CURRICULUM VITAE

GREGORY P. ASNER PHD

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I lead the the Center for Global Discovery and Conservation Science, an ASU research unit with faculty and labs based in Hawai'i and Arizona, dedicated to the exploration and stewardship of terrestrial and marine ecosystems. My scientific work combines terrestrial and marine ecology with sea, air, land and space based methods to discover, monitor and protect nature as it undergoes global environmental change.

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I. Professional Experience

Current Positions

- Director, ASU Center for Global Discovery and Conservation Science, Hawai‘i (2019 -)
- Professor, ASU School of Ocean Futures (2022 -)
- Senior Global Futures Scientist, ASU Global Futures Laboratory (2022 -)
- Professor, ASU School of Geographical Sciences and Urban Planning (2019 -)
- Professor (adjunct), ASU School of Earth and Space Exploration (2019 -)

Previous Positions

- Senior Staff Scientist, Carnegie Institution for Science, Dept of Global Ecology (2018 – 2019)
- Professor (crtsy), Stanford Univ, Integrated Prog. in Environment & Resources (2002 – 2022)
- Professor (crtsy), Stanford Univ, Earth System Science (2007 – 2019)
- Assoc Professor (crtsy), Stanford Univ, Geological & Envir. Sciences (2004 – 2007)
- Staff Scientist, Carnegie Institution for Science, Dept of Global Ecology (2001 – 2017)
- Asst Professor (crtsy), Stanford Univ, Geological & Envir. Sciences (2001 – 2004)
- Asst Professor, Univ of Colorado, Geological Sciences & Envir. Studies (1999 – 2001)
- Postdoctoral Fellow, Stanford Univ, Geological & Envir. Sciences (1998 – 1999)
- Conservation Staff, The Nature Conservancy of Hawai‘i (1998 – 1999)
- Research Staff, University of Hawai‘i, Mānoa (1993 – 1995)

II. Academic Preparation

Ph.D. Biology, Univ. of Colorado, Boulder (ecology thesis), 1997
M.S. Geography, Univ. of Colorado, Boulder (ecology thesis), 1995
B.S. Engineering, Univ. of Colorado, Boulder (radiative transfer thesis), 1991

III. Honors and Awards

Major

- Recipient, Heinz Award for the Environment, 2017
- Elected Fellow, Ecological Society of America, 2016
- Elected Fellow, American Geophysical Union, 2015
- Elected Member, U.S. National Academy of Sciences, 2013
- Recipient, U.S. Presidential Early Career Award, 2000

Additional

- Batseva Fellow, Israeli Academy of Sciences and Humanities, 2017
- Pongo Environment Award, 2017
- IFOF Honoree Award in Aviation, 2015
- Association for American Geographers Outstanding Contributions Award, 2014
- Nominet Trust 100 Award for Social Innovation, 2014
- Popular Science Magazine Brilliant Ten Award, 2007
- NASA Early Career Award, 2000
- NASA Group Achievement Award, 1999
- NASA Earth System Science Fellowship, 1996-1998

- NSF Biosphere-Atmosphere Interactions Fellowship, 1996-1998
- W.M. Keck Foundation Fellowship Award, 1995-1996
- Mabel Duncan Conservation Biology Award for Hawai‘i, 1996

IV. University, National, and International Service

Current Major Service Activities

2024-	*Board Member*, State of Hawai‘i Governor’s Committee on Marine Affairs
2024-	*Board Member*, Science Advisory Board for OneReef
2023-	*Founder and Director*, ‘Āko‘ako‘a Reef Restoration Program
2023-	*Committee Member*, Promotion and Tenure Committee, ASU School of Ocean Futures
2023-	*Committee Member*, Personnel Committee, ASU School of Ocean Futures
2022-	*Board Member*, Science Advisory Board, Bermuda Institute of Ocean Sciences
2021-	*Board Member,* Advisory Board, Global Conservation
2021-	*Board Member*, One Earth
2021-	*Science Team Member*; State of Hawaii Coral Reef Restoration Team
2020-	*Director*, Allen Coral Atlas, http://allencoralatlas.org
2019-	*Bureau Speaker*, Washington Speakers Bureau, Washington DC
2018-	*Board Member,* Hawai‘i Marine Education and Research Center
2014-	*Editorial Board*, Proceedings of the National Academy of Sciences
2006-	*Director*, Global Airborne Observatory (formerly Carnegie Airborne Observatory)

Past Service Examples

1996-1997	*Science Team Member*; NASA Lewis & Clark Satellite Missions
1998	*Panelist*; NASA Triana Satellite Mission
1998-2008	*Panelist*; NASA Large-scale Biosphere-Atmosphere Experiment in Amazônia Program
1998	*Co-chair*; International Forum on BRDF Remote Sensing
1998	*Panelist*; NOAA Climate and Global Change Program
1998-2015	*Panelist*; Natural Environment Research Council, United Kingdom
1999-2001	*Member*; NSF Long-term Ecological Research (LTER) Technology Committee
1999	*Panelist*; University of California, Digital Media Innovation Program
1999	*Co-organizer*; NASA Large-scale Biosphere-Atmosphere Experiment in Amazônia
1999	*Advisor*; Fundaçao Floresta Tropical (Tropical Forest Foundation), Brazil
1999-2009	*Panelist*; U.S. Strategic Environmental Research and Development Program
2000	*Panelist*; NASA New Millennium Program
2000-2001	*Member*; Land-use Committee, Ecological Society of America
2001-2014	*Panelist*; NSF Environmental Biology Panels
2001	*Panelist*; NASA Visions Working Group for Decadal Strategic Plan
2002	*Panelist*; NASA Terrestrial Ecology Program
2002	*Panelist*; NASA New Investigator Program
2003	*Co-convener*; AGU Chapman Conference “Ecosystem Interactions with Land-use Change”
2003	*Steering Committee*; International Symposium on Remote Sensing; Honolulu, HI
2003	*Panel Chair*; NASA Terrestrial Ecology Program
2003	*Panel Co-chair*; NASA Northern Eurasia Environmental Science Program Initiative (NEESPI), Yalta, Ukraine
2003-2007	*Steering Committee*; NASA-Brazil Large-scale Biosphere-Atmosphere Experiment in Amazonia Program
2003-2006	*Steering Group*; U.S. Carbon Cycle Program

2004	*Panelist*; NASA Carbon Cycle and Ecosystems Review
2004-2006	*Member*; Ecological Society of America (ESA) Habitat Change Rapid Response Team
2005	*Panelist*; World Bank Rural Days Conference
2005	*Member*; NSF Committee for Environmental Research and Education
2005-2009	*Panel Chair*; NASA Senior Review Committee
2005	*Co-convener*; Environmental Defense Fund (EDF) Global Deforestation and Forest Degradation Workshop
2005	*Search Committee*; USFS Institute for Pacific Islands Forestry
2005-2006	*Panel Chair*; NASA North American Carbon Program
2005	*Panel Chair*; Tropical Deforestation and Climate Change; UN Framework Convention on Climate Change COP-11, Montreal
2006-2007	*Chapter Author*; U.N. Livestock in a Changing Landscape
2007	*Lead Author*; FLORA satellite mission concept. National Academy Decadal Survey
2007	*Instructor*; ASP Colloquium; National Center for Atmospheric Research
2007	*Author*; NASA Plant Physiology and Functional Types Working Group
2006-2007	*Advisory Committee*; Department of Land and Natural Resources; State of Hawaii
2008-2017	*Science and Technology Advisor*, Peruvian Ministry of Environment
2008	*Panel Chair*; NASA Carbon Cycle and Ecosystems Joint Science Workshop
2008-2019	*Director*; CLASlite Forest Monitoring and Training Program
2008-2010	*Advisor*; National Ecological Observatory Network (NEON)
2008-2011	*Steering Committee*; bioDISCOVERY Program, Diversitas International
2008-2021	*Member*; NASA HyspIRI-SBG satellite development team
2009-2012	*Collaborator*; Google Earth Engine, Google.org and Google Inc.
2009	*Panelist*; Tropical Extinction Symposium, Museum of Natural History; Smithsonian
2009	*Panelist*; US Congressional panel on satellite monitoring for carbon markets
2009	*Lead Author*; GOFC-GOLD Source Book on deforestation and degradation
2009	*Panelist*; U.S. Congressional panel on satellite monitoring of deforestation
2009	*Delegate*; U.N. Framework Convention on Climate Change COP-15, Copenhagen
2010	*Steering Committee*; Center for Tropical Forest Science, Smithsonian Institute
2010-2020	*Editorial Board*; *Remote Sensing of Environment*
2010	*Panelist*; International Plant Biology Symposium, Harvard University
2010	*Co-author*; UN FAO Historical Forest Degradation report
2010	*Delegate*; Convention on Biological Diversity COP-10, Nagoya; United Nations
2010-2013	*Member*; Governors Climate and Forests (GCF) Task Force, State of California
2010	*Delegate*; Ambassadors for Forests, Nagoya, World Wildlife Fund
2010	*Lead Author*; Global Terrestrial Ecosystem Observatory proposal, Jet Propulsion Laboratory, NASA Earth Ventures
2010	*Delegate*; Framework Convention on Climate Change COP-16, Cancun
2011-2013	*Senior Fellow*, Energy and Climate Partnership; US State Department
2011	*Advisor*; World Bank; Carbon monitoring for the UNFCCC climate treaty
2012	*Lead Author*; Land Ecosystem Assessment & Forecast mission proposal, Jet Propulsion Laboratory, NASA Earth Ventures
2012	*Panelist*; Forest Carbon Partnership Facility; World Bank
2012	*Panelist*; Latin American Development Bank
2013-2018	*Member*; Working Group 3 of GEO Biodiversity Observation Network
2013	*Panelist*; Prince's Rainforest Project; London
2013	*Lead Author*; Linnaeus mission proposal; Jet Propulsion Laboratory, NASA Earth Ventures
2013-2015	*Member*; Advisory Board of Amazon Aid Foundation
2014-2017	*Member*; Scientific Steering Committee, NGEE-Tropics, Department of Energy
2015-2017	*Advisor*; California Air Resources Board and CA Dept of Forestry and Fire Protection
2016-2022	*Member*; Rapid Ohia Death Task Force; State of Hawaii

2015-2018	*Author*; National Academy of Sciences Decadal Survey for Earth Science and Applications from Space
2017-2019	*Member*; Editorial Board; *Remote Sensing for Ecology and Conservation* journal
2018-2021	*Lead*; Carnegie and ASU Partnership, *Allen Coral Atlas*; allencoralatlas.org
2018-2022	*Member*; Space Studies Board, National Academy of Sciences, Engineering and Medicine
2019-2023	*Director*, Hawai‘i Coral inter-agency program, State of Hawai‘i
2019	*Member*; Competing Interests Committee, National Academy of Sciences
2020	*Co-Author*; Campaign for Nature, https://www.campaignfornature.org/protecting-30-of-the-planet-for-nature-economic-analysis
2020	*Plenary Lead*; Future Use of NASA Airborne Platforms to Advance Earth Science Priorities; NASEM; 29-31Jul20
2020	*Plenary Lead*; Global Biodiversity, Planet Explore 2020 15Oct20
2021	*Keynote*; Hawai‘i Sustainability Summit, 15Mar21
2021	*Speaker*, Transportation amnd Infrastructure Roundtable for Hawai‘i. U.S. House of Representatives Sub-committee on Transportation and Infrastructure, 1Apr21.
2021	*Session Chair*; International Coral Reef Symposium, Bremen, Germany
2021	*Invited Speaker*; Pope Francis at the Vatican, 25Aug21
2021	*Invited Speaker*; NOAA Office of Law Enforcement, 26Oct21
2021	*Invited Speaker*; TEDx Hawai‘i, 13Nov21
2021-2024	*Chief Science Officer*, Carbon Mapper Mission, http://carbonmapper.org
2022	*Keynote*; Laudato Si, Vatican, Rome, 23May22
2022	*Co-author*; Ecosystem Status Report for Hawai‘i. NOAA Pacific Islands Fisheries
2023	*Search Committee Member*; Bermuda Institute of Ocean Sciences Directorship
2023-2024	*Expert Witness*, Navahine vs. Hawai‘i Department of Transportation Climate Lawsuit
2023-	*Personnel Committee Member*, ASU School of Ocean Futures
2024	*Invited Speaker*; State of Hawai‘i Legislature, Briefing on Coral Reefs, Honolulu HI
2024	*Session Chair* for Cultural Heritage and Restoration, Reef Futures Conference, Cancun, MX
2025	*Keynote Speaker*, Global Conservation Fundraiser, Palo Alto CA
2026	*Keynote Speaker*, Hawai‘i Wastewater Convening, Honolulu HI
2026-	*Committee Member*, Science Advisory Committee for Landseed USA
2026	*Plenary Speaker*, International Coral Reef Symposium, Auckland, NZ

V. Academic Advising

Graduate Student Advisees: 30
Additional Student Committees: 35
Postdoctoral Research Scientist Advisees: 43

Graduate Student Advisees
Name (year, degree), last known employer

David Lobell (2003, PhD), Stanford U.
Thomas Harris (2003, MS), Planet Inc.
Timothy Varga (2007, MS), Climate Pol. Inst.
Matthew Colgan (2012, PhD), Blue River Tech
Eben Broadbent (2013, PhD), U. Florida
Kelly McManus (2016, PhD), Stanford U.
Christa Anderson (2018, PhD), WWF
Elsa Ordway (2018, PhD), UCLA
Roberta Martin (2003, PhD), ASU
Charles Wheeler (2004, MS), U. Arizona
John Clark (2009, MS), Google Inc.
Kyla Dahlin (2012, PhD), Michigan State U.
Angelica Almeyda (2013, PhD), U. Florida
Dana Chadwick (2016, PhD), JPL
Rebecca Niemiec (2018, PhD), Colorado State U.
Emily Francis (2019, PhD), Univ of Texas

Nicholas Johnson (2019, MA), ASU
Rachel Engstrand (2021, PhD), Pachama
Bryant Grady (2022, MA), TNC
Megs Seeley (2023, PhD), ASU
Kelly van Woesik (2024, MA), NC State U.
McKenna Allen (2025, MS), HI DLNR
Kailey Pascoe (In progress, PhD), ASU
Kalli Harshman (In progress, MS), ASU
Randy Fulford (2019, MA), ASU
Rachel Carlson (2022, PhD), UC Berkeley
Kim Fuller (2022, MA), HI Div. Aq. Res.
Victoria Sember (2023, MA), Northeastern U.
Mia Melamed (2025, MS), HI DLNR
Dominica Harrison (2026, PhD), ETH Zurich
Teagan Roome (In progress, PhD), ASU

Postdoctoral and Research Scientist Advisees

Name (years in lab), last known employer

Sharon Hall (1999-01), ASU
Lydia Olander (2003-04), Duke U.
Roberta Martin (2004-06), ASU
Maoyi Huang (2005-08), Pacific NW Nat. Lab.
Chris Doughty (2008-10), Northern Arizona U.
Scott Loarie (2008-10), Cal Acad. of Sciences
Joseph Mascaro (2010-13), Planet Inc.
Nick Vaughn (2012-13), ASU
Claire Baldeck (2012-15), Yale U.
David Marvin (2014-2016), Planet Inc.
Tarin Paz-Kagan (2016-2017), U. Tel Aviv
Andrew Davies (2014-2019), Harvard U.
James Askew (2018-2019), U. of S. California
Philip Brodrick (2016-2019), JPL
Luke Evans (2016-2020), U. of Florida
Fredrick Draper (2016-2021), U. of Leeds
Shawna Foo (2018-2021), U. Sydney
Adrian Pascual (2020-2021), U. Maryland
Ana Gabriela Bonelli (2021-2023)
Elahe Jamalinia (2022-2023), Landi Corp.
Jasper Oshun (2024-)
Megan Seeley, (2023-)
Jeffrey Hicke (2000-03), U. Idaho
Andrew Elmore (2003-04), U. Maryland
Natalie Boelman (2005-06), Columbia U.
Choying Huang (2006-08), Taiwan Nat U.
Shaun Levick (2008-10), CSIRO, Australia
Jim Kellner (2008-11), Brown U.
Jean-Baptiste Féret (2010-13), U. Montpellier
Mark Higgins (2011-14), USAID
Paulo Brando (2013-15), Woods Hole
Jomar Barbosa (2014-2016), U. of Madrid
Dana Chadwick (2016-2017), JPL
Chris Balzotti (2015-2018), The Nature Cons.
Pramukta Kumar (2018-2019), DG Inc.
Ovidiu Csillik (2018-2019), Wageningen U.
Yaping Xu (2019-2020); U. of Tennessee
Jiwei Li (2018-2021), ASU
Yujia Zhang (2020-2021), ASU
Jie Dai (2021-2023), ASU
Rachel Mason (2022-2023)
Marcel König (2022-2023), MPI
Kelly Hondula (2022-)

Additional Student Committees

Arizona State Univ: William Green, Thomas Ingalls
Stanford Univ: Toby Ahrens, Michael Beman, Kate Brauman, Claire Lunch, Stephen Porder
Univ Colorado: Laura Belanger, Jon Carrasco, Cory Cleveland, Kathleen Farley, Nancy Golubiewski, David Kinner, David Mixon, Jennifer Mengan, Khatib Nader, Amanda Warner
Univ Arizona: Dawn Browning
Colorado State Univ: Lara Prihodko
Univ Brasília: Ana Paula Ferreira de Carvalho, Zayra do Prado
Univ Florida: Ane Alencar
Univ Paris: Jean-Baptiste Féret, Lena Maatoug
Univ Grenoble: Guillaume Tochon
Univ Pretoria: Russell Main, Laven Naidoo
***Univ Witwatersrand*:** Penelope Mograbi
Univ San Marcos-Peru: Felipe Sinca, Raul Tupayachi
Yale Univ: Kim Carlson
Wake Forest Univ: Stephanie Bilodeau, Cassie Freund, John Gorelick

VI. Peer-reviewed Publications

Total Publications: 997
Google Scholar H-index: 165 (2026)

1996-1999

1. **Asner, G.P.** and S.W. Beatty. 1996. Effects of an African grass invasion on Hawaiian shrubland nitrogen biogeochemistry. *Plant and Soil* 186:205-211.
2. **Asner, G.P.**, T.R. Seastedt, and A.R. Townsend. 1997. The decoupling of terrestrial carbon and nitrogen cycles. *BioScience* 47:226-234.
3. **Asner, G.P.** and G. Goldstein. 1997. Correlating stem biomechanical properties of Hawaiian canopy trees with hurricane wind damage. *Biotropica* 29:145-150.
4. **Asner, G.P.** and C.A. Wessman. 1997. Scaling PAR absorption from the leaf to landscape level in spatially heterogeneous ecosystems. *Ecological Modelling* 103:81-97.
5. **Asner, G.P.**, C.A. Wessman, and J.L. Privette. 1997. Unmixing the directional reflectances of AVHRR sub-pixel landcovers. *IEEE Transactions on Geoscience and Remote Sensing* 35:868-878.
6. **Asner, G.P.**, B.H. Braswell, D.S. Schimel, and C.A. Wessman. 1998. Ecological research needs from multi-angle remote sensing data. *Remote Sensing of Environment* 63:155-165.
7. **Asner, G.P.** 1998. Biophysical and biochemical sources of variability in canopy reflectance. *Remote Sensing of Environment* 64:234-253.
8. **Asner, G.P.**, C.A. Wessman, and S. Archer. 1998. Scale dependence of absorption of photosynthetically active radiation in terrestrial ecosystems. *Ecological Applications* 8:906-925.
9. Wessman, C.A. and **G.P. Asner**. 1998. Ecosystems and the problems of large-scale measurements. Successes, Limitations, and Frontiers in Ecosystem Ecology. P. Groffman and M. Pace (eds.) Springer-Verlag, Berlin.
10. **Asner, G.P.**, C.A. Wessman, D.S. Schimel, and S. Archer. 1998. Variability in leaf and litter optical properties: implications for canopy BRDF model inversions using AVHRR, MODIS, and MISR. *Remote Sensing of Environment* 63:200-215.
11. **Asner, G.P.**, C.A. Wessman, and D.S. Schimel. 1998. Heterogeneity of savanna canopy structure and function from imaging spectrometry and inverse modeling. *Ecological Applications* 8:926-941.
12. **Asner, G.P.**, C.A. Bateson, J.L. Privette, N. Z. El Saleous, and C.A. Wessman. 1998. Vegetation structural effects on carbon uptake using satellite data fusion and inverse modeling. *Journal of Geophysical Research* 103:28839-28853.
13. Mesarch, M.A., E.A. Walter-Shea, **G.P. Asner**, E.M. Middleton, and S.S. Chan. 1999. A revised measurement methodology for conifer needle spectral optical properties. *Remote Sensing of Environment* 68:177-192.
14. **Asner, G.P.**, A.R. Townsend, and M.C.M. Bustamante. 1999. Spectrometry of pasture condition and biogeochemistry in the Central Amazon. *Geophysical Research Letters* 26:2769-2772.
15. Diner, D.J., **G.P. Asner**, R. Davies, J.-P. Muller, B. Pinty, C.B. Schaaf, and J. Stroeve. 1999. New directions in Earth observing: scientific applications of multiple-view-angle remote sensing. *Bulletin of the American Meteorological Society* 80 (11):2209-2228.

2000-2002

16. Bateson, C.A., **G.P. Asner**, and C.A. Wessman. 2000. Endmember bundles: A new approach to incorporating endmember variability in spectral mixture analysis. *IEEE Transactions on Geoscience and Remote Sensing* 38:1083-1094.
17. White, M.A., **G.P. Asner**, R.R. Nemani, J.L. Privette, and S.W. Running. 2000. Monitoring fractional cover and leaf area index in arid ecosystems: digital camera, radiation transmittance, and laser altimetry results. *Remote Sensing of Environment* 74:45-57.

18. Privette, J.L., **G.P. Asner**, F. Huemmrich, et al. 2000. The Prototype Validation Exercise (PROVE) for EOS land and atmosphere products. *Remote Sensing of Environment* 74:1-12.
19. **Asner, G.P.**, C.A. Wessman, C.A. Bateson, and J.L. Privette. 2000. Impact of tissue, canopy and landscape factors on reflectance variability of arid ecosystems. *Remote Sensing of Environment* 74:69-84.
20. **Asner, G.P.** and D.B. Lobell. 2000. A biogeophysical approach for automated SWIR unmixing of soils and vegetation. *Remote Sensing of Environment* 74:99-112.
21. **Asner, G.P.** 2000. Contributions of multi-view angle remote sensing to land surface and biogeochemical research. *Remote Sensing Reviews* 18:137-162.
22. **Asner, G.P**., A.R. Townsend, and B.H. Braswell. 2000. Satellite observation of El Niño effects on Amazon forest phenology and productivity. *Geophysical Research Letters* 27:981-984.
23. **Asner, G.P.**, A.R. Townsend, W. Riley, P.A. Matson, J.C. Neff, and C.C. Cleveland. 2001. Physical and biogeochemical controls of terrestrial ecosystems responses to nitrogen deposition. *Biogeochemistry* 54:1-39.
24. Neff, J.C. and **G.P. Asner**. 2001. Dissolved organic carbon in terrestrial ecosystems: synthesis and model. *Ecosystems* 4:29-48.
25. Lobell, D.B., **G.P. Asner**, B. Law, R. Treuhaft. 2001. Sub-pixel canopy cover estimation of coniferous forest using SWIR imaging spectrometry. *Journal of Geophysical Research* 106:5151-5160.
26. **Asner, G.P.** 2001. Cloud cover in Landsat observations of the Brazilian Amazon. *International Journal of Remote Sensing* 22:3855-3862.
27. **Asner, G.P.** and R.O. Green. 2001. Imaging spectroscopy measures desertification in the Southwest U.S. and Argentina. *EOS Transactions* 82(49):601-606.
28. **Asner, G.P.**, M. Keller, R. Pereira, and J. Zweede. 2002. Remote sensing of selective logging in Amazônia: Assessing limitations based on detailed field measurements, Landsat ETM+ and textural analysis. *Remote Sensing of Environment* 80(3):483-496.
29. Lobell, D.B., **G.P. Asner**, B. Law, R. Treuhaft. 2002. View angle effects on canopy reflectance and spectral mixture analysis of coniferous forests using AVIRIS. *International Journal of Remote Sensing* 23:2247-2262.
30. Lobell, D.B. and **G.P. Asner**. 2002. Moisture effects on soil reflectance. *Soil Science Society of America Journal* 66:722-727.
31. **Asner, G.P.** and K.B. Heidebrecht. 2002. Spectral unmixing of vegetation, soil and dry carbon in arid regions: Comparing multi-spectral and hyperspectral observations. *International Journal of Remote Sensing* 23:3,939-3,958.
32. Treuhaft, R.N., **G.P. Asner**, B.E. Law, and S. Van Tuyl. 2002. Forest leaf area density profiles from the quantitative fusion of radar and hyperspectral data. *Journal of Geophysical Research* 107:4568 doi:10.1029/2001JD000646
33. Lobell, D.B., **G.P. Asner**, I. Ortiz-Monasterio, and T. Benning. 2002. Remote sensing of regional crop production in the Yaqui Valley, Mexico: Estimates and uncertainties. *Agriculture, Ecosystems and Environment* 94(2):205-220.
34. **Asner, G.P.**, M. Palace, M. Keller, R. Pereira Jr., J.N.M. Silva, and J.C. Zweede. 2002. Estimating canopy structure in an Amazon forest from laser rangefinder and IKONOS satellite observations. *Biotropica* 34:483-492.
35. Hicke, J.A., **G.P. Asner**, J. Randerson, S. Los, S. Birdsey, C.J. Tucker, and C.B. Field. 2002. Changes in North American net primary production, 1982-1998. *Geophysical Research Letters* 29:69-73.
36. Hicke, J.A., **G.P. Asner**, J.T. Randerson, S. Los, R. Birdsey, J.C. Jenkins, C.J. Tucker, and C.B. Field. 2002. Trends in North American net primary productivity derived from satellite observations, 1982-1998. *Global Biogeochemical Cycles* 16 doi:10.1029/2001GB001550.
37. Townsend, A.R., **G.P. Asner**, C.C. Cleveland, M. Lefer, and M.M.C. Bustamante. 2002. Unexpected changes in soil phosphorus dynamics following forest-to-pasture conversion in the humid tropics. *Journal of Geophysical Research* 107:8,067-8,076.

38. Pereira, R., J. Zweede, **G.P. Asner**, and M. Keller. 2002. Forest canopy damage from conventional and reduced impact selective logging in Eastern Amazon, Brazil. *Forest Ecology and Management* 168:77-89.
39. Townsend, A.R., **G.P. Asner**, P.P. Tans, and J.W.C. White. 2002. Land use effects on atmospheric ^{13}C imply a sizable terrestrial CO_2 sink in tropical latitudes. *Geophysical Research Letters* 29 doi:10.1029/2001GL013454.
40. Lobell, D.B., J.I. Ortiz-Monasterio, C.L. Addams, and **G.P. Asner**. 2002. Soil, climate and management impacts on regional agricultural productivity. *Agricultural and Forest Meteorology* 114:31-43.
41. Lobell, D.B., J.A. Hicke, **G.P. Asner**, C.B. Field, C.J. Tucker, and S. O. Los. 2002. Satellite estimates of productivity and light use efficiency in United States agriculture, 1982-1998. *Global Change Biology* 8:722-735.

2003-2005

42. **Asner, G.P.**, J.M.O. Scurlock, and J.A. Hicke. 2003. Global synthesis of leaf area index observations: Implications for ecological and remote sensing studies. *Global Ecology and Biogeography* 12:195-205.
43. Hicke, J.A., **G.P. Asner**, E.S. Kasishke, N.H.F. French, J.T. Randerson, G.J. Collatz, B.J. Stocks, C.J. Tucker, S.O. Los, C.B. Field. 2003. Postfire response of North American boreal forest net primary productivity. *Global Change Biology* 9:1145-1157.
44. Zavaleta, E.S, B.D. Thomas, N.R. Chariello, **G.P. Asner**, M.R. Shaw, and C.B. Field. 2003. Plants reverse warming effect on ecosystem water balance. *Proceedings of the National Academy of Sciences* 100:9892-9893.
45. **Asner, G.P.**, S.A. Archer, R.F. Hughes, J.N. Ansley, and C.A. Wessman. 2003. Net changes in regional woody vegetation cover and carbon storage in North Texas rangelands, 1937-1999. *Global Change Biology* 9:316-335.
46. Lobell, D.B. and **G.P. Asner**. 2003. Climate and management contributions to recent trends in U.S. agricultural yields. *Science* 299:1032.
47. Lobell, D.B. and **G.P. Asner**. 2003. Comment on climate and management contributions to recent trends in U.S. agricultural yields. *Science* 300:1505.
48. **Asner, G.P**., C. Borghi, and R. Ojeda. 2003. Desertification in Central Argentina: Regional changes in ecosystem carbon-nitrogen. *Ecological Applications* 13:629-648.
49. Harris, A.T., **G.P. Asner**, and M.E. Miller. 2003. Changes in vegetation structure following long-term grazing in pinyon-juniper ecosystems. *Ecosystems* 6:368-383.
50. Martin, R.E., **G.P. Asner**, R.J. Ansley, and A.R. Mosier. 2003. Effects of woody vegetation encroachment on soil nitrogen oxide emissions in a temperate savanna. *Ecological Applications* 13:897-910.
51. Treuhaft, R.N., **G.P. Asner**, and B.E. Law. 2003. Structure-based forest biomass from fusion of radar and hyperspectral observations. *Geophysical Research Letters* 30:1472-1476.
52. **Asner, G.P.** and K.B. Heidebrecht. 2003. Imaging spectroscopy for desertification studies: Comparing AVIRIS and EO-1 Hyperion in Argentina drylands. *IEEE Transactions on Geoscience and Remote Sensing* 41:135-155.
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VIII. **Open Access Data** (examples)

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XI. Popular Reader Articles

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XII. Patents

Remote Sensing Analysis of Forest Disturbances; United States Patents 8189877, 20090214084, 20120288159-A1 and 20130216103; International Classification G06K9/62; Expiration: May 21, 2028. Patent applies to a general methodology for monitoring any forest disturbances with satellite imagery. The patents protect the Carnegie Landsat Analysis System (CLAS), Carnegie Landsat Analysis System-Lite (CLASlite), Automated Monte Carlo Unmixing (AutoMCU), and Multispectral and Hyperspectral Libraries. The invention can be used to monitor any type of forest disturbance or degradation including

selective logging, agricultural expansion, cattle ranching, and natural hazards such as fire and windstorms.

XIII. Professional Organizations

America Association for the Advancement of Science (AAAS)
American Geophysical Union (AGU)
Association for Tropical Biology and Conservation (ATBC)
Ecological Society of America (ESA)
International Coral Reef Initiative (ICRI)
International Coral Reef Society (ICRS)
Organization for Tropical Studies (OTS)
U.S. National Academy of Sciences (NAS)

XIV. Film Documentaries

Keeper of the Bay (2023)
The Letter with Pope Francis (2022)
Changing Ocean (2022)
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Saving Earth from the Sky (2020)
H_2O: The Molecule That Made Us (2020)
Judi Dench's Wild Borneo Adventure (2019)
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