

## REFERÊNCIAS BIBLIOGRÁFICAS

- Achard, F.; H. J. Stibig; H. D. Eva; E. J. Lindquist; A. Bouvet; O. Arino; P. Mayaux. 2010. Estimating tropical deforestation from Earth observation data. *Carbon* 1:271-87.
- Ackerly, D. D. 1996. Canopy structure and dynamics: Integration of growth processes in tropical pioneer trees. p. 619-58 In: S. S. Mulkey; R. L. Chazdon; A. P. Smith, eds. *Tropical forest plant ecophysiology*. Chapman & Hall, New York.
- Adams, R. E. W.; W. E. Brown; T. P. Culbert. 1981. Radar mapping, archeology, and ancient Maya land use. *Science* 213:1457-63.
- Adum, G. B.; M. P. Eichhorn; W. Oduro; C. Ofori-Boateng; M. O. Rödel. 2013. Two-stage recovery of amphibian assemblages following selective logging of tropical forests. *Conservation Biology* 27: 354-63.
- Agrawal, A.; A. Chhatre; R. Hardin. 2008. Changing governance of the world's forests. *Science* 320:1460-62.
- Agrawal, A.; D. Nepstad; A. Chhatre. 2011. Reducing emissions from deforestation and forest degradation. *Environment and Resources* 36:373-96.
- Aguiar, A. V.; M. Tabarelli. 2010. Edge effects and seedling bank depletion: The role played by the early successional palm *Attalea oleifera* (Arecaceae) in the Atlantic Forest. *Biotropica* 42:158-66.
- Aguilar-Fernández, M.; V. Jaramillo; L. Varela-Fregoso; M. Gavito. 2009. Short-term consequences of slash-and-burn practices on the arbuscular mycorrhizal fungi of a tropical dry forest. *Mycorrhiza* 19:179-86.
- Aguilar-Støen, M.; A. Angelsen; S. R. Moe. 2011. Back to the forest: Exploring forest transitions in Candelaria Loxicha, Mexico. *Latin American Research Review* 46:194-216.
- Aide, T.; J. Cavelier. 1994. Barriers to lowland tropical forest restoration in the Sierra Nevada de Santa Marta, Colombia. *Restoration Ecology* 2:219-29.
- Aide, T. M.; M. L. Clark; H. R. Grau; D. López-Carr; M. A. Levy; D. Redo; M. Bonilla-Moheno; G. Riner; Andrade-Núñez; M. Muñiz. 2013. Deforestation and reforestation of Latin America and the Caribbean (2001-2010). *Biotropica* 45:262-71.
- Aide, T. M.; H. R. Grau. 2004. Globalization, migration, and Latin American ecosystems. *Science* 305:1915-16.
- Aide, T. M.; J. K. Zimmermann; L. Herrera; M. Rosario; M. Serrano. 1995. Forest recovery in abandoned tropical pastures in Puerto Rico. *Forest Ecology and Management* 77:77-86.

- Ainsworth, A.; J. B. Kauffman. 2009. Response of native Hawaiian woody species to lava-ignited wildfires in tropical forests and shrublands. *Plant Ecology* 201:197-209.
- Aldrich, P. R.; J. L. Hamrick. 1998. Reproductive dominance of pasture trees in a fragmented tropical forest mosaic. *Science* 281:103-5.
- Alexander, S.; C. R. Nelson; J. Aronson; D. Lamb; A. Cliquet; K. L. Erwin; C. M. Finlayson; et al. 2011. Opportunities and challenges for ecological restoration within REDD+. *Restoration Ecology* 19:683-89.
- Allen, E. B.; M. E. Allen; L. Egerton-Warburton; L. Corkidi; A. Gómez-Pompa. 2003. Impacts of early- and late-seral mycorrhizae during restoration in seasonal tropical forest, Mexico. *Ecological Applications* 13:1701-17.
- Allen, J. A. 1997. The impact of Pleistocene hunters and gatherers on the ecosystems of Australia and Melanesia: In time with nature? p. 22-38 In: P. V. Kirch; T. L. Hunt, eds. *Historical ecology in the Pacific Islands: Prehistorical environmental and landscape change*. Yale University Press, New Haven, CT.
- Alvarez-Añorve, M. Y.; M. Quesada; G. A. Sánchez-Azofeifa; L. D. Avila-Caballada; J. A. Gamon. 2012. Functional regeneration and spectral reflectance of trees during succession in a highly diverse tropical dry forest ecosystem. *American Journal of Botany* 99:816-26.
- Alvarez-Buylla, E.; M. Martínez-Ramos. 1992. Demography and allometry of *Cecropia obtusifolia*, a Neotropical pioneer tree—an evaluation of the climax-pioneer paradigm for tropical rain forests. *Journal of Ecology* 80:275-90.
- Alvarez-Clare, S.; K. Kitajima. 2007. Physical defence traits enhance seedling survival of Neotropical tree species. *Functional Ecology* 21:1044-54.
- Alves, D. S.; J. V. Soares; S. Amaral; E. M. K. Mello; S. A. S. Almeida; O. F. DaSilva; A. M. Silveira. 1997. Biomass of primary and secondary vegetation in Rondônia, Western Brazilian Amazon. *Global Change Biology* 3:451-61.
- Andresen, E. 2002. Dung beetles in a Central Amazonian rainforest and their ecological role as secondary seed dispersers. *Ecological Entomology* 27:257-70.
- \_\_\_\_\_. 2003. Effect of forest fragmentation on dung beetle communities and functional consequences for plant regeneration. *Ecography* 26:87-97.
- \_\_\_\_\_. 2008. Dung beetle assemblages in primary forest and disturbed habitats in a tropical dry forest landscape in Western Mexico. *Journal of Insect Conservation* 12:639-50.
- Andresen, E.; F. Feer. 2005. The role of dung beetles as secondary seed dispersers and their effect on plant regeneration in tropical rainforests. p. 331-49 In: P.-M. Forget; J. E. Lambert; P. E. Hulme; S. B. Vander Wall, eds. *Seed fate: Predation, dispersal, and seedling establishment*. CABI Publishing, Cambridge, MA.
- Andresen, E.; D. J. Levey. 2004. Effects of dung and seed size on secondary dispersal, seed predation, and seedling establishment of rain forest trees. *Oecologia* 139:45-54.
- Angelsen, A.; T. K. Rudel. 2013. Designing and implementing effective REDD+ policies: A forest transition approach. *Environmental Economics and Policy* 7:91-113.

- Ansell, F. A.; D. P. Edwards; K. C. Hamer. 2011. Rehabilitation of logged rain forests: Avifaunal composition, habitat structure, and implications for biodiversity friendly REDD+. *Biotropica* 43:504-11.
- Anselmetti, F. S.; D. A. Hodell; D. Aziztegui; M. Brenner; M. F. Rosenmeier. 2007. Quantification of soil erosion rates related to ancient Maya deforestation. *Geology* 35:915-18.
- Apel, U.; K. Sturm. 2003. The use of forest succession for establishment of production forest in northeastern Viet Nam. p. 39-49 In: H. C. Sim; S. Appanah; P. B. Durst, eds. *Bringing back the forests: Policies and practices for degraded lands and forests*. Food and Agriculture Organization of the United Nations Regional Office for Asia and the Pacific, Bangkok, Thailand.
- Aronson, J.; P. H. S. Brancalion; G. Durigan; R. R. Rodrigues; V. L. Engel; M. Tabarelli; J. Torezan; S. Gandolfi; A. C. G. de Melo; P. Y. Kageyama. 2011. What role should government regulation play in ecological restoration? Ongoing debate in São Paulo State, Brazil. *Restoration Ecology* 19:690-95.
- Aronson, J.; S. J. Milton; J. N. Blignaut. 2007. Restoring natural capital: Science, business and practice. Island Press, Washington, D.C.
- Arroyo-Kalin, M. 2012. Slash-burn-and-churn: Landscape history and crop cultivation in pre-Columbian Amazonia. *Quaternary International* 249:4-18.
- Arroyo-Mora, J. P.; G. A. Sánchez-Azofeifa; M. E. R. Kalacska; B. Rivard. 2005a. Secondary forest detection in a Neotropical dry forest landscape using Landsat 7 ETM+ and IKONOS imagery. *Biotropica* 37:498-507.
- Arroyo-Mora, J. P.; G. A. Sánchez-Azofeifa; B. Rivard; J. C. Calvo; D. H. Janzen. 2005b. Dynamics in landscape structure and composition for the Chorotega region, Costa Rica, from 1960 to 2000. *Agriculture, Ecosystems & Environment* 106:27-39.
- Arroyo-Mora, J. P.; M. Kalacska; R. Chazdon; D. L. Civco; G. Obando-Vargas; A. A. Sanchun Hernández. 2008. Assessing recovery following selective logging of lowland tropical forests based on hyperspectral imagery. p. 193-212 In: M. Kalacska; G. A. Sánchez-Azofeifa, eds. *Hyperspectral remote sensing of tropical and sub-tropical forests*. CRC Press, New York.
- Ashton, P.; S. Gamage; I. Gunatilleke; C. Gunatilleke. 1997. Restoration of a Sri Lankan rainforest: Using Caribbean pine *Pinus caribaea* as a nurse for establishing late-successional tree species. *Journal of Applied Ecology* 34:915-25.
- Asner, G. P.; G. Goldstein. 1997. Correlating stem biomechanical properties of Hawaiian canopy trees with hurricane wind damage. *Biotropica* 29:145-50.
- Asner, G. P.; D. E. Knapp; E. N. Broadbent; P. J. C. Oliveira; M. Keller; J. N. Silva. 2005. Selective logging in the Brazilian Amazon. *Science* 310:480-82.
- Asner, G. P.; J. Mascaro; H. C. Muller-Landau; G. Vieilledent; R. Vaudry; M. Rasamolaina; J. S. Hall; M. Van Breugel. 2011. A universal airborne LiDAR approach for tropical forest carbon mapping. *Oecologia* 168:1147-60.

- Asner, G. P.; G. V. N. Powell; J. Mascaro; D. E. Knapp; J. K. Clark; J. Jacobson; T. Kennedy-Bowdoin; A. Balaji; G. Paez-Acosta; E. Victoria. 2010. High-resolution forest carbon stocks and emissions in the Amazon. *Resumos... National Academy of Sciences* 107:16738-42.
- Asner, G. P.; T. K. Rudel; T. M. Aide; R. Defries; R. Emerson. 2009. A contemporary assessment of change in humid tropical forests. *Conservation Biology* 23:1386-95.
- Athens, J. S.; H. D. Tuggle; J. V. Ward; D. J. Welch. 2002. Avifaunal extinctions, vegetation change, and Polynesian impacts in prehistoric Hawai. *Archaeology in Oceania* 37:57-78.
- Atran, S. 1993. Itza Maya tropical agro-forestry. *Current Anthropology* 34:633-700.
- Aubréville, A. 1938. La forêt coloniale: Les forêts de l'Afrique occidentale française. *Anais... Académie Sciences Coloniale* 9:1-245.
- Avila-Cabadilla, L. D.; K. E. Stoner; M. Henry; M. Y. A. Anorve. 2009. Composition, structure and diversity of phyllostomid bat assemblages in different successional stages of a tropical dry forest. *Forest Ecology and Management* 258:986-96.
- Aweto, A. O. 2013. Shifting cultivation and secondary succession in the tropics. CAB International, Boston, MA.
- Azevedo-Ramos, C.; O. de Carvalho Jr.; B. D. do Amaral. 2006. Short-term effects of reduced-impact logging on eastern Amazon fauna. *Forest Ecology and Management* 232:26-35.
- Bâ, A. M.; R. Duponnois; B. Moyersoen; A. G. Diedhiou. 2012. Ectomycorrhizal symbiosis of tropical African trees. *Mycorrhiza* 22:1-29.
- Babweteera, F.; N. Brown. 2009. Can remnant frugivore species effectively disperse tree seeds in secondary tropical rain forests? *Biodiversity and Conservation* 18:1611-27.
- Bailey, R. C.; G. Head; M. Jenike; B. Owen; R. Rechtman; E. Zechenter. 1989. Hunting and gathering in tropical rain forest: Is it possible? *American Anthropologist* 91:59-82.
- Baker, P. J.; S. Bunyavejchewin. 2009. Fire behavior and fire effects across the forest landscape of continental Southeast Asia. p. 311-34 In: M. A. Cochrane, ed. *Tropical fire ecology: Climate change, land use and ecosystem dynamics*. Springer, New York.
- Baker, P. J.; S. Bunyavejchewin; C. D. Oliver; P. S. Ashton. 2005. Disturbance history and historical stand dynamics of a seasonal tropical forest in western Thailand. *Ecological Monographs* 75:317-43.
- Baker, P. J.; S. Bunyavejchewin; A. P. Robinson. 2008. The impacts of large-scale, low-intensity fires on the forests of continental South-east Asia. *International Journal of Wildland Fire* 17:782-92.
- Baker, T.; O. Phillips; Y. Malhi; S. Almeida; L. Arroyo; A. Di Fiore; T. Erwin; N. Higuchi; T. Killeen; S. Laurance. 2004. Increasing biomass in Amazonian forest plots. *Resumos... Royal Society B: Biological Sciences* 359:353-65.
- Bakker, M. A.; G. Carreno-Rocabado; L. Poorter. 2011. Leaf economics traits predict litter decomposition of tropical plants and differ among land use types. *Functional Ecology* 25:473-83.

- Balch, J. K.; D. C. Nepstad; L. M. Curran. 2009. Pattern and process: Fire-initiated grass invasion at Amazon transitional forest edges. p. 481-502 In: M. Cochrane, ed. Tropical fire ecology: Climate change, land use and ecosystem dynamics. Springer-Praxis, Heidelberg.
- Balch, J. K.; D. C. Nepstad; L. M. Curran; P. M. Brando; O. Portela; P. Guilherme; J. D. Reuning-Scherer. 2011. Size, species, and fire behavior predict tree and liana mortality from experimental burns in the Brazilian Amazon. *Forest Ecology and Management* 261:68-77.
- Balée, W. 1988. Indigenous adaptation to Amazonian palm forests. *Principes* 32:47-54.
- \_\_\_\_\_. 1989. The culture of Amazonian Forests. *Advances in Economic Botany* 7:1-21.
- \_\_\_\_\_. 1993. Indigenous transformation of Amazonian forests: An example from Maranhão, Brazil. *L'Homme* 33:231-54.
- Balée, W.; D. G. Campbell. 1990. Evidence for the successional status of liana forest (Xingu River basin, Amazonian Brazil). *Biotropica* 22:36-47.
- Baraloto, C.; P.-M. Forget. 2007. Seed size, seedling morphology, and response to deep shade and damage in Neotropical rain forest trees. *American Journal of Botany* 94:901-11.
- Baraloto, C.; P. M. Forget; D. E. Goldberg. 2005. Seed mass, seedling size and Neotropical tree seedling establishment. *Journal of Ecology* 93:1156-66.
- Baraloto, C.; C. E. T. Paine; L. Poorter; J. Beauchene; D. Bonal; A. M. Domenach; B. Hérault; S. Patiño; J. C. Roggy; J. Chave. 2010. Decoupled leaf and stem economics in rain forest trees. *Ecology Letters* 13:1338-47.
- Bardhan, S.; S. Jose; S. Biswas; K. Kabir; W. Rogers. 2012. Homegarden agroforestry systems: An intermediary for biodiversity conservation in Bangladesh. *Agroforestry Systems* 85:29-34.
- Barker, G.; H. Barton; M. Bird; P. Daly; I. Datan; A. Dykes; L. Farr; et al. 2007. The 'human revolution' in lowland tropical Southeast Asia: The antiquity and behavior of anatomically modern humans at Niah Cave (Sarawak, Borneo). *Journal of Human Evolution* 52:243-61.
- Barlow, J.; T. A. Gardner; I. S. Araujo; T. C. Avila-Pires; A. B. Bonaldo; J. E. Costa; M. C. Esposito; et al. 2007a. Quantifying the biodiversity value of tropical primary, secondary, and plantation forests. *Resumos... Natational Academy of Sciences* 104:18555-60.
- Barlow, J.; T. A. Gardner; A. C. Lees; L. Parry; C. A. Peres. 2012. How pristine are tropical forests? An ecological perspective on the pre-Columbian human footprint in Amazonia and implications for contemporary conservation. *Biological Conservation* 151:45-49.
- Barlow, J.; B. O. Lagan; C. A. Peres. 2003. Morphological correlates of fire-induced tree mortality in a Central Amazonian forest. *Journal of Tropical Ecology* 19:291-99.
- Barlow, J.; L. A. M. Mestre; T. A. Gardner; C. A. Peres. 2007b. The value of primary, secondary and plantation forests for Amazonian birds. *Biological Conservation* 136:212-31.

- Barlow, J.; C. A. Peres. 2004. Ecological responses to El Niño induced surface fires in central Brazilian Amazonia: Management implications for flammable tropical forests. *Resumos... Royal Society B: Biological Sciences* 359:367-80.
- \_\_\_\_\_. 2006a. Consequences of cryptic and recurring fire disturbances for ecosystem structure and biodiversity in Amazonian forests. p. 225-40 In: W. Laurance; C. A. Peres, eds. *Emerging threats to tropical forests*. University of Chicago Press, Chicago.
- \_\_\_\_\_. 2006b. Effects of single and recurrent wildfires on fruit production and large vertebrate abundance in a central Amazonian forest. *Biodiversity and Conservation* 15:985-1012.
- \_\_\_\_\_. 2008. Fire-mediated dieback and compositional cascade in an Amazonian forest. *Resumos... Royal Society B: Biological Sciences* 363:1787-94.
- Barlow, J.; J. M. Silveira; M. A. Cochrane. 2010. Fire scars on Amazonian trees: Exploring the cryptic fire history of the Ilha de Maracá. *Biotropica* 42:405-9.
- Barr, C. M.; J. A. Sayer. 2012. The political economy of reforestation and forest restoration in Asia-Pacific: Critical issues for REDD+. *Biological Conservation* 154:9-19.
- Barrera-Bassols, N.; V. M. Toledo. 2005. Ethnoecology of the Yucatec Maya: Symbolism, knowledge and management of natural resources. *Journal of Latin American Geography* 4:9-41.
- Barreto, M.; C. J. Souza; R. Nogueron; A. Anderson; R. Salomao. 2006. Human pressure on Brazilian Amazon forests. *World Resources Institute*, Washington, DC.
- Barron, A. R.; N. Wurzburger; J. P. Bellenger; S. J. Wright; A. M. Kraepiel; L. O. Hedin. 2009. Molybdenum limitation of asymbiotic nitrogen fixation in tropical forest soils. *Nature Geoscience* 2:42-45.
- Barron, A. R.; D. W. Purves; L. O. Hedin. 2011. Facultative nitrogen fixation by canopy legumes in a lowland tropical forest. *Oecologia* 165:511-20.
- Barthlott, W.; V. Schmit-Neuerburg; J. Nieder; S. Engwald. 2001. Diversity and abundance of vascular epiphytes: A comparison of secondary vegetation and primary montane rain forest in the Venezuelan Andes. *Plant Ecology* 152:145-56.
- Barton, H.; V. Paz. 2007. Subterranean diets in the tropical rain forests of Sarawak, Malaysia. p. 50-77 In: T. P. Denham; J. Iriarte; L. Vrydaghs, eds. *Rethinking agriculture: Archaeological and ethnoarchaeological perspectives*. Left Coast Press, Walnut Creek, CA.
- Bascompte, J.; P. Jordano. 2007. Plant-animal mutualistic networks: The architecture of biodiversity. *Annual Review of Ecology, Evolution, and Systematics* 38:567-93.
- Basset, Y. 1996. Local communities of arboreal herbivores in Papua New Guinea: Predictors of insect variables. *Ecology* 77:1906-19.
- Bayliss-Smith, T. 2007. The meaning of ditches: Interpreting the archaeological record from New Guinea using insights from ethnography. p. 126-48 In: T. P. Denham; J. Iriarte; L. Vrydaghs, eds. *Rethinking agriculture: Archaeological and ethnoarchaeological perspectives*. Left Coast Press, Walnut Creek, CA.

- Bayliss-Smith, T. P.; E. Hviding; T. C. Whitmore. 2003. Rainforest composition and histories of human disturbance in the Solomon Islands. *AMBIO* 32:346-52.
- Bazzaz, F. A. 1979. The physiological ecology of plant succession. *Ecology and Systematics* 10:351-71.
- \_\_\_\_\_. 1991. Regeneration of tropical forests: Physiological responses of pioneer and secondary species. p. 91-118 In: A. Gómez-Pompa; T. C. Whitmore; M. Hadley, eds. *Rain forest regeneration and management*. UNESCO/Parthenon, Paris.
- Bazzaz, F. A.; N. R. Chiariello; P. D. Coley; L. F. Pitelka. 1987. Allocating resources to reproduction and defense. *BioScience* 37:58-67.
- Bazzaz, F. A.; S. T. A. Pickett. 1980. Physiological ecology of tropical succession: A comparative review. *Ecology and Systematics* 11:287-310.
- Beach, T.; N. Dunning; S. Luzzadde-Beach; D. E. Cook; J. Lohse. 2006. Impacts of the ancient Maya on soils and soil erosion in the central Maya Lowlands. *Catena* 65:166-78.
- Beach, T.; S. Luzzadde-Beach; N. Dunning; J. Jones; J. Lohse; T. Guderjan; S. Bozarth; S. Millspaugh; T. Bhattacharya. 2009. A review of human and natural changes in Maya Lowland wetlands. *Quaternary Science Reviews* 28:1710-24.
- Beard, J. S. 1955. The classification of tropical American vegetation types. *Ecology* 36:89-100.
- Beck, H. 2005. Seed predation and dispersal by peccaries throughout the Neotropics and its consequences: A review and synthesis. p. 77-100 In: P. M. Forget; J. E. Lambert; P. E. Hulme; S. B. Vander Wall, eds. *Seed fate*. CABI Publishing, Cambridge, MA.
- Becknell, J. M.; L. Kissing Kucek; J. S. Powers. 2012. Aboveground biomass in mature and secondary seasonally dry tropical forests: A literature review and global synthesis. *Forest Ecology and Management* 276:88-95.
- Behling, H. 1997. Late Quaternary vegetation, climate and fire history of the Araucaria forest and campos region from Serra Campos Gerais, Paraná State (South Brazil). *Palaeobotany and Palynology* 97:109-21.
- Behling, H.; H. Hooghiemstra. 2000. Holocene Amazon rainforest-savanna dynamics and climatic implications: High-resolution pollen record from Laguna Loma Linda in eastern Colombia. *Journal of Quaternary Science* 15:687-95.
- Bellingham, P. J. 1991. Landforms influence patterns of hurricane damage: Evidence from Jamaican montane forests. *Biotropica* 23:427-33.
- \_\_\_\_\_. 2008. Cyclone effects on Australian rain forests: An overview. *Austral Ecology* 33:580-84.
- Bellingham, P.; V. Kapos; N. Varty; J. Healey; E. Tanner; D. Kelly; J. Dalling; L. Burns; D. Lee; G. Sidrak. 1992. Hurricanes need not cause high mortality: The effects of Hurricane Gilbert on forests in Jamaica. *Journal of Tropical Ecology* 8:217-23.
- Bellingham, P. J.; E. V. J. Tanner; J. R. Healey. 1995. Damage and responsiveness of Jamaican montane tree species after disturbance by a hurricane. *Ecology* 76:2562-80.

- \_\_\_\_\_. 2005. Hurricane disturbance accelerates invasion by the alien tree *Pittosporum undulatum* in Jamaican montane rain forests. *Journal of Vegetation Science* 16:675-84.
- Bellwood, P. 1995. Austronesian prehistory in Southeast Asia: Homeland, expansion and transformation. p. 103-18 In: P. Bellwood; J. J. Fox; D. Tryon, eds. *The Austronesians: Historical and comparative perspectives*. Australian National University Press, Canberra, ACT, Australia.
- \_\_\_\_\_. 1997. Prehistory of the Indo-Malaysian Archipelago. ed. University of Hawai'i Press, Honolulu.
- \_\_\_\_\_. 2006. Asian farming diasporas? Agriculture, languages, and genes in China and Southeast Asia. p. 96-118 In: M. T. Stark, ed. *Archaeology of Asia*. Blackwell Publishing, Malden, MA.
- Benavides, A. M.; J. H. D. Wolf; J. F. Duivenvoorden. 2006. Recovery and succession of epiphytes in upper Amazonian fallows. *Journal of Tropical Ecology* 22:705-17.
- Bengtsson, J.; P. Angelstam; T. Elmquist; U. Emanuelsson; C. Folke; M. Ihse; F. Moberg; M. Nyström. 2003. Reserves, resilience and dynamic landscapes. *AMBIO* 32:389-96.
- Benítez-Malvido, J.; M. Martínez-Ramos; E. Ceccon. 2001. Seed rain vs. seed bank, and the effect of vegetation cover on the recruitment of tree seedlings in tropical successional vegetation. p. 1-18 In: G. Gottsberger; S. Liede, eds. *Life forms and dynamics in tropical forests*. J. Cramer, Stuttgart.
- Bennett, E. L.; M. T. Gumal. 2001. The interrelationships of commercial logging, hunting, and wildlife in Sarawak: Recommendations for forest management. p. 359-74 In: R. Fimbel; A. Grajal; J. G. Robinson, eds. *The cutting edge: Conserving wildlife in logged tropical forest*. Columbia University Press, New York.
- Bentos, T. V.; R. C. G. Mesquita; G. B. Williamson. 2008. Reproductive phenology of Central Amazon pioneer trees. *Tropical Conservation Science* 1:186-203.
- Bentos, T. V.; R. C. G. Mesquita; J. L. C. Camargo; G. B. Williamson. 2013. Seed and fruit tradeoffs—the economics of seed packaging in Amazon pioneers. *Plant Ecology & Diversity*. doi:10.1080/17550874.2012.740081.
- Bentos, T. V.; H. E. M. Nascimento; G. B. Williamson. 2013. Tree seedling recruitment in Amazon secondary forest: Importance of topography and gap micro-site conditions. *Forest Ecology and Management* 287:140-46.
- Berkes, F.; C. Folke, eds. 1998. *Linking social and ecological systems: Management practices and social mechanisms for building resilience*. Cambridge University Press, Cambridge.
- Berry, N.; O. Phillips; S. Lewis; J. Hill; D. Edwards; N. Tawatao; N. Ahmad; D. Magintan; C. Khen; M. Maryati. 2010. The high value of logged tropical forests: Lessons from northern Borneo. *Biodiversity and Conservation* 19:985-97.
- Berry, N. J.; O. L. Phillips; R. C. Ong; K. C. Hamer. 2008. Impacts of selective logging on tree diversity across a rainforest landscape: The importance of spatial scale. *Landscape Ecology* 23:915-29.

- Bhagwat, S. A.; K. J. Willis; H. J. B. Birks; R. J. Whittaker. 2008. Agroforestry: A refuge for tropical biodiversity? *Trends in Ecology & Evolution* 23:261-67.
- Bihn, J. H.; G. Gebauer; R. Brandl. 2010. Loss of functional diversity of ant assemblages in secondary tropical forests. *Ecology* 91:782-92.
- Bihn, J. H.; M. Verhaagh; M. Brandle; R. Brandl. 2008. Do secondary forests act as refuges for old growth forest animals? Recovery of ant diversity in the Atlantic forest of Brazil. *Biological Conservation* 141:733-43.
- Binford, M. W.; M. Brenner; T. J. Whitmore; A. Higuera-Gundy; E. S. Deevey; B. Leyden. 1987. Ecosystems, paleoecology and human disturbance in subtropical and tropical America. *Quaternary Science Reviews* 6:115-28.
- Bischoff, W.; D. A. Newberry; M. Lingenfelder; R. Schnaeckel; G. H. Petol; L. Madani; C. E. Ridsdale. 2005. Secondary succession and dipterocarp recruitment in Bornean rain forest after logging. *Forest Ecology and Management* 218:174-92.
- Bishop, P.; D. Penny; M. Stark; M. Scott. 2003. A 3.5 ka record of paleoenvironments and human occupation at Angkor Borei, Mekong Delta, Southern Cambodia. *Geoarchaeology* 18:359-93.
- Bitencourt, A. J. V.; P. M. Krauspenhar. 2006. Possible prehistoric anthropogenic effect on *Araucaria angustifolia* (Bert.) O. Kuntze expansion during the late Holocene. *Revista Brasileira de Paleontologia* 9:109-16.
- Blake, J. G.; B. A. Loiselle. 2001. Bird assemblages in second-growth and old-growth forests, Costa Rica: Perspectives from mist nets and point counts. *Auk* 118:304-26.
- Blanc, L.; M. Echard; B. Herault; D. Bonal; E. Marcon; J. Chave; C. Baraloto. 2009. Dynamics of aboveground carbon stocks in a selectively logged tropical forest. *Ecological Applications* 19:1397-1404.
- Blangy, S.; H. Mehta. 2006. Ecotourism and ecological restoration. *Journal for Nature Conservation* 14:233-36.
- Blaser, J.; A. Sarre; D. Poore; S. Johnson. 2011. Status of tropical forest management 2011. International Tropical Timber Organization, Yokohama, Japan.
- Bloor, J. M. G.; P. J. Grubb. 2003. Growth and mortality in high and low light: Trends among 15 shade-tolerant tropical rain forest tree species. *Journal of Ecology* 91:77-85.
- Bobrowiec, P.; R. Gribel. 2009. Effects of different secondary vegetation types on bat community composition in Central Amazonia, Brazil. *Animal Conservation* 13:204-16.
- Bock, C. 1882. The head hunters of Borneo: A narrative of travel up the Mahakkam and down the Barito; also Journeyings in Sumatra. 2nd ed. Sampson Low, Martson, Searle & Rivington, London.
- Boedihhartono, A. K.; J. A. Sayer. 2012. Forest landscape restoration: Restoring what and for whom? p. 309-23. In: J. A. Stanturf; D. Lamb; P. Madsen, eds. *Forest landscape restoration: Integrating natural and social sciences*. Springer, New York.
- Boissière, M.; D. Sheil; I. Basuki; M. Wan; H. Le. 2009. Can engaging local people's interests reduce forest degradation in Central Vietnam? *Biodiversity and Conservation* 18:2743-57.

- Bonal, D.; C. Born; C. Brechet; S. Coste; E. Marcon; J. C. Roggy; J. M. Guehl. 2007. The successional status of tropical rainforest tree species is associated with differences in leaf carbon isotope discrimination and functional traits. *Anais... Forest Science* 64:169-76.
- Bond, W. J.; B. W. van Wilgen. 1996. Fire and plants. Springer, New York.
- Bongers, F.; L. Poorter; W. D. Hawthorne; D. Sheil. 2009. The intermediate disturbance hypothesis applies to tropical forests, but disturbance contributes little to tree diversity. *Ecology Letters* 12:798-805.
- Bonnell, T. R.; R. Reyna-Hurtado; C. A. Chapman. 2011. Post-logging recovery time is longer than expected in an East African tropical forest. *Forest Ecology and Management* 261:855-64.
- Bonner, M. T.; S. Schmidt; L. P. Shoo. 2013. A meta-analytical global comparison of aboveground biomass accumulation between tropical secondary forests and monoculture plantations. *Forest Ecology and Management* 291:73-86.
- Borges, S. H. 2007. Bird assemblages in secondary forests developing after slash-andburn agriculture in the Brazilian Amazon. *Journal of Tropical Ecology* 23:469-77.
- Boucher, D. 1990. Growing back after hurricanes. *BioScience* 40:163-66.
- Boucher, D. H., J. H. Vandermeer, I. Granzow de la Cerda, M. A. Mallona, I. Perfecto, and N. Zamora. 2001. Post-agriculture versus post-hurricane succession in southeastern Nicaraguan rain forest. *Plant Ecology* 156:131-37.
- Boucher, D. H.; J. H. Vandermeer; M. A. Mallona; N. Zamora; I. Perfecto. 1994. Resistance and resilience in a directly regenerating rain forest—Nicaraguan trees of the Vochysiaceae after Hurricane Joan. *Forest Ecology and Management* 68:127-36.
- Bourke, R. M. 2007. Managing the species composition of fallows in Papua New Guinea by planting trees. p. 379-88. In: M. Cairns, ed. Voices from the forest: Integrating indigenous knowledge into sustainable upland farming. Resources for the Future, Washington, DC.
- Bowen, M. E.; C. A. McAlpine; A. P. N. House; G. C. Smith. 2007. Regrowth forests on abandoned agricultural land: A review of their habitat values for recovering forest fauna. *Biological Conservation* 140:273-96.
- Bowler, J. M.; H. Johnston; J. M. Olley; J. R. Prescott; R. G. Roberts; W. Shawcross; N. A. Spooner. 2003. New ages for human occupation and climatic change at Lake Mungo, Australia. *Nature* 421:837-40.
- Bowman, D. M. J. S. 1998. The impact of aboriginal landscape burning on the Australian biota. *New Phytologist* 140:385-410.
- \_\_\_\_\_. 2000. Australian rainforests: Islands of green in a land of fire. Cambridge University Press, Cambridge.
- Brady, C. J.; R. A. Noske. 2010. Succession in bird and plant communities over a 24-year chronosequence of mine rehabilitation in the Australian monsoon tropics. *Restoration Ecology* 18:855-64.

- Brancalion, P. H.; I. V. Cardozo; A. Camatta; J. Aronson; R. R. Rodrigues. 2013. Cultural ecosystem services and popular perceptions of the benefits of an ecological restoration project in the Brazilian Atlantic Forest. *Restoration Ecology*. doi:10.1111/rec.12025.
- Brancalion, P. H. S.; R. R. Rodrigues; S. Gandolfi; P. Y. Kageyama; A. G. Nave; F. B. Gandara; L. M. Barbosa; M. Tabarelli. 2010. Instrumentos legais podem contribuir para a restauração de florestas tropicais biodiversas. *Revista Arvore* 34:455-70.
- Brandeis, T. J.; E. H. Helmer; S. N. Oswalt. 2007. The status of Puerto Rico's forests, 2003. Resource Bulletin SRS-119. US Forest Service Southern Research Station, Asheville, NC.
- Bray, D. 2010. Forest cover dynamics and forest transitions in Mexico and Central America: Towards a "Great Restoration"? p. 85-120. In: H. Nagendra; J. Southworth, eds. *Reforesting landscapes: Linking pattern and process*. Springer, New York.
- Bray, D. B.; P. Klepeis. 2005. Deforestation, forest transitions, and institutions for sustainability in Southeastern Mexico, 1900-2000. *Environment and History* 11:195-223.
- Bray, D.; A. Velázquez. 2009. From displacement-based conservation to place-based conservation. *Conservation and Society* 7:11-14.
- Bremer, L. L.; K. A. Farley. 2010. Does plantation forestry restore biodiversity or create green deserts? A synthesis of the effects of land-use transitions on plant species richness. *Biodiversity and Conservation* 19:3893-3915.
- Brienen, R. J. W.; E. Lebrija-Trejos; M. van Breugel; E. A. Pérez-García; F. Bongers; J. A. Meave; M. Martínez-Ramos. 2009. The potential of tree rings for the study of forest succession in southern Mexico. *Biotropica* 41:186-95.
- Brncic, T. M.; K. J. Willis; D. J. Harris; M. W. Telfer; R. M. Bailey. 2009. Fire and climate change impacts on lowland forest composition in northern Congo during the last 2580 years from palaeoecological analysis of a seasonally flooded swamp. *Holocene* 19:79-89.
- Brncic, T. M.; K. J. Willis; D. J. Harris; R. Washington. 2007. Culture or climate? The relative influences of past processes on the composition of the lowland Congo rainforest. *Resumos... Royal Society B: Biological Sciences* 362:229-42.
- Brockhoff, E. G.; H. Jactel; J. A. Parrotta; C. P. Quine; J. Sayer. 2008. Plantation forests and biodiversity: Oxymoron or opportunity? *Biodiversity and Conservation* 17:925-51.
- Brokaw, N. V. L. 1982. The definition of treefall gap and its effect on measures of forest dynamics. *Biotropica* 14:158-60.
- \_\_\_\_\_. 1987. Gap-phase regeneration of three pioneer tree species in a tropical forest. *Journal of Ecology* 75:9-19.
- Brook, E. 2009. Palaeoclimate: Atmospheric carbon footprints? *Nature Geoscience* 2:170-72.
- Brown, B. J.; J. J. Ewel. 1987. Herbivory in complex and simple tropical successional ecosystems. *Ecology* 68:108-16.

- Brown, I. F.; L. A. Martinelli; W. W. Thomas; M. Z. Moreira; C. Cid Ferreira; R. A. Victoria. 1995. Uncertainty in the biomass of Amazonian forests: An example from Rondônia, Brazil. *Forest Ecology and Management* 75:175-89.
- Brown, K. A.; J. Gurevitch. 2004. Long-term impacts of logging on forest diversity in Madagascar. *Resumos... National Academy of Sciences* 101:6045-49.
- Brown, S.; C. A. S. Hall; W. Knabe; J. Raich; M. C. Trexler; P. Woomer. 1993. Tropical forests—their past, present, and potential future role in the terrestrial carbon budget. *Water Air and Soil Pollution* 70:71-94.
- Brown, S.; A. E. Lugo. 1990. Tropical secondary forests. *Journal of Tropical Ecology* 6:1-32.
- Bruijnzeel, L. A. 2004. Hydrological functions of tropical forests: Not seeing the soil for the trees? *Agriculture Ecosystems & Environment* 104:185-228.
- Buckley, B.; K. Anchukaitis; D. Penny; R. Fletcher; E. Cook; M. Sano; L. Nam; A. Wichenkeeo; T. Minh; T. Hong. 2010. Climate as a contributing factor in the demise of Angkor, Cambodia. *Resumos... National Academy of Sciences* 107:6748.
- Budowski, G. 1965. Distribution of tropical American rain forest species in the light of successional processes. *Turrialba* 15:40-42.
- \_\_\_\_\_. 1970. The distinction between old secondary and climax species in tropical Central American lowland forests. *Tropical Ecology* 11:44-48.
- Burney, D. A.; T. F. Flannery. 2005. Fifty millennia of catastrophic extinctions after human contact. *Trends in Ecology & Evolution* 20:395-401.
- Burslem, D.; M. D. Swaine. 2002. Forest dynamics and regeneration. p. 577-83 In: R. L. Chazdon; T. C. Whitmore, eds. *Foundations of tropical forest biology: Classic papers with commentaries*. University of Chicago Press, Chicago.
- Burslem, D.; T. C. Whitmore. 1999. Species diversity, susceptibility to disturbance and tree population dynamics in tropical rain forest. *Journal of Vegetation Science* 10:767-76.
- Burslem, D.; T. C. Whitmore; G. C. Brown. 2000. Short-term effects of cyclone impact and long-term recovery of tropical rain forest on Kolombangara, Solomon Islands. *Journal of Ecology* 88:1063-78.
- Buschbacher, R.; C. Uhl; E. A. S. Serrão. 1988. Abandoned pastures in eastern Amazonia. II. Nutrient stocks in the soil and vegetation. *Journal of Ecology* 76:682-99.
- Bush, M. B.; P. A. Colinvaux. 1988. A 7000-year pollen record from the Amazon lowlands, Ecuador. *Vegetatio* 76:141-54.
- \_\_\_\_\_. 1994. Tropical forest disturbance: Paleoecological records from Darién, Panama. *Ecology* 75:1761-68.
- Bush, M. B.; P. E. de Oliveira; M. C. Miller; E. Moreno; P. A. Colinvaux. 2004. Amazonian paleoecological histories: One hill, three watersheds. *Palaeogeography, Palaeoclimatology, Palaeoecology* 214:359-93.
- Bush, M. B.; M. C. Miller; P. E. de Oliveira; P. A. Colinvaux. 2000. Two histories of environmental change and human disturbance in eastern lowland Amazonia. *Holocene* 10:543-53.

- Bush, M. B.; D. R. Piperno; P. A. Colinvaux; P. E. de Oliveira; L. A. Krissek; M. C. Miller; W. E. Rowe. 1992. A 14,300-yr paleoecological profile of a lowland tropical lake in Panama. *Ecological Monographs* 63:251-76.
- Bush, M. B.; M. R. Silman. 2007. Amazonian exploitation revisited: Ecological asymmetry and the policy pendulum. *Frontiers in Ecology and the Environment* 5:457-65.
- \_\_\_\_\_. 2008. Amazonia: A cultural landscape? p. 51-61 In: G. Nelson; I. Hronsky, eds. An international forum on sustainability. Arisztotelész, Budapest.
- Bush, M. B.; M. R. Silman; M. B. de Toledo; C. Listopad; W. D. Gosling; C. Williams; P. E. de Oliveira; C. Krisel. 2007. Holocene fire and occupation in Amazonia: Records from two lake districts. *Resumos... Royal Society B: Biological Sciences* 362:209-18.
- Bush, M. B.; M. R. Silman; C. McMichael; S. Saatchi. 2008. Fire, climate change and biodiversity in Amazonia: A Late-Holocene perspective. *Resumos...Royal Society B: Biological Sciences*. 363:1795-1802
- Butler, R.; F. Montagnini; P. Arroyo. 2008. Woody understory plant diversity in pure and mixed native tree plantations at La Selva Biological Station, Costa Rica. *Forest Ecology and Management* 255:2251-63.
- Butt, N.; Y. Malhi; M. New; M. J. Macía; S. L. Lewis; G. Lopez-Gonzalez; W. F. Laurance; S. Laurance; R. Luizão; A. Andrade. 2013. Shifting dynamics of climate-functional groups in old-growth Amazonian forests. *Plant Ecology & Diversity*. doi:10.1080/17550874.2012.715210.
- Cairns, M. A. ed. 2007. Voices from the forest: Integrating indigenous knowledge into sustainable upland farming. *Resources for the Future*, Washington, DC.
- Calmon, M.; P. H. S. Brancalion; A. Paese; J. Aronson; P. Castro; S. C. da Silva; R. R. Rodrigues. 2011. Emerging threats and opportunities for large-scale ecological restoration in the Atlantic Forest of Brazil. *Restoration Ecology* 19:154-58.
- Calvo-Alvarado, J.; B. McLennan; A. Sánchez-Azofeifa; T. Garvin. 2009. Deforestation and forest restoration in Guanacaste, Costa Rica: Putting conservation policies in context. *Forest Ecology and Management* 258:931-40.
- Camargo, J. L. C.; I. D. K. Ferraz; A. M. Imakawa. 2002. Rehabilitation of degraded areas of Central Amazonia using direct sowing of forest tree seeds. *Restoration Ecology* 10:636-44.
- Campbell, B. M.; T. Lynam; J. C. Hatton. 1990. Small-scale patterning in the recruitment of forest species during succession in tropical dry forest, Mozambique. *Vegetatio* 87:51-57.
- Campbell, D. G.; A. Ford; K. S. Lowell; J. Walker; J. K. Lake; C. Ocampo-Raeder; A. Townesmith; M. Balick. 2006. The feral forests of the Eastern Petén. p. 21-55 In: W. Balee; C. L. Erickson, eds. *Time and complexity in historical ecology*. Columbia University Press, New York.
- Campo, J.; R. Dirzo. 2003. Leaf quality and herbivory responses to soil nutrient addition in secondary tropical dry forests of Yucatán, Mexico. *Journal of Tropical Ecology* 19:525-30.

- Campo, J.; E. Solís; M. G. Valencia. 2007. Litter N and P dynamics in two secondary tropical dry forests after relaxation of nutrient availability constraints. *Forest Ecology and Management* 252:33-40.
- Canham, C.; J. Thompson; J. Zimmerman; M. Uriarte. 2010. Variation in susceptibility to hurricane damage as a function of storm intensity in Puerto Rican tree species. *Biotropica* 42:87-94.
- Cannon, C. H.; D. R. Peart; M. Leighton. 1998. Tree species diversity in commercially logged Bornean rainforest. *Science* 281:1366-68.
- Cantarello, E.; A. C. Newton; R. A. Hill; N. Tejedor-Garavito; G. Williams-Linera; F. Lopez-Barrera; R. H. Manson; D. J. Golicher. 2011. Simulating the potential for ecological restoration of dryland forests in Mexico under different disturbance regimes. *Ecological Modelling* 222:1112-28.
- Cao, L.; Z. Xiao; Z. Wang; C. Guo; J. Chen; Z. Zhang. 2011. High regeneration capacity helps tropical seeds to counter rodent predation. *Oecologia* 166:997-1007.
- Capers, R. S.; R. L. Chazdon. 2004. Rapid assessment of understory light availability in a wet tropical forest. *Agricultural and Forest Meteorology* 123:177-85.
- Capers, R. S.; R. L. Chazdon; A. R. Brenes; B. V. Alvarado. 2005. Successional dynamics of woody seedling communities in wet tropical secondary forests. *Journal of Ecology* 93:1071-84.
- Carcaillet, C.; H. Almquist; H. Asnong; R. Bradshaw; J. Carrion; M. Gaillard; K. Gajewski; J. Haas; S. Haberle; P. Hadorn. 2002. Holocene biomass burning and global dynamics of the carbon cycle. *Chemosphere* 49:845-63.
- CARE. 2007. CARE in Guatemala: Reversing land degradation and building carbon stocks. Disponível em: <<http://www.careclimatechange.org/files/carbon/>> CaseStudy\_Guatemala.pdf>. Acesso em: 24 jul. 2012.
- Carlo, T.; J. Aukema; J. Morales. 2007. Plant-frugivore interactions as spatially explicit networks: Integrating frugivore foraging with fruiting plant spatial patterns. p. 369-90 In: A. J. Dennis; E. W. Schupp; R. J. Green; D. A. Westcott, eds. *Seed dispersal: Theory and its application in a changing world*. CAB International, Wallingford, UK.
- Carlo, T. A.; S. Yang. 2011. Network models of frugivory and seed dispersal: Challenges and opportunities. *Acta Oecologica* 37:619-24.
- Carpenter, F. L.; S. P. Mayorga; E. G. Quintero; M. Schroeder. 2001. Land-use and erosion of a Costa Rican Ultisol affect soil chemistry, mycorrhizal fungi and early regeneration. *Forest Ecology and Management* 144:1-17.
- Carreño-Rocabado, G.; M. Peña-Claras; F. Bongers; A. Alarcón; J. C. Licona; L. Poorter. 2012. Effects of disturbance intensity on species and functional diversity in a tropical forest. *Journal of Ecology* 100:1453-63.
- Carrière, S. M.; P. Letourmy; D. B. McKey. 2002. Effects of remnant trees in fallows on diversity and structure of forest regrowth in a slash-and-burn agricultural system in southern Cameroon. *Journal of Tropical Ecology* 18:375-96.

- Carto, S.; A. J. Weaver; R. Hetherington; Y. Lam; E. C. Wiebe. 2009. Out of Africa and into the ice age: On the role of global climate change in the late Pleistocene migration of early modern humans out of Africa. *Journal of Human Evolution* 56:139-51.
- Cascante-Marín, A.; J. H. D. Wolf; J. G. B. Oostermeijer; J. C. M. den Nijs; O. Sanahuja; A. Duran-Apuy. 2006. Epiphytic bromeliad communities in secondary and mature forest in a tropical premontane area. *Basic and Applied Ecology* 7:520-32.
- Cassano, C. R.; M. C. M. Kierulff; A. G. Chiarello. 2011. The cacao agroforests of the Brazilian Atlantic forest as habitat for the endangered maned sloth *Bradypus torquatus*. *Mammalian Biology* 76:243-50.
- Castillo, M.; B. Rivard; A. Sánchez-Azofeifa; J. Calvo-Alvarado; R. Dubayah. 2012. LIDAR remote sensing for secondary tropical dry forest identification. *Remote Sensing of Environment* 121:132-43.
- Castillo-Campos, G.; G. Halffter; C. E. Moreno. 2008. Primary and secondary vegetation patches as contributors to floristic diversity in a tropical deciduous forest landscape. *Biodiversity and Conservation* 17:1701-14.
- Castro-Arellano, I.; S. J. Presley; L. N. Saldanha; M. R. Willig; J. M. Wunderle Jr. 2007. Effects of reduced impact logging on bat biodiversity in *terra firme* forest of lowland Amazonia. *Biological Conservation* 138:269-85.
- Castro-Luna, A. A.; V. J. Sosa; G. Castillo-Campos. 2007. Bat diversity and abundance associated with the degree of secondary succession in a tropical forest mosaic in south-eastern Mexico. *Animal Conservation* 10:219-28.
- Catenacci, L. S.; K. M. De Vleeschouwer; S. L. G. Nogueira-Filho. 2009. Seed dispersal by golden-headed lion tamarins *Leontopithecus chrysomelas* in Southern Bahian Atlantic Forest, Brazil. *Biotropica* 41:744-50.
- Catterall, C. P.; A. N. D. Freeman; J. Kanowski; K. Freebody. 2012. Can active restoration of tropical rainforest rescue biodiversity? A case with bird community indicators. *Biological Conservation* 146:53-61.
- Ceccon, E.; P. Huante; J. Campo. 2003. Effects of nitrogen and phosphorus fertilization on the survival and recruitment of seedlings of dominant tree species in two abandoned tropical dry forests in Yucatan, Mexico. *Forest Ecology and Management* 182:387-402.
- Celentano, D.; R. A. Zahawi; B. Finegan; F. Casanoves; R. Ostertag; R. J. Cole; K. D. Holl. 2011a. Restauración ecológica de bosques tropicales en Costa Rica: Efecto de varios modelos en la producción, acumulación y descomposición de hojarasca. *Revista de Biología Tropical* 59:1323-36.
- Celentano, D.; R. A. Zahawi; B. Finegan; R. Ostertag; R. J. Cole; K. D. Holl. 2011b. Litter-fall dynamics under different tropical forest restoration strategies in Costa Rica. *Biotropica* 43:279-87.
- Chai, S.; E. Tanner. 2011. 150 year legacy of land use on tree species composition in old secondary forests of Jamaica. *Journal of Ecology* 99:113-21.

- Chai, S. L.; E. Tanner; K. McLaren. 2009. High rates of forest clearance and fragmentation pre-and post-National Park establishment: The case of a Jamaican montane rainforest. *Biological Conservation* 142:2484-92.
- Chambers, J. Q.; G. P. Asner; D. C. Morton; L. O. Anderson; S. S. Saatchi; F. D. B. Espírito-Santo; M. Palace; C. Souza. 2007. Regional ecosystem structure and function: Ecological insights from remote sensing of tropical forests. *Trends in Ecology & Evolution* 22:414-23.
- Chambers, J. Q.; R. I. Negron-Juarez; G. C. Hurtt; D. M. Marra; N. Higuchi. 2009a. Lack of intermediate-scale disturbance data prevents robust extrapolation of plot-level tree mortality rates for old-growth tropical forests. *Ecology Letters* 12:E22-E25.
- Chambers, J. Q.; R. I. Negron-Juarez; D. M. Marra; A. Di Vittorio; J. Tews; D. Roberts; G. H. Ribeiro; S. E. Trumbore; N. Higuchi. 2013. The steady-state mosaic of disturbance and succession across an old-growth Central Amazon forest landscape. *Resumos... National Academy of Sciences* 110:3949-54.
- Chambers, J. Q.; A. L. Robertson; V. M. C. Carneiro; A. J. N. Lima; M.-L. Smith; L. C. Plourde; N. Higuchi. 2009b. Hyperspectral remote detection of niche partitioning among canopy trees driven by blowdown gap disturbances in the Central Amazon. *Oecologia* 160:107-17.
- Chapman, C. A.; L. J. Chapman. 2004. Unfavorable successional pathways and the conservation value of logged tropical forest. *Biodiversity and Conservation* 13:2089-2105.
- Chapman, C. A.; L. J. Chapman; L. Kaufman; A. E. Zanne. 1999. Potential causes of arrested succession in Kibale National Park, Uganda: Growth and mortality of seedlings. *African Journal of Ecology* 37:81-92.
- Charles-Dominique, P. 1986. Inter-relations between frugivorous vertebrates and pioneer plants: *Cecropia*, birds and bats in French Guyana. p. 119-35 In: A. Estrada; T. H. Fleming, eds. *Frugivores and seed dispersal*. Dr. W. Junk, Dordrecht, Neth.
- Charles-Dominique, P.; P. Blanc; D. Larpin; M. P. Ledru; B. Riéra; C. Sarthou; M. Servant; C. Tardy. 1998. Forest perturbations and biodiversity during the last ten thousand years in French Guiana. *Acta Oecologica* 19:295-302.
- Chave, J.; C. Andalo; S. Brown; M. A. Cairns; J. Q. Chambers; D. Eamus; H. Folster; et al. 2005. Tree allometry and improved estimation of carbon stocks and balance in tropical forests. *Oecologia* 145:87-99.
- Chave, J.; R. Condit; S. Aguilar; A. Hernandez; S. Lao; R. Perez. 2004. Error propagation and scaling for tropical forest biomass estimates. *Resumos... Royal Society B: Biological Sciences* 359:409-20.
- Chave, J.; R. Condit; H. C. Muller-Landau; S. C. Thomas; P. S. Ashton; S. Bunyavejchewin; L. L. Co; et al. 2008. Assessing evidence for a pervasive alteration in tropical tree communities. *Plos Biology* 6:455-62.
- Chave, J.; D. Coomes; S. Jansen; S. L. Lewis; N. G. Swenson; A. E. Zanne. 2009. Towards a worldwide wood economics spectrum. *Ecology Letters* 12:351-66.

- Chave, J.; H. C. Muller-Landau; T. R. Baker; T. A. Easdale; H. ter Steege; C. O. Webb. 2006. Regional and phylogenetic variation of wood density across 2456 Neotropical tree species. *Ecological Applications* 16:2356-67.
- Chazdon, R. L. 1992. Photosynthetic plasticity of two rain forest shrubs across natural gap transects. *Oecologia* 92:586-95.
- \_\_\_\_\_. 2003. Tropical forest recovery: Legacies of human impact and natural disturbances. *Perspectives in Plant Ecology Evolution and Systematics* 6:51-71.
- \_\_\_\_\_. 2008a. Beyond deforestation: Restoring forests and ecosystem services on degraded lands. *Science* 320:1458-60.
- \_\_\_\_\_. 2008b. Chance and determinism in tropical forest succession. p. 384-408 In: W. Carson; S. A. Schnitzer, eds. *Tropical forest community ecology*. John Wiley & Sons, West Sussex, UK.
- Chazdon, R. L.; J. P. Arroyo. 2013. Tropical forests as complex adaptive systems. p. 35-59 In: C. Messier; K. J. Puettmann; K. D. Coates, eds. *Managing world forests as complex adaptive systems in the face of global change*. Routledge, New York.
- Chazdon, R. L.; S. Careaga; C. Webb; O. Vargas. 2003. Community and phylogenetic structure of reproductive traits of woody species in wet tropical forests. *Ecological Monographs* 73:331-48.
- Chazdon, R. L.; A. Chao; R. K. Colwell; S.-Y. Lin; N. Norden; S. G. Letcher; D. B. Clark; B. Finegan; J. P. Arroyo. 2011. A novel statistical method for classifying habitat generalists and specialists. *Ecology* 92:1332-43.
- Chazdon, R. L.; F. G. Coe. 1999. Ethnobotany of woody species in second-growth, old-growth, and selectively logged forests of northeastern Costa Rica. *Conservation Biology* 13:1312-22.
- Chazdon, R. L.; R. K. Colwell; J. S. Denslow; M. R. Guariguata. 1998. Statistical methods for estimating species richness of woody regeneration in primary and secondary rain forests of NE Costa Rica. p. 285-309 In: F. Dallmeier; J. Comiskey, eds. *Forest biodiversity research, monitoring and modeling: Conceptual background and Old World case studies*. Parthenon, Paris.
- Chazdon, R. L.; N. Fetcher. 1984. Photosynthetic light environments in a lowland tropical rainforest in Costa Rica. *Journal of Ecology* 72:553-64.
- Chazdon, R. L.; C. B. Field. 1987. Determinants of photosynthetic capacity in six rainforest *Piper* species. *Oecologia* 73:222-30.
- Chazdon, R. L.; B. Finegan; R. S. Capers; B. Salgado-Negret; F. Casanoves; V. Boukili; N. Norden. 2010. Composition and dynamics of functional groups of trees during tropical forest succession in northeastern Costa Rica. *Biotropica* 42:31-40.
- Chazdon, R. L.; C. A. Harvey; O. Komar; D. M. Griffith; B. G. Ferguson; M. Martínez-Ramos; H. Morales; et al. 2009a. Beyond reserves: A research agenda for conserving biodiversity in human-modified tropical landscapes. *Biotropica* 41:142-53.

- Chazdon, R. L.; S. G. Letcher; M. van Breugel; M. Martínez-Ramos; F. Bongers; B. Finegan. 2007. Rates of change in tree communities of secondary Neotropical forests following major disturbances. *Resumos... Royal Society B: Biological Sciences* 362:273-89.
- Chazdon, R. L.; R. W. Pearcy; D. W. Lee; N. Fetcher. 1996. Photosynthetic responses of tropical forest plants to contrasting light environments. p. 5-55 In: S. S. Mulkey; R. L. Chazdon; A. P. Smith, eds. *Tropical forest plant ecophysiology*. Chapman & Hall, New York.
- Chazdon, R. L.; C. A. Peres; D. Dent; D. Sheil; A. E. Lugo; D. Lamb; N. E. Stork; S. E. Miller. 2009b. The potential for species conservation in tropical secondary forests. *Conservation Biology* 23:1406-17.
- Chazdon, R. L.; A. Redondo Brenes; B. Vilchez Alvarado. 2005. Effects of climate and stand age on annual tree dynamics in tropical second-growth rain forests. *Ecology* 86:1808-15.
- Chazdon, R. L.; B. Vilchez Alvarado; S. G. Letcher; A. Wendt; U. U. Sezen. 2014. Effects of human activities on successional pathways: Case studies from lowland wet forests of Northeastern Costa Rica. p. 129-39 In: S. Hecht; K. Morrison; C. Padoch, eds. *The social lives of forests*. University of Chicago Press, Chicago.
- Chinea, J. D. 2002. Tropical forest succession on abandoned farms in the Humacao Municipality of eastern Puerto Rico. *Forest Ecology and Management* 167:195-207.
- Chokkalingam, U.; W. de Jong. 2001. Secondary forest: A working definition and typology. *International Forestry Review* 3:19-26.
- Chowdhury, R. R. 2007. Household land management and biodiversity: Secondary succession in a forest-agriculture mosaic in southern Mexico. *Ecology and Society* 12:31. Disponível em: <<http://www.ecologyandsociety.org/vol12/iss2/art31/>>.
- Clark, D. A. 2002. Are tropical forests an important carbon sink? Reanalysis of the long-term plot data. *Ecological Applications* 12:3-7.
- \_\_\_\_\_. 2004. Sources or sinks? The responses of tropical forests to current and future climate and atmospheric composition. *Resumos... Royal Society B: Biological Sciences* 359:477-91.
- \_\_\_\_\_. 2007. Detecting tropical forests' responses to global climatic and atmospheric change: Current challenges and a way forward. *Biotropica* 39:4-19.
- Clark, D. A.; S. Brown; D. W. Kicklighter; J. Q. Chambers; J. R. Thonlinson; J. Ni; E. A. Holland. 2001. Net primary production in tropical forests: An evaluation and synthesis of existing field data. *Ecological Applications* 11:371-84.
- Clark, D. A.; D. B. Clark. 1992. Life history diversity of canopy and emergent trees in a Neotropical rain forest. *Ecological Monographs* 62:315-44.
- \_\_\_\_\_. 2001. Getting to the canopy: Tree height growth in a Neotropical rain forest. *Ecology* 82:1460-72.
- Clark, D. A.; D. B. Clark; R. M. Sandoval; M. V. Castro C. 1995. Landscape-scale variation in community structure of Neotropical rain forest palms: Edaphic and human effects. *Ecology* 76:2581-94.

- Clark, D. A.; S. C. Piper; C. D. Keeling; D. B. Clark. 2003. Tropical rain forest tree growth and atmospheric carbon dynamics linked to interannual temperature variation during 1984-2000. *Resumos... National Academy of Sciences* 100:5852-57.
- Clark, D. B. 1990. The role of disturbance in the regeneration of Neotropical moist forests. p. 291-315 In: K. S. Bawa; M. Hadley, eds. *Reproductive ecology of tropical forest plants*. UNESCO/Parthenon, Paris.
- \_\_\_\_\_. 1996. Abolishing virginity. *Journal of Tropical Ecology* 33:385-92.
- Clark, D. B.; D. A. Clark. 1996. Abundance, growth and mortality of very large trees in Neotropical lowland rain forest. *Forest Ecology and Management* 80:235-44.
- \_\_\_\_\_. 2000. Landscape-scale variation in forest structure and biomass in a tropical rain forest. *Forest Ecology and Management* 137:185-98.
- Clark, D. B.; D. A. Clark; S. F. Oberbauer. 2010. Annual wood production in a tropical rain forest in NE Costa Rica linked to climatic variation but not to increasing CO<sub>2</sub>. *Global Change Biology* 16:747-59.
- Clark, K. E.; C. Uhl. 1987. Fishing and fire in the history of the upper Río Negro region of Venezuela. *Human Ecology* 15:1-26.
- Clarke, W. C. 1966. Extensive to intensive shifting cultivation: A succession from New Guinea. *Ethnology* 5:347-59.
- Clarke, W. C.; R. R. Thaman, eds. 1993. *Agroforestry in the Pacific Islands: Systems for sustainability*. United Nations University Press, Tokyo.
- Cleary, D. F. R.; A. Priadjati. 2005. Vegetation responses to burning in a rain forest in Borneo. *Plant Ecology* 177:145-63.
- Clement, C. R. 1999. 1492 and the loss of Amazonian crop genetic resources. I. The relation between domestication and human population decline. *Economic Botany* 53:188-202.
- Clement, C. R.; A. B. Junqueira. 2010. Between a pristine myth and an impoverished future. *Biotropica* 42:534-36.
- Clement, C. R.; J. M. McCann; N. J. H. Smith. 2003. Agrobiodiversity in Amazonia and its relationship with dark earths. p. 159-78 In: J. Lehmann; D. Kern; B. Glaser; W. Woods, eds. *Amazonian Dark Earths: Origin, Properties, and Management*. Kluwer Academic Publishers, Dordrecht, Neth.
- Clement, R. M.; S. P. Horn. 2001. Pre-Columbian land-use history in Costa Rica: A 3000-year record of forest clearance, agriculture and fires from Laguna Zoncho. *Holocene* 11:419-26.
- Clements, F. E. 1916. Plant succession: An analysis of the development of vegetation. n. 242. Carnegie Institute, Washington, DC.
- Clewel, A. F.; J. Aronson. 2006. Motivations for the restoration of ecosystems. *Conservation Biology* 20:420-28.
- Cochrane, M. A. 2001. Synergistic interactions between habitat fragmentation and fire in evergreen tropical forests. *Conservation Biology* 15:1515-21.
- \_\_\_\_\_. 2003. Fire science for rainforests. *Nature* 421:913-19.

- Cochrane, M. A.; A. Alencar; M. D. Schulze; C. M. Souza; D. C. Nepstad; P. Lefebvre; E. A. Davidson. 1999. Positive feedbacks in the fire dynamic of closed canopy tropical forests. *Science* 284:1832-35.
- Cochrane, M. A.; W. F. Laurance. 2002. Fire as a large-scale edge effect in Amazonian forests. *Journal of Tropical Ecology* 18:311-25.
- Cochrane, M. A.; M. D. Schulze. 1999. Fire as a recurrent event in tropical forests of the eastern Amazon: Effects on forest structure, biomass, and species composition. *Biotropica* 31:2-16.
- Cockburn, P. F. 1974. The origin of Sook Plain, Sabah. *Malaysian Forester* 37:61-63.
- Cohen, A. L.; B. M. P. Singhakumara; P. M. S. Ashton. 1995. Releasing rain forest succession: A case study in the *Dicranopteris linearis* fernlands of Sri Lanka. *Restoration Ecology* 3:261-70.
- Cohen, A. S.; J. Stone; K. Beuning; L. Park; P. Reinthal; D. Dettman; C. Scholz; T. Johnson; J. King; M. Talbot. 2007. Ecological consequences of early Late Pleistocene megadroughts in tropical Africa. *Resumos...* National Academy of Sciences 104:16422-27.
- Cole, R. J. 2009. Postdispersal seed fate of tropical montane trees in an agricultural landscape, Southern Costa Rica. *Biotropica* 41:319-27.
- Cole, R.; K. Holl; C. Keene; R. Zahawi. 2011. Direct seeding of late-successional trees to restore tropical montane forest. *Forest Ecology and Management* 261:1590-97.
- Cole, R. J.; K. D. Holl; R. A. Zahawi. 2010. Seed rain under tree islands planted to restore degraded lands in a tropical agricultural landscape. *Ecological Applications* 20:1255-69.
- Coley, P. D.; J. A. Barone. 1996. Herbivory and plant defenses in tropical forests. *Ecology and Systematics* 27:305-35.
- Coley, P. D.; J. P. Bryant; F. S. I. Chapin. 1985. Resource availability and antiherbivore defense. *Science* 230:895-99.
- Colinvaux, P. A.; P. E. D. Oliveira. 2000. Palaeoecology and climate of the Amazon basin during the last glacial cycle. *Journal of Quaternary Science* 15:347-56.
- Comita, L. S.; H. Muller-Landau; S. Aguilar; S. Hubbell. 2010a. Asymmetric density dependence shapes species abundances in a tropical tree community. *Science* 329:330-32.
- Comita, L. S.; J. Thompson; M. Uriarte; I. Jonckheere; C. D. Canham; J. K. Zimmerman. 2010b. Interactive effects of land-use history and natural disturbance on seedling dynamics in a subtropical forest. *Ecological Applications* 20:1270-84.
- Compton, S.; S. Ross; I. Thornton. 1994. Pollinator limitation of fig tree reproduction on the island of Anak Krakatau (Indonesia). *Biotropica* 26:180-86.
- Condit, R.; R. Sukumar; S. P. Hubbell; R. B. Foster. 1998. Predicting population trends from size distributions: A direct test in a tropical tree community. *American Naturalist* 152:495-509.

- Connell, J. H. 1971. On the roles of natural enemies in preventing competitive exclusion in some marine animals and in rain forest. p. 298-312 In: P. J. Den Boer; G. R. Grandwell, eds. *Resumos... Advanced Study Institute on dynamics of numbers in population*, Oosterbeek, Wageningen, Holland.
- \_\_\_\_\_. 1978. Diversity in tropical rain forests and coral reefs. *Science* 199:1302-10.
- Connell, J. H.; M. D. Lowman; I. R. Noble. 1997. Subcanopy gaps in temperate and tropical forests. *Australian Journal of Ecology* 22:163-68.
- Coomes, D. A.; P. J. Grubb. 2003. Colonization, tolerance, competition and seed-size variation within functional groups. *Trends in Ecology & Evolution* 18:283-91.
- Coomes, O. T.; F. Grimard; G. J. Burt. 2000. Tropical forests and shifting cultivation: Secondary forest fallow dynamics among traditional farmers of the Peruvian Amazon. *Ecological Economics* 32:109-24.
- Coomes, O. T.; Y. Takasaki; J. M. Rhemtulla. 2011. Land-use poverty traps identified in shifting cultivation systems shape long-term tropical forest cover. *Resumos... National Academy of Sciences* 108:13925-30.
- Corbin, J. D.; K. D. Holl. 2012. Applied nucleation as a forest restoration strategy. *Forest Ecology and Management* 265:37-46.
- Cordeiro, N. J.; H. F. Howe. 2003. Forest fragmentation severs mutualism between seed dispersers and an endemic African tree. *Resumos... National Academy of Sciences* 100:14052-56.
- Cordeiro, N. J.; H. J. Ndangalasi; J. P. McEntee; H. F. Howe. 2009. Dispersal limitation and recruitment of an endemic African tree in a fragmented landscape. *Ecology* 90:1030-41.
- Corlett, R. T. 1991. Plant succession on degraded land in Singapore. *Journal of Tropical Forest Science* 4:151-61.
- \_\_\_\_\_. 1992. The ecological transformation of Singapore, 1819-1990. *Journal of Biogeography* 19:411-20.
- \_\_\_\_\_. 1994. What is secondary forest? *Journal of Tropical Ecology* 10:445-47.
- \_\_\_\_\_. 1998. Frugivory and seed dispersal by vertebrates in the Oriental (Indomalayan) Region. *Biological Reviews* 73:413-48.
- \_\_\_\_\_. 2007. The impact of hunting on the mammalian fauna of tropical Asian forests. *Biotropica* 39:292-303.
- \_\_\_\_\_. 2011. Seed dispersal in Hong Kong, China: Past, present and possible futures. *Integrative Zoology* 6:97-109.
- Corlett, R.; I. Turner. 1997. Long-term survival in tropical forest remnants in Singapore and Hong Kong. p. 333-45 In: W. F. Laurance; R. O. Bierregaard Jr., eds. *Tropical forest remnants: Ecology, management, and conservation of fragmented communities*. University of Chicago Press, Chicago.
- Cosgrove, R.; J. Field; A. Ferrier. 2007. The archaeology of Australia's tropical rainforests. *Palaeogeography, Palaeoclimatology, Palaeoecology* 251:150-73.

- Costa, F.; W. Magnusson. 2002. Selective logging effects on abundance, diversity, and composition of tropical understory herbs. *Ecological Applications* 12:807-19.
- Costa, J. B. P.; F. P. L. Melo; B. A. Santos; M. Tabarelli. 2012. Reduced availability of large seeds constrains Atlantic forest regeneration. *Oecologia–International Journal of Ecology* 39:61-66.
- Cox, P. A.; T. Elmquist. 2000. Pollinator extinction in the Pacific Islands. *Conservation Biology* 14:1237-39.
- Cremaschi, D. G.; R. D. Lasco; R. J. P. Delfino. 2013. Payments for watershed protection services: Emerging lessons from the Philippines. *Journal of Sustainable Development* 6:90-103.
- Crews, T. E.; K. Kitayama; J. H. Fownes; R. H. Riley; D. A. Herbert; D. Mueller-Dombois; P. M. Vitousek. 1995. Changes in soil phosphorus fractions and ecosystem dynamics across a long chronosequence in Hawaii. *Ecology* 76:1407-24.
- Crk, T.; M. Uriarte; F. Corsi; D. Flynn. 2009. Forest recovery in a tropical landscape: What is the relative importance of biophysical, socioeconomic, and landscape variables? *Landscape Ecology* 24:629-42.
- Cubiña, A.; T. M. Aide. 2001. The effect of distance from forest edge on seed rain and soil seed bank in a tropical pasture. *Biotropica* 33:260-67.
- Culot, L.; M. C. Huynen; P. Gérard; E. W. Heymann. 2009. Short-term post-dispersal fate of seeds defecated by two small primate species (*Saguinus mystax* and *Saguinus fuscicollis*) in the Amazonian forest of Peru. *Journal of Tropical Ecology* 25:229-38.
- Culot, L.; F. Lazo; M. C. Huynen; P. Poncin; E. W. Heymann. 2010. Seasonal variation in seed dispersal by tamarins alters seed rain in a secondary rain forest. *International Journal of Primatology* 31:553-69.
- Culot, L.; D. J. Mann; F. J. J. Muñoz Lazo; M. C. Huynen; E. W. Heymann. 2011. Tamarins and dung beetles: An efficient diplochorous dispersal system in the Peruvian Amazonia. *Biotropica* 43:84-92.
- Curran, L. M.; I. Caniago; G. D. Paoli; D. Astianti; M. Kusneti; M. Leighton; C. E. Nirarita; H. Haeruman. 1999. Impact of El Niño and logging on canopy tree recruitment in Borneo. *Science* 286:2184-88.
- Curran, T. J.; R. L. Brown; E. Edwards; K. Hopkins; C. Kelley; E. McCarthy; E. Pounds; R. Solan; J. Wolf. 2008. Plant functional traits explain interspecific differences in immediate cyclone damage to trees of an endangered rainforest community in north Queensland. *Austral Ecology* 33:451-61.
- Da Conceição Prates-Clark, C.; R. M. Lucas; J. R. Dos Santos. 2009. Implications of land-use history for forest regeneration in the Brazilian Amazon. *Canadian Journal of Remote Sensing* 35:534-53.
- Dalle, S. P.; S. de Blois. 2006. Shorter fallow cycles affect the availability of noncrop plant resources in a shifting cultivation system. *Ecology and Society* 11:2. Disponível em: <<http://www.ecologyandsociety.org/vol11/iss2/art2/>>.

- Dalling, J. W. 1994. Vegetation colonization of landslides in the Blue Mountains, Jamaica. *Biotropica* 26:392-99.
- Dalling, J. W.; T. Brown. 2009. Long term persistence of pioneer species in tropical rain forest soil seed banks. *American Naturalist* 173:531-35.
- Dalling, J. W.; J. S. Denslow. 1998. Soil seed bank composition along a forest chronosequence in seasonally moist tropical forest, Panama. *Journal of Vegetation Science* 9:669-78.
- Dalling, J. W.; S. P. Hubbell. 2002. Seed size, growth rate and gap microsite conditions as determinants of recruitment success for pioneer species. *Journal of Ecology* 90:557-68.
- Dalling, J. W.; M. D. Swaine; N. C. Garwood. 1998. Dispersal patterns and seed bank dynamics of pioneer trees in moist tropical forest. *Ecology* 79:564-78.
- Dalling, J. W.; K. Winter; S. P. Hubbell; J. L. Hamrick; J. D. Nason; D. A. Murawski. 2001. The unusual life history of *Alseis blackiana*: A shade-persistent pioneer tree? *Ecology* 82:933-45.
- Daly, C.; E. H. Helmer; M. Quiñones. 2003. Mapping the climate of Puerto Rico, Vieques and Culebra. *International Journal of Climatology* 23:1359-81.
- Daniels, A. E. 2010. Forest expansion in northwest Costa Rica: Conjuncture of the global market, land-use intensification, and forest protection. p. 227-52 In: H. Nagendra; J. Southworth, eds. *Reforesting landscapes: Linking pattern and process*. Springer, Dordrecht, Neth.
- Daniels, A. E.; K. Bagstad; V. Esposito; A. Moulaert; C. M. Rodriguez. 2010. Understanding the impacts of Costa Rica's PES: Are we asking the right questions? *Ecological Economics* 69:2116-26.
- D'Antonio, C.; P. Vitousek. 1992. Biological invasions by exotic grasses, the grass fire cycle, and global change. *Annual Review of Ecology and Systematics* 23:63-87.
- Dao, T. H.; C. T. Tran; T. C. Le. 2001. *Agroecology*. p. 51-83 In: T. C. Le; A. T. Rambo, eds. *Bright peaks, dark valleys: A comparative analysis of environmental and social conditions and development trends in five communities in Vietnam's northern mountain region*. National Political Publishing House, Hanoi.
- Davidson, E. A.; C. J. R. de Carvalho; A. M. Figueira; F. Y. Ishida; J. Ometto; G. B. Nardoto; R. T. Saba; et al. 2007. Recuperation of nitrogen cycling in Amazonian forests following agricultural abandonment. *Nature* 447:995-99.
- Davidson, E. A.; C. J. R. de Carvalho; I. C. G. Vieira; R. D. Figueiredo; P. Moutinho; F. Y. Ishida; M. T. P. dos Santos; J. B. Guerrero; K. Kalif; R. T. Saba. 2004. Nitrogen and phosphorus limitation of biomass growth in a tropical secondary forest. *Ecological Applications* 14:S150-S163.
- Davies, S. J. 1998. Photosynthesis of nine pioneer *Macaranga* species from Borneo in relation to life history. *Ecology* 79:2292-308.
- \_\_\_\_\_. 2001. Tree mortality and growth in 11 sympatric *Macaranga* species in Borneo. *Ecology* 82:920-32.

- Davies, S. J.; S. Cavers; B. Finegan; C. Navarro; A. J. Lowe. 2010. Genetic consequences of multigenerational and landscape colonisation bottlenecks for a Neotropical forest pioneer tree, *Vochysia ferruginea*. Tropical Plant Biology 3:14-27.
- Davies, S. J.; H. Semui. 2006. Competitive dominance in a secondary successional rain-forest community in Borneo. Journal of Tropical Ecology 22:53-64.
- Dean, W. 1995. With broadax and firebrand: The destruction of the Brazilian Atlantic Forest. University of California Press, Berkeley.
- DeFries, R.; C. Rosenzweig. 2010. Toward a whole-landscape approach for sustainable land use in the tropics. Resumos... National Academy of Sciences 107:19627-32.
- De Gouvenain, R.; J. Silander Jr. 2003. Do tropical storm regimes influence the structure of tropical lowland rain forests? Biotropica 35:166-80.
- De Jong, B. H.; R. Tipper; J. Taylor. 1997. A framework for monitoring and evaluating carbon mitigation by farm forestry projects: example of a demonstration project in Chiapas, Mexico. Mitigation and Adaptation Strategies for Global Change 2:231-246.
- De Jong, B. H. J.; E. Esquivel Bazán; S. Quechulpa Montalvo. 2007. Application of the "Climafor" baseline to determine leakage: The case of Scolel Té. Mitigation and Adaptation Strategies for Global Change 12:1153-68.
- De Jong, W. 2002. Forest products and local forest management in West Kalimantan, Indonesia: Implications for conservation and development. Tropenbos International, Wageningen, Neth.
- De Koning, F.; M. Aguinaga; M. Bravo; M. Chiu; M. Lascano; T. Lozada; L. Suarez. 2011. Bridging the gap between forest conservation and poverty alleviation: The Ecuadorian Socio Bosque program. Environmental Science & Policy 14:531-42.
- Delacourt, C.; D. Raucoules; S. Le MouËlic; C. Carnec; D. Feurer; P. Allemand; M. Cruchet. 2009. Observation of a large landslide on La Reunion Island using differential Sar interferometry (JERS and Radarsat) and correlation of optical (Spot5 and Aerial) images. Sensors 9:616-30.
- Delang, C. O.; W. M. Li. 2013. Ecological succession on fallowed shifting cultivation fields: A review of the literature. Springer, New York.
- De la Peña-Domene, M.; C. Martínez-Garza; H. F. Howe. 2013. Early recruitment dynamics in tropical restoration. Ecological Applications 23:1124-34.
- Del Castillo, R. F.; A. Blanco-Macías; A. Newton. 2007. Secondary succession under a slash-and-burn regime in a tropical montane cloud forest: Soil and vegetation characteristics. p. 158-80 In: A. C. Newton, ed. Biodiversity loss and conservation in fragmented forest landscapes: The forests of montane Mexico and temperate South America. CAB International, Wallingford, UK.
- Del Castillo, R. F.; M. A. Pérez Ríos. 2008. Changes in seed rain during secondary succession in a tropical montane cloud forest region in Oaxaca, Mexico. Journal of Tropical Ecology 24:433-44.

- Delegue, M.-A.; M. Fuhr; D. Schwartz; A. Mariotti; R. Nasi. 2001. Recent origin of a large part of the forest cover in the Gabon coastal area based on stable carbon isotope data. *Oecologia* 129:106-13.
- Del Moral, R.; S. Y. Grishin. 1999. Volcanic disturbances and ecosystem recovery. p. 137-60 In: L. R. Walker, ed. *Ecosystems of disturbed ground*. Elsevier, Amsterdam, Neth.
- Denevan, W. M. 1988. Measurement of abandoned terracing from air photos: Colca Valley, Peru. 14:20-30.
- \_\_\_\_\_. 1992a. The native population of the Americas in 1492. 2 ed. University of Wisconsin Press, Madison.
- \_\_\_\_\_. 1992b. The pristine myth: The landscape of the Americas in 1492. *Anais... Association of American Geographers* 82:369-85.
- \_\_\_\_\_. 1996. A bluff model of riverine settlement in prehistoric Amazonia. *Anais... Association of American Geographers* 86:654-81.
- \_\_\_\_\_. 2001. Cultivated landscapes of native Amazonia and the Andes. Oxford University Press, New York.
- \_\_\_\_\_. 2007. Pre-European human impacts on tropical lowland environments. p. 265-78 In: T. T. Veblen; K. R. Young; A. R. Orme, eds. *The physical geography of South America*. Oxford University Press. Oxford.
- Denevan, W. M.; J. M. Treacy; J. B. Alcorn; C. Padoch; J. Denslow; S. F. Paitan. 1984. Indigenous agroforestry in the Peruvian Amazon: Bora Indian management of swidden fallows. *Interciencia* 9:346-57.
- Denham, T.; R. Fullagar; L. Head. 2009. Plant exploitation on Sahul: From colonisation to the emergence of regional specialisation during the Holocene. *Quaternary International* 202:29-40.
- Denham, T. P.; S. G. Haberle; C. Lentfer. 2004. New evidence and interpretations for early agriculture in Highland New Guinea. *Antiquity* 78:839-57.
- Denham, T. P.; S. G. Haberle; C. Lentfer; R. Fullagar; J. Field; M. Therin; N. Porch; B. Winsborough. 2003. Origins of agriculture at Kuk Swamp in the Highlands of New Guinea. *Science* 301:189-93.
- Dennis, R.; G. Applegate; K. Kartawinata; A. Hoffmann; G. Von Gemmingen. 2001. Large-scale fire: Creator and destroyer of secondary forests in Western Indonesia. *Journal of Tropical Forest Science* 13:786-99.
- Denslow, J. S. 1978. Secondary succession in a Colombian rainforest: Strategies of species response across a disturbance gradient. *Tese de Doutorado*, University of Wisconsin, Madison.
- \_\_\_\_\_. 1987. Tropical rainforest gaps and tree species diversity. *Ecology and Systematics* 18:431-52.
- \_\_\_\_\_. 1995. Disturbance and diversity in tropical rain forests: The density effect. *Ecological Applications* 5:962-68.

- \_\_\_\_\_. 1996. Functional group diversity and responses to disturbance. p. 127-51 In: G. H. Orians; R. Dirzo; J. H. Cushman, eds. Biodiversity and ecosystem processes in tropical forests. Ecological Studies. v. 122. Springer, Berlin.
- Denslow, J. S.; R. L. Chazdon. 2002. Ecosystem ecology in the tropics. p. 639-45 In: R. L. Chazdon; T. C. Whitmore, eds. Foundations of tropical forest biology: Classic papers with commentaries. University of Chicago Press, Chicago.
- Denslow, J. S.; S. Guzman. 2000. Variation in stand structure, light and seedling abundance across a tropical moist forest chronosequence, Panama. Journal of Vegetation Science 11:201-12.
- Dent, D. H.; S. J. Wright. 2009. The future of tropical species in secondary forests: A quantitative review. Biological Conservation 142:2833-43.
- De Oliveira, R. R. 2002. Ação antrópica e resultantes sobre a estrutura e composição da Mata Atlântica na Ilha Grande RJ. Rodriguesia 53:33-57.
- De Rouw, A. 1993. Regeneration by sprouting in slash and burn rice cultivation, Taï rain forest, Côte d'Ivoire. Journal of Tropical Ecology 9:387-408.
- Devall, M. S.; B. R. Parresol; S. J. Wright. 1995. Dendroecological analysis of *Cordia alliodora*, *Pseudobombax septenatum* and *Annona spraguei* in central Panama. IAWA Journal 16:411-24.
- DeWalt, S. J.; S. K. Maliakal; J. S. Denslow. 2003. Changes in vegetation structure and composition along a tropical forest chronosequence: Implications for wildlife. Forest Ecology and Management 182:139-51.
- DeWalt, S. J.; S. A. Schnitzer; J. S. Denslow. 2000. Density and diversity of lianas along a chronosequence in a central Panamanian lowland forest. Journal of Tropical Ecology 16:1-19.
- Dewi, S.; M. van Noordwijk; A. Ekadinata; J. L. Pfund. 2013. Protected areas within multi-functional landscapes: Squeezing out intermediate land use intensities in the tropics? Land Use Policy 30:38-56.
- Diamond, J. 2007. Easter Island revisited. Science 317:1692-94.
- \_\_\_\_\_. 2009. Archaeology: Maya, Khmer and Inca. Nature 461:479-80.
- Dickinson, M. B.; D. F. Whigham; S. M. Hermann. 2000. Tree regeneration in felling and natural treefall disturbances in a semideciduous tropical forest in Mexico. Forest Ecology and Management 134:137-51.
- Diemont, S. A. W.; J. L. Bohn; D. D. Rayome; S. J. Kelsen; K. Cheng. 2011. Comparisons of Mayan forest management, restoration, and conservation. Forest Ecology and Management 261:1696-1705.
- Diemont, S. A. W.; J. F. Martin. 2009. Lacandon Maya ecosystem management: Sustainable design for subsistence and environmental restoration. Ecological Applications 19:254-66.
- Diemont, S. A. W.; J. F. Martin; S. I. Levy-Tacher; R. B. Nigh; P. R. Lopez; J. D. Golicher. 2006. Lacandon Maya forest management: Restoration of soil fertility using native tree species. Ecological Engineering 28:205-12.

- Dillehay, T. D. 1997. Monte Verde: A Late Pleistocene settlement in Chile. v. 2: The archaeological context and interpretation. Smithsonian Institution Press, Washington, DC.
- Ding, Y.; R. G. Zang. 2009. Effects of logging on the diversity of lianas in a lowland tropical rain forest in Hainan Island, South China. *Biotropica* 41:618-24.
- Ding, Y.; R. Zang; S. G. Letcher; S. Liu; F. He. 2012a. Disturbance regime changes the trait distribution, phylogenetic structure and community assembly of tropical rain forests. *Oikos* 121:1263-70.
- Ding, Y.; R. Zang; S. Liu; F. He; S. G. Letcher. 2012b. Recovery of woody plant diversity in tropical rain forests in southern China after logging and shifting cultivation. *Biological Conservation*. 145: 225-33.
- Dinh Le, H.; C. Smith; J. Herbohn; S. Harrison. 2012. More than just trees: Assessing reforestation success in tropical developing countries. *Journal of Rural Studies* 28:5-19.
- Dirzo, R.; E. Mendoza; P. Ortiz. 2007. Size-related differential seed predation in a heavily defaunated Neotropical rain forest. *Biotropica* 39:355-62.
- Don, A.; J. Schumacher; A. Freibauer. 2011. Impact of tropical land use change on soil organic carbon stocks—a meta analysis. *Global Change Biology* 17:1658-70.
- Donatti, C. I.; P. R. Guimarães; M. Galetti. 2009. Seed dispersal and predation in the endemic Atlantic rainforest palm *Astrocaryum aculeatissimum* across a gradient of seed disperser abundance. *Ecological Research* 24:1187-95.
- Donatti, C. I.; P. R. Guimarães; M. Galetti; M. A. Pizo; F. Marquitti; R. Dirzo. 2011. Analysis of a hyper-diverse seed dispersal network: Modularity and underlying mechanisms. *Ecology Letters* 14:773-81.
- Doust, S. J.; P. D. Erskine; D. Lamb. 2006. Direct seeding to restore rainforest species: Microsite effects on the early establishment and growth of rainforest tree seedlings on degraded land in the wet tropics of Australia. *Forest Ecology and Management* 234:333-43.
- Douterlungne, D.; S. Levy-Tacher; D. Golicher; F. Dañobeytia. 2010. Applying indigenous knowledge to the restoration of degraded tropical rain forest clearings dominated by bracken fern. *Restoration Ecology* 18:322-29.
- Dove, M. R. 1993. Smallholder rubber and swidden agriculture in Borneo: A sustainable adaptation to the ecology and economy of the tropical forest. *Economic Botany* 47:136-47.
- Drake, J. B.; R. O. Dubayah; D. B. Clark; R. G. Knox; J. B. Blair; M. A. Hofton; R. L. Chazdon; J. F. Weishampel; S. D. Prince. 2002. Estimation of tropical forest structural characteristics using large-footprint lidar. *Remote Sensing of Environment* 79:305-19.
- Dranzoa, C. 1998. The avifauna 23 years after logging in Kibale National Park, Uganda. *Biodiversity and Conservation* 7:777-97.
- Drew, A. P.; J. D. Boley; Y. H. Zhao; M. H. Johnston; F. H. Wadsworth. 2009. Sixty-two years of change in subtropical wet forest structure and composition at El Verde, Puerto Rico. *Interciencia* 34:34-40.

- Duan, W.-J.; H. Ren; S.-L. Fu; Q.-F. Guo; J. Wang. 2008. Pathways and determinants of early spontaneous vegetation succession in degraded lowland of South China. *Journal of Integrative Plant Biology* 50:147-56.
- Dubayah, R. O.; S. L. Sheldon; D. B. Clark; M. A. Hofton; J. B. Blair; G. C. Hurtt; R. L. Chazdon. 2010. Estimation of tropical forest height and biomass dynamics using lidar remote sensing at La Selva, Costa Rica. *Journal of Geophysical Research* 115:1-17.
- Dudley, N.; S. Mansourian; D. Vallauri. 2005. Forest landscape restoration in context. p. 3-7 In: S. Mansourian; D. Vallauri; N. Dudley, eds. *Forest restoration in landscapes: Beyond planting trees*. Springer, New York.
- Dull, R. A. 2008. Unpacking El Salvador's ecological predicament: Theoretical templates and "long-view" ecologies. *Global Environmental Change* 18:319-29.
- Dull, R. A.; R. J. Nevle; W. I. Woods; D. K. Bird; S. Avnery; W. M. Denevan. 2010. The Columbian encounter and the Little Ice Age: Abrupt land use change, fire, and greenhouse forcing. *Anais... Association of American Geographers* 100:1-17.
- Duncan, R. S.; C. A. Chapman. 1999. Seed dispersal and potential forest succession in abandoned agriculture in tropical Africa. *Ecological Applications* 9:998-1008.
- Dunn, R. R. 2004a. Managing the tropical landscape: A comparison of the effects of logging and forest conversion to agriculture on ants, birds, and lepidoptera. *Forest Ecology and Management* 191:215-24.
- \_\_\_\_\_. 2004b. Recovery of faunal communities during tropical forest regeneration. *Conservation Biology* 18:302-9.
- Dunning, N.; T. Beach. 2000. Stability and instability in prehispanic Maya landscapes. p. 179-202 In: D. L. Lentz, ed. *Imperfect balance: Landscape transformations in the Precolumbian Americas*. Columbia University Press. New York.
- Dunning, N.; T. Beach; D. Rue. 1997. The paleoecology and ancient settlement of the Petexbatún region, Guatemala. *Ancient Mesoamerica* 8:255-66.
- Dupuy, J. M.; R. L. Chazdon. 2006. Effects of vegetation cover on seedling and sapling dynamics in secondary tropical wet forests in Costa Rica. *Journal of Tropical Ecology* 22:65-76.
- \_\_\_\_\_. 2008. Interacting effects of canopy gap, understory vegetation and leaf litter on tree seedling recruitment and composition in tropical secondary forests. *Forest Ecology and Management* 255:3716-25.
- Durán, S. M.; G. H. Kattan. 2005. A test of the utility of exotic tree plantations for understory birds and food resources in the Colombian Andes. *Biotropica* 37:129-35.
- Durigan, G.; V. L. Engel; J. M. Torezan; A. C. G. Melo; M. C. M. Marques; S. V. Martins; A. Reis; F. R. Scarano. 2010. Legal rules for ecological restoration: An additional barrier to hinder the success of initiatives? *Revista Árvore* 34:471-85.
- Durigan, G.; A. C. G. Melo. 2011. An overview of public policies and research on ecological restoration in the state of São Paulo, Brazil. p. 325-55 In: E. Figueiroa, ed. *Biodiversity conservation in the Americas: Lessons and policy*. Editorial FEN, Universidad de Chile, Santiago.

- Durno, J.; T. Deetes; J. Rajchaprasit. 2007. Natural forest regeneration from an *Imperata* fallow: The case of Pakhasukjai. p. 122-36 In: M. Cairns, ed. Voices from the forest: Integrating indigenous knowledge into sustainable upland farming. Resources for the Future, Washington, DC.
- Durst, P. B.; P. Sajise; R. N. Leslie, eds. 2011. Forests beneath the grass. Resumos... regional workshop on advancing the application of assisted natural regeneration for effective low-cost restoration. Food and Agriculture Organization of the United Nations, Bangkok, Thailand.
- Eaton, J. M.; D. Lawrence. 2009. Loss of carbon sequestration potential after several decades of shifting cultivation in the Southern Yucatan. *Forest Ecology and Management* 258:949-58.
- Eden, M. J.; W. Bray; L. Herrera; C. McEwan. 1984. *Terra Preta* soils and their archaeological context in the Caquetá Basin of Southeast Colombia. *American Antiquity* 49:125-40.
- Edwards, D. P.; F. A. Ansell; A. H. Ahmad; R. Nilus; K. C. Hamer. 2009. The value of rehabilitating logged rainforest for birds. *Conservation Biology* 23:1628-33.
- Edwards, D. P.; T. H. Larsen; T. D. S. Docherty; F. A. Ansell; W. W. Hsu; M. A. Derhé; K. C. Hamer; D. S. Wilcove. 2011. Degraded lands worth protecting: The biological importance of Southeast Asia's repeatedly logged forests. *Resumos... Royal Society B: Biological Sciences* 278:82-90.
- Edwards, D. P.; P. Woodcock; F. A. Edwards; T. H. Larsen; W. W. Hsu; S. Benedick; D. S. Wilcove. 2012. Reduced-impact logging and biodiversity conservation: A case study from Borneo. *Ecological Applications* 22:561-71.
- Eggeling, W. J. 1947. Observations on the ecology of the Budongo Rain Forest, Uganda. *Journal of Ecology* 34:20-87.
- Egler, F. 1954. Vegetation science concepts I. Initial floristic composition, a factor in old-field vegetation development with 2 figs. *Plant Ecology* 4:412-17.
- Elias, M.; C. Potvin. 2003. Assessing inter- and intra-specific variation in trunk carbon concentration for 32 Neotropical tree species. *Canadian Journal of Forest Research* 33:1039-45.
- Ellsworth, D.; P. Reich. 1996. Photosynthesis and leaf nitrogen in five Amazonian tree species during early secondary succession. *Ecology* 77:581-94.
- Elmqvist, T.; M. Pyykönen; M. Tengö; F. Rakotondrasoa; E. Rabakonandrianina; C. Radimilahy. 2007. Patterns of loss and regeneration of tropical dry forest in Madagascar: The social institutional context. *PLoS ONE* 2:e402. doi:10.1371/journal.pone.0000402 2.
- Eltahir, E. A. B.; R. L. Bras. 1996. Precipitation recycling. *Geophysics* 34:367-78.
- Emery, K. F. 2007. Assessing the impact of ancient Maya animal use. *Journal for Nature Conservation* 15:184-95.
- Endress, B. A.; J. D. Chinea. 2001. Landscape patterns of tropical forest recovery in the Republic of Palau. *Biotropica* 33:555-65.

- Erickson, C. L. 2000. An artificial landscape-scale fishery in the Bolivian Amazon. *Nature* 408:190-93.
- \_\_\_\_\_. 2003. Historical ecology and future explorations. p. 455-500 In: J. Lehmann; D. Kern; B. Glaser; W. Woods, eds. *Amazonian dark earths: Origin, properties, management*. Kluwer Academic Publishers, Dordrecht, Neth.
- \_\_\_\_\_. 2006. The domesticated landscapes of the Bolivian Amazon. p. 235-78 In: W. Balee; C. L. Erickson, eds. *Time and complexity in historical ecology*. Columbia University Press, New York.
- \_\_\_\_\_. 2008. Amazonia: The historical ecology of a domesticated landscape. p. 157-83 In: H. Silverman; W. Isbell, eds. *Handbook of South American archaeology*. Springer, New York.
- Erickson, C. L.; W. Balée. 2006. The historical ecology of a complex landscape in Bolivia. p. 187-233 In: W. Balee; C. L. Erickson, eds. *Time and complexity in historical ecology*. Columbia University Press, New York.
- Erickson, H.; M. Keller; E. A. Davidson. 2001. Nitrogen oxide fluxes and nitrogen cycling during postagricultural succession and forest fertilization in the humid tropics. *Ecosystems* 4:67-84.
- Erickson, C. L.; J. H. Walker. 2009. Precolumbian causeways and canals as landesque capital. p. 233-52 In: J. E. Snead; C. Erickson; J. A. Darling, eds. *Landscapes of movement: Trails, paths, and roads in anthropological perspective*. University of Pennsylvania Museum of Archaeology and Anthropology, Philadelphia.
- Erskine, P. D.; C. P. Catterall; D. Lamb; J. Kanowski. 2007. Patterns and processes of old field reforestation in Australian rainforest landscapes. p. 119-43 In: V. A. Cramer; R. J. Hobbs, eds. *Old fields: Dynamics and restoration of abandoned farmland*. Island Press, Washington, DC.
- Espírito-Santo, F.; M. Keller; B. Braswell; B. Nelson; S. Froliking; G. Vicente. 2010. Storm intensity and old-growth forest disturbances in the Amazon region. *Geophysical Research Letters* 37:L11403.
- Estrada, A.; R. Coates-Estrada. 1991. Howler monkeys (*Alouatta palliata*), dung beetles (Scarabaeidae) and seed dispersal: Ecological interactions in the tropical rain forest of Los Tuxtlas, Mexico. *Journal of Tropical Ecology* 7:459-74.
- Estrada, A.; R. Coates-Estrada; D. Meritt Jr. 1994. Non flying mammals and landscape changes in the tropical rain forest region of Los Tuxtlas, Mexico. *Ecography* 17:229-41.
- Etter, A.; C. A. McAlpine; D. Pullar; H. Possingham. 2005. Modeling the age of tropical moist forest fragments in heavily-cleared lowland landscapes of Colombia. *Forest Ecology and Management* 208:249-60.
- Eva, H. D.; F. Achard; R. Beuchle; E. de Miranda; S. Carboni; R. Seliger; M. Vollmar; W. A. Holler; O. T. Oshiro; V. Barrena Arroyo. 2012. Forest cover changes in tropical South and Central America from 1990 to 2005 and related carbon emissions and removals. *Remote Sensing* 4:1369-91.

- Evans, D.; C. Pottier; R. Fletcher; S. Hensley; I. Tapley; A. Milne; M. Barbetti. 2007. A comprehensive archaeological map of the world's largest preindustrial settlement complex at Angkor, Cambodia. *Resumos... National Academy of Sciences* 104:14277-82.
- Ewel, J. J. 1971. Biomass changes in early tropical succession. *Turrialba* 21:110-12.
- \_\_\_\_\_. 1976. Litter fall and leaf decomposition in a tropical forest succession in eastern Guatemala. *Journal of Ecology* 64:293-308.
- \_\_\_\_\_. 1977. Differences between wet and dry successional tropical ecosystems. *GeoEco-Trop* 1:103-17.
- \_\_\_\_\_. 1980. Tropical succession: Manifold routes to maturity. *Supplement, Biotropica* 12:2-7.
- \_\_\_\_\_. 1983. Succession. p. 217-23 In: F. B. Golley, ed. *Tropical rain forest ecosystems*. Elsevier, Amsterdam, Neth.
- \_\_\_\_\_. 1986. Designing agricultural ecosystems for the humid tropics. *Ecology and Systematics* 71:245-71.
- Ewel, J. J.; S. W. Bigelow. 1996. Plant life-forms and tropical ecosystem functioning. p. 101-26 In: G. H. Orians; R. Dirzo; J. H. Cushman, eds. *Biodiversity and ecosystem processes in tropical forests*. Springer, New York.
- Ewel, J. J.; F. E. Putz. 2004. A place for alien species in ecosystem restoration. *Frontiers in Ecology and the Environment* 2:354-360.
- Fagan, M.; R. S. DeFries. 2009. Measurement and monitoring of the world's forests: A review and summary of remote sensing technical capability, 2009-2015. *Resources for the Future*, Washington, DC.
- Fahrney, K.; O. Boonaphol; B. Keoboualapa; S. Maniphone. 2007. Indigenous management of paper mulberry in swidden rice fields and fallows in Northern Lao PDR. p. 475-89 In: M. Cairns, ed. *Voices from the Forest: Integrating indigenous knowledge into sustainable upland farming*. Resources for the Future, Washington, DC.
- Fairbairn, A. S.; G. S. Hope; G. R. Summerhayes. 2006. Pleistocene occupation of New Guinea's highland and subalpine environments. *World Archaeology* 38:371-86.
- Fairbridge, R. W. 1976. Shellfish-eating preceramic Indians in Coastal Brazil. *Science* 191:353-59.
- Fairhead, J.; M. Leach. 2009. Amazonian dark earths in Africa. p. 265-78 In: W. I. Woods, ed. *Amazonian dark earths: Wim Sombroek's vision*. Springer, New York.
- Fall, P. L.; T. D. Drezner. 2011. Plant dispersal, introduced species, and vegetation change in the South Pacific kingdom of Tonga. *Pacific Science* 65:143-56.
- FAO (Food and Agriculture Organization of the United Nations). 2001. *Global Forest Resources Assessment 2000*. FAO Forestry Paper n. 140. FAO, Rome, Italy.
- \_\_\_\_\_. 2003. Workshop on tropical secondary forest management in Africa: Reality and perspectives— *Resumos... FAO*, Nairobi, Kenya.
- \_\_\_\_\_. 2006a. Choosing a forest definition for the Clean Development Mechanism. *Forests and climate change working paper* n. 4. FAO, Rome, Italy.

- \_\_\_\_\_. 2006b. Global Forest Resources Assessment 2005. Progress towards sustainable forest management. FAO forestry paper n. 147. FAO, Rome, Italy.
- \_\_\_\_\_. 2010. Global forest resources assessment 2010. FAO forestry paper n. 163. FAO, Rome, Italy.
- \_\_\_\_\_. 2011. Assessing forest degradation: towards the development of globally applicable guidelines. Forest resources assessment working paper n. 177. FAO, Rome, Italy.
- Farwig, N., N. Sajita, and K. Böhning-Gaese. 2008. Conservation value of forest plantations for bird communities in western Kenya. *Forest Ecology and Management* 255:3885-92.
- \_\_\_\_\_. 2009. High seedling recruitment of indigenous tree species in forest plantations in Kakamega Forest, western Kenya. *Forest Ecology and Management* 257:143-50.
- Fashing, P. J.; N. Nguyen; P. Luteshi; W. Opondo; J. F. Cash; M. Cords. 2012. Evaluating the suitability of planted forests for African forest monkeys: A case study from Kakamega forest, Kenya. *American Journal of Primatology* 74:77-90.
- Faust, F.; G. Gnecco; H. Mannstein; J. Stamm. 2006. Evidence for the postconquest demographic collapse of the Americans in historic CO<sub>2</sub> levels. *Earth Interactions* 10:1-14.
- Fay, J. M. 1997. The ecology, social organization, populations, habitat and history of the western lowland gorilla (*Gorilla gorilla gorilla* Savage and Wyman 1847). Washington University, St. Louis, MO.
- Fearnside, P. M.; R. I. Barbosa; P. M. L. de Alencastro Graça. 2007. Burning of secondary forest in Amazonia: Biomass, burning efficiency and charcoal formation during land preparation for agriculture in Apiaú, Roraima, Brazil. *Forest Ecology and Management* 242:678-87.
- Fearnside, P. M.; W. M. Guimarães. 1996. Carbon uptake by secondary forests in Brazilian Amazonia. *Forest Ecology and Management* 80:35-46.
- Fedick, S. L. 1995. Land evaluation and ancient Maya land use in the Upper Belize River area, Belize, Central America. *Latin American Antiquity* 6:16-34.
- Feeley, K. J.; S. J. Davies; P. S. Ashton; S. Bunyavejchewin; M. N. N. Supardi; A. R. Kassim; S. Tan; J. Chave. 2007a. The role of gap phase processes in the biomass dynamics of tropical forests. *Resumos... Royal Society B: Biological Sciences* 274:2857-64.
- Feeley, K.; S. J. Wright; M. Nur Supardi; A. Kassim; S. Davies. 2007b. Decelerating growth in tropical forest trees. *Ecology Letters* 10:461-69.
- Feinsinger, P. 1978. Ecological interactions between plants and hummingbirds in a successional tropical community. *Ecological Monographs* 48:269-87.
- Feldpausch, T. R.; C. D. Prates-Clark; E. C. M. Fernandes; S. J. Riha. 2007. Secondary forest growth deviation from chronosequence predictions in central Amazonia. *Global Change Biology* 13:967-79.
- Feldpausch, T. R.; S. J. Riha; E. C. M. Fernandes; E. V. Wandelli. 2005. Development of forest structure and leaf area in secondary forests regenerating on abandoned pastures in Central Amazônia. *Earth Interactions* 9:1.

- Feldpausch, T. R.; M. A. Rondon; E. C. M. Fernandes; S. J. Riha; E. Wandelli. 2004. Carbon and nutrient accumulation in secondary forests regenerating on pastures in central Amazonia. *Ecological Applications* 14:S164-S176.
- Felton, A.; A. Felton; W. Foley; D. Lindenmayer. 2010. The role of timber tree species in the nutritional ecology of spider monkeys in a certified logging concession, Bolivia. *Forest Ecology and Management* 259:1642-49.
- Felton, A.; J. Wood; A. M. Felton; B. Hennessey; D. B. Lindenmayer. 2008. Bird community responses to reduced-impact logging in a certified forestry concession in lowland Bolivia. *Biological Conservation* 141:545-55.
- Ferguson, B. G.; J. Vandermeer; H. Morales; D. M. Griffith. 2003. Post-agricultural succession in El Petén, Guatemala. *Conservation Biology* 17:818-28.
- Filippelli, G.; C. Souch; S. Horn; D. Newkirk. 2010. The pre-Colombian footprint on terrestrial nutrient cycling in Costa Rica: Insights from phosphorus in a lake sediment record. *Journal of Paleolimnology* 43:843-56.
- Fimbel, R. A.; A. Grajal; J. G. Robinson. 2001. Logging and wildlife in the tropics: Impacts and options for conservation. p. 667-95 In: R. Fimbel; A. Grajal; J. G. Robinson, eds. *The cutting edge: Conserving wildlife in logged tropical forest*. Columbia University Press, New York.
- Finegan, B. 1992. The management potential of Neotropical secondary lowland rain forest. *Forest Ecology and Management* 47:295-321.
- \_\_\_\_\_. 1996. Pattern and process in Neotropical secondary forests: The first 100 years of succession. *Trends in Ecology and Evolution* 11:119-24.
- Finegan, B.; M. Camacho. 1999. Stand dynamics in a logged and silviculturally treated Costa Rican rain forest, 1988-1996. *Forest Ecology and Management* 121:177-89.
- Fisher, J.; G. Hurtt; R. Thomas; J. Chambers. 2008. Clustered disturbances lead to bias in large-scale estimates based on forest sample plots. *Ecology Letters* 11:554-63.
- Fleming, T. H.; R. Breitwisch; G. H. Whitesides. 1987. Patterns of tropical vertebrate frugivore diversity. *Ecology and Systematics* 18:91-109.
- Floren, A.; K. E. Linsenmair. 2001. The influence of anthropogenic disturbances on the structure of arboreal arthropod communities. *Plant Ecology* 153:153-67.
- Flores, B. M.; M. T. F. Piedade; B. W. Nelson. 2013. Fire disturbance in Amazonian blackwater floodplain forests. *Plant Ecology & Diversity*. doi:10.1080/17550874.2012.716086.
- Flynn, D. F. B.; M. Uriarte; T. Crk; J. B. Pascarella; J. K. Zimmerman; T. M. Aide; M. A. C. Ortiz. 2010. Hurricane disturbance alters secondary forest recovery in Puerto Rico. *Biotropica* 42:149-57.
- Foody, G. M.; P. J. Curran. 1994. Estimation of tropical forest extent and regenerative stage using remotely sensed data. *Journal of Biogeography* 21:223-44.
- Ford, A. 2008. Dominant plants of the Maya forest and gardens of El Pilar: Implications for paleoenvironmental reconstructions. *Journal of Ethnobiology* 28:179-99.
- Ford, A.; R. Nigh. 2009. Origins of the Maya forest garden: Maya resource management. *Journal of Ethnobiology* 29:213-36.

- Fornara, D.; J. W. Dalling. 2005. Post-dispersal removal of seeds of pioneer species from five Panamanian forests. *Journal of Tropical Ecology* 21:79-84.
- Foster, B. L.; D. Tilman. 2000. Dynamic and static views of succession: Testing the descriptive power of the chronosequence approach. *Plant Ecology* 146:1-10.
- Foster, D. R. 2000. Conservation lessons and challenges from ecological history. *Forest History Today*, Fall, 2-11.
- Foster, D. R.; D. H. Knight; J. F. Franklin. 1998. Landscape patterns and legacies resulting from large, infrequent forest disturbances. *Ecosystems* 1:497-510.
- Foster, D. R.; G. Motzkin; B. Slater. 1998. Land-use history as long-term broad-scale disturbance: Regional forest dynamics in central New England. *Ecosystems* 1:96-119.
- Foster, D. R.; D. A. Orwig; J. S. McLachlan. 1996. Ecological and conservation insights from reconstructive studies of temperate old-growth forests. *Trends in Ecology and Evolution* 11:419-23.
- Foster, R. B.; J. Arce B.; T. S. Wachter. 1986. Dispersal and the sequential plant communities in Amazonian Peru floodplain. p. 357-70 In: A. Estrada; T. H. Fleming, eds. *Frugivores and seed dispersal*. W. Junk, Dordrecht, Neth.
- Fox, J. E. D. 1976. Constraints on the natural regeneration of tropical moist forest. *Forest Ecology and Management* 1:37-65.
- Franklin, J. 1989. Toward a new forestry. *American Forests*, November/December, 37-44.
- Franklin, J.; D. Drake; K. McConkey; F. Tonga; L. Smith. 2004. The effects of Cyclone Waka on the structure of lowland tropical rain forest in Vava'u, Tonga. *Journal of Tropical Ecology* 20:409-20.
- Franklin, J.; S. J. Rey. 2007. Spatial patterns of tropical forest trees in Western Polynesia suggest recruitment limitations during secondary succession. *Journal of Tropical Ecology* 23:1-12.
- Fraser, J. A.; A. Junqueira; N. C. Kawa; C. P. Moraes; C. R. Clement. 2011. Crop diversity on anthropogenic dark earths in central Amazonia. *Human Ecology* 39:395-406.
- Fredeen, A.; C. Field. 1996. Ecophysiological constraints on the distribution of *Piper* species. p. 597-618 In: S. Mulkey; R. Chazdon; A. Smith, eds. *Tropical forest plant ecophysiology*. Chapman & Hall, New York.
- Frederick, C. 2007. Chinampas cultivation in the Basin of Mexico: Observations on the evolution of form and function. p. 107-24 In: T. Thurston; C. Fisher, eds. *Seeking a richer harvest: The archaeology of subsistence, intensification, innovation, and change*. Springer, New York.
- Fredericksen, T. S.; W. Pariona. 2002. Effect of skidder disturbance on commercial tree regeneration in logging gaps in a Bolivian tropical forest. *Forest Ecology and Management* 171:223-30.
- Fredriksson, G.; L. Danielsen; J. Swenson. 2007. Impacts of El Niño related drought and forest fires on sun bear fruit resources in lowland dipterocarp forest of East Borneo. *Biodiversity and Conservation* 16:1823-38.

- Froyd, C. A.; K. J. Willis. 2008. Emerging issues in biodiversity and conservation management: The need for a palaeoecological perspective. *Quaternary Science Reviews* 27:1723-32.
- Fukushima, M.; M. Kanzaki; M. Hara; T. Ohkubo; P. Preechapanya; C. Choocharoen. 2008. Secondary forest succession after the cessation of swidden cultivation in the montane forest area in Northern Thailand. *Forest Ecology and Management* 255:1994-2006.
- Gadgil, M.; F. Berkes; C. Folke. 1993. Indigenous knowledge for biodiversity conservation. *AMBIO* 22:151-56.
- Gadgil, M.; M. D. S. Chandran. 1988. On the history of Uttara Kannada forests. p. 47-58 In: J. Dargavel; K. Dixon; N. Semple, eds. *Changing tropical forests: Historical perspectives on today's challenges in Asia, Australia, and Oceania*. Centre for Resource and Environmental Studies. Canberra, ACT, Australia.
- Galindo-González, J.; S. Guevara; V. J. Sosa. 2000. Bat- and bird-generated seed rains at isolated trees in pastures in a tropical rainforest. *Conservation Biology* 14:1693-1703.
- Gallardo-Cruz, J. A.; J. A. Meave; E. J. González; E. E. Lebrija-Trejos; M. A. Romero-Romero; E. A. Pérez-García; R. Gallardo-Cruz; J. L. Hernández-Stefanoni; C. Martorell. 2012. Predicting tropical dry forest successional attributes from space: Is the key hidden in image texture? *PLoS One* 7:e30506.
- Galvão, L. S.; F. J. Ponzoni; V. Liesenberg; J. R. dos Santos. 2009. Possibilities of discriminating tropical secondary succession in Amazonia using hyperspectral and multiangular CHRIS/PROBA data. *International Journal of Applied Earth Observation and Geoinformation* 11:8-14.
- Ganade, G. 2007. Processes affecting succession in old fields of Brazilian Amazonia. p. 75-92 In: V. A. Cramer; R. J. Hobbs, eds. *Old fields: Dynamics and restoration of abandoned farmland*. Island Press, Washington, DC.
- Ganade, G.; V. K. Brown. 2002. Succession in old pastures of central Amazonia: Role of soil fertility and plant litter. *Ecology* 83:743-54.
- Gannon, M. R.; M. R. Willig. 1994. The effects of Hurricane Hugo on bats of the Luquillo Experimental Forest of Puerto Rico. *Biotropica* 26:320-31.
- Ganz, D. J.; P. B. Durst. 2003. Assisted natural regeneration: An overview. p. 1-4 In: P. C. Dugan; P. B. Durst; D. J. Ganz; P. J. McKenzie, eds. *Advancing assisted natural regeneration (ANR) in Asia and the Pacific*. Food and Agriculture Organization of the United Nations, Bangkok, Thailand.
- Garcia, C. A.; S. A. Bhagwat; J. Ghazoul; C. D. Nath; K. M. Nanaya; C. G. Kushalappa; Y. Raghuramulu; R. Nasi; P. Vaast. 2010. Biodiversity conservation in agricultural landscapes: Challenges and opportunities of coffee agroforests in the Western Ghats, India. *Conservation Biology* 24:479-88.
- García-Barrios, L.; Y. M. Galván-Miyoshi; I. A. Valdivieso-Pérez; O. R. Masera; G. Bocco; J. Vandermeer. 2009. Neotropical forest conservation, agricultural intensification, and rural out-migration: The Mexican experience. *BioScience* 59:863-73.

- García-Fernández, C.; M. A. Casado. 2005. Forest recovery in managed agroforestry systems: The case of benzoin and rattan gardens in Indonesia. *Forest Ecology and Management* 214:158-69.
- Gardner, T. A.; J. Barlow; R. Chazdon; R. M. Ewers; C. A. Harvey; C. A. Peres; N. S. Sodhi. 2009. Prospects for tropical forest biodiversity in a human-modified world. *Ecology Letters* 12:561-82.
- Gardner, T. A.; J. Barlow; L. W. Parry; C. A. Peres. 2007a. Predicting the uncertain future of tropical forest species in a data vacuum. *Biotropica* 39:25-30.
- Gardner, T. A.; M. I. M. Hernández; J. Barlow; C. A. Peres. 2008. Understanding the biodiversity consequences of habitat change: The value of secondary and plantation forests for Neotropical dung beetles. *Journal of Applied Ecology* 45:883-93.
- Gardner, T. A.; M. A. Ribeiro-Junior; J. Barlow; T. Cristina; S. Avila-Pires; M. S. Hoogmoed; C. A. Peres. 2007b. The value of primary, secondary, and plantation forests for a Neotropical herpetofauna. *Conservation Biology* 21:775-87.
- Garrity, D. P. 2004. Agroforestry and the achievement of the Millennium Development Goals. *Agroforestry Systems* 61:5-17.
- Garrity, D. P.; M. Soekardi; M. Van Noordwijk; R. De La Cruz; P. Pathak; H. Gunasena; N. Van So; G. Huijun; N. Majid. 1997. The *Imperata* grasslands of tropical Asia: Area, distribution, and typology. *Agroforestry Systems* 36:3-29.
- Garwood, N. 1996. Functional morphology of tropical tree seedlings. p. 59-130 In: M. D. Swaine, ed. *The ecology of tropical forest tree seedlings*. Parthenon, Paris.
- Garwood, N.; D. Janos; N. Brokaw. 1979. Earthquake-caused landslides: A major disturbance to tropical forests. *Science* 205:997-99.
- Gaveau, D. L. A.; H. Wandono; F. Setiabudi. 2007. Three decades of deforestation in southwest Sumatra: Have protected areas halted forest loss and logging, and promoted re-growth? *Biological Conservation* 134:495-504.
- Gehring, C.; M. Denich; M. Kanashiro; P. L. G. Vlek. 1999. Response of secondary vegetation in Eastern Amazonia to relaxed nutrient availability constraints. *Biogeochemistry* 45:223-41.
- Gehring, C.; M. Denich; P. L. G. Vlek. 2005. Resilience of secondary forest regrowth after slash-and-burn agriculture in central Amazonia. *Journal of Tropical Ecology* 21:519-27.
- Gehring, C.; F. H. Muniz; L. A. Gomes de Souza. 2008. Leguminosae along 2-25 years of secondary forest succession after slash-and-burn agriculture and in mature rain forest of Central Amazonia 1. *Journal of the Torrey Botanical Society* 135:388-400.
- Gehring, C.; P. L. G. Vlek; L. A. G. de Souza; M. Denich. 2005. Biological nitrogen fixation in secondary regrowth and mature rainforest of central Amazonia. *Agriculture, Ecosystems & Environment* 111:237-52.
- Gerwing, J. J.; E. Vidal. 2002. Changes in liana abundance and species diversity eight years after liana cutting and logging in an eastern Amazonian forest. *Conservation Biology* 16:544-48.

- Geurts, R.; A. Lillo; T. Bisseling. 2012. Exploiting an ancient signalling machinery to enjoy a nitrogen fixing symbiosis. *Current Opinion in Plant Biology* 15:438-43.
- Ghazoul, J. 2004. Alien abduction: Disruption of native plant pollinator interactions by invasive species. *Biotropica* 36:156-64.
- Ghazoul, J.; D. Sheil. 2010. Tropical rain forest: Ecology, diversity, and conservation. Oxford University Press, Oxford.
- Giambelluca, T. W. 2002. Hydrology of altered tropical forest. *Hydrological Processes* 16:1665-69.
- Gibbs, H. K.; S. Brown; J. O. Niles; J. A. Foley. 2007. Monitoring and estimating tropical forest carbon stocks: Making REDD a reality. *Environmental Research Letters* 2:045023 (13 pp.).
- Gibson, L.; T. M. Lee; L. P. Koh; B. W. Brook; T. A. Gardner; J. Barlow; C. A. Peres; C. J. A. Bradshaw; W. F. Laurance; T. E. Lovejoy. 2011. Primary forests are irreplaceable for sustaining tropical biodiversity. *Nature* 478:378-81.
- Gilbert, B.; S. J. Wright; H. C. Muller-Landau; K. Kitajima; A. Hernández. 2006. Life history trade-offs in tropical trees and lianas. *Ecology* 87:1281-88.
- Gilbert, L. E. 1980. Food web organization and the conservation of Neotropical diversity. p. 11-33 In: M. Soulé; B. Wilcox, eds. *Conservation biology*. Cambridge University Press, Cambridge.
- Gill, R. 2001. The great Maya droughts: Water, life, and death. University of New Mexico Press, Albuquerque.
- Girão, L.; A. Lopes; M. Tabarelli; E. Bruna. 2007. Changes in tree reproductive traits reduce functional diversity in a fragmented Atlantic forest landscape. *PLoS One* 2:908.
- Glaser, B. 2007. Prehistorically modified soils of central Amazonia: A model for sustainable agriculture in the twenty-first century. *Resumos... Royal Society B: Biological Sciences* 362:187-96.
- Glaser, B.; J. J. Birk. 2012. State of the scientific knowledge on properties and genesis of Anthropogenic dark earths in Central Amazonia (*terra preta de índio*). *Geochimica et Cosmochimica Acta* 82:39-51.
- Glaser, B.; L. Haumaier; G. Guggenberger; W. Zech. 2001. The *Terra Preta* phenomenon: A model for sustainable agriculture in the humid tropics. *Naturwissenschaften* 88:37-41.
- Gloor, M.; O. L. Phillips; J. J. Lloyd; S. L. Lewis; Y. Malhi; T. R. Baker; G. Lopez-Gonzalez; et al. 2009. Does the disturbance hypothesis explain the biomass increase in basin-wide Amazon forest plot data? *Global Change Biology* 15:2418-30.
- Gnecco, G.; S. Mora. 1997. Late Pleistocene/early Holocene tropical forest occupations at San Isidro and Pena Roja, Colombia. *Antiquity* 71:683-90.
- Goldammer, J. G. 2007. History of equatorial vegetation fires and fire research in Southeast Asia before the 1997-98 episode: A reconstruction of creeping environmental changes. *Mitigation and Adaptation Strategies for Global Change* 12:13-32.

- Goldammer, J. G.; B. Seibert. 1989. Natural rain forest fires in eastern Borneo during the Pleistocene and Holocene. *Naturwissenschaften* 76:518-20.
- Golson, J. 1991. The New Guinea highlands on the eve of agriculture. *Indo-Pacific Prehistory Association Bulletin* 11:82-91.
- Goman, M.; R. Byrne. 1998. A 5000-year record of agriculture and tropical forest clearance in the Tuxtlas, Veracruz, Mexico. *Holocene* 8:83-89.
- Gomes, A. C. S.; F. J. Luizão. 2012. Leaf and soil nutrients in a chronosequence of second-growth forest in Central Amazonia: Implications for restoration of abandoned lands. *Restoration Ecology* 20:339-45.
- Gómez-Pompa, A. 1971. Posible papel de la vegetación secundaria en la evolución de la flora tropical. *Biotropica* 3:125-35.
- \_\_\_\_\_. 1987. On Maya silviculture. *Mexican Studies* 3:1-17.
- Gómez-Pompa, A.; A. Kaus. 1999. From pre-Hispanic to future conservation alternatives: Lessons from México. *Resumos... National Academy of Sciences* 96:5982-86.
- Gómez-Pompa, A.; J. S. Flores; V. Sosa. 1987. The "Pet Kot": A man-made tropical forest of the Maya. *Interciencia* 12:10-15.
- Gómez-Pompa, A.; C. Vázquez-Yanes. 1981. Successional studies of a rain forest in México. p. 246-66 In: D. C. West; H. H. Shugart; D. B. Botkin, eds. *Forest succession: Concepts and applications*. Springer Verlag, New York.
- \_\_\_\_\_. 1985. Estudios sobre la regeneración de selvas en regiones cálido-húmedas de México. p. 1-25 In: A. Gómez-Pompa; S. Del Amo, eds. *Investigaciones sobre la regeneración de Selvas Altas en Veracruz, México*. v. 2. Editorial Alhambra, Xalapa, Mexico.
- Gonzales, R. S.; N. R. Ingle; D. A. Lagunzad; T. Nakashizuka. 2009. Seed dispersal by birds and bats in lowland Philippine forest successional area. *Biotropica* 41:452-58.
- Goosem, S.; N. I. J. Tucker. 1995. Repairing the rainforest: Theory and practice of rainforest re-establishment in North Queensland's wet tropics. *Wet Tropics Management Authority*, Cairns, Australia.
- Gorchov, D. L.; F. Cornejo; C. Ascorra; M. Jaramillo. 1993. The role of seed dispersal in the natural regeneration of rain forest after strip-cutting in the Peruvian Amazon. *Vegetatio* 107/108:339-49.
- \_\_\_\_\_. 1995. Dietary overlap between frugivorous birds and bats in the Peruvian Amazon. *Oikos* 74:235-50.
- Gotelli, N. J.; R. K. Colwell. 2001. Quantifying biodiversity: Procedures and pitfalls in the measurements and comparison of species richness. *Ecology Letters* 4:379-91.
- GPFLR. 2012. Global Partnership on Forest Landscape Restoration. Disponível em: <<http://www.ideastransformlandscapes.org/>>. Acesso em: 28 jul. 2012.
- Grabowski, Z. J.; R. L. Chazdon. 2012. Beyond carbon: Redefining forests and people in the global ecosystem services market. *SAPIENS* 5. Disponível em: <<http://sapiens.revues.org/1246>>.

- Graham, E. 2006. A Neotropical framework for terra preta. p. 57-86 In: W. Balée; C. L. Erickson, eds. Time and complexity in historical ecology. Columbia University Press, New York.
- Grainger, A. 2010. The bigger picture—tropical forest change in context, concept and practice. p. 15-43 In: H. Nagendra; J. Southworth, eds. Reforesting landscapes: Linking pattern and process. Springer, Dordrecht, Neth.
- Grau, H. R.; T. M. Aide; J. K. Zimmerman; J. R. Thomlinson; E. Helmer; X. M. Zou. 2003. The ecological consequences of socioeconomic and land-use changes in postagriculture Puerto Rico. BioScience 53:1159-68.
- Grau, H. R.; M. F. Arturi; A. D. Brown; P. G. Acenolaza. 1997. Floristic and structural patterns along a chronosequence of secondary forest succession in Argentinean subtropical montane forests. Forest Ecology and Management 95:161-71.
- Grayson, D. K. 2001. The archaeological record of human impacts on animal populations. Journal of World Prehistory 15:1-68.
- Grimbacher, P. S.; C. P. Catterall. 2007. How much do site age, habitat structure and spatial isolation influence the restoration of rainforest beetle species assemblages? Biological Conservation 135:107-18.
- Griscom, H. P.; M. S. Ashton. 2011. Restoration of dry tropical forests in Central America: A review of pattern and process. Forest Ecology and Management 261:1564-79.
- Grogan, J.; J. Galvão. 2006. Factors limiting post-logging seedling regeneration by big-leaf mahogany (*Swietenia macrophylla*) in southeastern Amazonia, Brazil, and implications for sustainable management. Biotropica 38:219-28.
- Grubb, P. J. 1977. The maintenance of species richness in plant communities: The importance of the regeneration niche. Biological Reviews 52:107-45.
- Guadarrama, P.; S. Castillo-Argüero; J. A. Ramos-Zapata; S. Camargo-Ricalde; J. Álvarez-Sánchez. 2008. Propagules of arbuscular mycorrhizal fungi in a secondary dry forest of Oaxaca, Mexico. Revista de Biología Tropical 56:269-77.
- Guariguata, M. R. 1990. Landslide disturbance and forest regeneration in the Upper Luquillo mountains of Puerto Rico. Journal of Ecology 78:814-32.
- \_\_\_\_\_. 1999. Early response of selected tree species to liberation thinning in a young secondary forest in northeastern Costa Rica. Forest Ecology and Management 124:255-61.
- Guariguata, M. R.; J. J. R. Adame; B. Finegan. 2000. Seed removal and fate in two selectively logged lowland forests with contrasting protection levels. Conservation Biology 14:1046-54.
- Guariguata, M. R.; H. Arias-Le Claire; G. Jones. 2002. Tree seed fate in a logged and fragmented forest landscape, northeastern Costa Rica. Biotropica 34:405-15.
- Guariguata, M.; R. Chazdon; J. Denslow; J. Dupuy; L. Anderson. 1997. Structure and floristics of secondary and old-growth forest stands in lowland Costa Rica. Plant Ecology 132:107-20.

- Guariguata, M.; J. M. Dupuy. 1997. Forest regeneration in abandoned logging roads in lowland Costa Rica. *Biotropica* 29:15-28.
- Guariguata, M.; R. Ostertag. 2001. Neotropical secondary forest succession: Changes in structural and functional characteristics. *Forest Ecology and Management* 148:185-206.
- Guerrero, A. C.; P. L. B. Da Rocha. 2010. Passive restoration in biodiversity hotspots: Consequences for an Atlantic rainforest lizard taxocene. *Biotropica* 42:379-87.
- Guevara, S.; J. Meave; P. Moreno-Casasola; J. Laborde. 1992. Floristic composition and structure of vegetation under isolated trees in Neotropical pastures. *Journal of Vegetation Science* 3:655-64.
- Guevara, S.; S. E. Purata; E. van der Maarl. 1986. The role of remnant forest trees in tropical secondary succession. *Vegetatio* 66:77-84.
- Guix, J. C. 2009. Amazonian forests need Indians and Caboclos. *Orsis* 24:33-40.
- Gunaratne, A.; C. Gunatilleke; I. Gunatilleke; H. Madawala Weerasinghe; D. Burslem. 2010. Barriers to tree seedling emergence on human-induced grasslands in Sri Lanka. *Journal of Applied Ecology* 47:157-65.
- Günter, S.; M. Weber; R. Erreis; N. Aguirre. 2007. Influence of distance to forest edges on natural regeneration of abandoned pastures: A case study in the tropical mountain rain forest of Southern Ecuador. *European Journal of Forest Research* 126:67-75.
- Guo, L.; R. Gifford. 2002. Soil carbon stocks and land use change: A meta analysis. *Global Change Biology* 8:345-60.
- Haberle, S. G. 1996. Palaeoenvironmental changes in the eastern highlands of Papua New Guinea. *Archaeology in Oceania* 31:1-11.
- \_\_\_\_\_. 2003. The emergence of an agricultural landscape in the highlands of New Guinea. *Archaeology in Oceania* 38:149-58.
- \_\_\_\_\_. 2007. Prehistoric human impact on rainforest biodiversity in highland New Guinea. *Resumos... Royal Society B: Biological Sciences* 362:219-28.
- Haberle, S. G.; B. David. 2004. Climates of change: Human dimensions of Holocene environmental change in low latitudes of the PEP II transect. *Quaternary International* 118-19:165-79.
- Haberle, K. H.; G. S. Hope; S. van der Kaars. 2001. Biomass burning in Indonesia and Papua New Guinea: Natural and human induced fire events in the fossil record. *Palaeogeography Palaeoclimatology Palaeoecology* 171:259-68.
- Haberle, S. G.; M.-P. Ledru. 2001. Correlations among charcoal records of fires from the past 16,000 years in Indonesia, Papua New Guinea, and Central and South America. *Quaternary Research* 55:97-104.
- Hacke, U. G.; J. S. Sperry; W. T. Pockman; S. D. Davis; K. A. McCulloch. 2001. Trends in wood density and structure are linked to prevention of xylem implosion by negative pressure. *Oecologia* 126:457-61.
- Hall, A. 2012. Forests and climate change: The social dimensions of REDD in Latin America. Edward Elgar Publishing, Northampton, MA.

- Hall, J.; M. Swaine. 1976. Classification and ecology of closed-canopy forest in Ghana. *Journal of Ecology* 64:913-51.
- Hall, J. M.; T. Van Holt; A. E. Daniels; V. Balthazar; E. F. Lambin. 2012. Tradeoffs between tree cover, carbon storage and floristic biodiversity in reforesting landscapes. *Landscape Ecology* 27:1135-47.
- Halpern, C. B. 1988. Early successional pathways and the resistance and resilience of forest communities. *Ecology* 69:1703-15.
- Hammond, D. S. 1995. Post-dispersal seed and seedling mortality of tropical dry forest trees after shifting agriculture, Chiapas, Mexico. *Journal of Tropical Ecology* 11:295-313.
- Hammond, D. S.; H. ter Steege. 1998. Propensity for fire in Guianan rainforests. *Conservation Biology* 12:944-47.
- Hammond, D. S.; H. ter Steege, and K. van der Borg. 2006. Upland soil charcoal in the wet tropical forests of central Guyana. *Biotropica* 39:153-60.
- Hammond, N. 1978. The myth of the milpa: Agricultural expansion in the Maya lowlands. p. 23-34 In: P. D. Harrison; B. L. Turner II, eds. *Pre-hispanic Maya agriculture*. University of New Mexico Press, Albuquerque.
- Hansen, P. K.; H. Sodarak; S. Savathvong. 2007. Teak production by shifting cultivators in Northern Lao PDR. p. 414-24 In: M. Cairns, ed. *Voices from the forest: Integrating indigenous knowledge into sustainable upland farming*. Resources for the Future, Washington, DC.
- Hanski, I.; Y. Cambefort. 1991. *Dung beetle ecology*. Princeton University Press, Princeton, NJ.
- Hanson, T.; S. Brunsfeld; B. Finegan. 2006. Variation in seedling density and seed predation indicators for the emergent tree *Dipteryx panamensis* in continuous and fragmented rain forest. *Biotropica* 38:770-74.
- Hardesty, B. D.; S. P. Hubbell; E. Bermingham. 2006. Genetic evidence of frequent long-distance recruitment in a vertebrate-dispersed tree. *Ecology Letters* 9:516-25.
- Harms, K. E.; J. W. Dalling. 1997. Damage and herbivory tolerance through resprouting as an advantage of large seed size in tropical trees and lianas. *Journal of Tropical Ecology* 13:617-21.
- Harrison, G. W. 1979. Stability under environmental stress: Resistance, resilience, persistence, and variability. *American Naturalist* 113:659-69.
- Hart, T.; J. Hart; M. Dechamps; M. Fournier; M. Ataholo. 1996. Changes in forest composition over the last 4000 years in the Ituri Basin, Zaire. p. 545-63 In: L. J. G. van der Maesen; X. M. van der Burgt; J. M. van Medenbach de Kooy, eds. *The biodiversity of African plants*. Kluwer Academic Publishers, Dordrecht, Neth.
- Hartshorn, G. S. 1978. Treefalls and tropical forest dynamics. p. 616-38 In: P. B. Tomlinson; M. H. Zimmerman, eds. *Tropical trees as living systems*. Cambridge University Press, Cambridge.
- \_\_\_\_\_. 1980. Neotropical forest dynamics. Supplement, *Biotropica* 12:23-30.

- Hartter, J.; J. Southworth; M. Binford. 2010. Parks as a mechanism to maintain and facilitate recovery of forest cover: Examining reforestation, forest maintenance and productivity in Uganda. p. 275-96 In: H. Nagendra; J. Southworth, eds. *Reforesting landscapes: Linking pattern and process*. Springer, Dordrecht, Neth.
- Harvey, C. A.; O. Komar; R. Chazdon; B. G. Ferguson; B. Finegan; D. M. Griffith; M. Martínez-Ramos; et al. 2008. Integrating agricultural landscapes with biodiversity conservation in the Mesoamerican hotspot. *Conservation Biology* 22:8-15.
- Harvey, C. A.; A. Medina; D. M. Sanchez; S. Vilchez; B. Hernandez; J. C. Saenz; J. M. Maes; F. Casanoves; F. L. Sinclair. 2006. Patterns of animal diversity in different forms of tree cover in agricultural landscapes. *Ecological Applications* 16:1986-99.
- Hassler, S. K., B. Zimmermann, M. van Breugel, J. S. Hall, and H. Elsenbeer. 2011. Recovery of saturated hydraulic conductivity under secondary succession on former pasture in the humid tropics. *Forest Ecology and Management* 261:1634-42.
- Haug, G.; D. Gunther; L. Peterson; D. Sigman; K. Hughen; B. Aeschlimann. 2003. Climate and the collapse of Maya civilization. *Science* 299:1731-35.
- Haug, I.; T. Wubet; M. Weib; N. Aguirre; M. Weber; S. Günter; I. Kottke. 2010. Species-rich but distinct arbuscular mycorrhizal communities in reforestation plots on degraded pastures and in neighboring pristine tropical mountain rain forest. *Tropical Ecology* 51:125-48.
- Haugaasen, T.; J. Barlow; C. A. Peres. 2003. Surface wildfires in central Amazonia: Short-term impact on forest structure and carbon loss. *Forest Ecology and Management* 179:321-31.
- Hawthorne, W.; D. Sheil; V. Agyeman; M. Abu Juam; C. Marshall. 2012. Logging scars in Ghanaian high forest: Towards improved models for sustainable production. *Forest Ecology and Management* 271:27-36.
- Hayashida, F. M. 2005. Archaeology, ecological history, and conservation. *Annual Review of Anthropology* 34:43-65.
- Hayes, T. M. 2006. Parks, people, and forest protection: An institutional assessment of the effectiveness of protected areas. *World Development* 34:2064-75.
- Head, L. 1989. Prehistoric aboriginal impacts on Australian vegetation: An assessment of the evidence. *Australian Geographer* 20:37-46.
- Heartsill Scalley, T.; F. N. Scatena; A. E. Lugo; S. Moya; C. R. Estrada Ruiz. 2010. Changes in structure, composition, and nutrients during 15 yr of hurricane-induced succession in a subtropical wet forest in Puerto Rico. *Biotropica* 42:455-63.
- Hecht, S. 2010. The new rurality: Globalization, peasants and the paradoxes of landscapes. *Land Use Policy* 27:161-69.
- Hecht, S. B.; A. B. Anderson; P. May. 1988. The subsidy from nature: Shifting cultivation, successional palm forests, and rural development. *Human Organization* 47:25-35.
- Hecht, S. B.; S. Kandel; I. Gomes; N. Cuellar; H. Rosa. 2006. Globalization, forest resurgence, and environmental politics in El Salvador. *World Development* 34:308-23.

- Hecht, S. B., and S. S. Saatchi. 2007. Globalization and forest resurgence: Changes in forest cover in El Salvador. *BioScience* 57:663-72.
- Heckenberger, M. J.; A. Kuikuro; U. T. Kuikuro; J. C. Russell; M. J. Schmidt. 2003. Amazonia 1492: Pristine forest or cultural parkland? *Science* 301:1710-14.
- Heckenberger, M. J.; E. G. Neves. 2009. Amazonian archaeology. *Anthropology* 38:251-66.
- Heckenberger, M. J.; J. C. Russell; C. Fausto; J. R. Toney; M. J. Schmidt. 2008. Pre-Columbian urbanism, anthropogenic landscapes, and the future of the Amazon. *Science* 321:1214-17.
- Heckenberger, M. J.; J. C. Russell; J. R. Toney; M. J. Schmidt. 2007. The legacy of cultural landscapes in the Brazilian Amazon: Implications for biodiversity. *Resumos... Royal Society B: Biological Sciences* 362:197-208.
- Heinimann, A.; P. Messerli; D. Schmidt-Vogt; U. Wiesmann. 2007. The dynamics of secondary forest landscapes in the lower Mekong Basin: A regional-scale analysis. *Mountain Research and Development* 27:232-41.
- Helmer, E. H. 2000. The landscape ecology of tropical secondary forest in montane Costa Rica. *Ecosystems* 3:98-114.
- Helmer, E. H.; T. J. Brandeis; A. E. Lugo; T. Kennaway. 2008. Factors influencing spatial pattern in tropical forest clearance and stand age: Implications for carbon storage and species diversity. *Journal of Geophysical Research* 113:G2, doi:10.1029/2007JG000568.
- Helmer, E. H.; W. B. Cohen; S. Brown. 2000. Mapping montane tropical forest successional stage and land use with multi-date Landsat imagery. *International Journal of Remote Sensing* 21:2163-83.
- Helmer, E. H.; M. A. Lefsky; D. A. Roberts. 2009. Biomass accumulation rates of Amazonian secondary forest and biomass of old-growth forests from Landsat time series and the Geoscience Laser Altimeter System. *Journal of Applied Remote Sensing* 3:1-31.
- Helmer, E.; O. Ramos; T. del M. López; M. Quiñones; W. Diaz. 2002. Mapping the forest type and land cover of Puerto Rico, a component of the Caribbean biodiversity hotspot. *Caribbean Journal of Science* 38:165-83.
- Hernández-Stefanoni, J. L.; J. M. Dupuy; F. Tun-Dzul; F. May-Pat. 2011. Influence of landscape structure and stand age on species density and biomass of a tropical dry forest across spatial scales. *Landscape Ecology* 26:355-70.
- Herrador Valencia, D. H.; M. B. I. Junca; D. V. Linde; E. M. Riera. 2011. Tropical forest recovery and socio-economic change in El Salvador: An opportunity for the introduction of new approaches to biodiversity protection. *Applied Geography* 31:259-68.
- Hietz, P.; R. Valencia; S. J. Wright. 2013. Strong radial variation in wood density follows a uniform pattern in two Neotropical rain forests. *Functional Ecology* 28:684-92.
- Hilje, B.; T. M. Aide. 2012. Recovery of amphibian species richness and composition in a chronosequence of secondary forests, northeastern Costa Rica. *Biological Conservation* 146:170-76.

- Hiratsuka, M.; T. Toma; R. Diana; D. Hadriyanto; Y. Morikawa. 2006. Biomass recovery of naturally regenerated vegetation after the 1998 forest fire in East Kalimantan, Indonesia. *Japan Agricultural Research Quarterly* 40:277-82.
- Hjerpe, J.; H. Hedenas; T. Elmquist. 2001. Tropical rain forest recovery from cyclone damage and fire in Samoa. *Biotropica* 33:249-59.
- Hladik, A.; S. Miquel. 1990. Seedling types and plant establishment in an African rain forest. p. 261-82 In: K. S. Bawa; M. Hadley, eds. *Reproductive ecology of tropical forest plants*. UNESCO/Parthenon, Paris.
- Hodell, D.; F. Anselmetti; D. Ariztegui; M. Brenner; J. Curtis; A. Gilli; D. Grzesik; T. Guilderson; A. Müller; M. Bush. 2008. An 85-ka record of climate change in lowland Central America. *Quaternary Science Reviews* 27:1152-65.
- Hodgkison, R.; S. T. Balding; A. Zubaid; T. H. Kunz. 2003. Fruit bats (Chiroptera: Pteropodidae) as seed dispersers and pollinators in a lowland Malaysian rain forest. *Biotropica* 35:491-502.
- Hoffmann, W. A.; E. L. Geiger; S. G. Gotsch; D. R. Rossatto; L. C. Silva; O. L. Lau; M. Haridasan; A. C. Franco. 2012. Ecological thresholds at the savanna-forest boundary: How plant traits, resources and fire govern the distribution of tropical biomes. *Ecology Letters* 15:759-68.
- Höhn, A.; S. Kahlheber; K. Neumann; A. Schweizer. 2008. Settling the rain forest: The environment of farming communities in Southern Cameroon during the first millennium B.C. p. 29-42 In: J. Runge, ed. *Dynamics of forest ecosystems in Central Africa during the Holocene: Past-present-future*. Taylor & Francis, London, UK.
- Holdsworth, A. R.; C. Uhl. 1997. Fire in Amazonian selectively logged rain forest and the potential for fire reduction. *Ecological Applications* 7:713-25.
- Holl, K. D. 1999. Factors limiting tropical rain forest regeneration in abandoned pasture: Seed rain, seed germination, microclimate, and soil. *Biotropica* 31:229-42.
- \_\_\_\_\_. 2007. Old field vegetation succession in the Neotropics. p. 93-118 In: V. A. Cramer; R. J. Hobbs, eds. *Old fields: Dynamics and restoration of abandoned farmland*. Island Press, Washington, DC.
- Holl, K. D.; T. M. Aide. 2011. When and where to actively restore ecosystems? *Forest Ecology and Management* 261:1558-63.
- Holl, K. D.; M. E. Loik; E. H. V. Lin; I. A. Samuels. 2000. Tropical montane forest restoration in Costa Rica: Overcoming barriers to dispersal and establishment. *Restoration Ecology* 8:339-49.
- Holl, K. D.; M. W. Lulow. 1997. Effects of species, habitat, and distance from the edge on post-dispersal seed predation in a tropical rainforest. *Biotropica* 29:459-68.
- Holl, K. D.; R. A. Zahawi; R. J. Cole; R. Ostertag; S. Cordell. 2011. Planting seedlings in tree islands versus plantations as a large-scale tropical forest restoration strategy. *Restoration Ecology* 19:470-79.
- Holling, C. S. 1973. Resilience and stability of ecological systems. *Annual Review of Ecology and Systematics* 4:1-24.

- Holmgren, M.; L. Poorter. 2007. Does a ruderal strategy dominate the endemic flora of the West African forests? *Journal of Biogeography* 34:1100-1111.
- Hölscher, D.; S. de A. Sá; T. Bastos; M. Denich; H. Folster. 1997. Evaporation from young secondary vegetation in eastern Amazonia. *Journal of Hydrology* 193:293-305.
- Hölscher, D.; L. Köhler; A. I. J. M. van Dijk; L. Bruijnzeel. 2004. The importance of epiphytes to total rainfall interception by a tropical montane rain forest in Costa Rica. *Journal of Hydrology* 292:308-22.
- Hölscher, D.; C. Leuschner; K. Bohman; M. Hagemeier; J. Juhrbandt; S. Tjitrosemito. 2006. Leaf gas exchange of trees in old-growth and young secondary forest stands in Sulawesi, Indonesia. *Trees* 20:278-85.
- Holz, S.; G. Placci; R. D. Quintana. 2009. Effects of history of use on secondary forest regeneration in the Upper Paraná Atlantic Forest (Misiones, Argentina). *Forest Ecology and Management* 258:1629-42.
- Hooper, E. R.; P. Legendre; R. Condit. 2004. Factors affecting community composition of forest regeneration in deforested, abandoned land in Panama. *Ecology* 85:3313-26.
- \_\_\_\_\_. 2005. Barriers to forest regeneration of deforested and abandoned land in Panama. *Journal of Applied Ecology* 42:1165-74.
- Hope, G. 2009. Environmental change and fire in the Owen Stanley ranges, Papua New Guinea. *Quaternary Science Reviews* 28:2261-76.
- Hope, G.; A. P. Kershaw; S. van der Kaars; S. Xiangjun; P.-M. Liew; L. E. Heusser; H. Takahara; M. McGlone; N. Miyoshi; P. T. Moss. 2004. History of vegetation and habitat change in the Austral-Asian region. *Quaternary International* 118-19:103-26.
- Hopkins, M. S.; A. W. Graham. 1983. The species composition of soil seed banks beneath lowland tropical rainforests in North Queensland, Australia. *Biotropica* 15:90-99.
- Hopkins, M. S.; J. Ash; A. W. Graham; J. Head; R. K. Hewett. 1993. Charcoal evidence of the spatial extent of the *Eucalyptus* woodland expansions and rain forest contractions in North Queensland during the late Pleistocene. *Journal of Biogeography* 20:357-72.
- Hopp, P.; R. Ottermanns; E. Caron; S. Meyer; M. Rof-Nickoll. 2010. Recovery of litter inhabiting beetle assemblages during forest regeneration in the Atlantic forest of Southern Brazil. *Insect Conservation and Diversity* 3:103-13.
- Horn, H. S. 1974. The ecology of secondary succession. *Annual Review of Ecology and Systematics* 5:25-37.
- Horn, S. P. 2007. Lake Quaternary lake and swamp sediments: Recorders of climate and environment. In: J. Bundschuh; G. E. Alvarado-Indinu, eds. *Central America: Geology, resources and hazards.* v. 1. Taylor & Francis / Balkema, Leiden, Neth.
- Horn, S. P.; R. L. J. Sanford. 1992. Holocene fires in Costa Rica. *Biotropica* 33:191-96.
- Horvitz, C. C.; J. B. Pasarella; S. McMann; A. Freedman; R. H. Hofstetter. 1998. Functional roles of invasive non-indigenous plants in hurricane-affected subtropical hardwood forests. *Ecological Applications* 8:947-74.

- Houghton, R. A. 1999. The annual net flux of carbon to the atmosphere from changes in land use 1850-1990. *Tellus Series B: Chemical and Physical Meteorology* 51:298-313.
- \_\_\_\_\_. 2010. How well do we know the flux of CO<sub>2</sub> from land use change? *Tellus Series B: Chemical and Physical Meteorology* 62:337-51.
- Houghton, R.; C. Goodale. 2004. Effects of land-use change on the carbon balance of terrestrial ecosystems. *Ecosystems and land use change. Geophysical Monograph Series* 153:85-98.
- Houghton, R.; N. Greenglass; A. Baccini; A. Cattaneo; S. Goetz; J. Kellndorfer; N. Laporte; W. Walker. 2010. The role of science in Reducing Emissions from Deforestation and Forest Degradation (REDD). *Carbon* 1:253-59.
- Houghton, R.; J. Hobbie; J. Melillo; B. Moore; B. Peterson; G. Shaver; G. Woodwell. 1983. Changes in the carbon content of terrestrial biota and soils between 1860 and 1980: A net release of CO<sub>2</sub> to the atmosphere. *Ecological Monographs* 53:235-62.
- Houlton, B. Z.; Y. P. Wang; P. M. Vitousek; C. B. Field. 2008. A unifying framework for dinitrogen fixation in the terrestrial biosphere. *Nature* 454:327-30.
- Howe, H. F.; M. N. Miriti. 2004. When seed dispersal matters. *BioScience* 54:651-60.
- Howe, H. F.; J. Smallwood. 1982. Ecology of seed dispersal. *Ecology and Systematics* 13:201-28.
- Howe, H. F.; Y. Urincho-Pantaleon; M. Peña-Domene; C. Martínez-Garza. 2010. Early seed fall and seedling emergence: Precursors to tropical restoration. *Oecologia* 164:731-40.
- Howorth, R. T.; C. A. Pendry. 2006. Post-cultivation secondary succession in a Venezuelan lower montane rain forest. *Biodiversity and Conservation* 15:693-715.
- Huang, M., and G. P. Asner. 2010. Long-term carbon loss and recovery following selective logging in Amazon forests. *Global Biogeochemical Cycles* 24:GB3028.
- Huante, P.; E. Ceccon; A. Orozco-Segovia; M. E. Sánchez-Coronado; I. Acosta; E. Rincon. 2012. The role of arbuscular mycorrhizal fungi on the early-stage restoration of seasonally dry tropical forest in Chamela, Mexico. *Revista Árvore* 36:279-89.
- Hubbell, S. P. 1998. The maintenance of diversity in a Neotropical tree community: Conceptual issues, current evidence, and challenges ahead. p. 17-44 In: F. Dallmeier; J. A. Comiskey, eds. *Forest biodiversity research, monitoring and modeling: Conceptual background and old-world case studies*. Parthenon, Paris.
- Hubbell, S. P.; R. B. Foster. 1991. The fate of juvenile trees in a Neotropical forest: Implications for the natural maintenance of tropical tree diversity. p. 317-41 In: K. S. Bawa; M. Hadley, eds. *Reproductive ecology of tropical forest plants*. Parthenon, Paris.
- Hubbell, S. P.; R. B. Foster; S. T. O'Brian; K. E. Harms; R. Condit; B. Wechsler; S. J. Wright; S. Loo de Lao. 1999. Light gap disturbances, recruitment limitation, and tree diversity in a Neotropical forest. *Science* 283:554-57.

- Huc, R.; A. Ferhi; J. Guehl. 1994. Pioneer and late stage tropical rainforest tree species (French Guiana) growing under common conditions differ in leaf gas exchange regulation, carbon isotope discrimination and leaf water potential. *Oecologia* 99:297-305.
- Huettner, M. 2012. Risks and opportunities of REDD plus implementation for environmental integrity and socio-economic compatibility. *Environmental Science & Policy* 15:4-12.
- Hughes, R. F.; J. B. Kauffman; D. L. Cummings. 2000. Fire in the Brazilian Amazon 3. Dynamics of biomass, C, and nutrient pools in regenerating forests. *Oecologia* 124:574-88.
- \_\_\_\_\_. 2002. Dynamics of aboveground and soil carbon and nitrogen stocks and cycling of available nitrogen along a land-use gradient in Rondônia, Brazil. *Ecosystems* 5:244-59.
- Hughes, R. F.; J. B. Kauffman; V. J. Jaramillo. 1999. Biomass, carbon, and nutrient dynamics of secondary forests in a humid tropical region of Mexico. *Ecology* 80:1892-1907.
- \_\_\_\_\_. 2000. Ecosystem-scale impacts of deforestation and land use in a humid tropical region of Mexico. *Ecological Applications* 10:515-27.
- Hunt, T. 2007. Rethinking Easter Island's ecological catastrophe. *Journal of Archaeological Science* 34:485-502.
- Hurles, M. E.; E. Marisoo-Smith; R. D. Gray; D. Penny. 2003. Untangling oceanic settlement: The edge of the knowable. *Trends in Ecology & Evolution* 18:531-40.
- Hviding, E.; T. Bayliss-Smith. 2000. Islands of rainforest: Agroforestry, logging and eco-tourism in Solomon Islands. Ashgate Publishing, Aldershot, UK.
- Hynes, R.; A. Chase. 1982. Plants, sites and domiculture: Aboriginal influence upon plant communities in Cape York Peninsula. *Archaeology in Oceania* 17:38-50.
- Ibarra-Manríquez, G.; M. Martínez-Ramos; K. Oyama. 2001. Seedling functional types in a lowland rain forest in Mexico. *American Journal of Botany* 88:1801-12.
- Ibrahim, M.; L. Guerra; F. Casasola; C. Neely. 2010. Importance of silvopastoral systems for mitigation of climate change and harnessing of environmental benefits. p. 189-98 In: M. Abberton; R. Conant; C. Batello, eds. *Grassland carbon sequestration: Management, policy and economics*. FAO, Rome, Italy.
- Imai, N.; T. Seino; S. Aiba; M. Takyu; J. Titin; K. Kitayama. 2012. Effects of selective logging on tree species diversity and composition of Bornean tropical rain forests at different spatial scales. *Plant Ecology* 213:1413-24.
- Ingle, N. 2003. Seed dispersal by wind, birds, and bats between Philippine montane rainforest and successional vegetation. *Oecologia* 134:251-61.
- Ingwell, L. L.; S. Joseph Wright; K. K. Becklund; S. P. Hubbell; S. A. Schnitzer. 2010. The impact of lianas on 10 years of tree growth and mortality on Barro Colorado Island, Panama. *Journal of Ecology* 98:879-87.

- Iriarte, J. 2007. New perspectives on plant domestication and the development of agriculture in the New World. p. 167-88 In: T. P. Denham; J. Iriarte; L. Vrydaghs, eds. *Rethinking agriculture: Archaeological and ethnoarchaeological perspectives*. Left Coast Press, Walnut Creek, CA.
- Iriarte, J.; H. Behling. 2007. The expansion of Araucaria forest in the southern Brazilian highlands during the last 4000 years and its implications for the development of the Taquara/Itarare tradition. *Environmental Archaeology* 12:115-27.
- Iriarte, J.; M. J. Power; S. Rostain; F. E. Mayle; H. Jones; J. Watling; B. S. Whitney; D. B. McKey. 2012. Fire-free land use in pre-1492 Amazonian savannas. *Resumos... National Academy of Sciences* 109:6473-78.
- Islebe, G. A.; H. Hooghiemstra; M. Brenner; J. H. Curtis; D. A. Hodell. 1996. A Holocene vegetation history from lowland Guatemala. *Holocene* 6:265-71.
- ITTO (International Tropical Timber Organization). 2002. ITTO guidelines for the restoration, management and rehabilitation of degraded and secondary tropical forests. ITTO Policy Development Series n. 13. ITTO, Yokohama, Japan.
- \_\_\_\_\_. 2005. Revised ITTO criteria and indicators for the sustainable management of tropical forests including reporting format. ITTO, Yokohama, Japan.
- Jackson, S. T.; R. J. Hobbs. 2009. Ecological restoration in the light of ecological history. *Science* 325:567-69.
- Jago, L. C. F.; W. E. Boyd. 2005. How a wet tropical rainforest copes with repeated volcanic destruction. *Quaternary Research* 64:399-406.
- Jagoret, P.; I. Michel-Dounias; E. Melézieux. 2011. Long-term dynamics of cocoa agroforests: A case study in central Cameroon. *Agroforestry Systems* 81:267-78.
- Jagoret, P.; I. Michel-Dounias; D. Snoeck; H. T. Ngogué; E. Malézieux. 2012. Afforestation of savannah with cocoa agroforestry systems: A small-farmer innovation in central Cameroon. *Agroforestry Systems* 86:493-504.
- Jankowska-Blaszcuk, M.; P. J. Grubb. 2006. Changing perspectives on the role of the soil seed bank in northern temperate deciduous forests and in tropical lowland rain forests: Parallels and contrasts. *Perspectives in Plant Ecology, Evolution and Systematics* 8:3-21.
- Janos, D. P. 1980. Mycorrhizae influence tropical succession. Supplement, *Biotropica* 12:56-64.
- Jansen, P. A.; P. A. Zuidema. 2001. Logging, seed dispersal by vertebrates, and natural regeneration of tropical timber trees. p. 35-59 In: R. Fimbel; A. Grajal; J. G. Robinson, eds. *The cutting edge: Conserving wildlife in logged tropical forest*. Columbia University Press, New York.
- Janzen, D. H. 1970. Herbivores and the number of tree species in tropical forests. *American Naturalist* 104:501-28.
- \_\_\_\_\_. 1988. Management of habitat fragments in a tropical dry forest—growth. *Anais... Missouri Botanical Garden* 75:105-16.
- \_\_\_\_\_. 1990. An abandoned field is not a tree fall gap. *Vida Silvestre Neotropical* 2:64-67.

- \_\_\_\_\_. 1997. How to grow a wildland: The gardenification of nature. International Journal of Tropical Insect Science 17:269-76.
- Jaramillo, V. J.; R. Ahedo-Hernandez; J. B. Kauffman. 2003. Root biomass and carbon in a tropical evergreen forest of Mexico: Changes with secondary succession and forest conversion to pasture. Journal of Tropical Ecology 19:457-64.
- Jobbág, E. G.; R. B. Jackson. 2000. The vertical distribution of soil organic carbon and its relation to climate and vegetation. Ecological Applications 10:423-36.
- Johns, A. D. 1985. Selective logging and wildlife conservation in tropical rain-forest: Problems and recommendations. Biological Conservation 31:355-75.
- \_\_\_\_\_. 1988. Effects of "selective" timber extraction on rain forest composition and some consequences for frugivores and folivores. Biotropica 20:31-37.
- Johns, R. 1986. The instability of the tropical ecosystem in New Guinea. Blumea 31:341-71.
- Johnson, E. A.; K. Miyanishi. 2008. Testing the assumptions of chronosequences in succession. Ecology Letters 11:419-31.
- Jones, E. W. 1955. Ecological studies of the rain forest of southern Nigeria IV. The plateau forest of the Okomu Forest Reserve, Part 1. The environment, the vegetation types of the forest, and the horizontal distribution of species. Journal of Ecology 43:564-94.
- \_\_\_\_\_. 1956. Ecological studies of the rain forest of southern Nigeria IV. The plateau forest of the Okomu Forest Reserve, Part 2. The reproduction and history of the forest. Journal of Ecology 44:83-117.
- Jones, E.; M. Wishnie; J. Deago; A. Sautu; A. Cerezo. 2004. Facilitating natural regeneration in *Saccharum spontaneum* (L.) grasslands within the Panama Canal Watershed: Effects of tree species and tree structure on vegetation recruitment patterns. Forest Ecology and Management 191:171-83.
- Jones, F.; J. Chen; G. J. Weng; S. Hubbell. 2005. A genetic evaluation of seed dispersal in the Neotropical tree *Jacaranda copaia* (Bignoniaceae). American Naturalist 166:543-55.
- Jones, J. 1994. Pollen evidence for early settlement and agriculture in northern Belize. Palynology 18:205-11.
- Jordan, C. F., ed. 1989. An Amazonian rain forest. UNESCO/Parthenon, Paris.
- Jordan, C. F.; W. Caskey; G. Escalante; R. Herrera; F. Montagnini; R. Todd; C. Uhl. 1983. Dynamics during conversion of primary Amazonian rain forest to slash and burn agriculture. Oikos 40:131-39.
- Jordan, C. F.; R. Herrera. 1981. Tropical rain forests: Are nutrients really critical? American Naturalist 117:167-80.
- Jordano, P. 1987. Patterns of mutualistic interactions in pollination and seed dispersal: Connectance, dependence asymmetries, and coevolution. American Naturalist 129:657-77.
- Juhrbandt, J.; C. Leuschner; D. Holscher. 2004. The relationship between maximal stomatal conductance and leaf traits in eight Southeast Asian early successional tree species. Forest Ecology and Management 202:245-56.

- Junk, W. J. 1989. Flood tolerance and tree distribution in central Amazonian floodplains. p. 47-64 In: L. B. Holm-Nielsen; I. Nielsen; H. Balslev, eds. Tropical forests: Botanical dynamics, speciation and diversity. Academic Press, London.
- Junqueira, A. B.; C. R. Clement. 2012. Reply to Barlow et al. (2011): Towards an integrated understanding of the pre-conquest human footprint in Amazonia. *Biological Conservation* 152:291-92.
- Junqueira, A. B.; G. Shepard; C. Clement. 2010a. Secondary forests on anthropogenic soils in Brazilian Amazonia conserve agrobiodiversity. *Biodiversity and Conservation* 19:1933-61.
- \_\_\_\_\_. 2010b. Secondary forests on anthropogenic soils of the Middle Madeira River: Valuation, local knowledge, and landscape domestication in Brazilian Amazonia. *Economic Botany* 20:1-15.
- Kageyama, P. Y.; C. F. A. Castro. 1989. Sucessão secundária, estrutura genética e plantações de espécies arbóreas nativas. IPEF, Piracicabas 41/42:83-93.
- Kaiser-Bunbury, C. N.; A. Traveset; D. M. Hansen. 2010. Conservation and restoration of plant-animal mutualisms on oceanic islands. *Perspectives in Plant Ecology, Evolution and Systematics* 12:131-43.
- Kalacska, M.; G. A. Sánchez-Azofeifa; B. Rivard; T. Caelli; H. P. White; J. C. Calvo-Alvarado. 2007. Ecological fingerprinting of ecosystem succession: Estimating secondary tropical dry forest structure and diversity using imaging spectroscopy. *Remote Sensing of Environment* 108:82-96.
- Kalacska, M.; G. A. Sánchez-Azofeifa; B. Rivard; J. C. Calvo-Alvarado; A. R. P. Journet; J. P. Arroyo-Mora; D. Ortiz-ortiz. 2004. Leaf area index measurements in a tropical moist forest: A case study from Costa Rica. *Remote Sensing of Environment* 91:134-52.
- Kalamie, F. B.; R. Aidoo; J. Nkem; O. C. Ajayie; M. Kanninen; O. Luukkanen; M. Idinoba. 2011. Modified taungya system in Ghana: A win-win practice for forestry and adaptation to climate change? *Environmental Science & Policy* 14:519-30.
- Kalliola, R.; J. Salo; M. Puhakka; M. Rajasilta. 1991. New site formation and colonizing vegetation in primary succession on the western Amazon floodplains. *Journal of Ecology* 79:877-901.
- Kammesheidt, L. 1999. Forest recovery by root suckers and above-ground sprouts after slash-and-burn agriculture, fire and logging in Paraguay and Venezuela. *Journal of Tropical Ecology* 15:143-57.
- \_\_\_\_\_. 2002. Perspectives on secondary forest management in tropical humid lowland America. *AMBIO* 31:243-50.
- Kammu, M. 2009. Water management in Angkor: Human impacts on hydrology and sediment transportation. *Journal of Environmental Management* 90:1413-21.
- Kang, H.; K. S. Bawa. 2003. Effects of successional status, habit, sexual systems, and pollinators on flowering patterns in tropical rain forest trees. *American Journal of Botany* 90:865-76.

- Kanowski, J.; C. P. Catterall. 2010. Carbon stocks in aboveground biomass of monoculture plantations, mixed species plantations and environmental restoration plantings in northeast Australia. *Ecological Management & Restoration* 11:119-26.
- Kanowski, J.; C. P. Catterall; K. Freebody; A. N. D. Freeman; D. A. Harrison. 2010. Monitoring revegetation projects in rainforest landscapes. Toolkit Version 3. Reef and Rainforest Research Centre Limited, Cairns, Australia.
- Kanowski, J.; C. P. Catterall; W. Neilan. 2008. Potential value of weedy regrowth for rainforest restoration. *Ecological Management & Restoration* 9:88-99.
- Kanowski, J.; C. P. Catterall; G. Wardell-Johnson; H. Proctor; T. Reis. 2003. Development of forest structure on cleared rainforest land in eastern Australia under different styles of reforestation. *Forest Ecology and Management* 183:265-80.
- Kanowski, J. J.; T. M. Reis; C. P. Catterall; S. D. Piper. 2006. Factors affecting the use of reforested sites by reptiles in cleared rainforest landscapes in tropical and subtropical Australia. *Restoration Ecology* 14:67-76.
- Kartawinata, K. 1993. A wider view of the fire hazard. p. 261-66 In: H. Brookfield; Y. Byron, eds. *Southeast Asia's environmental future: The search for sustainability*. United Nations University Press, Tokyo.
- Kartawinata, K.; S. Riswan; A. Gintings; T. Puspitojati. 2001. An overview of post-extraction secondary forests in Indonesia. *Journal of Tropical Forest Science* 13:621-38.
- Karthik, T.; G. Govindhan Veeraswami; P. Kumar Samal. 2009. Forest recovery following shifting cultivation: An overview of existing research. *Tropical Conservation Science* 2:374-87.
- Kasenene, J. 2001. Lost logging: Problems of tree regeneration in forest gaps in Kibale Forest, Uganda. p. 480-90 In: W. Weber; L. J. T. White; A. Vedder; L. Naughton-Treves, eds. *African rain forest ecology and conservation*. Yale University Press, New Haven, CT.
- Kassi, N. J. K.; G. Decocq. 2008. Successional patterns of plant species and community diversity in a semi-deciduous tropical forest under shifting cultivation. *Journal of Vegetation Science* 19:809-20.
- Katovai, E.; A. L. Burley; M. M. Mayfield. 2012. Understory plant species and functional diversity in the degraded wet tropical forests of Kolombangara Island, Solomon Islands. *Biological Conservation* 145:214-24.
- Kauffman, J. B. 1991. Survival by sprouting following fire in tropical forests of the Eastern Amazon. *Biotropica* 23:219-24.
- Kauffman, J. B.; D. L. Cummings; D. E. Ward. 1998. Fire in the Brazilian Amazon: 2. Biomass, nutrient pools and losses in cattle pastures. *Oecologia* 113:415-27.
- Kauffman, J. B.; D. L. Cummings; D. E. Ward; R. Babbitt. 1995. Fire in the Brazilian Amazon: 1. Biomass, nutrient pools, and losses in slashed primary forests. *Oecologia* 104:397-408.
- Kauffman, J. B.; R. F. Hughes; C. Heider. 2009. Carbon pool and biomass dynamics associated with deforestation, land use, and agricultural abandonment in the Neotropics. *Ecological Applications* 19:1211-22.

- Kealhofer, L. 2003. Looking into the gap: Land use and the tropical forests of Southern Thailand. *Asian Perspectives* 42:73-95.
- Kellner, J. R.; G. P. Asner. 2009. Convergent structural responses of tropical forests to diverse disturbance regimes. *Ecology Letters* 12:887-97.
- Kellner, J. R.; D. B. Clark; S. P. Hubbell. 2009. Pervasive canopy dynamics produce short-term stability in a tropical rain forest landscape. *Ecology Letters* 12:155-64.
- Kennard, D. K. 2002. Secondary forest succession in a tropical dry forest: Patterns of development across a 50-year chronosequence in lowland Bolivia. *Journal of Tropical Ecology* 18:53-66.
- Kennedy, D. N.; M. D. Swaine. 1992. Germination and growth of colonizing species in artificial gaps of different sizes in dipterocarp rain forest. *Resumos... Royal Society B: Biological Sciences* 335:357-67.
- Kennedy, J.; W. Clarke. 2004. Cultivated landscapes of the Southwest Pacific. Resource Management in Asia-Pacific Program, Research School of Pacific and Asian Studies, Australian National University, Canberra, Australia.
- Kennedy, L. M.; S. P. Horn. 1997. Prehistoric maize cultivation at the La Selva Biological Station, Costa Rica. *Biotropica* 29:368-70.
- Kenzo, T.; T. Ichie; D. Hattori; J. J. Kendawang; K. Sakurai; I. Ninomiya. 2010. Changes in above- and belowground biomass in early successional tropical secondary forests after shifting cultivation in Sarawak, Malaysia. *Forest Ecology and Management* 260:875-82.
- Kershaw, A. P.; S. C. Bretherton; S. van der Kaars. 2007. A complete pollen record of the last 230 ka from Lynch's Crater, north-eastern Australia. *Palaeogeography, Palaeoclimatology, Palaeoecology* 251:23-45.
- Kettle, C. J. 2010. Ecological considerations for using dipterocarps for restoration of lowland rainforest in Southeast Asia. *Biodiversity and Conservation* 19:1137-51.
- Kettle, C. J.; J. Ghazoul; P. Ashton; C. H. Cannon; L. Chong; B. Diway; E. Faridah; et al. 2011. Seeing the fruit for the trees in Borneo. *Conservation Letters* 4:184-91.
- Kim, T. J.; F. Montagnini; D. Dent. 2008. Rehabilitating abandoned pastures in Panama: Control of the invasive exotic grass, *Saccharum spontaneum* L., using artificial shade treatments. *Journal of Sustainable Forestry* 26:192-203.
- Kimmel, T.; L. do Nascimento; D. Piechowski; E. Sampaio; M. Nogueira Rodal; G. Gottsberger. 2010. Pollination and seed dispersal modes of woody species of 12-year-old secondary forest in the Atlantic Forest region of Pernambuco, NE Brazil. *Flora-Morphology, Distribution, Functional Ecology of Plants* 205:540-47.
- King, D. A.; S. J. Davies; N. S. M. Noor. 2006. Growth and mortality are related to adult tree size in a Malaysian mixed dipterocarp forest. *Forest Ecology and Management* 223:152-58.
- King, D.; S. Davies; M. N. N. Supardi; S. Tan. 2005. Tree growth is related to light interception and wood density in two mixed dipterocarp forests of Malaysia. *Functional Ecology* 19:445-53.

- Kirch, P. V. 1989. Second millennium B.C. arboriculture in Melanesia: Archaeological evidence from the Mussau Islands. *Economic Botany* 43:225-40.
- \_\_\_\_\_. 1996. Late Holocene human-induced modifications to a central Polynesian island ecosystem. *Resumos... National Academy of Sciences* 93:5296-5300.
- \_\_\_\_\_. 1997. Introduction: The environmental history of Oceanic islands. p. 1-21 In: P. V. Kirch; T. L. Hunt, eds. *Historical ecology in the Pacific Islands*. Yale University Press, New Haven, CT.
- \_\_\_\_\_. 2005. Archaeology and global change: The Holocene record. *Environment and Resources* 30:409-40.
- Kitajima, K. 1992. Relationship between photosynthesis and thickness of cotyledons for tropical tree species. *Functional Ecology* 6:582-89.
- \_\_\_\_\_. 1994. Relative importance of photosynthetic traits and allocation pattern as correlates of seedling shade tolerance of 13 tropical trees. *Oecologia* 98:419-28.
- \_\_\_\_\_. 1996. Ecophysiology of tropical tree seedlings. p. 559-96 In: S. S. Mulkey; R. L. Chazdon; A. P. Smith, eds. *Tropical forest plant ecophysiology*. Chapman & Hall, New York.
- Kitajima, K.; L. Poorter. 2008. Functional basis for resource niche partitioning by tropical trees. p. 160-181 In: W. P. Carson; S. A. Schnitzer, eds. *Tropical forest community ecology*. John Wiley & Sons, West Sussex, UK.
- \_\_\_\_\_. 2010. Tissue level leaf toughness, but not lamina thickness, predicts sapling leaf lifespan and shade tolerance of tropical tree species. *New Phytologist* 186:708-21.
- Kitching, R.; L. Ashton; A. Nakamura; T. Whitaker; C. V. Khen. 2012. Distance-driven species turnover in Bornean rainforests: Homogeneity and heterogeneity in primary and post-logging forests. *Ecography* 35:1-8.
- Klanderud, K.; H. Z. H. Mbolatiana; M. N. Vololomboahangy; M. A. Radimbison; E. Roger; O. Totland; C. Rajeriarison. 2010. Recovery of plant species richness and composition after slash-and-burn agriculture in a tropical rainforest in Madagascar. *Biodiversity and Conservation* 19:187-204.
- Klein, B. C. 1989. Effects of forest fragmentation on dung and carrion beetle communities in central Amazonia. *Ecology* 70:1715-25.
- Klimes, P.; C. Idigel; M. Rimandai; T. M. Fayle; M. Janda; G. D. Weiblen; V. Novotny. 2012. Why are there more arboreal ant species in primary than in secondary tropical forests? *Journal of Animal Ecology* 81:1103-12.
- Klooster, D. 2003. Forest transitions in Mexico: Institutions and forests in a globalized countryside. *Professional Geographer* 55:227-37.
- Knight, D. H. 1975. A phytosociological analysis of species-rich tropical forest on Barro Colorado Island, Panama. *Ecological Monographs* 45:259-84.
- Knogge, C.; E. W. Heymann. 2003. Seed dispersal by sympatric tamarins, *Saguinus mystax* and *Saguinus fuscicollis*: Diversity and characteristics of plant species. *Folia Primatologica* 74:33-47.

- Kochummen, K. M. 1966. Natural plant succession after farming. *Malayan Forester* 29:170-181.
- Köhler, L.; D. Hölscher; C. Leuschner. 2006. Above-ground water and nutrient fluxes in three successional stages of Costa Rican montane oak forest with contrasting epiphyte abundance. p. 271-98 In: M. Kappelle, ed. *Ecology and conservation of Neotropical montane oak forests*. Springer, New York.
- Köhler, L.; C. Tobon; K. F. A. Frumau; L. A. Bruijnzeel. 2007. Biomass and water storage dynamics of epiphytes in old-growth and secondary montane cloud forest stands in Costa Rica. *Plant Ecology* 193:171-84.
- Kolb, M.; L. Galicia. 2012. Challenging the linear forestation narrative in the Neo-tropic: Regional patterns and processes of deforestation and regeneration in southern Mexico. *Geographical Journal* 178:147-61.
- Körner, C. 2003. Slow in, rapid out—Carbon flux studies and Kyoto targets. *Science* 300:1242-43.
- \_\_\_\_\_. 2009. Responses of humid tropical trees to rising CO<sub>2</sub>. *Annual Review of Ecology, Evolution, and Systematics* 40:61-79.
- Kourampas, N.; I. A. Simpson; N. Perera; S. U. Deraniyagala; W. H. Wijeyapala. 2009. Rock-shelter sedimentation in a dynamic tropical landscape: Late Pleistocene-Early Holocene archaeological deposits in Kitulgala Beli-lena, southwestern Sri Lanka. *Geoarchaeology* 24:677-714.
- Koutika, L.-S.; H. J. Rainey. 2010. *Chromolaena odorata* in different ecosystems: Weed or fallow plant. *Applied Ecology and Environmental Research* 8:131-42.
- Kress, W. J.; J. H. Beach. 1994. Flowering plant reproductive systems. p. 161-82 In: L. A. McDade; K. S. Bawa; H. A. Hespelheide; G. S. Hartshorn, eds. *La Selva: Ecology and natural history of a Neotropical rain forest*. University of Chicago Press, Chicago.
- Kuhlken, R. 2002. Intensive agricultural landscapes of Oceania. *Journal of Cultural Geography* 19:161-95.
- Kull, C. A.; C. K. Ibrahim; T. C. Meredith. 2007. Tropical forest transitions and globalization: Neo-liberalism, migration, tourism, and international conservation agendas. *Society & Natural Resources* 20:723-37.
- Kunert, N.; L. Schwendenmann; C. Potvin; D. Hölscher. 2012. Tree diversity enhances tree transpiration in a Panamanian forest plantation. *Journal of Applied Ecology* 49:135-44.
- Kuprewicz, E. K. 2013. Mammal abundances and seed traits control the seed dispersal and predation roles of terrestrial mammals in a Costa Rican forest. *Biotropica* 45:333-42.
- Kuusipalo, J.; G. Ådgers; Y. Jafarsidik; A. Otsamo; K. Tuomela; R. Vuokko. 1995. Restoration of natural vegetation in degraded *Imperata cylindrica* grassland: Understorey development in forest plantations. *Journal of Vegetation Science* 6:205-10.
- Kyereh, B.; M. D. Swaine; J. Thompson. 1999. Effect of light on the germination of forest trees in Ghana. *Journal of Ecology* 87:772-83.

- Laborde, J.; S. Guevara; G. Sánchez-Ríos. 2008. Tree and shrub seed dispersal in pastures: The importance of rainforest trees outside forest fragments. *Ecoscience* 15:6-16.
- LaFrankie, J. V.; P. S. Ashton; G. B. Chuyong; L. Co; R. Condit; S. J. Davies; R. Foster; et al. 2006. Contrasting structure and composition of the understory in species-rich tropical rain forests. *Ecology* 87:2298-305.
- Lamb, D. 2011. Regreening the bare hills: Tropical forest restoration in the Asia-Pacific region. Springer, New York.
- Lamb, D.; P. D. Erskine; J. A. Parrotta. 2005. Restoration of degraded tropical forest landscapes. *Science* 310:1628-32.
- Lamb, D.; D. Gilmour. 2003. Rehabilitation and restoration of degraded forests. IUCN/WWF, Gland, Switzerland.
- Lambin, E. F.; H. Geist. 2006. Land-use and land-cover change: Local processes and global impacts. Springer Verlag, Berlin, Ger.
- Lambin, E. F.; H. J. Geist; E. Lepers. 2003. Dynamics of land-use and land-cover change in tropical regions. *Environment and Resources* 28:205-41.
- Lambin, E. F.; P. Meyfroidt. 2010. Land use transitions: Socio-ecological feedback versus socio-economic change. *Land Use Policy* 27:108-18.
- Langner, A.; F. Siegert. 2009. Spatiotemporal fire occurrence in Borneo over a period of 10 years. *Global Change Biology* 15:48-62.
- Laporte, N. T.; J. A. Stabach; R. Grosch; T. S. Lin; S. J. Goetz. 2007. Expansion of industrial logging in Central Africa. *Science* 316:1451.
- Larkin, C. C.; C. Kwit; J. M. Wunderle Jr; E. H. Helmer; M. H. H. Stevens; M. T. Roberts; D. N. Ewert. 2012. Disturbance type and plant successional communities in Bahamian dry forests. *Biotropica* 44:10-18.
- Larpkern, P.; S. R. Moe; O. Totland. 2011. Bamboo dominance reduces tree regeneration in a disturbed tropical forest. *Oecologia* 165:161-68.
- Lasco, R. D.; J. M. Pulhin. 2006. Environmental impacts of community-based forest management in the Philippines. *International Journal of Environment and Sustainable Development* 5:46-56.
- Lasco, R.; R. Visco; J. Pulhin. 2001. Secondary forests in the Philippines: Formation and transformation in the 20th century. *Journal of Tropical Forest Science* 13:652-70.
- Laurance, S. G. W.; M. S. Gomez. 2005. Clearing width and movements of understory rainforest Birds. *Biotropica* 37:149-52.
- Laurance, W. F. 2006. Synergistic effects of habitat disturbance and hunting in Amazonian forest fragments. p. 87-104 In: W. F. Laurance; C. A. Peres, eds. *Emerging threats to tropical forests*. University of Chicago Press, Chicago.
- \_\_\_\_\_. 2007. Have we overstated the tropical biodiversity crisis? *Trends in Ecology & Evolution* 22:65-70.
- Laurance, W. F.; T. Curran. 2008. Impacts of wind disturbance on fragmented tropical forests: A review and synthesis. *Austral Ecology* 33:399-408.

- Laurance, W. F.; A. A. Oliveira; S. G. Laurance; R. Condit; H. E. M. Nascimento; A. C. Sanchez-Thorin; T. E. Lovejoy; et al. 2004. Pervasive alteration of tree communities in undisturbed Amazonian forests. *Nature* 428:171-75.
- Laurance, W. F.; D. Useche. 2009. Environmental synergisms and extinctions of tropical species. *Conservation Biology* 23:1427-37.
- Lawes, M. J.; C. A. Chapman. 2006. Does the herb *Acanthus pubescens* and/ or elephants suppress tree regeneration in disturbed Afrotropical forest? *Forest Ecology and Management* 221:278-84.
- Lawrence, D. 2004. Erosion of tree diversity during 200 years of shifting cultivation in Bornean rain forest. *Ecological Applications* 14:1855-69.
- Lawrence, D.; P. D'Odorico; L. Diekmann; M. DeLonge; R. Das; J. Eaton. 2007. Ecological feedbacks following deforestation create the potential for a catastrophic ecosystem shift in tropical dry forest. *Resumos... National Academy of Sciences* 104:20696-701.
- Lawrence, D.; D. Foster. 2002. Changes in forest biomass, litter dynamics and soils following shifting cultivation in southern Mexico: An overview. *Interciencia* 27:400-408.
- Lawrence, D.; C. Radel; K. Tully; B. Schmook; L. Schneider. 2010. Untangling a decline in tropical forest resilience: Constraints on the sustainability of shifting cultivation across the globe. *Biotropica* 42:21-30.
- Lawrence, D.; W. H. Schlesinger. 2001. Changes in soil phosphorus during 200 years of shifting cultivation in Indonesia. *Ecology* 82:2769-80.
- Lawton, R. O.; F. E. Putz. 1988. Natural disturbance and gap-phase regeneration in a wind-exposed tropical cloud forest. *Ecology* 69:764-77.
- Lebrija-Trejos, E.; F. Bongers; E. A. P. Garcia; J. A. Meave. 2008. Successional change and resilience of a very dry tropical deciduous forest following shifting agriculture. *Biotropica* 40:422-31.
- Lebrija-Trejos, E.; J. A. Meave; L. Poorter; E. A. Pérez-García; F. Bongers. 2010a. Pathways, mechanisms and predictability of vegetation change during tropical dry forest succession. *Perspectives in Plant Ecology, Evolution and Systematics* 12:267-75.
- Lebrija-Trejos, E.; E. A. Pérez-García; J. A. Meave; F. Bongers; L. Poorter. 2010b. Functional traits and environmental filtering drive community assembly in a species-rich tropical system. *Ecology* 91:386-98.
- Lebrija-Trejos, E.; E. A. Pérez-García; J. A. Meave; L. Poorter; F. Bongers. 2011. Environmental changes during secondary succession in a tropical dry forest in Mexico. *Journal of Tropical Ecology* 27:477-89.
- Lee, J. S. H.; I. Q. W. Lee; S. L. H. Lim; J. Huijbregts; N. S. Sodhi. 2009. Changes in dung beetle communities along a gradient of tropical forest disturbance in South-East Asia. *Journal of Tropical Ecology* 25:677-80.
- Lees, A. C.; C. A. Peres. 2009. Gap crossing movements predict species occupancy in Amazonian forest fragments. *Oikos* 118:280-90.

- Leighton, M. 1984. The El Niño Southern Oscillation event in Southeast Asia: Effects of drought and fire in tropical forest in eastern Borneo. WWF-US, Washington, DC.
- Lejju, B. J. 2009. Vegetation dynamics in western Uganda during the last 1000 years: Climate change or human induced environmental degradation? *African Journal of Ecology* 47:21-29.
- Lejju, B. J.; D. Taylor; P. Robertshaw. 2005. Late-Holocene environmental variability at Munsa archaeological site, Uganda: A multicore, multiproxy approach. *Holocene* 15:1044-61.
- Lentfer, C.; R. Torrence. 2007. Holocene volcanic activity, vegetation succession, and ancient human land use: Unraveling the interactions on Garua Island, Papua New Guinea. *Palaeobotany and Palynology* 143:83-105.
- Leps, J.; V. Novotny; Y. Basset. 2001. Habitat and successional status of plants in relation to the communities of their leaf-chewing herbivores in Papua New Guinea. *Journal of Ecology* 89:186-99.
- Letcher, S. 2010. Phylogenetic structure of angiosperm communities during tropical forest succession. *Resumos... Royal Society B: Biological Sciences* 277:97-104.
- Letcher, S. G.; R. L. Chazdon. 2009a. Lianas and self-supporting plants during tropical forest succession. *Forest Ecology and Management* 257:2150-56.
- \_\_\_\_\_. 2009b. Rapid recovery of biomass, species richness, and species composition in a forest chronosequence in Northeastern Costa Rica. *Biotropica* 41:608-17.
- \_\_\_\_\_. 2012. Life history traits of lianas during tropical forest succession. *Biotropica* 44:720-27.
- Letcher, S. G.; R. L. Chazdon; A. Andrade; F. Bongers; M. van Breugel; B. Finegan; S. G. Laurance; R. C. G. Mesquita; M. Martínez-Ramos; G. B. Williamson. 2012. Phylogenetic community structure during succession: Evidence from three Neotropical forest sites. *Perspectives in Plant Ecology, Evolution and Systematics* 14:79-87.
- Levey, D. J.; M. M. Byrne. 1993. Complex ant-plant interactions: Rain-forest ants as secondary dispersers and post-dispersal seed predators. *Ecology* 74:1802-12.
- Levin, S. A. 1998. Ecosystems and the biosphere as complex adaptive systems. *Ecosystems* 1:431-36.
- Levis, C.; P. F. de Souza; J. Schietti; T. Emilio; J. L. P. da Veiga Pinto; C. R. Clement; F. R. Costa. 2012. Historical human footprint on modern tree species composition in the Purus-Madeira Interfluve, Central Amazonia. *PLoS One* 7:e48559.
- Levy Tacher, S. I.; J. R. Aguirre Rivera; M. M. Martínez Romero; A. Durán Fernández. 2002. Caracterización del uso tradicional de la flora espontánea en la comunidad Lacandona de Lacanhá, Chiapas, México. *Interciencia* 27:1-13.
- Levy Tacher, S. I.; D. J. Golicher. 2004. How predictive is traditional ecological knowledge? The case of the Lacondon Maya fallow enrichment system. *Interciencia* 29:496-503.
- Lewinsohn, T. M.; V. Novotny; Y. Basset. 2005. Insects on plants: Diversity of herbivore assemblages revisited. *Ecology, Evolution, and Systematics* 36:597-620.

- Lewis, S. L.; G. Lopez-Gonzalez; B. Sonke; K. Affum-Baffoe; T. R. Baker; L. O. Ojo; O. L. Phillips; et al. 2009. Increasing carbon storage in intact African tropical forests. *Nature* 457:1003-7.
- Lewis, S. L.; O. L. Phillips; T. R. Baker; J. Lloyd; Y. Malhi; S. Almeida; N. Higuchi; et al. 2004. Concerted changes in tropical forest structure and dynamics: Evidence from 50 South American long-term plots. *Resumos... Royal Society B: Biological Sciences* 359:421-36.
- Lieberman, D.; M. Lieberman; G. Hartshorn; R. Peralta. 1985. Growth rates and age-size relationships of tropical wet forest trees in Costa Rica. *Journal of Tropical Ecology* 1:97-109.
- Liebsch, D.; M. Marques; R. Goldenberg. 2008. How long does the Atlantic Rain Forest take to recover after a disturbance? Changes in species composition and ecological features during secondary succession. *Biological Conservation* 141:1717-25.
- Li, Y.; M. Xu; X. M. Zou; P. J. Shi; Y. Q. Zhang. 2005. Comparing soil organic carbon dynamics in plantation and secondary forest in wet tropics in Puerto Rico. *Global Change Biology* 11:239-48.
- Lima, H. N.; C. E. R. Schaefer; J. W. V. Mello; R. J. Gilkes; J. C. Ker. 2002. Pedogenesis and pre-Colombian land use of "Terra Preta Anthrosols" ("Indian black earth") of Western Amazonia. *Geoderma* 110:1-17.
- Lindenmayer, D. B.; K. B. Hulvey; R. J. Hobbs; M. Colyvan; A. Felton; H. Possingham; W. Steffen; K. Wilson; K. Youngentob; P. Gibbons. 2012. Avoiding bioperversity from carbon sequestration solutions. *Conservation Letters* 5:28-36.
- Liu, H.; J. Li. 2010. The study of the ecological problems of *Eucalyptus* plantation and sustainable development in Maoming Xiaoliang. *Journal of Sustainable Development* 3:197-201.
- Liu, J.; M. Linderman; Z. Ouyang; L. An; J. Yang; H. Zhang. 2001. Ecological degradation in protected areas: The case of Wolong Nature Reserve for giant pandas. *Science* 292:98-101.
- Livingstone, D. A. 1975. Late Quaternary climate change in Africa. *Ecology & Systematics* 6:249-80.
- Lôbo, D.; T. Leão; F. P. L. Melo; A. M. M. Santos; M. Tabarelli. 2011. Forest fragmentation drives Atlantic Forest of northeastern Brazil to biotic homogenization. *Diversity and Distributions* 17:287-96.
- Lobova, T. A.; C. K. Geiselman; S. A. Mori. 2009. Seed dispersal by bats in the Neotropics. New York Botanical Garden, New York.
- Lohbeck, M.; L. Poorter; H. Paz; L. Pla; M. van Breugel; M. Martínez-Ramos; F. Bongers. 2012. Functional diversity changes during tropical forest succession. *Perspectives in Plant Ecology, Evolution and Systematics* 14:89-96.
- Loiselle, B. A.; J. G. Blake. 2002. Potential consequences of extinction of frugivorous birds for shrubs of a tropical wet forest. p. 397-406 In: D. J. Levey; W. R. Silva; M. Galetti, eds. *Seed dispersal and frugivory: Ecology, evolution, and conservation*. CABI Publishing, Wallingford, UK.

- Lombardo, U.; E. Canal-Beeby; S. Fehr; H. Veit. 2011. Raised fields in the Bolivian Amazonia: A prehistoric green revolution or a flood risk mitigation strategy? *Journal of Archaeological Science* 38:502-12.
- Lombardo, U.; H. Prümers. 2010. Pre-Columbian human occupation patterns in the eastern plains of the Llanos de Moxos, Bolivian Amazonia. *Journal of Archaeological Science* 37:1875-85.
- Lopes, A. V.; L. C. Girao; B. A. Santos; C. A. Peres; M. Tabarelli. 2009. Long-term erosion of tree reproductive trait diversity in edge-dominated Atlantic forest fragments. *Biological Conservation* 142:1154-65.
- López, E.; G. Bocco; M. Mendoza; A. Velázquez; J. Rogelio Aguirre-Rivera. 2006. Peasant emigration and land-use change at the watershed level: A GIS-based approach in Central Mexico. *Agricultural Systems* 90:62-78.
- Lopez, J. E.; C. Vaughan. 2004. Observations on the role of frugivorous bats as seed dispersers in Costa Rican secondary humid forests. *Acta Chiropterologica* 6:111-19.
- López-Ulloa, M. V.; E. Veldkamp; G. H. J. de Koning. 2005. Soil carbon stabilization in converted tropical pastures and forests depends on soil type. *Soil Science Society of America Journal* 69:1110-17.
- Lorence, D. H.; R. W. Sussman. 1986. Species invasion into Mauritius wet forest remnants. *Journal of Tropical Ecology* 2:147-62.
- Lozada, T.; G. H. J. de Koning; R. Marche; A. M. Klein; T. Tscharntke. 2007. Tree recovery and seed dispersal by birds: Comparing forest, agroforestry and abandoned agroforestry in coastal Ecuador. *Perspectives in Plant Ecology, Evolution and Systematics* 8:131-40.
- Lozano-García, S.; M. Caballero; B. Ortega; S. Sosa; A. Rodríguez; P. Schaaf. 2010. Late Holocene palaeoecology of Lago Verde: Evidence of human impact and climate change in the northern limit of the Neotropics during the late formative and classic periods. *Vegetation History and Archaeobotany* 19:177-90.
- Lucas, R. M.; M. Honzak; I. D. Amaral; P. J. Curran; G. M. Foody. 2002. Forest regeneration on abandoned clearances in central Amazonia. *International Journal of Remote Sensing* 23:965-88.
- Lucas, R. M.; M. Honzak; P. J. Curran; G. M. Foody; D. T. Nguele. 2000. Characterizing tropical forest regeneration in Cameroon using NOAA AVHRR data. *International Journal of Remote Sensing* 21:2831-54.
- Lugo, A. E. 1992. Comparison of tropical tree plantations with secondary forests of similar age. *Ecological Monographs* 62:1-41.
- \_\_\_\_\_. 1995. Management of tropical biodiversity. *Ecological Applications* 5:956-61.
- \_\_\_\_\_. 1997. The apparent paradox of reestablishing species richness on degraded lands with tree monocultures. *Forest Ecology and Management* 99:9-19.
- \_\_\_\_\_. 2000. Effects and outcomes of Caribbean hurricanes in a climate change scenario. *Science of the Total Environment* 262:243-51.

- \_\_\_\_\_. 2008. Visible and invisible effects of hurricanes on forest ecosystems: An international review. *Austral Ecology* 33:368-98.
- Lugo, A. E.; S. Brown. 1992. Tropical forests as sinks of atmospheric carbon. *Forest Ecology and Management* 54:239-55.
- Lugo, A. E.; E. Helmer. 2004. Emerging forests on abandoned land: Puerto Rico's new forests. *Forest Ecology and Management* 190:145-61.
- Lund, H. G. 2009. What is a degraded forest? White paper prepared for FAO. Forest Information Services, Gainesville, VA. Disponível em: <[http://home.comcast.net/~gyde/2009forest\\_degrade.doc](http://home.comcast.net/~gyde/2009forest_degrade.doc)>.
- Lundberg, J.; F. Moberg. 2003. Mobile link organisms and ecosystem functioning: Implications for ecosystem resilience and management. *Ecosystems* 6:87-98.
- MacArthur, R.; E. O. Wilson. 1967. The theory of island biogeography. Princeton University Press, Princeton, NJ.
- Macía, M. 2008. Woody plants diversity, floristic composition and land use history in the Amazonian rain forests of Madidi National Park, Bolivia. *Biodiversity and Conservation* 17:2671-90.
- MacPhee, R. D. E. 2008. *Insulae infortunatae: Establishing a chronology for Late Quaternary mammal extinctions in the West Indies.* p. 169-93 In: G. Haynes, ed. American megafaunal extinctions at the end of the Pleistocene. Springer. New York.
- Madeira, B.; M. M. Espírito-Santo; S. D. Neto; Y. R. F. Nunes; G. A. S. Azofeifa; G. W. Fernandes; M. Quesada. 2009. Changes in tree and liana communities along a successional gradient in a tropical dry forest in south-eastern Brazil. *Plant Ecology* 201:291-304.
- Madegowda, C. 2009. Traditional knowledge and conservation. *Economic and Political Weekly* 44:65-69.
- Maginnis, S.; J. Rietbergen-McCracken; W. Jackson. 2007. Introduction. p. 1-4 In: J. Rietbergen-McCracken; S. Maginnis; A. Sarre, eds. *The forest landscape restoration handbook*. Earthscan, London.
- Magnusson, W. E.; O. P. de Lima; F. Quintiliano Reis; N. Higuchi; J. Ferreira Ramos. 1999. Logging activity and tree regeneration in an Amazonian forest. *Forest Ecology and Management* 113:67-74.
- Mahood, S. P.; A. C. Lees; C. A. Peres. 2012. Amazonian countryside habitats provide limited avian conservation value. *Biodiversity and Conservation* 21:385-405.
- Makana, J. R.; S. C. Thomas. 2006. Impacts of selective logging and agricultural clearing on forest structure, floristic composition and diversity, and timber tree regeneration in the Ituri Forest, Democratic Republic of Congo. *Biodiversity and Conservation* 15:1375-97.
- Maley, J. 2002. The catastrophic destruction of African forests around 2500 years ago still exerts a major influence on present vegetation form and distribution. *IDS Bulletin* 33:13-30.

- Maley, J.; P. Brenac. 1998. Vegetation dynamics, palaeoenvironments and climatic changes in the forests of western Cameroon during the last 28,000 years Review of Palaeobotany and Palyontology 99:157-87.
- Malhi, Y.; L. E. Aragão; D. Galbraith; C. Huntingford; R. Fisher; P. Zelazowski; S. Sitch; McSweeney; P. Meir. 2009. Exploring the likelihood and mechanism of a climate-change-induced dieback of the Amazon rainforest. Resumos... National Academy of Sciences 106:20610-15.
- Maloney, B. K. 1999. A 10,600 year pollen record from Nong Thale Song Hong, Trang Province, South Thailand. Indo-Pacific Prehistory Association Bulletin 18:129-37.
- Mann, C. C. 2005. 1491: New revelations of the Americas before Columbus. Knopf, New York.
- \_\_\_\_\_. 2008. Ancient earthmovers of the Amazon. Science 321:1148-52.
- Mann, D.; J. Edwards; J. Chase; W. Beck; R. Reanier; M. Mass; B. Finney; J. Loret. 2008. Drought, vegetation change, and human history on Rapa Nui (Isla de Pascua, Eastern Island). Quaternary Research 69:16-28.
- Mansfield, B.; D. K. Munroe; K. McSweeney. 2010. Does economic growth cause environmental recovery? Geographical explanations of forest regrowth. Geography Compass 4:416-27.
- Mansourian, S.; G. Davison; J. Sayer. 2003. Bringing back the forests: By whom and for whom? p. 27-36 In: H. C. Sim; S. Appanah; P. B. Durst, eds. Bringing back the forest: Policies and practices for degraded lands and forests. Food and Agriculture Organization of the United Nations, Regional Office for Asia and the Pacific, Bangkok, Thailand.
- Mansourian, S.; D. Vallauri; N. Dudley. 2005. Forest restoration in landscapes: Beyond planting trees. Springer, New York.
- Marchant, R.; H. Hooghiemstra. 2004. Rapid environmental change in African and South American tropics around 4000 years before present: A review. Earth-Science Reviews 66:217-60.
- Marín-Spiotta, E.; D. F. Cusack; R. Ostertag; W. L. Silver. 2008. Trends in above and belowground carbon with forest regrowth after agricultural abandonment in the Neotropics. p. 22-72 In: R. W. Myster, ed. Post-agricultural succession in the Neotropics. Springer, New York.
- Marín-Spiotta, E.; R. Ostertag; W. L. Silver. 2007. Long-term patterns in tropical reforestation: Plant community composition and aboveground biomass accumulation. Ecological Applications 17:828-39.
- Marín-Spiotta, E.; S. Sharma. 2012. Carbon storage in successional and plantation forest soils: A tropical analysis. Global Ecology and Biogeography 22:105-17.
- Markesteijn, L.; J. Iraipi; F. Bongers; L. Poorter. 2011a. Seasonal variation in soil and plant water potentials in a Bolivian tropical moist and dry forest. Journal of Tropical Ecology 26:497-508.

- Markesteijn, L.; L. Poorter; H. Paz; L. Sack; F. Bongers. 2011b. Ecological differentiation in xylem cavitation resistance is associated with stem and leaf structural traits. *Plant, Cell & Environment* 34:137-48.
- Markewitz, D.; E. Davidson; P. Moutinho; D. Nepstad. 2004. Nutrient loss and redistribution after forest clearing on a highly weathered soil in Amazonia. *Ecological Applications* 14:177-99.
- Marler, T. E.; R. del Moral. 2011. Primary succession along an elevation gradient 15 years after the eruption of Mount Pinatubo, Luzon, Philippines. *Pacific Science* 65:157-73.
- Marlon, J. R.; P. J. Bartlein; C. Carcaillet; D. G. Gavin; S. P. Harrison; P. E. Higuera; F. Joos; M. J. Power; I. C. Prentice. 2008. Climate and human influences on global biomass burning over the past two millennia. *Nature Geoscience* 1:697-702.
- Marquardt, K.; R. Milestad; L. Salomonsson. 2013. Improved fallows: A case study of an adaptive response in Amazonian swidden farming systems. *Agriculture and Human Values* 30:417-28.
- Marquis, R. J. 1991. Herbivore fauna of *Piper* (Piperaceae) in a Costa Rican wet forest: Diversity, specificity and impact. p. 179-208 In: P. W. Price; T. M. Lewinsohn; G. W. Fernandes; W. W. Benson, eds. *Plant-animal interactions: Evolutionary ecology in tropical and temperate regions*. John Wiley, New York.
- Marshall, F.; E. Hildebrand. 2002. Cattle before crops: The beginnings of food production in Africa. *Journal of World Prehistory* 16:99-143.
- Martin, A. R.; S. C. Thomas. 2011. A reassessment of carbon content in tropical trees. *PLoS One* 6:e23533.
- Martin, P. H.; R. J. Fahey. 2006. Fire history along environmental gradients in the subtropical pine forests of the Cordillera Central, Dominica Republic. *Journal of Tropical Ecology* 22:289-302.
- Martin, P. H.; R. E. Sherman; T. J. Fahey. 2004. Forty years of tropical forest recovery from agriculture: Structure and floristics of secondary and old-growth riparian forests in the Dominican Republic. *Biotropica* 36:297-317.
- Martin, T. E. 1985. Selection of second-growth woodlands by frugivorous migrating birds in Panama: an effect of fruit size and plant density? *Journal of Tropical Ecology* 1:157-170.
- Martínez-Garza, C.; A. Flores-Palacios; M. De La Peña-Domene; H. F. Howe. 2009. Seed rain in a tropical agricultural landscape. *Journal of Tropical Ecology* 25:541-50.
- Martínez-Garza, C.; H. F. Howe. 2003. Restoring tropical diversity: Beating the time tax on species loss. *Journal of Applied Ecology* 40:423-29.
- Martínez-Ramos, M.; E. Alvarez-Buylla; J. Sarukhan; D. Pinero. 1988. Treefall age determination and gap dynamics in a tropical forest. *Journal of Ecology* 76:700-716.
- Martínez-Ramos, M.; X. García-Orth. 2007. Sucesión ecológica y restauración de las selvas húmedas. *Boletín De La Sociedad Botánica De Mexico. Suplemento*, 80:69-84.

- Mas, J. F. 2005. Assessing protected area effectiveness using surrounding (buffer) areas environmentally similar to the target area. *Environmental Monitoring and Assessment* 105:69-80.
- Mascaro, J.; G. P. Asner; H. C. Muller-Landau; M. van Breugel; J. Hall; K. Dahlin. 2011. Controls over aboveground forest carbon density on Barro Colorado Island, Panama. *Biogeosciences* 8:1615-29.
- Mascaro, J.; I. Perfecto; O. Barros; D. H. Boucher; I. G. de la Cerda; J. Ruiz; J. Vandermeer. 2005. Aboveground biomass accumulation in a tropical wet forest in Nicaragua following a catastrophic hurricane disturbance. *Biotropica* 37:600-608.
- Mather, A. S. 1992. The forest transition. *Area* 24:367-79.
- Mather, A.; C. Needle. 1999. Development, democracy and forest trends. *Global Environmental Change* 9:105-18.
- Mather, A. S.; C. Needle; J. Fairbairn. 1999. Environmental Kuznets curves and forest trends. *Geography* 84:55-65.
- Matricardi, E. A. T.; D. L. Skole; M. A. Pedlowski; W. Chomentowski; L. C. Fernandes. 2010. Assessment of tropical forest degradation by selective logging and fire using Landsat imagery. *Remote Sensing of Environment* 114:1117-29.
- Matson, P. A.; P. M. Vitousek; J. J. Ewel; M. J. Mazzarino; G. P. Robertson. 1987. Nitrogen transformations following tropical forest felling and burning on a volcanic soil. *Ecology* 68:491-502.
- Mayaux, P.; P. Holmgren; F. Achard; H. Eva; H. Stibig; A. Branthomme. 2005. Tropical forest cover change in the 1990s and options for future monitoring. *Resumos... Royal Society B: Biological Sciences* 360:373-84.
- Mayfield, M. M.; J. M. Levine. 2010. Opposing effects of competitive exclusion on the phylogenetic structure of communities. *Ecology Letters* 13:1085-93.
- Mayle, F. E.; J. Iriarte. 2013. Integrated palaeoecology and archaeology—a powerful approach for understanding Pre-Columbian Amazonia. *Journal of Archaeological Science*. doi:10.1016/j.jas.2012.08.038.
- Mayle, F. E.; R. P. Langstroth; R. A. Fisher; P. Meir. 2007. Long-term forest-savannah dynamics in the Bolivian Amazon: Implications for conservation. *Resumos... Royal Society B: Biological Sciences* 362:291-307.
- Mayle, F. E.; M. J. Power. 2008. Impact of a drier Early- Mid-Holocene climate upon Amazonian forests. *Resumos... Royal Society B: Biological Sciences* 363:1829-38.
- Maza-Villalobos, S.; P. Balvanera; M. Martínez-Ramos. 2011. Early regeneration of tropical dry forest from abandoned pastures: Contrasting chronosequence and dynamic approaches. *Biotropica* 43:665-75.
- Mazzei, L.; P. Sist; A. Ruschel; F. E. Putz; P. Marco; W. Pena; J. E. R. Ferreira. 2010. Above-ground biomass dynamics after reduced-impact logging in the Eastern Amazon. *Forest Ecology and Management* 259:367-73.
- McClenann, B.; T. Garvin. 2012. Intra-regional variation in land use and livelihood change during a forest transition in Costa Rica's dry North West. *Land Use Policy* 29:119-30.

- McConkey, K. R.; D. R. Drake. 2002. Extinct pigeons and declining bat populations: Are large seeds still being dispersed in the Tropical Pacific? p. 381-95 In: D. J. Levey; W. R. Silva; M. Galetti, eds. Seed dispersal and frugivory: Ecology, evolution, and conservation. CABI Publishing, Wallingford, UK.
- McConkey, K. R.; D. R. Drake; J. Franklin; F. Tonga. 2004. Effects of Cyclone Waka on flying foxes (*Pteropus tonganus*) in the Vava'u Islands of Tonga. *Journal of Tropical Ecology* 20:555-61.
- McCulloch, K. A.; F. C. Meinzer; J. S. Sperry; B. Lachenbruch; S. L. Voelker; D. R. Woodruff; J. C. Domec. 2011 Comparative hydraulic architecture of tropical tree species representing a range of successional stages and wood density. *Oecologia* 167:27-37.
- McElwee. 2009. Reforesting "Bare Hills" in Vietnam: Social and environmental consequences of the 5 Million Hectare Reforestation Program. *AMBIO* 38:325-32.
- McGrath, D. A.; C. K. Smith; H. L. Gholz; F. A. Oliveira. 2001. Effects of land-use change on soil nutrient dynamics in Amazonia. *Ecosystems* 4:625-45.
- McKey, D.; T. R. Cavagnaro; J. Cliff; R. Gleadow. 2010. Chemical ecology in coupled human and natural systems: People, manioc, multitrophic interactions and global change. *Chemoecology* 20:109-33.
- McMichael, C.; A. Correa-Metrio; M. Bush. 2012. Pre-Columbian fire regimes in lowland tropical rainforests of southeastern Peru. *Palaeogeography, Palaeoclimatology, Palaeoecology* 342-43:73-83.
- McMichael, C.; D. Piperno; M. Bush; M. Silman; A. Zimmerman; M. Raczka; L. Lobato. 2012a. Sparse Pre-Columbian human habitation in Western Amazonia. *Science* 336:1429-31.
- McMichael, C. H.; M. B. Bush; D. R. Piperno; M. R. Silman; A. R. Zimmerman; C. Anderson. 2012b. Spatial and temporal scales of pre-Columbian disturbance associated with western Amazonian lakes. *Holocene* 22:131-41.
- McNamara, S.; P. Erskine; D. Lamb; L. Chantalangsy; S. Boyle. 2012. Primary tree species diversity in secondary fallow forests of Laos. *Forest Ecology and Management* 281:93-99.
- MEA. 2005. Ecosystems and human well-being: Synthesis. Millennium Ecosystem Assessment. Island Press, Washington, DC.
- Medellín, R. A.; M. Equihua. 1998. Mammal species richness and habitat use in rainforest and abandoned agricultural fields in Chiapas, Mexico. *Journal of Applied Ecology* 35:13-23.
- Medellín, R. A.; O. Gaona. 1999. Seed dispersal by bats and birds in forest and disturbed habitats of Chiapas, México. *Biotropica* 31:478-85.
- Meggars, B. J. 1994. Archaeological evidence for the impact of Mega Niño events on Amazonia during the past two millennia. *Climate Change* 28:321-38.
- Meijaard, E.; D. Sheil. 2007. A logged forest in Borneo is better than none at all. *Nature* 446:974-74.

- \_\_\_\_\_. 2008. The persistence and conservation of Borneo's mammals in lowland rain forests managed for timber: Observations, overviews and opportunities. *Ecological Research* 23:21-34.
- Meijaard, E.; D. Sheil; A. J. Marshall; R. Nasi. 2008. Phylogenetic age is positively correlated with sensitivity to timber harvest in Bornean mammals. *Biotropica* 40:76-85.
- Meijaard, E.; D. Sheil; R. Nasi; D. Augeri; B. Rosenbaum; D. Iskandar; T. Setyawati; A. Lammertink; I. Rachmatika; A. Wong. 2005. Life after logging: Reconciling wildlife conservation and production forestry in Indonesian Borneo. CIFOR, Bogor, Indonesia.
- Meinzer, F. C.; D. R. Woodruff; J. C. Domec; G. Goldstein; P. I. Campanello; M. G. Gatti; R. Villalobos-Vega. 2008. Coordination of leaf and stem water transport properties in tropical forest trees. *Oecologia* 156:31-41.
- Mellars, P. 2006. Going east: New genetic and archaeological perspectives on the modern human colonization of Eurasia. *Science* 313:796-800.
- Mello, M. A. R.; F. M. D. Marquitti; P. R. Guimarães; E. K. V. Kalko; P. Jordano; M. A. M. de Aguiar. 2011a. The missing part of seed dispersal networks: Structure and robustness of bat-fruit interactions. *PLoS One* 6:e17395.
- \_\_\_\_\_. 2011b. The modularity of seed dispersal: Differences in structure and robustness between bat- and bird-fruit networks. *Oecologia* 167:131-40.
- Melo, F. P. L.; V. Arroyo-Rodríguez; L. Fahrig; M. Martínez-Ramos; M. Tabarelli. 2013. On the hope for biodiversity-friendly tropical landscapes. *Trends in Ecology & Evolution* 28:462-68.
- Melo, F. P. L.; R. Dirzo; M. Tabarelli. 2006. Biased seed rain in forest edges: Evidence from the Brazilian Atlantic forest. *Biological Conservation* 132:50-60.
- Melo, F. P. L.; B. Rodriguez-Herrera; R. L. Chazdon; R. A. Medellín; G. G. Ceballos. 2009. Small tent-roosting bats promote dispersal of large-seeded plants in a Neotropical forest. *Biotropica* 41:737-43.
- Menz, M. H. M.; K. W. Dixon; R. J. Hobbs. 2013. Hurdles and opportunities for landscape-scale restoration. *Science* 339:526-27.
- Menz, M. H. M.; R. D. Phillips; R. Winfree; C. Kremen; M. A. Aizen; S. D. Johnson; K. W. Dixon. 2011. Reconnecting plants and pollinators: Challenges in the restoration of pollination mutualisms. *Trends in Plant Science* 16:4-12.
- Mercader, J. 2003. Under the canopy: The archaeology of tropical rain forests. Rutgers University Press, New Brunswick, NJ.
- Mesquita, R. C. G.; K. Ickes; G. Ganade; G. B. Williamson. 2001. Alternative successional pathways in the Amazon Basin. *Journal of Ecology* 89:528-37.
- Messier, C.; K. J. Puettmann; K. D. Coates. 2013. Managing forests as complex adaptive systems: Building resilience to the challenge of global change. Routledge, New York.
- Mestre, L. A. M.; M. A. Cochrane; J. Barlow. 2013. Long-term changes in bird communities after wildfires in the Central Brazilian Amazon. *Biotropica* 45:480-88.

- Metz, M. R.; W. P. Sousa; R. Valencia. 2011. Widespread density-dependent seedling mortality promotes species coexistence in a highly diverse Amazonian rainforest. *Ecology* 92:1723-29.
- Meyfroidt, P.; E. F. Lambin. 2008. Forest transition in Vietnam and its environmental impacts. *Global Change Biology* 14:1319-36.
- \_\_\_\_\_. 2009. Forest transition in Vietnam and displacement of deforestation abroad. *Resumos... National Academy of Sciences* 106:16139-44.
- \_\_\_\_\_. 2010. Forest transition in Vietnam and Bhutan: Causes and environmental impacts. p. 315-39 In: H. Nagendra; J. Southworth, eds. *Reforesting landscapes: Linking pattern and process*. Springer, Dordrecht, Neth.
- \_\_\_\_\_. 2011. Global forest transition: Prospects for an end to deforestation. *Annual Environment and Resources* 36:343-71.
- Meyfroidt, P.; T. K. Rudel; E. F. Lambin. 2010. Forest transitions, trade, and the global displacement of land use. *Resumos... National Academy of Sciences* 107:20917-22.
- Michon, G. 2005. Domesticating forests: How farmers manage forest resources. Center for International Forestry Research/World Agroforestry Center, Bogor, Indonesia.
- Michon, G.; H. de Foresta; P. Levant; F. Verdeaux. 2007. Domestic forests: A new paradigm for integrating local communities' forestry into tropical forest science. *Ecology and Society* 12. Disponível em: <<http://www.ecologyandsociety.org/vol12/iss12/art11/>>.
- Miles, L.; A. C. Newton; R. S. DeFries; C. Ravilious; I. May; S. Blyth; V. Kapos; J. E. Gordon. 2006. A global overview of the conservation status of tropical dry forests. *Journal of Biogeography* 33:491-505.
- Milne, S.; E. Niesten. 2009. Direct payments for biodiversity conservation in developing countries: Practical insights for design and implementation. *Oryx* 43:530-41.
- Miquel, S. 1987. Morphologie fonctionnelle de plantules d'espèces forestières du Gabon. *Bulletin du Museum National d'Histoire Naturelle*, 9:101-21.
- Moguel, P.; V. M. Toledo. 1999. Biodiversity conservation in traditional coffee systems of Mexico. *Conservation Biology* 13:11-21.
- Moles, A. T.; D. D. Ackerly; C. O. Webb; J. C. Tweddle; J. B. Dickie; M. Westoby. 2005. A brief history of seed size. *Science* 307:576-80.
- Molino, J.-F.; D. Sabatier. 2001. Tree diversity in tropical rain forests: A validation of the Intermediate Disturbance Hypothesis. *Science* 294:1702-4.
- Momose, K.; T. Yumoto; T. Nagamitsu; M. Kato; H. Nagamasu; S. Sakai; R. D. Harrison; T. Itioka; A. A. Hamid; T. Inoue. 1998. Pollination biology in a lowland dipterocarp forest in Sarawak, Malaysia. I. Characteristics of the plant-pollinator community in a lowland dipterocarp forest. *American Journal of Botany* 85:1477-1501.
- Montagnini, F.; C. Finney. 2011. Payments for environmental services in Latin America as a tool for restoration and rural development. *AMBIÖ* 40:285-97.
- Montgomery, R. A.; R. L. Chazdon. 2001. Forest structure, canopy architecture and light transmittance in tropical wet forests. *Ecology* 82:2707-18.

- Montoya, J. M.; S. L. Pimm; R. V. Solé. 2006. Ecological networks and their fragility. *Nature* 442:259-64.
- Moran, C.; C. P. Catterall; J. Kanowski. 2009. Reduced dispersal of native plant species as a consequence of the reduced abundance of frugivore species in fragmented rainforest. *Biological Conservation* 142:541-52.
- Moran, E. F.; E. Brondizio; P. Mausel; Y. Wu. 1994. Integrating Amazonian vegetation, land-use, and satellite data. *BioScience* 44:329-49.
- Moran, E. F.; E. Brondizio; J. M. Tucker; M. C. da Silva-Fosberg; S. McCracken; I. Falesi. 2000. Effects of soil fertility and land-use on forest succession in Amazônia. *Forest Ecology and Management* 139:93-108.
- Morcote-Ríos, G.; R. Bernal. 2001. Remains of palms (Palmae) at archaeological sites in the New World: A review. *Botanical Review* 67:309-50.
- Moreno, C. E.; G. Castillo-Campos; J. R. Verdú. 2009. Taxonomic diversity as complementary information to assess plant species diversity in secondary vegetation and primary tropical deciduous forest. *Journal of Vegetation Science* 20:935-43.
- Morley, R. J. 2000. Origin and evolution of tropical rain forests. John Wiley & Sons, New York.
- Morse, W. C.; J. L. Schedlbauer; S. E. Sesnie; B. Finegan; C. A. Harvey; S. J. Hollenhorst; K. L. Kavanagh; D. Stoian; J. D. Wulffhorst. 2009. Consequences of environmental service payments for forest retention and recruitment in a Costa Rican biological corridor. *Ecology and Society* 14. Disponível em: <<http://www.ecologyandsociety.org/vol14/iss1/art23/>>.
- Mostacedo, B.; F. E. Putz; T. S. Fredericksen; A. Villca; T. Palacios. 2009. Contributions of root and stump sprouts to natural regeneration of a logged tropical dry forest in Bolivia. *Forest Ecology and Management* 258:978-85.
- Mueller, A.; G. Islebe; F. Anselmetti; D. Ariztegui; M. Brenner; D. Hodell; I. Hajdas; Y. Hamann; G. Haug; D. Kennett. 2010. Recovery of the forest ecosystem in the tropical lowlands of northern Guatemala after disintegration of Classic Maya polities. *Geology* 38:523-26.
- Mueller, A. D.; G. A. Islebe; M. B. Hillesheim; D. A. Grzesik; F. S. Anselmetti; D. Ariztegui; M. Brenner; J. H. Curtis; D. A. Hodell; K. A. Venz. 2009. Climate drying and associated forest decline in the lowlands of northern Guatemala during the late Holocene. *Quaternary Research* 71:133-41.
- Mueller-Dombois, D. 1992. Distributional dynamics in the Hawaiian vegetation. *Pacific Science* 46:221-31.
- Muller-Landau, H. C. 2007. Predicting the long-term effects of hunting on plant species composition and diversity in tropical forests. *Biotropica* 39:372-84.
- \_\_\_\_\_. 2009. Carbon cycle: Sink in the African jungle. *Nature* 457:969-70.
- Muñiz-Castro, M. A.; G. Williams-Linera; M. Martínez-Ramos. 2012. Dispersal mode, shade tolerance, and phytogeographical affinity of tree species during secondary succession in tropical montane cloud forest. *Plant Ecology* 213:339-53.

- Murcia, C. 1997. Evaluation of Andean alder as a catalyst for the recovery of tropical cloud forests in Colombia. *Forest Ecology and Management* 99:163-70.
- Murgueitio, E.; Z. Calle; F. Uribe; A. Calle; B. Solorio. 2011. Native trees and shrubs for the productive rehabilitation of tropical cattle ranching lands. *Forest Ecology and Management* 261:1654-63.
- Murray, K. G.; K. Willet-Murray; J. Robert; K. Horjus; W. A. Haber; W. Zuckowski; M. Kuhlmann; T. M. Long-Robinson. 2008. The roles of disperser behavior and physical habitat structure in regeneration of post-agricultural fields. p. 192-215 In: R. W. Myster, ed. *Post-agricultural succession in the Neotropics*. Springer, New York.
- Muscarella, R.; T. H. Fleming. 2007. The role of frugivorous bats in tropical forest succession. *Biological Reviews* 82:573-90.
- Mustalahti, I.; A. Bolin; E. Boyd; J. Paavola. 2012. Can REDD+ reconcile local priorities and needs with global mitigation benefits? Lessons from Angai Forest, Tanzania. *Ecology and Society* 17. Disponível em: <<http://www.ecologyandsociety.org/vol17/iss1/art16/>>.
- Muthukumar, T.; L. Sha; X. Yang; M. Cao; J. Tang; Z. Zheng. 2003. Distribution of roots and arbuscular mycorrhizal associations in tropical forest types of Xishuangbanna, southwest China. *Applied Soil Ecology* 22:241-53.
- Mwavu, E.; E. Witkowski. 2008. Sprouting of woody species following cutting and tree-fall in a lowland semi-deciduous tropical rainforest, North-Western Uganda. *Forest Ecology and Management* 255:982-92.
- Myster, R. W. 2004. Post-agricultural invasion, establishment, and growth of Neotropical trees. *Botanical Review* 70:381-402.
- \_\_\_\_\_. 2007. Early successional pattern and process after sugarcane, banana, and pasture cultivation in Ecuador. *New Zealand Journal of Botany* 45:101-10.
- \_\_\_\_\_. 2008a. Introduction. p. 3-21 In: R. W. Myster, ed. *Post-agricultural succession in the Neotropics*. Springer, New York.
- \_\_\_\_\_. 2008b. Neotropic post-dispersal seed predation. p. 216-20 In: R. W. Myster, ed. *Post-agricultural succession in the Neotropics*. Springer, New York.
- Nabe-Nielsen, J.; W. Severiche; T. Fredericksen; L. I. Nabe-Nielsen. 2007. Timber tree regeneration along abandoned logging roads in a tropical Bolivian forest. *New Forests* 34:31-40.
- Nadkarni, N. M.; W. A. Haber. 2009. Canopy seed banks as time capsules of biodiversity in pasture-remnant tree crowns. *Conservation Biology* 23:1117-26.
- Nagendra, H. 2007. Drivers of reforestation in human-dominated forests. *Resumos... National Academy of Sciences* 104:15218-23.
- \_\_\_\_\_. 2009. Drivers of regrowth in South Asia's human impacted forests. *Current Science* 97:1586-92.
- \_\_\_\_\_. 2010. Reforestation and regrowth in the human dominated landscapes of South Asia. p. 149-74 In: H. Nagendra; J. Southworth, eds. *Reforesting landscapes: Linking pattern and process*. Springer, Dordrecht, Neth.

- Nagendra, H.; J. Southworth. 2010. Reforesting landscapes: Linking pattern and process. Springer, Dordrecht, Neth.
- Nathan, R.; H. C. Muller-Landau. 2000. Spatial patterns of seed dispersal, their determinants and consequences for recruitment. *Trends in Ecology & Evolution* 15:278-85.
- Nations, J.; R. Nigh. 1980. The evolutionary potential of Lacandon Maya sustained-yield tropical forest agriculture. *Journal of Anthropological Research* 36:1-30.
- Navarrete, D.; G. Halffter. 2008. Dung beetle (Coleoptera: Scarabaeidae: Scarabaeinae) diversity in continuous forest, forest fragments and cattle pastures in a landscape of Chiapas, Mexico: The effects of anthropogenic changes. *Biodiversity and Conservation* 17:2869-98.
- Nave, A. G.; R. R. Rodrigues. 2007. Combination of species into filling and diversity groups as forest restoration methodology. p. 103-26 In: R. R. Rodrigues; S. V. Martins; S. Gandolfi, eds. High diversity forest restoration in degraded areas. Nova Science Publishers, New York.
- Nayak, K. G.; P. Davidar. 2010. Pollination and breeding systems of woody plant species in tropical dry evergreen forests, southern India. *Flora-Morphology, Distribution, Functional Ecology of Plants* 205:745-53.
- Neff, H.; D. M. Pearsall; J. G. Jones; B. Arroyo de Pieters; D. E. Freidel. 2006. Climate change and population history in the Pacific lowlands of Southern Mesoamerica. *Quaternary Research* 65:390-400.
- Negrón-Juárez, R. I.; J. Q. Chambers; G. Guimaraes; H. Zeng; C. F. M. Raupp; D. M. Marra; G. Ribeiro; S. S. Saatchi; B. W. Nelson; N. Higuchi. 2010. Widespread Amazon forest tree mortality from a single cross-basin squall line event. *Geophysical Research Letters* 37:L16701.
- Neill, C.; E. Davidson. 2000. Soil carbon accumulation or loss following deforestation for pasture in the Brazilian Amazon. p. 197-211 In: R. Lal; J. M. Kimble; B. A. Stewart, eds. *Global climate change and tropical ecosystems*. CRC Press, Boca Raton, FL.
- Neill, C.; J. M. Melillo; P. A. Steudler; C. C. Cerri; J. F. L. de Moraes; M. C. Piccolo; M. Brito. 1997. Soil carbon and nitrogen stocks following forest clearing for pasture in the southwestern Brazilian Amazon. *Ecological Applications* 7:1216-25.
- Nelson, B. W. 1995. Natural disturbance and change in the Brazilian Amazon. p. 61-65 In: R. C. J. Somerville; W. J. Emery; C. J. Tucker, eds. *Changes in global vegetative patterns and their relationship to human activity*. Aspen Global Change Institute, Aspen, CO.
- Nelson, B. W.; M. N. Irmão. 1998. Fire penetration in standing Amazon forests. *Resumos... Brazilian Remote Sensing Congress* 9:3-18.
- Nelson, B. W.; V. Kapos; J. Adams; W. Oliveira; O. Braun. 1994. Forest disturbance by large blowdowns in the Brazilian Amazon. *Ecology* 75:853-58.
- Nelson, R. F.; D. S. Kimes; W. A. Salas; M. Routhier. 2000. Secondary forest age and tropical forest biomass estimation using Thematic Mapper imagery. *BioScience* 50:419-31.
- Nelson, R. W. 1994. Natural forest disturbance and change in the Brazilian Amazon. *Remote Sensing Reviews* 10:105-25.

- Nepstad, D. C.; C. R. De Carvalho; E. A. Davidson; P. H. Jipp; P. A. Lefebvre; G. H. Negreiros; E. D. Da Silva; T. A. Stone; S. E. Trumbore; S. Vieira. 1994. The role of deep roots in the hydrological and carbon cycles of Amazonian forests and pastures. *Nature* 372:666-69.
- Nepstad, D. C.; P. Moutinho; D. Markewitz. 2001. The recovery of biomass, nutrient stocks and deep soil functions in secondary forests. p. 139-55 In: M. E. McClain; R. L. Victoria; J. E. Richey, eds. *The biogeochemistry of the Amazon Basin*. Oxford University Press, New York.
- Nepstad, D. C.; C. M. Stickler; B. Soares; F. Merry. 2008. Interactions among Amazon land use, forests and climate: Prospects for a near-term forest tipping point. *Resumos... Royal Society B: Biological Sciences* 363:1737-46.
- Nepstad, D. C.; I. M. Tohver; D. Ray; P. Moutinho; G. Cardinot. 2007. Mortality of large trees and lianas following experimental drought in an Amazon forest. *Ecology* 88:2259-69.
- Nepstad, D.; C. Uhl; C. A. Pereira; J. M. C. da Silva. 1996. A comparative study of tree establishment in abandoned pasture and mature forest of eastern Amazonia. *Oikos* 76:25-39.
- Nepstad, D. C.; C. Uhl; E. A. S. Serrão. 1991. Recuperation of a degraded Amazonian landscape: Forest recovery and agricultural restoration. *AMBIO* 20:248-55.
- Neumann, K.; K. Bostoen; A. Höhn; S. Kahlheber; A. Ngomanda; B. Tchiengué. 2012. First farmers in the Central African rainforest: A view from southern Cameroon. *Quaternary International* 249:53-62.
- Neumann-Cosel, L.; B. Zimmermann; J. S. Hall; M. van Breugel; H. Elsenbeer. 2011. Soil carbon dynamics under young tropical secondary forests on former pastures: A case study from Panama. *Forest Ecology and Management* 261:1625-33.
- Neves, E. G.; J. B. Petersen; R. N. Bartone; C. A. Da Silva. 2003. Historical and socio-cultural origins of Amazonian dark earths. p. 29-50 In: J. Lehmann; D. Kern; B. Glaser; W. Woods, eds. *Amazonian dark earths: Origin, properties, management*. Kluwer Academic Publishers, Dordrecht, Neth.
- Neves, F. S.; R. F. Braga; M. M. do Espírito-Santo; J. H. C. Delabie; G. W. Fernandes; G. A. Sánchez-Azofeifa. 2010. Diversity of arboreal ants in a Brazilian tropical dry forest: Effects of seasonality and successional stage. *Sociobiology* 56:177-94.
- Nevle, R. J.; D. K. Bird. 2008. Effects of syn-pandemic fire reduction and reforestation in the tropical Americas on atmospheric CO<sub>2</sub> during the European conquest. *Palaeogeography, Palaeoclimatology, Palaeoecology* 264:25-38.
- Nevle, R. J.; D. Bird; W. Ruddiman; R. Dull. 2011. Neotropical human-landscape interactions, fire, and atmospheric CO<sub>2</sub> during European conquest. *Holocene* 21:853-64.
- Newbery, D. M.; I. J. Alexander; J. A. Rother. 2000. Does proximity to conspecific adults influence the establishment of ectomycorrhizal trees in rain forest? *New Phytologist* 147:401-9.

- Newbery, D. M.; J. Gartlan. 1996. A structural analysis of rain forest at Korup and Douala-Edea, Cameroon. Resumos... Royal Society of Edinburgh B: Biological Sciences 104:177-224.
- Newton, A. C.; R. F. del Castillo; C. Echeverría; D. Geneletti; M. González-Espinosa; L. R. Malizia; A. C. Premoli; J. M. R. Benayas; C. Smith-Ramírez; G. Williams-Linera. 2012. Forest landscape restoration in the drylands of Latin America. *Ecology and Society* 17:21.
- Newton, A. C.; N. Tejedor. 2011. Introduction. p. 1-22 In: A. C. Newton; N. Tejedor, eds. *Principles and practice of forest landscape restoration: Case studies from the drylands of Latin America*. IUCN, Gland, Switzerland.
- Ng, F. S. P. 1978. Strategies of establishment in Malayan forest trees. p. 129-62 In: P. B. Tomlinson; M. H. Zimmerman, eds. *Tropical trees as living systems*. Cambridge University Press, Cambridge.
- Ngomanda, A.; K. Neumann; A. Schweizer; J. Maley. 2009a. Seasonality change and the third millennium BP rainforest crisis in southern Cameroon (Central Africa). *Quaternary Research* 71:307-18.
- Ngomanda, A.; A. Chepstow-Lusty; M. Makaya; C. Favier; P. Schevin; J. Maley; M. Fontugne; R. Oslisly; D. Jolly. 2009b. Western equatorial African forest-savanna mosaics: A legacy of late Holocene climate change? *Climate of the Past* 5:647-59.
- Nichols, E.; T. Larsen; S. Spector; A. Davis; F. Escobar; M. Favila; K. Vulinec. 2007. Global dung beetle response to tropical forest modification and fragmentation: A quantitative literature review and meta-analysis. *Biological Conservation* 137:1-19.
- Nicotra, A. B.; R. L. Chazdon; S. Iriarte. 1999. Spatial heterogeneity of light and woody seedling regeneration in tropical wet forests. *Ecology* 80:1908-26.
- Nobre, C.; L. Borma. 2009. 'Tipping points' for the Amazon forest. *Environmental Sustainability* 1:28-36.
- Nock, C. A.; D. Geihofer; M. Grabner; P. J. Baker; S. Bunyavejchewin; P. Hietz. 2009. Wood density and its radial variation in six canopy tree species differing in shade-tolerance in western Thailand. *Anais... Botany* 104:297-306.
- Nogueira, E. M.; P. M. Fearnside; B. W. Nelson. 2008. Normalization of wood density in biomass estimates of Amazon forests. *Forest Ecology and Management* 256:990-96.
- Nogueira, L. R.; Jr.; J. L. M. Gonçalves; V. L. Engel; J. Parrotta; D. Mendes Lopes; M. Tome. 2011. Soil dynamics and carbon stocks 10 years after restoration of degraded land using Atlantic Forest tree species. *Forest Systems* 20:536-45.
- Norden, N.; R. L. Chazdon; A. Chao; Y. H. Jiang; B. Vilchez-Alvarado. 2009. Resilience of tropical rain forests: Tree community reassembly in secondary forests. *Ecology Letters* 12:385-94.
- Norden, N.; S. G. Letcher; V. Boukili; N. G. Swenson; R. Chazdon. 2012. Demographic drivers of successional changes in phylogenetic structure across life-history stages in plant communities. *Ecology* 93:S70-S82.

- Norden, N.; R. C. G. Mesquita; T. V. Bentos; R. L. Chazdon; G. B. Williamson. 2011. Contrasting community compensatory trends in alternative successional pathways in central Amazonia. *Oikos* 120:143-51.
- Norisada, M.; G. Hitsuma; K. Kuroda; T. Yamanoshita; M. Masumori; T. Tange; H. Yagi; T. Nuyim; S. Sasaki; K. Kojima. 2005. *Acacia mangium*, a nurse tree candidate for reforestation on degraded sandy soils in the Malay Peninsula. *Forest Science* 51:498-510.
- Normile, D. 2010. Saving forests to save biodiversity. *Science* 329:1278-80.
- Notman, E. M.; D. L. Gorochov. 2001. Variation in post-dispersal seed predation in mature Peruvian lowland tropical forest and fallow agricultural sites. *Biotropica* 33:621-36.
- Notman, E. M.; A. C. Villegas. 2005. Patterns of seed predation by vertebrate versus invertebrate seed predators among different plant species, seasons and spatial distributions. p. 55-75 In: P.-M. Forget; J. E. Lambert; P. E. Hulme; S. B. Vander Wall, eds. *Seed fate*. CAB International, Cambridge, MA.
- Novotny, V. 1994. Association of polyphagy in leafhoppers (Auchenorrhyncha, Hemiptera) with unpredictable environments. *Oikos* 70:223-32.
- Nuñez-Iturri, G.; O. Olsson; H. F. Howe. 2008. Hunting reduces recruitment of primate-dispersed trees in Amazonian Peru. *Biological Conservation* 141:1536-46.
- Nye, P. H.; D. Greenland. 1960. The soil under shifting cultivation. Commonwealth Agricultural Bureaux. Harpenden, UK.
- Nykqvist, N. 1996. Regrowth of secondary vegetation after the 'Borneo fire' of 1982-1983. *Journal of Tropical Ecology* 12:307-12.
- Ochoa-Gaona, S.; F. Hernández-Vázquez; B. H. J. De Jong; F. D. Gurri-García. 2007. Loss of floristic diversity over an intensification gradient of the slash-andburn agricultural system: A case study in the Selva Lacandona region, Chiapas, Mexico. *Boletin De La Sociedad Botanica De Mexico* 81:65-80.
- Oliveira, L.; S. Hankerson; J. Dietz; B. Raboy. 2010. Key tree species for the golden-headed lion tamarin and implications for shade-cocoa management in southern Bahia, Brazil. *Animal Conservation* 13:60-70.
- Oliveira, P. J. C.; G. P. Asner; D. E. Knapp; A. Almeyda; R. Galván-Gildemeister; S. Keene; R. F. Raybin; R. C. Smith. 2007. Land-use allocation protects the Peruvian Amazon. *Science* 317:1233-36.
- Oliveira, R. R. 2007. Mata Atlântica, paleoterritorórios e história ambiental. *Ambiente & Sociedade* 10:11-23.
- \_\_\_\_\_. 2008. When the shifting agriculture is gone: Functionality of Atlantic Coastal Forest in abandoned farming sites. *Boletim do Museu Paraense Emílio Goeldi. Ciências Humanas* 3:213-26.
- Oliveira-Filho, A. T.; E. A. Vilela; M. L. Gavilanes; D. A. Carvalho. 1994. Effect of flooding regime and understorey bamboos on the physiognomy and tree species composition of a tropical semideciduous forest in Southeastern Brazil. *Vegetatio* 113:99-124.

- Oliver, C. D.; B. C. Larson. 1996. Forest stand dynamics. Biological resource management series. McGraw-Hill, New York.
- Oliver, J. R. 2008. The archaeology of agriculture in ancient Amazonia. p. 185-216 In: H. Silverman; W. Isbell, eds. Handbook of South American Archaeology. Springer, New York.
- Ollerton, J.; R. Winfree; S. Tarrant. 2011. How many flowering plants are pollinated by animals? *Oikos* 120:321-26.
- Omeja, P. A.; C. A. Chapman; J. Obua; J. S. Lwanga; A. L. Jacob; F. Wanyama; R. Mugenyi. 2010. Intensive tree planting facilitates tropical forest biodiversity and biomass accumulation in Kibale National Park, Uganda. *Forest Ecology and Management* 261:703-9.
- Omeja, P. A.; J. S. Lwanga; J. Obua; C. A. Chapman. 2011. Fire control as a simple means of promoting tropical forest restoration. *Tropical Conservation Science* 4:287-99.
- Omeja, P. A.; J. Obua; A. Rwetsiba; C. A. Chapman. 2012. Biomass accumulation in tropical lands with different disturbance histories: Contrasts within one landscape and across regions. *Forest Ecology and Management* 269:293-300.
- Onguene, N.; T. Kuyper. 2002. Importance of the ectomycorrhizal network for seedling survival and ectomycorrhiza formation in rain forests of south Cameroon. *Mycorrhiza* 12:13-17.
- Onofre, F.; V. Engel; H. Cassola. 2010. Natural regeneration of Atlantic Forest species in the understory of *Eucalyptus saligna* in a former forest production unit at the parque das Neblinas, Bertioga, SP. *Scientia Forestalis* 38:39-52.
- Op den Camp, R. H. M.; E. Polone; E. Fedorova; W. Roelofsen; A. Squartini; H. J. M. Op den Camp; T. Bisseling; R. Geurts. 2012. Nonlegume *Parasponia andersonii* deploys a broad rhizobium host range strategy resulting in largely variable symbiotic effectiveness. *Molecular Plant-Microbe. Interactions* 25:954-63.
- Oppenheimer, S. 2009. The great arc of dispersal of modern humans: Africa to Australia. *Quaternary International* 202:2-13.
- Oslisly, R. 2001. The history of human settlement in the Middle Ogooué Valley (Gabon). p. 101-18 In: W. Weber; L. J. T. White; A. Vedder; L. Naughton-Treves, eds. African rain forest ecology and conservation: An interdisciplinary perspective. Yale University Press, New Haven, CT.
- Oslisly, R.; L. White. 2003. Étude des traces de l'impact de l'homme sur l'environnement au cours de l'Holocène dans deux régions d'Afrique centrale forestière. p. 77-88 In: A. Froment; J. Guffroy, eds. Peuplements anciens et actuels de forêts tropicales: Ata... Séminaire-atelier. IRD Éditions, Paris.
- \_\_\_\_\_. 2007. Human impact and environmental exploitation in Gabon during the Holocene. p. 347-60 In: T. P. Denham; J. Iriarte; L. Vrydaghs, eds. Rethinking agriculture: Archaeological and ethnoarchaeological perspectives. Left Coast Press, Walnut Creek, CA.

- Osorio-Pérez, K.; M. Barberena-Arias; T. Aide. 2007. Changes in ant species richness and composition during plant secondary succession in Puerto Rico. Caribbean Journal of Science 43:244-53.
- Ostertag, R.; E. Marin-Spiotta; W. L. Silver; J. Schulter. 2008. Litterfall and decomposition in relation to soil carbon pools along a secondary forest chronosequence in Puerto Rico. Ecosystems 11:701-14.
- Ostertag, R.; W. L. Silver; A. E. Lugo. 2005. Factors affecting mortality and resistance to damage following hurricanes in a rehabilitated subtropical moist forest. Biotropica 37:16-24.
- Osunkoya, O. O.; T. K. Sheng; N. A. Mahmud; N. Damit. 2007. Variation in wood density, wood water content, stem growth and mortality among twenty-seven tree species in a tropical rainforest on Borneo Island. Austral Ecology 32:191-201.
- Otsamo, A.; G. Ådjers; T. Hadi; J. Kuusipalo; K. Tuomela; R. Vuokko. 1995. Effect of site preparation and initial fertilization on the establishment and growth of four plantation tree species used in reforestation of *Imperata cylindrica* (L.) Beauv. dominated grasslands. Forest Ecology and Management 73:271-77.
- Otsamo, R. 2000. Secondary forest regeneration under fast-growing forest plantations on degraded *Imperata cylindrica* grasslands. New Forests 19:69-93.
- Ottermanns, R.; P. W. Hopp; M. Guschal; G. P. dos Santos; S. Meyer; M. Rof-Nickoll. 2011. Causal relationship between leaf litter beetle communities and regeneration patterns of vegetation in the Atlantic rainforest of Southern Brazil (Mata Atlântica). Ecological Complexity 8:299-309.
- Otterstrom, S.; M. Schwartz; I. Velázquez-Rocha. 2006. Responses to fire in selected tropical dry forest trees. Biotropica 38:592-98.
- Padoch, C.; K. Coffey; O. Mertz; S. J. Leisz; J. Fox; R. L. Wadley. 2007. The demise of swidden in southeast Asia? Local realities and regional ambiguities. Geografisk Tidsskrift 107:29-41.
- Padoch, C.; M. Pinedo-Vásquez. 2006. Concurrent activities and invisible technologies: An example of timber management in Amazonia. p. 172-80 In: D. A. Posey; M. J. Balick, eds. Human impacts on Amazonia: The role of traditional ecological knowledge in conservation and development. Columbia University Press, New York.
- Pagiola, S.; E. Ramirez; J. Gobbi; C. de Haan; M. Ibrahim; E. Murgueitio; J. P. Ruis. 2007. Paying for the environmental services of silvopastoral practices in Nicaragua. Ecological Economics 64:374-85.
- Pagiola, S.; W. Zhang; A. Colom. 2010. Can payments for watershed services help finance biodiversity conservation? A spatial analysis of highland Guatemala. Journal of Natural Resources Policy Research 2:7-24.
- Paladino, S. 2011. Tracking the fault lines of pro-poor carbon forestry. Culture, Agriculture, Food and Environment 33:117-32.
- Palmeirim, J.; D. Gorchoy; S. Stoleson. 1989. Trophic structure of a Neotropical frugivore community: Is there competition between birds and bats? Oecologia 79:403-11.

- Palomaki, M. B.; R. L. Chazdon; J. P. Arroyo; S. G. Letcher. 2006. Juvenile tree growth in relation to light availability in second-growth tropical rain forests. *Journal of Tropical Ecology* 22:223-26.
- Pan, Y.; R. A. Birdsey; J. Fang; R. Houghton; P. E. Kauppi; W. A. Kurz; O. L. Phillips; A. Shvidenko; S. L. Lewis; J. G. Canadell. 2011. A large and persistent carbon sink in the world's forests. *Science* 333:988-93.
- Pardini, R.; A. de Arruda Bueno; T. A. Gardner; P. I. Prado; J. P. Metzger. 2010. Beyond the fragmentation threshold hypothesis: Regime shifts in biodiversity across fragmented landscapes. *PLoS One* 5:e13666.
- Pardini, R.; S. M. de Souza; R. Braga-Neto; J. P. Metzger. 2005. The role of forest structure, fragment size and corridors in maintaining small mammal abundance and diversity in an Atlantic forest landscape. *Biological Conservation* 124:253-66.
- Parés-Ramos, I. K.; W. A. Gould; T. M. Aide. 2008. Agricultural abandonment, suburban growth, and forest expansion in Puerto Rico between 1991 and 2000. *Ecology and Society* 13:1. Disponível em: <<http://www.ecologyandsociety.org/vol13/iss2/art1/>>.
- Parolin, P.; O. De Simone; K. Haase; D. Waldhoff; S. Rottenberger; U. Kuhn; J. Kesselmeier; et. al. 2004. Central Amazonian floodplain forests: Tree adaptations in a pulsing system. *Botanical Review* 70:357-80.
- Parrotta, J. A. 2010. Restoring biodiversity and forest ecosystem services in degraded tropical landscapes. p. 53-61 In: T. Koizumi; K. Okabe; I. Thompson; K. Sugimura; T. Toma; K. Fujita, eds. *The role of forest biodiversity in the sustainable use of ecosystem goods and services in agro-forestry, fisheries, and forestry*. Forestry and Forest Products Research Institute, Ibaraki, Japan.
- Parrotta, J. A.; J. K. Francis; O. H. Knowles. 2002. Harvesting intensity affects forest structure and composition in an upland Amazonian forest. *Forest Ecology and Management* 169:243-55.
- Parrotta, J. A.; O. H. Knowles. 1999. Restoration of tropical moist forests on bauxite-mined lands in the Brazilian Amazon. *Restoration Ecology* 7:103-16.
- Parrotta, J.; J. W. Turnbull; N. Jones. 1997. Catalyzing native forest regeneration on degraded tropical lands. *Forest Ecology and Management* 99:1-7.
- Parry, L.; J. Barlow; C. A. Peres. 2007. Large-vertebrate assemblages of primary and secondary forests in the Brazilian Amazon. *Journal of Tropical Ecology* 23:653-62.
- Pärssinen, M.; D. Schaan; A. Ranzi. 2009. Pre-Columbian geometric earthworks in the upper Purús: A complex society in western Amazonia. *Antiquity* 83:1084-95.
- Pascarella, J. B.; T. M. Aide; J. K. Zimmerman. 2004. Short-term response of secondary forests to hurricane disturbance in Puerto Rico, USA. *Forest Ecology and Management* 199:379-93.
- Paul, G. S.; J. B. Yavitt. 2011. Tropical vine growth and the effects on forest succession: A review of the ecology and management of tropical climbing plants. *Botanical Review* 77:11-30.

- Paul, J.; A. Randle; G. Chapman; L. Chapman. 2004. Arrested succession in logging gaps: Is tree seedling growth and survival limiting? *African Journal of Ecology* 42:245-51.
- Paul, M.; C. P. Catterall; P. C. Pollard; J. Kanowski. 2010a. Does soil variation between rainforest, pasture and different reforestation pathways affect the early growth of rainforest pioneer species? *Forest Ecology and Management* 260:370-77.
- \_\_\_\_\_. 2010b. Recovery of soil properties and functions in different rainforest restoration pathways. *Forest Ecology and Management* 259:2083-92.
- Paul, S.; E. Veldkamp; H. Flessa. 2008. Soil organic carbon in density fractions of tropical soils under forest—pasture—secondary forest land use changes. *European Journal of Soil Science* 59:359-71.
- Pavelka, M. S. M.; C. A. Chapman. 2005. Population structure of black howlers (*Alouatta pigra*) in southern Belize and responses to Hurricane Iris. p. 143-63 In: A. Estrada; P. A. Garber; M. S. M. Pavelka; L. Luecke, eds. *New perspectives in the study of Mesoamerican primates*. Springer, New York.
- Paz-Rivera, C.; F. Putz. 2009. Anthropogenic soils and tree distributions in a lowland forest in Bolivia. *Biotropica* 41:665-75.
- Pearson, T.; D. Burslem; C. Mullins; J. Dalling. 2002. Germination ecology of Neotropical pioneers: Interacting effects of environmental conditions and seed size. *Ecology* 83:2798-2807.
- Peih, K. S. H.; J. Jong; N. S. Sodhi; S. L. H. Lim; C. A. M. Yap. 2005. Lowland rainforest avifauna and human disturbance: Persistence of primary forest birds in selectively logged forests and mixed-rural habitats of southern Peninsular Malaysia. *Biological Conservation* 123:489-505.
- Peixoto, J.; B. Nelson; F. Wittmann. 2009. Spatial and temporal dynamics of river channel migration and vegetation in central Amazonian white-water floodplains by remote-sensing techniques. *Remote Sensing of Environment* 113:2258-66.
- Pejchar, L.; R. M. Pringle; J. Ranganathan; J. R. Zook; G. Duran; F. Oviedo; G. C. Daily. 2008. Birds as agents of seed dispersal in a human-dominated landscape in southern Costa Rica. *Biological Conservation* 141:536-44.
- Peña-Claros, M. 2003. Changes in forest structure and species composition during secondary forest succession in the Bolivian Amazon. *Biotropica* 35:450-61.
- Peña-Claros, M.; H. de Boo. 2002. The effect of forest successional stage on seed removal of tropical rain forest tree species. *Journal of Tropical Ecology* 18:261-74.
- Penot, E. 2007. From shifting cultivation to sustainable jungle rubber: A history of innovations In Indonesia. p. 577-99 In: M. A. Cairns, ed. *Voices from the forest: Integrating indigenous knowledge into sustainable upland farming. Resources for the Future*, Washington, DC.
- Peres, C. A.; J. Barlow; W. F. Laurance. 2006. Detecting anthropogenic disturbance in tropical forests. *Trends in Ecology & Evolution* 21:227-29.
- Peres, C.; T. Gardner; J. Barlow; J. Zuanon; F. Michalski; A. Lees; I. Vieira; F. Moreira; K.

- Feeley. 2010. Biodiversity conservation in human-modified Amazonian forest landscapes. *Biological Conservation* 143:2314-27.
- Peres, C.; E. Palacios. 2007. Basin-wide effects of game harvest on vertebrate population densities in Amazonian forests: Implications for animal-mediated seed dispersal. *Biotropica* 39:304-15.
- Pérez-Salícrup, D. R. 2004. Forest types and their implications. p. 63-80 In: B. L. I. Turner; J. Geoghegan; D. R. Foster, eds. *Integrated land-change science and tropical deforestation in the Southern Yucatan: Final Frontiers*. Oxford University Press, Oxford.
- Perfecto, I.; R. A. Rice; R. Greenberg; M. E. Van der Voort. 1996. Shade coffee: A disappearing refuge for biodiversity. *BioScience* 46:598-608.
- Perfecto, I.; J. Vandermeer. 2010. The agroecological matrix as alternative to the land-sparing/agriculture intensification model. *Resumos...* National Academy of Sciences 107:5786-91.
- Perfecto, I.; J. Vandermeer; A. Wright. 2009. *Nature's matrix: Linking agriculture, conservation and food sovereignty*. Earthscan, London.
- Perz, S. G. 2007. Grand theory and context-specificity in the study of forest dynamics: Forest transition theory and other directions. *Professional Geographer* 59:105-14.
- Perz, S.; A. Almeyda. 2010. A tri-partite framework of forest dynamics: Hierarchy, panarchy, and heterarchy in the study of secondary growth. p. 59-84 In: H. Nagendra; J. Southworth, eds. *Reforesting landscapes, linking pattern and process*. Springer, Dordrecht, Neth.
- Perz, S. G.; D. L. Skole. 2003. Secondary forest expansion in the Brazilian Amazon and the refinement of forest transition theory. *Society & Natural Resources* 16:277-94.
- Peters, C. M. 2000. Precolumbian silviculture and indigenous management of Neotropical forests. p. 203-23 In: D. L. Lentz, ed. *Imperfect balance: Landscape transformations in the precolumbian Americas*. Columbia University Press, New York.
- Peters, C. M.; M. H. Balick; F. Kahn; A. B. Anderson. 1989. Oligarchic forests of economic plants in Amazonia: Utilization and conservation of an important tropical resource. *Conservation Biology* 3:341-49.
- Peterson, G. D.; M. Heemskerk. 2001. Deforestation and forest regeneration following small-scale gold mining in the Amazon: The case of Suriname. *Environmental Conservation* 28:117-26.
- Pethiyagoda, R. S.; S. Nanayakkara. 2012. Invasion by *Austroeupatorium inulifolium* (Asteraceae) arrests succession following tea cultivation in the highlands of Sri Lanka. *Ceylon Journal of Science (Biological Sciences)* 40:175-81.
- Petit, L. J.; D. R. Petit. 2003. Evaluating the importance of human-modified lands for Neotropical bird conservation. *Conservation Biology* 17:687-94.
- Pfaff, A.; R. Walker. 2010. Regional interdependence and forest "transitions": Substitute deforestation limits the relevance of local reversals. *Land Use Policy* 27:119-29.
- Phelps, J.; D. A. Friess; E. L. Webb. 2012. Win-win REDD+ approaches belie carbon-biodiversity trade-offs. *Biological Conservation* 154:53-60.

- Phillips, O. L.; L. E. O. C. Aragão; S. L. Lewis; J. B. Fisher; J. Lloyd; G. López-González; Y. Malhi; et al. 2009a. Drought sensitivity of the Amazon rainforest. *Science* 323:1344-47.
- Phillips, O.; N. Higuchi; S. Vieira; T. Baker; K. Chao; S. Lewis. 2009b. Changes in Amazonian forest biomass, dynamics, and composition, 1980-2002. *Geophysical Monograph Series* 186:373-87.
- Phillips, O.; Y. Malhi; N. Higuchi; W. Laurance; P. Nuñez; R. Vásquez; S. Laurance; L. Ferreira; M. Stern; S. Brown. 1998. Changes in the carbon balance of tropical forests: Evidence from long-term plots. *Science* 282:439-42.
- Phillips, O.; R. Martínez; L. Arroyo; T. Baker; T. Killeen; S. Lewis; Y. Malhi; A. Mendoza; D. Neill; P. Vargas. 2002. Increasing dominance of large lianas in Amazonian forests. *Nature* 418:770-74.
- Philpott, S. M.; W. J. Arendt; I. Armbrecht; P. Bichier; T. V. Diestch; C. Gordon; R. Greenberg; I. Perfecto; R. Reynoso-Santos; L. Soto-Pinto. 2008. Biodiversity loss in Latin American coffee landscapes: Review of the evidence on ants, birds, and trees. *Conservation Biology* 22:1093-1105.
- Piacentini, V. de Q.; I. G. Varassin. 2007. Interaction network and the relationships between bromeliads and hummingbirds in an area of secondary Atlantic rain forest in southern Brazil. *Journal of Tropical Ecology* 23:663-72.
- Pickett, S. T. A.; M. Cadenasso. 2005. Vegetation dynamics. p. 172-98 In: E. van der Maarel, ed. *Vegetation ecology*. Blackwell Publishing, Malden, MA.
- Pickett, S. T. A.; S. L. Collins; J. J. Armesto. 1987. Models, mechanisms and pathways of succession. *Botanical Review* 53:335-71.
- Pickett, S. T. A.; P. S. White, eds. 1985. *The ecology of natural disturbance and patch dynamics*. Academic Press, New York.
- Pinard, M. A.; M. G. Barker; J. Tay. 2000. Soil disturbance and post-logging forest recovery on bulldozer paths in Sabah, Malaysia. *Forest Ecology and Management* 130:213-25.
- Pinard, M. A.; J. Huffman. 1997. Fire resistance and bark properties of trees in a seasonally dry forest in eastern Bolivia. *Journal of Tropical Ecology* 13:727-40.
- Pinard, M. A.; F. E. Putz. 1994. Vine infestation of large remnant trees in logged forest in Sabah, Malaysia: Biomechanical facilitation in vine succession. *Journal of Tropical Forest Science* 6:302-9.
- \_\_\_\_\_. 1996. Retaining forest biomass by reducing logging damage. *Biotropica* 28:278-95.
- Pirotta, D.; D. Craven; F. Montagnini; F. Alice. 2010. Silvicultural and economic aspects of pure and mixed native tree species plantations on degraded pasturelands in humid Costa Rica. *New Forests* 39:369-85.
- Pirotta, D.; F. Montagnini; W. Thomas; M. Ashton; C. Oliver. 2009. Forest recovery after swidden cultivation across a 40-year chronosequence in the Atlantic forest of southern Bahia, Brazil. *Plant Ecology* 205:261-72.
- Piperno, D. R. 1994. Phytolith and charcoal evidence for prehistoric slash-and-burn agriculture in the Darién rain forest of Panama. *Holocene* 4:321-25.

- \_\_\_\_\_. 2006. Quaternary environmental history and agricultural impact on vegetation in Central America. *Anais... Missouri Botanical Garden* 93:274-96.
- \_\_\_\_\_. 2007. Prehistoric human occupation and impacts on Neotropical forest landscapes during the Late Pleistocene and Early/Middle Holocene. p. 193-218 In: M. B. Bush; J. R. Flenley, eds. *Tropical rainforest responses to climate change*. Springer, New York.
- \_\_\_\_\_. 2011. Prehistoric human occupation and impacts on Neotropical forest landscapes during the Late Pleistocene and Early/Middle Holocene. p. 185-212 In: M. B. Bush, ed. *Tropical rainforest responses to climatic change*. Springer, London.
- Piperno, D. R.; P. Becker. 1996. Vegetational history of a site in the central Amazon Basin derived from phytolith and charcoal records from natural soils. *Quaternary Research* 45:202-9.
- Piperno, D. R.; M. B. Bush; P. A. Colinvaux. 1990. Paleoenvironments and human occupation in Late-Glacial Panama. *Quaternary Research* 33:108-16.
- Piperno, D. R.; D. M. Pearsall. 1998. *The origins of agriculture in the lowland Neotropics*. New York, Academic Press.
- Piperno, D. R.; A. J. Ranere; I. Holst; J. Iriarte; R. Duckau. 2009. Starch grain and phytolith evidence for early ninth millennium B.P. maize from the Central Balsas River Valley, Mexico. *Resumos... National Academy of Sciences* 106:5019-24.
- Piperno, D. R.; K. E. Stothert. 2003. Phytolith evidence for early Holocene *Cucurbita* domestication in southwest Ecuador. *Science* 299:1054-57.
- Pitman, N. C. A.; C. E. Cerón; C. I. Reyes; M. Thurber; J. Arellano. 2005. Catastrophic natural origin of a species-poor tree community in the world's richest forest. *Journal of Tropical Ecology* 21:559-68.
- Pitman, N. C. A.; J. W. Terborgh; M. R. Silman; P. V. Nunez; D. A. Neill; C. E. Cerón; W. E. Palacios; M. Aulestia. 2001. Dominance and distribution of tree species in upper Amazonian terra firme forests. *Ecology* 82:2101-17.
- Pizo, M. A.; C. I. Donatti; N. M. R. Guedes; M. Galetti. 2008. Conservation puzzle: Endangered hyacinth macaw depends on its nest predator for reproduction. *Biological Conservation* 141:792-96.
- Pizo, M. A.; L. Passos; P. S. Oliveira. 2005. Ants as seed dispersers of fleshy diaspores in Brazilian Atlantic Forests. p. 315-29 In: P.-M. Forget; J. E. Lambert; P. E. Hulme; S. B. Vander Wall, eds. *Seed fate: Predation, dispersal, and seedling establishment*. CABI Publishing, Cambridge, MA.
- Poffenberger, M.; B. McGean, eds. 1993. *Communities and forest management in East Kalimantan: Pathway to environmental stability*. Southeast Asia Sustainable Forest Management Network, Center for Southeast Asia Studies, Berkeley, CA.
- Pohl, M. D.; P. Bloom. 1996. Prehistoric Maya farming in the wetlands of Northern Belize: More data from Albion Island and beyond. p. 145-64 In: S. L. Fedick, ed. *The managed mosaic: Ancient Maya agriculture and resource use*. University of Utah Press, Salt Lake City.

- Poorter, L.; F. Bongers. 2006. Leaf traits are good predictors of plant performance across 53 rain forest species. *Ecology* 87:1733-43.
- Poorter, L.; F. Bongers; F. J. Sterck; H. Woll. 2005. Beyond the regeneration phase: Differentiation of height-light trajectories among tropical tree species. *Journal of Ecology* 93:256-67.
- Poorter, L.; F. Bongers; R. van Rompaey; M. deKlerk. 1996. Regeneration of canopy tree species at five sites in West African moist forest. *Forest Ecology and Management* 84:61-69.
- Poorter, L.; M. V. de Plassche; S. Willems; R. G. A. Boot. 2004. Leaf traits and herbivory rates of tropical tree species differing in successional status. *Plant Biology* 6:746-54.
- Poorter, L.; I. McDonald; A. Alarcon; E. Fichtler; J. C. Licona; M. Pena-Claros; F. Sterck; Z. Villegas; U. Sass-Klaassen. 2010. The importance of wood traits and hydraulic conductance for the performance and life history strategies of 42 rainforest tree species. *New Phytologist* 185:481-92.
- Poorter, L.; S. J. Wright; H. Paz; D. D. Ackerly; R. Condit; G. Ibarra-Manríquez; K. E. Harms; et al. 2008. Are functional traits good predictors of demographic rates? Evidence from five Neotropical forests. *Ecology* 89:1908-20.
- Pope, K. O.; J. E. Terrell. 2008. Environmental setting of human migrations in the circum-Pacific region. *Journal of Biogeography* 35:1-21.
- Popma, J., F. Bongers, M. Martínez-Ramos and E. Veneklaas. 1988. Pioneer species distribution in treefall gaps in Neotropical rain forest; a gap definition and its consequences. *Journal of Tropical Ecology* 4:77-88.
- Porter-Bolland, L.; E. A. Ellis; M. R. Guariguata; I. Ruiz-Mallón; S. Negrete-Yankelevich; V. Reyes-García. 2012. Community managed forests and forest protected areas: An assessment of their conservation effectiveness across the tropics. *Forest Ecology and Management*. 268:6-17.
- Portes, M.; D. Damineli; R. Ribeiro; J. Monteiro; G. Souza. 2010. Evidence of higher photosynthetic plasticity in the early successional *Guazuma ulmifolia* Lam. compared to the late successional *Hymenaea courbaril* L. grown in contrasting light environments. *Brazilian Journal of Biology* 70:75-83.
- Posey, D. A. 1985. Indigenous management of tropical forest ecosystems: The case of the Kayapo Indians of the Brazilian Amazon. *Agroforestry Systems* 3:139-58.
- Potvin, C.; L. Mancilla; N. Buchmann; J. Monteza; T. Moore; M. Murphy; Y. Oelmann; M. Scherer-Lorenzen; B. L. Turner; W. Wilcke. 2011. An ecosystem approach to biodiversity effects: Carbon pools in a tropical tree plantation. *Forest Ecology and Management* 261:1614-24.
- Poulsen, J.; C. Clark; G. Mavah; P. Elkan. 2009. Bushmeat supply and consumption in a tropical logging concession in northern Congo. *Conservation Biology* 23:1597-1608.
- Power, M.; J. Marlon; N. Ortiz; P. Bartlein; S. Harrison; F. Mayle; A. Ballouche; R. Bradshaw; C. Carcaillet; C. Cordova. 2008. Changes in fire regimes since the Last Glacial Maximum: An assessment based on a global synthesis and analysis of charcoal data. *Climate Dynamics* 30:887-907.

- Power, M.; F. Mayle; P. Bartlein; J. Marlon; R. Anderson; H. Behling; K. Brown; C. Carcaillet; D. Colombaroli; D. Gavin. 2013. Climatic control of the biomass-burning decline in the Americas after AD 1500. *Holocene* 23:3-13.
- Powers, J. S. 2004. Changes in soil carbon and nitrogen after contrasting land-use transitions in northeastern Costa Rica. *Ecosystems* 7:134-46.
- Powers, J. S.; D. Pérez-Aviles. 2012. Edaphic factors are more important control on surface fine roots than stand age in secondary tropical dry forests. *Biotropica* 45:1-9.
- Powers, J. S.; J. P. Haggard; R. F. Fisher. 1997. The effect of overstory composition on understory woody regeneration and species richness in 7-year-old plantations in Costa Rica. *Forest Ecology and Management* 99:43-54.
- Powers, J. S.; E. Veldkamp. 2005. Regional variation in soil carbon and  $^{13}\text{C}$  in forests and pastures of northeastern Costa Rica. *Biogeochemistry* 72:315-36.
- Prance, G. T. 1979. Notes on the vegetation of Amazonia III. The terminology of Amazonian forest types subject to inundation. *Brittonia* 31:26-38.
- Prebble, M.; J. L. Dowe. 2008. The late Quaternary decline and extinction of palms on oceanic Pacific islands. *Quaternary Science Reviews* 27:2546-67.
- Prebble, M.; J. M. Wilmshurst. 2009. Detecting the initial impact of humans and introduced species on island environments in Remote Oceania using palaeoecology. *Biological Invasions* 11:1529-56.
- Pregill, G. K.; T. Dye. 1989. Prehistoric extinction of giant iguanas in Tonga. *Copeia* 2:505-8.
- Premathilake, R. 2006. Relationship of environmental changes in central Sri Lanka to possible prehistoric land-use and climate changes. *Palaeogeography, Palaeoclimatology, Palaeoecology* 240:468-96.
- Presley, S. J.; M. R. Willig; J. M. Wunderle; L. N. Saldanha. 2008. Effects of reduced-impact logging and forest physiognomy on bat populations of lowland Amazonian forest. *Journal of Applied Ecology* 45:14-25.
- Primack, R.; R. Corlett. 2005. Tropical rain forests: An ecological and biogeographical comparison. Blackwell Publishing, Malden, MA.
- Puhakka, M.; R. Kalliola; M. Rajasilta; J. Salo. 1992. River types, site evolution and successional vegetation patterns in Peruvian Amazonia. *Journal of Biogeography* 19:651-65.
- Purata, S. E. 1986. Floristic and structural changes during old-field succession in the Mexican tropics in relation to site history and species availability. *Journal of Tropical Ecology* 2:257-76.
- Putz, F. E.; D. P. Dykstra, and R. Heinrich. 2000. Why poor logging practices persist in the tropics. *Conservation Biology* 14:951-56.
- Putz, F. E.; N. Holbrook. 1991. Biomechanical studies of vines. p. 73-97 In: F. E. Putz; H. Mooney, A., eds. *The biology of vines*. Cambridge University Press, Cambridge.
- Putz, F. E.; K. H. Redford. 2010. The importance of defining 'forest': Tropical forest degradation, deforestation, long-term phase shifts, and further transitions. *Biotropica* 42:10-20.

- Putz, F. E.; P. Sist; T. Fredericksen; D. Dykstra. 2008. Reduced-impact logging: Challenges and opportunities. *Forest Ecology and Management* 256:1427-33.
- Putz, F. E.; P. A. Zuidema; T. Synnott; M. Peña-Claros; M. A. Pinard; D. Sheil; J. K. Vanclay; P. Sist; S. Gourlet-Fleury; B. Griscom. 2012. Sustaining conservation values in selectively logged tropical forests: The attained and the attainable. *Conservation Letters* 5:296-303.
- Quesada, M.; G. A. Sánchez-Azofeifa; M. Alvarez-Anorve; K. E. Stoner; L. Avila-Cabadilla; J. Calvo-Alvarado; A. Castillo; et al. 2009. Succession and management of tropical dry forests in the Americas: Review and new perspectives. *Forest Ecology and Management* 258:1014-24.
- Quintana-Ascencio, P. F.; M. González-Espinosa; N. Ramirez-Marcial; G. Dominguez-Vázquez; M. Martínez-Icó. 1996. Soil seed banks and regeneration of tropical rain forest from milpa fields at the Selva Lacandona, Chiapas, Mexico. *Biotropica* 28:192-209.
- Quintero, I.; G. Halffter. 2009. Temporal changes in a community of dung beetles (Insecta: Coleoptera: Scarabeinae) resulting from the modification and fragmentation of tropical rain forest. *Ata... Zoológica Mexicana (ns)* 25:625-49.
- Quintero, I.; T. Roslin. 2005. Rapid recovery of dung beetle communities following habitat fragmentation in Central Amazonia. *Ecology* 86:3303-11.
- Raich, J. W.; G. W. Khoon. 1990. Effects of canopy openings on tree seed germination in a Malaysian dipterocarp forest. *Journal of Tropical Ecology* 6:203-17.
- Ramage, B. S.; D. Sheil; H. M. W. Salim; C. Fletcher; N. Z. A. Mustafa; J. C. Luruthusamay; R. D. Harrison; E. Butod; A. D. Dzulkiply; A. R. Kassim. 2013. Pseudoreplication in tropical forests and the resulting effects on biodiversity conservation. *Conservation Biology* 27:364-72.
- Ramakrishnan, P. S. 1998. Sustainable development, climate change and tropical rain forest landscape. *Climatic Change* 39:583-600.
- \_\_\_\_\_. 2007. Traditional forest knowledge and sustainable forestry: A north-east India perspective. *Forest Ecology and Management* 249:91-99.
- Ramankutty, N.; H. K. Gibbs; F. Achard; R. Defries; J. A. Foley; R. Houghton. 2007. Challenges to estimating carbon emissions from tropical deforestation. *Global Change Biology* 13:51-66.
- Randriamalala, J. R.; D. Hervé; J.-C. Randriaamboavonjy; S. M. Carrière. 2012. Effects of tillage regime, cropping duration and fallow age on diversity and structure of secondary vegetation in Madagascar. *Agriculture, Ecosystems & Environment* 155:182-93.
- Rands, M. R.; W. M. Adams; L. Bennun; S. H. Butchart; A. Clements; D. Coomes; A. Entwistle; et al. 2010. Biodiversity conservation: Challenges beyond 2010. *Science* 329:1298-1303.
- Ranere, A. J.; R. G. Cooke. 2003. Late Glacial and early Holocene occupation of Central American tropical forest. p. 219-48 In: J. Mercader, ed. *Under the canopy: The archaeology of tropical rain forests*. Rutgers University Press, New Brunswick, NJ.

- Ranere, A. J.; D. R. Piperno; I. Holst; R. Dickau; J. Iriarte. 2009. The cultural and chronological context of early Holocene maize and squash domestication in the Central Balas River Valley, Mexico. *Resumos... National Academy of Sciences* 106:5014-18.
- Ranganathan, J.; R. Daniels; M. Chandran; P. R. Ehrlich; G. C. Daily. 2008. Sustaining biodiversity in ancient tropical countryside. *Resumos... National Academy of Sciences* 105:17852-54.
- Ravindranath, N. H.; M. Gadgil; J. Campbell. 1996. Ecological stabilization and community needs: Managing India's forest by objective. p. 287-315 In: M. Poffenberger; B. McGean, eds. *Village voices, forest choices*. Oxford University Press, Delhi, India.
- Read, L.; D. Lawrence. 2003. Litter nutrient dynamics during succession in dry tropical forests of the Yucatan: Regional and seasonal effects. *Ecosystems* 6:747-61.
- Redo, D. J.; J. J. Bass; A. C. Millington. 2009. Forest dynamics and the importance of place in western Honduras. *Applied Geography* 29:91-110.
- Redo, D. J.; H. R. Grau; T. M. Aide; M. L. Clark. 2012. Asymmetric forest transition driven by the interaction of socioeconomic development and environmental heterogeneity in Central America. *Resumos... National Academy of Sciences* 109:8839-44.
- Rees, M.; R. Condit; M. Crawley; S. Pacala; D. Tilman. 2001. Long-term studies of vegetation dynamics. *Science* 293:650-55.
- Reich, P. B.; C. Uhl; M. B. Walters; D. S. Ellsworth. 1991. Leaf lifespan as a determinant of leaf structure and function among 23 Amazonian tree species. *Oecologia* 86:16-24.
- Reid, J. L.; J. B. C. Harris; R. A. Zahawi. 2012. Avian habitat preference in tropical forest restoration in Southern Costa Rica. *Biotropica* 44:350-59.
- Reiners, W. A.; A. F. Bouwman; W. F. J. Parson; M. Keller. 1994. Tropical rain forest conversion to pasture: Changes in vegetation and soil properties. *Ecological Applications* 4:363-77.
- Reis, A.; F. C. Bechara; D. R. Tres. 2010. Nucleation in tropical ecological restoration. *Scientia Agricola* 67:244-50.
- Ren, H.; Z. A. Li; W. J. Shen; Z. Y. Yu; S. L. Peng; C. H. Liao; M. M. Ding; J. G. Wu. 2007. Changes in biodiversity and ecosystem function during the restoration of a tropical forest in south China. *Science in China Series C: Life Sciences* 50:277-84.
- Renner, S. C.; M. Waltert; M. Muhlenberg. 2006. Comparison of bird communities in primary vs. young secondary tropical montane cloud forest in Guatemala. *Biodiversity and Conservation* 15:1545-75.
- Rerkasem, K.; D. Lawrence; C. Padoch; D. Schmidt-Vogt; A. D. Ziegler; T. B. Bruun. 2009. Consequences of swidden transitions for crop and fallow biodiversity in Southeast Asia. *Human Ecology* 37:347-60.
- Ressel, K.; F. A. G. Guilherme; I. Schiavini; P. E. Oliveira. 2004. Ecologia morfológica de plântulas de espécies arbóreas da Estação Ecológica do Panga, Uberlândia, Minas Gerais. *Revista Brasileira de Botânica* 27:311-23.

- Restrepo, C.; N. Alvarez. 2006. Landslides and their contribution to land-cover change in the mountains of Mexico and Central America. *Biotropica* 38:446-57.
- Restrepo, C.; P. Vitousek. 2001. Landslides, alien species, and the diversity of a Hawaiian montane mesic ecosystem. *Biotropica* 33:409-20.
- Restrepo, C.; L. R. Walker; A. B. Shiels; R. Bussmann; L. Claessens; S. Fisch; P. Lozano; G. Negi; L. Paolini; G. Poveda. 2009. Landsliding and its multiscale influence on mountainscapes. *BioScience* 59:685-98.
- Rey Benayas, J. M.; J. M. Bullock; A. C. Newton. 2008. Creating woodland islets to reconcile ecological restoration, conservation, and agricultural land use. *Frontiers in Ecology and the Environment* 6:329-36.
- Rey Benayas, J. M.; A. Newton; A. Diaz; J. Bullock. 2009. Enhancement of biodiversity and ecosystem services by ecological restoration: A meta-analysis. *Science* 325:1121-24.
- Rhodes, C. C.; G. E. Eckert; D. C. Coleman. 2000. Soil carbon differences among forest, agriculture, and secondary vegetation in lower montane Ecuador. *Ecological Applications* 10:497-505.
- Ribeiro, M. B. N.; E. M. Bruna; W. Mantovani. 2010. Influence of post clearing treatment on the recovery of herbaceous plant communities in Amazonian secondary forests. *Restoration Ecology* 18:50-58.
- Ribeiro, M. C.; J. P. Metzger; A. C. Martensen; F. J. Ponzoni; M. M. Hirota. 2009. The Brazilian Atlantic Forest: How much is left, and how is the remaining forest distributed? Implications for conservation. *Biological Conservation* 142:1141-53.
- Rice, D. S. 1978. Population growth and subsistence alternatives in a tropical lacustrine environment. p. 35-61 In: P. D. Harrison; B. L. Turner II, eds. *Prehispanic Maya agriculture*. University of New Mexico Press, Albuquerque.
- Richards, P. W. 1939. Ecological studies on the rain forest of southern Nigeria. I. The structure and floristic composition of primary forest. *Journal of Ecology* 27:1-61.
- \_\_\_\_\_. 1952. *The tropical rain forest*. Cambridge University Press, Cambridge.
- \_\_\_\_\_. 1963. Ecological notes on West African vegetation. II. Lowland forest of the Southern Bakundu Forest Reserve. *Journal of Ecology* 51:123-49.
- \_\_\_\_\_. 1971. Some problems of nature conservation in the tropics. *Bulletin du Jardin Botanique National de Belgique/Bulletin van de National Plantentuin van België* 41:173-87.
- \_\_\_\_\_. 1996. *The tropical rain forest: An ecological study*. 2 ed. Cambridge University Press, Cambridge.
- Rico-Gray, V.; J. G. García-Franco. 1991. The Maya and the vegetation of the Yucatan Peninsula. *Journal of Ethnobiology* 11:135-42.
- Riswan, S.; K. Kartawinata. 1988. Regeneration after disturbance in kerangas (heath) forest in East Kalimantan, Indonesia. p. 61-86 In: S. Soemodihardjo, ed. *Some ecological aspects of tropical forest of East Kalimantan: A collection of research papers*. Indonesian National MAB Committee, MAB Indonesia Contribution No. 48. LIPI (Indonesian Institute of Sciences), Jakarta.

- Riswan, S.; J. B. Kentworthy; K. Kartawinata. 1985. The estimation of temporal processes in tropical rain forest: A study of primary mixed dipterocarp forest in Indonesia. *Journal of Tropical Ecology* 1:171-82.
- Ritter, C. D.; C. B. Andretti; B. W. Nelson. 2012. Impact of past forest fires on bird populations in flooded forests of the Cuini River in the Lowland Amazon. *Biotropica* 44:449-53.
- Roa-Fuentes, L.; C. Martínez-Garza; J. Etchevers; J. Campo. 2013. Recovery of soil C and N in a tropical pasture: Passive and active restoration. *Land Degradation & Development*. doi:10.1002/ldr.2197.
- Robiglio, V.; F. Sinclair. 2011. Maintaining the conservation value of shifting cultivation landscapes requires spatially explicit interventions. *Environmental Management* 48:289-306.
- Robinson, J. G.; K. H. Redford; E. L. Bennett. 1999. Wildlife harvest in logged tropical forests. *Science* 284:595-96.
- Robson, J. 2009. Out-migration and commons management: Social and ecological change in a high biodiversity region of Oaxaca, Mexico. *International Journal of Biodiversity Science, Ecosystem Services & Management* 5:21-34.
- Robson, J. P.; F. Berkes. 2011. Exploring some of the myths of land use change: Can rural to urban migration drive declines in biodiversity? *Global Environmental Change* 21:844-54.
- Rodrigues, R. R.; S. Gandolfi; A. G. Nave; J. Aronson; T. E. Barreto; C. Y. Vidal; P. H. S. Brancaleon. 2011. Large-scale ecological restoration of high-diversity tropical forests in SE Brazil. *Forest Ecology and Management* 261:1605-13.
- Rodrigues, R. R.; R. A. F. Lima; S. Gandolfi; A. G. Nave. 2009. On the restoration of high diversity forests: 30 years of experience in the Brazilian Atlantic Forest. *Biological Conservation* 142:1242-51.
- Rodrigues, R. R.; S. V. Martins; L. H. F. Matthew. 2005. Post-fire regeneration in a semi-deciduous mesophytic forest, southeastern Brazil. p. 1-19 In: A. R. Burk, ed. *New research on forest ecosystems*. Nova Science Publishers, New York.
- Rodrigues, R. R.; R. B. Torres; L. A. F. Matthes; A. S. Penha. 2004. Tree species sprouting from root buds in a semideciduous forest affected by fires. *Brazilian Archives of Biology and Technology* 47:127-33.
- Roeder, M.; D. Hölscher; I. D. K. Ferraz. 2010. Liana regeneration in secondary and primary forests of central Amazonia. *Plant Ecology & Diversity* 3:165-74.
- Roosevelt, A. C. 1998. Ancient and modern hunter-gatherers of lowland South America: An evolutionary problem. p. 190-212 In: W. Balee, ed. *Advances in historical ecology*. Columbia University Press, New York.
- \_\_\_\_\_. 1999a. The development of prehistoric complex societies: Amazonia, a tropical forest. p. 13-33 In: E. A. Bacus; L. J. Lucero, eds. *Complex politics of the ancient tropical world*. American Anthropological Association, Washington, DC.

- \_\_\_\_\_. 1999b. Twelve thousand years of human-environment interaction in the Amazon floodplain. p. 371-92 In: C. Padoch; J. M. Ayres; M. Pinedo-Vasquez; A. Henderson, eds. *Varzea: Diversity, development, and conservation of Amazonia's whitewater floodplains*. New York Botanical Garden Press, New York.
- \_\_\_\_\_. 2000. The lower Amazon: A dynamic human habitat. p. 455-91 In: D. L. Lentz, ed. *Imperfect balance: Landscape transformations in the Precolumbian Americas*. Columbia University Press, New York.
- Roosevelt, A. C.; J. E. Douglas; A. M. Amaral; M. I. da Silveira; C. P. Barbosa; M. Barreto; W. S. da Silva; L. J. Brown. 2009. Early hunter-gatherers in the *terra firme* rainforest: Stemmed projectile points from the Curuá goldmines. *Amazônicâ* 1:442-83.
- Rös, M.; F. Escobar; G. Halffter. 2011. How dung beetles respond to a human-modified variegated landscape in Mexican cloud forest: A study of biodiversity integrating ecological and biogeographical perspectives. *Diversity and Distributions* 18:377-89.
- Ross, N. J. 2011. Modern tree species composition reflects ancient Maya "forest gardens" in northwest Belize. *Ecological Applications* 21:75-84.
- Rostain, S. 2013. Islands in the rainforest: Landscape management in pre-Columbian Amazonia. Left Coast Press, Walnut Creek, CA.
- Rozendaal, D. M. A.; C. C. Soliz-Gamboa; P. A. Zuidema. 2011. Assessing long-term changes in tropical forest dynamics: A first test using tree-ring analysis. *Trees-Structure and Function* 25:115-24.
- Rozendaal, D. M. A.; P. A. Zuidema. 2011. Dendroecology in the tropics: A review. *Trees-Structure and Function* 25:3-16.
- Ruddiman, W. F. 2003. The anthropogenic greenhouse era began thousands of years ago. *Climate Change* 61:261-93.
- \_\_\_\_\_. 2005. Plows, plagues, and petroleum. Princeton University Press, Princeton, NJ.
- Rudel, T. K. 2005. Tropical forests: Regional paths of destruction and regeneration in the late twentieth century. Columbia Univ Press, New York.
- \_\_\_\_\_. 2010. Three paths to forest expansion: A comparative historical analysis. p. 45-57 In: H. Nagendra; J. Southworth, eds. *Reforesting landscapes: Linking pattern and process*. Springer, Dordrecht, Neth.
- \_\_\_\_\_. 2012. The human ecology of regrowth in the tropics. *Journal of Sustainable Forestry* 31:340-54.
- Rudel, T. K.; O. T. Coomes; E. Moran; F. Achard; A. Angelsen; J. C. Xu; E. Lambin. 2005. Forest transitions: Towards a global understanding of land use change. *Global Environmental Change-Human and Policy Dimensions* 15:23-31.
- Rudel, T. K.; R. DeFries; G. P. Asner; W. F. Laurance. 2009. Changing drivers of deforestation and new opportunities for conservation. *Conservation Biology* 23:1396-1405.
- Rudel, T. K.; M. Perez-Lugo; H. Zichal. 2000. When fields revert to forest: Development and spontaneous reforestation in post-war Puerto Rico. *Professional Geographer* 52:386-97.

- Rule, S.; B. W. Brook; S. G. Haberle; C. S. M. Turney; A. P. Kershaw; C. N. Johnson. 2012. The aftermath of megafaunal extinction: Ecosystem transformation in Pleistocene Australia. *Science* 335:1483-86.
- Runkle, J. 1982. Patterns of disturbance in some old-growth mesic forests of eastern North America. *Ecology* 63:1533-46.
- Russell, A. E.; J. W. Raich. 2012. Rapidly growing tropical trees mobilize remarkable amounts of nitrogen, in ways that differ surprisingly among species. *Resumos... National Academy of Sciences* 109:10398-402.
- Russell, A. E.; J. W. Raich; O. J. Valverde-Barrantes; R. Fisher. 2007. Tree species effects on soil properties in experimental plantations in tropical moist forest. *Soil Science Society of America Journal* 71:1389-97.
- Russell, A. E.; J. W. Raich; P. M. Vitousek. 1998. The ecology of the climbing fern *Dicranopteris linearis* on windward Mauna Loa, Hawaii. *Journal of Ecology* 86:765-79.
- Russell, J.; S. McCoy; D. Verschuren; I. Bessem; Y. Huang. 2009. Human impacts, climate change, and aquatic ecosystem response during the past 2000 years at Lake Wandakara, Uganda. *Quaternary Research* 72:315-24.
- Rutishauser, E.; F. Wagner; B. Herault; E. A. Nicolini; L. Blanc. 2010. Contrasting above-ground biomass balance in a Neotropical rain forest. *Journal of Vegetation Science* 21:672-82.
- Saatchi, S.; M. Marlier; R. Chazdon; D. Clark; A. Russell. 2011. Impact of spatial variability of tropical forest structure on radar estimation of aboveground biomass. *Remote Sensing of Environment* 115:2836-49.
- Sajise, P. 2003. Working with nature: Technical and social dimensions of assisted natural regeneration. p. 5-16 In: P. C. Dugan; P. B. Durst; D. J. Ganz; P. J. McKenzie, eds. *Advancing assisted natural regeneration (ANR) in Asia and the Pacific*. Food and Agriculture Organization of the United Nations, Bangkok, Thailand.
- Saldarriaga, J. G.; D. C. West. 1986. Holocene fires in the northern Amazon basin. *Quaternary Research* 26:358-66.
- Saldarriaga, J. G.; D. C. West; M. L. Tharp; C. Uhl. 1988. Long-term chronosequence of forest succession in the upper Rio Negro of Colombia and Venezuela. *Journal of Ecology* 76:938-58.
- Salo, J.; R. Kalliola; I. Häkkinen; Y. Mäkinen; P. Niemalä; M. Puhakka; P. D. Coley. 1986. River dynamics and the diversity of Amazon lowland forest. *Nature* 322:254-58.
- Sánchez Sánchez, O.; G. A. Islebe. 1999. Hurricane Gilbert and structural changes in a tropical forest in south-eastern Mexico. *Global Ecology and Biogeography* 8:29-38.
- Sánchez-Azofeifa, G. A.; G. C. Daily; A. S. P. Pfaff; C. Busch. 2003. Integrity and isolation of Costa Rica's national parks and biological reserves: Examining the dynamics of land-cover change. *Biological Conservation* 109:123-35.
- Sand, C.; J. Bole; A. Ouetcho. 2006. What is archaeology for in the Pacific? History and politics in New Caledonia. p. 321-45 In: I. Lilley, ed. *Archaeology of Oceania: Australia and the Pacific Islands*. Blackwell Publishing, Oxford.

- Sanford, R. L. J.; S. P. Horn. 2000. Holocene rain-forest wilderness: A Neotropical perspective on humans as an exotic, invasive species. USDA Forest Service Resumos... RMRS-P-15 3:168-73.
- Sanford, R. L.; J. Saldaña; K. E. Clark; C. Uhl; R. Herrera. 1985. Amazon rain forest fires. *Science* 277:53-55.
- Sang, P. M.; D. Lamb; M. Bonner; S. Schmidt. 2012. Carbon sequestration and soil fertility of tropical tree plantations and secondary forest established on degraded land. *Plant and Soil* 362:187-200.
- Sansevero, J. B. B.; P. V. Prieto; L. F. D. de Moraes; P. J. F. P. Rodrigues. 2011. Natural regeneration in plantations of native trees in lowland Brazilian Atlantic Forest: Community structure, diversity, and dispersal syndromes. *Restoration Ecology* 19:379-89.
- Santiago, L. S.; G. Goldstein; F. C. Meinzer; J. B. Fisher; K. Machado; D. Woodruff; T. Jones. 2004. Leaf photosynthetic traits scale with hydraulic conductivity and wood density in Panamanian forest canopy trees. *Oecologia* 140:543-50.
- Santos, A., Jr.; I. H. Ishii; N. M. R. Guedes; F. L. R. de Almeida. 2006. Appraisal of the age of the trees used as nests by the Hyacinth Macaw in the Pantanal, Mato Grosso. *Natureza & Conservação* 4:180-88.
- Sardjono, M. A.; I. Samsoedin. 2001. Traditional knowledge and practice of biodiversity conservation: The Benuaq Dayak community of East Kalimantan, Indonesia. p. 116-33 In: C. J. P. Colfer; Y. Byron, eds. *People managing forests: The links between human well-being and sustainability*. Resources for the Future/Center for International Forestry Research, Bogor, Indonesia.
- Sasaki, H. 2007. Innovations in swidden-based rattan cultivation by Benuaq-Dayak farmers in East Kalimantan, Indonesia. p. 459-70 In: M. A. Cairns, ed. *Voices from the forest: Integrating indigenous knowledge into sustainable upland farming*. Resources for the Future, Washington, DC.
- Sauli, S. M.; M. D. Swaine. 1988. Rain forest seed dynamics during succession at Gogol, Papua New Guinea. *Journal of Ecology* 76:1133-52.
- Sayer, J. A.; U. Chokkalingam; J. Poulsen. 2004. The restoration of forest biodiversity and ecological values. *Forest Ecology and Management* 201:3-11.
- Sayer, J. A.; C. S. Harcourt; N. M. Collins. 1992. *The conservation atlas of tropical forests: Africa*. Macmillan, New York.
- Sberze, M.; M. Cohn Haft; G. Ferraz. 2010. Old growth and secondary forest site occupancy by nocturnal birds in a Neotropical landscape. *Animal Conservation* 13:3-11.
- Scariot, A.; D. L. M. Vieira; A. B. Sampaio; E. Guarino; A. Sevilha. 2008. Recruitment of dry forest tree species in Central Brazil pastures. p. 231-44 In: R. W. Myster, ed. *Post-agricultural succession in the Neotropics*. Springer, New York.
- Scatena, F. N.; S. Moya; C. Estrada; J. D. Chinea. 1996. The first five years in the reorganization of aboveground biomass and nutrient use following Hurricane Hugo in the Bisley Experimental Watersheds, Luquillo Experimental Forest, Puerto Rico. *Biotropica* 28:424-40.

- Scatena, F.; W. Silver; T. Siccama; A. Johnson; M. Sánchez. 1993. Biomass and nutrient content of the Bisley experimental watersheds, Luquillo Experimental Forest, Puerto Rico, before and after Hurricane Hugo, 1989. *Biotropica* 25:15-27.
- Schaan, D.; M. Pärssinen; S. Saunaluoma; A. Ranzi; M. Bueno; A. Barbosa. 2012. New radiometric dates for precolumbian (2000-700 bp) earthworks in western Amazonia, Brazil. *Journal of Field Archaeology* 37:132-42.
- Schedlbauer, J. L.; K. L. Kavanagh. 2008. Soil carbon dynamics in a chronosequence of secondary forests in northeastern Costa Rica. *Forest Ecology and Management* 255:1326-35.
- Scheffer, M.; S. R. Carpenter; T. M. Lenton; J. Bascompte; W. Brock; V. Dakos; J. van de Koppel; I. A. van de Leemput; S. A. Levin; E. H. van Nes. 2012. Anticipating critical transitions. *Science* 338:344-48.
- Schlawin, J.; R. A. Zahawi. 2008. 'Nucleating' succession in recovering Neotropical wet forests: The legacy of remnant trees. *Journal of Vegetation Science* 19:485-92.
- Schleuning, M.; N. Blüthgen; M. Flörchinger; J. Braun; H. M. Schaefer; K. Böhning-Gaese. 2011a. Specialization and interaction strength in a tropical plant-frugivore network differ among forest strata. *Ecology* 92:26-36.
- Schleuning, M.; N. Farwig; M. K. Peters; T. Bergsdorf; B. Bleher; R. Brandl; H. Dalitz; G. Fischer; W. Freund; M. W. Gikungu. 2011b. Forest fragmentation and selective logging have inconsistent effects on multiple animal-mediated ecosystem processes in a tropical forest. *PLoS One* 6:e27785.
- Schmid-Vogt, D. 1997. Forests and trees in the cultural landscape of Lawa swidden farmers in northern Thailand. p. 44-50 In: K. Seeland, ed. *Nature is culture: Indigenous knowledge and socio-cultural aspects of trees and forests in non-European cultures*. Intermediate Technology Publications, London, UK.
- Schmidt, M. J.; M. J. Heckenberger. 2009. Amerindian anthrosols: Amazonian dark earth formation in the Upper Xingu. p. 163-91 In: W. I. Woods, ed. *Amazonian dark earths: Wim Sombroek's vision*. Springer, New York.
- Schmitt, S. F.; R. J. Whittaker. 1998. Disturbance and succession on the Krakatau Islands, Indonesia. p. 515-43 In: D. M. Newbery; H. N. T. Prins; N. D. Brown, eds. *Dynamics of tropical communities*. Blackwell Science, Oxford, UK.
- Schmook, B. 2010. Shifting maize cultivation and secondary vegetation in the Southern Yucatán: Successional forest impacts of temporal intensification. *Regional Environmental Change* 10:233-46.
- Schmook, B.; C. Radel. 2008. International labor migration from a tropical development frontier: Globalizing households and an incipient forest transition. *Human Ecology* 36:891-908.
- Schneider, L.; D. Fernando. 2010. An untidy cover: Invasion of bracken fern in the shifting cultivation systems of Southern Yucatán, Mexico. *Biotropica* 42:41-48.
- Schnitzer, S. A.; J. W. Dalling; W. P. Carson. 2000. The impact of lianas on tree regeneration in tropical forest canopy gaps: Evidence for an alternative pathway of gap-phase regeneration. *Journal of Ecology* 88:655-66.

- Schnitzer, S. A.; M. P. E. Parren; F. Bongers. 2004. Recruitment of lianas into logging gaps and the effects of pre-harvest climber cutting in a lowland forest in Cameroon. *Forest Ecology and Management* 190:87-98.
- Schroth, G.; D. Faria; M. Araujo; L. Bede; S. A. Van Bael; C. R. Cassano; L. C. Oliveira; J. H. C. Delabie. 2011. Conservation in tropical landscape mosaics: The case of the cacao landscape of southern Bahia, Brazil. *Biodiversity and Conservation* 20:1635-54.
- Schroth, G.; J. A. McNeely. 2011. Biodiversity conservation, ecosystem services and livelihoods in tropical landscapes: Towards a common agenda. *Environmental Management* 48:229-36.
- Schüller, E.; M. Martínez-Ramos; P. Hietz. 2013. Radial gradients in wood specific gravity, water and gas content in trees of a Mexican tropical rain forest. *Biotropica* 45:280-87.
- Schulz, B.; B. Becker; E. Götsch. 1994. Indigenous knowledge in a 'modern' sustainable agroforestry system—a case study from eastern Brazil. *Agroforestry Systems* 25:59-69.
- Schulze, M.; J. Zweede. 2006. Canopy dynamics in unlogged and logged forest stands in the eastern Amazon. *Forest Ecology and Management* 236:56-64.
- Schwartz, D. 1992. Assecement climatique vers 3000 BP et expansion Bantu en Afrique centrale atlantique; quelques reflexions. *Bulletin de la Societe Geologique de France* 163:353-61.
- Schwartz, G.; M. Peña-Claros; J. C. A. Lopes; G. M. J. Mohren; M. Kanashiro. 2012. Mid-term effects of reduced-impact logging on the regeneration of seven tree commercial species in the Eastern Amazon. *Forest Ecology and Management* 274:116-25.
- Schwartzman, S. 1997. Fires in the Amazon: An analysis of NOAA-12 satellite data, 1996-1997. Environmental Defense Fund, Washington, DC.
- Scriven, J. 2012. Developing REDD+ policies and measures from the bottom-up for the buffer zones of Amazonian protected areas. *Environment, Development and Sustainability* 14:745-65.
- Secretariado da Convenção sobre Diversidade Biológica. 2002. Review of the status and trends of, and major threats to, the forest biological diversity. CBD Technical Series n. 7. Montreal, Canada.
- \_\_\_\_\_. 2010. Strategic Plan for Biodiversity 2011-2020 and the Aichi Targets. Disponível em: <<https://www.cbd.int/doc стратегический план/2011-2020/Aichi-Targets-EN.pdf>>.
- Selaya, N. G.; N. P. R. Anten. 2008. Differences in biomass allocation, light interception and mechanical stability between lianas and trees in early secondary tropical forest. *Functional Ecology* 22:30-39.
- \_\_\_\_\_. 2010. Leaves of pioneer and later-successional trees have similar lifetime carbon gain in tropical secondary forest. *Ecology* 91:1102-13.
- Selaya, N. G.; R. J. Oomen; J. J. C. Netten; M. J. A. Werger; N. P. R. Anten. 2008. Biomass allocation and leaf life span in relation to light interception by tropical forest plants during the first years of secondary succession. *Journal of Ecology* 96:1211-21.

- SER (Society for Ecological Restoration). 2004. The SER International Primer on Ecological Restoration. Society for Ecological Restoration International Science & Policy Working Group, Tucson, AZ.
- Servant, M.; J. Maley; B. Turcq; M.-L. Absy; P. Brenac; M. Fourier; M.-P. Ledru. 1993. Tropical forest changes during the Late Quaternary in African and South American lowlands. *Global and Planetary Change* 7:25-40.
- Sethi, P.; H. F. Howe. 2009. Recruitment of hornbill-dispersed trees in hunted and logged forests of the Indian Eastern Himalaya. *Conservation Biology* 23:710-18.
- Setyawan, A. D. W. I. 2010. Review: Biodiversity conservation strategy in a native perspective; case study of shifting cultivation at the Dayaks of Kalimantan. *Nusantara Bioscience* 2:97-108.
- Sezen, U. U.; R. L. Chazdon; K. E. Holsinger. 2005. Genetic consequences of tropical second-growth forest regeneration. *Science* 307:891-91.
- \_\_\_\_\_. 2007. Multigenerational genetic analysis of tropical secondary regeneration in a canopy palm. *Ecology* 88:3065-75.
- Sharp, J.; E. Imerman; G. Peters. 2002. Community supported agriculture (CSA): Building community among farmers and non-farmers. *Journal of Extension* 40:5.
- Sheil, D. 1999. Developing tests of successional hypotheses with size-structured populations, and an assessment using long-term data from a Ugandan rain forest. *Plant Ecology* 140:117-27.
- Sheil, D.; I. Basuki; L. German; T. W. Kuyper; G. Limberg; R. K. Puri; B. Sellato; M. van Noordwijk; E. Wollenberg. 2012. Do Anthropogenic Dark Earths occur in the interior of Borneo? Some initial observations from East Kalimantan. *Forests* 3:207-29.
- Sheil, D.; D. Burslem. 2003. Disturbing hypotheses in tropical forests. *Trends in Ecology & Evolution* 18:18-26.
- Sheil, D.; A. Salim; J. R. Chave; J. Vanclay; W. D. Hawthorne. 2006. Illumination-size relationships of 109 coexisting tropical forest tree species. *Journal of Ecology* 94:494-507.
- Shepard, G. H.; H. Ramirez. 2011. "Made in Brazil": Human dispersal of the Brazil Nut (*Bertholletia excelsa*, Lecythidaceae) in Ancient Amazonia. *Economic Botany* 65:44-65.
- Shevliakova, E.; S. W. Pacala; S. Malyshev; G. C. Hurtt; P. Milly; J. P. Caspersen; L. T. Senterman; et al. 2009. Carbon cycling under 300 years of land use change: Importance of the secondary vegetation sink. *Global biogeochemical cycles* 23:GB2022.
- Shiels, A. B.; L. R. Walker. 2003. Bird perches increase forest seeds on Puerto Rican landslides. *Restoration Ecology* 11:457-65.
- Shiels, A. B.; C. A. West; L. Weiss; P. D. Klawinski; L. R. Walker. 2008. Soil factors predict initial plant colonization on Puerto Rican landslides. *Plant Ecology* 195:165-78.
- Shilton, L. A.; P. J. Latch; A. McKeown; P. Pert; D. A. Westcott. 2008. Landscape-scale redistribution of a highly mobile threatened species, *Pteropus conspicillatus* (Chiroptera, Pteropodidae), in response to Tropical Cyclone Larry. *Austral Ecology* 33:549-61.

- Shilton, L. S.; R. H. Whittaker. 2010. The role of pteropodid bats (Megachiroptera) in re-establishing tropical forests on Krakatau. p. 176-215 In: T. H. Fleming; P. A. Racey, eds. Island bats: Ecology, evolution, and conservation. University of Chicago Press, Chicago.
- Shlisky, A.; A. A. C. Alencar; M. M. Nolasco; L. M. Curran. 2009. Overview: Global fire regime conditions, threats, and opportunities for fire management in the tropics. p. 65-83 In: M. A. Cochrane, ed. Tropical fire ecology. Springer, New York.
- Shono, K.; E. A. Cadaweng; P. B. Durst. 2007. Application of assisted natural regeneration to restore degraded tropical forestlands. *Restoration Ecology* 15:620-26.
- Siddique, I.; I. C. Guimaraes; S. Schmidt; D. Lamb; C. J. Reis-Carvalho; R. de Oliveira Figueiredo; S. Blomberg; E. A. Davidson. 2010. Nitrogen and phosphorus additions negatively affect tree species diversity in tropical forest regrowth trajectories. *Ecology* 91:2121-31.
- Siegert, F.; G. Ruecker; A. Hinrichs; A. A. Hoffmann. 2001. Increased damage from fires in logged forests during droughts caused by El Niño. *Nature* 414:437-40.
- Sierra, R.; E. Russman. 2006. On the efficiency of environmental service payments: A forest conservation assessment in the Osa Peninsula, Costa Rica. *Ecological Economics* 59:131-41.
- Silva, J. M. C.; C. Uhl; G. Murray. 1996. Plant succession, landscape management, and the ecology of frugivorous birds in abandoned Amazonian pastures. *Conservation Biology* 10:491-503.
- Silva, J. O.; M. M. Espírito-Santo; G. A. Melo. 2012. Herbivory on *Handroanthus ochraceus* (Bignoniaceae) along a successional gradient in a tropical dry forest. *Arthropod-Plant Interactions* 6:45-57.
- Silva, W.; P. Guimarães Jr; S. Dos Reis; P. Guimarães. 2007. Investigating the fragility in plant-frugivore networks: A case study of the Atlantic Forest in Brazil. p. 561-78 In: A. J. Dennis; E. W. Schupp; R. J. Green; D. A. Westcott, eds. Seed dispersal: Theory and its application in a changing world. CAB International, Wallingford, UK.
- Silver, W.; R. Ostertag; A. Lugo. 2000. The potential for carbon sequestration through reforestation of abandoned tropical agricultural and pasture lands. *Restoration Ecology* 8:394-407.
- Simula, M. 2009. Towards defining forest degradation: Comparative analysis of existing definitions. *Forest Resources Assessment. Working Paper 154*. FAO, Rome, Italy. <ftp://ftp.fao.org/docrep/fao/012/k6217e/k6217e00.pdf>.
- Sioli, H. 1950. Das Wasser im Amazonasgebiet. *Fortschr. Fortschr.* 26:274-80.
- Sist, P.; C. Sabogal; Y. Byron, eds. 1999. Management of secondary and logged-over forests in Indonesia. Center for International Forestry Research, Bogor, Indonesia.
- Sist, P.; D. Sheil; K. Kartawinata; H. Priyadi. 2003. Reduced-impact logging in Indonesian Borneo: Some results confirming the need for new silvicultural prescriptions. *Forest Ecology and Management* 179:415-27.

- Sitzia, T.; P. Semenzato; G. Trentanovi. 2010. Natural reforestation is changing spatial patterns of rural mountain and hill landscapes: A global overview. *Forest Ecology and Management* 259:1354-62.
- Slik, J. W. F.; C. Bernard; M. Beek; F. Breman; K. Eichhorn. 2008. Tree diversity, composition, forest structure and aboveground biomass dynamics after single and repeated fire in a Bornean rain forest. *Oecologia* 158:579-88.
- Slik, J. W. F.; K. A. O. Eichhorn. 2003. Fire survival of lowland tropical rain forest trees in relation to stem diameter and topographic position. *Oecologia* 137:446-55.
- Slik, J. W. F.; S. Van Balen. 2006. Bird community changes in response to single and repeated fires in a lowland tropical rainforest of eastern Borneo. *Biodiversity and Conservation* 15:4425-51.
- Slik, J. W. F.; M. Van Beek; C. Bernard; F. Bongers; F. C. Breman; C. H. Cannon; K. Sidiyasa. 2011. Limited edge effects along a burned unburned Bornean Forest boundary seven years after disturbance. *Biotropica* 43:288-98.
- Slik, J. W. F.; R. W. Verburg; P. J. A. Kessler. 2002. Effects of fire and selective logging on the tree species composition of lowland dipterocarp forest in East Kalimantan, Indonesia. *Biodiversity and Conservation* 11:85-98.
- Sloan, S. 2008. Reforestation amidst deforestation: Simultaneity and succession. *Global Environmental Change-Human and Policy Dimensions* 18:425-41.
- Slocum, M. G.; T. M. Aide; J. K. Zimmerman; L. Navarro. 2006. A strategy for restoration of montane forest in anthropogenic fern thickets in the Dominican Republic. *Restoration Ecology* 14:526-36.
- Slocum, M. G.; C. C. Horvitz. 2000. Seed arrival under different genera of trees in a Neotropical pasture. *Plant Ecology* 149:51-62.
- Snook, L. K.; P. Negrieros-Castillo. 2004. Regenerating mahogany (*Swietenia macrophylla* King) on clearings in Mexico's Maya forest: The effects of clearing method and cleaning on seedling survival and growth. *Forest Ecology and Management* 189:143-60.
- Sobrado, M. 2003. Hydraulic characteristics and leaf water use efficiency in trees from tropical montane habitats. *Trees-Structure and Function* 17:400-406.
- Soemtroek, W.; M. L. Ruivo; P. M. Fearnside; B. Glaser; J. Lehmann. 2003. Amazonian dark earths as carbon stores and sinks. p. 125-39 In: J. Lehmann; D. Kern; B. Glaser; W. Woods, eds. *Amazonian dark earths—origin, properties, and management*. Kluwer Academic Publishers, Dordrecht, Neth.
- Sommer, R. F.; H. Vielhauer; K. Carvalho; E. J. M. Vlek; L. Paul. 2003. Deep soil water dynamics and depletion by secondary vegetation in the Eastern Amazon. *Soil Science Society of America Journal* 67:1672-86.
- Song, C.; Y. Zhang. 2010. Forest cover in China from 1949-2006. p. 341-56 In: H. Nagendra; J. Southworth, eds. *Reforesting landscapes: Linking pattern and process*. Springer, Dordrecht, Neth.
- SOS Mata Atlântica. 2002. *Atlas de remanescentes da Mata Atlântica*. SOS Mata Atlântica/INPE, São Paulo, Brazil.

- Soto-Pinto, L.; M. Anzueto; J. Mendoza; G. J. Ferrer; B. de Jong. 2010. Carbon sequestration through agroforestry in indigenous communities of Chiapas, Mexico. *Agroforestry Systems* 78:39-51.
- Southworth, J.; H. Nagendra; L. A. Carlson; C. Tucker. 2004. Assessing the impact of Celaque National Park on forest fragmentation in western Honduras. *Applied Geography* 24:303-22.
- Southworth, J.; C. Tucker. 2001. The influence of accessibility, local institutions, and socio-economic factors on forest cover change in the mountains of western Honduras. *Mountain Research and Development* 21:276-83.
- Sovu; P. Savadogo; M. Tigabu; P. C. Odén. 2010. Restoration of former grazing lands in the highlands of Laos using direct seeding of four native tree species. *Mountain Research and Development* 30:232-43.
- Sovu, M. Tigabu; P. Savadogo; P. C. Odén. 2009. Recovery of secondary forests on swidden cultivation fallows in Laos. *Forest Ecology and Management* 258:2666-75.
- Spies, T. A. 2009. Science of old growth, or a journey into wonderland. p. 31-43 In: T. A. Spies; S. L. Duncan, eds. *Old growth in a New World*. Island Press, Washington, DC.
- Spriggs, M. 1997. *The Island Melanesians*. Blackwell, Oxford, UK.
- Ssemmanda, I.; D. Ryves; O. Bennike; P. Appleby. 2005. Vegetation history in western Uganda during the last 1200 years: A sediment based reconstruction from two crater lakes. *Holocene* 15:119-32.
- Stahl, P. 1996. Holocene biodiversity: An archaeological perspective from the Americas. *Anthropology* 25:105-26.
- Stark, N. M.; C. F. Jordan. 1978. Nutrient retention by the root mat of an Amazonian rain forest. *Ecology* 59:434-37.
- Steadman, D. W. 1995. Prehistoric extinctions of Pacific island birds: Biodiversity meets zooarchaeology. *Science* 267:1123-31.
- \_\_\_\_\_. 1997. Extinction of Polynesian birds: Reciprocal impacts of birds and people. p. 51-79 In: P. V. Kirch; T. L. Hunt, eds. *Historical ecology in the Pacific Islands, prehistoric environmental and landscape change*. Yale University Press, New Haven, CT.
- Steadman, D. W.; G. K. Pregill; D. V. Burley. 2002. Rapid prehistoric extinction of iguanas and birds in Polynesia. *Resumos... National Academy of Sciences* 99:3673-77.
- Steininger, M. K. 1996. Tropical secondary forest regrowth in the Amazon: Age, area and change estimation with Thematic Mapper data. *International Journal of Remote Sensing* 17:9-27.
- Sterck, F. J.; F. Bongers. 2001. Crown development in tropical rain forest trees: Patterns with tree height and light availability. *Journal of Ecology* 89:1-13.
- Sterck, F. J.; L. Poorter; F. Schieving. 2006. Leaf traits determine the growth-survival trade-off across rain forest tree species. *American Naturalist* 167:758-65.
- Stiles, F. G. 1975. Ecology, flowering phenology, and hummingbird pollination of some Costa Rican *Heliconia* species. *Ecology* 56:285-301.

- Stoner, K.; P. Riba Hernández; K. Vulinec; J. Lambert. 2007a. The role of mammals in creating and modifying seed shadows in tropical forests and some possible consequences of their elimination. *Biotropica* 39:316-27.
- Stoner, K.; K. Vulinec; S. Wright; C. Peres. 2007b. Hunting and plant community dynamics in tropical forests: A synthesis and future directions. *Biotropica* 39:385-92.
- Stothert, K. E.; D. R. Piperno; T. C. Andres. 2003. Terminal Pleistocene/Early Holocene human adaptation in coastal Ecuador: The Las Vegas evidence. *Quaternary International* 109-10:23-43.
- Stotz, D. F.; R. Bierregaard; M. Cohn-Haft; P. Petermann; J. Smith; A. Whittaker; S. V. Wilson. 1992. The status of North American migrants in central Amazonian Brazil. *Condor* 94:608-21.
- Stouffer, P. C.; E. I. Johnson; R. O. Bierregaard; T. E. Lovejoy. 2011. Understory bird communities in Amazonian rainforest fragments: Species turnover through 25 years post-isolation in recovering landscapes. *PLoS One* 6:e20543.
- Strauss-Debenedetti, S.; F. A. Bazzaz. 1991. Plasticity and acclimation to light in tropical Moraceae of different successional positions. *Oecologia* 87:377-87.
- Struhsaker, T. T.; J. S. Lwanga; J. M. Kasenene. 1996. Elephants, selective logging and forest regeneration in the Kibale Forest, Uganda. *Journal of Tropical Ecology* 12:45-64.
- Styger, E.; H. Rakotondramasy; M. Pfeffer; E. Fernandes; D. Bates. 2007. Influence of slash-and-burn farming practices on fallow succession and land degradation in the rainforest region of Madagascar. *Agriculture, Ecosystems & Environment* 119:257-69.
- Summerhayes, G. R.; M. Leavesley; A. Fairbairn; H. Mandui; J. Field; A. Ford; R. Fullagar. 2010. Human adaptation and plant use in highland New Guinea 49,000 to 44,000 years ago. *Science* 330:78-81.
- Sutton, A.; M. J. Mountain; K. Aplin; S. Bulmer; T. Denham. 2009. Archaeozoological records for the Highlands of New Guinea: A review of current evidence. *Australian Archaeology* 69:41-58.
- Swaine, M. D.; V. K. Agyeman. 2008. Enhanced tree recruitment following logging in two forest reserves in Ghana. *Biotropica* 40:370-74.
- Swaine, M. D.; J. B. Hall. 1983. Early succession on cleared forest land in Ghana. *Journal of Ecology* 71:601-27.
- \_\_\_\_\_. 1988. The mosaic theory of forest regeneration and the determination of forest composition in Ghana. *Journal of Tropical Ecology* 4:253-69.
- Swaine, M. D.; T. C. Whitmore. 1988. On the definition of ecological species groups in tropical rain forests. *Vegetatio* 75:81-86.
- Swenson, N. G. 2011. Phylogenetic beta diversity metrics, trait evolution and inferring the functional beta diversity of communities. *PLoS One* 6:e21264.
- Swenson, N. G.; B. J. Enquist. 2007. Ecological and evolutionary determinants of a key plant functional trait: Wood density and its community wide variation across latitude and elevation. *American Journal of Botany* 94:451-59.

- Szott, L. T.; C. A. Palm; R. J. Buresh. 1999. Ecosystem fertility and fallow function in the humid and subhumid tropics. *Agroforestry Systems* 47:163-96.
- Tabarelli, M.; A. Aguiar; M. Ribeiro; J. Metzger; C. Peres. 2010. Prospects for biodiversity conservation in the Atlantic Forest: Lessons from aging human-modified landscapes. *Biological Conservation* 143:2328-40.
- Tabarelli, M.; A. V. Lopes; C. A. Peres. 2008. Edge-effects drive tropical forest fragments towards an early-successional system. *Biotropica* 40:657-61.
- Tabarelli, M.; C. A. Peres. 2002. Abiotic and vertebrate seed dispersal in the Brazilian Atlantic forest: Implications for forest regeneration. *Biological Conservation* 106:165-76.
- Tabarelli, M.; B. A. Santos; V. Arroyo-Rodríguez; F. P. L. Melo. 2012. Secondary forests as biodiversity repositories in human-modified landscapes: Insights from the Neotropics. *Boletim do Museu Paraense Emílio Goeldi: Ciências Naturais*, Belém 7:319-28.
- Tachibana, T.; T. M. Nguyen; K. Otsuka. 2001. Agricultural intensification versus extensification: a case study of deforestation in the northern-hill region of Vietnam. *Journal of Environmental Economics and Management* 41:44-69.
- Tang, H.; R. Dubayah; A. Swatantran; M. Hofton; S. Sheldon; D. B. Clark; B. Blair. 2012. Retrieval of vertical LAI profiles over tropical rain forests using waveform lidar at La Selva, Costa Rica. *Remote Sensing of Environment* 124:242-50.
- Tanner, E. 1986. Forests of the Blue Mountains and the Port Royal Mountains of Jamaica. p. 15-30 In: P. K. Bretting; D. A. Thompson; M. Humphries, eds. *Forests of Jamaica*. Jamaican Society of Scientists and Technologists, Kingston.
- Tanner, E.; P. Bellingham. 2006. Less diverse forest is more resistant to hurricane disturbance: Evidence from montane rain forests in Jamaica. *Journal of Ecology* 94:1003-10.
- Tanner, E.; V. Kapos; S. Freskos; J. Healey; A. Theobald. 1990. Nitrogen and phosphorus fertilization of Jamaican montane forest trees. *Journal of Tropical Ecology* 6:231-38.
- Tansley, A. G. 1935. The use and abuse of vegetational concepts and terms. *Ecology* 16:284-307.
- Taylor, B. W. 1957. Plant succession on recent volcanoes in Papua. *Journal of Ecology* 45:233-43.
- Taylor, D.; P. Robertshaw; R. A. Marchant. 2000. Environmental change and political-economic upheaval in precolonial western Uganda. *Holocene* 10:527-36.
- Taylor, Z.; S. Horn; C. Mora; K. Orvis; L. Cooper. 2010. A multi-proxy paleoecological record of late-Holocene forest expansion in lowland Bolivia. *Palaeogeography, Palaeoclimatology, Palaeoecology*. 293:98-107.
- Teegalapalli, K.; A. J. Hiremath; D. Jathanna. 2010. Patterns of seed rain and seedling regeneration in abandoned agricultural clearings in a seasonally dry tropical forest in India. *Journal of Tropical Ecology* 26:25-33.

- Terborgh, J. 1986. Keystone plant resources in the tropical forest. p. 330-34 In: M. Soulé, ed. *Conservation biology: The science of scarcity and diversity*. Sinauer Associates, Sunderland, MA.
- Terborgh, J.; R. B. Foster; P. Nunez. 1996. Tropical tree communities: A test of the nonequilibrium hypothesis. *Ecology* 77:561-67.
- Terborgh, J.; G. Nuñez-Iturri; N. Pitman; F. Valverde; P. Alvarez; V. Swamy; E. Pringle; C. Paine. 2008. Tree recruitment in an empty forest. *Ecology* 89:1757-68.
- Terborgh, J.; K. Petren. 1991. Development of habitat structure through succession in an Amazonian floodplain forest. p. 28-46 In: S. S. Bell; E. D. McCoy; H. R. Mushinsky, eds. *Habitat structure: The physical arrangement of objects in space*. Chapman & Hall, New York.
- Terrell, J. E.; J. P. Hart; S. Barut; N. Cellinese; A. Curet; T. Denham; C. M. Kusimba; K. Lattinis; R. Oka; J. Palka. 2003. Domesticated landscapes: The subsistence ecology of plant and animal domestication. *Journal of Archaeological Method and Theory* 10:323-68.
- Thomlinson, J. R.; M. I. Serrano; T. M. Lopez; T. M. Aide; J. K. Zimmerman. 1996. Land-use dynamics in a post-agricultural Puerto Rican landscape (1936-1988). *Biotropica* 28 (4a): 525-36.
- Thornton, I. W. B.; S. G. Compton; C. N. Wilson. 1996. The role of animals in the colonization of the Krakatau Islands by fig trees (*Ficus* species). *Journal of Biogeography* 23:577-92.
- Timm, R. M.; D. Lieberman; M. Lieberman; D. McClearn. 2009. Mammals of Cabo Blanco: History, diversity, and conservation after 45 years of regrowth of a Costa Rican dry forest. *Forest Ecology and Management* 258:997-1013.
- Ting, T.; A. Poulsen. 2009. Understorey vegetation at two mud volcanoes in north-east Borneo. *Journal of Tropical Forest Science* 21:198-209.
- Titiz, B.; R. L. J. Sanford. 2007. Soil charcoal in old-growth rain forests from sea level to the continental divide. *Biotropica* 39:673-82.
- Toh, I.; M. Gillespie; D. Lamb. 1999. The role of isolated trees in facilitating tree seedling recruitment at a degraded sub-tropical rainforest site. *Restoration Ecology* 7:288-97.
- Toledo, V. M.; P. Moguel. 2012. Coffee and sustainability: The multiple values of traditional shaded coffee. *Journal of Sustainable Agriculture* 36:353-77.
- Toledo, V. M.; B. Ortiz-Espejel; L. Cortes; P. Moguel; M. J. Orodónez. 2003. The multiple use of tropical forests by indigenous peoples in Mexico: A case of adaptive management. *Conservation Ecology* 7. Disponível em: <<http://www.consecol.org/vol7/iss3/art9>>.
- Toma, T.; A. Ishida; P. Matius. 2005. Long-term monitoring of post-fire aboveground biomass recovery in a lowland dipterocarp forest in East Kalimantan, Indonesia. *Nutrient Cycling in Agroecosystems* 71:63-72.

- Toma, T.; P. Matius; Y. Hastaniah; R. Watanabe; Y. Okimori. 2000. Dynamics of burned lowland dipterocarp forest stands in Bukit Soeharto, East Kalimantan. p. 107-20 In: E. Guhardja; M. Fatawi; M. Sutisna; T. Mori; S. Ohta, eds. Rainforest ecosystems of East Kalimantan: El Niño, drought, fire and human impacts. Springer, New York.
- Tomimura, C.; B. Singhakumara; P. M. S. Ashton. 2012. Pattern and composition of secondary succession beneath Caribbean Pine plantations of Southwest Sri Lanka. *Journal of Sustainable Forestry* 31:818-34.
- Townsend, A. R.; C. C. Cleveland; B. Z. Houlton; C. B. Alden; J. W. C. White. 2011. Multi-element regulation of the tropical forest carbon cycle. *Frontiers in Ecology and the Environment* 9:9-17.
- Traveset, A.; A. Robertson, J. Rodríguez-Pérez. 2007. A review on the role of endozoochory on seed germination. p. 78-103 In: A. J. Dennis; E. W. Schupp; R. J. Green; D. A. Westcott, eds. Seed dispersal: Theory and its application in a changing world. CABI Publishing, Wallingford, UK.
- Tucker, C. M.; D. K. Munroe; H. Nagendra; J. Southworth. 2005. Comparative spatial analyses of forest conservation and change in Honduras and Guatemala. *Conservation and Society* 3:174-200.
- Tucker, J.; E. Brondizio; E. Moran. 1998. Rates of forest regrowth in Eastern Amazonia: A comparison of Altamira and Bragantina regions, Pará State, Brazil. *Interciencia* 23:64-73.
- Tunjai, P.; S. Elliott. 2012. Effects of seed traits on the success of direct seeding for restoring southern Thailand's lowland evergreen forest ecosystem. *New Forests* 43:319-33
- Turcq, B.; A. Sifeddine; L. Martin; M.-L. Absy; K. Suguio; C. Volkmer-Ribeiro. 1998. Rainforest fires: A lacustrine record of 7000 years. *Ambio* 27:139-42.
- Turner, B. L.; II. 1978. Ancient agricultural land use in the central Maya Lowlands. p. 163-83 In: P. D. Harrison; B. L. Turner II, eds. Pre-hispanic Maya agriculture. University of New Mexico Press, Albuquerque.
- \_\_\_\_\_. 2010a. Sustainability and forest transitions in the southern Yucatán: The land architecture approach. *Land Use Policy* 27:170-79.
- \_\_\_\_\_. 2010b. Unlocking the ancient Maya and their environment: Paleo-evidence and dating resolution. *Geology* 38:575-76.
- Turner, B. L.; II; K. W. Butzer. 1992. The Columbian encounter and land-use change. *Environment* 34:16-44.
- Turner, I. M. 2001. The ecology of trees in the tropical rain forest. Cambridge University Press, Cambridge.
- Turner, I. M.; R. T. Corlett. 1996. The conservation value of small, isolated fragments of lowland tropical rain forest. *Trends in Ecology and Evolution* 11:330-33.
- Turner, I. M.; Y. K. Wong; P. T. Chew; A. binbrahim. 1997. Tree species richness in primary and old secondary tropical forest in Singapore. *Biodiversity and Conservation* 6:537-43.

- Turner, M. G.; W. L. Baker; C. J. Peterson; R. K. Peet. 1998. Factors influencing succession: Lessons from large, infrequent natural disturbances. *Ecosystems* 1:511-23.
- Turton, S. M. 2008. Landscape-scale impacts of Cyclone Larry on the forests of northeast Australia, including comparisons with previous cyclones impacting the region between 1858 and 2006. *Austral Ecology* 33:409-16.
- Ty, H. X. 2007. Rebuilding soil properties during the fallow: Indigenous innovations in the highlands of Vietnam. p. 652-63 In: M. Cairns, ed. *Voices from the forest: Integrating indigenous knowledge into sustainable upland farming. Resources for the Future*, Washington, DC.
- Tyree, M. T.; V. Velez; J. W. Dalling. 1998. Growth dynamics of root and shoot hydraulic conductance in seedlings of five Neotropical tree species: Scaling to show possible adaptation to differing light regimes. *Oecologia* 114:293-98.
- Uhl, C. 1987. Factors controlling succession following slash-and-burn agriculture in Amazonia. *Journal of Ecology* 75:377-407.
- \_\_\_\_\_. 1998. Perspectives on wildlife in the humid tropics. *Conservation Biology* 12:942-43.
- Uhl, C.; R. Buschbacher. 1985. A disturbing synergism between cattle ranch burning practices and selective tree harvesting in the eastern Amazon. *Biotropica* 17:265-68.
- Uhl, C.; R. Buschbacher; E. A. S. Serrão. 1988. Abandoned pastures in eastern Amazonia. I. Patterns of plant succession. *Journal of Ecology* 75:663-81.
- Uhl, C.; H. Clark; K. Clark; P. Maquirino. 1982. Successional patterns associated with slash-and-burn agriculture in the upper Rio Negro region of the Amazon Basin. *Biotropica* 14:249-54.
- Uhl, C.; K. Clark; H. Clark; P. Murphy. 1981. Early plant succession after cutting and burning in the upper Rio Negro of the Amazon Basin. *Journal of Ecology* 69:631-49.
- Uhl, C.; C. F. Jordan. 1984. Successional and nutrient dynamics following forest cutting and burning in Amazonia. *Ecology* 65:1476-90.
- Uhl, C.; J. B. Kauffman. 1990. Deforestation, fire susceptibility, and potential tree responses to fire in the eastern Amazon. *Ecology* 71:437-49.
- Uhl, C.; J. B. Kauffman; D. L. Cummings. 1988. Fire in the Venezuelan Amazon 2: Environmental conditions necessary for forest fires in the evergreen rainforest of Venezuela. *Oikos* 53:176-84.
- Uhl, C.; D. Nepstad; R. Buschbacher; K. Clark; B. Kauffman; S. Subler. 1990. Studies of ecosystem response to natural and anthropogenic disturbances provide guidelines for designing sustainable land-use systems in Amazonia. p. 24-42 In: A. B. Anderson, ed. *Alternatives to deforestation: Steps toward sustainable use of the Amazon rain forest*. Columbia University Press, New York.
- Uhl, C.; I. C. G. Vieira. 1989. Ecological impacts of selective logging in the Brazilian Amazon: A case study from the Paragominas region of the state of Pará. *Biotropica* 21:98-106.

- Unruh, J. D. 1990. Iterative increase of economic tree species in managed swiddenfalls of the Amazon. *Agroforestry Systems* 11:175-97.
- Uriarte, M.; L. W. Rivera; J. K. Zimmerman; T. M. Aide; A. G. Power; A. S. Flecker. 2004. Effects of land use history on hurricane damage and recovery in a Neotropical forest. *Plant Ecology* 174:49-58.
- Urquhart, G. 2009. Paleoecological record of hurricane disturbance and forest regeneration in Nicaragua. *Quaternary International* 195:88-97.
- Urrego, D. H.; M. B. Bush; M. R. Silman; B. A. Niccum; P. La Rosa; C. H. McMichael; S. Hagen; M. Palace. 2012. Holocene fires, forest stability and human occupation in south-western Amazonia. *Journal of Biogeography* 40:521-33.
- Valencia, R.; R. Condit; H. C. Muller-Landau; C. Hernandez; H. Navarrete. 2009. Dissecting biomass dynamics in a large Amazonian forest plot. *Journal of Tropical Ecology* 25:473-82.
- Valladares, F.; S. J. Wright; E. Lasso; K. Kitajima; R. W. Pearcy. 2000. Plastic phenotypic response to light of 16 congeneric shrubs from a Panamanian rainforest. *Ecology* 81:1925-36.
- Vamosi, J. C.; T. M. Knight; J. A. Steets; S. J. Mazer; M. Burd; T. L. Ashman. 2006. Pollination decays in biodiversity hotspots. *Resumos... National Academy of Sciences* 103:956-61.
- Van Bloem, S.; P. Murphy; A. Lugo. 2003. Subtropical dry forest trees with no apparent damage sprout following a hurricane. *Tropical Ecology* 44:137-45.
- \_\_\_\_\_. 2007. A link between hurricane-induced tree sprouting, high stem density and short canopy in tropical dry forest. *Tree Physiology* 27:475-80.
- Van Breugel, M.; F. Bongers; M. Martínez-Ramos. 2007. Species dynamics during early secondary forest succession: Recruitment, mortality and species turnover. *Biotropica* 39:610-19.
- Van Breugel, M.; M. Martínez-Ramos; F. Bongers. 2006. Community dynamics during early secondary succession in Mexican tropical rain forests. *Journal of Tropical Ecology* 22:663-74.
- Van Breugel, M.; J. Ransijn; D. Craven; F. Bongers; J. S. Hall. 2011. Estimating carbon stock in secondary forests: Decisions and uncertainties associated with allometric biomass models. *Forest Ecology and Management* 262:1648-57.
- Van der Hammen, T. 2001. Ice age tropical South America: What was it really like? *Amazoniana* 16:647-52.
- Vandermeer, J.; A. Brenner; I. Granzow de la Cerda. 1998. Growth rates of tree height six years after hurricane damage at four localities in eastern Nicaragua. *Biotropica* 30:502-9.
- Vandermeer, J.; D. Boucher; I. Granzow-de la Cerda; I. Perfecto. 2001. Growth and development of the thinning canopy in a post-hurricane tropical rain forest in Nicaragua. *Forest Ecology and Management* 148:221-42.

- Vandermeer, J.; D. Boucher, I. Perfecto; I. Granzow de la Cerda. 1996. A theory of disturbance and species diversity: Evidence from Nicaragua after Hurricane Joan. *Biotropica* 28:600-613.
- Vandermeer, J.; I. Granzow de la Cerda. 2004. Height dynamics of the thinning canopy of a tropical rain forest: 14 years of succession in a post-hurricane forest in Nicaragua. *Forest Ecology and Management* 199:125-35.
- Vandermeer, J.; I. Granzow de la Cerda; D. Boucher. 1997. Contrasting growth rate patterns in eighteen tree species from a post-hurricane forest in Nicaragua. *Biotropica* 29:151-61.
- Vandermeer, J.; I. Granzow de la Cerda; D. Boucher; I. Perfecto; J. Ruiz. 2000. Hurricane disturbance and tropical tree species diversity. *Science* 290:788-91.
- Vandermeer, J.; I. Granzow de la Cerda; I. Perfecto; D. Boucher; J. Ruiz; A. Kaufmann. 2004. Multiple basins of attraction in a tropical forest: Evidence for nonequilibrium community structure. *Ecology* 85:575-79.
- Vandermeer, J.; M. A. Mallona; D. Boucher; K. Yih; I. Perfecto. 1995. Three years of ingrowth following catastrophic hurricane damage on the Caribbean coast of Nicaragua: Evidence in support of the direct regeneration hypothesis. *Journal of Tropical Ecology* 11:465-71.
- Vander Wall, S. B.; W. S. Longland. 2004. Diplochory: Are two seed dispersers better than one? *Trends in Ecology & Evolution* 19:155-61.
- Van der Werf, G.; D. Morton; R. DeFries; J. Olivier; P. Kasibhatla; R. Jackson; G. Collatz; J. Randerson. 2009. CO<sub>2</sub> emissions from forest loss. *Nature Geoscience* 2:737-38.
- Van Gelder, H. A.; L. Poorter; F. J. Sterck. 2006. Wood mechanics, allometry, and life-history variation in a tropical rain forest tree community. *New Phytologist* 171:367-78.
- Van Gemerden, B. S.; H. Olff; M. P. E. Parren; F. Bongers. 2003. The pristine rain forest? Remnants of historical human impacts on current tree species composition and diversity. *Journal of Biogeography* 30:1381-90.
- Van Gemerden, B. S.; G. N. Shu; H. Olff. 2003. Recovery of conservation values in Central African rain forest after logging and shifting cultivation. *Biodiversity and Conservation* 12:1553-70.
- Van Nieuwstadt, M. G. L.; D. Sheil. 2005. Drought, fire and tree survival in a Borneo rain forest, East Kalimantan, Indonesia. *Journal of Ecology* 93:191-201.
- Van Nieuwstadt, M. G. L.; D. Sheil; K. Kartawinata. 2001. The ecological consequences of logging in the burned forests of East Kalimantan, Indonesia. *Conservation Biology* 15:1183-86.
- Van Steenis, C. G. G. J. 1958. Rejuvenation as a factor for judging the status of vegetation types: The biological nomad theory. p. 212-15 In: *Study of Tropical Vegetation: Resumos... Kandy Symposium*. UNESCO, Paris.
- Vargas, R.; M. F. Allen; E. B. Allen. 2008. Biomass and carbon accumulation in a fire chronosequence of a seasonally dry tropical forest. *Global Change Biology* 14:109-24.

- Vasconcelos, H. L. 1999. Levels of leaf herbivory in Amazonian trees from different stages in forest regeneration. *Ata... Amazonica* 29:615-23.
- Vázquez-Yanes, C. 1976. Estudios sobre ecología de la germinación en una zona cálido-húmeda de Mexico. p. 279-387 In: A. Gómez-Pompa; S. del Amo; A. Butanda, eds. *Regeneración de Selvas*. Editorial Continental, Mexico City.
- Vázquez-Yanes, C.; A. Orozco-Segovia. 1993. Patterns of seed longevity and germination in the tropical rainforest. *Ecology and Systematics* 24:69-87.
- Velázquez, E.; A. Gómez-Sal. 2007. Environmental control of early succession on a large landslide in a tropical dry ecosystem (Casita Volcano, Nicaragua). *Biotropica* 39:601-9.
- \_\_\_\_\_. 2008. Landslide early succession in a Neotropical dry forest. *Plant Ecology* 199:295-308.
- Veldkamp, E.; A. Becker; L. Schwendenmann; D. A. Clark; H. Schulte-Bispinger. 2003. Substantial labile carbon stocks and microbial activity in deeply weathered soils below a tropical wet forest. *Global Change Biology* 9:1171-84.
- Veldman, J. W. 2008. *Guadua paniculata* (Bambusoideae) in the Bolivian Chiquitania: Fire ecology and the opportunity of a native forage. *Revista Boliviana de Ecología y Conservación Ambiental* 24:65-74.
- Veldman, J. W.; B. Mostacedo; M. Peña-Claros; F. Putz. 2009. Selective logging and fire as drivers of alien grass invasion in a Bolivian tropical dry forest. *Forest Ecology and Management* 258:1643-49.
- Veldman, J. W.; F. E. Putz. 2010. Long distance dispersal of invasive grasses by logging vehicles in a tropical dry forest. *Biotropica* 42:697-703.
- \_\_\_\_\_. 2011. Grass-dominated vegetation, not species-diverse natural savanna, replaces degraded tropical forests on the southern edge of the Amazon Basin. *Biological Conservation* 144:1419-29.
- Velho, N.; M. Krishnadas. 2011. Post-logging recovery of animal-dispersed trees in a tropical forest site in north-east India. *Tropical Conservation Science* 4:405-19.
- Velho, N.; J. Ratnam; U. Srinivasan; M. Sankaran. 2012. Shifts in community structure of tropical trees and avian frugivores in forests recovering from past logging. *Biological Conservation* 153:32-40.
- Vieira, D. L. M.; K. D. Holl; F. M. Peneireiro. 2009. Agro-successional restoration as a strategy to facilitate tropical forest recovery. *Restoration Ecology* 17:451-59.
- Vieira, D. L. M.; A. Scariot. 2006. Principles of natural regeneration of tropical dry forests for restoration. *Restoration Ecology* 14:11-20.
- Vieira, I. C. G.; J. Proctor. 2007. Mechanisms of plant regeneration during succession after shifting cultivation in eastern Amazonia. *Plant Ecology* 192:303-15.
- Vieira, I. C. G.; C. Uhl; D. Nepstad. 1994. The role of the shrub *Cordia multispicata* Cham as a succession facilitator in an abandoned pasture, Paragominas, Amazonia. *Vegetatio* 115:91-99.

- Vílchez Alvarado, B.; R. Chazdon; V. Milla Quesada. 2008. Dinámica de la regeneración en cuatro bosques secundarios tropicales de la región Huetar Norte, Costa Rica. Su valor para la conservación o uso comercial. Recursos Naturales y Ambiente (Costa Rica) 55:118-28.
- Villegas, Z.; M. Peña-Claros; B. Mostacedo; A. Alarcon; J. C. Licona; C. Leano; W. Pariona; U. Choque. 2009. Silvicultural treatments enhance growth rates of future crop trees in a tropical dry forest. Forest Ecology and Management 258:971-77.
- Vitousek, P. M. 1994. Potential nitrogen fixation during primary succession in Hawaii Volcanoes National Park. *Biotropica* 26:234-40.
- Vitousek, P. M.; L. R. Walker; L. D. Whiteaker; P. A. Matson. 1993. Nutrient limitations to plant growth during primary succession in Hawaii Volcanoes National Park Biogeochemistry 23:197-215.
- Voeks, R. A. 1996. Tropical forest healers and habitat preference. *Economic Botany* 50:381-400.
- \_\_\_\_\_. 2004. Disturbance pharmacopoeias: Medicine and myth from the humid tropics. *Anais... Association of American Geographers* 94:868-88.
- Vulinec, K. 2000. Dung beetles (Coleoptera: Scarabaeidae), monkeys, and conservation in Amazonia. *Florida Entomologist* 83:229-41.
- Vulinec, K.; J. E. Lambert; D. J. Mellow. 2006. Primate and dung beetle communities in secondary growth rain forests: Implications for conservation of seed dispersal systems. *International Journal of Primatology* 27:855-79.
- Wahl, D.; R. Byrne; T. Schreiner; R. Hansen. 2006. Holocene vegetation change in the northern Petén and its implications for Maya prehistory. *Quaternary Research* 65:380-89.
- Waide, R. B.; A. E. Lugo. 1992. A research perspective on disturbance and recovery of a tropical forest. p. 173-89 In: J. G. Goldammer, ed. *Tropical forests in transition*. Birkhauser, Basel, Switzerland.
- Walker, L. R. 1994. Effects of fern thickets on woodland development on landslides in Puerto Rico. *Journal of Vegetation Science* 5:525-32.
- \_\_\_\_\_. 2012. *The biology of disturbed habitats*. Oxford University Press, New York.
- Walker, L. R.; R. del Moral. 2009. Transition dynamics in succession: Implications for rates, trajectories and restoration. p. 33-50 In: R. J. Hobbs; K. N. Suding, eds. *New models for ecosystem dynamics and restoration*. Island Press, Washington, DC.
- Walker, L. R.; F. H. Landau; E. Velázquez; A. B. Shiels; A. D. Sparrow. 2010a. Early successional woody plants facilitate and ferns inhibit forest development on Puerto Rican landslides. *Journal of Ecology* 98:625-35.
- Walker, L. R.; J. Walker; R. del Moral. 2007. Forging a new alliance between succession and restoration. p. 1-18 In: L. R. Walker; J. Walker; R. J. Hobbs, eds. *Linking restoration and ecological succession*. Springer, New York.
- Walker, L. R.; J. Walker; R. J. Hobbs, eds. 2007. *Linking restoration and ecological succession*. Springer, New York.

- Walker, L. R.; D. A. Wardle; R. D. Bardgett; B. D. Clarkson. 2010b. The use of chronosequences in studies of ecological succession and soil development. *Journal of Ecology* 98:725-36.
- Walker, L. R.; M. R. Willig. 1999. An introduction to terrestrial disturbances. p. 1-16 In: L. R. Walker, ed. *Ecosystems of disturbed ground*. Elsevier, Amsterdam, Neth.
- Walker, L.; E. Velázquez; A. Shiels. 2009. Applying lessons from ecological succession to the restoration of landslides. *Plant and Soil* 324:157-68.
- Walker, L. R.; D. J. Zarin; N. Fetter; R. W. Myster; A. H. Johnson. 1996. Ecosystem development and plant succession on landslides in the Caribbean. *Biotropica* 28:566-76.
- Walker, R. 1993. Deforestation and economic development. *Canadian Journal of Regional Science* 16:481-97.
- \_\_\_\_\_. 2012. The scale of forest transition: Amazonia and the Atlantic forests of Brazil. *Applied Geography* 32:12-20.
- Walsh, P. D.; P. Henschel; K. A. Abernethy; C. E. G. Tutin; P. Telfer; S. A. Lahm. 2004. Logging speeds little red fire ant invasion of Africa. *Biotropica* 36:637-41.
- Walsh, S. J.; Y. Shao; C. F. Mena; A. L. McCleary. 2008. Integration of hyperion satellite data and a household social survey to characterize the causes and consequences of reforestation patterns in the northern Ecuadorian Amazon. *Photogrammetric Engineering and Remote Sensing* 74:725-35.
- Waltert, M.; K. S. Bobo; S. Kaupa; M. L. Montoya; M. S. Nsanyi; H. Fermon. 2011. Assessing conservation values: Biodiversity and endemicity in tropical land use systems. *PLoS One* 6:e16238.
- Waltert, M.; A. Mardiastuti; M. Mühlenberg. 2004. Effects of land use on bird species richness in Sulawesi, Indonesia. *Conservation Biology* 18:1339-46.
- Wang, B. C.; T. B. Smith. 2002. Closing the seed dispersal loop. *Trends in Ecology & Evolution* 17:379-86.
- Wang, B. C.; V. Sork; M. Leong; T. Smith. 2007. Hunting of mammals reduces seed removal and dispersal of the afrotropical tree *Antrocaryon klaineanum* (Anacardiaceae). *Biotropica* 39:340-47.
- Wang, Z.; S. S. Young. 2003. Differences in bird diversity between two swidden agricultural sites in mountainous terrain, Xishuangbanna, Yunnan, China. *Biological Conservation* 110:231-43.
- Wangpakapattanawong, P.; N. Kavinchan; C. Vaidhayakarn; D. Schmidt-Vogt; S. Elliott. 2010. Fallow to forest: Applying indigenous and scientific knowledge of swidden cultivation to tropical forest restoration. *Forest Ecology and Management* 260:1399-1406.
- Ward, J.; K. Tockner; D. Arscott; C. Claret. 2002. Riverine landscape diversity. *Freshwater Biology* 47:517-39.
- Watt, A. S. 1947. Pattern and process in the plant community. *Journal of Ecology* 35:1-22.
- Weaver, P. L. 1986. Hurricane damage and recovery in the montane forests of the Luquillo Mountains of Puerto Rico. *Caribbean Journal of Science* 22:53-70.

- Webb, L. J. 1958. Cyclones as an ecological factor in tropical lowland rain-forest, North Queensland. *Australian Journal of Botany* 6:220-28.
- Weinstock, J. A. 1983. Rattan: Ecological balance in a Borneo rainforest swidden. *Economic Botany* 37:58-68.
- Welden, C. W.; S. W. Hewett; S. P. Hubbell; R. B. Foster. 1991. Survival, growth, and recruitment of saplings in canopy gaps and forest understory on Barro Colorado Island, Panamá. *Ecology* 72:35-50.
- Weng, C.; M. B. Bush; J. S. Athens. 2002. Holocene climate change and hydrarch succession in lowland Amazonian Ecuador. *Palaeobotany and Palynology* 120:73-90.
- Wenny, D. G.; D. J. Levey. 1998. Directed seed dispersal by bellbirds in a tropical cloud forest. *Resumos...* National Academy of Sciences 95:6204-7.
- Wheelwright, N. T. 1985. Fruit size, gape width, and the diets of fruit-eating birds. *Ecology* 66:808-18.
- Wheelwright, N. T.; W. A. Haber; K. G. Murray; C. Guindon. 1984. Tropical fruit-eating birds and their food plants: A survey of a Costa Rican lower montane forest. *Biotropica* 16:173-92.
- White, G.; D. Boshier; W. Powell. 2002. Increased pollen flow counteracts fragmentation in a tropical dry forest: An example from *Swietenia humilis* Zuccarini. *Resumos...* National Academy of Sciences 99:2038-42.
- White, J.; D. Penny; L. Kealhofer; B. Maloney. 2004. Vegetation changes from the late Pleistocene through the Holocene from three areas of archaeological significance in Thailand. *Quaternary International* 113:111-32.
- White, L. T. J. 2001a. The African rain forest: Climate and vegetation. p. 3-29 In: W. Weber; L. J. T. White; A. Vedder; L. Naughton-Treves, eds. *African rain forest ecology and conservation: An interdisciplinary perspective*. Yale University Press, New Haven, CT.
- \_\_\_\_\_. 2001b. Forest-savanna dynamics and the origins of Marantaceae. p. 165-82 In: W. Weber, ed. *African rain forest ecology and conservation: An interdisciplinary perspective*. Yale University Press, New Haven, CT.
- White, L. J. T.; J. F. Oates. 1999. New data on the history of the plateau forest of Okomu, southern Nigeria: An insight into how human disturbance has shaped the African rain forest. *Global Ecology and Biogeography* 8:355-61.
- White, P. S. 1979. Process and natural disturbance in vegetation. *Botanical Review* 45:229-99.
- Whitfeld, T.; W. Kress; D. Erickson; G. Weiblen. 2011. Change in community phylogenetic structure during tropical forest succession: Evidence from New Guinea. *Ecography* 35:821-30.
- Whitfeld, T.; V. Novotny; S. E. Miller; J. Hrcek; P. Klimes; G. Weiblen. 2012. Predicting tropical insect herbivore abundance from host plant traits and phylogeny. *Ecology* 93:S211-S222.

- Whitmore, T. C. 1974. Change with time and the role of cyclones in tropical rain forest on Kolombangara, Solomon Islands. Institute Paper No. 46. Commonwealth Forestry Institute, University of Oxford. Oxford.
- \_\_\_\_\_. 1978. Gaps in the forest canopy. p. 639-55 In: P. B. Tomlinson; M. M. Zimmerman, eds. Tropical trees as living systems. Cambridge University Press, New York.
- \_\_\_\_\_. 1983. Secondary succession from seed in tropical rain forests. *Forestry Abstracts* 44:767-779.
- \_\_\_\_\_. 1984. Tropical rain forests of the Far East. 2nd ed. Clarendon Press, Oxford.
- \_\_\_\_\_. 1989a. Canopy gaps and the two major groups of forest trees. *Ecology* 70:536-38.
- \_\_\_\_\_. 1989b. Changes over twenty-one years in the Kolombangara rain forests. *Journal of Ecology* 77:469-83.
- \_\_\_\_\_. 1989c. Forty years of rain forest ecology 1948-1988 in perspective. *GeoJournal* 19:347-60.
- \_\_\_\_\_. 1990. An introduction to tropical rain forests. Oxford University Press, Oxford.
- \_\_\_\_\_. 1991. Tropical rain forest dynamics and its implications for management. p. 67-89 In: A. Gómez-Pompa; T. C. Whitmore; M. Hadley, eds. Rain Forest Regeneration and Management. UNESCO/Parthenon, Paris.
- \_\_\_\_\_. 1996. A review of some aspects of tropical rain forest seedling ecology with suggestions for further enquiry. p. 3-39 In: M. D. Swaine, ed. The ecology of tropical forest tree seedlings. Parthenon, Paris.
- \_\_\_\_\_. 1998a. An introduction to tropical rain forests. 2 ed. Oxford University Press, Oxford.
- \_\_\_\_\_. 1998b. A pantropical perspective on the ecology that underpins management of tropical secondary rain forests. p. 19-34 In: M. R. Guariguata; B. Finegan, eds. Resumos... a conference on ecology and management of tropical secondary forest: Science, people, and policy, November 10-12, 1997. CATIE, Turrialba, Costa Rica.
- \_\_\_\_\_. 1998c. Potential impact of climate change on tropical rain forest seedlings and forest regeneration. *Climatic Change* 39:429-38.
- Whitmore, T. C.; N. D. Brown; M. D. Swaine; D. Kennedy; C. I. Goodwin-Bailey; W.-K. Gong. 1993. Use of hemispherical photographs in forest ecology: Measurement of gap size and radiation totals in a Bornean tropical rain forest. *Journal of Tropical Ecology* 9:131-51.
- Whitmore, T. C.; C. Burnham. 1975. Tropical rain forests of the Far East. Clarendon Press, Oxford.
- Whitmore, T. C.; D. F. R. P. Burslem. 1988. Major disturbances in tropical rainforests. p. 549-65 In: D. M. Newbery; H. H. T. Prins; N. D. Brown, eds. Dynamics of tropical communities. Blackwell Science, Oxford.
- Whitmore, T. M.; B. L. Turner II. 2001. Cultivated landscapes of Middle America on the eve of conquest. Oxford University Press, Oxford.
- Whittaker, R. H. 1953. A consideration of climax theory: The climax as a population and pattern. *Ecological Monographs* 23:41-78.

- Whittaker, R. J.; M. B. Bush; K. Richards. 1989. Plant recolonization and vegetation succession on the Krakatau Islands, Indonesia. *Ecological Monographs* 59:59-123.
- Whittaker, R. J.; S. H. Jones. 1994. The role of frugivorous bats and birds in the rebuilding of a tropical forest ecosystem, Krakatau, Indonesia. *Journal of Biogeography* 21:245-58.
- Whittaker, R. J.; T. Partomihardjo; S. Jones. 1999. Interesting times on Krakatau: Stand dynamics in the 1990s. *Resumos... Royal Society B: Biological Sciences* 354:1857-67.
- Wieland, L. M.; R. C. G. Mesquita; P. E. D. Bobrowiec; T. V. Bentos; G. B. Williamson. 2011. Seed rain and advance regeneration in secondary succession in the Brazilian Amazon. *Tropical Conservation Science* 4:300-316.
- Wiemann, M. C.; G. B. Williamson. 1988. Extreme radial changes in wood specific gravity in some tropical pioneers. *Wood and Fiber Science* 20:344-49.
- Wiersum, K. 1997. Indigenous exploitation and management of tropical forest resources: An evolutionary continuum in forest-people interactions. *Agriculture, Ecosystems & Environment* 63:1-16.
- Wijdeven, S. M. J.; M. E. Kuzee. 2000. Seed availability as a limiting factor in forest recovery processes in Costa Rica. *Restoration Ecology* 8:414-24.
- Wilcove, D. S.; L. P. Koh. 2010. Addressing the threats to biodiversity from oil-palm agriculture. *Biodiversity and Conservation* 19:999-1007.
- Williams, M. 2008. A new look at global forest histories of land clearing. *Annual Review of Environment and Resources* 33:345-67.
- Williams-Linera, G.; C. Alvarez-Aquino; E. Hernández-Ascención; M. Toledo. 2011. Early successional sites and the recovery of vegetation structure and tree species of the tropical dry forest in Veracruz, Mexico. *New Forests* 42:131-48.
- Williamson, G. B.; T. V. Bentos; J. B. Longworth; R. C. Mesquita. 2012. Convergence and divergence in alternative successional pathways in Central Amazonia. *Plant Ecology & Diversity*. doi:10.1080/17550874.2012.735714.
- Williamson, G. B.; M. C. Wiemann. 2010. Age-dependent radial increases in wood specific gravity of tropical pioneers in Costa Rica. *Biotropica* 42:590-97.
- Willig, M. R.; S. J. Presley; C. P. Bloch; C. L. Hice; S. P. Yanoviak; M. M. Díaz; L. A. Chauca; V. Pacheco; S. C. Weaver. 2007. Phyllostomid bats of lowland Amazonia: Effects of habitat alteration on abundance. *Biotropica* 39:737-46.
- Willis, K.; M. Araujo; K. Bennett; B. Figueroa-Rangel; G. Froyd; N. Myers. 2007. How can a knowledge of the past help to conserve the future? Biodiversity conservation and the relevance of long-term ecological studies. *Resumos... Royal Society B: Biological Sciences* 362:175-87.
- Willis, K.; L. Gillison; T. Brncic. 2004. How "virgin" is virgin rainforest? *Science* 304:402-3.
- Wirth, C.; C. Messier; Y. Bergeron; D. Frank; Fankhänel. 2009. Old-growth forest definitions: A pragmatic view. p. 11-33 In: C. Wirth; G. Gleixner; M. Heimann, eds. *Old-growth forests: Function, fate and value*. Springer, New York.

- Wiseman, F. M. 1978. Agricultural and historical ecology of the Maya lowlands. p. 63-116 In: P. D. Harrison; B. L. Turner, eds. Pre-Hispanic Maya agriculture. University of New Mexico Press, Albuquerque.
- Wittmann, F.; W. Junk; M. Piedade. 2004. The várzea forests in Amazonia: Flooding and the highly dynamic geomorphology interact with natural forest succession. *Forest Ecology and Management* 196:199-212.
- Wood, T. E.; D. Lawrence; D. A. Clark; R. L. Chazdon. 2009. Rain forest nutrient cycling and productivity in response to large-scale litter manipulation. *Ecology* 90:109-21.
- Wood, T. E.; D. Lawrence; J. A. Wells. 2011. Interspecific variation in foliar nutrients and resorption of nine canopy-tree species in a secondary Neotropical rain forest. *Biotropica* 43:544-51.
- Woods, C. L.; S. J. DeWalt. 2013. The conservation value of secondary forests for vascular epiphytes in Central Panama. *Biotropica* 45:119-27.
- Woods, P. 1989. Effects of logging, drought, and fire on structure and composition of tropical forests in Sabah, Malaysia. *Biotropica* 21:290-98.
- Worbes, A.; R. Staschel; A. Roloff; W. J. Junk. 2003. Tree ring analysis reveals age structure, dynamics and wood production of a natural forest stand in Cameroon. *Forest Ecology and Management* 173:105-23.
- Worbes, M.; H. Klinge; J. Revilla; C. Martius. 1992. On the dynamics, floristic subdivision and geographical distribution of várzea forests in Central Amazonia. *Journal of Vegetation Science* 3:553-64.
- Wright, I. J.; P. B. Reich; M. Westoby; D. D. Ackerly; Z. Baruch; F. Bongers; J. Cavender-Bares; et al. 2004a. The worldwide leaf economics spectrum. *Nature* 428:821-27.
- Wright, S. J. 2005. Tropical forests in a changing environment. *Trends in Ecology & Evolution* 20:553-60.
- \_\_\_\_\_. 2010. The future of tropical forests. *Anais... New York Academy of Sciences* 1195:1-27.
- Wright, S. J.; O. Calderón; A. Hernández; S. Paton. 2004b. Are lianas increasing in importance in tropical forests? A 17-year record from Panama. *Ecology* 85:484-89.
- Wright, S. J.; A. Hernández; R. Condit. 2007. The bushmeat harvest alters seedling banks by favoring lianas, large seeds, and seeds dispersed by bats, birds, and wind. *Biotropica* 39:363-71.
- Wright, S. J.; K. Kitajima; N. J. B. Kraft; P. B. Reich; I. J. Wright; D. E. Bunker; R. Condit; et al. 2010. Functional traits and the growth-mortality trade-off in tropical trees. *Ecology* 91:3664-74.
- Wright, S. J.; H. C. Muller-Landau. 2006. The future of tropical forest species. *Biotropica* 38:287-301.
- Wright, S. J.; H. C. Muller-Landau; R. Condit; S. P. Hubbell. 2003. Gap-dependent recruitment, realized vital rates, and size distributions of tropical trees. *Ecology* 84:3174-85.
- Wright, S. J.; H. C. Muller-Landau; J. Schipper. 2009. The future of tropical species on a warmer planet. *Conservation Biology* 23:1418-26.

- Wright, S. J.; M. J. Samaniego. 2008. Historical, demographic, and economic correlates of land-use change in the Republic of Panama. *Ecology and Society* 13. Disponível em: <<http://www.ecologyandso ciety.org/vol13/iss2/art17/>>.
- Wright, S. J.; K. E. Stoner; N. Beckman; R. T. Corlett; R. Dirzo; H. C. Muller-Landau; G. Nunez-Iturri; C. A. Peres; B. C. Wang. 2007. The plight of large animals in tropical forests and the consequences for plant regeneration. *Biotropica* 39:289-91.
- Wright, S. J.; J. B. Yavitt; N. Wurzburger; B. L. Turner; E. V. J. Tanner; E. J. Sayer; L. S. Santiago; M. Kaspari; L. O. Hedin; K. E. Harms. 2011. Potassium, phosphorus, or nitrogen limit root allocation, tree growth, or litter production in a lowland tropical forest. *Ecology* 92:1616-25.
- Wroe, S.; J. Field; D. K. Grayson. 2006. Megafaunal extinction: Climate, humans and assumptions. *Trends in Ecology & Evolution* 21:61-62.
- Wu, J.; O. Loucks. 1995. From balance of nature to hierarchical patch dynamics: A paradigm shift in ecology. *Quarterly Review of Biology* 70:439.
- Wuethrich, B. 2007. Reconstructing Brazil's Atlantic rainforest. *Science* 315:1070-72.
- Wunderle, J. M.; Jr. 1997. The role of animal seed dispersal in accelerating native forest regeneration on degraded tropical lands. *Forest Ecology and Management* 99:223-35.
- Wunderle, J. M.; Jr.; D. J. Lodge; R. B. Waide. 1992. Short-term effects of Hurricane Gilbert on terrestrial bird populations on Jamaica. *Auk* 109:148-66.
- Wyatt-Smith, J. 1954. Storm forest in Kelantan. *Malayan Forester* 17:5-11.
- Xu, J. 2007. Rattan and tea-based intensification of shifting cultivation by Hani farmers in Southwestern China. p. 664-72 In: M. Cairns, ed. *Voices from the forest: Integrating indigenous knowledge into sustainable upland farming. Resources for the Future*, Washington, DC.
- Yackulic, C. B.; M. Fagan; M. Jain; A. Jina; Y. Lim; M. Marlier; R. Muscarella; et al. 2011. Biophysical and socioeconomic factors associated with forest transitions at multiple spatial and temporal scales. *Ecology and Society* 16:15. doi:10.5751/ES-04275-160315.
- Yang, X.; T. Richardson; A. Jain. 2010. Contributions of secondary forest and nitrogen dynamics to terrestrial carbon uptake. *Biogeosciences* 7:3041-50.
- Yarranton, G.; R. Morrison. 1974. Spatial dynamics of a primary succession: Nucleation. *Journal of Ecology* 62:417-28.
- Yassir, I.; J. van der Kamp; P. Buurman. 2010. Secondary succession after fire in *Imperata* grasslands of East Kalimantan, Indonesia. *Agriculture, Ecosystems & Environment* 137:172-82.
- Yen, D. E. 1974. Arboriculture in the subsistence of Santa Cruz, Solomon Islands. *Economic Botany* 28:247-84.
- \_\_\_\_\_. 1995. The development of Sahul agriculture with Australia as bystander. *Antiquity* 69:831-47.

- \_\_\_\_\_. 1996. Melanesian arboriculture: Historical perspectives with emphasis on the genus *Canarium*. p. 36-44 In: M. L. Stevens; R. M. Bourke; B. R. Evans, eds. South Pacific indigenous nuts. Australian Centre for International Agricultural Research, Canberra, ACT.
- Yih, K.; D. H. Boucher; J. H. Vandermeer; N. Zamora. 1991. Recovery of the rain forest of southeastern Nicaragua after destruction by Hurricane Joan. *Biotropica* 23:106-13.
- Yu, Z. Y.; Z. H. Wang; S. Y. He. 1994. Rehabilitation of eroded tropical coastal land in Guangdong, China. *Journal of Tropical Forest Science* 7:28-38.
- Zahawi, R. A.; C. K. Augspurger. 1999. Early plant succession in abandoned pastures in Ecuador. *Biotropica* 31:540-52.
- \_\_\_\_\_. 2006. Tropical forest restoration: Tree islands as recruitment foci in degraded lands of Honduras. *Ecological Applications* 16:464-78.
- Zalamea, P. C.; P. Heuret; C. Sarmiento; M. Rodríguez; A. Berthouly; S. Guitet; E. Nicolini; C. Delnatte; D. Barthélémy; P. R. Stevenson. 2012. The genus *Cecropia*: A biological clock to estimate the age of recently disturbed areas in the Neotropics. *PLoS One* 7:e42643.
- Zambrano, A. M. A.; E. N. Broadbent; W. H. Durham. 2010. Social and environmental effects of ecotourism in the Osa Peninsula of Costa Rica: The Lapa Rios case. *Journal of Ecotourism* 9:62-83.
- Zangaro, W.; R. A. Alves; L. E. Lescano; A. P. Ansanelo. 2012. Investment in fine roots and arbuscular mycorrhizal fungi decrease during succession in three Brazilian ecosystems. *Biotropica* 44:141-50.
- Zangaro, W.; S. M. A. Nisizaki; J. C. B. Domingos; E. M. Nakano. 2003. Mycorrhizal response and successional status in 80 woody species from south Brazil. *Journal of Tropical Ecology* 19:315-24.
- Zanne, A. E.; C. A. Chapman; K. Kitajima. 2005. Evolutionary and ecological correlates of early seedling morphology in East African trees and shrubs. *American Journal of Botany* 92:972-78.
- Zarin, D. J., E. A. Davidson, E. Brondizio, I. C. G. Vieira, T. Sa, T. R. Feldpausch, E. A. G. Schuur, et al. 2005. Legacy of fire slows carbon accumulation in Amazonian forest regrowth. *Frontiers in Ecology and the Environment* 3:365-69.
- Zarin, D. J., M. J. Ducey, J. M. Tucker, and W. A. Salas. 2001. Potential biomass accumulation in Amazonian regrowth forests. *Ecosystems* 4:658-68.
- Zarin, D. J.; A. H. Johnson. 1995. Nutrient accumulation during primary succession in a montane tropical Forest, Puerto Rico. *Soil Science Society of America Journal* 59:1444-52.
- Zhang, Y.; C. Song. 2006. Impacts of afforestation, deforestation, and reforestation on forest cover in China from 1949 to 2003. *Journal of Forestry* 104:383-87.
- Zhang, Z. D.; R. G. Zang; Y. D. Qi. 2008. Spatiotemporal patterns and dynamics of species richness and abundance of woody plant functional groups in a tropical forest landscape of Hainan Island, South China. *Journal of Integrative Plant Biology* 50:547-58.

- Ziegler, A. D.; J. M. Fox; E. L. Webb; C. Padoch; S. J. Leisz; R. Cramb; O. Mertz; T. B. Bruun; T. D. Vien. 2011. Recognizing contemporary roles of swidden agriculture in transforming landscapes of Southeast Asia. *Conservation Biology* 25:846.
- Zimmermann, B.; H. Elsenbeer; J. M. De Moraes. 2006. The influence of land-use changes on soil hydraulic properties: Implications for runoff generation. *Forest Ecology and Management* 222:29-38.
- Zimmerman, B. L.; C. F. Kormos. 2012. Prospects for sustainable logging in tropical forests. *BioScience* 62:479-87.
- Zimmerman, J. K., T. M. Aide, M. Rosario, M. Serrano, and L. Herrera. 1995. Effects of land management and a recent hurricane on forest structure and composition in the Luquillo Experimental Forest, Puerto Rico. *Forest Ecology and Management* 77:65-76.
- Zimmerman, J. K.; E. M. Everham; R. B. Waide; D. J. Lodge; C. M. Taylor; N. Brokaw. 1994. Responses of tree species to hurricane winds in subtropical wet forest in Puerto Rico: Implications for tropical tree life histories. *Journal of Ecology* 82:911-22.