

Anatolii Tsyplenkov

GEOMORPHOLOGIST

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Education

Lomonosov Moscow State University

PH.D. IN GEOGRAPHIC SCIENCES

Dec. 2019

Lomonosov Moscow State University

INSTRUCTOR-RESEARCHER IN GEOSCIENCES (POSTGRADUATE TRAINING)

2015 – 2018

Lomonosov Moscow State University

SPECIALIST IN HYDROLOGY (MASTER EQUIVALENT)

2010 – 2015

Professional appointments

Manaaki Whenua Landcare Research

SCIENTIST-GEOMORPHOLOGIST

Erosion & Sediment Processes

May. 2023 – Present

- Data-driven shallow landslide connectivity assessment
- Updated individual tree influence model on landslide susceptibility

Institute of Geography Russian Academy of Science

POSTDOCTORAL RESEARCHER

Laboratory of Geomorphology

Apr. 2020 – May. 2023

- Working for the RSF grant No. 19-17-00181 “Quantitative assessment of the slope sediment flux and its changes in the Holocene for the Caucasus mountain rivers”
- Sediment source fingerprinting analysis in small mountain basins
- Suspended sediment modelling on a regional scale (Caucasus)
- Studying short-term and long water discharge and suspended sediment dynamics
- Developed R package for exploring intra-event suspended sediment dynamics

Lomonosov Moscow State University

SENIOR RESEARCH FELLOW

Faculty of Geography

Jan. 2023 – May. 2023

- Developing of R package for Soil Erosion Modeling
- Applying SWAT and HBV models for sediment and water discharge simulations of a small urban river (Setun, Moscow)

Lomonosov Moscow State University

JUNIOR RESEARCH FELLOW

Faculty of Geography

Jan. 2020 – Jan. 2023

- Organized two international conferences and two schools for young researchers
- Estimated soil erosion for the Eastern Russia (Siberia, Kamcharka, Chukotka)
- Developed algorithm to process short-term logger data (turbidity and water level)
- Developed framework for assessing lateral erosion rates (and volumes) for Arctic rivers

Lomonosov Moscow State University

PHD STUDENT (GRADUATE RESEARCH ASSISTANT)

Faculty of Geography

Sep. 2015 – Dec. 2019

- Title thesis: Suspended sediment load formation in small mountain river basins: general patterns and regional features (defended: 19 Dec 2019)
- Supervisor: Prof. D.Sc. Valentin Golosov

State Institute of Oceanography (Russia, Moscow)

TECHNICIAN

Information Support Department

Aug. 2015 – Aug. 2017

- Conducting hydrological measurements: water discharge, water stage, river velocity, river and lake bathymetry
- Equipment service: ADCPs, sonars, current meters
- Statistical analysis of main hydrological parameters (AEP, max and min discharges, etc.)
- Flood risk mapping for the Moscow city

Visiting appointments

University of Liege (Belgium), Faculty of Sciences, Department of Geography

INVESTIGATING THE ROLE AND RELATIVE IMPORTANCE OF DIFFERENT SEDIMENT SOURCES IN THE PROGLACIAL AREAS OF NORTH

CAUCASUS

Jan. – Apr. 2018

- ERASMUS+ PhD programm
- Hosts: Prof. Dr. Matthias Vanmaercke

Palermo University (Italy), Dipartimento di Scienze della Terra e del Mare

MODELING RILL EROSION AND ITS CONTRIBUTION TO CATCHMENT SEDIMENT YIELD IN THE SICILY

Oct. 2016

• Hosts: Prof. Dr. Christian Conoscenti

Tubingen University (Germany), Faculty of Sciences, Department of Geoscience

WORKING FOR THE PEOPLE MARIE CURIE ACTIONS INTERNATIONAL RESEARCH STAFF EXCHANGE SCHEME CALL:

FP7PEOPLE-2012-IRSES «FLUVIAL PROCESSES AND EROSION DYNAMICS IN EUROPEAN RIVER SYSTEMS: ECOLOGICAL EFFECTS

Sep. – Oct. 2015

OF CLIMATE CHANGE AND HUMAN ACTIVITIES»

• Hosts: Prof. Dr. Michael Maerker, Prof. Dr. Volker Hochschild

Awards & Distinctions

2022	Continental Erosion Commission of the International Association of Hydrological Sciences (IAHS-ICCE) Early Career Committee Representative 2022-2025	IAHS
2021	Outstanding young researcher and graduate student award, Lomonosov Moscow State University	LMSU
2021	Award for serving as a representative of LMSU on international expert panels, Lomonosov Moscow State University	LMSU
2020	Erasmus+ Staff Mobility	European Commission
2018	Erasmus+ International Credit Mobility scholarship	European Commission

Teaching and advising experience

Lomonosov Moscow State University, Faculty of Geography

ASSISTANT LECTURER IN «GIS IN HYDROLOGY»

BSc students

2019 – present

Lomonosov Moscow State University, Faculty of Geography

TEACHING ASSISTANT IN «FUNDAMENTALS OF HYDROLOGY»

BSc students

2016 – 2019

Lomonosov Moscow State University, Faculty of Geography

CO-SUPERVISOR OF THE BSC THESIS «FLUVIAL PROCESSES AT CENTRAL AND EASTERN CHUKOTKA (RUSSIA)»

BSc student






2020 – 2021

Service

Peer Reviewer

EARTH SURFACE DYNAMICS	2022
ECOHYDROLOGY & HYDROBIOLOGY	2020
GEOGRAPHY, ENVIRONMENT, SUSTAINABILITY	2020 – present
JOURNAL OF SOILS AND SEDIMENTS	2020 – present
INTERNATIONAL JOURNAL OF SEDIMENT RESEARCH	2023
THEORETICAL AND APPLIED CLIMATOLOGY	2022 – present
WATER RESOURCES	2021 – present

Organizing Committee Secretary

Dec 2022	School for Young Scientists «Modelling of water erosion, its hydrological and geochemical impacts» 	Online Event
Nov 2021	School for Young Scientists «Multi-Scales and -Processes Integrated Modelling, Observations and Assessment for Environmental Applications» 	Online Event
Aug 2021	International Conference on the Status and Future of the World's Large Rivers 	Moscow, Russia
Nov 2020	School for Young Scientists «Pollutant and sediment mobility in river systems: monitoring studies to identify human impacts» 	Online Event
Aug 2018	The Second International Young Scientists Forum on Soil and Water Conservation and ICCE symposium 2018 «Climate Change Impacts on Sediment Dynamics: Measurement, Modeling and Management» 	Moscow, Russia

Package developer

Several R-packages I developed for my needs. See more at my GitHub



Workflow for the comprehensive analysis of the intra-event suspended sediment dynamics

loadflux



A collection of tools to ease the run of Revised Universal Soil Loss Equation (RUSLE) in R

rusleR



CLI access to Hydrologiska Byråns Vattenbalansavdelning (HBV) model parameter maps

HBVr



One-function package to send one a Telegram message from RStudio Server

tgme

Main research interests and expertise

- Mountain fluvial geomorphology
- Sediment budget and dynamics
- Sediment connectivity
- Landslide susceptibility
- Soil erosion modeling
- Statistical analyses on heterogeneous datasets and quantifying uncertainties based on Monte Carlo simulation techniques
- Designing and maintaining large databases of measurements on various geomorphic processes
- Quantifying and understanding geomorphic processes at catchment and regional scale

Skills

LANGUAGES

Skill	Russian	English	Serbian
Reading	Native	C2	A1
Writing	Native	C2	A1
Listening	Native	C1	A2
Speaking	Native	C1	A2

Common European Framework of Reference for Languages: A1/A2: Basic User. B1/B2: Independent User. C1/C2: Proficient User

DEFINING ATTRIBUTES

advanced analytic skills, strategic thinking, resourceful team player, public speaking, organizational & communication skills

TECH SKILLS

Coding Languages	Software	Other
R – Python – MATLAB – GEE	QGIS – ArcGIS – SAGA – WhiteboxTools – Inkscape – Blender – Mendeley/Zotero – Agisoft Metashape	Git – Markdown – LaTeX – Linux – Nginx

FIELD SKILLS

Land	Water	Lab	Other
UaV SfM – DGPS – TST – Lidar	Sonar – ADCP – Current meters – Water sampling – Automatic turbidity and pressure sensors	Water filtering – Particle size analysis (automatic, manual) – Semi-conductor gamma-spectrometer	High endurance

Other information

- Co-author and maintainer of the open Russian-English hydrological dictionary hydrowiki.org
- Co-author and maintainer of the Multi-language translator of hydrological terms and definitions — [hydro-translator](#)
- Hobbies and interests: open source, R programming and coding enthusiast, mountain hiker, table tennis, long-distance runner (best 1:40 for 21.1 km; 4:08 for 42.2 km), home-server development

Publication statistics

- Co-author of **44** peer-reviewed articles, book chapters, and proceedings
- *ca.* 30 contributions to conferences (excluding full proceedings)
- *ca.* **168** citations over the past 5 years, current Google-based h-index: **9**
- Info and an overview: [Google Scholar](#)

Publications (selection)

Russian publications available on request

PENDING

1. Tsyplenkov, A., Kharchenko, S., Uspensky, M., Scheper, S., & Golosov, V. (2023). Quantifying sediment budget of a small low mountain lake (north caucasus, russia). *Earth Surface Processes and Landforms*, In review. <https://doi.org/10.21203/rs.3.rs-2179933/v1>
2. Goncharov, A., Tsyplenkov, A., Georgiadi, A., Semenova, A., & Kireeva, M. (2023). Hydrological conditions of phytophilic fish reproduction in the lower don river under the influence of climate change and flow regulation. *Hydrobiologia*, In review.

PUBLISHED

1. Belyakova, P., Moreydo, V., Tsyplenkov, A., Amerbaev, A., Grechishnikova, D., Kurochkina, L., Filippov, V., & Makeev, M. (2022). Forecasting water levels in krasnodar krai rivers with the use of machine learning. *Water Resources*, 49(1), 10–22. <https://doi.org/10.1134/S0097807822010043>
2. Tsyplenkov, A., Vanmaercke, M., Collins, A. L., Kharchenko, S., & Golosov, V. (2021). Elucidating suspended sediment dynamics in a glacierized catchment after an exceptional erosion event: The Djankuat catchment, Caucasus Mountains, Russia. *CATENA*, 203, 105285. <https://doi.org/10.1016/j.catena.2021.105285>
3. Ivanov, M. M., Konoplev, A. V., Walling, D. E., Konstantinov, E. A., Gurinov, A. L., Ivanova, N. N., Kuzmenkova, N. V., Tsyplenkov, A. S., Ivanov, M. A., & Golosov, V. N. (2021). Using reservoir sediment deposits to determine the longer-term fate of chernobyl-derived ¹³⁷Cs fallout in the fluvial system. *Environmental Pollution*, 274, 116588. <https://doi.org/10.1016/j.envpol.2021.116588>
4. Golosov, V., & Tsyplenkov, A. (2021). Factors Controlling Contemporary Suspended Sediment Yield in the Caucasus Region. *Water*, 13(22), 3173. <https://doi.org/10.3390/w13223173>
5. Tsyplenkov, A. S., Golosov, V. N., & Belyakova, P. A. (2021). How did the suspended sediment load change in the North Caucasus during the Anthropocene? *Hydrological Processes*, 35(10), 1–20. <https://doi.org/10.1002/hyp.14403>
6. Golosov, V. N., Ivanov, M. M., Tsyplenkov, A. S., Ivanov, M. A., Konoplev, A. V., Wakiyama, Y., Konstantinov, E. A., & Ivanova, N. N. (2021). Erosion as a Factor of Transformation of Soil Radioactive Contamination in the Basin of the Shchekino Reservoir (Tula Region). *Eurasian Soil Science*, 54(2), 291–303. <https://doi.org/10.1134/S106422932102006X>
7. Tsyplenkov, A. S., Ivanova, N. N., Botavin, D. V., Kuznetsova, Y. S., & Golosov, V. N. (2021). Hydro-meteorological preconditions and geomorphological consequences of extreme flood in the small river basin in the wet subtropical zone (the Tsanyk River case study, Sochi region). *Vestnik of Saint Petersburg University. Earth Sciences*, 66(1). <https://doi.org/10.21638/spbu07.2021.109>
8. Tsyplenkov, A., Vanmaercke, M., Golosov, V., & Chalov, S. (2020). Suspended sediment budget and intra-event sediment dynamics of a small glaciated mountainous catchment in the Northern Caucasus. *Journal of Soils and Sediments*. <https://doi.org/10.1007/s11368-020-02633-z>
9. Rets, E. P., Popovnin, V. V., Toropov, P. A., Smirnov, A. M., Tokarev, I. V., Chizhova, J. N., Budantseva, N. A., Vasil'chuk, Y. K., Kireeva, M. B., Ekaykin, A. A., Veres, A. N., Aleynikov, A. A., Frolova, N. L., Tsyplenkov, A. S., Poliukhov, A. A., Chalov, S. R., Aleshina, M. A., & Kornilova, E. D. (2019). Djankuat glacier station in the North Caucasus, Russia: A database of glaciological, hydrological, and meteorological observations and stable isotope sampling results during 2007–2017. *Earth System Science Data*, 11(3), 1463–1481. <https://doi.org/10.5194/essd-11-1463-2019>
10. Kuznetsova, Y., Golosov, V., Tsyplenkov, A., & Ivanova, N. (2019). Quantifying channel bank erosion of a small mountain river in Russian wet subtropics using erosion pins. *Proceedings of the International Association of Hydrological Sciences*, 381, 79–86. <https://doi.org/10.5194/piahs-381-79-2019>
11. Tsyplenkov, A., Vanmaercke, M., & Golosov, V. (2019). Contemporary suspended sediment yield of Caucasus mountains. *Proceedings of the International Association of Hydrological Sciences*, 381, 87–93. <https://doi.org/10.5194/piahs-381-87-2019>
12. Chalov, S. R., Tsyplenkov, A. S., Pietron, J., Chalova, A. S., Shkolnyi, D. I., Jarsjo, J., & Maerker, M. (2017). Sediment transport in headwaters of a volcanic catchment Kamchatka Peninsula case study. *Frontiers of Earth Science*, 11(3), 565–578. <https://doi.org/10.1007/s11707-016-0632-x>

13. Chalov, S. R., Golosov, V. N., Tsyplenkov, A. S., Theuring, Ph., Zakerinejad, R., Maerker, M., & Samokhin, M. (2017). A toolbox for sediment budget research in small catchments. *GEOGRAPHY, ENVIRONMENT, SUSTAINABILITY*, 10(4), 43–68. <https://doi.org/10.24057/2071-9388-2017-10-4-43-68>

References

- **Dr. Hugh Smith**, Research Leader, Erosion Processes and Management, Manaaki Whenua – Landcare Research, smithh@landcareresearch.co.nz
- **Prof. Dr. Matthias Vanmaercke**, Division of Geography and Tourism, KU Leuven, matthias.vanmaercke@kuleuven.be
- **D.Sc. Sergey Chalov**, Faculty of Geography, Lomonosov Moscow State University, hydroserg@mail.ru