Viktor V. Myroniuk
Associate Professor, Dr. Sci. (Forest Inventory and Forest Mensuration)
Department of Forest Mensuration and Forest Management
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EDUCATION

National University of Life and Environmental Sciences of Ukraine, Kyiv (Ukraine)

Doctor of Science (Forest Inventory and Forest Mensuration) **July 2019**

Dissertation Title: Theoretical and Experimental Substantiation of Forest Inventory in Flat Land Ukraine Using Satellite Imagery

National Agricultural University, Kyiv (Ukraine)

Candidate of Science (Forest Inventory and Forest Mensuration) **June 2007**

Dissertation Title: The Volume and Tree Stems Form of Trees in the Urban Area of Kyiv

National Agricultural University, Kyiv (Ukraine)

Master's degree in Forest Management **December 2003**

Thesis Title: Developing Local Volume Tables for Scots Pine Logs

National Agricultural University, Kyiv (Ukraine)

Bachelor's degree in Forestry **June 2002**

Thesis Title: A Comparative Analysis of Round Wood Volume Estimation

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AREAS OF SPECIFICATIONS

- Predictive forest cover mapping using satellite images
- Spatial analysis of vegetation patterns and geographic information systems
- Sample-based forest inventory
- Probabilistic wildfire risk simulation
- Modeling forest stands and trees parameters
- Forest management

WORK EXPERIENCE

National University of Life and Environmental Sciences of Ukraine, Kyiv (Ukraine)
Associate Professor **December 2010 – Present**

National Agricultural University, Kyiv (Ukraine)
Professor Assistant / Lecturer **September 2006 – December 2010**

National University of Life and Environmental Sciences of Ukraine, Kyiv (Ukraine)
Researcher **September 2006 – Present**

PERSONAL SKILLS

Mother tongues: Ukrainian, Russian

Foreign language: English

UNDERSTANDING		SPEAKING		WRITING
Listening	Reading	Spoken interaction	Spoken production	
C1	**C1**	**B2**	**B2**	**B2**

Levels: A1 and A2: Basic user - B1 and B2: Independent user - C1 and C2: Proficient user

Communication skills: Good communication skills gained through my experience as teacher, lecturer, scientific adviser and research projects team member

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PROFESSIONAL SKILLS

Earth Observation / Remote Sensing

- Proficient in use of multiple passive satellite-based platforms for land cover mapping
- Experience in pre-processing multispectral satellite images for classification
- Experience with active SAR sensors (Sentinel 1, ALOS PALSAR) in the forest inventory
- Advanced experience with dense time series analysis to map forest attribute parameters using forest inventory data, including but not limited to LandTrendr
- Experience in wildfire and forest disturbances mapping using time series of satellite images
- Good knowledge of a variety of global forest cover products available at ~25-30 m and ~250-500 m spatial resolutions

Programming and Computing

- Proficient in R language
- Advanced experience with Google Earth Engine platform
- Knowledgeable in phyton and JavaScript coding

GIS and Data Analysis

- Proficient in QGIS, ESRI ArcGIS software; experience in ERDAS Imagine, ENVI software
- Proficient in satellite image classification using machine learning (RF, SVM, NN) and imputation algorithms (k-Nearest Neighbors)
- Experience in landscape-level wildfire simulation using different fuel treatment scenarios
- Experience in variety multi-scale geospatial analysis
- Advanced experience in general statistical analysis

PUBLICATIONS

Peer-Reviewed Articles:

Myroniuk, V., Bilous, A., Khan, Y., Terentiev, A., Kravets, P., Kovalevskyi, S., & See, L. (2020). Tracking Rates of Forest Disturbance and Associated Carbon Loss in Areas of Illegal Amber Mining in Ukraine Using Landsat Time Series. Remote Sensing, 12(14), 2235. https://doi.org/10.3390/rs12142235 (Personal contribution: Mapping forest disturbances using Google Earth Engine version of LandTrendr spectral-temporal segmentation algorithm)

Myroniuk, V., Kutia, M., Sarkissian, A. J., Bilous, A., & Liu, Sh. (2020). Regional-Scale Forest Mapping Over Fragmented Landscapes Using Global Forest Products and Landsat Time Series Classification. Remote Sensing, 12(1), 187. https://doi.org/10.3390/rs12010187 (Personal contribution: Random Forest classification of seasonal composited mosaics of Landsat images in Google Earth Engine; accuracy assessment of remote sensing-derived forest masks)

Ager, A. A., Lasko, R., **Myroniuk, V.**, Zibtsev, S., Day, M. A., Usenia, U., … Evers, C. R. (2019). The wildfire problem in areas contaminated by the Chernobyl disaster. *Science of The Total Environment*, 696, 133954. https://doi.org/10.1016/j.scitotenv.2019.133954 (Personal contribution: wildfire risk modelling using FlamMap-based software – mapping land cover using Landsat time series; processing MOD/MYD14 data to build ignition probability grid; calibrating the fire behavior models)

Lakyda, P., Shvidenko, A., Bilous, A., **Myroniuk, V.**, Matsala, M., Zibtsev, S., … Kraxner, F. (2019). Impact of Disturbances on the Carbon Cycle of Forest Ecosystems in Ukrainian Polissya. *Forests*, 10(4), 337. https://doi.org/10.3390/f10040337 (Personal contribution: mapping forest attributes using multispectral satellite images and forest inventory data)

Evangeliou, N., Kylling, A., Eckhardt, S., **Myroniuk, V.**, Stebel, K., Paugam, R., … Stohl, A. (2019). Open fires in Greenland in summer 2017: transport, deposition and radiative effects of BC, OC and BrC emissions. *Atmospheric Chemistry and Physics*, 19(2), 1393–1411. https://doi.org/10.5194/acp-19-1393-2019 (Personal contribution: mapping daily fire perimeters using time series of Sentinel 1/Sentinel 2 and Landsat OLI images)

Bilous, A., **Myroniuk, V.**, Holiaka, D., Bilous, S., See, L. D., & Schepaschenko, D. (2017). Mapping growing stock volume and forest live biomass: a case study of the Polissya region of Ukraine. *Environmental Research Letters*, 12(10), 13. https://doi.org/10.1088/1748-9326/aa8352. (Personal contribution: radiometric and geometric correction of RapidEye satellite images, mapping forest cover, imputing growing stock volume and live biomass using k-Neares Neighbors approach)

Evangeliou, N., Zibtsev, S., **Myroniuk, V.**, Zhurba, M., Hamburger, T., Stohl, A., … Kireev, S. I. (2016). Resuspension and atmospheric transport of radionuclides due to wildfires near the Chernobyl Nuclear Power Plant in 2015: An impact assessment. *Scientific Reports*, 6. https://doi.org/10.1038/srep26062. (Personal contribution: mapping burned areas using time series of Landsat images)

Conference paper:

Kutia M., **Myroniuk V.** and Sarkissian A. (2018). Evaluation of Sentinel-2 Composited Mosaics and Random Forest Mthod for Tree Species Distribution Mapping in Suburban Areas of Kyiv City, Ukraine. In *Proceedings of the International Workshop on Environmental Management, Science and Engineering - Volume 1: IWEMSE,* ISBN 978-989-758-344-5, pages 597-604. DOI: 10.5220/0007563505970604

Book chapter:

Lakyda, P., Bilous, A., Shvidenko, A., **Myroniuk, V.**, Matsala, M., Vasylyshyn, R., Holiaka, D., Lakyda,I. *Ecosystem Services of Ukrainian Forests: a Case Study for the Polissya Region*. Kyiv. 2018. (Personal contribution: mapping forest cover, imputing growing stock volume using multispectral satellite images)

Conference Activity:

Myroniuk, V., Bilous, A., Diachuk, P., Fedyna, K., & Matsala, M. (2019). Configuring Sample Plots: Sample-Based Forest Inventory and Accuracy Implications. *3rd International Conference "Smart Bio": Abstract Book*, 279. Kaunas, Lithuania.

Gregory M., Bell D., Gorelick N., **Myroniuk V.** Utilizing high-performance and data-rich cloud platforms for nearest neighbor imputation models: Bringing NN to the cloud. *ForestSAT 2018: Entering a New Era in Forest Observation and Analysis, 1–5 October 2018*, College Park, Maryland, USA.

Lakyda, P., Bilous, A., **Myroniuk, V.**, Vasylyshyn, R., Lakyda, I., Matsala, M., & Dyatchuk, P. (2018). Disturbances impact on carbon emissions in forest ecosystems of Ukrainian Polissya. *Cool Forests at Risk? The Critical Role of Boreal and Mountain Ecosystems for People, Bioeconomy, and Climate. Book of Abstracts: IBRA2018, September 17–20, 2018*, 72. IIASA, Laxenburg, Austria.

Kutia, M., Gautam, M., & **Myroniuk, V.** (2017). The Use of Sentinel-2 Imagery and Random Forest Classifier for Kyiv City Suburban Forest Mapping. *The 3rd Global Forum of Ecological Economics in Forestry, May 20–21, 2017*, 27–39. Nanchang, China.

Featured Papers Written in Ukrainian:

Myroniuk V. (2019). Mapping tree species composition of forest stands using Landsat seasonal mosaics and sample-based forest inventory. *Proceedings of the Forestry Academy of Sciences of Ukraine,* 19, 135–143. https://doi.org/10.15421/411935

Myroniuk, V. (2018). Forest cover mapping using Landsat-based seasonal composited mosaics. *Scientific Bulletin of UNFU*, 28(1), 28–33. https://doi.org/10.15421/40280105

PROJECTS / GRANTS

Improvement of methodology, models and reference components of the system for greenhouse gases inventory aiming at their application in national reporting of the RF to the Secretariat of the UN FCCC and other international bodies (IMGGAR) funded by IIASA (2019). Personal grant support: €6,000. Project team member

Development of a Methodology for Improved Forest Inventory (Project No 0118U000292) funded by Ministry of Education and Science of Ukraine (2018-2020). Grant support: $60,000. Project manager

Conserving, Enhancing and Managing Carbon Stocks and Biodiversity in The Chernobyl Exclusion Zone (Project No GFL/4634) funded by GEF (2015-2018). Grant support: $200,000. Project team member

Assessment of carbon cycling of forests based on advanced systems approaches (Project No UA 08/2017) funded by OeAD-GmbH (2017-2018). Grant support: $10,000. Project team member

SCHOLARSHIP / FUNDING

Short-term Scholarship of the US Forest Service-funded International Program G-3-10895 "Apply methods in remote sensing and statistics to build ignition probability maps". Portland State University. USA. (April - May 2017). Grant support: $6,500