

Stanford



Christopher Anderson

Ph.D. Student in Biology, admitted Autumn 2016

 Curriculum Vitae available Online

Bio

BIO

My research focuses on the use of satellite remote sensing technology to characterize multi-scale patterns of terrestrial biodiversity. I am interested in understanding how ecosystem structure and function changes for multiple taxonomic groups as a result of anthropogenic forces. These forces include land use change, climate change, establishing protected areas, the development of novel ecosystems, and assisted migration.

LINKS

- Google Scholar: <https://scholar.google.com/citations?user=LoGxS40AAAAJ&hl=en>

Research & Scholarship

LAB AFFILIATIONS

- Gretchen Daily, Center for Conservation Biology (4/4/2016)

Professional

WORK EXPERIENCE

- Carnegie Airborne Observatory Researcher - Carnegie Institution for Science (April 1, 2009 - March 1, 2016)

Publications

PUBLICATIONS

- **Reimagining the potential of Earth observations for ecosystem service assessments** *SCIENCE OF THE TOTAL ENVIRONMENT*
Ramirez-Reyes, C., Brauman, K. A., Chaplin-Kramer, R., Galford, G. L., Adamo, S. B., Anderson, C. B., Anderson, C., Allington, G. H., Bagstad, K. J., Coe, M. T., Cord, A. F., Dee, L. E., Gould, et al
2019; 665: 1053–63
- **A global test of ecoregions (vol 2, pg 1889, 2018)** *NATURE ECOLOGY & EVOLUTION*
Smith, J. R., Letten, A. D., Ke, P., Anderson, C. B., Hendershot, J., Dhimi, M. K., Dlott, G. A., Grainger, T. N., Howard, M. E., Morrison, B. L., Routh, D., San Juan, P. A., Mooney, et al
2019; 3 (4): 708
- **Author Correction: A global test of ecoregions.** *Nature ecology & evolution*
Smith, J. R., Letten, A. D., Ke, P., Anderson, C. B., Hendershot, J. N., Dhimi, M. K., Dlott, G. A., Grainger, T. N., Howard, M. E., Morrison, B. M., Routh, D., Juan, P. A., Mooney, et al
2019
- **Reimagining the potential of Earth observations for ecosystem service assessments.** *The Science of the total environment*

- Ramirez-Reyes, C., Brauman, K. A., Chaplin-Kramer, R., Galford, G. L., Adamo, S. B., Anderson, C. B., Anderson, C., Allington, G. R., Bagstad, K. J., Coe, M. T., Cord, A. F., Dee, L. E., Gould, et al
2019; 665: 1053–63
- **A global test of ecoregions.** *Nature ecology & evolution*
Smith, J. R., Letten, A. D., Ke, P., Anderson, C. B., Hendershot, J. N., Dhami, M. K., Dlott, G. A., Grainger, T. N., Howard, M. E., Morrison, B. M., Routh, D., San Juan, P. A., Mooney, et al
2018
 - **Biodiversity monitoring, earth observations and the ecology of scale** *ECOLOGY LETTERS*
Anderson, C. B.
2018; 21 (10): 1572–85
 - **Biodiversity monitoring, earth observations and the ecology of scale.** *Ecology letters*
Anderson, C. B.
2018
 - **The CCB-ID approach to tree species mapping with airborne imaging spectroscopy.** *PeerJ*
Anderson, C. B.
2018; 6: e5666
 - **Scale dependence of canopy trait distributions along a tropical forest elevation gradient** *NEW PHYTOLOGIST*
Asner, G. P., Martin, R. E., Anderson, C. B., Kryston, K., Vaughn, N., Knapp, D. E., Bentley, L., Shenkin, A., Salinas, N., Sinca, F., Tupayachi, R., Huaypar, K., Pillco, et al
2017; 214 (3): 973–88
 - **FOREST CONSERVATION Airborne laser-guided imaging spectroscopy to map forest trait diversity and guide conservation** *SCIENCE*
Asner, G. P., Martin, R. E., Knapp, D. E., Tupayachi, R., Anderson, C. B., Sinca, F., Vaughn, N. R., Llactayo, W.
2017; 355 (6323): 385–88
 - **Large-scale climatic and geophysical controls on the leaf economics spectrum** *PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA*
Asner, G. P., Knapp, D. E., Anderson, C. B., Martin, R. E., Vaughn, N.
2016; 113 (28): E4043-E4051
 - **Tree Species Abundance Predictions in a Tropical Agricultural Landscape with a Supervised Classification Model and Imbalanced Data** *REMOTE SENSING*
Graves, S. J., Asner, G. P., Martin, R. E., Anderson, C. B., Colgan, M. S., Kalantari, L., Bohlman, S. A.
2016; 8 (2)
 - **Progressive forest canopy water loss during the 2012-2015 California drought** *PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA*
Asner, G. P., Brodrick, P. G., Anderson, C. B., Vaughn, N., Knapp, D. E., Martin, R. E.
2016; 113 (2): E249-E255
 - **Mesoscale assessment of changes in tropical tree species richness across a bioclimatic gradient in Panama using airborne imaging spectroscopy** *REMOTE SENSING OF ENVIRONMENT*
Somers, B., Asner, G. P., Martin, R. E., Anderson, C. B., Knapp, D. E., Wright, S. J., Van de Kerchove, R.
2015; 167: 111-120
 - **Operational Tree Species Mapping in a Diverse Tropical Forest with Airborne Imaging Spectroscopy** *PLOS ONE*
Baldeck, C. A., Asner, G. P., Martin, R. E., Anderson, C. B., Knapp, D. E., Kellner, J. R., Wright, S. J.
2015; 10 (7)
 - **Landscape biogeochemistry reflected in shifting distributions of chemical traits in the Amazon forest canopy** *NATURE GEOSCIENCE*
Asner, G. P., Anderson, C. B., Martin, R. E., Tupayachi, R., Knapp, D. E., Sinca, F.
2015; 8 (7): 567-U114
 - **Landscape-Scale Controls on Aboveground Forest Carbon Stocks on the Osa Peninsula, Costa Rica** *PLOS ONE*
Taylor, P., Asner, G., Dahlin, K., Anderson, C., Knapp, D., Martin, R., Mascaro, J., Chazdon, R., Cole, R., Wanek, W., Hofhansl, F., Malavassi, E., Vilchez-Alvarado, et al

2015; 10 (6)

- **Regional-Scale Drivers of Forest Structure and Function in Northwestern Amazonia** *PLOS ONE*
Higgins, M. A., Asner, G. P., Anderson, C. B., Martin, R. E., Knapp, D. E., Tupayachi, R., Perez, E., Elespuru, N., Alonso, A.
2015; 10 (3)
- **Quantifying forest canopy traits: Imaging spectroscopy versus field survey** *REMOTE SENSING OF ENVIRONMENT*
Asner, G. P., Martin, R. E., Anderson, C. B., Knapp, D. E.
2015; 158: 15-27
- **Amazonian landscapes and the bias in field studies of forest structure and biomass** *PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA*
Marvin, D. C., Asner, G. P., Knapp, D. E., Anderson, C. B., Martin, R. E., Sinca, F., Tupayachi, R.
2014; 111 (48): E5224-E5232
- **Targeted carbon conservation at national scales with high-resolution monitoring** *PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA*
Asner, G. P., Knapp, D. E., Martin, R. E., Tupayachi, R., Anderson, C. B., Mascaro, J., Sinca, F., Chadwick, K. D., Higgins, M., Farfan, W., Llactayo, W., Silman, M. R.
2014; 111 (47): E5016-E5022
- **Linking imaging spectroscopy and LiDAR with floristic composition and forest structure in Panama** *REMOTE SENSING OF ENVIRONMENT*
Higgins, M. A., Asner, G. P., Martin, R. E., Knapp, D. E., Anderson, C., Kennedy-Bowdoin, T., Saenz, R., Aguilar, A., Wright, S. J.
2014; 154: 358-367
- **Functional and biological diversity of foliar spectra in tree canopies throughout the Andes to Amazon region** *NEW PHYTOLOGIST*
Asner, G. P., Martin, R. E., Carranza-Jimenez, L., Sinca, F., Tupayachi, R., Anderson, C. B., Martinez, P.
2014; 204 (1): 127-139
- **Amazonian functional diversity from forest canopy chemical assembly** *PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA*
Asner, G. P., Martin, R. E., Tupayachi, R., Anderson, C. B., Sinca, F., Carranza-Jimenez, L., Martinez, P.
2014; 111 (15): 5604-5609
- **A Tale of Two "Forests": Random Forest Machine Learning Aids Tropical Forest Carbon Mapping** *PLOS ONE*
Mascaro, J., Asner, G. P., Knapp, D. E., Kennedy-Bowdoin, T., Martin, R. E., Anderson, C., Higgins, M., Chadwick, K. D.
2014; 9 (1)
- **Landscape-scale changes in forest structure and functional traits along an Andes-to-Amazon elevation gradient** *BIOGEOSCIENCES*
Asner, G. P., Anderson, C. B., Martin, R. E., Knapp, D. E., Tupayachi, R., Sinca, F., Malhi, Y.
2014; 11 (3): 843-856
- **Forest Canopy Gap Distributions in the Southern Peruvian Amazon** *PLOS ONE*
Asner, G. P., Kellner, J. R., Kennedy-Bowdoin, T., Knapp, D. E., Anderson, C., Martin, R. E.
2013; 8 (4)
- **High-fidelity national carbon mapping for resource management and REDD+. Carbon balance and management**
Asner, G. P., Mascaro, J., Anderson, C., Knapp, D. E., Martin, R. E., Kennedy-Bowdoin, T., van Breugel, M., Davies, S., Hall, J. S., Muller-Landau, H. C., Potvin, C., Sousa, W., Wright, et al
2013; 8 (1): 7-?
- **Carnegie Airborne Observatory-2: Increasing science data dimensionality via high-fidelity multi-sensor fusion** *REMOTE SENSING OF ENVIRONMENT*
Asner, G. P., Knapp, D. E., Boardman, J., Green, R. O., Kennedy-Bowdoin, T., Eastwood, M., Martin, R. E., Anderson, C., Field, C. B.
2012; 124: 454-465
- **Spectroscopy of canopy chemicals in humid tropical forests** *REMOTE SENSING OF ENVIRONMENT*
Asner, G. P., Martin, R. E., Knapp, D. E., Tupayachi, R., Anderson, C., Carranza, L., Martinez, P., Houcheime, M., Sinca, F., Weiss, P.
2011; 115 (12): 3587-3598