

Daniel C. Donato

Research Associate
University of Wisconsin-Madison
Ecosystem & Landscape Ecology Lab
430 Birge Hall
Madison, WI 53706

-and-
Oregon State University
College of Forestry
Corvallis, OR 97331

Ph: 541.231.7273
donato.danc@gmail.com
ddonato@wisc.edu

Education

Ph.D. Forest Ecology, 2008
Minor: Statistics and Ecological Analysis
Oregon State University, Corvallis, OR (Advisor: Dr. Beverly Law)
B.Sc. Forest Ecosystem Science, 1998
University of Washington, Seattle, WA (Advisor: Dr. Jerry Franklin)
B.Sc. Oceanography, 1998
University of Washington, Seattle, WA (Advisor: Dr. Richard Keil)

Professional Interests

Disturbance ecology, forest succession, ecosystem management, global change, field botany

Relevant Work Experience

2010-pres *Postdoctoral Research Associate*
Ecosystem & Landscape Ecology Lab, Univ. of Wisconsin, Madison, WI
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College of Forestry, Oregon State University, Corvallis, OR

2008-2011 *Research Ecologist / Postdoctoral Associate*
U.S.D.A. Forest Service, Pacific Southwest Research Station, Hilo, HI

2001-2008 *Project Lead Biologist*
Merlin Biological Consulting, Lyle, WA

2004-2008 *Co-Lead Field Biologist / Graduate Research Assistant*
Dept. Forest Science, Oregon State University, Corvallis, OR

2001 *Biologist Technician (Herpetology -- seasonal)*
Utah Department of Natural Resources, St. George, UT

2000-01 *Biologist Technician (Forest Ecology, Predator Biology -- seasonal)*
U.S. Forest Service, Rocky Mountain Research Sta., Missoula, MT

2000 *Fire Effects Botanist Technician / Wildland Firefighter (seasonal)*
National Park Service, Grand Teton National Park, WY

1999 *Biologist Technician (Forest Ecology, Raptor Biology -- seasonal)*
U.S. Forest Service/Alaska Dep. Fish & Game, Tongass Nat. Forest, AK

1998-99 *Biologist Technician (Wildlife, Silviculture -- seasonal)*
U.S. Forest Service, Mt. Hood National Forest, OR

1998-99 *Biologist Technician (Forest Ecology, Avian Ecology)*
Wind River Canopy Crane/Gifford Pinchot National Forest, WA

Professional Organizations

Forest Guild professional forestry society
 International Association of Wildland Fire
 Ecological Society of America
 Xi Sigma Pi professional forestry society
 International Association for Landscape Ecology

Professional Service

- Manuscript Reviewer for the following journals:

<i>Annals of Forest Science</i>	<i>Frontiers in Ecology & Environment</i>
<i>Biological Conservation</i>	<i>Journal of Ecology</i>
<i>Canadian Journal of Forest Research</i>	<i>Journal of Environmental Management</i>
<i>Carbon Management</i>	<i>Journal of Geophysical Research</i>
<i>Ecological Applications</i>	<i>Journal of Vegetation Science</i>
<i>Ecosystems</i>	<i>Oecologia</i>
<i>Fire Ecology</i>	<i>Plant Ecology</i>
<i>Forest Ecology & Management</i>	<i>Quarterly Review of Biology</i>
<i>Forest Science</i>	<i>Rangeland Ecology & Management</i>

- Proposal reviewer for National Science Foundation (NSF), Division of Environmental Biology
- Co-organizer of special session on fire and fuel research following disturbances in western North America, Association for Fire Ecology conference, Logan, UT, 2011.
- Panel member for ESA stewardship workshop, Ecological Society of America Meeting, Pittsburgh, 2010
- Information transfer to land managers: Co-leader for several field-based meetings with U.S. Forest Service and Bureau of Land Management personnel, demonstrating new research findings and directly informing postfire management, 2006.
- Subcommittee of the Promotion & Tenure Committee, Department of Fisheries and Wildlife, Oregon State University, 2007
- Invited testimony to U.S. Congress, House of Representatives, to provide scientific input to bipartisan panel on fire ecology/management in western forests, 2006
- Invited testimony to Oregon State Senate, bipartisan panel, relating to science of fire ecology and management in Oregon, 2006

Honors and Awards

1998-pres	Phi Beta Kappa National Honor Society
2007-pres	Phi Kappa Phi National Honor Society
2011	First-author article selected for Backstory feature, <i>Nature Geoscience</i>
2009	First-author article selected for cover article, <i>Journal of Ecology</i>
2008	Outstanding Graduate Student Research Award, Ecological Society of America (one given nationally)
2008	Mason Prize for Integrity and Moral Courage, Oregon State University
2008	Oregon Laurels Scholar
2007	P.F. & Nellie Buck Yerex Fellow, Oregon State University
	Schutz Fellow, Oregon State University, College of Forestry

2006	Alfred W. Moltke Fellow, Oregon State University, College of Forestry Student of the Year - MS, OSU Forest Science Department
2004	Dorothy D. Hoener Fellow, Oregon St. University, College of Forestry
2003	Arnold & Vera Meier Fellow, Oregon St. University, College of Forestry
1998	Mary Gates Endowment Award, Outstanding Undergraduate Research, University of Washington
1997	Mary Gates Endowment Award, Outstanding Undergraduate Research, University of Washington

Current Research

- Post-wildfire and post-insect vegetation and fuel dynamics
- Disturbance interactions in forest ecosystems
- Early-successional ecology and forest development
- Mixed-severity fire regimes
- Carbon dynamics, disturbance, & land-use change in temperate and tropical forests
- Long-term succession in Northwest USA conifer forests using permanent plots

Grants

Funded-- Using archival digital orthophotographs to investigate the effects of fire exclusion and insect outbreaks on Douglas-fir forests in Grand Teton National Park and surrounding areas. US National Park Service, Fire and Aviation Management, 2012-13, \$10,000 (*PI*).

Funded-- Ten years after the Biscuit Fire: Evaluating vegetation succession and post-fire management effects. Joint Fire Science Program (JFSP), 2011-14, \$340,000 (*PI*).

Funded-- Elk, Fire, and Wolf Ecology in Aspen and Grassland Communities in Waterton Lakes National Park: A Multi-Trophic Level Landscape-Scale Study. Collaboration and funding from Parks Canada, 2010-2012, \$52,000. (*Co-PI*).

Funded-- Carbon Dynamics, Land Cover Change, and Vulnerability of the World's Largest Coastal Mangrove Ecosystem to Climate Change. NASA, 2010-14, \$680,000 (*Co-PI*).

Funded-- The Indo-Pacific Forest Carbon Project: Quantification of forest structure and carbon pools for developing climate change adaptation/mitigation strategies for tropical wetland forests. Collaboration with the Center for International Forestry Research (CIFOR), Indonesia. Funding from USDA Forest Service Global Climate Change Research Program, International Programs, and USAID, 2008-2010, \$225,000. (*Co-PI*).

Funded-- Land-use effects on the resilience of mangrove forests to sea-level rise. Collaboration with Palau International Coral Reef Center (PICRC). Funding from USDA Forest Service International Programs, 2010-2011, \$35,000. (*Co-PI*).

Collaborations and Technical Transfer

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|---------------------------------|---|
| • Grand Teton National Park | • U.S.D.A. Forest Service International Programs |
| • Bridger-Teton National Forest | • U.S.D.A. Forest Service, Pacific Northwest Research Station |
| • Yellowstone National Park | |
| • Parks Canada | |

- Center for International Forestry Research (CIFOR)
- U.S. Department of State
- U.S. Agency for International Development (USAID)
- Mt. St. Helens National Volcanic Monument
- University of Washington
- Washington State University
- Oregon State University
- Indiana University
- Murdoch University, Australia
- University of Manado, Indonesia
- Orangutan Foundation International, Borneo
- Palau International Coral Reef Center
- Palau Forestry
- Bangladesh Forest Department
- Forest and Agriculture Service – Yap, Federated States of Micronesia
- Forest and Resource Mgmt. Agency – Kosrae, Fed. States of Micronesia

Publications

Articles in Peer-Reviewed Journals

- Donato, D.C.***, J.L. Campbell*, J.F. Franklin. 2012. Multiple successional pathways and precocity in forest development: Can some forests be born complex? *J. Vegetation Science* 23: 576-584. (*co-first authors)
- Turner, M.G., **D.C. Donato**, W.H. Romme. 2012. Consequences of spatial heterogeneity for ecosystem services in changing forest landscapes: Priorities for future research. *Landscape Ecology* in press.
- Donato, D.C.**, J.B. Kauffman, R.A. Mackenzie, A. Ainsworth, A.Z. Pfleeger. 2012. Whole-island carbon stocks in the tropical Pacific: Implications for mangrove conservation and upland restoration. *J. Environmental Management* 97: 89-96.
- Donato, D.C.** and S.H. Timme. 2012. A method for surfacing large log cross-sections in preparation for scanning and cross-dating. *Tree-Ring Research* in press.
- Donato D.C.** 2012. Perspective and parsimony in forest carbon management. *Carbon Management* 3(3): 227-230.
- Donato, D.C.**, J.B. Kauffman, S. Kurnianto, M. Stidham, D. Murdiyarso. 2011. Mangroves among the most carbon-rich forests in the tropics. *Nature Geoscience* 4: 293-297.
- Halofsky, J.E., **D.C. Donato**, D.E. Hibbs, J.L. Campbell, M. Cannon, J.B. Fontaine, J.R. Thompson, R.G. Anthony, B.T. Bormann, L.J. Kayes, B.E. Law, D.L. Peterson, T.A. Spies. 2011. Mixed-severity fire regimes: lessons from the Klamath-Siskiyou Ecoregion. *Ecosphere* 2(4): 40.
- Kauffman, J.B., C. Heider, T.G. Cole, K. Dwyer, **D.C. Donato**. 2011. Ecosystem carbon stocks of Micronesian mangrove forests. *Wetlands* 31: 343-352.
- Fontaine, J.B., **D.C. Donato**, J.L. Campbell, J.G. Martin, B.E. Law. 2010. Effects of post-fire logging on forest surface air temperatures in the Siskiyou Mountains, Oregon, USA. *Forestry* 83: 477-482.
- Donato, D.C.**, J.B. Fontaine, W.D. Robinson, J.B. Kauffman, B.E. Law. 2009. Vegetation response to a short interval between high-severity wildfires in a mixed-evergreen forest. *J. Ecology* 97: 142-154.
- Hudiburg, T., B.E. Law, D.P. Turner, J.L. Campbell, **D.C. Donato**, M. Duane. 2009. Climate, management, and forest type influences on carbon dynamics of Oregon and Northern California forests. *Ecological Applications* 19(1): 163-180.

- Meigs, G.W., **D.C. Donato**, J.L. Campbell, J.G. Martin, B.E. Law. 2009. Forest fire impacts on carbon uptake, storage, and emission: The role of burn severity in the eastern Cascades, Oregon. *Ecosystems* 12(8): 1246-1267.
- Donato, D.C.**, J.B. Fontaine, J.L. Campbell, W.D. Robinson, J.B. Kauffman, B.E. Law. 2009. Conifer regeneration in stand-replacement portions of a large mixed-severity wildfire in the Klamath-Siskiyou Mountains. *Canadian J. Forest Research* 39: 823-838.
- Fontaine, J.B., **D.C. Donato**, W.D. Robinson, B.E. Law, J.B. Kauffman. 2009. Bird communities following high-severity fire: Response to single and repeat fires in a mixed-evergreen forest, Oregon, USA. *Forest Ecology & Management* 257: 1496-1504.
- Donato, D.C.**, J.L. Campbell, J.B. Fontaine, B.E. Law. 2009. Quantifying char in postfire woody detritus inventories. *Fire Ecology* 5(2): 104-115.
- Campbell, J.L., **D.C. Donato**, D. Azuma, B.E. Law. 2007. Pyrogenic carbon emissions from a large wildfire in Oregon, USA. *J. Geophysical Research* 112: G04014.
- Donato, D.C.**, J.B. Fontaine, J.L. Campbell, W.D. Robinson, J.B. Kauffman, B.E. Law. 2006. Post-wildfire logging hinders regeneration and increases fire risk. *Science* 311: 352.
- Donato, D.C.**, J.B. Fontaine, J.L. Campbell, W.D. Robinson, J.B. Kauffman, B.E. Law. 2006. Technical Comment. *Science* 313: 615.

In review:

- Donato, D.C.**, W.H. Romme, B.J. Harvey, M. Simard, M.G. Turner. Bark beetle effects on fuel profiles across a range of stand structures in Douglas-fir forests of Greater Yellowstone. *Ecological Applications* in review.
- Pendleton, L.*, **D.C. Donato***, S. Crooks, et al. Estimating global "blue carbon" emissions from conversion and degradation of coastal ecosystems. *PLoS ONE* in revision. (*co-first authors)

Book Reviews & Special Contributions

- D.C. Donato**. 2011. Balancing act: Conducting mangrove field research. *Nature Geoscience* 4: 344.
- D.C. Donato**. 2008. In the blast zone: catastrophe and renewal at Mount St. Helens – Book Review. *Oregon Historical Quarterly* 109(4): 633-635.

Reports and Proceedings

- Kauffman, J.B. and **D.C. Donato**. 2012. Protocols for the measurement, monitoring, and reporting of structure, biomass, and carbon stocks in mangrove forests. Center for International Forestry Research (CIFOR) *Working Paper 86*. (<http://www.cifor.org/online-library/browse/mitigating-climate-change.html>)
- Kauffman, J.B., D. Murdiyarso, S. Kurnianto, **D.C. Donato**, M. Warren. 2011. Ecosystem carbon stocks of tropical wetland forests of the Asia Pacific and their fates following land-use change. CIFOR *Working Paper 52*.

- Ahmed, I. and **D.C. Donato**. 2010. Carbon Assessment, 2009-2010 inventory of the Sundarbans Reserve Forest, Bangladesh.
- Donato, D.C.**, J.B. Kauffman, M.A. Stidham. 2009. Protocols for measuring and reporting carbon stocks in mangrove forests. Report prepared for the Workshop on Global Climate Change and Carbon Financing: Opportunities for Bangladesh. Dhaka, Bangladesh. 28 October to 9 November 2009. Available from USDA Forest Service International Programs Office, Washington, DC; or ddonato@fs.fed.us.
- Murdiyarsa, D., **D.C. Donato**, J.B. Kauffman, S. Kurnianto, M. Stidham, M. Kanninen. 2009. Carbon storage in mangrove and peatland ecosystems: A preliminary account from plots in Indonesia. CIFOR *Working Paper 48*.
- Kauffman, J.B., **D.C. Donato**, M. Stidham, and E. Lebow. 2009. Climate change, forests, carbon processes, and market mechanisms. IN: Supplement to the Workshop on Global Climate Change and Carbon Financing Project Preparation; workshop for senior government officials related to global climate change issues funded by USAID. 28 -29 October 2009 Dhaka Bangladesh. 3p.
- Donato, D.C.**, J.B. Fontaine, J.L. Campbell, W.D. Robinson, J.B. Kauffman, B.E. Law. 2009. Initial controls on conifer regeneration in a large-scale mixed-severity fire. In: The '88 Fires: Yellowstone and Beyond. R.E. Masters, K.E.M. Galley, D.G. Despain, eds. Tall Timbers Research Station No. 16.
- Kauffman, J.B. and **D.C. Donato**. 2009. Vulnerability of Pacific islands ecosystems to climate change and potential adaptation/mitigation approaches. Proceedings of the SPC Heads of Forestry Meeting, Nadi, Fiji.
- Hudiburg, T., B.E. Law, D.P. Turner, J.L. Campbell, M. Duane, **D.C. Donato**. 2008. Disturbance, climate, and management impacts on US west-coast forest carbon budgets. *Eos Trans. AGU*, 89(53), Fall Meet. Suppl., Abstract B31D-0311.
- Donato, D.C.** and M. Stidham. 2003. Distribution, habitat and breeding demography of *Strix occidentalis occidentalis* on the Plumas National Forest, CA: TU8 Survey Area Report. Technical Report for USDA Forest Service, Plumas National Forest, Mt. Hough Ranger District, Quincy, CA.
- Donato, D.C.**, M. Stidham, D. Lysgaard-Rutz. 2002. Distribution, habitat and breeding demography of *Strix occidentalis occidentalis* on the Plumas National Forest, CA: TU3 Survey Area Report. Technical Report for USDA Forest Service, Plumas National Forest, Feather River Ranger District, Oroville, CA.

Presentations (lead author only)

- Donato, D.C., M. Simard, M.G. Turner, W.H. Romme, B.J. Harvey, J.M. Griffin, 2011. *Invited presentation*: Comparing bark beetle (*Dendroctonus spp.*) impacts on fuels in lodgepole pine and Douglas-fir forests of Greater Yellowstone. North American Forest Insect Work Conference, Portland, OR.
- Donato, D.C., M.G. Turner, B.J. Harvey, W.H. Romme, M. Simard, 2011. Bark beetle outbreaks & wildfire potential in Douglas-fir forests of Greater Yellowstone. International Association for Landscape Ecology conference (US-IALE), Portland, OR.
- Donato, D.C., 2010. *Invited presentation*: Exceptional carbon storage in Indo-Pacific mangroves: implications of sea-level rise and land use. Ecological Society of America Annual Meeting, Pittsburgh, PA.

- Donato, D.C., 2010. *Invited presentation*: Notes on stewardship. Ecological Society of America Annual Meeting, Pittsburgh, PA.
- Donato, D.C., 2010. *Invited presentation*: Seeing the mangroves for the trees: The potential for mangroves in climate change mitigation strategies. Katoomba Payment for Ecosystem Services Conference, Hanoi, Vietnam.
- Donato, D.C., 2009. *Invited presentation*: Early vegetation responses to the Biscuit Fire, Oregon. Western Washington University, Huxley College of the Environment Speaker Series, Bellingham, WA.
- Donato, D.C. 2009. *Invited presentation*: Measuring carbon stocks in Indonesia's mangrove forests: It's a dirty business. Center for International Forestry Research (CIFOR) Headquarters, Bogor, Indonesia.
- Donato, D.C. 2009. *Invited presentation*: The Indo-Pacific Forest Carbon Study: Reducing uncertainties in carbon storage for the largest tropical C pools on Earth. Given to representatives of the United Nations, World Bank, FAO, and USAID; Bangladesh.
- Donato, D.C. 2009. *Invited presentation*: Burn mosaic patterns and conifer regeneration in a large wildfire. US Forest Service Pacific Northwest Research Station, Pacific Wildland Fire Sciences Lab, Seattle, WA.
- Donato, D.C., J.B. Fontaine, J.L. Campbell, W.D. Robinson, J.B. Kauffman, B.E. Law, 2008. Conifer regeneration in a large mixed-severity wildfire: From where shall ye come? "*The '88 Fires: Yellowstone and Beyond*" Conference, Jackson, WY. Earned 'Best Presentation' award by student chapter of International Association of Wildland Fire.
- Donato, D.C., J.B. Fontaine, B.E. Law, W.D. Robinson, J.B. Kauffman 2007. Early response of forest vegetation to a reburn in the Siskiyou mountains, Oregon, USA. *Annual meeting of the Ecological Society of America*, San Jose, CA.
- Donato, D.C., J.B. Fontaine, B.E. Law, W.D. Robinson, J.B. Kauffman, 2007. Early response of forest vegetation to a reburn in the Siskiyou mountains, Oregon, USA. *North American Forest Ecology Workshop*, Vancouver, BC.
- Donato, D.C., J.B. Fontaine, W.D. Robinson, J.B. Kauffman, B.E. Law, 2006. *Invited presentation*: Early influences of salvage logging after the Biscuit Fire. State University of New York, Environmental Science & Forestry Program (SUNY-ESF), *Shifting Paradigms Symposium*, Syracuse, NY.
- Donato, D.C., J.B. Fontaine, J.L. Campbell, B.E. Law, 2006. *Invited presentation*: Vegetation and fuels following the Biscuit Fire and post-fire logging. National Commission on Science for Sustainable Forestry (NCSSF), *Forest Disturbance, Management and Biodiversity Workshop*, Denver, CO.
- Donato, D.C., J.B. Fontaine, J.L. Campbell, W.D. Robinson, J.B. Kauffman, B.E. Law, 2006. Oral & written testimony: Research on post-fire intervention. United States Congressional Oversight Hearing: *Scientific Research & the Knowledge-base concerning Forest Management Following Wildfires and Other Major Disturbances*.
- Donato, D.C., J.B. Fontaine, W.D. Robinson, J.B. Kauffman, B.E. Law, 2006. Conifer regeneration & fuel loads following the Biscuit Fire and post-fire logging. *Annual Ecology Research & Management workshop*, Rogue-Siskiyou National Forest, Gold Beach, OR.
- Donato, D.C., J.B. Fontaine, W.D. Robinson, J.B. Kauffman, B.E. Law, 2005. Salvage logging & post-fire dynamics of fuel profiles, wildlife and vegetation communities on the Biscuit Fire, SW Oregon. *Joint Fire Science Program PI Workshop*, San Diego, CA.

Donato, D.C. 1998. Advanced regeneration of western redcedar in a mature Douglas-fir forest: the role of legacies as seed sources. Departmental seminar, University of Washington, College of Forest Resources.

Teaching

- Fill-in Instructor: University of Wisconsin-Madison. Advanced Landscape Ecology (ZOO 879), Spring 2012.
- Mentor/Lecturer: ESA Student Workshop on Stewardship -- Ecological Society of America Annual Meeting, Pittsburgh, Summer 2010
- Lead Instructor: USDA Forest Service International Programs. Global Climate Change, Forest Monitoring, and Carbon Financing. Dhaka, Bangladesh. Sponsored/funded by USAID, Fall 2009
- Lecturer: University of Hawaii. Global Climate Change & Pacific Island Ecosystems (NRM 599), Fall 2009
- Graduate Student Mentor: Oregon State University. Mentor for three M.S./Ph.D students, Forest Science Department, 2006-2008
- Guest Lecturer: Oregon State University. Forest Policy Analysis (FOR 561), Forest Resources Department, Winter 2006
- Co-Instructor: Oregon State University. Fire Behavior Modeling module (FOR/FW 536), Winter 2005
- Guest Lecturer: Oregon State University. Physiology of Woody Plants, (FS 561), Forest Science Department, Fall 2003
- Teaching Assistant: University of Washington. Management of Western Forests (ESC 499), Fall 1998

Other qualifications

- Competence in science-related analytical software (e.g., ArcGIS, R, SigmaPlot, etc.)
- Government-certified chainsaw operation / tree felling
- First Aid -- Wilderness First Responder certified
- Red Card certified (Wildland Firefighter): S-130/190 and RX-80
- U.S.F.S. bear behavior and safety training, .375 rifle certification
- Conversant in Spanish and Indonesian languages

ReferencesPostdoctoral advisor

Dr. Monica Turner
Professor
Zoology Department
University of Wisconsin
Madison, WI 53706
608.262.2592
turnermg@wisc.edu

Graduate advisor

Dr. Beverly Law
Professor
Dept. of Forest Science
Oregon State University
Corvallis, OR 97331
541.737.6111
bev.law@oregonstate.edu

Undergraduate advisor

Dr. Jerry Franklin
Professor
College of Forest Resources
University of Washington
Seattle, WA 98195
206.543.2138
jff@u.washington.edu

Past supervisor, Resource Mgt. Agency

Rich Lowell
Area Biologist
Alaska Dept. Fish & Game
P.O. Box 667
Petersburg, AK 99833
907.772.3801
rich.lowell@alaska.gov