

CURRICULUM VITAE

GREGORY P. ASNER PhD

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I lead the Center for Global Discovery and Conservation Science, an ASU international research unit with faculty and labs based in Hawai'i and Arizona USA, dedicated to the exploration and stewardship of terrestrial and marine ecosystems. I also direct the non-profit organization Hawai'i Marine Education and Research Center, where we support and blend Indigenous knowledge leadership, science, and conservation for community resilience. My career scientific work combines terrestrial and marine ecology combined with sea-, air-, land-, and space-based exploration and discovery methods to understand, value, and conserve nature as it undergoes global environmental change.

TABLE OF CONTENTS

I.	<i>Professional Experience</i>	1
II.	<i>Professional Preparation</i>	1
III.	<i>Honors and Awards</i>	1
IV.	<i>University, National and International Service</i>	2
V.	<i>Academic Advising</i>	4
VI.	<i>Peer-reviewed Publications</i>	6
VII.	<i>Selection of Conference Papers</i>	41
VIII.	<i>Open-Access Peer-reviewed Datasets</i>	60
IX.	<i>Books</i>	61
X.	<i>Book Reviews</i>	61
XI.	<i>Patents</i>	62
XII.	<i>Professional Organizations</i>	62
XIII.	<i>Documentary Film Appearances</i>	62
XIV.	<i>Examples of Mass Media Coverage</i>	62

I. Professional Experience

Current

- Director, ASU Center for Global Discovery and Conservation Science, Hawai‘i (2019 -)
- Co-Director, Hawai‘i Marine Education and Research Center (2018 -)
- 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

- Senior Staff Scientist, Dept of Global Ecology, Carnegie Institution for Science (2018 – 2019)
- Professor, Stanford Univ, Integrated Program in Environment & Resources (2002 – 2022)
- Professor, Stanford Univ, Earth System Science (2007 – 2019)
- Assoc Professor, Stanford Univ, Geological & Envir. Sciences (2004 – 2007)
- Staff Scientist, Dept of Global Ecology, Carnegie Institution for Science (2001 – 2017)
- Asst Professor, 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)
- Staff, The Nature Conservancy of Hawai‘i: O‘ahu and Moloka‘i Preserves (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

2024-	<i>Member</i> , State of Hawai‘i Governor’s Committee on Marine Affairs
2023-	<i>Founder and Director</i> , ‘Āko‘ako‘a Reef Restoration Program, https://akoakoa.org
2023-	<i>Member</i> , Promotion and Tenure Committee, ASU School of Ocean Futures
2023-	<i>Member</i> , Personnel Committee, ASU School of Ocean Futures
2021-	<i>Chief Science Officer</i> , Carbon Mapper Mission, http://carbonmapper.org
2021-	<i>Board Member</i> , Global Conservation
2020-	<i>Director</i> , Allen Coral Atlas, http://allencoralatlas.org
2014-	<i>Managing Editorial Board</i> , Proceedings of the National Academy of Sciences
2005-	<i>Director</i> , Global Airborne Observatory (formerly Carnegie Airborne Observatory)

Past and Current Service

1996-1997	<i>Science Team</i> ; NASA Lewis & Clark Satellite Missions
1998	<i>Panelist</i> ; NASA Triana Satellite Mission
1998-2008	<i>Panelist</i> ; NASA Large-scale Biosphere-Atmosphere Experiment in Amazônia Program
1998	<i>Co-chair</i> ; International Forum on BRDF Remote Sensing
1998	<i>Panelist</i> ; NOAA Climate and Global Change Program
1998-2015	<i>Panelist</i> ; Natural Environment Research Council, United Kingdom
1999-2001	<i>Member</i> ; NSF Long-term Ecological Research (LTER) Technology Committee
1999	<i>Panelist</i> ; University of California, Digital Media Innovation Program
1999	<i>Co-organizer</i> ; NASA Large-scale Biosphere-Atmosphere Experiment in Amazônia
1999	<i>Advisor</i> ; Fundação Floresta Tropical (Tropical Forest Foundation), Brazil
1999-2009	<i>Panelist</i> ; U.S. Strategic Environmental Research and Development Program
2000	<i>Panelist</i> ; NASA New Millennium Program
2000-2001	<i>Member</i> ; Land-use Committee, Ecological Society of America
2001-2014	<i>Panelist</i> ; NSF Environmental Biology Panels
2001	<i>Panelist</i> ; NASA Visions Working Group for Decadal Strategic Plan
2002	<i>Panelist</i> ; NASA Terrestrial Ecology Program
2002	<i>Panelist</i> ; NASA New Investigator Program
2003	<i>Co-convener</i> ; AGU Chapman Conference “Ecosystem Interactions with Land-use Change”
2003	<i>Steering Committee</i> ; International Symposium on Remote Sensing; Honolulu, HI
2003	<i>Panel Chair</i> ; NASA Terrestrial Ecology Program
2003	<i>Panel Co-chair</i> ; NASA Northern Eurasia Environmental Science Program Initiative (NEESPI), Yalta, Ukraine
2003-2007	<i>Steering Committee</i> ; NASA-Brazil Large-scale Biosphere-Atmosphere Experiment in Amazonia Program
2003-2006	<i>Steering Group</i> ; U.S. Carbon Cycle Program
2004	<i>Panelist</i> ; NASA Carbon Cycle and Ecosystems Review

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

2015-2018	<i>Author</i> ; National Academy of Sciences Decadal Survey for Earth Science and Applications from Space
2017-2019	<i>Member</i> ; Editorial Board; <i>Remote Sensing for Ecology and Conservation</i> journal
2018-2021	<i>Lead</i> ; Carnegie and ASU Partnership, <i>Allen Coral Atlas</i> ; allencoralatlas.org
2018-2022	<i>Member</i> ; Space Studies Board, National Academy of Sciences, Engineering and Medicine
2019-2023	<i>Director</i> , Hawai‘i Coral inter-agency program, State of Hawai‘i
2019	<i>Member</i> ; Competing Interests Committee, National Academy of Sciences
2019-present	<i>Speaker</i> , Washington Speakers Bureau, Washington DC
2020	<i>Co-Author</i> ; Campaign for Nature, https://www.campaignfornature.org/protecting-30-of-the-planet-for-nature-economic-analysis
2020	<i>Plenary Lead</i> ; Future Use of NASA Airborne Platforms to Advance Earth Science Priorities; NASEM; 29-31Jul20
2020	<i>Plenary Lead</i> ; Global Biodiversity, Planet Explore 2020 15Oct20
2021	<i>Keynote</i> ; Hawai‘i Sustainability Summit, 15Mar21
2021	<i>Speaker</i> , Transportation and Infrastructure Roundtable for Hawai‘i. U.S. House of Representatives Sub-committee on Transportation and Infrastructure, 1Apr21.
2021	<i>Session Chair</i> ; International Coral Reef Symposium, Bremen, Germany
2021-present	<i>Member</i> ; State of Hawaii Coral Reef Restoration Science Team
2021	<i>Invited Speaker</i> ; Pope Francis at the Vatican, 25Aug21
2021	<i>Invited Speaker</i> ; NOAA Office of Law Enforcement, 26Oct21
2021	<i>Invited Speaker</i> ; TEDx Hawai‘i, 13Nov21
2022	<i>Keynote</i> ; Laudato Si, Vatican, Rome, 23May22
2022	<i>Co-author</i> ; Ecosystem Status Report for Hawai‘i. NOAA Pacific Islands Fisheries
2022-present	<i>Member</i> ; Science Board of Bermuda Institute of Ocean Sciences
2022-present	<i>Member</i> ; Hawai‘i Reef Restoration Science Team. NOAA Pacific Islands Fisheries
2023-present	<i>Member</i> ; Search Committee for Bermuda Institute of Ocean Sciences Directorship
2023-present	<i>Member</i> ; Personnel Committee, ASU School of Ocean Futures
2023-present	<i>Member</i> ; Promotion and Tenure Committee, ASU School of Ocean Futures
2023-2024	<i>Expert Witness</i> on Climate and the Environment, Navahine vs. Hawai‘i Department of Transportation Climate Change Mitigation Lawsuit
2024	<i>Invited Speaker</i> ; State of Hawai‘i Legislature, Briefing on Coral Reefs, Honolulu HI
2024-present	<i>Member</i> ; Science Advisory Board, OneReef
2024	<i>Session Chair</i> for Cultural Heritage and Restoration, Reef Futures Conference, Cancun, MX
2024-present	<i>Member</i> ; Global Coral Biorepository Task Force, Revive & Restore Program

V. Academic Advising

Primary Graduate Student Advisees: 30

Other Graduate Student Committees: 35

Postdoctoral Researcher Advisees: 43

Primary Graduate Student Advisees

Name (year, degree), last known employer

David Lobell (2003, PhD), Stanford U.

Roberta Martin (2003, PhD), ASU

Thomas Harris (2003, MS), Planet Inc.

Charles Wheeler (2004, MS), U. Arizona

Timothy Varga (2007, MS), Climate Pol. Inst.

John Clark (2009, MS), Google Inc.

Matthew Colgan (2012, PhD), Blue River Tech

Kyla Dahlin (2012, PhD), Michigan State U.

Eben Broadbent (2013, PhD), U. Florida	Angelica Almeyda (2013, PhD), U. Florida
Kelly McManus (2016, PhD), Stanford U.	Dana Chadwick (2016, PhD), JPL
Christa Anderson (2018, PhD), WWF	Rebecca Niemiec (2018, PhD), Colorado State U.
Elsa Ordway (2018, PhD), UCLA	Emily Francis (2019, PhD), Univ of Texas
Nicholas Johnson (2019, MA), ASU	Randy Fulford (2019, MA), ASU
Rachel Engstrand (2021, PhD), Pachama	Rachel Carlson (2022, PhD), UC Berkeley
Bryant Grady (2022, MA), TNC	Kim Fuller (2022, MA), Hawaii Div. Aq. Res.
Megs Seeley (2023, PhD), ASU	Victoria Sember (2023, MA), Northeastern U.
Kelly van Woesik (MA), NC State U.	Mia Melamed (MS), Hawaii Div. Aq. Res.
McKenna Allen (MS), Hawaii Div. Aq. Res.	Dominica Harrison (In progress, PhD), ASU
Kailey Pascoe (In progress, PhD), ASU	Teagan Roome (In progress, PhD)

Post-doctoral 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.
 Kelly Hondula (2022-)
 Jasper Oshun (2024-)

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
 Grace Klinges (2024-)

Student Committees Other Than Major Advisor

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: 972
Google Scholar H-index: 154 (2025)

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 CO₂ 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

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2012-2014

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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.

XII. 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)

XIII. Film Appearances

Keeper of the Bay (2023)
The Letter with Pope Francis (2022)
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Reef Rescue (2021)
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XIV. Examples of Mass Media Coverage

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