

Michael W. Palace

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Summary

I am an environmental scientist focusing the interdisciplinary aspects of geospatial science and remote sensing, such as the terrestrial carbon cycle, vegetation dynamics, landscape ecology, and snow characterization using field measurements, remote sensing, and geospatial science. My research ranges from field studies of vegetation structure to the use of satellite imagery in an effort to predict disease, understand forest dynamics, and find and interpret past human settlement patterns. At UNH, I was the coordinator for the Environmental Science interdisciplinary undergraduate major and was the faculty lead the Graduate Geospatial Science Certificate Program. For six years, I have been on the executive committee of the interdisciplinary graduate degree program at UNH titled Natural Resource and Earth System Science (NRESS). I am or have been a Principal Investigator on twelve major remote sensing projects, eight completed and four active. My research has received external funding from NASA, NSF, USAID, USDA, USGS, and DOD. I am actively developing an Unmanned Aerial System (UAS) center and have deployed UAS systems for five different field projects around the globe. As a previous affiliate faculty at the University of Brasilia, I have aided and hosted visiting Brazilian PhD students. I am a former TEDx speaker, where my talk focused on the creative aspects of science the interdisciplinary aspects of scientific studies. At UNH, I teach graduate and undergraduate courses in geospatial science, remote sensing, environmental science, and tropical ecology. I have been active member in the scientific community, leading sessions at conferences, reviewing papers for multiple journals, and serving on review panels for NASA, NSF, and DOE. I also served on NASA Data Review Panels and DOE planning campaigns. Production of electronic music and audio field recording, as a semi-professional, is a focus of my creative outlet. My music has been used in documentaries and podcasts. I have numerous albums under the pseudonym “horchata” and have made many field recordings during my trips to Amazonia and other locations. Field recordings have been used in podcasts for NASA and for a botanical garden at the Stuttgart Zoo. Recently, I have been using modified image sensors to track the body movements of dancers in real-time and in three dimensions, while converting the data to sound and music. This effort has resulted in improvisation dance/music performance, an art installation, and use in a STEAM day event at a local elementary school.

Education

2006 Ph.D., Natural Resources and Earth System Science, University of New Hampshire
1995 M.S., Environmental Science, University of Virginia
1992 B.A., Double Major, Archaeology and Environmental Science, University of Virginia

Ph.D Dissertation Committee: George Hurtt, Michael Keller, John Aber, Steve Frolking, Herman Hank Shugart

Ph.D. Dissertation Title – Tropical Forest Structure: Ground Measurements of Coarse Necromass and Satellite Observations of Crown Geometry

M.S. Thesis Committee: Tom Smith, John Porter, Herman Hank Shugart

Ms Thesis Title – A Multivariate Analysis of Habitat Selection by the Mantled Howler Monkey (*Alouatta palliata*)

Professional Experience

2015-present **Associate Professor**, Department of Earth Sciences, UNH
2014-present **Research Associate Professor**, Earth System Research Center, Institute for the Study of Earth Oceans and Space, UNH
2018 **Interim Chair**, Natural Resources and Earth System Science (NRESS), Phd program, UNH
2012-2018 **Coordinator** for the Environmental Science Interdisciplinary Undergraduate Major, UNH
2012-2016 **Faculty Coordinator** for the Graduate Certificate in Geospatial Sciences, UNH
2012-2014 **Faculty Fellow and Co-chair** for the Ecosystem and Biodiversity Task Force, Sustainability Academy, University of New Hampshire, Durham, NH
2009-2014 **Research Assistant Professor**, Earth System Research Center, Institute for the Study of Earth Oceans and Space, UNH
2008-2009 **Research Scientist III**, Institute for the Study of Earth Oceans and Space, Durham, University of New Hampshire, New Hampshire
2008 **Research Scientist**, Environmental Change Institute, School of Geography and the Environment, Oxford University, UK
2003-2008 **Research Scientist II**, Institute for the Study of Earth Oceans and Space, University of New Hampshire, Durham, NH
2005-present **Independent Consulting**, Portsmouth, NH
2004 **Teaching Assistant**, Global Biological Change, Department of Natural Resources, University of New Hampshire
1999-2003 **Research Associate II**, Institute for the Study of Earth Oceans and Space, University of New Hampshire, Durham, NH
1997-1999 **Environmental Scientist**, Science Applications International Corporation (SAIC), McClean, VA
1997-2005 **Multi-Media Designer and Co-Founder of Electronic Media Group**, Zero1Media, Inc.
1995-1997 **Chesapeake Research Consortium Fellow**, US EPA's Chesapeake Bay Program Office, Annapolis, MD
1992-1995 **Research Assistant**, Department of Environmental Sciences, University of Virginia
1995 **Teaching Assistant**, Department of Environmental Sciences, UVa
1994 **Lab and Teaching Assistant**, Electronic Music Lab, University of Virginia
1992 **Research and Teaching Assistant**, School for Field Studies, Primate Ecology and Conservation, Costa Rica
1987-1988 **Research Volunteer**, Marine Systems Laboratory, Smithsonian Institute, Washington, D.C.

Peer Reviewed Scientific Publications (*student or postdoc lead)

- *Hastings, J.H., Ollinger, S.V., Ouimette, A.P., Sanders-DeMott, R., Palace, M.W., Ducey, M.J., Sullivan, F.B., Basler, D., Orwig, D.A. (2020) Tree Species Traits Determine the Success of LiDAR-Based Crown Mapping in a Mixed Temperate Forest. *Remote Sensing*, 12, 309. doi: 10.3390/rs12020309.
- Howey, MCL, FB Sullivan, MB Burg, **MW Palace** (2020), Remotely Sensed Big Data and Iterative Approaches to Cultural Feature Detection and Past Landscape Process Analysis. *Journal of Field Archaeology* 45 (sup1), S27-S38
- Kiage LM, Howey M, Hartter J, and **M Palace**. (2020). A late Holocene record of human impacts on tropical environments from non-pollen palynomorphs, Albertine Rift, western Uganda. *Quaternary Research* 93 (1), 172-186
- Hartter, J., Hamilton, L. C., Ducey, M. J., Boag, A. E., Salerno, J. D., Christoffersen, N. D., Oester, P.T., **Palace, M.W.**, Stevens, F. R. (2020). Finding common ground: Agreement on increasing wildfire risks crosses political lines. *Environmental Research Letters*. <https://doi.org/10.1088/1748-9326/ab7ace>
- *Burke SA, Wik M, Lang A, Contosta AR, **Palace MW**, Crill PM and RK Varner (2019). Long-Term Measurements of Methane Ebullition From Thaw Ponds. *Journal of Geophysical Research: Biogeosciences* 124 (7), 2208-222.
- Diem, JE, HS Sung, BL Konecky, **MW Palace**, J Salerno, J Hartter. (2019). Rainfall Characteristics and Trends—and the Role of Congo Westerlies—in the Western Uganda Transition Zone of Equatorial Africa From 1983 to 2017. *Journal of Geophysical Research: Atmospheres*, 124 (20), 10712-10729
- Palace, M.**, C. Herrick, J. DelGreco, D. Finnell, A. Garnello, C. McCalley, K. McArthur, F. Sullivan, R. Varner. (2018) Determining Subarctic Peatland Vegetation Using an Unmanned Aerial System (UAS). *Remote Sensing*, 10(9), 1498. doi:10.3390/rs10091498.
- Melendy, L., S.C. Hagen, F.B. Sullivan, T.R.H. Pearson, S.M. Walker, P. Ellis, Kustiyo, Ari Katmoko Sambodo, O. Roswintiarti, M.A. Hanson, A.W. Klassen, **M.W. Palace**, B.H. Braswell, G.M. Delgado. (2018) Automated method for measuring the extent of selective logging damage with airborne LiDAR data. *Journal of Photogrammetry and Remote Sensing*, 139, 228-240, <https://doi.org/10.1016/j.isprsjprs.2018.02.022>.
- Hartter, J., LC Hamilton, AE Boag, FR Stevens, MJ Ducey, ND Christoffersen, PT Oester, **MW Palace** (2018). Does it matter if people think climate change is human caused? *Climate Services*, 10, 53-62

*Dowhaniuk, N., J. Hartter, S.J. Ryan, **M.W. Palace**, R.G. Congalton (2018). The Impact of Industrial Oil Development on a Protected Area Landscape: Demographic Change and Corporate Social Responsibility at Murchison Falls Conservation Area, Uganda. *Population and Environment*. 39(3), 197-218.

*A Boag, J Hartter, L Hamilton, N Christoffersen, F Stevens, **M Palace**, M Ducey. Climate change beliefs and forest management in eastern Oregon: implications for individual adaptive capacity. (2018), *Ecology and Society* 23 (4).

*Salerno, J., Chapman, C.A., Diem, J.E., Dowhaniuk, N. Goldman, A., MacKenzie, C. A., Omeja, P.A., **Palace, M.W.**, Reyna-Hurtado, R., Ryan, S.J., Hartter, J. (2018). Park isolation in anthropogenic landscapes: land change and livelihoods at park boundaries in the African Albertine Rift. *Regional Environmental Change*, 18(3), 913-928. doi.org/10.1007/s10113-017-1250-1

Palace MW, C. N. H. McMichael, B. Braswell, S. Hagen, M. Bush, E. Neves, E. Tamanaha, C. Herrick, S. Froelking (2017). Ancient Amazonian populations left lasting impacts on forest structure. *Ecosphere*, 8(12), e02035, doi:10.1002/ecs2.2035

Sullivan, F, M. Ducey, B. Cook, D. Orwig, **M. Palace** (2017). Comparison of lidar- and allometry-derived canopy height models in an Eastern deciduous forest. *Forest Ecology and Management*, 406, 83-94. doi.org/10.1016/j.foreco.2017.10.005

*Boag, AE, J Hartter, LC Hamilton, FR Stevens, MJ Ducey, **MW Palace**, NChristoffersen, and PT Oester. (2017). Shifting environmental concern in rural eastern Oregon: The role of demographic, place-based, and exogenous factors. *Population and Environment*, 2017, 38: 207-216.

*Algeo TP, Slate D, Caron RM, Atwood T, Recuenco S, Ducey M, Chipman RB, **Palace M**, (2017). Modeling raccoon (*Procyon lotor*) habitat connectivity to identify potential corridors for rabies spread. *Tropical Medicine and Infectious Disease* 2 (3), 44

Froelking S, S Hagen, B Braswell, T Milliman, C Herrick, S Peterson, D Roberts, Michael K, **M Palace**. (2017). Evaluating multiple causes of persistent low microwave backscatter from Amazon forests after the 2005 drought. *PLoS one* 12 (9), e0183308

Kiage, L. M. Howey, J. Hartter, **M. Palace** (2017). Paleoenvironmental change in tropical Africa during the Holocene based on a record from Lake Kifuruka, western Uganda. *Journal of Quaternary Science*, doi.org/10.1002/jqs.2986

Hartter, J., Lawrence C. Hamilton, Angela E. Boag, Forrest R. Stevens, Mark J. Ducey, Nils D. Christoffersen, Paul T. Oester, **Michael W. Palace** (2017). Does it matter if people think climate change is human caused? *Climate Services*. doi.org/10.1016/j.cliser.2017.06.014

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- Ryan, S. J., **Palace, M.W.**, Hartter, J., Diem, J.E., Chapman, C.A., Southworth, J. (2017). Population pressure and global markets drive deforestation in Africa's Albertine Rift. *Applied Geography*, 81, 52-59.
- *Boag, Angela E., Joel Hartter, Lawrence C. Hamilton, Forrest R. Stevens, Mark J. Ducey, **Michael W. Palace**, Nils Chistoffersen, and Paul T. Oester. (2017). Shifting environmental concern in rural eastern Oregon: The role of demographic, place-based, and exogenous factors. *Population and Environment*, 38: 207-216.
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- Palace, M. W.**, Sullivan, F. B., Ducey, M. J., Herrick, C. (2016). Estimating Tropical Forest Structure Using a Terrestrial Lidar. *PLoS ONE*, 11(4), e0154115.
- Howey, M.C.L., **Palace, M.**, and C. McMichael (2016). Geospatial Modeling Approach to Monument Construction Using Michigan from AD 1000-1600 as a Case Study. *Proceedings of the National Academy of Science* 113(27): 7443-7448, 2016. doi: 10.1073/pnas.1603450113.
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- Hamilton, L. C., Hartter, J. N., Keim, B. D., Boag, A. E., **Palace, M. W.**, Stevens, F. R., Ducey, M. J. (2016). Wildfire, climate, and perceptions in Northeast Oregon. *Regional Environmental Change*, 1–14. DOI 10.1007/s10113-015-0914-y.

- Palace M**, FB Sullivan, MJ Ducey, C Czarnecki, J Zanin Shimbo, Jonas Mota e Silva (2015). Estimating forest structure in a tropical forest using field measurements, a synthetic model and discrete return lidar data. *Remote Sensing of Environment*, 161, 1-11. doi:10.1016/j.rse.2015.01.020.
- Bush, Mark, Crystal McMichael, Dolores Piperno, Miles Silman, Jos Barlow, Carlos Peres, Mitchell Power, **Michael Palace** (2015). Anthropogenic influence on Amazonia forests in pre-history: An ecological perspective. *Journal of Biogeography*. doi:10.1111/jbi.12638
- *Pellissier, P., S. Ollinger, L. Lepine, **M. Palace**, W. McDowell (2015). Remote sensing of foliar nitrogen in cultivated grasslands of human dominated landscapes. *Remote Sensing of Environment*, 167, 88-97. doi:10.1016/j.rse.2015.06.009
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- Hartter, J., Sadie Ryan, **Michael Palace**, Abe Goldman, Nicholas Dowhaniuk, Jeremy Diem, Colin A. Chapman (2015). Now there is no land: a story of ethnic migration in a protected area landscape in western Uganda. *Population and Environment*. doi: 10.1007/s11111-014-022.
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- *McMichael, C., **M. Palace**, M.B. Bush, B. Braswell, S.C. Hagen, M. Silman, C. Czarnecki, E. Neves, (2014). Terra preta distribution in Amazonia, *Proceedings of the Royal Society B*. doi: 10.1098/rspb.2013.2475.
- Howey, M., **Palace, M.**, McMichael, C.H., Braswell, B. (2014). Moderate-resolution remote sensing and geospatial analyses of microclimates, mounds, and maize in the northern Great Lakes. *Advances in Archaeological Practice*, doi 10.7183/2326-3768.2.3.195.
- Sullivan, FB, **Palace M**, MJ Ducey. (2014). Multivariate statistical analysis of asynchronous lidar data and vegetation models in a neotropical forest. *Remote Sensing of Environment*. doi: 10.1016/j.rse.2014.04.027
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doi:10.1111/btp.12095
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- Diem, J.E., J. Hartter, S.J. Ryan, and **M.W. Palace** (2014). Validation of satellite rainfall products for western Uganda. *Journal of Hydrometeorology*, 15, 2030-2038.
- *McMichael, C.H., **Palace, M.**, Golightly, M., (2014). Associations between geoglyph formation and bamboo-dominated forests in western Amazonian forests, *Journal of Biogeography*.
doi:10.1111/jbi.12325
- Urrego, D.H., Bush, M.B., Silman, M.R., Niccum, B.A., De la Rosa, P., McMichael, C., Hagen, S., **Palace, M.** (2013). Western Amazonia: Holocene histories of extreme events, fire and ecotonal stability. *Journal of Biogeography*. doi: 10.1111/jbi.12016
- Palace, M.**, M. Keller, S. Frohking, H. Hurtt (2012). A review of above ground necromass in tropical forests. In Tropical Forests. Editors Dr. Padmini Sudarshana, Dr. Madhugiri Nageswara-Rao, and Dr. Jaya R. Soneji, ISBN 978-953-307-954-7.
- *McMichael C.H., M B. Bush, M.R. Silman, D.R. Piperno, M. Raczka, L.C. Lobato, M. Zimmerman, S. Hagen and **M. Palace** (2012). Historical fire and bamboo dynamics in western Amazonia. *Journal of Biogeography*. doi: 10.1111/jbi.12002
- Frohking, S., S. Hagen, T. Milliman, **M. Palace**, J.Z. Shimbo, M. Fahnestock.(2012). Estimating deforestation rates of pan-tropical humid forests 2000-2009 with the SeaWinds Ku-band scatterometer. *IEEE Transactions on Geoscience and Remote Sensing* 50: 2603-2617,
doi: 10.1109/TGRS.2011.2182516.
- Frohking, S., T. Milliman, **M. Palace**, D. Wisser, R. Lammers, Mark Fahnestock (2011). SeaWinds microwave scatterometer detects 2005 Amazonian forest drought. *Remote Sensing and Environment* 115: 897-907.
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- Frohking, S., **M. Palace**, D.B. Clark, J.Q. Chambers, H.H. Shugart, G.C. Hurtt, (2009). Forest disturbance and recovery - a general review in the context of space-borne remote sensing of impacts on aboveground biomass and canopy structure. *J. Geophys. Res.*, 114, G00E02, doi:10.1029/2008JG000911.

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Reports

Ducey Mark, **Michael Palace**, Franklin Sullivan, Ethan Blair, Joel Hartter, Paul T. Oester (2018). Unmanned Aerial Vehicles (Drones): How they operate and their potential for improving your forest and rangeland management. OSU Extension Catalog. <https://catalog.extension.oregonstate.edu/em9190>

Joel Hartter, Lawrence Hamilton, Mark Ducey, Angela Boag, Nils Chistoffersen, Ethan Belair, Paul Oester, Michael Palace, Forrest Stevens (2017). Drier Conditions, More Wildfire, and Heightened Concerns About Forest Management in Eastern Oregon. Carsey School of Public Policy, University of New Hampshire, Durham, NH.

Boag, Angela E., Joel Hartter, Lawrence C. Hamilton, Forrest R. Stevens, Mark J. Ducey, **Michael W. Palace**, Nils Chistoffersen, and Paul T. Oester. (2015) Forest Views Shifting Attitudes Toward the Environment in Northeast Oregon. Carsey Research, National Issue Brief #81, Spring 2015

Archived Data

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Melendy, L, S Hagen, FB Sullivan, T Pearson, SM Walker, P Ellis, KA Kustiyo, O Roswintiarti Sambodo, M Hanson, AW Klassen, **MW Palace**, BH Braswell, GM Delgado, SS Saatchi, A Ferraz (2017). CMS: LiDAR Data for Forested Sites on Borneo Island, Kalimantan, Indonesia, 2014. ORNL DAAC, Oak Ridge, Tennessee, USA

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Asner, G.P., **M.W. Palace**, M.M. Keller, M. Pereira, J. Silva, and J.C. Zweede. (2012). LBA-ECO TG-07 Tree Geometry in an Undisturbed Forest in Cauaxi, Para, Brazil. ORNL DAAC, Oak Ridge, Tennessee, USA. <https://doi.org/10.3334/ORNLDAAAC/1063>

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Rice, A.H., E.P. Hammond, S.R. Saleska, L.R. Hutyrá, **M.W. Palace**, M.M. Keller, P.B. de Camargo, K. Portilho, D. Marques, and S.C. Wofsy. (2007). LBA-ECO CD-10 Forest Litter Data for km 67 Tower Site, Tapajos National Forest. ORNL DAAC, Oak Ridge, Tennessee, USA. <https://doi.org/10.3334/ORNLDAAAC/862>

Rice, A.H., E.P. Hammond, S.R. Saleska, L.R. Huttyra, **M.W. Palace**, M.M. Keller, P.B. de Camargo, K. Portilho, D. Marques, and S.C. Wofsy. (2007). LBA-ECO CD-10 Ground-based Biometry Data at km 67 Tower Site, Tapajos National Forest. ORNL DAAC, Oak Ridge, Tennessee, USA. <https://doi.org/10.3334/ORNLDAAC/854>

Government Documents

Palace, M.W., J.E. Hannawald, L.C. Linker, G.W. Shenk, J.M. Storricks, and M.L. Clipper. 1998. Chesapeake Bay Watershed Model Application and Calculation of Nutrient and Sediment Loadings. Appendix H: Tracking Best Management Practice Nutrient Reductions in the Chesapeake Bay Program. EPA 903-R-98-009, CBP/TRS 201/98.U.S. Environmental Protection Agency Chesapeake Bay Program, Annapolis, MD.

Palace, M.W. Principal Author, Chesapeake Bay Watershed Model, Appendix I: Phase IV Chesapeake Bay Watershed Model - Operations Manual, Fall 1998.

Funding History (Awarded)

Smoke on the Water: Lake-based calibration of Amazonian fire histories. NASA ROSES – Interdisciplinary Research in Earth Science (IDS), PI - **Michael Palace**, (\$594,986), 6/1/20 - 5/31/23.

RII Track-2 FEC: Computational Methods and Autonomous Robotics Systems for Modeling and Predicting Harmful Cyanobacterial Blooms. NSF-EPSCoR. PI – Alberto Li (Dartmouth), Senior Personnel – **Michael Palace**. (\$5,995,790), 9/1/19 - 8/31/23.

Dynamic Modeling of Ecosystem Processes and Services in North American Boreal Forests within the ABoVE Study. NASA – Artic Boreal Vulnerability Experiment (ABoVE). PI – David Lutz (Dartmouth), **Co-I – Michael Palace**, 5/1/2019-4/30/21 (\$687,239).

Cold Regions Operations and Assessment Research- Snow – BAA- US Army Core of Engineers - W912HZ-16-BAA-01. PI Jennifer Jacobs, Co-I **Michael Palace**, (\$1,119,291), 2/1/2018-1/31/2020.

TIGERS II: Transformative Investigations of Geospatial, Environmental, and Social Sciences. PI- Jeannie Sowers, PI-**Michael Palace**, UNH Collaborative Research Excellence (CoRE), Co-Is – Sara Wolper, Christina Herrick, Katherine Duderstadt, (\$30,000), 6/1/2018-5/31/2019.

Surveying the Anthropocene through Geochemical, Genetic and Geospatial Analyses (SAG3A). UNH Collaborative Research Excellence (CoRE). PIs-Meghan Howey, Michael Palace, Co-Is – Julia Bryce, Adrienne Kovach. (\$30,000), 6/1/2018-5/31/2019.

Understanding the Role of Congo Moisture in Rainfall Variability and Forecast Information Used by Smallholder Farmers in the Uganda Rift. NSF-Geography and Geospatial Science. J. Diem - PI & **Palace**, Hartter, Konecky - Co-Is. (\$399,998) (9/1/2017 – 8/31/2020).

Landscape-Scale Detection and Analysis of Dispersed Physical Food Storage Archaeological Features. NSF-Archaeology. M. Howey - PI & **M. Palace** - Co-I. \$146,646 (7/1/17 - 6/30/19).

From Archaea to the Atmosphere: Integrating Microbial, Isotopic and Landscape-Scale Observations to Quantify Methane Emissions from Global High-Latitude Ecosystems - NASA IDS - PI Ruth Varner, Co-I **Michael Palace**, (\$1,500,000), 6/1/17 - 5/31/20.

Interactive effects of catchment and climate change on water quality in forested north temperate lakes: Historic trends and future predictions. NASA IDS -Lead by Dartmouth, **UNH** co-I **Michael Palace**, (\$1,500,000), 6/1/17 - 5/31/20.

TIGERS: Transformative Investigations of Geospatial, Environmental and Social Sciences (faculty lead: Jeannie Sowers, political science) – UNH Collaborative Research Excellence (CoRE), PI- Jeannie Sowers, PI-**Michael Palace** (\$10,000), 6/1/2017-5/31/2018.

TIGERS: Transformative Investigations of Geospatial, Environmental and Social Sciences (faculty lead: Jeannie Sowers, political science) – Murkland Interdisciplinary Scholars Teams (MIST), PI- Jeannie Sowers, PI- **Michael Palace** (\$2,500), 6/1/2017-5/31/2018.

Examining the Spatial and Temporal Ecology of Vector-Borne Lyme Disease, NH Department of Health and Human Services. **Michael Palace** (PI). (\$60,000). 5/3/17-7/31/17.

Hyperspectral Remote Sensing of Mercury in Vegetation, NASA EPSCoR R&TI. **Michael Palace** (PI), Julia Bruce (Co-I), Ruth Varner (Co-I). (\$20,000). 9/1/16-12/31/16.

Biological Diversity Influence. NSF-MacroSystems Biology. Ollinger, S. V. (Principal), **Palace, M. W.** (Co-I), (\$1,474,551.00), 1/1/17 - 12/31/21.

Collaborative Research: Towards a Mechanistic Prediction of Methane Ebullition Fluxes from Northern Peatlands. NSF Hydrologic Sciences (w/ R. Varner – UNH - PI) **MW Palace** (co-I). (\$201,351), 6/1/16 - 5/31/19.

Detection of Mercury using Hyperspectral Data. NASA-ESPCoR RID. **Michael Palace** (PI), Julia Bryce and Ruth Varner (co-Is). (\$20,000). 9/1/16-12/31/16.

Acquiring a Lightweight Hyperspectral Sensor to Improve Spectral and Spatial Imaging Capacity. ESRC Hubbard Endowment. PI-Frankie Sullivan, Lucie Lepine, Co-Is Scott Ollinger, **Michael Palace**. (\$28,000). 6/15/2016.

Drought-induced vegetation change and fire in Amazonian forests: past, present, and future. NASA- Interdisciplinary Research in Earth Science (NASA-IDS). **MW Palace** (PI), Co-Is- H. Asbjornsen (UNH), M. Bush (FIT), B. Braswell (AGS), M. Ducey (UNH), S. Frohling (UNH), M. Keller (USDA), C. McMichael (FIT), D. Morton (NASA-Goddard), D. Roberts (UCSB). (\$1,944,730), 11/1/13-10/31/16.

- Climate Change Adaptation in Working Landscapes of the Intermountain Northwest. USDA-AFRI. J. Hartter (PI), **MW Palace** (Co-I), Mark Ducey (Co-I), Larry Hamilton (Co-I), \$900,000, 1/1/14 - 12/31/16.
- Operational multi-sensor design for national scale forest carbon monitoring to support REDD+ MRV systems. NASA - Carbon Monitoring System: Continuing Prototype Product Development, Research, and Scoping. S Hagen (PI), **MW Palace** (Co-I). Co-Is, W. Salas, B. Braswell, S. Brown, N. Harris, S. Saatchi, D. Lawrence, J. Blair. (\$1,788,547), 8/1/2013 – 7/31/2016.
- Collaborative Research: Investigating northern peatland methane dynamics by synthesizing measurements, remote sensing and modeling from local to regional to continental scales. NSF MacroSystems Biology. (w/ R. Varner – UNH - PI) **MW Palace** (co-I) (\$1,640,045) 2/1/13 - 1/31/16.
- Using Spatial and Genetic Tools to Understand Functional Connectivity in a Patchy Landscape - NSF – Geography and Geospatial Science (A. Kovack – PI, **MW Palace** (Co-I), (\$75,000) 6/1/13 - 5/31/15.
- Estimating forest structure and change using high resolution lidar. USAID (**MW Palace – PI**, M. Keller – Co-I) (\$30,000 - Augmentation) 12/1/12-11/30/13.
- Estimating forest structure and change using high resolution lidar. USAID (**MW Palace – PI**, M. Keller – Co-I) (\$147,591) 12/1/12-11/30/13.
- Mounds, Microclimates, and Maize: Understanding the Influence of Inland Lakes on Agriculture in Pre-contact Indigenous Societies using Remote Sensing Image Data – NASA Space Archaeology. **MW Palace** (PI), M Howey, M Bush, C McMichaels, S Hagen, B Braswell. Estimated Budget (\$378,364). (05/01/12 - 4/30/15).
- Collaborative Research: Long-term Anthropogenic Influences on the Crater Lake Environmental Landscape of Western Uganda. M. Jointly funded by NSF BCS – Archaeology and Geography and Geospatial Sciences. Howey (PI), **MW Palace**, J. Hartter, P. Schmidt, L. Kiage. (\$23,660) 8/1/12 - 7/31/13.
- Iola Hubbard Climate Change Endowment (\$20,000) - Development of paleoecological research (5/01-12 – 10/1/12).
- Tropical Moist Forest Structure and Biomass Estimation from Simultaneous InSAR at X-band (TanDEM-X), Small- and Large-Spot Lidar, and Field Measurements. – NASA Terrestrial Ecology Program. Robert Treuhaft (PI), Joao Santos, Luciano Dutra, Fabio Goncalves, Michael Keller, **Michael Palace**, Scott Hensley, Paulo Maurício de Alencastro Graca. Estimated Budget (\$750,000) (05/01/12 - 4/30/15).
- UNH Class of 1941 Professorship Award (\$21,000). Award honors a UNH faculty member for outstanding teaching and research or public service.

Promoting Wonder and Innovation in Learning: Design and Implementation of a Graduate Certificate in Geospatial Science. PI- Michael Routhier (EOS), Lead Graduate Faculty- **Michael Palace** (EOS), Co-Is- Shane Bradt (Coop Ex), Russell Congalton (NR/COLSA), Mark Ducey (NR/COLSA), Mark Fahnestock (EOE/CEPS), Stephen Hale (Leitzel Center), Larry Hamilton (Sociology/COLA), Jennifer Jacobs (CIE/CEPS), Ernst Linder (Math/CEPS), Mary Martin (EOS), Barry Rock (EOS/COLSA), Fay Rubin (EOS), Joseph Salisbury (EOS/CEPS), Harlan Spence (EOS), Steve Wineberg (MATH/CEPS), Douglas Vandemark (EOS/CEPS), and Cameron Wake (EOS/CEPS). \$54,000.

CI-TEAM Demo: Cyber-Infrastructure Digital Education and Research (CIDER) (w/ A. Schloss – PI, **M. Palace** and J. Beaudry - Co-Is) – NSF CI-TEAM. (10/1/11 - 9/30/13) \$249,973.

Hotter Hotspots: Land use intensification and protected area vulnerability in Africa's Albertine Rift – NSF Dynamics of Coupled Natural and Human Systems (CNH). (\$249,956). PI Joel Hartter, Co-Is – **Michael Palace**, Colin Chapman, Sadie J. Ryan, Jeremy Diem. (06/01/11 - 5/31/13).

Ebullition of Methane from Flooded Environments: Measurements and Scaling. PI- Ruth Varner, EOS, Co-I – **Michael Palace**, EOS. New Hampshire Space Grant Consortium at UNH, NASA Space Grant Research Development Award. – (\$10,000).

Experiential Student Learning and Collaborative Research: Understanding Tropical Ecosystem Responses to Climate Change from Leaves to Landscapes. Heidi Asbjornsen, COLSA. **Michael Palace**, EOS. UNH-NSF-ADVANCE Program's "Collaborative Scholarship Advancement Award" – (\$40,000).

Landscapes, Networks, & Social Resource Decisions: Using Geospatial Technologies to Create Long-Term Models of Firewood Use - New Ventures Research Leverage Proposal, **Michael Palace**, Meghan Howey, Joel Hartter, Joe Lugalla -(\$48,289).

Engaged Scholars Academy Grant, University of New Hampshire. **Michael Palace**. Audio Field Recording and Digital Sound Processing for Junior High Students (\$400) (2010-2011).

Characterizing the frequency and chemistry of ebullitive events in flooded ecosystems – USGS (\$60,000) – PI Ruth Varner, Co-I **Michael Palace** (8/23/10-8/22/11).

Modeling the Impacts of Major Forest Disturbances on the Earth's Coupled Carbon-Climate System, and the Capacity of Forests to Meet Future Demands for Wood, Fuel, and Fiber. NASA - NNH09ZDA001N-IDS: Interdisciplinary Research in Earth Science. G Hurtt (PI), **Michael Palace**, Douglas Morton, Ralph Dubayah, Steve Frolking, Anthony Janetos, James Edmonds, Peter Thornton, Jeffrey Chambers, Elena Shevliakova, George Collatz. Estimated Budget (\$1,754,788) (09/01/10 - 08/31/14).

Development of a global database of height and biomass allometric equations that can aid in estimating biomass using spaceborne lidar - Scaling Forest Biometric Properties in Amazonia – NASA Terrestrial Ecology – Augmentation (\$62,990) – PI **Michael Palace** and Michael Lefsky (CSU), Co-I Mark Ducey.

Estimation of tropical forest structure using multiple remote sensing platforms and field based data, **Michael Palace** (PI). NASA – NNH09ZDA001N-NIP. New Investigator Program in Earth Science. (\$360,000) (9/1/2010 – 8/31/2014).

Analysis and Detection of Amazonian Black Earth Sites using Hyperspectral Satellite Imagery, **Michael Palace** (PI), Co-I Stephen Hagen (AGS), Mark Bush (Florida Institute of Technology), Eduardo Goes Neves (University of Sao Paulo) NASA- Space Archaeology (\$365,697) (9/1/2010 - 8/31/2013).

Enhancing Research and Education Capacity for Integration of Earth Observations, Infectious Diseases Ecology and Public Health in New Hampshire. D Bartlett (PI), **MW Palace** (Science PI). NASA - Experimental Program to Stimulate Competitive Research (EPSCoR). (\$749,221). (2007-2010).

A Historical Reconstruction of Vegetation Change and a Carbon Budget for the Brazilian Cerrado Using Multiple Satellite Sensors and Historical Aerial Photography, **MW Palace** (PI). NASA Carbon Science NNH07ZDA001N-CARBON. (\$864,518) (2/1/07 - 4/30/11).

Scaling Forest Biometric Properties Derived from High Resolution Imagery to the Amazon Basin using Moderate Resolution Spectral Reflectance Data, **MW Palace** (PI). NASA – Terrestrial Ecology NNH07ZDA001N-TE. (\$442,439) (2/1/07 - 2/30/11).

Popular Press

2018 – Work on UAS and cyanobacteria highlighted NH Public Radio, September 4th. “Researchers Recruit Drones, Satellites in Quest to Understand Cyanobacteria.”
<https://www.nhpr.org/post/researchers-recruit-drones-satellites-quest-understand-cyanobacteria#stream/0>

2018 – Work on UAS and cyanobacteria highlighted Dartmouth Newspaper

2018 – Work on cyanobacteria highlighted NH Public Radio, July 11th. “Researchers Hit N.H. Lakes in Effort to Understand Local Cyanobacteria Blooms.”
<https://www.nhpr.org/post/researchers-hit-nh-lakes-effort-understand-local-cyanobacteria-blooms>

2018 – Work on UAS and cyanobacteria highlighted in UNH Research Magazine: Spark, March

2018 – Work on methane ebullition highlighted in UNH Research Magazine: Spark, March

2018 – Detailed article and interview in article titled: Soil and Satellites Are Telling a New Story About Ancient Civilizations in the Amazon – Atlas Obscura – March

2018 – Work highlight in article titled: Human Impact on Forest Still Evident After 500 Years – Technology.org – January

2018– Work highlight in article titled: Researchers Find Human Impact on Forest Still Evident After 500 Years– labmanager.com – January

2018– Work highlight in article titled: Researchers Find Human Impact on Forest Still Evident After 500 Years – Archaeology New Network– January

2018– Work highlight in article titled: UNH Researchers Find Human Impact on Forest Still Evident After 500 Years – Science Codex– January

2018– Work highlight in article titled: UNH Researchers Find Human Impact on Forest Still Evident After 500 Years – Environmental New Network– January

2018– Work highlight in article titled: human impact on forest still evident after 500 years– sciencedaily.com – January

2017 - Work on initial stages of project on cyanobacteria highlighted NH Public Radio. October 6, 2017. <https://www.nhpr.org/post/researchers-study-toxic-algae-blooms-nh-lakes>

2017 - Work on initial stages of project on cyanobacteria highlighted Valley News, NH. October 2, 2017. <https://www.vnews.com/Dartmouth-Researchers-Get-NASA-Grant-to-Study-Lakes-12811800>

2017 – Press release for Ecosphere publication on Amazonian Dark Earths detection using satellites

2016 - Magazine, UNH. Photos used on cover and inside of SPARK. Research highlighted

2015 - Magazine. (2015). Work highlighted in UNH Research Magazine

2016 - Magazine, UNH. Photos used on cover and inside of SPARK. Research highlighted

2014 – Interviewed for Science article titled “Ecosystems Say 'Pass the Salt!'” - Science 31 January 2014: 472-473. [DOI:10.1126/science.343.6170.472]

2013-2014 – Working with Ive Van Krunkelsven, filmmaker, on section of documentary “Infiltrating Science.” Featuring use of Unmanned Aerial Systems (UAS) to characterize mire vegetation in Sweden. Part of Ruth Varner’s, NERU and NSF Macroscale Biology project. Documentary will also feature musical compositions by **Michael Palace**.

2014 – Interviewed for Science article titled “Searching for the Amazon's Hidden Civilizations” – Science January 7, 2014.

2012 – Article on Lyme disease and Remote Sensing in the Tin Mountain Newspaper, Conway, NH.

2012 – Article in EOS Spheres about postdoc’s work and about Space Archaeology and Remote Sensing.

2011 – Interviewed on NH NPR program “The Exchange” with Laura Knoy about Lyme Disease and Ecology.

2011 – Article in UNH Magazine about Lyme Disease.

2010 – Article on UNH Website about Space Archaeology and Remote Sensing.

2010 – Article in EOS Spheres, UNH on Space Archaeology

2010 – Article in “The Wire, Portsmouth, NH” about Space Archaeology, Remote Sensing and Amazonia.

2001 – Geospatial Solutions Magazine – Wrote article titled “Geospatial in the Jungle – Logging in the Amazon.”

Awards

USDA Two Chiefs Award – for collaborative work among the USDA Forest Service, the USDA Natural Resources Conservation Service, and UNH – 2015.

UNH Class of 1941 Professorship Award – award honors a UNH faculty member for outstanding teaching and research or public service - 2012.

Member of the Engaged Scholars Academy at the University of New Hampshire 2010-2011.

Graduate Student Travel Grant Award 2004, Used to attend the Gordon Conference on Theoretical Biology and Biomathematics, Tilton, NH. Presented poster titled “Examination of Networks, Synchronization, and Critical Population Sizes based a Model Simulating *Ficus* trees and their obligate Wasp Pollinator.”

The Computerworld Smithsonian Awards, For Heroic Achievement in Information Technology, U.S. Environmental Protection Agency, Chesapeake Bay Program Office, In Recognition of your Visionary use of Information Technology in the Field of Environment, Energy and Agriculture, June 4, 1996.

Chesapeake Research Consortium Fellowship, Annapolis, MD 1995-1997.

Outstanding Graduate Student in Ecology, Department of Environmental Sciences, University of Virginia, 1993-1994.

Member of Sigma Gamma, the Earth Science Honor Society, 1992.

Public Outreach and Education

Field recording sounds of Amazon used in NASA's Curious Universe podcast, Ep. 1: Only on Earth, April 13, 2020 (<https://www.nasa.gov/curiousuniverse>).

Panel member for the Research and Engagement Academy 2018-2020. Panel discussion in developing your research portfolio and interdisciplinary research.

Member of Little Harbor Elementary School, NH, STEAM Day Planning Committee (2018-2020)

Developed a visualization using an oscilloscope and audio of the Milankovitch cycles for education. Available at <https://unh.app.box.com/file/632710941513>.

Music used in Joe Public Speaking Podcast. Series 1: Opioid Addiction; Dean Lemire interview, part 1. Intro & middle - Horchata, "vespermillionoldea", "emballonuroidea". Apr 20, 2020 · 38 min. (<https://podcasts.apple.com/us/podcast/series-1-opioid-addiction-dean-lemire-interview-part-1/id1510180744?i=1000472658903>)

Invited Speaker at Library Science Boot Camp. Drones and Big Data: How Library Science Can Aid. June 2019. 2019 New England Science Boot Camp for Librarians. UNH, Durham, NH.

Talk and tour of research facilities to visiting Russian delegation through

Organized the Department of Earth Science Brown Bag Lunch Seminar Series, Fall 2019.

Mentored new faculty, Fabian Kislak, Department of Physics & Astronomy, UNH through the Research and Engagement Academy, Spring 2019.

Talk at UNH Reunion – Sustainability and Environmental Science, From the Tropics to the Tundra: UNH's role in environmental science and sustainability, June 2, 2018

STEAM Day, Little Harbor Elementary School, NH. Cores for understanding Earth System Science, May 2018

Panel Conversation: Sounds: Wendy Jacob, Michael Palace, and Daniel R. Howard, UNH Art gallery, March 2018

Talk at UNH MIST meeting on how to build collaborative research, March 2018

Talk at UNH CORE meeting on research highlights, February 2018

Talk at GIS Day 2017 – November UNH. Art and GIS.

Talk at Little Harbor Elementary School, NH, October 2017, on Maps and Drones - Discussed work with Fourth Grade Class.

Talk on Unmanned Aerial Vehicles (UAS) use for water quality estimates and cyanobacteria.
Lake Sunapee Protection Association. August 2017, Sunapee, NH.

Talk at GIS Day 2016 – November UNH. Remote sensing of ancient archaeological sites.

Talk at Girls in Technology, College of Engineering and Physical Sciences, March 2017, UNH –
Discussed work on UAS work and mapping for environmental science.

Talk at Brixham Montessori Friends School May 2016, on Tropical Ecology. - Discussed work
with Kindergarten Class and 3-4 Grade Class.

On successful search committee for a GIS/Earth Science Librarian, Fall 2015.

Three town hall talks given in Eastern Oregon presenting project and findings from CAFOR
(Communities and Forests in Eastern Oregon), cafor.weebly.com, May 2015.

Talk at Little Harbor Elementary School, NH, May 2015, on Maps and Drones - Discussed
work with First and Third Grade Classes.

Talk at Brixham Montessori Friends School May 2015, on Drones and Vegetation. - Discussed
work with Kindergarten Class and 3-4 Grade Class.

Chaired a biogeoscience session of the American Geophysical Union Conference 2014, San
Francisco, CA. Session Title: Forests and Drought: Vulnerability and Resilience, Past,
Present and Future.

Talk at Portsmouth High School, June 18, 2014, on Tropical Ecology in conjunction with a
student's project on parasitic fungi and ants.

Talk at Child Study and Development Center, Durham, NH, May 2014, on Light, Cameras, and
Drones - Discussed work with Kindergarten Class.

Talk at Brixham Montessori Friends School, April 2014, on Plant growth and water.

TEDx speaker at TEDxPiscataquaRiver, May 3, 2013. "Science is a mash-up. Why idea sharing
makes science so productive."

Talk at Seacoast Science Café, February 13, 2013. "Don't go outside, don't stay inside: Lyme
disease and lead poisoning.

Chaired a remote sensing section of the US Regional Association of the International
Association for Landscape Ecology Conference 2013, Austin, TX.

Talk given about remote sensing and archaeological research to Forest Watch participants 2013
UNH.

Talk given about remote sensing and tropical ecology to visting Rotary Group from Niger, at UNH 2013.

Faculty Fellow and Ecosystem TaskForce Co-Chair for the Sustainability Institute, UNH.

Iola Hubbard Climate Change Endowment Review Panel, ESRC, UNH.

Talk given about remote sensing and archaeological research to Forest Watch participants 2012 UNH.

Talk given about remote sensing and archaeological research to Women's Country Group participants 2012 UNH.

2011 Workshop Participant in NASA-LBA-ECO Data Review Panel.

2010-2011, Member of the NASA Terrestrial Ecology Field Campaign Workgroup.

Executive Council Member of the Natural Resource and Earth System Science PhD. Program at UNH (2011-2014).

Gave talk to school children about ecology and animals depicted in paintings by Dahlov Ipcar, "Lions, Tigers, and Animals Galore! Family Program at Museum of Art, UNH.

Discussion leader and participator in the Department of Energy's GOAmazon 2014 Workshop, 2011.

Participant in "Center for Excellence in Geosciences Education," New Ventures Research Leverage Grant, 2011.

Participant in "Incubating Interdisciplinary Sustainability Science Research at UNH," New Ventures Research Leverage Grant, 2011.

Project Proposal to Hydrophonia 5 – A conference on hydrophone (underwater microphone) use in science and art. FERMENTS - Fen Experimental Research in Methane: Ebullitive NeTwork Sensors, 2011.

Worked and hosted, Julia Shimbo, a graduate student from the Federal University of Brasilia, visiting in February 2011 to April 2011 examining Chagas disease and prediction of outbreaks using remote sensing techniques. (2nd visit).

Worked and hosted, Sabrina do Couto de Miranda, a graduate student from the Federal University of Brasilia, visiting in Fall 2011 examining Cerrado (savanna) vegetation integrating remote sensing techniques and field data.

Talk give at Complex System Research Center Lunch Seminar. Title: How Dungeons and Dragons made me a better researcher? I am not wearing my +3 headband of intellect. (November 2010).

Chaired a Special Session of the American Geophysical Union's Meeting of the Americas, 2010 Foz do Iguacu, Brazil, Titled "Remote Sensing Applications in Seasonally Dry Tropical Ecosystems."

Member of the Planning Committee for for Interdisciplinary Science and Engineering Symposium, Undergraduate Research Conference, University of New Hampshire 2011.

Talk at Oyster River High School for a series called the Power of One. Title: Space Forestry, Audio Recording and Electronic Music (June 2010).

Talk for Seacoast Academy, Hampton Falls, NH in May on Ecology and Sustainability for 6th and 7th grade classes (May 2010).

Worked and hosted Julie Melling, a graduate student from the University of Utrecht, the Netherlands, examining Secondary Tropical Forest through the Integration of Remote Sensing and Modeling. (MS Thesis completed).

Worked and hosted a graduate student from the Federal University of Brasilia, visiting in February 2010 examining Chagas disease and prediction of outbreaks using remote sensing techniques.

Worked on a project as part of the Member of the Engaged Scholars Academy at the University of New Hampshire on teaching audio field recording and digital signal processing to middle school students (Spring and Fall 2010).

Organized and lead an Eco-Epidemiological Workshop here at the University of New Hampshire. Workshop will focus on Chagas disease, Lyme disease, and Rabies in an ecological context using field data and remote sensing techniques (February 2010).

Member of the Planning Committee for Interdisciplinary Science and Engineering Symposium, Undergraduate Research Conference, University of New Hampshire 2010.

Judge for Interdisciplinary Science and Engineering Symposium, Undergraduate Research Conference, University of New Hampshire 2009.

Judge for Interdisciplinary Science and Engineering Symposium, Undergraduate Research Conference, University of New Hampshire 2008.

Music developed for a documentary on Climate Change. "Out of Balance: ExxonMobil's Impact on Climate Change" on Joe Public Films 2006.

Talks given to various Elementary Schools (Rye, NH and Barrington, NH) on Tropical Ecology and Remote Sensing (2004-2006)

Wrote general science article titled "Geospatial in the Jungle: Logging in the Amazon," Geospatial Solutions, 11(3) 2001.

Wrote general science article on necromass sampling using power drills for Milwaukee Power Tool Company Newsletter, 2001.

Oral Presentation Given to Stuart's Draft High School, VA about Tropical Studies, Statistics, and Ecological Methods (1995).

Talk given a Canterbury Wood Elementary School, VA 1994 on Hydrology and Evaporation.

Talks given a Canterbury Wood Elementary School, VA in 1992 and 1994 on Tropical Ecology and Conservation.

Oral Presentation Given to Area School Teachers at Eco-Connections about General Ecology and Tropical Ecology and How Best to Implement Teaching these in a Classroom Setting, Charlottesville, VA 1992.

Reviewer

Nature, Plant and Soil, Ecosystems, Remote Sensing Applications: Society and Environment , Journal of Tropical Forestry Science, Climate Change, Animal Conservation, PLOS One, Plant Ecology and Diversity, Journal of Anthropological Archaeology, Ecosphere, Journal of Biogeography, Journal of Anthropological Archaeology, Journal of Archaeological Science, Photogrammetric Engineering and Remote Sensing, Ecology Letters, Ecological Applications, Forest Ecology and Management, Canadian Journal of Forest Research, Global Change Biology, Remote Sensing of Environment, Remote Sensing, JGR-Biogeosciences, Biogeosciences, Journal of Applied Ecology, Journal of Ecology, Biotropica.

Membership

Member of Proposal Review Panel for NASA –Remote Sensing Theory 2020

Member of Proposal Review Panel for NASA – Carbon Monitoring System 2019

Member of NSF Macrosystem Biology Review Panel 2017

NASA Review Panel for Workshops 2016.

Reviewer for 2017 IEEE International Geoscience & Remote Sensing Symposium (IGARSS 2017).

Member of Proposal Review Panel for Department of Energy - Terrestrial Carbon Cycle Research Program.

Member of Proposal Review Panel for NASA – The Science of Aqua and Terra 2013

Member of Proposal Review Panel for NASA – The Science of Aqua and Terra 2009

Member of Proposal Review Panel for NASA – Carbon Science Program.

Member of Proposal Review Panel for NASA – Earth Science Fellowship Program 2012.

Student Advising (*Chair) (12 current students, 23 graduated)

- * Melissa Clark (PhD) – UNH – Natural Resource and Earth System Science Program
- * Brigid Ferris (MS) – UNH - Earth Science
- * Brian Taetzsch (MS) – UNH – Earth Science
- *Brittani Chapman (MS) – UNH – Earth Science
- Florencia Fahnestock (PhD) – UNH – Natural Resource and Earth System Science Program
- Maria Adele Fenwick (PhD) – UNH – Natural Resource and Earth System Science Program
- Mina Aghababaei Shahrestani (MS) – UNH – Department of Civil and Environmental Engineering
- Alexandra Evans (PhD) – UNH – Natural Resource and Earth System Science Program
- Melissa Bauer (PhD) – UNH – Natural Resource and Earth System Science Program
- Florencia Prado (PhD) – UNH – Natural Resource and Earth System Science Program
- Emma Burkett (MS) – UNH – Earth Sciences
- Angela Boag (PhD) – University of Colorado Boulder – Environmental Studies Program
- Sophia Burke (PhD) – UNH – Natural Resource and Earth System Science Program (graduated)
- Shannon Stag (MS) – UNH – Department of Civil and Environmental Engineering (graduated)
- *Jessica DelGreco (MS) - Earth Science (graduated)
- Jose Gutierrez-Lopez – UNH – Natural Resource and Earth System Science Program (graduated)
- Olivia Bartlett (PhD) – UNH – Natural Resource and Earth System Science Program (graduated)
- Robert Colter (PhD) – UNH – Natural Resource and Earth System Science Program (graduated)
- James Perkins (MS) – UNH – Natural Resource Program (graduated)
- Chris Horruitiner (MS) - Earth Science (graduated)
- Melissa Bauer (MS) – UNH – Natural Resource Program (graduated)
- Laura Storch (PhD) – UNH – Integrated Applied Mathematics Program (graduated)
- Nick Dowhaniuk (MS) – UNH – Natural Resource Program (graduated)
- Carrie Vuyovich (PhD) – UNH - Natural Resource and Earth System Science Program (graduated)
- Taylor Hodgdon (MS) - Earth Science (graduated)
- Ethan Heil (MS) – University of Virginia – Environmental Science (graduated)
- *Tim Algeo (PhD) – UNH – Natural Resource and Earth System Science Program (graduated)
- Stephanie Coster (PhD) – UNH – Natural Resource and Earth System Science Program (graduated)
- Fernando Santo (PhD) – UNH – Natural Resource and Earth System Science Program (graduated)
- Jillian Lennartz (MS) – UNH – Earth Science (graduated)
- Julia Shimbo (PhD) – University of Brasilia, Brazil – Ecology (graduated)
- Sabrina do Couto de Miranda (PhD). University of Brasilia, Brazil – Ecology (graduated)
- Katrina E Papanastassiou (MS) – UNH – Biology Program (graduated)
- Paul Pellisser (MS) – UNH – Natural Resource Program (graduated)
- Samantha Roddy (MS) – UNH – Earth Science (graduated)

Student Independent Studies (undergraduate)

Brendan Garvey, 2020. Reconstruction of the Terceira Magma Plumbing System. Winner of Earth Science Section of the UNH Undergraduate Research Conference.

Tessa Murphy, 2020. Using high resolution topography derived from LiDAR to characterize pre-historical indigenous cache pits. Work is being developed into a paper.

Jessica DelGreco, 2016. Independent Research - Characterization of Vegetation Change in a Sub-Arctic Mire using Remotely Sensed Imagery, Undergraduate Research Conference.

Dylan Schiff, Independent study and Capstone Project. Winner of the Stem Award for the ISE-URC conference 2015.

Jessica DelGreco, 2013 and 2014, 2015. Independent Research - Estimating Anthropogenic Influence in Tropical Forests Using Charcoal, Undergraduate Research Conference. Honorable mention for the 2014 poster.

Victoria Goulet, 2014, Capstone Environmental Science – Tree disease and maximum entropy modeling

KJ Schelling, 2014, Capstone Environmental Science – Lyme disease and maximum entropy modeling

Samantha Anderson, 2014, Capstone Environmental Science – Mire vegetation characterization

Anthony Guidice, 2014, Capstone Environmental Science – Vegetation classification in an agricultural system

Students Mentored on four students on three NSF-REU field program campaigns – Northern Ecosystems Research for Undergraduates – Samatha Anderson (UNH), Michael Lyne (UCSB), Anthony Garnello (Arizona), Dan Finnell (VCU). Supervised multiple years of student groups with numbers up to fourteen, during the three years of the REU.

Teaching Experience (full course)

Proposal Development for Graduate Students, ESCI 998, Spring 2020.

Earth in Film. ESCI 451 (non-science major undergraduate course). Co-taught with Julie Bryce. Spring 2020.

Brendan Garvey, 2020. INCO 790. Reconstruction of the Terceira Magma Plumbing System. Winner of Earth Science Section of the UNH Undergraduate Research Conference.

Tessa Murphy, 2020. INCO 790. Using high resolution topography derived from LiDAR to characterize pre-historical indigenous cache pits. Work is being developed into a paper.

Top/Geospatial Network Analysis, GSS 896, Spring 2020, Independent Study with graduate student Onni Irish – Using least cost path to find the best route to lay oceanic fiber optic cable

Independent Study, Nicholas Moore, ESCI 896.08, Examining the vernal window using remote sensing data and the influence on rodent populations in a New England Forest.

Geographical Information Systems for Earth and Environmental Science, ESCI 777/877, Fall 2019 (graduate and undergraduate course).

Top/Geospatial Network Analysis, GSS 899, Spring 2019, Independent Study with graduate student Onni Irish – Working on Python Code to covert old fiber optic cable installment plans in the ocean into a geospatial database.

Remote Sensing for Earth and Environmental Science, ESCI 778/878, Spring 2019 (graduate and undergraduate course).

Top/Geospatial Network Analysis, ESCI 896.08, Spring 2019, Independent Study with graduate student Mina Aghababaei Shahrestani

Geographical Information Systems for Earth and Environmental Science, ESCI 777/877, Fall 2018 (graduate and undergraduate course).

Geographical Information Systems for Earth and Environmental Science, ESCI 795/895, Fall 2017 (graduate and undergraduate course).

Remote Sensing for Earth and Environmental Science (undergraduate/graduate course). Spring 2017.

Earth in Film. ESCI 451 (non-science major undergraduate course). Spring 2017.

Advanced Topics in Remote Sensing Studies – Using Google Earth Engine to Examine Glaciers, MS Student Independent Study, Fall 2016

Earth in Film. ESCI 451 (non-science major undergraduate course). Co-taught with Julie Bryce. Spring 2016.

Geographical Information Systems for Earth and Environmental Science, ESCI 795/895, Fall 2015 (graduate and undergraduate course). Co-taught.

Environmental Science NR791 Capstone Environmental Science Course, Spring 2013, 2014, 2015

Introduction to Environmental Science NR403 – Environmental Science Course, Fall 2012, 2013, 2014

Tropical Ecology NR784/884 – Natural Resource and Environment Course in Fall 2013, Co-taught with Heidi Asbjornsen (graduate and undergraduate course)

Advanced Topics in Remote Sensing Studies – Lidar, NRESS Investigation, Spring 2013

Professional Perspectives in Natural Resources NR400 – Environmental Science Course, Fall 2012, 2013, 2014

Tropical Ecology NR784/884 – Natural Resource and Environment Course in Spring term 2012, Funding acquired from NSF-ADVANCE grant. Co-taught with Heidi Asbjornsen

Teaching Experience (guest lecturer)

Guest Lecturer in Tropical Ecology NR784/884 – Natural Resource and Environment Course in Spring 2020, two lectures (graduate and undergraduate course)

Guest Lecturer in Tropical Ecology NR784/884 – Natural Resource and Environment Course in Spring 2018, one lecture (graduate and undergraduate course)

Guest Lecturer in Tropical Ecology NR784/884 – Natural Resource and Environment Course in Spring 2017, one lecture (graduate and undergraduate course)

Guest Lecturer in Global Change Biology ESCI 405. On biodiversity. Spring 2017.

Guest Lecturer in Geographical Information Systems for Earth and Environmental Science, ESCI 795/895, Fall 2016 (graduate and undergraduate course). (graduate and undergraduate course).

Guest Lecturer in Tropical Ecology NR784/884 – Natural Resource and Environment Course in Fall 2016, three lectures (graduate and undergraduate course)

Guest Lecturer in Tropical Ecology NR784/884 – Natural Resource and Environment Course in Fall 2015, five lectures (graduate and undergraduate course)

Guest Lecturer in Monitoring Forest Health NR782/882 – Natural Resource and Environment Course in Fall 2013, (graduate and undergraduate course)

Guest Lecturer for Landscape Archaeology (Dept. of Anthropology, COLA, UNH).

Guest Lecturer for Data Analysis Methods in Earth System Science (Dept. of Earth, Ocean and Space, UNH).

Guest Lecturer for Advanced Remote Sensing Methods in Earth System Research (Dept. of Earth, Ocean and Space, UNH).

Guest Lecturer for Advanced Remote Sensing II (Dept. of Earth, Ocean and Space, UNH).

Teaching Assistant for Global Biological Change (Dept. of Natural Resources, UNH).

Teaching Assistant for Ecology Lab (Dept. of Environmental Sciences, UVA).

Ecological Modeling Lab (single lab session) (Dept. of Environmental Sciences, UVA).

Lab and Teaching Assistant, Electronic Music Lab, University of Virginia.

Teaching Assistant for Independent Study for two undergraduates (Dept. of Environmental Sciences, UVA).

Teaching Assistant for Primate Ecology and Conservation (2- one month long courses) (School for Field Studies, Costa Rica).

Mentored various graduate and undergraduate students while at the University of Virginia and the University of New Hampshire.

Membership

American Geophysical Union (AGU)

Ecological Society of America (ESA)

Association of American Geographers (AAG)

US Regional Association of the International Association for Landscape Ecology (US-IALE)

American Association for the Advancement of Science (AAAS)

Institute of Acoustic Ecology (No longer functioning)

Presentations (Oral and Poster Presentations at Professional Conferences)

Poster by DA Lutz, X Yang, M Lerdau, MW Palace, A Foster, HH Shugart Pixel to Process to Price: A Framework for Remote Sensing Ecological Model Fusion Analyses for Ecosystem Service Evaluation, AGUFM 2019, B23K-2451, San Francisco, 2019.

Poster by KA Bennett, SA Burke, CK McCalley, J DelGreco, MW Palace, PM Crill, ...Using stable isotopes to determine dominant methane production pathways of thaw ponds in a subarctic peatland, AGUFM 2019, B23M-2589, San Francisco, 2019.

Poster by SA Burke, AL Perry, AM Padilla, MW Palace, T Weber, A Persson, PM Crill, ...Listen for the Pop: The capture and quantification of ebullitive methane from thaw ponds using a high frequency acoustic bubble trap system, AGUFM 2019, B43E-07
2019

Poster by BL Konecky, J Diem, MW Palace, J Salerno, J Hutchings, J Hartter. Evaluation of triple oxygen isotopes in daily East African precipitation as a potential tracer of recycled continental moisture. AGUFM 2019, PP22A-03, San Francisco, 2019.

Poster by AG Hunsaker, JM Jacobs, MW Palace, F Sullivan, E Burakowski, ...Spatial Patterns of Snow Depth Observed from Unmanned Aerial Vehicle (UAV) Mounted LiDAR System, AGUFM 2019, C33E-1626, San Francisco, 2019.

Poster by CK McCalley, JH Shorter, AL Perry, MW Palace, ME Hines, C Li, ...High-resolution stable isotope measurements elucidate vegetation and climate drivers of CH₄ metabolism in a temperate wetland. AGUFM 2019, B13J-2416, San Francisco, 2019.

Poster by DA Lutz, H Rubin, B Steele, MJ Ducey, KL Cottingham, MW Palace, ...Harnessing Machine Learning and Citizen Science Data to Improve Remotely Sensed Estimates of

- Lake Water Clarity and Document Regional Clarity Trends. AGUFM 2019, GC31N-1402, San Francisco, 2019.
- Invited Talk at NASA Terrestrial Ecology Meeting, Titled “Drought-Induced Vegetation Change and Fire in Amazonian Forests: Past, Present, and Future” September 2019, College Park, MD
- Keynote Speaker at NEARC. From the Tropics to the Tundra: Geospatial Science as an Integrating Subject. May 2019, Keene State College, Keene, NH.
- Talk at Earth Science Brown Bag Lunch Seminar. Titled “Drought-Induced Vegetation Change and Fire in Amazonian Forests: Past, Present, and Future” Fall 2019.
- Invited Talk by Michael Palace, Meghan Howey, Franklin Sullivan. Geospatial “Big Data” in Archaeology and the Enduring Challenge of Anthropological Significance. April 2019 Society of American Archaeology, Albuquerque, New Mexico.
- Poster by Michael W Palace, Jessica Lynn DelGreco, Franklin Sullivan, Christina Herrick, Ruth K Varner. Earth, Wind and Mire: Utilizing low sun angle to enhance topographic estimation related to vegetation cover classes and methane flux. AGU Fall Meeting, 2018, Washington, DC.
- Talk by Carmody K McCalley, Louis J Lamit, Joanne H Shorter, Patrick M Crill, Sari Juutinen, Tuula Larmola, Michael W Palace, Virginia Isabel Rich, Ruth K Varner. Integrating Microbial and Isotopic Observations to Characterize Methane Emissions from Global High-Latitude Peatlands. AGU Fall Meeting, 2018, Washington, DC.
- Poster by Vanessa Eyre Kane Pinney, David A Lutz, Mark J Ducey, Kathryn L Cottingham, Kathleen C Weathers, Christina Herrick Michael W Palace, Bethel Steele, Franklin Sullivan, Jennifer Brentrup, Jessica Volan Trout-Haney, Kenneth A Johnson. Chlorophyll-a Detection for 317 Maine Freshwater Lakes Through the Use of Archived Data from LANDSAT Satellite Imagery, 23,000 in situ Samples, and Google Earth Engine. AGU Fall Meeting, 2018, Washington, DC.
- Talk by Clarice R Perryman, Michael W Palace, Jessica DelGreco, Avni Malhotra, Ruth K Varner. Rapid Permafrost Collapse Spurs Changes in Methane Oxidation (Invited) AGU Fall Meeting, 2018, Washington, DC.
- Poster by Jack Hastings, Franklin Sullivan, Scott V Ollinger, Andrew Ouimette, Michael W Palace. Using Aircraft Remote Sensing to Map Tree Species Distribution at Harvard Forest, Massachusetts, USA. AGU Fall Meeting, 2018, Washington, DC.
- Poster by Ruth K Varner, Christopher Daniel Horruitiner, Michael W Palace, Martin Wik, Joel E Johnson. Autochthonous carbon from submerged aquatic vegetation fuels methane production in lake sediments. AGU Fall Meeting, 2018, Washington, DC.
- Poster by Kathryn A Bennett, Sophia A Burke, Carmody K McCalley, Michael W Palace, Patrick, Ruth K Varner. Using stable isotope analysis of methane in the bubbles and

- sediment porewater of ponds to determine methane production pathways. AGU Fall Meeting, 2018, Washington, DC
- Poster by Franklin Sullivan, Michael W Palace, Jessica Lynn DelGreco, Christina Herrick, Sophia A Burke, Louis J Lamit, Ruth K Varner. Vegetation Characterization of UAS-borne Hyperspectral Imagery from an Arctic peatland in Central Interior Alaska. AGU Fall Meeting, 2018, Washington, DC
- Talk at the Earth Science Brown Bag, Predicting Fire Ignition in eastern Oregon using Maximum Entropy Modeling. UNH, Durham. NH. Fall 2018
- Talk at Earth System Research Center Lunch Series, Conjunction, Junction, Networks Function: Using graph theory in environmental science. UNH, Durham, NH 2018
- Invited Discussant for Session Titled, Seeing the Forest for the Trees: Perspectives in Reconstructing Past Forest Cover for Studying Climate and Human-Environment Interaction, AAG, 2018 New Orleans.
- Talk, Michael Palace, Joel Hartter, Angela Boag, Mark Ducey, Lawrence Hamilton, Forrest Stevens, Nils Christoffersen, Paul Oster. Predicting Fire Ignition in Eastern Oregon using Maximum Entropy Modeling, AAG, 2018 New Orleans.
- Talk, Michael W Palace, Jessica DelGreco, Christina Herrick, Franklin Sullivan, Ruth K Varner. Characterizing sub-arctic peatland vegetation using height estimates from structure from motion and an unmanned aerial system (UAS). AGU Fall Meeting, 2017, New Orleans.
- Talk, Franklin Sullivan, Scott V Ollinger, Michael W Palace, Andrew Ouimette, Rebecca Sanders-DeMott and Lucie C Lepine. Field- and Remote Sensing-based Structural Attributes Measured at Multiple Scales Influence the Relationship Between Nitrogen and Reflectance of Forest Canopies. AGU Fall Meeting, 2017, New Orleans.
- Talk, Ruth K Varner, Michael W Palace, Scott R Saleska, Benjamin Bolduc, Bobby H Braswell, Patrick M Crill, Jeff Chanton, Jessica DelGreco, Jia Deng, Steve E Frolking, Christina Herrick, Mark E Hines, Changsheng Li, Kellen J McArthur, Carmody K McCalley, Andreas Persson, Nigel T Roulet¹, Nathan Torbick, Gene W. Tyson and Virginia Isabel Rich. Scaling isotopic emissions and microbes across a permafrost thaw landscape. AGU Fall Meeting, 2017, New Orleans.
- Poster, Ruth K Varner, Joanne Goelzer, Richard Levergood, Franklin Sullivan, Michael W Palace, James F Haney, Barrett Nelson Rock and Charles William Smith. University of New Hampshire's Project SMART 2017: Marine and Environmental Science for High School Students. AGU Fall Meeting, 2017, New Orleans.
- Poster, Jessica Lynn DelGreco, Christina Herrick, Ruth K Varner, Kellen J McArthur, Carmody K McCalley, Anthony Garnello, Daniel Finnell, Samantha Marie Anderson, Patrick M Crill and Michael W Palace. Four years of UAS Imagery Reveals Vegetation Change Due to Permafrost Thaw. AGU Fall Meeting, 2017, New Orleans.

- Poster, Christina Herrick, Michael W Palace, Martin Wik, Sophia A Burke, Ruth K Varner. The Use of Satellite Data to Relate Waterbody Surface Area and Temperature to Greenhouse Gas Emissions across a Subarctic Landscape. AGU Fall Meeting, 2017, New Orleans.
- Poster, Christopher Daniel Horruitiner, Michael W Palace, Martin Wik, Joel E Johnson, Ruth Varner. C:N and $\delta^{13}\text{C}$ indicate aquatic carbon source for methanogenesis in peatland lakes. AGU Fall Meeting, 2017, New Orleans.
- Poster, Scott V Ollinger, Andrew Ouimette, Franklin Sullivan, Rebecca Sanders-DeMott, Michael W Palace, Jingfeng Xiao, Bobby H Braswell and Lucie C Lepine. Spatial and temporal variability in carbon cycling in a northeastern U.S. forest in relation to leaf traits, canopy diversity and climate variability. AGU Fall Meeting, 2017, New Orleans.
- Invited Talk, Michael W Palace, Jessica DelGreco, Christina Herrick, Franklin Sullivan, Ruth K Varner. Characterizing sub-arctic peatland vegetation using height estimates from structure from motion and an unmanned aerial system (UAS). ESRC Lunch Talk Series.
- Invited Talk, M. W. Palace, Katie Bush, Christina Herrick. Using Geospatial Analysis to Predict Tick Habitat. Fall 2017 Environmental Science Colloquium. Plymouth State University, Plymouth, NH.
- Invited Talk, M. W. Palace, C. N. H. McMichael, B. Braswell, S. Hagen, M. Bush, E. Neves, E. Tamanaha, C. Herrick, S. Frolking. Long-term Impacts of Pre-Columbian Societies on the Amazonian Forest. July 2017 Annual Meeting of the Association for Tropical Biology and Conservation, Merida, Mexico.
- Poster, MW Palace, F Sullivan, MJ Ducey, C Herrick. Estimating Tropical Forest Structure Using a Terrestrial Lidar. July 2017 Annual Meeting of the Association for Tropical Biology and Conservation, Merida, Mexico.
- Talk, M. W. Palace, C. N. H. McMichael, B. Braswell, S. Hagen, M. Bush, E. Neves, E. Tamanaha, C. Herrick, S. Frolking. Long-term Impacts of Pre-Columbian Societies on the Amazonian Forest. AAG 2017, Boston, MA.
- Poster, L Kiage, M Howey, J Hartter, MW Palace, Human impacts on Tropical Environments During the Holocene: A non-pollen palynomorphs and geochemical record from western Uganda. AAG 2017, Boston, MA.
- Poster, MA Vadeboncouer, M Brum. RS Oliveria, VHP Moutinho, CF Flores, CA Llerena, MW Palace, H Asbjornsen. Effects of Natural and Experimental Drought on Growth and Water Use Efficiency in Amazon trees. AGU Fall Meeting, 2016, San Francisco.
- Poster, E Spry, MB Beck, B Hamilton, CK McCalley, JE Johnson, MW Palace, RK Varner, WA Bothner. Linking Discharge to Carbon Transport Within an Arctic Stream Network in Stordalen Mire, Abisko, Sweden. AGU Fall Meeting, 2016, San Francisco.

- Poster, MB Beck, B Hamilton, E Spry, CK McCalley, JE Johnson, MW Palace, RK Varner, WA Bothner. Tracking Organic Carbon Transport From the Stordalen Mire to Glacial Lake Tornetrask, Abisko, Sweden. AGU Fall Meeting, 2016, San Francisco.
- Poster, B Hamilton, E Spry, MB Beck, CK McCalley, JE Johnson, MW Palace, RK Varner, WA Bothner. Influence of Vegetation on Methane Metabolism in Subarctic Lakes. AGU Fall Meeting, 2016, San Francisco.
- Poster at EGU General Assembly Conference. N Dowhaniuk, J Hartter, RG Congalton, MW Palace, SJ Ryan. The impact of industrial oil development on a protected area landscape: A case study on human population growth and landscape level change in Murchison Falls Conservation Area, Uganda. (2016).
- Invited Talk, Palace, M. W., Abisko Scientific Research Station and Climate Impacts Research Centre, Umeå universitet Seminar Series, "From the tropics to the tundra: high resolution remote sensing to understand ecosystem processes". (July 2016).
- Oral Presentation, Palace, M. W., Invited Seminar, LAPIG - Laboratory for Processing of Geospatial Information, Goaina, Brazil, "Estimating Tropical Forest Structure Using Geospatial Techniques", International, Invited. (May 2016).
- Oral Presentation, Palace, M. W., Amazonian Drought Workshop, ESRC-UNH, Duham, NH, USA, "Biomass and Amazonian Black Earth Estimation". (May 2016).
- Oral Presentation, Palace, M. W., Sustainable Landscapes, USAID - Embrapa, Campinas, Brazil, "Estimating Tropical Forest Structure Using a Terrestrial Laser", International, published in proceedings, Invited. (May 2016).
- Poster, DelGreco, J. (Author & Presenter), McArthur, K. (Author), Palace, M. W., Herrick, C. (Author), Garnello, A. (Author), Finnell, D. (Author), McCalley, C. (Author), Anderson, S. (Author), Varner, R., AGU Fall Meeting, San Fransico, CA, USA, "Characterization of Vegetation Change in a Sub-Arctic Mire using Remotely Sensed Imagery", International. (December 2015).
- Oral Presentation, Palace, M. W., AGU Fall Meeting, San Fransico, CA, USA, "Characterizing Tropical Forest Structure using Field-based Measurements and a Terrestrial Lidar", International. (December 2015).
- Poster, Horruitiner, C. (Author & Presenter), Varner, R. (Author), Palace, M. W. (Author), Johnson, J. E. (Author), Wik, M. (Author), Lundgren, D., Sinclair, S., Nicastro, A., Crawford, M., AGU Fall Meeting, San Fransico, USA, "Examining the Role of Aquatic Vegetation in Methane Production: Examples From a Shallow High Latitude Lake in Abisko, Sweden." International. (December 2015).
- Poster, Schwan, M. (Author & Presenter), Herrick, C. (Author), Hobbie, E. (Author), Chen, J. (Author), Varner, R. (Author), Palace, M. W. (Author), Marek, E. (Author), Kashie, N. (Author), Smith, S. (Author), AGU Fall Meeting, San Fransico, CA, USA, "High-Resolution Remote Sensing and Stable Isotope Patterns Across Heath-Shrub-Forest

- Ecotone at Abisko and Vassijaure, Northern Sweden", International, published in proceedings. (December 2015).
- Oral Presentation, Varner, R. (Author & Presenter), Crill, P. (Author), Wik, M. (Author), McCalley, C. (Author), DelGreco, J. (Author), Garnello, A. (Author), Saleska, S. (Author), Torbick, N. (Author), Burke, S. (Author), Persson, A. (Author), Johnson, J. E. (Author), Hines, M. (Author), Li, C. (Author), Herrick, C., AGU Fall Meeting, San Francisco, CA, USA, "Using remote sensing and field based measurements to understand short term changes in a permafrost landscape", International, published in proceedings, Invited. (December 2015).
- Poster, McArthur, K. (Author & Presenter), McCalley, C. (Author), Palace, M. W. (Author), Varner, R. (Author), Herrick, C. (Author), DelGreco, J., AGU Fall Meeting, San Francisco, u, "Using vegetation cover type to predict and scale peatland methane dynamics." International. (December 2015).
- Oral Presentation, Palace, M. W., UMass - Lowell, Lowell, USA, "From the Tropics to the Tundra, From Forests to Fens: Understanding Structure and Process in Ecosystems". (2015).
- Lecture, Palace, M. W., GIS Day, UNH Library, Durham, NH, USA, "Space Archaeology". (November 2015).
- Oral Presentation, Palace, M. W., ESCI Brown Bag Series, Department of Earth Science, UNH, Durham, NH, USA, "From the Tropics to the Tundra: Using High Resolution Remotely Sensed Data to Characterize Earth Systems". (October 2015).
- Oral Presentation, Palace, M. W., Lidar Workshop, UMass - Lowell, Lowell, USA, "Terrestrial and Airborne Scanning LIDAR in Tropical Forests". (August 2015). Poster at NASA Carbon Cycle and Ecosystems Joint Science Workshop 2015. Characterization and scaling of vegetation structure in Amazonia and Cerrado regions using remotely sensed imagery. **Michael Palace**, Bobby Braswell, Stephen Hagen, Laerte Ferreria, Mercedes Bustamante, Michael Keller, Sabrina Miranda, Julia Shimbo, Christina Herrick, Franklin Sullivan.
- Poster at NASA Carbon Cycle and Ecosystems Joint Science Workshop 2015. Drought-induced vegetation change and fire in Amazonian forests: past, present, and future. **Michael Palace**, Steve Frothing, Crystal McMichael, Bobby Braswell¹, Dar Alexander Roberts, Mark Bush, Douglas Morton, Michael Keller, Heidi Asbjornsen, Luiz Aragao, Laerte Ferreria, Matt Vadenboncoeur, Mark Ducey, Stephen Hagen, Tom Milliman, Christina Herrick.
- Poster at NASA Carbon Cycle and Ecosystems Joint Science Workshop 2015. Forest Monitoring in Indonesia: Using an extensive LiDAR data set to map forest carbon stock and logging impacts. Stephen Hagen, Franklin B. Sullivan, Sassan Saatchi, Timothy Pearson, **Michael Palace**, Bobby H. Braswell, Sandra Brown, William A. Salas, Matthew Hanson.

- Poster at NASA Carbon Cycle and Ecosystems Joint Science Workshop 2015. Estimating forest structure in tropical forested sites using lidar point cloud data. Franklin B. Sullivan, **Michael Palace**, Michael Keller, Ekena Rangel Pinage, Maiza Nara dos Santo.
- Poster at NASA Carbon Cycle and Ecosystems Joint Science Workshop 2015. Tropical-Forest Profiles and Biomass from TanDEM-X, Single-Baseline Interferometric SAR: InSAR Performance at Higher Frequencies and Bandwidths. Robert Neil Treuhaft, Fabio G. Goncalves, Michael Keller, João Roberto Santos, Maxim Neumann, **Michael Palace**.
- Talk at UMass-Lowell 2015. From the tropics to the tundra, from forests to fens: Understanding structure and process in ecosystems. **Michael Palace**.
- Talk at Peatland Workshop 2015. A high resolution image classification analysis of Stordalen and scaling issues. **Michael Palace**, Christina Herrick, Daniel Finnell , AJ Garnello, Carmondy McCalley, Franklin Sullivan, Samantha Anderson, Ruth Varner.
- Talk at Macroscale Biology Project Workshop. UAV Classification: Three centimeter classification, How cool is that? **Michael Palace**, Christina Herrick, Daniel Finnell , AJ Garnello, Carmondy McCalley, Franklin Sullivan, Samantha Anderson, Ruth Varner.
- Talk at AGU Fall 2014 Meeting. Estimating forest structure at five tropical forested sites using lidar point cloud data. **Michael Palace**, Franklin Sullivan, Michael Keller, and Robert Treuhaft.
- Poster at AGU Fall 2014 Meeting. Multi-sensor remote sensing of the extent and persistence of the 2005 Amazon drought. Steve Frolking, Bobby Braswell, Michael, Seth Peterson, Dar Roberts, **Michael Palace**.
- Poster at AGU Fall 2014 Meeting. Can Plant Community Turnover Mitigate Permafrost Thaw Feedbacks to the Climate System? Moira Hough, AJ Garnello, Daniel Finnell, **Michael Palace**, Virginia Rich, Scott Saleska.
- Poster at AGU Fall 2014 Meeting. Characterization of Permafrost Degradation and Plant Communities Using Hyperspectral Reflectance. AJ Garnello, Daniel Finnell, **Michael Palace**, Jin Wu, Lucie Lepine, Patrick Crill, Ruth Varner.
- Poster at AGU Fall 2014 Meeting. Use of High Resolution UAS Imagery to Classify Sub-Arctic Vegetation Types. Christina Herrick, **Michael Palace**, Daniel Finnell , AJ Garnello, Franklin Sullivan, Samantha Anderson, Ruth Varner.
- Poster at AGU Fall 2014 Meeting. Characterization of subarctic vegetation using ground based remote sensing methods. Daniel Finnell, AJ Garnello, **Michael Palace**, Franklin Sullivan, Christina Herrick, Samantha Anderson, Patrick Crill, Ruth Varner.
- Poster at AGU Fall 2014 Meeting. The spectrum of natural forest disturbances and the Amazon forest carbon balance. Fernando D.B. Espirito-Santo, Michael Keller, Yadvinder Malhi, Bruce Nelson, Raimundo Oliveira Junior, Cleuton Pereira, Jon Lloyd, **Michael Palace**,

Yosio Shimabukuro, Valdete Duarte, Abel Mendoza, Tim R. Baker, Ted Feldpausch, Gregory Asner, Doreen Boyd.

Poster at AGU Fall 2014 Meeting. The Influence of Vegetation on Methane Ebullition in a Temperate Wetland. Samantha Roddy, Ruth Varner, **Michael Palace**.

Poster at AGU Fall 2014 Meeting. Comparison of Stem Map Developed from Crown Geometry Allometry Linked Census Data to Airborne and Terrestrial Lidar at Harvard Forest, MA. Franklin Sullivan, **Michael Palace**, Orwig David.

Poster at AGU Fall 2014 Meeting. Using LiDAR, RADAR, and Optical data to improve a NFMS in Kalimantan, Indonesia. Steven Hagen, Sassan Saatchi, Bobby Braswell, **Michael Palace**, Dirk Hoekman, Catherine Ipsan, Sandra Brown, Franklin Sullivan.

Invited talk at the EMBRAPA, Campinas, Brazil (2014). Crown delineation and synthetic canopy profiles as tools for understanding lidar point cloud data. **M.Palace** and F. Sullivan.

Invited talk at the University New Hampshire, Earth Science Department, UNH (2014). Tropics to the Tundra: Repurposing Technology for the Environmental Sciences. **M.Palace**.

Invited talk at the University of Brasilia, Biology Department, Remote Sensing of Tropical Vegetation (2014). **M.Palace**.

Invited talk at International Geoscience and Remote Sensing Symposium (IGRASS) Conference 2013. Physical Interpretations of Lidar and X-band INSAR Structure of Tropical Forests in Costa Rica and Brazil. R. N. Treuhaft, F. G. Goncalves, S. N. Madsen, M. Neumann, B. D. Chapman, S. Hensley, J. R. dos Santos, C. V. J. Silva, L. V. Dutra, **M. Palace**, P. M. L. A. Graca. Melbourne, Australia.

Invited talk at NASA Carbon Science Conference 2013. Plenary presentation Satellite remote sensing of vegetation structure: Functional Synthesis of InSAR and Lidar.. R. N. Treuhaft, M. Neumann, F. G. Goncalves, **M. Palace**, La Jolla, CA.

Oral Presentation at the US Regional Association of the International Association for Landscape Ecology Conference 2013. Detection of Amazonian Black Earth Sites using Satellite Image Data. **Michael Palace**, Crystal McMichael, Mark Bush, Bobby Braswell, Stephen Hagen, Eduardo Góes Neves, Christina Czarnecki. Austin, TX.

Poster Presentation at the US Regional Association of the International Association for Landscape Ecology Conference 2013. Mounds, Microclimates, and Maize: Understanding the Influence of Inland Lakes on Agriculture in Pre-contact Indigenous Societies using Remote Sensing Image Data. **Michael Palace**, Meghan Howey, Crystal McMichael, Mark Bush, Bobby Braswell, Stephen Hagen, Austin, TX.

Poster at the Association of American Geographers 2013. Assessment of Gridded Rainfall Products in Western Uganda. J Diem, J Hartter, S Ryan, **M Palace**, C Chapman.. Los Angeles, CA.

- Poster at the Association of American Geographers 2013. Parks, People, and Fragments: Remediating De-coupled Research into Natural-Human Systems. S Ryan, J Hartter, **M Palace**, J Diem Los Angeles, CA.
- Poster at the Association of American Geographers 2013. Forest Loss, Agricultural Intensification, and the Islandization of Protected Areas in the African Albertine Rift. J Hartter, **M Palace**, S. Ryan, J Diem. Los Angeles, CA.
- Poster at the Northeast Fish and Wildlife Conference 2013. Low raccoon (*Procyon lotor*) density indexes in pitch pine (*Pinus rigida*)-dominated landscapes in Massachusetts and New Jersey: Implications for rabies management. Algeo, T. P., B. M. Bjorklund, J. Borgeson, M. J. Swallow, R. J. Bevilacqua, A. R. Randall, M. D. Chandler, W. S. Anderson, **M. Palace**, R. B. Chipman, and D. Slate.
- Poster at International Biogeography Society Conference 2013. Historical fire and bamboo dynamics in western Amazonia. Crystal H. McMichael, Mark B. Bush, Miles R. Silman, Dolores R. Piperno, Marco F. Raczka, Luiz C. Lobato, Monica Zimmerman, Stephen Hagen, **Michael W. Palace**. Miami, FL
- Poster at 2012 AGU Fall Meeting. Estimating tropical forest structure using discrete-return LiDAR data and a locally-trained synthetic forest algorithm. **Michael W. Palace**; Franklin B. Sullivan; Christina Czarnecki; Mark J. Ducey; Julia Zanin e Shimbo; Jonas Mota e Silva. San Francisco, CA.
- Poster at 2012 AGU Fall Meeting. Population, environment, and climate in the Albertine Rift: understanding local impacts of regional change. Joel Hartter; J. Diem; S.J. Ryan; **Michael W. Palace**. San Francisco, CA.
- Poster at 2012 AGU Fall Meeting. Relative vegetation profiles in a neotropical forest: comparison of LiDAR instrumentation and field-based measurements. Franklin B. Sullivan; **Michael W. Palace**; Christina Czarnecki; Mark J. Ducey; Julia Zanin e Shimbo; Jonas Mota e Silva. San Francisco, CA.
- Poster at 2012 AGU Fall Meeting. Predicting anthropogenic soils across the Amazonia. Crystal McMichael; **Michael W. Palace**; Christina Czarnecki; Mark B. Bush; Bobby H. Braswell; Stephen C. Hagen; Miles Silman; Eduardo Neves. San Francisco, CA.
- Poster at 2012 AGU Fall Meeting. Detection of Amazonian black earth sites using hyperspectral satellite imagery. Bobby H. Braswell; **Michael W. Palace**; Crystal McMichael; Christina Czarnecki; Mark B. Bush; Marco Raczka; Eduardo Neves; Bruno Moraes. San Francisco, CA.
- Poster at 2012 AGU Fall Meeting. Acoustic monitoring of ebullitive flux from a mire ecosystem in subarctic Sweden. S.A. Burke; Ruth K. Varner; J. Amante; M. Wik; Patrick M. Crill; C.K. McCalley, **Michael Palace**. San Francisco, CA.
- Poster at 2012 AGU Fall Meeting. Using an Acoustic System to Estimate the Timing and Magnitude of Ebullition Release from Wetland Ecosystems. Ruth K. Varner; Michael

- W. Palace; Jillian M. Lennartz; Patrick M. Crill; Martin Wik; Jacqueline Amante; Christopher Dorich; Jennifer W. Harden; Stephanie A. Ewing; Merritt R. Turetsky. San Francisco, CA.
- Poster at Cambridge Student Conference on Conservation Science, Cambridge, UK. Palms as an ecological indicator of forest disturbance and human impact in the Amazon. Julia Shimbo, Mercedes Bustamante, **Michael Palace**, Cambridge, UK.
- Poster at Planet under Pressure 2012. Carbon Stock Assessment and Potential for Application of REDD Projects in the Brazilian Savanna, Sabrina do Couto de Miranda, Mercedes Bustamante, Alexandre de Siqueira Pinto, **Michael Palace**. London, UK.
- Oral Presentation at 2011 AGU Fall Meeting. Predicting distributions of charcoal in Amazonian soils: approaches from earth and space. Crystal McMichael; **Michael W. Palace**; Mark B. Bush; Rob Braswell; Stephen C. Hagen; Christina Czarnecki; Eduardo Neves; Marco Raczka. San Francisco, CA.
- Oral Presentation at 2011 AGU Fall Meeting. What drives the Amazon green up phenomenon? Douglas C. Morton; Jyoteshwar R. Nagol; Jacqueline Rosette; Claudia C. Carabajal; David J. Harding; **Michael W. Palace**; Bruce D. Cook; Peter R. North. San Francisco, CA.
- Poster at 2011 Carbon Cycle and Ecosystems Joint Science Workshop, NASA. Fake it till you make it: What can we learn about simulating forest structure? **Michael Palace**, Bobby H. Braswell, Stephen Hagen. Alexandria, VA.
- Poster at 2011 Carbon Cycle and Ecosystems Joint Science Workshop, NASA. Remote sensing of terra preta in Amazonia. **Michael Palace**, Mark Bush, Eduardo Góes Neves, Crystal N. McMichaels, Christina Czarnecki, Stephen Hagen, Bobby H. Braswell, Bruno Moraes, Marco Raczka. Alexandria, VA.
- Poster at 2011 Carbon Cycle and Ecosystems Joint Science Workshop, NASA. Detection of forest canopy change in pan-tropical humid forests 2000-2009 with the SeaWinds Ku-band scatterometer. Steve Frohling, Stephen Hagen, Thomas Milliman, **Michael Palace**, Julia Shimbo, Mark Fahnestock. Alexandria, VA.
- Poster at 2011 Carbon Cycle and Ecosystems Joint Science Workshop, NASA. A historical land cover map of the Cerrado region of Brazil based on Landsat MSS imagery. Stephen Hagen, Laerte Ferreira, **Michael Palace**, Mercedes Bustamante. Alexandria, VA.
- Invited Talk at Clark University 2012. From a Forest to a Fig. **Michael Palace**. Department of Geography, Worcester, MA.
- Oral Presentation at 2011 Traditional Ecological Knowledge Conference. What is natural? A long-term view of the ecosystems of the Americas. **Michael Palace**, Browne Center, Durham, NH.

- Oral Presentation at 2011 Ecological Society of American Meeting. Invited speaker. Symposium title: What is natural? **Michael Palace**, A long-term view of the ecosystems of the Americas. Talk title: Antropogenic disturbances in Amazonia: Detection of disturbed soils through remote sensing methods. Austin, TX.
- Oral Presentation at UNH. Invited speaker. **Michael Palace**, 2011. Bugs in the Landscape: Looking at ticks and fig wasps in a Landscape ecology context.
- Poster at 2011 US Regional Association of the International Association for Landscape Ecology. A Landscape Model Simulating *Ficus* trees and their obligate Wasp Pollinator. **Michael Palace**. Portland, OR.
- Poster at 2011 Association of American Geographers Meeting of 2011. Examining the spatial and temporal ecology of vector-borne lyme disease. Christina Czarnecki, **Michael Palace**, Ernst Linder, William Salas, Peter Ingram, Michael Routhier, Nate Torbick, Chengwei Yuan, David Bartlett, Rosemary Caron, Xiangming Xiao, Seattle, WA.
- Poster at 2011 US Regional Association of the International Association for Landscape Ecology. Detection of Amazonian Black Earth Sites using Hyperspectral Satellite Imagery. **Michael Palace**, Mark Bush, Eduardo Góes Neves, Rob Braswell, Stephen Hagen, Crystal McMichael, Christina Czarnecki, Bruno Moraes, Marco Raczka. Portland, OR.
- Poster at 2011 US Regional Association of the International Association for Landscape Ecology. Examining the spatial and temporal ecology of vector-borne lyme disease. Christina Czarnecki, **Michael Palace**, Ernst Linder, William Salas, Peter Ingram, Michael Routhier, Nate Torbick, Chengwei Yuan, David Bartlett, Rosemary Caron, Xiangming Xiao. Portland, OR.
- Poster at AGU Fall 2010 Meeting. Temporal and spatial variability of greenhouse gas fluxes from soil in an undisturbed forest in the Brazilian Amazon. Varner, R K, Keller, M M, Cosme de Oliveira, R, Crill, P M, **Palace, M W**, Hunter, M O, Silva, H P, Dias, J, Neto, E.
- Poster at AGU Fall 2010 Meeting. Tropical Forest Backscatter Anomaly Evident in SeaWinds Scatterometer Morning Overpass Data During 2005 Drought in Amazonia. Frolking, S E, Milliman, T, **Palace, M W**, Wisser, D, Lammers, R B, Fahnestock, M A.
- Poster at the Rabies in the Americas Conference 2010, Satellite-Based Land Cover Classification Accuracy for Raccoon Rabies Risk Modeling. Timothy Algeo, Michael Palace, Rosemary Caron, Todd Atwood, Sergio Recuenco, Richard Chipman, Mark Ducey, Frank Boyd, Monte Chandler, Charles Rupprecht, Dennis Slate.
- Presentation at AGU Meeting of the Americas 2010. A historical land cover map of the Cerrado region of Brazil based on Landsat MSS imagery. S. Hagen; L. G. Ferreira; **M. Palace**; M. Bustamante – American Geophysical Union, Meeting of the Americas – Brazil.
- Poster at AGU Meeting of the Americas 2010. Amazonian Drought – Does the SeaWinds Scatterometer Active Microwave Data Contain a Signal? S. E. Frolking; T. Milliman; M.

- A. Fahnestock; **M. Palace**; R. B. Lammers – American Geophysical Union, Meeting of the Americas – Brazil.
- Poster at AGU Meeting of the Americas 2010. Fusing Radar, Lidar and High Resolution Optical Remotely Sensed Data to Estimate Vegetation Structure in the Brazilian Cerrado. **M. W. Palace**; S. C. Hagen; M. Bustamante; L. G. Ferreira; S. Miranda – American Geophysical Union, Meeting of the Americas – Brazil.
- Poster at ESA 2010. Examining the spatial and temporal ecology of vector-borne lyme disease. Christina Czarnecki, **Michael Palace**, Ernst Linder, William Salas, Peter Ingram, Michael Routhier, Nate Torbick, Chengwei Yuan, David Bartlett, Rosemary Caron, Xiangming Xiao. Ecological Society of America Meeting, Pittsburg, PA.
- Poster at GEOBIA (GEOgraphic Object-Based Image Analysis) 2010 Conference, Understanding Secondary Tropical Forest structure through the Integration of Remote Sensing and Modelling. Julie Melling, Elisabeth Addink, Ted Feldpausch, **Michael Palace**, Karin Rebel, Ghent, Belgium.
- Oral Presentation at UNH. Invited speaker. **Michael Palace**, 2010. Determining Vegetation Structure and Pattern Using Remote Sensing and Field-Based Methods.
- Poster at AGU Fall 2009 Meeting - Biometric Properties Estimated from High Resolution Imagery in the Amazon and the Cerrado Regions.
- Poster at AGU Fall 2009 Meeting - Estimation of Tropical Forest Structure Using the Full Waveform Lidar from ICESat.
- Oral Presentation at Forest Carbon Science and Management Workshop 2009, Portsmouth, NH – Remote Sensings of Tropical Vegetation using High Resolution Imagery and Lidar.
- Oral Presentation at NRESS Graduate Student Seminar 2009 - Estimating Tropical Forest Structure and Crown Geometry using Remotely Sensed Image Data.
- Poster at AGU Fall 2008 Meeting – Scaling Forest Biometric Properties Estimated from High Resolution Imagery to the Amazon and Cerrado Regions using Moderate Resolution Spectral Reflectance Data.
- Oral Presentation at Tropical Disturbance Workshop – 2008, Oxford University, Oxford, UK - Scaling Biometric Properties Derived from High Resolution Imagery to the Cerrado and the Amazon Basin using Moderate Resolution Spectral Reflectance Data.
- Poster at 2008 NASA Carbon Cycle and Ecosystems Joint Science Workshop - Forest Biometric Properties Derived from High Resolution Imagery to the Amazon Basin using Moderate Resolution Spectral Reflectance Data.
- Poster at 2008 NASA Carbon Cycle and Ecosystems Joint Science Workshop - A Historical Reconstruction of Vegetation Change and a Carbon Budget for the Brazilian Cerrado Using Multiple Satellite Platforms and Historical Aerial Photography.

- Talk at 2008 VEG3D & BIOMASS: Science and Measurement Requirements for Future Spaceborne Missions – University of Virginia, Charlottesville, VA - Global measurements of vegetation structure: A climate and carbon cycle science perspective
Wofsy, S.C., Moorcroft, P.R., Palace, M., & Saleska, S.
- Poster at 2008 VEG3D & BIOMASS: Science and Measurement Requirements for Future Spaceborne Missions – University of Virginia, Charlottesville, VA - Development of Three-Dimensional Vegetation Structure Using High Resolution Imagery and Crown Detection Algorithms.
- Poster at 2008 VEG3D & BIOMASS: Science and Measurement Requirements for Future Spaceborne Missions – University of Virginia, Charlottesville, VA - Regional Extrapolation of Tropical Ecosystem Structural Properties.
- Poster at AGU 2007 - Examination of Tropical Forest Structure Using Field Data and High Spatial Resolution Image Data.
- Poster at AGU 2007 - Automated measurements of soil-atmosphere methane, carbon dioxide, and nitrous oxide fluxes in an undisturbed forest in the Brazilian Amazon.
- Poster at 2007 NRC Decadal Study DESDynI Science Workshop – Orland, FL - Amazon Forest Structure: An Analysis of 16 Sites.
- Oral Presentation at AGU 2006 - Necromass Production in an Amazon Forest: Examination of Undisturbed and Logged Forest Sites.
- Poster at AGU 2006 – Detection of Canopy Opening in Undisturbed and Selectively Logging Tropical Forests by Gap Fraction Data.
- Poster at AGU 2006 – Forest Structure at Five Sites in the Brazilian Amazon.
- Poster at AGU 2006 – Canopy Estimation in Logged Forests in the Brazilian Amazon using IKONOS Imagery.
- Oral Presentation at LBA Brasilia 2006 - Necromass Creation in an Amazon Forest: Examination of Undisturbed and Logged Forest Sites.
- Poster at LBA Brasilia 2006 - Gap Fraction for Detection and Mapping of Canopy Opening in Undisturbed and Selectively Logging Forests.
- Poster at LBA Brasilia 2006 - Forest Structure at Five LBA Study Sites.
- Poster at Joint Workshop on NASA Biodiversity, Terrestrial Ecology, and Related Applied Sciences, Adelphi, MD 2006 - Examination of Canopy Disturbance in Logged Forests in the Brazilian Amazon using IKONOS Imagery.

Oral Presentation at the Tropical Disturbance Workshop 2006, Tulane University, New Orleans, LA - Automated Crown Detection and Canopy Disturbance in the Brazilian Amazon using IKONOS Imagery.

Poster at LBA Sao Paulo 2005 - Examination of Tropical Forest Canopy Profiles Using Field Data and High Resolution Remotely Sensed Satellite Imagery.

Poster at LBA Sao Paulo 2005 -Examination of Canopy Disturbance in Logged Forests in the Brazilian Amazon using IKONOS Imagery.

Poster at Working Forests in the Tropics Gainesville, FL 2005 – Examination of Canopy Disturbance in Logged Forests in the Brazilian Amazon using IKONOS Imagery.

Oral Presentation at LBA Brasilia Conference 2004 - Biomass and Necromass in Three Undisturbed Forests in the Brazilian Amazon.

Oral Presentation at LBA Brasilia Conference 2004 (co-author) - Selective Logging Effects on Carbon Budgets at Three Sites in the Brazilian Amazon.

Poster at LBA Brasilia Conference 2004 - Necromass Density Estimates from Two Forests in the Brazilian Amazon.

Poster at 2004 Gordon Conference on Theoretical Biology and Biomathematics - Fig Wasp Pollination Networks.

Poster at AGU 2003 - Automated Crown Detection Algorithm: An Analysis of Two Tropical Amazonian Forests.

Oral Presentation at Graduate Student Seminar 2003 - Coarse Woody Debris in Logged and Undisturbed Forests from two Amazonian Forests and Crown Detection Analysis

Oral Presentation at LBA Fortaleza Conference 2003 - Coarse Woody Debris in Logged and Undisturbed Forests from two Amazonian Forests.

Poster at LBA Fortaleza Conference 2003 -Estimating site level differences in ecosystem process parameters using eddy flux data and a toy model.

Poster at AGU 2002 - Automated Crown Detection Algorithm: An Analysis of Two Tropical Amazonian Forests.

Poster at AGU 2002 - Scaling Forest Properties Derived from High-Resolution Imagery to the Amazon Basin.

Poster at LBA Manaus Conference 2002 - Coarse Woody Debris in Logged and Undisturbed Forests: Determination of Stocks Using a New Methodology for Wood Density and Void Estimation.

Poster at LBA Manaus Conference 2002 - Soil-Atmosphere Flux of Carbon Dioxide in Undisturbed Forest at the FLONA Tapajós, Brazil.

Poster at LBA Manaus Conference 2002 - IKONOS Imagery for Large-scale Biosphere Atmosphere Experiment in Amazonia.

Poster at LBA Belem Conference 2000 - Biomass in the Tapajos National Forest, Brazil: Examination of Sampling and Allometric Uncertainties.

Poster at LBA Belem Conference 2000 - IKONOS at LBA Sites.

Poster at American Geophysical Union Conference (AGU) 2000 - Biomass in the Tapajos National Forest, Brazil: Examination of Sampling and Allometric Uncertainties.

Poster at AGU 2000 - Spatial heterogeneity (subpixel composition) and scaling issues in Amazon Basin: land cover observation from MODIS, Landsat 7 ETM+ and IKONOS images.

Abstract and Poster Session at the 16th International Conference of the Coastal Society (Williamsburg, VA July 1998) with the title "Tracking Progress of the Chesapeake Bay Program's Nutrient Reduction Goals," Michael L. Clipper, Michael W. Palace, Thomas W. Simpson, Lewis C. Linker, and James Hannawald.

Poster at Coastal Zone '97 (Boston, MA July 1997) titled "A Manure Mass Balance for the Chesapeake Bay Watershed," Michael W. Palace.

Thesis Defense, "A Multivariate Analysis of Habitat Selection by the Mantled Howler Monkey (*Alouatta palliata*)" (1995).

Oral Presentation of Study Conducted in Costa Rica at the Enviro-days Symposium at the University of Virginia, 1993. "Howler Monkey Habitat Use."

Involved with the multinational Functional Plant Types-Global Climate Modeling Workshop at the University of Virginia (1992).

Hobbies

Electronic Music Composition and Synthesis (over 25 titles released), Hiking, Mountain biking, Running, Cooking, Gardening, Mushroom Field Identification