlighting Matthews et al. (2014) in *Environmental Research Letters*.
4. **Environmental Research Web**, March 2012.
 - “Warming climate is bad news for Canadian outdoor skating”, highlighting Damyanov et al (2012) in *Environmental Research Letters*.
5. **Environmental Research Web**, October 2009.
 - “Of mongooses and men: why aerosol geoengineering could prove risky”, highlighting Matthews and Turner in *Environmental Research Letters*.
6. **AGU Journal Highlight**, March 2008.
 - “Stabilizing climate requires near-zero emissions”, highlighting Matthews and Caldeira (2008) in *Geophysical Research Letters*.
7. **PNAS Commentary**, June 2007.
 - “Evaluating a technological fix for climate”, by Peter G. Brewer, highlighting Matthews and Caldeira (2007) in *Proceedings of the National Academy of Sciences*.
8. **AGU Journal Highlight**, December 2005.
 - “A decrease of emission is required to stabilize atmospheric CO₂”, highlighting Matthews (2005) in *Geophysical Research Letters*.

University and Departmental Service and Committees

1. Graduate Program Director (M.Sc. and Ph.D.) June 2019 - December 2019
 - Department of Geography, Planning and Environment, Concordia University
2. Member, Dept. Hiring Committee (Climate Adaptation) September 2019 - November 2019
 - Department of Geography, Planning and Environment, Concordia University

3. Member, Dept. Hiring Committee (Urban Biodiversity) April 2018 - June 2018
 - Department of Biology, Concordia University
4. Member, CERC Hiring Committee (Sustainable Cities) April 2018 - June 2018
 - Canada Excellence Research Chair, Concordia University
5. Chair, Departmental Assessment Committee February 2016 – August 2018
 - Department of Geography, Planning and Environment, Concordia University
6. Member, Faculty Research Committee September 2015 – August 2018
 - Faculty of Arts and Science, Concordia University
7. Graduate Program Director (M.Sc. and Ph.D.) June 2016 - December 2016
 - Department of Geography, Planning and Environment, Concordia University
8. Member, Graduate Program Committee June 2016 - December 2016
 - Department of Geography, Planning and Environment, Concordia University
9. Member, Dept. Hiring Committee (Environmental Science) September 2015 - April 2016
 - Department of Geography, Planning and Environment, Concordia University
10. Member, Dept. Hiring Committee (Ecological Economics) June 2015 - December 2016
 - Department of Geography, Planning and Environment, Concordia University
11. Graduate Program Director (M.Sc.) June 2011 - June 2013
 - Department of Geography, Planning and Environment, Concordia University
12. Member, Graduate Program Committee June 2011 - June 2013
 - Department of Geography, Planning and Environment, Concordia University
13. Chair, Ph.D. Proposal Development Committee January 2012 - June 2013
 - Department of Geography, Planning and Environment, Concordia University
14. Member, Ph.D. Proposal Development Committee November 2009 - December 2011
 - Department of Geography, Planning and Environment, Concordia University
15. Member, Departmental Workload Committee December 2008 - April 2010
 - Department of Geography, Planning and Environment, Concordia University
16. Departmental Research Liaison September 2008 - April 2010
 - Department of Geography, Planning and Environment, Concordia University
17. Departmental Seminar Series Coordinator September 2008 - December 2009
 - Department of Geography, Planning and Environment, Concordia University
18. Member, Departmental Hiring Committee (Political Ecology) January 2008 - April 2008
 - Department of Geography, Planning and Environment, Concordia University
19. Member, Department Chair Search Committee January 2008 - April 2008
 - Department of Geography, Planning and Environment, Concordia University
20. Member, Departmental Curriculum Committee September 2008 - August 2009
 - Department of Geography, Planning and Environment, Concordia University

Memberships in Professional Societies

1. **College of New Scholars, Artists and Scientists, Royal Society of Canada:** 2017-present

2. **Canadian Meteorology and Oceanography Society:** 2008-present.
3. **American Geophysical Union:** 2004-present.