

Pamela H. Templer, PhD

Distinguished Professor and Chair

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EDUCATION

Ph.D. in Ecology and Evolutionary Biology, Cornell University, Ithaca, NY	2001
B.A. in Environmental Studies and Biology (double major), University of California Santa Cruz, CA	1995

PROFESSIONAL APPOINTMENTS

Distinguished Professor, Arts & Sciences, Boston University	2024-present
Chair, Department of Biology, Boston University	2022-present
Charles Bullard Fellow, Harvard University	2021-2022
Professor, Boston University	2017-present
Director, BU URBAN Ph.D. Program, Boston University	2017-present
Faculty Research Fellow, Pardee Center, Boston University	2015-present
Associate of the Arnold Arboretum, Harvard University	2015-present
Director, Ph.D. Program in Biogeoscience, Boston University	2014-2021
Associate Chair, Department of Biology, Boston University	2014-2020
Charles Bullard Fellow and Sustainability Science Fellow, Harvard University	2013-2014
Associate Professor, Boston University	2012-2017
Assistant Professor, Boston University	2005-2012
Co-Director, Stable Isotope Laboratory, Boston University	2007-present
Postdoctoral Fellow, University California Berkeley	2001-2005
Research Assistant, Cary Institute	1996

HONORS AND AWARDS

Invited Author, United by Nature	2025-
Invited Member, U.S. National Committee for International Union Biological Sciences	2024-2028
Invited Author, First National Nature Assessment (NNA1), U.S. Global Change Research Prog	2024-2025
Sustainability Champion Award, Boston University Institute Global Sustainability	2024
Provost's Scholar-Teacher of the Year Award, Boston University	2021
Assoc for Advancement Sustainability Higher Educ (AASHE) Campus Sustainability Research Award	2021
Elected Fellow, Ecological Society of America (ESA)	2019
Elected Vice President for Education & Human Resources, ESA	2018-2021
Metcalf Award for Excellence in Teaching, Boston University	2015
National Science Foundation CAREER Grant	2012-2017
Elected member of Scientific Coordinating Committee, Hubbard Brook Experimental Forest	2010-2022
Andrew W. Mellon Foundation's Junior Faculty Research Grant	2007-2011
Teresa Heinz Environmental Scholars Award (Ph.D. Dissertation Research Fellowship)	1999
President, Graduate Student Association, Department of Ecology & Evol Bio, Cornell Univ	1998
Polgar Fellowship, Hudson River Foundation	1995
Honors undergraduate senior thesis, University California Santa Cruz	1995
National Science Foundation – Research Experience for Undergraduates (REU), Cary Institute	1994

EXAMPLES OF RESEARCH IN THE NEWS

PBS News Hour: <https://www.pbs.org/newshour/science/love-it-or-hate-it-winter-plays-an-important-role-heres-how-its-changing>
NPR Science Friday: <https://www.sciencefriday.com/segments/beechn-leaf-disease/>
NPR WBUR's Morning Edition: <https://www.wbur.org/news/2023/10/24/beechn-tree-disease-massachusetts>
NPR WNYC, <https://www.wnyc.org/story/how-climate-change-making-maple-syrup-less-sweet-and-sapping-production-ny-nj/>
NPR WBUR, <https://www.wbur.org/news/2021/04/07/faculty-air-travel-environment>
NPR WGBH, <https://www.wgbh.org/news/local-news/2020/09/08/western-mass-blaze-serves-as-reminder-of-states-rich-history-of-wildfire>
NPR, www.npr.org/sections/thesalt/2018/12/07/673713824/not-so-sweet-climate-change-means-slow-growing-sugar-maples-study-finds
HBO Vice News Tonight, <https://news.vice.com/story/forest-climate-change-simulation>
CBS Boston Evening News, <http://boston.cbslocal.com/2014/03/29/eye-on-weather-the-spring-forecast/>
Car Talk, www.cartalk.com/content/losing-winter-climate-change-will-hit-new-england-hard
Scientific American, <http://www.scientificamerican.com/article.cfm?id=wired-forest-may-reveal-how-new-england-forests-respond-climate-change>

RESEARCH MENTORING

GRADUATE STUDENTS AND POSTDOCS:

Primary Adviser for eleven Ph.D. students and two MS students. Mentor to eight visiting graduate students from Belgium, Mexico, Switzerland, Switzerland, Germany, Finland, and Japan. Mentor to five Postdoctoral fellows.

UNDERGRADUATE STUDENTS:

Mentor to more than 50 undergraduate research assistants and 25 students in Boston University's Undergraduate Research Opportunities Program (UROP), Summer Undergraduate Research Fellowship (SURF) and the National Science Foundation's Research Experience for Undergraduates (REU) program.

PUBLICATIONS SINCE 2020 (131 total; Google Scholar h-Index = 52; *Graduate Student; **Undergraduate)

- Bowser G, K Akamani, M Balgopal, JD Coley, ED Diaz-Clark, WC Funk, B Helmuth, S Henriques, N Grant-Hoffman, T Osborne, A Seshadri, **PH Templer**, MC Urban, K Waddell. 2025. Assessing nature: perceptions, knowledge, and gaps. *Frontiers in Ecology & Environment* 23:e2846.
- Cai Y, **PH Templer**, M Kobayashi. Unveiling responses of vascular plant performance and vegetation cover to shifting snow regimes: a meta-analysis. 2025. *Climatic Change*, in press.
- Caron S*, J Campbell, CT Driscoll, PGroffman, AB Reinmann, B Leonardi, L Rustad, G Wilson, **PH Templer**. 2025. Shallow snowpack and early snowmelt reduce nitrogen availability in the northern hardwood forest. *Biogeochemistry*, in press.
- Caron S*, A Bailey, N Cleavitt, C Driscoll, T Fahey, PM Groffman B Leonardi, L Rustad, G Wilson, **PH Templer**. 2025. Impacts of litter quality and climate on nitrogen oligotrophication in northern hardwood forests. *Canadian Journal Forest Research*, in press.
- Conrad-Rooney E*, C Avery, G Bowser, A Crimmins, T Francis, A Grade, P McElwee, **PH Templer**. 2025. Analysis of nature-related themes in U.S. Climate Assessments. Special Issue: Advancements in U.S. Climate Assessments. *Climatic Change*, in press.
- Conrad-Rooney E*, AB Reinmann. **PH Templer**. 2025. Declining winter snowpack offsets carbon storage enhancement from growing season warming in northern temperate forest ecosystems. *Proceedings of the National Academies of Sciences*, in press.
- Fahey TJ, NL Cleavitt, **PH Templer**, PM Groffman, AS Bailey, SB Caron*, G Wilson. 2025. Foliar resorption of beech and maple along an elevation gradient in a northern hardwood forest. *Forest Ecosystems*, in press.
- Meng L, A Pourmokhtarian, **PH Templer**, LR Hutrya, CT Driscoll. 2025. Simulations of historical impacts of climate change and atmospheric chemistry on a Northeastern U.S. forest ecosystem. *Ecological Applications*, in press.
- Meng L, A Pourmokhtarian, **PH Templer**, LR Hutrya, CT Driscoll. 2025. Response of a northeastern temperate forest to future scenarios of climate change and energy policies through the 21st century. *Environmental Modeling and Software* 190:106473.
- Possinger AR, CT Driscoll, M Green, TJ Fahey, C Johnson, MM Koppers, LD Martel, J Morse, **PH Templer**, A Uribe, GF Wilson, PM Groffman. 2025. Increasing soil respiration in a northern hardwood forest indicates symptoms of a changing carbon cycle. *Communications Earth & Environment* in press.
- Wilson G, PM Groffman, LD Martel. MB Green. CT Driscoll, J Durán, **PH Templer**, M Fisk. 2025. Changes in soil moisture and its relationships with nitrogen cycle processes in a northern hardwood forest. *Canadian Journal Forest Research*, in press.
- Contosta AR, KA Arndt, HM Baulch, NJ Casson, A Harpold, TL Morelli, APK Sirén, **PH Templer**. 2024. Threshold changes in winter temperature and precipitation drive threshold responses across nine global climate zones and associated biomes. *Annual Review of Ecology, Evolution, and Systematics*, in press.
- Gougherty SW*, **PH Templer**. 2024. Global patterns of nitrogen and phosphorus in reproductive and leaf litterfall. *Ecosystems*, in press.
- Nieland MA, P Lacy, SD Allison, JM Bhatnagar, D Doroski, SD Frey, K Greaney, SE Hobbie, SE Kuebbing, DB Lewis, M McDaniel, SS Perakis, SM Raciti, **PH Templer**, A Shaw, CD Sprunger, MS Strickland, LTA van Diepen, C Vietorisz, EB Ward, AD Keiser. Nitrogen deposition weakens coupled soil carbon and nitrogen dynamics across the continental United States, *Global Change Biology*, in press.
- Smith I*, **PH Templer**, L Hutrya. 2024. Water sources for street trees in mesic urban environments. *Science of the Total Environment* 908:168411.
- Templer PH**, KF Atherton*, A Conrad-Rooney*, H Ho, LR Hutrya, CF Ianniello*, DR Kashian, JI Levy, D Meshoulam, MC Urban. 2024. Strengthening graduate education and addressing environmental challenges through solutions-oriented partnerships and interdisciplinary training. *Sustainable Earth Reviews* 7:3.
- Blake K**, **PH Templer**. 2023. Interacting effects of urbanization and climate on atmospheric deposition of phosphorus around the globe: a meta-analysis. *Atmospheric Environment* 309:119940.

- Bowser G, **PH Templer**, SS Ho, SA Green, S Hautzinger, I Zhu-Maguire, A Connaughton, L Dundon, D Husic, M Urban. 2023. Fierce urgency of now: integrating the youth voice at COP. *Frontiers in Ecol & Environment* 21:164-165.
- Buckley S*, CL Connolly*, JI Levy, **PH Templer**, J Ashmore, L Carvalho, N Phillips, P Fabian. 2023. Carbon, indoor air, energy and financial benefits of coupled ventilation upgrade and enhanced rooftop garden installation: an interdisciplinary climate mitigation approach. *Sustainable Cities & Society* 97:104792.
- Caron S*, S Garvey*, J Gewirtzman, K Schultz*, J Bhatnagar, CT Driscoll, L Hutrya, **PH Templer**. 2023. Urbanization and fragmentation have opposite effects on soil nitrogen availability in temperate forest ecosystems. *Global Change Biology* 29:2156-2171.
- Conrad-Rooney E*, J Gewirtzman, Y Pappas**, VJ Pasquarella, LR Hutrya, **PH Templer**. 2023. Atmospheric wet deposition in urban and suburban sites across the United States. *Atmospheric Environment* 305:119783.
- Contosta A, C Driscoll, J Battles, **PH Templer**, G Likens, R Holmes, NL Rodenhouse, M Vadeboncouer, J Campbell, S Garlick, M Green, S Rogers, P Groffman. 2023. Early warning signals of changing resilience in the biogeochemistry and biology of a northern hardwood forest. *Environmental Research Letters* 305:119783.
- Garvey S*, **PH Templer**, JM Bhatnagar, LR Hutrya. 2023. Soils at the temperate forest edge: an investigation of soil characteristics and carbon dynamics. *Science of the Total Environment*, in press.
- Gougherty S*, B Cowart**, **PH Templer**. 2023. Macroscale variation in red maple (*Acer rubrum*) foliar carbon, nitrogen, and nitrogen resorption. *Ecosystems* 26:937-950.
- Green M, L Pardo, J Campbell, E Rosi, E Bernhardt, C Driscoll, T Fahey, N LoRusso, J Matthes, **PH Templer**. Combination of factors rather than single disturbance drives perturbation of the nitrogen. *Biogeochemistry*, in press.
- Ho SS, G Bowser, **PH Templer**, SA Green. 2023. Learning for sustainability: partnerships for the goals. *Sustainable Earth Reviews* 6:8.
- Primack R, T Miller, C Terry**, E Marin-Spiotta, **PH Templer**, A Berhe, E Diaz-Vallejo, M Hastings, V Magley, A Mattheis, B Schneider, R Barnes. 2023. Historically excluded groups in ecology are undervalued and poorly treated. *Frontiers in Ecology and the Environment* 21:363-369.
- Reeve C, JA Robichaud, T Fernandes, AE Bates, AJ Bramburger, J Brownscombe, CM Davy, HAL Henry, BC McMeans, ERD Moise, S Sharma, PA Smith, EK Studd, AO Sutton, **PH Templer**, SJ Cooke. 2023. Applied winter bio: threats, conservation, and management of biological resources during winter in cold clim regions. *Conservation Phys* 11:1.
- Rindy JE*, EA Pierce*, J Geddes, SM Garvey*, J Gewirtzman, C Driscoll, L Hutrya, **PH Templer**. Effects of urbanization and forest fragmentation on atmospheric nitrogen inputs and ambient nitrogen oxide and ozone concentrations in mixed temperate forests. *Journal Geophysical Research Biogeosciences*, in press.
- Tatsumi C, KF Atherton*, S Garvey*, E Conrad-Rooney*, LL Morreale*, LR Hutrya, **PH Templer**, JM Bhatnagar. Urbanization and fragmentation interact to drive mutualism breakdown and the rise of unstable pathogenic communities in the forest soil microbiome. 2023. *Proceedings of the National Academy of Sciences* 120:e230751920.
- Templer PH**, J Harrison*, F Pilotto, A Flores-Diaz, P Haase, WH McDowell, R Sharif*, H Shibata, D Blankman, A Avila, U Baatar, HR Bogen, I Bourgeois, J Campbell, T Dirnbock, WK Dodds, M Hauken, I Kokorite, K Lajtha, IL Lai, H Laudon, TC Lin, SRM Lins, H Meesenburg, P Pinho, A Robinson, M Rogora, B Scheler, P Schleppi, R Sommaruga, T Staszewski, M Taka. 2022. Atmospheric deposition and precipitation are important predictors of inorganic nitrogen export to streams from forest and grassland watersheds: large-scale data synthesis. *Biogeochemistry* 160:219-41.
- Blagden M**, JL Harrison*, R Minocha, R Sanders-DeMott*, S Long, **PH Templer**. 2022. Experimental changes in climate influence foliar nutrition and metabolism of red maple (*Acer rubrum*) trees in a northern hardwood forest. *Ecosphere* 13:e03859.
- Finestone J**, **PH Templer**, JM Bhatnagar. 2022. Soil fungi exposed to warming temperatures and shrinking snowpack in a northern hardwood forest have lower capacity for growth and nutrient cycling. *Frontiers in Forests and Global Change* 5:800335.
- Garvey S*, **P Templer**, E Pierce*, A Reinmann, L Hutrya. 2022. Diverging patterns at the forest edge: soil respiration dynamics of fragmented forests in urban and rural areas. *Global Change Biology* 28: 3094-3109.
- Kobayashi M, **P Templer**, A Katayama, O Seki, K Takagi. 2022. Early snowmelt by an extreme warm event affects understory more than overstory trees in Japanese temperate forests. *Ecosphere* e4182.
- Mason R, N Lany, J Craine, M Jonard, S Ollinger, P Groffman, R Fulweiler, J Angerer, Q Read, P Reich, **PH Templer**, A Elmore. 2022. Evidence, causes, consequences of declining nitrogen availability in terrestrial ecosystems. *Science* 376.
- Mason R, J Craine, N Lany, M Jonard, S Ollinger, P Groffman, R Fulweiler, J Angerer, Q Read, P Reich, **PH Templer**, A Elmore. 2022. Response to "Explanations for nitrogen decline." *Science* 376:1170.
- Guerrieri R, **P Templer**, F Magnani. 2021. Canopy exchange and modification of nitrogen fluxes in forest ecosystems. *Current Forestry Reports* 7:115-137.
- Hundertmark WJ**, M Lee**, IA Smith**, AHY Bang**, V Chen**, C Gately, **PH Templer**, LR Hutrya. 2021. Influence of landscape management practices on urban greenhouse gas budgets. *Carbon Balance and Management* 16:1.

- Rivero-Villar A, G Ruíz-Suárez, **PH Templer**, V Souza, J Campo. 2021. Nitrogen cycling in tropical dry forests are sensitive to changes in rainfall regime and nitrogen deposition. *Biogeochemistry* 153:283-302.
- Studd EK, AE Bates, AJ Bramburger, T Fernandes, B Hayden, HAL Henry, MM Humphries, R Martin, BC McMeans, ERD Moise, AM O'Sullivan, S Sharma, BJ Sinclair, AO Sutton, **PH Templer**, SJ Cooke. 2021. Nine maxims for the ecology of cold-climate winters. *BioScience* 71:820-830.
- Sutton A, E Studd, T Fernandes, A Bates, A Bramburger, SJ Cooke, B Hayden, HAL Henry, M Humphries, R Martin, B McMeans, E Moise, AM O'Sullivan, S Sharma, **PH Templer**. 2021. Frozen out: unanswered questions about winter biology. *Environmental Reviews* 29.
- Tatsumi C; F Hyodo, T Taniguchi, W Shi, F Koba, K Fukushima, S Du, N Yamanaka, **P Templer**, R Tatenno. 2021. Arbuscular mycorrhizal community in roots and nitrogen uptake patterns of understory trees beneath ectomycorrhizal and non-ectomycorrhizal overstory trees. *Frontiers in Plant Science* 11.
- Whipple S*, S Tiwari, T Osborne, G Bowser, SA Green, **PH Templer**, S Ho. 2021. Engaging the Youth Environmental Alliance in Higher Education to Achieve the Sustainable Development Goals. *Scholarship and Practice of Undergraduate Research* 5:4-15.
- Bowser G, SA Green, SS Ho, **PH Templer**. 2020. Educating students in solutions-oriented science. *Frontiers in Ecology and the Environment* 18:171.
- Garcia MO*, **PH Templer**, PO Sorensen*, R Sanders-DeMott*, P Groffman, JM Bhatnagar. 2020. Soil microbes trade-off biogeochemical cycling for stress tolerance traits in response to year-round climate change. *Frontiers in Microbiology* 11:616.
- Harrison JL*, K Schultz**, M Blagden**, R Sanders-DeMott*, **PH Templer**. 2020. Growing season soil warming may counteract trend of nitrogen oligotrophication in a Northern hardwood forest. *Biogeochemistry* 151:139-152.
- Harrison JL*, R Sanders-DeMott*, AB Reinmann*, P Sorensen*, **PH Templer**. 2020. Growing season warming and winter soil freeze/thaw cycles increase transpiration in a northern hardwood forest. *Ecology* 101:e03173.
- Harrison JL*, M Blagden**, MB Green, G Salvucci, **PH Templer**. 2020. Water sources for red maple trees in a northern hardwood forest under a changing climate. *Ecohydrology* 13:e2248.
- Harrison JL*, AB Reinmann*, A Socci Maloney*, N Phillips, SM Juice, AJ Webster, **PH Templer**. 2020. Transpiration of dominant tree species varies in response to projected changes in climate: implications for composition and water balance of temperate forest ecosystems. *Ecosystems* 23:1598-1613.
- Winbourne JB, T Jones, SM Garvey, JL Harrison*, L Wang, D Li, **PH Templer**, L Hutrya. 2020. Tree transpiration and urban temperatures: current understanding, implications, and future research directions. *BioScience* 70:576-588.

ACTIVE RESEARCH GRANT SUPPORT

- WM Keck Foundation. "Rules of Life in the Urban Biome." \$1,000,000 total. J Bhatnagar PI, J Geddes, L Hutrya, **PH Templer**, Co-PIs. 01/01/25-12/31/27).
- National Science Foundation. "Long-Term ecological research at the Hubbard Brook Experimental Forest." \$420,000 total to **PH Templer**, Co-PI; \$330,330 direct costs; \$86,664 indirect costs (03/01/23-02/28/29).
- National Science Foundation. "Climate Leaders Academy: A professional development opportunity in the Geosciences." \$301,317 total to **PH Templer**, Co-PI; \$182,616 direct costs; \$118,701 indirect costs (01/2023-12/31/2025)
- National Science Foundation. "Advancing public engagement with science across the Long-Term Ecological Research Network." \$635,157. Garlick, PI. \$29,057 total to **PH Templer**, Co-PI; \$23,061 direct costs; \$5,996 indirect costs (08/01/2022-07/31/2026).
- Department of Energy. "Linking root and soil microbial stress metabolism to watershed biogeochemistry under rapid year-round environmental change." Bhatnagar, PI, **PH Templer**, Co-PI. \$989,201 total; \$23,122 direct costs to Templer; \$15,029 indirect costs to Templer. (08/15/2021-08/14/2025)
- National Science Foundation. "Changing seasonality and declining nitrogen in the northern hardwood forest." \$538,487 to **PH Templer**, PI; \$435,662 direct costs; \$101,825 indirect costs (10/01/20-09/30/25).
- National Science Foundation. "RCN-UBE: Youth Environmental Alliance in Higher Education (YEAH)." \$50,000 total to **PH Templer**, Co-PI; \$39,682 direct costs; \$10,318 indirect costs (8/01/20-07/31/26).

INVITED SEMINARS SINCE 2021

Brookline High School, Honors Biology Classes, Brookline, MA	June 2025
Boston College, Depts of Biology and Earth & Environmental Sciences, Chestnut Hill, MA	April 2025
Aerodyne Research Inc, Billerica, MA	February 2025
Brookline High School, Climate Science and Social Change Class, Brookline, MA	November 2024
Boston University, Presidential Inauguration Research on Tap, Boston, MA	September 2024
Boston University, Office Sponsored Programs Research Luncheon, Distinguished Speaker	August 2024
Harvard University, Arnold Arboretum, DaRin Butz Internship Program	June 2024
Boston University, Epsilon Eta Pre-Professional Environmental Fraternity, Boston, MA	April 2024
Tennessee State University, Environmental Sciences Department	February 2024
Brookline High School, Climate Leaders Class, Brookline, MA	November 2023
Harvard University, Department of Organismic & Evolutionary Biology	November 2023
Harvard University, Arnold Arboretum, DaRin Butz Internship Program	June 2023
Harvard University, Atmospheric Chemistry Group, Cambridge, MA	February 2023
Brookline High School, AP Environmental Science Class, Brookline, MA	December 2022
Williams College, Department of Biology, Williamstown, MA	September 2022
Harvard University, Arnold Arboretum, DaRin Butz Internship Program	July 2022
Northern Arizona University, EcolInformatics Seminar Series	January 2022
Massachusetts General Hospital Grand Rounds Webinar Series	November 2021
Harvard Forest, Harvard University, Petersham, MA	October 2021
Brookline High School, Environmental Science Class, Brookline, MA	October 2021
City University of New York, Advanced Science Research Center, New York, NY	September 2021
Harvard University, Arnold Arboretum, DaRin Butz Internship Program	June 2021
Brandeis University National Committee, San Fernando Valley, CA Chapter	May 2021
Williams College, Department of Biology, Williamstown, MA	April 2021
Brookline High School, Environmental Science Class, Brookline, MA	April 2021

INVITED CONFERENCE LECTURES AND PANELS SINCE 2021

eLTER Science Conference, Keynote Address, Tampere, Finland	June 2025
American Geophysical Union Annual Meeting, Washington DC	Dec 2024
NPR WBUR CitySpace, Choose Your Own Climate Disaster Panelist, Boston, MA	April 2024
United Nations Conference of the Parties (COP28), Dubai, United Arab Emirates	Dec 2023
Young Voices of Science (Virtual)	March 2023
United Nations Conference of the Parties (COP27), Sharm El-Sheikh, Egypt	Nov 2022
National Science Foundation Research Traineeship (NRT) Annual Meeting	Oct 2022
Harvard Forest Symposium, Harvard Forest, Petersham, MA	Oct 2022
Technical University of Madrid Environmental Leaders Program, Boston, MA	July 2022
2022 Winter Biology Virtual Symposium (Virtual)	June 2022
U.S. Congressional Briefing (Virtual)	June 2022
Harvard Arnold Arboretum Annual Plant Biology Symposium, Boston, MA	May 2022
Boston University Experiential Learning for Social Impact Summit, Boston, MA	May 2022
Coolidge Corner Theatre – Science on Screen Series, Brookline, MA	April 2022
Harvard Forest Symposium, Harvard Forest, Petersham, MA	March 2022
Forests and Climate Science Briefing for the British Consulate (Virtual)	March 2022
Ecological Society of America – COP26 Debrief	January 2022
Climate Change & Health, Boston University Research on Tap, Boston, MA	January 2022
Road to COP26: Climate Negotiations (Virtual)	October 2021
Pushing Boundaries – Women Scientists at the Forefront of Comm Engaged Research	October 2021
Ecological Society of America, Annual Meeting in Long Beach, CA (Virtual)	August 2021
Greater Boston Area K12 Teacher Training	August 2021
Climate Science Symposium, Brookline High School	June 2021
Quincy, MA Public Library – Your Big Backyard - Quincy's Fabulous Trees Panel	January 2021