

CURRICULUM VITAE

Thomas W. Boutton, Ph.D.

<u>Education:</u>	B.A. Biology	St. Louis University	June 1973
	M.S. Biology	University of Houston	June 1976
	Ph.D. Botany	Brigham Young University	December 1979

Professional Experience:

2020-now	Professor, Dept Ecology & Conservation Biology, Texas A&M University
1994-2020	Professor, Dept Ecosystem Science & Management, Texas A&M University
1987-1994	Associate Professor, Dept Rangeland Ecology & Management, Texas A&M
1985-1987	Assistant Professor, Dept Pediatrics, Baylor College of Medicine
1983-1985	Instructor, Dept Pediatrics, Baylor College of Medicine
1982-1983	Postdoctoral Fellow, Dept Pediatrics, Baylor College of Medicine
1980-1982	Postdoctoral Fellow, Dept Biology, Augustana College

Honors and Awards:

Regents Professor Emeritus, Texas A&M University, 2023
Fellow, Ecological Society of America, 2021
Sid Kyle Endowed Chair in Semi-Arid and Arid Land Biogeochemistry, Texas A&M, 2017
Senior Faculty Fellow, Texas A&M AgriLife Research, 2010
Regents Professor, Texas A&M University System, 2006
Outstanding Achievement Award, Society for Range Management, 2004
Leu Distinguished Lecturer, University of Nebraska, 2004
Fellow, Texas Agricultural Experiment Station, 2003
Fellow, Soil Science Society of America, 2001
Fellow, American Society of Agronomy, 2001
Royal Society of Chemistry Lecturer, 1997 and 1999
Stapledon Lecturer, Biotechnology and Biological Sciences Research Council, UK, 1999

Key Extramural Funding:

Boutton TW, Zhou Y. 2016-2018. Woody plant encroachment into grasslands: Impacts on landscape-scale 3-dimensional spatial patterns of soil C, N, and P storage and dynamics. **NSF Ecosystem Studies Program** (DEB/DDIG-1600790).
Ahmed, I, Boutton TW, Strom KB. 2011-2016. Hydrologic influences on soil organic carbon loss monitoring using stable isotopes. **USDA/NIFA-CBG Program** (2011-38821-30970).
Fillely T, Boutton TW, Stott D. 2005-2010. *Collaborative Research*: Impacts of vegetation change on stabilization and microbial accessibility of soil organic matter: A microbiological, isotopic, and molecular study. **NSF Biogeosciences Program** (EAR-0525349).

Professional Activities:

Co-Director, Stable Isotope Biogeochemistry Laboratory: Department of Ecosystem Science and Management, TAMU. Lab consists of 3 isotope ratio mass spectrometers, 2 elemental analyzers, a gas chromatograph, and sample preparation equipment. This lab has supported the research of approximately 60 faculty, postdocs, and graduate students from TAMU and other universities, 1987 – present.

Member, Mass Spectrometry Collaborative Core, Texas A&M University. This university-wide core unit facilitates the investigation of complex chemical, biological, and environmental phenomena by offering stable isotope-ratio analyses, the characterization of synthetic molecules and polymers, and the study of complex biomolecules including proteins, 2016-present.

Associate Department Head for Graduate Programs, Department of Ecosystem Science and

Management, Texas A&M University, College Station, TX.
Advisory Panel Member: National Science Foundation, Washington, DC, 2008 – 2015.

Key Recent Publications:

- Zhang Q, Boutton TW, Hsiao CJ, Mushinski RM, Wang L, Bol R, Klumpp E. 2023. Soil colloidal particles in a subtropical savanna: Biogeochemical significance and influence of anthropogenic disturbances. *Geoderma* 430: 116282, doi.org/10.1016/j.geoderma.2022.116282.
- Kjeldgaard MK, Eyer PA, McMichael CC, Bockoven AA, King JT, Hyodo A, Boutton TW, Vargo EL, Eubanks MD. 2022. Distinct colony boundaries and larval discrimination in polygyne red imported fire ants (*Solenopsis invicta*). *Molecular Ecology* 31: 1007-1020.
- Ansley RJ, Boutton TW, Hollister EB. 2021. Can prescribed fires restore C₄ grasslands invaded by a C₃ woody species and a co-dominant C₃ grass species? *Ecosphere* 12: e03885. 10.1002/ecs2.3885.
- McDonald MD, Lewis KL, DeLaune PB, Boutton TW, Reed JD, Gentry TJ. 2021. Nitrous oxide consumption potential in a semi-arid agricultural system: Effects of conservation soil management and nitrogen timing on *nosZ* mediated N₂O consumption. *Frontiers in Environmental Science* 9: 702806. doi: 10.3389/fenvs.2021.702806.
- Zhou Y, Taylor RJ, Boutton TW. 2021. Divergent patterns and spatial heterogeneity of nutrients in a complex and dynamic savanna landscape. *Journal of Geophysical Research: Biogeosciences* 126: e2021JG006575; doi.org/10.1029/2021JG006575.
- Zhou Y, Hyodo A, Boutton TW. 2021. Ecosystem sulfur accumulation following woody encroachment drives a more open S-cycle in a subtropical savanna. *Biogeochemistry* 155: 343-355.
- Deshpande AG, Boutton TW, Lafon CW, Moore GW. 2020. Bottomland hardwood forest growth and stress response to hydroclimatic variation: Evidence from dendrochronology and tree-ring $\delta^{13}\text{C}$ values. *Biogeosciences* 17: 5639–5653.
- Veldman JW, Aleman JC, Alvarado ST, Anderson TM, Archibald S, Bond WJ, Boutton TW, Buchmann N, Buisson E, Canadell JG, et al. 2019. Comment on the global tree restoration potential. *Science* 366 (6463): doi: 10.1126/science.aay7976.
- Mushinski RM, Gentry T, Boutton TW. 2018. Organic matter removal associated with forest harvest leads to decade-scale alterations in soil fungal communities and functional guilds. *Soil Biology and Biochemistry* 127: 127-136.
- Zhou Y, Boutton TW, Wu XB. 2018. Soil C:N:P stoichiometry response to vegetation change from grassland to woodland. *Biogeochemistry* 140: 341-357.
- Zhou Y, Boutton TW, Wu XB. 2018. Soil phosphorus does not keep pace with soil carbon and nitrogen accumulation following woody plant encroachment. *Global Change Biology* 24: 1992-2007.
- Zhou Y, Boutton TW, Wu XB. 2018. Woody plant encroachment amplifies spatial heterogeneity of soil phosphorus to considerable depth. *Ecology* 99: 136-147.
- Hinson AL, Feagin RA, Eriksson M, Najjar RG, Herrmann M, Bianchi TS, Kemp M, Hutchings JA, Crooks S, Boutton TW. 2017. The spatial distribution of soil organic carbon in tidal wetland soils of the continental United States. *Global Change Biology* 23: 5468-5480.
- Zhou Y, Boutton TW, Wu XB. 2017. Soil carbon response to woody plant encroachment: Importance of spatial heterogeneity and deep soil storage. *Journal of Ecology* 105: 1738–1749
- Mushinski RM, Gentry TJ, Dorosky RJ, Boutton TW. 2017. Forest harvest intensity and soil depth alter inorganic nitrogen pool sizes and ammonia oxidizer community composition. *Soil Biology and Biochemistry* 112: 216-227.