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Dear Ecological Society of America Early Career Fellows Award Committee,

We are writing to nominate Dr. Nicholas ("Nick") Smith as a 2022 ESA Early Career Fellow for his outstanding contributions to plant physiological ecology and commitment to equitable and open science. Nick received his Ph.D. in 2016 at Purdue University, conducted postdoctoral research at Lawrence Berkeley National Laboratory, and was hired in 2017 to his current position as an assistant professor in the Department of Biological Sciences at Texas Tech University.

Since his first publication in 2013, which has garnered 370 citations, Nick has published 47 peer-reviewed journal articles and book chapters. As of October 20, 2021, he has amassed 1771 citations, with 1655 of these citations occurring since 2016. Nick has a track record of publishing highly-cited articles in high impact journals, including *Nature*, *Nature Communications*, *Global Change Biology*, *New Phytologist*, and *Ecology Letters*. He is also an associate editor for *Frontiers in Forests and Global Change* and was an author on the 5th National Climate Assessment.

Nick's research leverages empirical and theoretical approaches to evaluate and improve the representation of photosynthetic processes in Earth system models. Specifically, Nick's work has shown that plants acclimate leaf physiological processes to temperature and carbon dioxide, and that including these predictions in Earth system models can improve model performance. Additionally, Nick has shown that photosynthetic capacity is driven by aboveground climate at a global scale and can be predicted independent of soil resource availability. He was recently awarded a National Science Foundation CAREER grant to better understand photosynthetic acclimation responses to global change and the role of soil resource availability in modifying these responses. Additionally, he is a Co-PI of the Land Ecosystem Models based On New Theory, obseRvations, and ExperimEnts ("LEMONTREE") international consortium of modelers and experimentalists that recently received $9,997,983 from the Schmidt Futures Virtual Earth Systems Research Institute to develop and rigorously test next-generation land surface models that explicitly incorporate photosynthetic acclimation terms through photosynthetic optimality theory. Nick's specific role in this group is to oversee empirical experiments that will help evaluate model performance under different environmental scenarios. Together, Nick's CAREER and LEMONTREE funds provide a unique opportunity for him to disseminate important empirical data to both the plant ecophysiological and ecological modeling community that will refine our understanding of plant responses to global change and create more robust next-generation models, all within the next five years.

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Nick is committed to transparent and openly available science. He fulfills this commitment by regularly publishing in open access journals and by always making data and code from experiments available in public repositories with traceable DOI numbers. Nick encourages his students to follow similar practices by providing them with resources to make their data publicly available and to publish in open access journals when possible. This commitment to open science has been recognized by Nick's peers at Texas Tech University, where he received an award given to faculty who are highly committed to open and transparent scientific practices.

While evident that Nick is an accomplished researcher, Nick is also an effective leader and mentor to his undergraduate and graduate students. Nick emphasizes the need for a diverse, inclusive, and equitable working environment within his lab group and more broadly throughout the Department of Biological Sciences at Texas Tech University. He is also a member of the Diversity, Equity, and Inclusion committee within his department and has worked with faculty and graduate students to create initiatives for ensuring that the department prioritizes diverse, equitable, and inclusive working environments. As part of his CAREER grant, Nick has also committed to converting both a non-majors introductory plant biology and upper-level plant physiology course to a course-based undergraduate research experience, providing research opportunities to a minority-serving institution where students may otherwise not be exposed to such research experiences.

Given the above, we strongly believe that Nick is an ideal candidate for the Ecological Society of America Early Career Fellow award.

Best regards,

Evan Perkowski, Ph.D. candidate, Texas Tech University
Jeffrey S. Dukes, Ph.D., Purdue University
Elizabeth F. Waring, Ph.D., Northeastern State University