

DURIEUX Laurent – IRD / UMR ESPACE-DEV

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Dr Durieux Laurent is a Geographer specialized in GEO-Technologies and in tropical environment monitoring and modeling. He is currently an associate researcher of the UMR Espace-Dev Unit based in Montpellier, France. His research interest focus on monitoring tropical land surface processes using data from Earth Observing satellites. He develops new methodologies in the field of GEOgraphic Object-Based Image Analysis using knowledge representation in ontologies to process satellite images. His main area of interest is the Amazon that he observed for almost 20 years. He is also a specialist of Mediterranean and tropical wetlands always working in interdisciplinary or transdisciplinary research team. He participated to the ALOS k&C initiative to map Amazon wetlands and to different project in hydrology and biodiversity modeling in the Amazon including HYBAM, CLIM-FABIAM and BIO\_SOS. He has also coordinated health-environment programs in Brazil looking at environmental degradation impacts on health. He was the President of the South-American Association of Remote Sensing from 2012 to 2014.

### **Main publications linked with the BONDS proposal**

2016 Almeida, C., et al.: Typologies and spatialization of agricultural production systems in Rondônia, Brazil: linking land Use, socioeconomics and territorial configuration, *Land*, 5(2), 18. DOI:10.3390/land5020018.

2016 Almeida, C., et al.: High spatial resolution land use and land cover mapping of the Brazilian Legal Amazon in 2008 using Landsat-5/TM and MODIS data, *Acta Amazonica*, 46 (3), pp. 291-302.

2016 Wiefels, A. et al. : Exploring the Brazilian malaria's Epidemiological Surveillance System data base, *Act Amazonica*, 46 (4), pp. 383-390.

2016 Andrès, S., Arvor, D., Mougnot, I., Libourel, T. et Durieux, L. : Ontology-based classification of remote sensing images using spectral rules, *Computer & Geosciences*, 102, pp. 158-166.

2013 Wolfarth, B. R., Filizola, N., Tadei, W. P. et Durieux, L. : Epidemiological analysis of malaria and its relationships with hydrological variables in four municipalities of the state of Amazonas, Brazil, *Hydrological Sciences Journal*, 58 (7), 1-10.

2013 Arvor, D., Durieux, L., Andrés, S., Laporte, M.-A. : Advances in Geographic Object-Based Image Analysis with ontologies: A review of main contributions and limitations from a remote sensing perspective. *ISPRS Journal of Photogrammetry and Remote Sensing*. Volume 82, Pages 125–137.

2012 Lucas, R., Jones, G., Kosmidou, V., Petrou, Z. Inglada, J., Mucher, S. Adamo, M. P., Blonda, P., Arvor, D., Durieux, L., Report on RS\_IUS second-stage modules software description, BIO\_SOS Biodiversity Multisource Monitoring System: from Space TO Species, Projet FP7-SPA-2010-1-263435, Deliverable D5.5, 71p.

### **Coordination and participation to scientific Projects linked with the BONDS proposal**

Coordinator of the CNPq / IRD program: RELAIS – Regional Epidemiological Amazonian Information System, 2012-2015.

Responsible of the EO data processing modules implementation Work Package of the FP7-Space BIO\_SOS project : Biodiversity Multi-Source MOnitoring System: From Space To Species (IRD, 13 European partners + INPE-Brasil), 2011-2014

IRD Coordinator for the ALOS Kyoto&Carbon Initiative: Mapping spatio-temporal dynamic of wetlands Cartographie (ICESS/UCSB, INPE, NASA, JAXA), 2008-2012.

Coordinator of the CNPq / IRD program : Socio-environmental and malaria dynamic in the Amazon – a multi-scalar approach (UFAM, INPA, ICESS, Univ. Wisconsin), 2008-2011.