Anatoly **Tsyplenkov**

Hydrologist | Fluvial 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

Institute of Geography Russian Academy of Science — *Laboratory of Geomorphology*

Postdoctoral Researcher — *Apr. 2020 – Oct. 2022*

- 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 — *Faculty of Geography*

Junior Research Fellow — *Jan. 2020 – Oct. 2022*

- 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 — *Faculty of Geography*

PhD Student (Graduate Research Assistant) — *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) — *Information Support Department*

Technician — *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 of climate change and human activities» — *Sep. – Oct. 2015*

- 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 — *BSc students*

Assistant lecturer in «GIS in Hydrology» — *2019 — present*

Lomonosov Moscow State University, Faculty of Geography — *BSc students*

Teaching assistant in «Fundamentals of Hydrology» — *2016 — 2019*

Lomonosov Moscow State University, Faculty of Geography — *BSc student*

Co-supervisor of the BSc thesis «Fluvial processes at Central and Eastern Chukotka (Russia)» — *2020 — 2021*

Service

Peer Reviewer

Earth Surface Dynamics	*2022*
Theoretical and Applied Climatology	*2022*
Water Resources	*2021 — present*
Journal of Soils and Sediments	*2020 — present*
Ecohydrology & Hydrobiology	*2020*
Water	*2020 — 2021*
Geography, Environment, Sustainability	*2020 – present*

Organizing Committee Secretary

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
- 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
- Designing and conducting fieldwork campaigns (including in Russia (Caucasus, Kamchatka, Chukotka, etc.), Sweden, Italy)

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

R – Python – MATLAB – GEE

Software

QGIS – ArcGIS – SAGA – WhiteboxTools – Inkscape – Blender – Mendeley/Zotero – Agisoft Metashape

Other

Git – Markdown – LaTex – Linux – Nginx

Field skills

Land

UaV SfM – DGPS – TST – Lidar

Water

Sonar – ADCP – Current meters – Water sampling – Automatic turbidity and pressure sensors

Lab

Water filtering – Particle size analysis (automatic, manual) – Semi-conductor gamma-spectrometer

Other

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), mystery stories

Publication statistics

- Co-author of **42** peer-reviewed articles, book chapters, and proceedings
- *ca.* 30 contributions to conferences (excluding full proceedings)
- *ca.* **138** citations over the past 5 years, current Google-based h-index: **7**
- 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. (2022). Quantifying sediment budget of a small low mountain lake (north caucasus, russia). *Earth Surface Processes and Landforms*, In review.
2. Goncharov, A., Tsyplenkov, A., Georgiadi, A., Semenova, A., & Kireeva, M. (2022). 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). Hydrometeorological 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

- **Prof. D.Sc. Valentin Golosov**, Institute of Geography, Russian Academy of Science, gollossov@gmail.com
- **Prof. Dr. Matthias Vanmaercke**, Division of Geography and Tourism, KU Leuven, matthias.vanmaercke@kuleuven.be
- **Dr. Adrian L. Collins**, Sustainable Agriculture Sciences Department, Rothamsted Research, adrian.collins@rothamsted.ac.uk
- **Prof. Dr. Christian Conoscenti**, Department of Earth and Sea Sciences, University of Palermo, christian.conoscenti@unipa.it