Pontus Olofsson

Personal information

Title:	Research Associate Professor
Affiliation:	Dept. of Earth & Environment, Boston University
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Email:	olofsson@bu.edu
Date of Birth:	August 14, 1976
Nationality:	Citizen of Sweden; Permanent Resident of the US

Work Experience

2017-Present	Consultant *The World Bank*
2015-Present	Research Associate Professor *Dept. of Earth & Environment, Boston University*
2015-2016	Consultant *High Carbon Stock Study of the Sustainable Palm Oil Manifesto*
2012-2016	Lecturer *Dept. of Earth & Environment, Boston University*
2011-2015	Research Assistant Professor *Dept. of Earth & Environment, Boston University*
2007-2011	Postdoctoral Research Associate *Dept. of Earth & Environment, Boston University*
2007	Postdoctoral Research Associate *Dept. of Physical Geography & Ecosystem Science, Lund University*
2002-2007	PhD Candidate *Dept. of Physical Geography & Ecosystem Science, Lund University*
2001-2002	Consultant/Software Developer *T-Kartor Sweden AB (non-academic)*

Education

2007	PhD in Physical Geography *Dept. of Physical Geography & Ecosystem Science, Lund University, Sweden*
2002-2007	Graduate studies in Physical Geography and Mathematical Statistics *Lund University, Sweden*
2000	MSc in Physical Geography *Dept. of Physical Geography, Lund University, Sweden*
1996-2000	Undergraduate studies in Physical Geography, Mathematical Statistics, Mathematics and Film Studies *Lund University, Sweden*

Peer-Reviewed Publications (Google Scholar Profile)

Five journal articles in preparation

Thompson, J. R., Plisinski, J., Olofsson, P., Holden, C. E., and Duveneck, M. (2017). Forest loss in New England: A projection of recent trends. *PLOS ONE*, in review.

Olofsson, P. (2017). Accuracy and Area Estimation. *Reference Module in Earth Systems and Environmental Sciences*, in press

Badjana, H. M., Olofsson, P., Woodcock, C. E. and Helmschrot, J. (2017). Mapping and estimating land change between 2001 and 2013 in a heterogeneous landscape in West Africa: loss of forestlands and capacity building opportunities. *International Journal of Applied Earth Observation and Geoinformation*, in press

Padilla, M., Olofsson, P., Tansey, K. and Chuvieco. E. (2017). Stratification and sample allocation for reference burned area data. *Remote Sensing of Environment*, in press

Zhu, Z., Gallant, A. L., Woodcock, C. E., Pengra, B., Olofsson, P., Loveland, T. R., Jin, S., Dahal, D., Yang, L. and Auch, R. F. (2016). Optimizing selection of training and auxiliary data for operational land cover classification for the LCMAP initiative. *ISPRS Journal of Photogrammetry and Remote Sensing*, 122:206-221

Zhu, Z., Fu, Y., Woodcock, C. E., Olofsson, P., Vogelmann, J. E., Holden, C. E., Wang, M., Dai, S. and Yu, Y. (2016). Including Land Cover Change in Greenness Trend Analysis Based on All Available Landsat 5, 7, and 8

Images: A case study from Guangzhou, China (2000-2014). *Remote Sensing of Environment*, 185: 243-257

Olofsson, P., Holden, C. E., Bullock, E. L. and Woodcock, C. E. (2016). Time series analysis of satellite data reveals continuous deforestation of New England since the 1980s. *Environmental Research Letters*, 11 064002

Reinmann, A. B., Hutyra, L. R., Trlica, A. and Olofsson, P. (2016). Assessing the global warming potential of human settlement expansion in a mesic temperate landscape from 2005 to 2050. *Science of the Total Environment*, 545:512-524

Olofsson, P., Foody, G. M., Herold, M., Stehman, S. V., Woodcock, C. E. and Wulder, M. A. (2014). Good Practices for Assessing Accuracy and Estimating Area of Land Change. *Remote Sensing of Environment*, 148:42-57. [**Cited 316 times as of Nov. 2018 since May 2014 according to Google Scholar**]

Jeon, S. B., Olofsson, P. and Woodcock, C. E. (2014). Land use change in New England – reversing the forest transition. *Journal of Land Use Science*, 9:105-130

Erb, K.-E., Kastner, T., Luyssaert, S., Houghton, R. A., Kuemmerle, T., Olofsson, P. and Haberl, H. (2013). Bias in the attribution of forest carbon sinks. *Nature Climate Change*, 3:854-856

Xin, Q., Olofsson, P., Woodcock, C. E. and Zhu, Z. (2013) Fusion of MODIS and Landsat data for near real-time monitoring of forest disturbance. *Remote Sensing of Environment*, 135:234-247

Olofsson, P., Foody, G. M., Stehman, S. V. and Woodcock, C. E. (2013). Making better use of accuracy data in land change studies: estimating accuracy and area and quantifying uncertainty using stratified estimation. *Remote Sensing of Environment*, 129:122-131 [Cited 253 times since February 2013 according to Google Scholar]

Zhu, Z., Woodcock, C. E. and Olofsson, P. (2012). Continuous monitoring of forest disturbance using all available Landsat imagery. *Remote Sensing of Environment*, 122:75–91

Stehman, S. V., Olofsson, P., Woodcock, C. E., Herold, M. and Friedl, M. A. (2012). A global land cover validation dataset, II: Augmenting a stratified sampling design to estimate accuracy by region and land-cover class. *International Journal of Remote Sensing*, 33:6975-6993

Olofsson, P., Stehman, S. V., Woodcock, C. E., Sulla-Menashe, D., Sibley, A. M., Newell, J. D., Friedl, M. A. and Herold, M. (2012). A global land cover validation dataset, I: Fundamental design principles. *International Journal of Remote Sensing*, 33:5768-5788

Feng, Z., Strahler, A. H., Schaaf, C. L., Yao, T., Yang, X., Wang, Z,. Schull,

M. A., Román, M. O,. Woodcock, C. E., Olofsson, P., Ni-Meister, W,. Jupp, D. L. B., Lovell, J. L., Culvenor, D. S. and Newnham, G. J. (2012). Measuring gap fraction, element clumping index and LAI in Sierra Forest stands using a full-waveform ground-based lidar. *Remote Sensing of Environment*, 125:73-79

Olofsson, P., Kuemmerle, T., Griffiths, P., Knorn, J., Baccini, A., Gancz, V., Bludjea, V., Houghton, R. A., Abrudan, I. V. and Woodcock, C. E. (2011). Carbon implications of the forest restitution in post-socialist Romania. *Environmental Research Letters*, 6:045202.

Kuemmerle, T., Olofsson, P., Chaskovskyy, O., Baumann, M., Ostapowicz, K., Woodcock, C. E., Houghton, R. A., Hostert, P., Keeton, W. S. and Radeloff, V. C. (2011). Post-Soviet farmland abandonment and carbon sequestration potential in Western Ukraine. *Global Change Biology*, 17:1335-1349.

Olofsson, P., Torchinava, P., Woodcock, C. E., Baccini, A., Houghton, R. A., Ozdogan, M., Zhao, F. and Yang, X. (2010). Implications of Land Use Change on the National Terrestrial Carbon Budget of Georgia. *Carbon Balance and Management*, 5:4.

Olofsson, P., Lagergren, F., Lindroth, A., Lindström, J., Klemedtsson, L., Kutsch, W. and Eklundh, L. (2008). Towards operational remote sensing of forest carbon balance across Northern Europe. *Biogeosciences*, 5:817-832.

Olofsson, P. and Eklundh, L. (2007). Estimation of absorbed PAR across Scandinavia from satellite measurements. Part II: Modeling and evaluating the fractional absorption. *Remote Sensing of Environment*, 110:240-251.

Olofsson, P., Van Laake, P. E. and Eklundh, L. (2007). Estimation of absorbed PAR across Scandinavia from satellite measurements. Part I: Incident PAR. *Remote Sensing of Environment*, 110:252-261.

Olofsson, P., Eklundh, L., Lagergren, F., Jönsson, P. and Lindroth, A. (2007). Estimating net primary production for Scandinavian forests using data from Terra/MODIS. *Advances in Space Research*, 39:125-130.

Other Publications

Ozdogan, M., Olofsson, P., Woodcock, C.E. and Baccini, A. (2016). Forest Changes and Carbon Budgets in the Black Sea Region. In G. Gutman and V. Radeloff (Eds.) *Land-Cover and Land-Use Changes in Eastern Europe after the Collapse of the Soviet Union in 1991.* Springer.

Penman, P., Green, C., Olofsson, P., Raison, J., and Woodcock, C. E. (2016). *Integrating remote-sensing and ground-based observations for estimation of emissions and removals of greenhouse gases in forests: Methods and Guidance from the Global Forest Observations Initiative. Edition 2.0.* Group on Earth Observations, Geneva, Switzerland.

Olofsson, P. (2015). *Review of global literature on the application of remote sensing for delineation and stratification of tropical forest ecosystems. Consulting Study 7 of the High Carbon Stock Science Study.* pp. 27.

Peneva-Reed, E., Veronica Gálmez, V., Olofsson, P. (2014), *Comparative Evaluation of Two Methodologies for Forest Monitoring in Peru.* SilvaCarbon, Washington D.C., USA.

Penman, P., Baltuck, M., Green, C., Olofsson, P., Raison, J., and Woodcock, C. E. (2013). *Integrating remote-sensing and ground-based observations for estimation of emissions and removals of greenhouse gases in forests: Methods and Guidance from the Global Forest Observations Initiative.* Group on Earth Observations, Geneva, Switzerland.

Olofsson, P., Woodcock, C. E., Baccini, A., et al. (2009). The effects of land use change on terrestrial carbon dynamics in the Black Sea Region. In P.Y. Groisman and S. Ivanov (Eds) *Regional Aspects of Climate-Terrestrial-Hydrologic Interactions in Non-boreal Eastern Europe* pp. 175-183.

Olofsson, P. (2007). Remote Sensing of Carbon Balance across Scandinavian Forests. Doctoral dissertation, Lund University.

Olofsson, P. and Stenström, R. (2000). Estimation of Leaf Area Index in Southern Sweden with Optical Modelling and a Landsat 7 ETM+ Scene. Master Thesis, Lund University.

Grants

PI: Comprehensive analysis of thirty years of land change in Georgia: patterns, carbon dynamics and drivers, 2018-2021. NASA Land-Cover and Land-Use Change Program, $640,385.

PI: Support to Boston University for capacity building and scientific collaboration, 2017. Department of the Interior/US Geological Survey, $50,000.

PI: Tracking Carbon Emissions and Removals by Time Series Analysis of the Land Surface: Prototype Application in Tropical MRV Systems Compliant with IPCC Tier 3, 2016-2019. NASA Carbon Monitoring System, $828,715.

PI: Support for SilvaCarbon, 2013-2016. Department of the Interior/US Geological Survey Interpersonal Agreement, $363,893.

PI: Course Innovation Grant, 2016. Boston University, $2,000.

PI: A prototype MRV system for a subregion in Colombia compliant with IPCC Approach 3 for securing activity data, 2014-2016. USDA Forest Service International Programs, $176,679.

Co-I (PI: J. Kellndorfer): Time Series Fusion of Optical and Radar Imagery for Improved Monitoring of Activity Data, and Uncertainty Analysis of

Emission Factors for Estimation of Forest Carbon Flux, 2013-2017. NASA Carbon Monitoring System, 894, 735.

Co-I (PI: C. E. Woodcock): Near real-time monitoring of land cover disturbance by fusion of MODIS and Landsat data, 2013-2017. NASA Science of Terra and Aqua, $561,960.

Co-I (PI: C. E. Woodcock): Better Use of the Landsat Temporal Domain: Monitoring Land Cover Type, Condition, and Change, 2011-2016. USGS Landsat Science Team, $1,017,798.

Teaching

Lecturer, full university courses

Boston University, GE 302 Remote Sensing of the Environment (fall semester 2016; 4.63/5 "Overall rating of instructor"; 28 students)

Boston University, GE 302 Remote Sensing of the Environment (fall semester 2015; 4.75/5 "Overall rating of instructor"; 35 students)

Boston University, GE 302 Remote Sensing of the Environment (fall semester 2014; 4.63/5 "Overall rating of instructor"; 31 students)

Boston University, GE 302 Remote Sensing of the Environment (fall semester 2013; 4.14/5 "Overall rating of instructor"; 25 students)

Boston University, GE 302 Remote Sensing of the Environment (fall semester 2012; 4.35/5 "Overall rating of instructor"; 22 students)

Lecturer, short courses

SilvaCarbon, Capacity Building Workshop: Accuracy and area estimation (1 week, August 2017, Hanoi, Vietnam)

SilvaCarbon, Capacity Building Workshop: Image processing and accuracy/area estimation (2 weeks, April 2017, Hanoi, Vietnam)

SilvaCarbon, Capacity Building Workshop: BEEODA (1 week, August 2016, Vientiane, Laos)

START/GOFC-GOLD, Capacity Building Workshop: Monitoring Land Use Change with Remote Sensing (2 weeks, July/August 2015, Boston, MA)

START/GOFC-GOLD, Capacity Building Workshop: Monitoring Land Use Change with Remote Sensing (2 weeks, September 2014, Boston, MA)

FCMC Regional Capacity Building Workshop: Understanding Accuracy and Area Estimation (1 week, August 2014, Lima, Peru)

Boston University/SilvaCarbon, Capacity Building Workshop: Monitoring Land Use Change with Remote Sensing in Support of Carbon Reporting (2 weeks, August 2013, Boston, MA)

Boston University/SilvaCarbon, Capacity Building Workshop: Monitoring Land Use Change with Remote Sensing in Support of Carbon Reporting (2 weeks, August 2012, Boston, MA)

START/GOFC-GOLD, Capacity Building Workshop: Monitoring Land Use Change with Remote Sensing (2 weeks, May 2012, Boston, MA)

Guest Lecturer

Boston University, GE 640/440 Digital Image Processing
Boston University, GE 110 Our Changing Planet: The Perspective from Space
Boston University, GE 302 Remote Sensing of the Environment
Lund University, NGE 609 Remote Sensing and the Global Biogeosphere System
Lund University, FPO 026 Intelligence Analysis

Teaching Assistant, 2002-2007

Lund University, NGE 605 Remote Sensing for Landscape Studies
Lund University, NGE 603 Physical Geography, Fundamental Theory
Lund University, NGE 601 Physical Geography, Intro. to the Global Environ.
Lund University, GEG 451 Geographical Information Systems
Lund University, VFT 031 Geographical Information Systems
Lund University, VFT 051 Remote Sensing
Lund University, TEK 270 Geomatics

Advising

Postdocs

Stephan Estel 2014-2017
Andrew Reinmann 2016-2017

PhD students

Main advisor: Paulo Arevalo, PhD program; expected graduation 2018
Co-advisor: Xiaojing Tang; expected graduation 2017
Co-advisor: Sung Baae Jeon, graduated 2015

Other

Co-founder of BEEODA, Boston Education in Earth Observation Data Analysis
Member of the USGS/NASA LP DAAC Working Group
Member of the USGS/NASA Landsat Science Team
Member of the NASA Carbon Monitoring System Science Team
Co-lead of the NASA/CEOS Working Group on Calibration and Validation

Invited Journal Reviewer

Advances in Space Research
AMBIO, A journal of the Human Environment
Canadian Journal of Remote Sensing
Cartography and Geographic Information Science
Climate Change
Environmental Modelling Software
Environmental Systems Research
European Journal of Remote Sensing
GIScience Remote Sensing
IEEE Transactions on Geoscience and Remote Sensing
International Forestry Review
International Journal of Applied Earth Observation and Geoinformation
International Journal of Geographical Information Science
International Journal of Remote Sensing
ISPRS Journal of Photogrammetry and Remote Sensing
Landscape Ecology
Landscape Research
Nature
Remote Sensing
Remote Sensing of Environment
Science of the Total Environment
Spatial Statistics
Urban Studies

Invited Presentations

On the importance of area and accuracy estimation. GEO Week 2017, Washington DC, 2017

Statistical inference of area and accuracy. CONAFOR/SilvaCarbon workshop: Strengthening Capacities in the Comprehensive Preparation of National Greenhouse Gas Inventories in the LULUCF Sector. Zapopan, Mexico, 2017

Time series analysis for monitoring of activity data and An example of stratified estimation of area and accuracy and Methods and Guidance Document and

the REDD Compass. 1st Regional Workshop on Forest Monitoring – GEO GFOI Central America Capacity Building. Santo Domingo, Dominican Republic, 2016

BEEODA: a suite of open-source software and educational materials for processing Earth Observation data. The US Geological Survey Headquarters. Reston VA, 2016

Accuracy and Area: Examples, Tutorials and Software. GFOI/GOFC-GOLD Expert workshop on using global datasets. Wageningen, The Netherlands, 2015

BEEODA: a suite of open-source software and educational materials for processing Earth Observation data. The United States Department of the Interior. Washington DC, 2015 Accuracy and Area Estimation. Forest Management Bureau of the Philippine Government. Manilla, Philippines, 2015

Two MODIS-based approaches for monitoring forest change in near real-time. 12th Regional Workshop on Forest Monitoring – GEO GFOI Americas Capacity Building. Sao Jose dos Campos, Brazil, 2015

Stratified estimation of area. 11th Regional Workshop on Forest Monitoring – GEO GFOI Americas Capacity Building. Bogota, Colombia, 2014

Uncertainty in Activity Data, Emission Factors and Carbon Emissions. Second Regional Workshop on Remote Sensing for Forest Monitoring – Technical SE Asia Initiative of GFOI. GEO GFOI, Kathmandu, Nepal, 2014

Time series-based monitoring of activity data. First Regional Workshop on Remote Sensing for Forest Monitoring – Technical Central Africa Initiative of GFOI. GEO GFOI, Douala, Cameroon, 2014

Time series-based monitoring of activity data. First Regional Workshop on Remote Sensing for Forest Monitoring – Technical SE Asia Initiative of GFOI. GEO GFOI, Chiang Mai, Thailand, 2014.

Good Practices for Estimating Accuracy and Area of Activity Data. Comisión Nacional Forestal. Mexico City, Mexico, 2013

Uncertainty Analysis. Medición de la deforestacion a través de sensores remotos. Ministry of Environment of Peru. Lima, Peru, 2013

Uncertainty in Map Products. Seventh Regional Workshop on Forest Monitoring – GEO GFOI Americas Capacity Building. Mérida, Mexico, 2013

Making better use of accuracy data in land change studies: estimating accuracy and area and quantifying uncertainty. ForestSAT, Corvallis, OR, 2012

Estimating effects of forest change on terrestrial carbon flux: case studies from the former Soviet Union. Sixth Regional Workshop on Forest Monitoring – GEO GFOI Americas Capacity Building. San José, Costa Rica, 2012

Estimating accuracy and area and quantifying uncertainty when mapping land change. Fifth Regional Workshop on Forest Monitoring – GEO GFOI Americas Capacity Building. Quito, Ecuador, 2012

Effects of uncertainty in change estimates on models of terrestrial carbon flux. A Workshop on Uncertainty in Estimates of Forest Change, SilvaCarbon. Washington, DC, 2011

Effects of Land Use Change on the Carbon Budget of the Black Sea Region. Seminar. Boston University, Boston, MA, 2010

Accuracy Assessment of Global Land Cover Products. Seminar. University of Wisconsin-Madison, Madison, WI, 2009

Remote Sensing of Carbon Balance across Scandinavian Forests. Seminar. Boston University, Boston, MA, 2007

Conference Presentations

More than twenty conference presentations and proceedings including at the COSPAR Scientific Assemblies and the AAG Annual Meetings.