Anna Gorbacheva (Buyvolova), PhD

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Summary

Soil science and climate change expert with research and analytical experience that spans over a diverse set of environmental areas, including food security, soil and land management, modeling the potential for soil carbon sequestration under changing climate. Operational experience in managing multistakeholder knowledge platforms and capacity strengthening for linking climate change, food security, soil and land management in Eurasia.

Professional Experience

The World Bank, Russia
(March 2017 – Present)
Agriculture and Food Security Specialist

- **Project Management**: Managing projects for World Bank's Reimbursable Advisory Services program on food security in Eurasian countries; coordinating the team of 5-15 cross-sector international consultants to develop analytical inputs; on a daily basis, liaise at the operational level with project relevant counterparts and consultants in developing analytical reports/case studies/events in order to ensure the coordination and alignment with project objectives; ensuring the project visibility and leading preparation of monthly newsletter (in English and Russian) for Eurasian Center for Food Security.
- **Research and policy analysis:** Contributing to the research project on digital agriculture in Russia, including preparing case study on digitizing soil information systems; performed agri-meteorological data analysis using Agriculture Intelligence Observatory, which provides access and deploy state-of-the-art agrometeorological data globally; authored policy case study on developing organic agriculture in Russia, resulting in identifying actionable policy recommendations to facilitate sector's development in short and long-term.

Lomonosov Moscow State University, Soil Science Department, Russia
(August 2014 – Present)
Research Fellow (2014-2021), Senior Researcher (2021-present)

- **Research:** soil survey, soil classification, soil mapping and modeling at local and regional levels. Studied ecosystem services, soil health characteristics of farms in Caucasus Mountains, Republic of Kalmykia and Astrakhan Region in Russia to determine causes of land degradation and estimate economic loss. Conducting research on urban forest ecosystems in Moscow to suggest better environmental management practices. Involved in international scientific initiatives as Eurasian Chronicle of Nature - Large Scale Analysis of Changing Ecosystems (University of Helsinki) and Eurasia GSOCseq map creation (FAO): row data collecting and modeling soil carbon stocks using RothC model;
- **Teaching**: Soil Geography (B.Sc., theoretical seminars); Soil Science and Ecology (B.Sc., field practice), Remote sensing in soil science (M.Sc) and Urban Farming in English (M.Sc).
- **Education Projects:** Leading project on adoption of Soil Judging Contest in Russia; introducing case study approach in teaching.

Peoples' Friendship University of Russia (RUDN University)
(March 2016 – March 2017)
Research Fellow (part time)

- **Teaching:** Urban Ecology (MSc) in English**.**
- **International Experience:** Gave lectures on urban soil classification during 3MUGIS international summer school, and prepared field trip "Long-manured soils of urban gardens" during 9th International SUITMA Congress in Moscow.

The Prioksko-Terrasny Nature Biosphere Reserve
(June – July 2015)
Research Fellow (part time)

- **Data Analysis:** Managed and analyzed datasets on biodiversity and prepared publication on GBIF.org.

AYA International Volunteer Center
(February – July 2012)
Placement Officer

- **Environmental Projects:** Coordinated volunteer environmental projects creating nature trails in "Taganai" Biosphere Reserve and National park Kenozero in Russia, was responsible for volunteers' recruitment and placement. Participated in volunteer environmental projects in France, Germany and Spain.

Education

Lomonosov Moscow State University, Soil Science Department (2012-2016)
PhD in Ecology. Topic of the thesis is *Transformation of Urban Forests' Ecosystems in Moscow (case study of "Kuzminki-Lyublino" Natural-Historical Park)*
Lomonosov Moscow State University, Soil Science Department (2007-2012) MS in Ecology and Soil Science

Special Skills

- Working knowledge of R programming language and ability to create data visualization in RStudio;
- Experience using a variety of GIS based systems such as GDAL, QGIS, Grass, ESRI ArcGIS Server products and ScanEx Image Processor;
- Ability to conduct statistical analyses and interpret results.

Languages Russian (native); English (fluent); French (B1)

Interests Art, gardening, reading and traveling

List of Publications

Publications with peer review process:

- Phenological shifts of abiotic events, producers and consumers across a continent / T. Roslin, L. Antão, M. Hällfors **et al.** // Nature climate change. — 2021. — P. 0–21.
- Abiotic change, consumers and producers slide apart as springs shift earlier and autumns later / L. Antão, M. Hällfors **et al.** // Nature Climate Change. — 2020.
- Chronicles of nature calendar, a long-term and large-scale multitaxon database on phenology / O. Ovaskainen, E. Meyke, L. Coong **et al.** // SCIENTIFIC DATA. — 2020. — Vol. 7, no. 1. — P. 47.
- **Buyvolova** A. Y., Khusniev I.T., BykovaE. P. (2019). Analysis of Causes of Soil Degradation at the Akhty Mountain and Valley Agricultural Experimental Station of the Republic of Dagestan. Vestnik Moskovskogo Universiteta, Seriya 17: Pochvovedenie, No. 1, pp. 10–16.
- Bobrov A., Mazei Y., **Buyvolova** A., and Yacher L. (2018). Testate amoebae of Peru: filling the gap in neotropics. Revista de Biologia Tropical, 66.
- **Buyvolova, A**., Prokifieva, T., and Kurbanova, F. (2018). Guidebook for the competition on the field description and diagnosis of soils (Soil Judging Contest). —"Expert" LLC Moscow. —39 p.
- Mitusova Y., **Buyvolova** A. (2017) Development of organic agriculture in Russia // Food Security in Eurasia

2017. —2. —“Expert” LLC Moscow. —P. 7–30. • Buyvolova A. Y., TrifonovaT. A., BykovaE. P. (2018). Vegetation indicators of transformation in the urban 2 forest ecosystems of “Kuzminki-Lyublino” park. Megacities 2050: Environmental Consequences of Urbanization. —Springer Geography, p. 118–124.

- **Buyvolova**, A. Y, Rakhleeva, A.A., Buyvolov, Y. A., Trifonova, T. A., Bykova, E. (2016). Comparative assessment of biological soil properties in natural and urban forests of Moscow region. Eurasian Soil Science. (12) 1-10.
- Kurhinen Ju. P. , **Buyvolova** A. Ju. , Sapelnikova, Vargot E. V. (2016) International scientific seminar «Chronicle of nature -a common database for scientific analysis and joint planning of scientific publications». Nature Conservation Research., 1(1):109–110.
- Trifonova, T. A., **Buyvolova**, A. Y., Buyvolov, Y. A., and Bykova, E. P. (2015). Seasonal variation of soil macrofauna in forest ecosystems of the prioksko-terrasnyi biosphere reserve. Moscow University Soil Science Bulletin, 70(4):187–192.

Publications without peer review process:

- Hakobyan, Artavazd, Ingrid Katrina Korsgard, Meng, Yuan-Ting, Bakalova, Irina, Buyvolova, Anna. (2019). Key Trends that Determine Digital Transformation in Agriculture The Potential of Small and Medium Farms in Russia, World Bank, -70 p.
- Nielson, David, Meng, Yuan-Ting, **Buyvolova**, Anna, Hakobyan, Artavazd. (2018). Unleashing the Power of Digital on Farms in Russia-and Seeking Opportunities for Small Farms. “Expert” LLC Moscow, -42 p.
- Rappoport, A., **Buyvolova**, A., Prokof’eva, T., Rakhleeva, A., Lysak, L., Morachevskaya, E., Rozanova, M., and Kiriushin, A. (2017). On-day field tours. b. long-manured soils of urban gardens. In Guidebook for field excursion of the 9th International Congress on Soils Urban, Industrial, Traffic, Minning and Military Areas "Urbanization: a challenge and opportunity for soil functions and ecosystem services" (21-30 May, 2017, Moscow), pages 35–51. RUDN University, Moscow.
- Prokof’eva, T., **Buyvolova**, A., Rappoport, A., Rozanova, M., Kiriushin, A., Lysak, L., PopovaL, Pikulenko, M., Lapteva, E., and Morachevskaya, E. (2017). On-day field tours. a. lomonosov moscow state university. soils on technogenic deposits of 60 years age. In Guidebook for field excursion of the 9th International Congress on Soils Urban, Industrial, Traffic, Minning and Military Areas "Urbanization: a challenge and opportunity for soil functions and ecosystem services" (21-30 May, 2017, Moscow), pages 16–34. RUDN University, Moscow.

Scientific books (co-authored):

- Ecological and economic assessment of land degradation (2016)./ Editors: prof. A.S.Yakovlev, prof. O.A.Makarov, prof. S.V.Kiselev, prof. E.N.Molchanov: Monograph. –Moscow: MAKS Press, -250 p. (In Rus)