

# Curriculum Vitae - Damien Sulla-Menashe

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## EDUCATION

**Boston University**, Boston, Massachusetts, USA

Doctor of Philosophy (Ph.D.) in Natural Geography and Remote Sensing Sep 2009 – May 2015  
Adviser: Professor Mark Friedl

Research areas: Climate change, remote sensing, time series analysis.

Dual Degree Program:

Sep 2002 – Dec 2006

Master of Arts (M.A.) in Geographic Information Systems and Remote Sensing of the Environment

Bachelor of Arts (B.A.) in Environmental Science

Honors: Summa Cum Laude

Cumulative GPA: 3.8 / 4.0

## RESEARCH EXPERIENCE

**Land Cover and Surface Climate Group**, Boston University

Research Fellow, Earth and Environment Department

Jan 2007 – Present

Produce the Collection 5 MCD12Q1 (Land Cover Type) data product for use and distribution by NASA.

Update and manage the System for Terrestrial Ecosystem Parameterization (STEP) database of over 2,000 sites worldwide.

Implement strategies to increase the computational efficiency of the classification process and the overall quality of data produced.

Prototype an LCCS-based land cover classification for the Northern Eurasia region.

Create an independent global land cover validation database to validate the VIIRS LC product.

Develop the Collection 6 MCD12Q1 (Land Cover Type) data product algorithm.

## PUBLICATIONS

2010

Friedl, M.A., **Sulla-Menashe, D.**, Tan, B., Schneider, A., Ramankutty, N., Sibley, A., & Huang, X. (2010). MODIS collection 5 global land cover: algorithm refinements and characterization of new datasets. *Remote Sensing of Environment*, 114(1), 168-182.

Preston, D.R., Brodley, C.E., Khardon, R., **Sulla-Menashe, D.**, & Friedl, M. (2010). Redefining class definitions using constraint-based clustering: an application to remote sensing of the earth's surface. *KDD '10: Proceedings of the 16th ACM SIGKDD international conference on knowledge discovery and data mining*, Washington, D.C., USA, July 25-28, 823-831.

2011

Pflugmacher, D., Krankina, O.N., Cohen, W.B., Friedl, M.A., **Sulla-Menashe, D.**, Kennedy, R.E., Nelson, P., Loboda, T.V., Kuemmerle, T., Dyukarev, E., Elsakov, V., & Kharuk, V.I. (2011). Comparison and assessment of coarse resolution land cover maps for Northern Eurasia. *Remote Sensing of Environment*, 115(12), 3539-3553.

**Sulla-Menashe, D.**, Friedl, M.A., Krankina, O.N., Baccini, A., Woodcock, C.E., Sibley, A., Sun, G., Kharuk, V., & Elsakov, V. (2011). Hierarchical mapping of northern Eurasia using MODIS data. *Remote Sensing of Environment*, 115, 392-403.

2012

Baccini, A., Goetz, S.J., Walker, W.S., Laporte, N.T., Sun, M., **Sulla-Menashe, D.**, Hackler, B., Beck, P.S.A., Dubayah, R., Friedl, M.A., Samanta, S., & Houghton, R.A. (2012). Estimated carbon dioxide emissions from tropical deforestation improved by carbon-density maps. *Nature Climate Change*, 2, 182-185.

Olofsson, P., Stehman, S.V., Woodcock, C.E., **Sulla-Menashe, D.**, Sibley, A.M., Newell, J.D., Friedl, M.A., & Herold, M. (2012). A global land-cover validation data set, part 1: fundamental design principles. *International Journal of Remote Sensing*, 33(18), 5768-5788.

Rebbapragada, U., Brodley, C.E., **Sulla-Menashe, D.**, & Friedl, M.A. (2012). Active label correction. *IEEE 2012: Proceedings of the 12th International Conference on Data Mining (ICDM)*, 1080-1085.

Yaozhong, P., Li, L., Jinshui, Z., Shunlin, L., Xiufang, Z., & **Sulla-Menashe, D.** (2012). Winter wheat area estimation from MODIS-EVI time series data using the Crop Proportion Phenology Index. *Remote Sensing of Environment*, 119, 232-242.

- 2014 Broxton, P.D., Zeng, X., **Sulla-Menashe, D.**, & Troch, P.A. (2014). A global land cover climatology using MODIS data. *Journal of Applied Meteorology and Climatology*, 53, 1493-1605.
- Cai, S., Liu, D., **Sulla-Menashe, D.**, & Friedl, M.A. (2014). Enhancing MODIS land cover product with a spatial-temporal modeling algorithm. *Remote Sensing of Environment*, 147, 243-255.
- Glanz, H., Carvalho, L., Sulla-Menashe, D., & Friedl, M.A. (2014). A parametric model for classifying land cover and evaluating training data based on multi-temporal remote sensing data. *ISPRS Journal of Photogrammetry and Remote Sensing*, 97, 219-228.
- Sulla-Menashe, D.**, Kennedy, R.E., Yang, Z., Braaten, J., Krankina, O.N., & Friedl, M.A. (2014). Detecting forest disturbance in the Pacific Northwest from MODIS time series using temporal segmentation. *Remote Sensing of Environment*, 151(C), 114-123.
- Yin, H., Pflugmacher, D., Kennedy, R., **Sulla-Menashe, D.**, & Hostert, P. (2014). Mapping annual land use and land cover changes using MODIS time series. *IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing*, 7(8), 3421-3427.
- 2015 Mertes, C.M., Schneider, A., **Sulla-Menashe, D.**, Tatem, A.J., & Tan, B. (2015). Detecting change in urban areas at continental scales with MODIS data. *Remote sensing of Environment*, 158, 331-347.
- Schneider, A., Mertes, C.M., Tatem, A.J., Tan, B., **Sulla-Menashe, D.**, Graves, S.J., Patel, N.N., Horton, J.A., Gaughan, A.E., Rollo, J.T., Schelly, I.H., Stevens, F., & Dastur, A. (2015). A new urban landscape in East-Southeast Asia, 2000-2010. *Environmental Research Letters*, 10 (3), 1-14.
- Sulla-Menashe, D.**, Friedl, M.A., & Woodcock, C.E. (2015). Sources of bias and variability in long-term Landsat time Series over Canadian boreal forests. *Remote Sensing of Environment* (in review).
- Sulla-Menashe, D.**, Friedl, M.A., & Woodcock, C.E. (2015). Divergent responses of Canadian boreal forests to climate warming. *Proceedings of the National Academy of Sciences of the United States of America* (in prep).

**MEETING  
ABSTRACTS  
&  
PRESENTATIONS**

**Sulla-Menashe, D.**, Baccini, A., Friedl, M.A., Woodcock, C.E., & Krankina, O.N. **Poster.** Mapping land cover in Northern Eurasia using a hierarchical land cover classification system. 2008 NASA Carbon Cycle and Ecosystems Meeting, April 28-30, 2008, University of Maryland Inn and Conference Center, Adelphi, MD.

**Sulla-Menashe, D.**, Friedl, M.A., Baccini, A., Woodcock, C.E., & Krankina, O.N. **Oral Presentation.** Mapping land cover in Northern Eurasia using a hierarchical land cover classification system. Land Cover Mapping at High Latitudes, GOF-C-GOLD/NERIN, July 2008, Syktyvkar Russia.

**Sulla-Menashe, D.**, Friedl, M.A., Krankina, O.N., Woodcock, C.E., Baccini, A., Sibley, A., Sun, G., Kharuk, V., & Elsakov, V. **Poster.** Hierarchical mapping of Northern Eurasia land cover using MODIS. Joint NASA LCLUC Science Team Meeting & GOF-C-GOLD/NERIN, NEESPI Workshop, August 25-28, 2010, Tartu, Estonia.

**Sulla-Menashe, D.**, Olofsson, P., Stehman, S.V., Woodcock, C.E., Herold, M., Newell, J., Sibley, A.M., & Friedl, M.A. **Poster.** Validation of global land cover products using an independent global reference validation database. American Geophysical Union Fall 2010 Meeting, December 13-16, 2010, San Francisco, CA, USA.

**Sulla-Menashe, D.**, Friedl, M.A., Krankina, O.N., Baccini, A., Woodcock, C.E., Sibley, A.M., Sun, G., Kharuk, V., Elsakov, V., Olofsson, P., Stehman, S.V., Herold, M., Newell, J., & Ahlqvist, O. **Oral Presentation.** Hierarchical land cover classification with MODIS & an independent global land cover validation database. International Workshop on Global Land cover Mapping, January 12-14, 2011, Tsinghua University, Beijing, China.

**Sulla-Menashe, D.**, Yang, Z., Braaten, J., Krankina, O.N., Friedl, M.A., & Kennedy, R.E. **Poster.** Detecting forest disturbance in the Pacific Northwest from MODIS time series using temporal segmentation. 2011 NASA Carbon Cycle and Ecosystems Joint Science Workshop, October 3-7, 2011, Hilton Alexandria Mark Center, Alexandria, VA.

**Sulla-Menashe, D.**, Yang, Z., Braaten, J., Krankina, O.N., Friedl, M.A., & Kennedy, R.E. **Poster.** Detecting forest disturbance in the Pacific Northwest from MODIS time series using temporal segmentation. American Geophysical Union Fall 2011 Meeting, December 5-9, 2011, San Francisco, CA, USA.

**Sulla-Menashe, D.**, Yang, Z., Braaten, J., Krankina, O.N., Friedl, M.A., & Kennedy, R.E. **Poster.** Detecting forest disturbance in the Pacific Northwest from MODIS time series using temporal segmentation. MODIS Science Team Spring 2012 Meeting, May 7-9, 2012, Silver Spring, MD, USA.

**Sulla-Menashe, D.**, Yang, Z., Kennedy, R.E., Braaten, J., Krankina, O.N., & Friedl, M.A. **Oral Presentation.** Detecting forest disturbance in the Pacific Northwest from MODIS time series using temporal segmentation. ForestSAT Conference 2012, September 11-14, 2012, Oregon State University, Corvallis, OR, USA.

**Sulla-Menashe, D.**, Olofsson, P., Woodcock, C.E., Friedl, M.A., Holden, C.E., Metcalfe, M., Stehman, S.V., Herold, M., & Giri, C. **Oral Presentation.** Development of an independent global land cover validation database. American Geophysical Union Fall 2012 Meeting, December 3-7, 2012, San Francisco, CA, USA.

**Sulla-Menashe, D.**, Gray, J., & Friedl, M.A. **Oral Presentation.** Collection 6 MODIS land cover and land cover dynamics. MODIS Science Team Meeting, April 28-30, 2014, Columbia, MD, USA.

**Sulla-Menashe, D.**, Friedl, M.A., & Woodcock, C.E. **Poster.** On the use of Landsat data to detect long-term NDVI trends in Canadian boreal forests. American Geophysical Union Fall 2014 Meeting, December 15-19, 2014, San Francisco, CA, USA.

**PROFESSIONAL  
AFFILIATIONS  
& ACTIVITIES**

**American Geophysical Union**, Washington D.C., USA  
Member

2010 – Present

**Journal of Remote Sensing of Environment**  
**ISPRS Journal of Photogrammetry and Remote Sensing**  
**Journal of Remote Sensing**  
Journal reviewer

**CAMPUS ACTIVITIES**      **Graduate Student Organization**, Boston University  
Travel Grant Coordinator      Sep 2010 – May 2012  
Participated in GSO meetings as the Geography Department representative.  
At the end of each semester organized the Travel Grant Committee from a representative sample of graduate students.  
Judged up to fifty applications and together we awarded five travel grants each semester.

**OTHER WORK EXPERIENCE**      **The Encyclopedia of Earth**, Boston, MA, USA  
Copy Editor      Feb 2007 – May 2008  
Implemented basic wiki editing code, including creating tables, inserting pictures, and incorporating hyperlinks.  
Contributed fifteen hours per month within the topics of ecology, biodiversity, and conservation.  
Conducted research to identify content partners for the future expansion of the encyclopedia.

**Pickering Educational Resources Library**, Boston, MA, USA  
Circulation Desk Manager      Sep 2002 – Dec 2006  
Organized test collection and facilitate checkout of reserve material.  
Advised students and faculty in locating reference materials and in performing computer-based research.  
Entered patron data into the library database.

**Paul J. Sulla Attorney at Law**  
Secretary/Paralegal      Jun 2006 – 2006  
Assisted in the editing and drafting of motions, briefs, and letters.  
Organized a database to assist in monthly bill-paying.  
Answered phones and carried out correspondences.

**SKILLS**      Programming languages: Proficient in C, C++, UNIX, R, T<sub>E</sub>X, L<sup>A</sup>T<sub>E</sub>X, and ESRI Arc Macro Language. Knowledge of IDL, SQL Matlab, and Python.  
GIS applications: ESRI (ArcMap, ArcInfo, ArcScene, ArcToolbox, ArcCatalog), QGIS, OGR/GDAL, and GoogleEarth.  
Image processing software: IPW, ENVI, ECognition, and Adobe Photoshop.  
Microsoft Office Suite (Word, Excel, and Powerpoint).  
Advanced knowledge of Spanish.  
Wiki formatting language.

**INTERESTS**      Ultimate frisbee, camping and hiking, snowboarding, surfing, board games, reading.