



## Transnational Access

### **IMPACT OF ARCTIC ZONE ON THE CHEMICAL AND BIOCHEMICAL PROCESSES, CONVERSIONS AND TRANSFORMATIONS IN PEAT LAYERS (Peat-AcroCato)**

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**Discipline:** Earth Sciences & Environment; Ecosystems & Biodiversity

Mire ecosystems of Western Siberia, represent the basic accumulator of the carbon on our planet. This is particularly true for West Siberia mires, which account for up to a quarter of the entire world's mires as well as for 60% of the Russia stock and 30% of the world's stock of peat. Peatlands cover 21.6% of the Russian area.

The chemical composition of peat depends on the geobotanical conditions of its formation and on the depth of sampling. The aim of this project was to evaluate the impact of the kind of peat of different genesis and hydrological regimes on the physical, chemical and biochemical properties of peat in arctic and subarctic zone. In this study, a combination of several techniques, potential of the labs, instruments and experiences of the members were used to obtain results that contribute significantly to the knowledge and understanding of the rate, processes, pathways, directions and mechanisms occurring in peat layers of arctic and subarctic zone. A broad range of physical, chemical and biochemical factors were proposed in order to evaluate the differences in peat layers. In addition, the chemical and biochemical factors are connected to the properties of peats and the participation of organic compounds of well known and unknown structures in the cycles of carbon and nitrogen in peat soils.