

List of publications from the CASCADE project 'Ecosystem-based adaptation for smallholder subsistence and coffee farmers in Central America'

January 2018

Note: Links in the document will take you to the on-line site where you can download the papers.

Scientific publications

1. Avelino, J., Cristancho, M., Georgiou, S., Imbach, P., Aguilar, L., Bornemann, G., Läderach, P., Anzueto, F., Hruska, A., & Morales, C. (2015). [The coffee rust crises in Colombia and Central America \(2008–2013\): impacts, plausible causes and proposed solutions](#). Food Security, 7(2), 303-321.
2. Bouroncle, C., Imbach, P., Rodríguez, B., Medellín, C., Martínez-Valle, A., Läderach, P. (2017) [Mapping climate change adaptive capacity and vulnerability of smallholder agricultural livelihoods in Central America: ranking and descriptive approaches to support adaptation strategies](#). Climatic Change, 141 (1) 123-127.
3. Cerda, R., Allinne, C., Gary, C., Tixier, P., Harvey, C.A., Krolczyk, L., Mathiot, C., Clément, E., Aubertot, J.-N., Avelino, J. (2017). [Effects of shade, altitude and management on multiple ecosystem services in coffee agroecosystems](#), Eur. J. Agron. 82 (B) 308-319
4. Donatti, C. I., Harvey, C. A., Martinez-Rodriguez, M. R., Vignola, R., & Rodriguez, C. M. (2017). [What information do policy makers need to develop climate adaptation plans for smallholder farmers?](#) The case of Central America and Mexico. Climatic Change, 141 (1) 107-121.
5. Donatti, C., C.A. Harvey, M. R. Martinez Rodriguez, R. Vignola, and C. M. Rodriguez. 2018. Vulnerability of smallholder farmers to climate change in Central America and Mexico: current knowledge and research gaps. (Climate and Development, in press)
6. Fung, E., Imbach, P., Corrales, L., Vilchez, S., Zamora, N., Argotty, F., Hannah, L., Ramos, Z. (2017). [Mapping conservation priorities and connectivity pathways under climate change for tropical ecosystems](#). Climatic Change, 141 (1) 77-92.
7. Hannah L., Donatti C.I., Harvey C.A., Alfaro E., Rodriguez D.A., Bouroncle C., Castellanos E., Diaz F., Fung E., Hidalgo H.G., Imbach, P., Läderach, P., Landrum, J.P., Solano, A. L. (2017). [Regional modeling of climate change impacts on smallholder agriculture and ecosystems in Central America](#). Climatic Change, 141 (1) 29-45.
8. Hannah L., Steele M., Fung E., Imbach P., Flint L., Flint A. (2017). [Climate change influences on pollinator, forest, and farm interactions across a climate gradient](#). Climatic Change, 141 (1) 63-75.
9. Harvey, C.A. , Chacon, M., Donatti, C.I., Garen, E., Hannah, L., Andrade, A., Bede, L., Brown, D., Calle, A., Chara, J., Celment, C., Gray, E., Hoang, M.H., Minang, P., Rodriguez, A.M., Seeberg-

Elverfeldt, C., Semroc, B., Shames, S., Smuckler, S., Somarriba, E., Torquebiau, E., van Etten, J., Wollenberg, E. (2014). [Climate-smart landscapes: Opportunities and challenges for integrating adaptation and mitigation in tropical agricultural landscapes](#). *Conservation Letters*, 7(2): 77-90.

10. Harvey, C.A., M.R. Martínez -Rodríguez, J. M. Cardenas, J. Avelino, B. Rapidel, C.I. Donatti, and Vélchez Mendoza. The use of Ecosystem-based Adaptation practices by smallholder farmers in Central America. *Agriculture, Ecosystems and Environment* 246: 279-290.
<http://www.sciencedirect.com/science/article/pii/S0167880917301810>
11. Hidalgo, H.G., and Alfaro, E.J. (2015). [Skill of CMIP5 climate models in reproducing 20th century basic climate features in Central America](#). *International Journal of Climatology*, (35) 3397-3421.
12. Hidalgo H.G., Alfaro E.J., Quesada-Montano B. (2017). [Observed \(1970--1999\) climate variability in Central America using a high-resolution meteorological dataset with implication to climate change studies](#). *Climatic Change*, 141 (1):13-28.
13. Holland, M. B., Shamer, S.Z., Imbach, P., Zamora, J.C., Medellín Moreno, C., Leguía Hidalgo, E.J. Donatti, C.I. Martínez-Rodríguez, M.R. and Harvey. C.A. (2016). [Mapping adaptive capacity and smallholder agriculture: applying expert knowledge at the landscape scale](#). *Climatic Change*, 141 (1) 139-153.
14. Imbach, P., E. Fung, L. Hannah, C. Navarro--Racines, T.H. Ricketts, C.A. Harvey, D. Roubik, C. Donatti and P. Läderach. Coffee, bees and climate: coupling of pollination services and agriculture under climate change. *PNAS*
<http://www.pnas.org/content/early/2017/09/05/1617940114.full.pdf>
15. Imbach, P., Locatelli, B., Zamora, J.C., Fung, E., Ciais, P., Molina, L. (2015). Impacts of climate change on ecosystem hydrological services of Central America: water availability. *In* Chiabai, Aline (Ed.). 2015. **Climate Change Impacts on Tropical Forests in Central America: An Ecosystem Service Perspective**. Abingdon: Routledge.
16. Imbach, P., Beardsley, M., Bouroncle, C., Medellín, C., Läderach, P., Hidalgo, H., Alfaro, E., Van Etten, J., Allan, R., Hemming, D., Stone, R. Hannah, L., Donatti, C.I. (2017). [Climate change, ecosystems and smallholder agriculture: An introduction to the special issue](#). *Climatic Change*, 141 (1) 1-12.
17. Lyra, A., Imbach, P., Rodriguez, D., Chou, S. C., Georgiou, S., & Garofolo, L. (2017). [Projections of climate change impacts on central America tropical rainforest](#). *Climatic Change*, 141 (1) 93-105.
18. Keatinge, J. D. H., Imbach, P., Ledesma, D. R., Hughes, J. D. A., Keatinge, F. J. D., Nienhuis, J., Hanson, L. P., Ebert, A.W., Kumar, S. (2016). [Assessing air temperature trends in Mesoamerica](#)

[and their implications for the future of horticulture](#). *European Journal of Horticultural Science*, 81(2), 63-77.

19. Vignola, R., Harvey, C.A., Bautista-Solis, P., Avelino, J., Rapidel, B., Donatti, C., Martínez, M.R. (2015). [Ecosystem-based adaptation for smallholder farmers: definitions, opportunities and constraints](#). *Agriculture, Ecosystems and Environment* 211: 126-132.

Policy briefs:

1. [Ecosystem-based Adaptation is essential for achieving the Sustainable Development Goals](#). Conservation International policy brief (distributed at COP 21)
2. [Smallholder Farmers and Ecosystem-based Adaptation](#). Conservation International policy brief (distributed at COP21)
3. Bouroncle, C., Imbach, P. Rodríguez, B., Medellín, C., Fung, E., Martínez-Rodríguez, M.R., Donatti, C.I. 2015. [La agricultura de Costa Rica y el cambio climático: ¿Dónde están las prioridades para la adaptación?](#) Copenhague, Dinamarca: CGIAR Research Program on Climate Change, Agriculture and Food Security (CCAFS).
4. Bouroncle, C., Imbach, P. Rodríguez, B., Medellín, C., Fung, E., Martínez-Rodríguez, M.R., Donatti, C.I. 2015. [La agricultura de Guatemala y el cambio climático: ¿Dónde están las prioridades para la adaptación?](#) Copenhague, Dinamarca: CGIAR Research Program on Climate Change, Agriculture and Food Security (CCAFS).
5. Bouroncle, C., Imbach, P. Rodríguez, B., Medellín, C., Fung, E., Martínez-Rodríguez, M.R., Donatti, C.I. 2015. [La agricultura de Honduras y el cambio climático: ¿Dónde están las prioridades para la adaptación?](#) Copenhague, Dinamarca: CGIAR Research Program on Climate Change, Agriculture and Food Security (CCAFS).

Training materials:

1. Viguera, B., Martínez-Rodríguez, M.R., Donatti, C.I., Harvey, C.A. y Alpizar, F. 2017. El clima, el cambio climático, la vulnerabilidad y acciones contra el cambio climático: Conceptos básicos. [Materiales de fortalecimiento de capacidades técnicas del proyecto CASCADA \(Conservación Internacional-CATIE\)](#). 44 páginas.
2. Viguera, B., Martínez-Rodríguez, M.R., Donatti, C.I., Harvey, C.A. y Alpizar, F. 2017. Impactos del cambio climático en la agricultura de Centroamérica, estrategias de mitigación y adaptación. [Materiales de fortalecimiento de capacidades técnicas del proyecto CASCADA \(Conservación Internacional-CATIE\)](#). 46 páginas.
3. Martínez-Rodríguez, M.R., Viguera, B., Donatti, C.I., Harvey, C.A. y Alpizar, F. 2017. La importancia de los servicios ecosistémicos para la agricultura. [Materiales de fortalecimiento de capacidades técnicas del proyecto CASCADA \(Conservación Internacional-CATIE\)](#). 40 páginas.

4. Martínez-Rodríguez, M.R., Viguera, B., Donatti, C.I., Harvey, C.A. y Alpizar, F. 2017. Cómo enfrentar el cambio climático desde la agricultura: Prácticas de Adaptación basadas en Ecosistemas. [Materiales de fortalecimiento de capacidades técnicas del proyecto CASCADA \(Conservación Internacional-CATIE\)](#). 44 páginas.

Scientific publications submitted and under review:

1. Alpizar, F., T. Capitán, F. Castillo, **C.A. Harvey**, R. Martínez and B. Viguera. Challenges in collecting data from smallholder farmers in developing countries: implications for climate change adaptation research. *Climate Change and Development* (in review)
2. Harvey, C.A., M. Saborio-Rodriguez, M. R. Martinez-Rodriguez, B. Viguera, A. Chain, R. Vignola and F. Alpizar. Perceptions of climate change, impacts and adaptation among smallholder farmers in Central America. *Regional Environmental Change* (in review)
3. Vignola, R., C.A. Harvey, J. Avelino, B. Rapidel, P. Bautista- Soli, M.R. Martinez-Rodriguez, M. Chacon, C.I Donatti, and F. Alpizar. A review of the evidence and knowledge gaps on the effectiveness of ecosystem-based adaptation practices for smallholder farms: The case of coffee and basic grains in the Neotropics. *Agriculture, Ecosystems and Environment* (in review)