

**BRITALDO SILVEIRA SOARES FILHO**

***RÉSUMÉ***

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**Date of Birth**

26/03/1958

**Current position and collaborations**

Dr. Britaldo Silveira Soares-Filho is full professor of Department of Cartography, Institute of Geosciences and the current coordinator of CSR (Remote Sensing Center) of Federal University of Minas Gerais (UFMG), Brazil. He advises at the graduate courses on Agro-meteorology, Universidade Federal de Viçosa, and Environmental Modeling of UFMG, which he led the creation. Since 2000, he has collaborated in various research projects on the Amazon with IPAM (Instituto de Pesquisas Ambientais da Amazônia), Aliança da Terra, and the Woods Hole Research Center, where he is a distinguished visiting scientist.

***Other recent and former positions***

Visiting Professor- University of Bonn, Center for Development Research (ZEF) (2016-present).

Science advisor for Aliança da Terra (2013-present)

Affiliate with the Gund Institute for Ecological Economics, University of Vermont (October 2013-present).

Visiting Scientist at Environmental Change Institute, Oxford University (October 2012).

Coordinator of graduate course on Modeling Environmental Systems, UFMG (2008-2010, 2013-2014).

BIARI Lecturer at Brown University (2010).

Moore Visiting Fellow at Yale School of Management, 2008.

Lecturer at UNAM, Institute of Geography, Morelia, in the graduate course “Manejo Integral del Paisaje”, 2006, 2007, 2008.

Adviser at INPA ecology graduate program (National Institute for the Research of the Amazon), 2005.

Coordinator of specialization course on Geoprocessing - UFMG (2000-2003)

## **Education**

BA in Geology, Universidade Federal de Minas Gerais – 1982.

MSc in Remote Sensing, Instituto Nacional de Pesquisas Espaciais – 1987.

PhD in Spatial Analyses, Universidade de São Paulo – 1998.

## **Research Interests**

His research focuses on environmental modeling applied to policy design and evaluation of policy choices. Dr. Soares-Filho and collaborators have developed integrated simulations of land-use changes in tropical forest regions to assess the impacts of policy scenarios on climate, river regime, carbon balance, forest fires, agriculture and forestry rents, and biodiversity. The economic and ecological integrated modeling platforms his team developed have been applied to helping answer several key policy questions facing Brazil. In this respect, Dr. Soares-Filho has worked closely with NGOs and government agencies helping develop sound policies aimed at reconciling countrywide conservation with sustainable rural development. Policy applications include studies on REDD+ (Reducing Emissions from Deforestation and Forest Degradation), impacts of infrastructure development on ecosystem services, economic evaluation of forest concessions, effectiveness of Amazon protected areas, Brazil's Forest Code, the national market for trading forest certificates, low-carbon agriculture development, cattle ranching intensification, and Brazil's NDC (Nationally Determined Contributions) to climate change mitigation. Dr. Soares-Filho also coordinates the development of DINAMICA EGO software ([www.csr.ufmg.br/dinamica](http://www.csr.ufmg.br/dinamica)), an environmental modeling freeware used by many scholars worldwide.

## **Current Grants and Research Projects**

- The CRA market as a provider of environmental services: regulatory and implementation options. Climate and Land Use Alliance.
- Climate Change Mitigation options for Brazil, GEF-Ministry of Science
- Economic Valuation of Changes in the Amazon Forest Area. World Bank/NORAD
- Forest Resilience Scenarios for the Southern Amazon: Managing the Agricultural Frontier. World Bank
- Influence of land use change on the hydrological resources of the State of Minas Gerais. FAPEMIG.
- Development of systems to prevent forest fires and monitor vegetation cover in the Brazilian cerrado. International Bank for Reconstruction and Development

## **Awards**

2007. IPCC fourth report, working group III, mitigation, contributing author, chapter 9, Forestry – IPCC was awarded jointly with Al Gore with the 2007 Nobel Peace Prize.

2015. Georg Forster Research Award, The Alexander von Humboldt Foundation

## Citation indices (Google Scholar)

<u>Citation indices</u>	All	Since 2011
<u>Citations</u>	6832	5161
<u>h-index</u>	36	33
<u>i10-index</u>	68	61

## Selected Publications

SOARES-FILHO, B, RAJÃO, R, MERRY, F. RODRIGUES, H., DAVIS, J., LIMA, L., MACEDO, M., COE, M, CARNEIRO, A. SANTIAGO, L. Brazil's Market for Trading Forest Certificates. Plos One, v. 11, p. e0152311, 2016.

NUNES, F., RAJÃO, R, SOARES-FILHO, B. Boundary work in climate policy making in Brazil: Reflections from the frontlines of the science-policy interface. Environmental Science & Policy, v.59, p.85 - 92, 2016.

GOULART, F, CARVALHO-RIBEIRO, S, SOARES-FILHO, B. Farming-Biodiversity Segregation or Integration? Revisiting Land Sparing versus Land Sharing Debate. Journal of Environmental Protection (Print), v. 07, p. 1016-1032, 2016.

GOULART, F, PERFECTO, I, VANDERMEER, J, BOUCHER, D, CHAPPELL, J, FERNANDES, W, SCARIOT, A, DA SILVA, M, OLIVEIRA, W, NEVILLE, R, MOORE, J, BUSTAMANTE, M, CARVALHO, S, SOARES-FILHO, B. Emissions from cattle farming in Brazil. Nature Climate Change, v. 6, P. 893-894, 2016.

RAJÃO, R. G. L., SOARES-FILHO, B. S. Policies undermine Brazil's GHG goals. Science, v.350, p.519 - 519, 2015.

GALFORD, G. L., SOARES-FILHO, B., SONTER, L., LAPORTE, N. Will Passive Protection Save Congo Forests?. Plos One., v.10, p.e0128473, 2015.

SONTER, L., BARRETT, D., MORAN, C., SOARES-FILHO, B. Carbon emissions due to deforestation for the production of charcoal used in Brazil's steel industry. Nature Climate Change, 2015.

GIBBS, H. K.; RAUSCH, L.; Munger, J.; SCHELLY, I.; MORTON, D. C.; NOOJIPADY, P. ; Soares-Filho, B. ; BARRETO, P. ; MICOL, L. ; WALKER, N. F. . Brazil's Soy Moratorium. Science (New York, N.Y.), v. 347, p. 377-378, 2015.

GOULART, F., TAKAHASHI, F., RODRIGUES, M, MACHADO, R., SOARES-FILHO, B. WHERE matrix quality most matters? Using connectivity models to assess effectiveness of matrix conversion in the Atlantic Forest. Natureza & Conservação v.13, p.47 53, 2015.

MAS, J. F., SOARES-FILHO, B., RODRIGUES, H. Calibrating cellular automata of land Use/cover change models using a genetic algorithm. ISPRS International Archives of the Photogrammetry, Remote Sensing and Spatial Information Sciences., v.XL3/ W3, p.67 70, 2015.

SOARES-FILHO, B.; RAJAO, R.; MACEDO, M.; CARNEIRO, A.; COSTA, W.; COE, M.; RODRIGUES, H.; ALENCAR, A. Cracking Brazil's Forest Code. Science, v. 344, p. 363-364, 2014.

- ARIMA EY, BARRETO P, ARAÚJO E, SOARES-FILHO BS. Public policies can reduce tropical deforestation: Lessons and challenges from Brazil. *Land Use Policy* v.41, p. 465-473, 2014.
- SOARES-FILHO BS, RAJÃO R. Modelling of Deforestation Scenarios for the Northwest of Mato Grosso. *Policy in Focus* 29:37-39, 2014.
- BRANDO, P. M. ; BALCH, J. K. ; NEPSTAD, D. C. ; MORTON, D. C. ; PUTZ, F. E. ; COE, M. T. ; SILVERIO, D. ; MACEDO, M. N. ; DAVIDSON, E. A. ; NOBREGA, C. C. ; ALENCAR, A. ; SOARES-FILHO, B. S. . Abrupt increases in Amazonian tree mortality due to drought-fire interactions. *Proceedings of the National Academy of Sciences of the United States of America*, 2014.
- SONTER, L. J.; BARRETT, D.; SOARES-FILHO, B.S.; MORAN, C.J. Global demand for steel drives extensive land-use change in Brazil's Iron Quadrangle. *Global Environmental Change*, v. 26, p. 63-72, 2014.
- SONTER, L. J.; MORAN, C.; BARRETT, D.; SOARES-FILHO, S. Processes of land use change in mining regions. *Journal of Cleaner Production*, 2014.
- SONTER, L., BARRETT, D. SOARES-FILHO, B.S. Offsetting the impacts of mining to achieve no-net-loss of native vegetation. *Conservation Biology*. DOI: 10.1111/cobi.12260, 2014.
- MANN, MICHAEL L.; KAUFMANN, ROBERT K. ; BAUER, DANA MARIE ; GOPAL, SUCHARITA ; NOMACK, MALLORY ; WOMACK, JESSE Y. ; SULLIVAN, KERRY ; SOARES-FILHO, B.S. Pasture conversion and competitive cattle rents in the Amazon. *Ecological Economics*. v. 97, p. 182-190, 2014.
- VIANA, L; SOARES-FILHO, B. S. A Combined Biophysical and Economic GIS Framework to Assess Sugarcane Cropping Potential in Brazil. *Transactions in GIS (Print)*, v. 18, p. 449-463, 2014.
- LIMA L., COE M., SOARES-FILHO B., CUADRA, S., DIAS, L., COSTA, M., LIMA L., RODRIGUES, H. Feedbacks between deforestation, climate, and hydrology in the Southwestern Amazon: implications for the provision of ecosystem services. *Landscape Ecology*. DOI 10.1007/s10980-013-9962-1. 2014.
- RAJAO, R.; SOARES-FILHO, B. S.; MARCOLINO, C.; HOFF, R. V. D.; COSTA, M. . Beyond the Panacea: a Critical Assessment of Instruments of Deforestation Control. *Policy in Focus*, v.1, p. 1-39, 2014.
- SONTER, L.J.; BARRETT, D.J.; MORAN, C.J.; SOARES-FILHO, B.S. A Land System Science meta-analysis suggests we underestimate intensive land uses in land use change dynamics. *Journal of Land Use Science*. DOI: 10.1080/1747423X.2013.871356, 2013.
- SOARES-FILHO, B.S. Impacto da revisão do Código Florestal: como viabilizar o grande desafio adiante? Secretaria de Assuntos Estratégicos da Presidência. 28 p. <http://www.sae.gov.br/site/?p=15735>. 2013.
- SOARES-FILHO, B. S.; RODRIGUES, H; FOLLADOR, M. A hybrid analytical-heuristic method for calibrating land-use change models. *Environmental Modelling & Software*, v. 43 pp. 80-87, 2013.

- MAS J-F, SOARES FILHO B, PONTIUS RG, FARFÁN GUTIÉRREZ M, RODRIGUES H. A Suite of Tools for ROC Analysis of Spatial Models. *ISPRS International Journal of Geo-Information*. 2(3):869-887, 2013.
- OLIVEIRA, L. J C, COSTA, MARCOS H, SOARES-FILHO, BS, COE, M. Large-scale expansion of agriculture in Amazonia may be a no-win scenario. *Environmental Research Letters*, v.8, p.024021, 2013.
- STICKLER, C. M., COE, M. T., COSTA, M. H., NEPSTAD, D. C., MCGRATH, D. G., DIAS, L. C. P., RODRIGUES, H. O., SOARES-FILHO, B. S. Dependence of hydropower energy generation on forests in the Amazon Basin at local and regional scales. *Proceedings of the National Academy of Sciences of the United States of America*. (Online), p.1 - 6, 2013.
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- GALFORD G, SOARES-FILHO B, CERRI C. Prospects for land-use sustainability on the agricultural frontier of the Brazilian Amazon. *Phil. Trans. R. Soc. B*. 20120171. <http://dx.doi.org/10.1098/rstb.2012.0171>, 2013.
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- SOARES-FILHO B. S.; LIMA L.; BOWMAN M.; VIANA L.; GOUVELLO C. Challenges for a low carbon agriculture and forest conservation in Brazil. Sustainability Report. IADB. Washington. <http://www.iadb.org/sustainability/soares>. 2012.
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### **Software and models**

SimBrasil/OTIMIZAGRO - a spatially-explicit model of land use change for the entire country of Brazil that responds to agricultural scenarios - [http://siteresources.worldbank.org/BRAZILEXTN/Resources/Brazil\\_LowcarbonStudy.pdf](http://siteresources.worldbank.org/BRAZILEXTN/Resources/Brazil_LowcarbonStudy.pdf).

FISC (Fire Ignition Spread and Carbon)

<http://www.springerlink.com/content/5169178l8m691403/>

SimMadeira – Serviço Florestal Brasileiro, Brasília, DF, Brasil.

DINAMICA EGO freeware - Environment for Geoprocessing Objects.  
[www.csr.ufmg.br/dinamica\\_ego](http://www.csr.ufmg.br/dinamica_ego)

SimAmazonia – A scientific framework for basin-wide conservation –  
[www.csr.ufmg.br/simamazonia](http://www.csr.ufmg.br/simamazonia)

The BANTER model - The Brazilian Amazon Negotiation Toolbox for the Economics of REDD) -  
<http://www.whrc.org/policy/banter.htm>