

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 and is the current coordinator. Since 2000, he has collaborated in various research projects on the Amazon with IPAM (Instituto de Pesquisas Ambientais da Amazônia) and the Woods Hole Research Center, where he is a visiting scientist.

Other recent and former positions

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

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

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

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 modeling of land-use policy scenarios, including integrated simulation of land-use changes in tropical forest regions and the assessment of their impacts on climate, river regime, carbon balance, forest fires, agriculture and forestry rents, and biodiversity. In addition, Dr. Soares-Filho coordinates the development of DINAMICA EGO software (www.csr.ufmg.br/dinamicaEGO), an environmental modeling freeware used by many scholars worldwide.

Current Grants and Research Projects

- CLUA - Directing Low Carbon Investments to Facilitate the Transformation of Ranching in Brazil.
- MMA- (Ministry of Environment) – Modeling the impact of public policies aimed at the implementation of the new Forest Code.
- NORAD with Aliança da Terra – Protecting forests and engaging farmers and ranchers in REDD+ through sustainable commodity supply in the Brazilian Amazon and Cerrado (REDD+ commodity supply in Brazil).
- CNPQ- Universal (Brazilian National Council for Science) – SimBrasil-2: a nationwide spatially-explicit model of land use, land use change, forestry, and resulting carbon emissions as a planning tool to reconcile the targets of the National Climate Change Plan with the ones of the Ministry of Agriculture and Livestock.
- Brazil Forestry Service – Modeling scenarios of timber harvesting in the national Forests of the Brazilian Amazon.
- CNPQ – (Brazilian National Council for Science) fellowship (Nexus between human dimensions and deforestation in the Brazilian Amazon).
- The Gordon and Betty Moore Foundation – Fire, land use, and the savannization of seasonally-dry Amazon forests.
- CNPQ – Instituto Nacional de Serviços Ambientais da Amazônia - SERVAMB.

Prize

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.

Selected Publications

SOARES-FILHO, B.S. Impacto da revisão do Código Florestal: como viabilizar o grande desafio adiante? 2013b. Secretaria de Assuntos Estratégicos da Presidência. 28 p. <http://www.sae.gov.br/site/?p=15735>.

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 2012

- 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*. , v.1, p.1 - 6, 2013.
- NOLTE, C.; AGRAWAL, A.; SILVIUS, K. ; SOARES-FILHO, B. S. Governance regime and location influence avoided deforestation success of protected areas in the Brazilian Amazon. *Proceedings of the National Academy of Sciences of the United States of America (Online)*, v. early, p. 1-6, 2013.
- 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.
- WALKER, R; ARIMA, E.; MESSINA, J; SOARES-FILHO, B.; PERZ, S. ; VERGARA, D. ; SALES, M. ; PEREIRA, R. ; CASTRO, W. Modeling spatial decisions with graph theory: logging roads and forest fragmentation in the Brazilian Amazon. *Ecological Applications*, v. 23, p. 239-254, 2013.
- FERREIRA, B.M.; PEREIRA, F.M.Q.; SOARES-FILHO; B.S.; RODRIGUES, H.O. Optimizing a Geomodeling Domain Specific Language. *Programming Languages. Lecture Notes in Computer Science*. Springer Berlin / Heidelberg. 2012.
- METZKER T., SPÓSITO, T., SOARES- FILHO B., AHUMADA, J., GARCIA, Q. Tropical forest and carbon stock's valuation: A monitoring policy. Chapter XX, *Biodiversity 20 / Book 1*. 2012.
- CARLSON, K. M., CURRAN, L. M., RATNASARI, D., PITTMAN, A. M., SOARES-FILHO, B. S., ASNER, G. P., TRIGG, S. N., GAVEAU, D. A., LAWRENCE, D., RODRIGUES, H. O. Committed carbon emissions, deforestation, and community land conversion from oil palm plantation expansion in West Kalimantan, Indonesia. *Proceedings of the National Academy of Sciences of the United States of America*. , v.109, p.7559 - 7564, 2012.
- FERREIRA, M. E., FERREIRA, L. G., MIZIARA, F., SOARES-FILHO, B. S. Modeling landscape dynamics in the central Brazilian savanna biome: future scenarios and perspectives for conservation. *Journal of Land Use Science*. , v.1, p.1 - 19, 2012.
- LEITE, C. COSTA H. M.; SOARES-FILHO B.; VIANA L. Historical land use change and associated carbon emissions in Brazil from 1940 to 1995. *Global Biogeochemical Cycles*. v.26, p.GB2011 - 29, 2012.

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- NUNES F.; SOARES-FILHO B. S.; GIUDICE; R. RODRIGUES H. O.; BOWMAN M. S.; SILVESTRINI. R; MENDOZA, E. Economic benefits of forest conservation: assessing the potential rents from Brazil nut concessions in Madre de Dios, Peru, to channel REDD+ investments. *Environmental Conservation*, 39 (3). 2012.
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- LAPOLA, D., SCHALDACH R., BONDEAU A., MSANGI S., PRIESS J., SILVESTRINI, R., SOARES-FILHO, B. Impacts of climate change and the end of deforestation on land use in the Brazilian Legal Amazon. *Earth Interactions* (15) DOI: 10.1175/2010EI333.1, 2011.
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SOARES-FILHO B., ALENCAR A., NEPSTAD D., CERQUEIRA G., VERA DIAZ M., RIVERO S., SOLÓRZANO L., VOLL E. Simulating the Response of Land-Cover Changes to Road Paving and Governance Along a Major Amazon Highway: The Santarém-Cuiabá Corridor. *Global Change Biology*. EUA, v. 10, n. 5, p. 745-764, 2004.

ALMEIDA, Claudia; BATTY, Michael; MONTEIRO, Miguel; CAMARA, Gilberto; SOARES-FILHO, Britaldo Silveira; CERQUEIRA, Gustavo; PENNACHIN, Cássio Lopes. Stochastic cellular automata modeling of urban land use dynamics: empirical development and estimation. *Computers, Environment and Urban Systems*, 27, pp. 481–509, 2003.

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Software and models

DINAMICA EGO freeware - Environment for Geoprocessing Objects.
www.csr.ufmg.br/dinamica_ego

SimAmazonia – A scientific framework for basin-wide conservation –
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>

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.

FISC (Fire Ignition Spread and Carbon)

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