**Title:** Global synthesis of the temperature sensitivity of leaf litter breakdown in streams and rivers

J. J. Follstad Shah1,2\*, J. S. Kominoski3, M. Ardón4, W. K. Dodds5, M. O. Gessner6,7, N. A. Griffiths8, C.P. Hawkins2, S.L. Johnson9, A. Lecerf10, C. J. LeRoy11, D. W. P Manning12, A. D. Rosemond13, R. L. Sinsabaugh14, C. M. Swan15, J. R. Webster16, L. H. Zeglin5

1University of Utah, Environmental and Sustainability Studies / Department of Geography, Salt Lake City, UT 84112, 2Department of Watershed Sciences, Utah State University, Logan, UT 84322, USA, 3Department of Biological Sciences, Florida International University, Miami, FL 33199, USA, 4Department of Forestry and Environmental Resources, North Carolina State University, Raleigh, NC 27695, USA, 5Division of Biology, Kansas State University, Manhattan, KS 66506, USA, 6Department of Experimental Limnology, Leibniz-Institute of Freshwater Ecology and Inland Fisheries (IGB), 16775 Stechlin, Germany, 7Department of Ecology, Berlin Institute of Technology (TU Berlin), Ernst-Reuter-Platz 1, 10587 Berlin, Germany, 8Climate Change Science Institute and Environmental Sciences Division, Oak Ridge National Laboratory, Oak Ridge TN 37831, USA, 9Pacific Northwest Research Station, US Forest Service, Corvallis, OR 97331, USA, 10Université de Toulouse, UPS, INP, CNRS, EcoLab (Laboratoire d’Écologie Fonctionnelle et Environnement), 31062 Toulouse, France, 11Environmental Studies Program, The Evergreen State College, Olympia, WA 98505, 12School of Environment and Natural Resources, Ohio State University, Columbus, OH 43210, USA, 13Odum School of Ecology, University of Georgia, Athens, GA 30602, USA, 14Department of Biology, University of New Mexico, Albuquerque, NM 87131, USA, 15Department of Geography and Environmental Systems, University of Maryland-Baltimore County, Baltimore, MD 21250, USA, 16Department of Biological Sciences, Virginia Polytechnic Institute and State University, Blacksburg, VA 24061, USA.

\*Corresponding author: Jennifer J. Follstad Shah

E-mail: jennifer.shah@envst.utah.edu

Phone: +1 801 585-5730



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Warmer water enhances decomposition in streams and rivers, but it is unclear if more carbon will be emitted to the atmosphere or transported to the ocean with climate change. We assembled over 1000 records on leaf litter breakdown globally to assess how this process will change with elevated temperature. We found rates may increase half as much as expected should water temperature rise by 1-4 °C, with no change in the proportions of carbon converted to gas vs. smaller particles.