

# Pontus Olofsson

---

*Research Assistant Professor/Lecturer*  
*Dept. of Earth & Environment, Boston University*  
*685 Commonwealth Ave., Boston, MA 02215, USA*  
*+1-617-353-9374; [olofsson@bu.edu](mailto:olofsson@bu.edu)*  
*Citizen of Sweden; Permanent Resident of USA*

## Education

---

**2007 PhD in Physical Geography** | Department of Physical Geography and Ecosystem Science, Lund University, Sweden

**2002-2007 Graduate studies** in Physical Geography and Mathematical Statistics at Lund University, Sweden

**2000 MSc in Physical Geography** | Department of Physical Geography and Ecosystem Science, Lund University, Sweden

**1996-2000 Undergraduate studies** in Physical Geography, Mathematical Statistics, Mathematics and Film Studies at Lund University, Sweden

## Professional Appointments

---

**2015-2016, Consultant** | High Carbon Stock Study of the Sustainable Palm Oil Manifesto (Sime Darby Plantation Sdn Bhd, Kuala Lumpur, Malaysia)

**2012- Present, Lecturer** | Department of Earth & Environment, Boston University

**2011- Present, Research Assistant Professor** | Department of Earth & Environment, Boston University

**2007-2011, Postdoctoral Research Associate** | Department of Earth & Environment, Boston University

**2007, Postdoctoral Research Associate** | Department of Physical Geography and Ecosystem Science, Lund University

**2002-2007, PhD student** | Department of Physical Geography and Ecosystem Science, Lund University

**2001-2002, Consultant/Software Developer** | T-Kartor Sweden AB (non-academic)

## Peer-Reviewed Publications (see also my [Google Scholar Profile](#))

---

- Jeon, S. B., **Olofsson, P.** Houghton, R. E., Zhao, F., Yang, X., and Woodcock, C. E. (2016). The Effect of Historical Land Use and Recent Deforestation on the Terrestrial Carbon Budget of New England. *Forest Ecology and Management*, in review
- 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*, in press
- 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., Hutyrá, 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 124 times since May 2014 or more than 4 citations per month 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., Luysaert, 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 149 times since February 2013 or more than 3 citations per month 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

---

- 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. In Press.
- 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. <http://www.carbonstockstudy.com/>
- 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. <http://www.gfoi.org/methods-guidance/>
- 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.

## Active Grants

---

- PI:** *Support for SilvaCarbon.* US Department of the Interior, US Geological Survey Interpersonal Agreement, \$363,893
- PI:** *Course Innovation Grant.* Boston University, \$2,000
- PI:** *A prototype MRV system for a subregion in Colombia compliant with IPCC Approach 3 for securing activity data.* 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*. NASA Carbon Monitoring System, \$894,735

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

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

**Collaborator** (PI: V. C. Radeloff): *Synthesis of studies on institutional change and LCLUC effects on carbon, biodiversity, and agriculture after the collapse of the Soviet Union*. NASA Land Cover and Land Use Change Program, \$1,100,000

## Teaching Experience

---

### Lecturer, full university courses

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

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

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

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

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

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

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

## Guest Lecturer

Boston University, GE 640/440 *Digital Image Processing* (2008-present)  
Boston University, GE 110 *Our Changing Planet: The Perspective from Space* (fall 2011)  
Boston University, GE 302 *Remote Sensing of the Environment* (fall 2008)  
Lund University, NGE 609 *Remote Sensing and the Global Biogeosphere System* (2002-06)  
Lund University, FPO 026 *Intelligence Analysis* (2005)

## Teaching Assistant, 2002-2007

Lund University, NGE 605 *Remote sensing for Landscape Studies*  
Lund University, NGE 603 *Physical Geography, Fundamental Theory and Methods*  
Lund University, NGE 601 *Physical Geography, Introduction to the Global Environment*  
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

---

### Postdoctoral Research Associate

Stephan Estel

### Graduate Student

Paulo Arevalo, PhD program; expected graduation 2018

## Other

---

Co-founder of BEEODA, Boston Education in Earth Observation Data Analysis

(<http://beeoda.org>)

Member of the *USGS/NASA Landsat Science Team*

Member of the *NASA Carbon Monitoring System Science Team*

Co-lead of the *CEOS (Committee on Earth Observation Satellites) Working Group on Calibration and Validation, Land Cover Focus Area*

## Invited Journal Reviewer

---

*Advances in Space Research*

*AMBIO, A journal of the Human Environment*

*Canadian Journal of Remote Sensing*  
*Climate Change*  
*Environmental Modelling & Software*  
*GIScience & Remote Sensing*  
*IEEE Transactions on Geoscience and Remote Sensing*  
*International Forestry Review*  
*International Journal of Geographical Information Science*  
*International Journal of Remote Sensing*  
*ISPRS Journal of Photogrammetry and Remote Sensing*  
*Landscape Ecology*  
*Landscape Research*  
*Remote Sensing*  
*Remote Sensing of Environment*  
*Science of the Total Environment*  
*Spatial Statistics*  
*Urban Studies*

## **Invited Presentations**

---

*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 GEO 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 GEO 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 GEO 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 deforestación 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 and Proceedings**

---

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