

УДК 502.2.05:378

SCIENTIFIC RESEARCH AND PERSONNEL TRAINING:
THE EXPERIENCE OF COOPERATION BETWEEN UNIVERSITIES
AND SPECIALLY PROTECTED NATURAL AREAS

Zoia N. Kvasnikova ^{1*}, Margarita A. Kashiro ¹, Victoria V. Shurkina ²

¹ National Research Tomsk State University, Tomsk, Russia

² State Nature Biosphere Reserve "Khakassky", Abakan, Russia

The modern concept of higher professional education is based on the application of a competency-based approach to learning, emphasizing the ability to apply theoretical knowledge, possess practical skills, and demonstrate personal qualities for successful professional activity. Practical training holds a special place in the formation of these competencies. In this regard, the Department of Geography of Tomsk State University (TSU) places great emphasis on organizing internships, their content, and methodological support. While completing assignments, students make a valuable contribution to the research of the host organizations, and their work is highly appreciated by internship supervisors. Work placements provide an opportunity for collecting empirical material and conducting independent research. Therefore, based on the data obtained during their internships, students write their final qualifying theses, prepare master's dissertations, and deliver presentations at scientific conferences. Work placements organized by the Department of Geography of TSU are conducted at research institutions and enterprises across various regions of the Russian Federation, including Western Siberia, the Altai Mountains, Eastern Siberia, the Far East, as well as the Republics of Kazakhstan, Kyrgyzstan, and Tajikistan. A special place in the experience of organizing work placements is occupied by cooperation with specially protected natural areas. The long-term collaboration between TSU and the State Nature Biosphere Reserve "Khakassky" extends beyond the organization of student internships to include joint scientific research. Students and staff of the Department of Geography have participated in research at the cluster sites "Lake Bele", "Lake Itkul", "Lake Shira", "Podzaploty", and "Oglakhty". In 2025, the authors of this article took part in the collection and analysis of materials at the cluster site "Kamyzyak Steppe with Lake Ulukh-Kol". Through joint research, the team studied the geomorphological features of the territory, the morphological structure of natural complexes on the Southern slopes of the Azyr-Tal low-mountain range, the hilly plain of the Minusinsk Basin (Uybatskaya Steppe), and the lacustrine basin of Lake Ulukh-Kol. Within the cluster site, two main relief types are distinguished: denudational and accumulative. Among the main exogenous processes that have become widespread within the cluster site, the following can be distinguished: slope-erosion, aeolian, and biogenic processes. The cluster site is of particular interest because, within a small area with diverse relief, it features mountain-forest, steppe, and wetland landscapes. During landscape mapping of the cluster site, 317 landscape contours were identified, grouped into 7 terrain types. The collected research materials will be used by students for writing their final qualifying theses, and will also be included in the sixth collective scientific monograph dedicated to the natural complexes and biodiversity of the reserve.

<https://doi.org/10.46991/PYSUC.2026.SI1.069>

Keywords: education, cooperation, nature reserve, student practice, scientific research.

* **Corresponding Author:** Zoia N. Kvasnikova, Cand. of Geograph. Sci., Ass. Prof., National Research Tomsk State University, Lenin Avenue, 36, Tomsk, Russia. E-mail: zjkw@rambler.ru