

GREGORY P. ASNER PHD
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I lead the Center for Global Discovery and Conservation Science (GDCCS), 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. I also co-direct the non-profit organization Hawai‘i Marine Education and Research Center (MERC) where we blend Indigenous knowledge leadership, science, and conservation to support community resilience in a changing climate. My research focuses on applications of spatial ecology and remote sensing in large-scale conservation programs.

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I. Professional Experience

2019 - Director, ASU Center for Global Discovery and Conservation Science, Hawai'i
2022 - Senior Global Futures Scientist, ASU Global Futures Laboratory
2022 - Professor, ASU School of Ocean Futures
2019 - Professor, ASU School of Geographical Sciences and Urban Planning
2019 - Professor (affiliate), ASU School of Earth and Space Exploration
2018 - Co-Director, Hawai'i Marine Education and Research Center
2002 - 2022 Professor (crtsy), Stanford Univ, Integrated Program in Environment & Resources
2018 - 2019 Senior Staff Scientist, Dept of Global Ecology, Carnegie Institution for Science
2007 - 2019 Professor (crtsy), Stanford Univ, Earth System Science
2004 - 2007 Assoc Professor (crtsy), Stanford Univ, Geological & Envir. Sciences
2001 - 2017 Staff Scientist, Dept of Global Ecology, Carnegie Institution for Science
2001 - 2004 Asst Professor (crtsy), Stanford Univ, Geological & Envir. Sciences
1999 - 2001 Asst Professor, Univ of Colorado, Geological Sciences & Envir. Studies
1998 - 1999 Postdoctoral Fellow, Stanford Univ, Geological & Envir. Sciences
1993 - 1995 Staff, The Nature Conservancy of Hawai'i: O'ahu and Moloka'i Preserves
1993 - 1995 Research Staff, University of Hawai'i, Mānoa

II. Professional Preparation

1997 Ph.D. Biology, University of Colorado, Boulder (Hawai'i and Brazil)
1995 M.S. Geography (ecology), University of Colorado, Boulder (Hawai'i)
1991 B.S. Engineering (radiative physics), University of Colorado, Boulder

III. Honors and Awards

Major

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

2023- *Founder and Director*, ‘Āko‘ako‘a Reef Restoration Program, Hawai‘i
2022- *Board Member*, Bermuda Institute of Ocean Sciences
2021- *Chief Science Officer*, Carbon Mapper Mission, <http://carbonmapper.org>
2021- *Board Member*, Global Conservation
2020- *Director*, Allen Coral Atlas, <http://allencoralatlas.org>
2014- *Editorial Board Member*, Proceedings of the National Academy of Sciences
2006- *Director*, Global Airborne Observatory (formerly Carnegie Airborne Observatory)

Past and Current Service

1996-1997 Science Team; NASA Lewis & Clark Missions
1998 Panelist; NASA Triana 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; Fundação 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 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 Ecological Society of America (ESA) Habitat Change Rapid Response Team
2005 Panelist; World Bank Rural Days Conference;
2005 NSF Committee for Environmental Research and Education
2005-2009 NASA Senior Review Committee (Chair, 2007-2009)
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 Author; U.N. Livestock in a Changing Landscape Forum
 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 Working Group; NASA HypsIRI-SBG satellite development team
 2009-2012 PI; 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; GOFCC-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 Working Group; Governors Climate and Forests (GCF) Task Force, State of California
 2010 Delegate; Ambassadors for Forests, Nagoya, World Wildlife Fund
 2010 PI; 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 PI; 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 Working Group 3 Member; GEO Biodiversity Observation Network
 2013 Panelist; Prince's Rainforest Project; London
 2013 PI; Linnaeus mission proposal; Jet Propulsion Laboratory, NASA Earth Ventures
 2013-2015 Advisory Board; Amazon Aid Foundation
 2014-2017 Scientific Steering Committee, NGEE-Tropics, Department of Energy
 2015-2017 Advisor; California Air Resources Board and CA Dept of Forestry and Fire Protection
 2016- Working Group; 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- Editorial Board; *Remote Sensing for Ecology and Conservation* journal
 2018-2021 Carnegie and ASU Partnership Lead, *Allen Coral Atlas*; allencoralatlas.org
 2018-2022 Space Studies Board, National Academy of Sciences, Engineering and Medicine
 2019-2023 *Director*, Hawai'i Coral inter-agency program, State of Hawai'i
 2019 Committee Member; Competing Interests Committee, National Academy of Sciences
 2019-present Sustainability Speaker, Washington Speakers Bureau, Washington DC
 2020 Co-Author; Campaign for Nature, <https://www.campaignfornature.org/protecting-30-of-the-planet-for-nature-economic-analysis>
 2020 Plenary; Future Use of NASA Airborne Platforms to Advance Earth Science Priorities; NASEM; 29-31Jul20

2020	Plenary, Global Biodiversity, Planet Explore 2020 15Oct20
2021	Keynote Speaker, Hawai'i Sustainability Summit, 15Mar21
2021	Speaker, Transportation and Infrastructure Roundtable for Hawai'i. U.S. House of Representatives Sub-committee on Transportation and Infrastructure, 1Apr21.
2021	Session Chair and Speaker, International Coral Reef Symposium, Bremen, Germany
2021	Member, State of Hawaii Coral Reef Restoration Science Team
2021	Invited Audience, Pope Francis at the Vatican, 25Aug21
2021	Invited Speaker, NOAA Office of Law Enforcement, 26Oct21
2021	Invited Speaker, TEDx Hawai'i, 13Nov21
2022	Invited Keynote, Laudato Si, Vatican, Rome, 23May22
2022	Co-author, Ecosystem Status Report for Hawai'i. NOAA Pacific Islands Fisheries
2022-present	Member, Hawai'i Reef Restoration Science Team. NOAA Pacific Islands Fisheries
2023-present	Search Committee Member, Bermuda Institute of Ocean Sciences Directorship
2023-present	Personnel Committee, ASU School of Ocean Futures
2023-present	Promotion and Tenure Committee, ASU School of Ocean Futures
2023-present	Member, Personnel Committee, ASU School of Ocean Futures
2023-present	Member, Promotion and Tenure Committee, ASU School of Ocean Futures
2024	Invited Speaker, State of Hawai'i Legislature, Briefing on Coral Reefs, Honolulu HI

V. Academic Advising

Graduate Student Advisees

Name (year, degree), current 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 DAR
Megs Seeley (2023, PhD), ASU	Victoria Sember (2023, MA), NE Univ.
Kelly van Woesik (MA), NC State Univ.	Kailey Pascoe (In progress, PhD), ASU
Dominica Harrison (In progress, PhD), ASU	Mia Melamed (In progress, MS), Hawaii DAR
McKenna Allen (In progress, MS), Hawaii DAR	

Post-doctoral/Research Scientist Advisees

Name (years in lab), last known employer

Sharon Hall (1999-01), ASU	Jeffrey Hicke (2000-03), U. Idaho
Lydia Olander (2003-04), Duke U.	Andrew Elmore (2003-04), U. Maryland
Roberta Martin (2004-06), ASU	Natalie Boelman (2005-06), Columbia U.
Maoyi Huang (2005-08), Pacific NW Nat. Lab.	Choying Huang (2006-08), Taiwan Nat U.
Chris Doughty (2008-10), Northern Arizona U.	Shaun Levick (2008-10), CSIRO, Australia
Scott Loarie (2008-10), Cal Acad. of Sciences	Jim Kellner (2008-11), Brown U.
Joseph Mascaro (2010-13), Planet Inc.	Jean-Baptiste Féret (2010-13), U. Montpellier
Nick Vaughn (2012-13), ASU	Mark Higgins (2011-14), USAID

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 Jamalnia (2022-2023), Landi Corp.
Kelly Hondula (2022-)
Jasper Oshun (2024-)

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-)

Graduate Student Advisees in Other Universities

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 Brasilia: 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

Google Scholar H-index: 149

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 ¹³C 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

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.
53. Lobell, D.B. and G.P. Asner. 2003. Comparison of Earth Observing-1 ALI and Landsat ETM+ for crop identification and yield prediction in Mexico. *IEEE Transactions on Geoscience and Remote Sensing* 41:128-134.
54. Harris, A.T. and G.P. Asner. 2003. Grazing gradient detection with airborne imaging spectroscopy on a semi-arid rangeland. *Journal of Arid Environments* 55:391-404.
55. Asner, G.P., M.M.C. Bustamante, and A.R. Townsend. 2003. Scale dependence of biophysical structure in deforested lands bordering the Tapajós National Forest, Central Amazon. *Remote Sensing of Environment* 87:507-520.

56. Asner, G.P. and A.S. Warner. 2003. Canopy shadow in IKONOS satellite observations of tropical forests and savannas. *Remote Sensing of Environment* 87:521-533.
57. Hurtt, G., X. Xiao, M. Keller, M. Palace, G.P. Asner, et al. 2003. IKONOS imagery for the Large Scale Biosphere-Atmosphere Experiment in Amazônia (LBA). *Remote Sensing of Environment* 88:111-127.
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IX. Books

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XI. 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.

XII. Professional Organizations

American Geophysical Union
 Association for Tropical Biology and Conservation
 Ecological Society of America

International Coral Reef Society
Organization for Tropical Studies
U.S. National Academy of Sciences

XIII. Movie Appearances

Keeper of the Bay (2023)
The Letter with Pope Francis (2022)
Changing Ocean (2022)
Reef Rescue (2021)
A Perfect Planet (2021)
Saving Earth from the Sky (2020)
H₂O: The Molecule That Made Us (2020)
Judi Dench's Wild Borneo Adventure (2019)
Decoding the Weather Machine (2018)
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XIV. Mass Media Examples

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Wired, "[The weird way that human waste is killing corals](#)", 9Aug23
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Nature, "[The last stand in the Amazon](#)", 5Oct22
Hana Hou Magazine, "[Science of the People](#)", 1Oct22
Variety, "[Pope Francis YouTube Doc 'The Letter: A Message for Our Earth' launches from Vatican City](#)", 4Oct22
Popular Science, "[These Hawaiian corals could hold the secret to surviving warming waters](#)", 3May22
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World Economic Forum, "[First-ever high-resolution map of world's coral reefs is complete](#)", 15Sep21
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The Economist, "[Mass extinction: What can stop it?](#)", 2Jul21
The Chopra Well, "[Reinventing humanity: The connection between ecological, personal, social and planetary wellbeing](#)", 29Jun21
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Popular Science, "[These tricked out planes could help save coral reefs from untimely deaths](#)", 1Jun21

The Guardian, "[Scientists launch tool to detect bleaching of coral reefs in near real time](#)", 19May21

Science, "[NASA's new fleet of satellites will offer insights into the wild cards of climate change](#)", 5May21

Science, "[California to hunt greenhouse gas leaks and super emitters with monitoring satellites](#)", 15Apr21

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Now This, "[Why its important to map coral health](#)", 15Jan2021.

The Conversation, "[Protecting half of the planet is the best way to fight climate change and biodiversity loss](#)", 8Sep20

NPR, "[California's ancient redwoods face new challenge from wildfires and warming climate](#)", 8Dec20

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Honolulu Star Advertiser, "[1st detailed map of Hawaii reefs shows coral decline](#)", Dec 2020

Mongabay, "[Hawaiian reefs lost almost half their fish to pollution and fishing](#)", Sep 2020

The Explorer's Journal, "[The Future of Coral](#)", Mar 2020

History Channel, "[Saving the Earth from the sky](#)", Oct 2019

IMDB, "[Judi Dench's Wild Borneo Adventure](#)", June 2019

The Verge, "[Satellites track real-time damage of ocean blob menacing Hawaii](#)", 1Nov19

New York Times, "[The return of The Blob: Hawaii's reefs threatened by marine heatwave](#)", 21Oct19

Nature, "[Coral tracking satellites monitor reef bleaching in near real time](#)", 4Oct19

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National Geographic "[Lion trackers get sight beyond sight with laser plane](#)", 18Mar13
Scientific American "[Amazon struggles to adapt to drought](#)", 1Mar13
Nature "[Landsat 8 to the rescue](#)", 6Feb13
Scientific American "[Is the Amazon rainforest drying out?](#)", 24Dec12
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