The landscape and climate research in Altai highlands were carried out in 2018 – 2019. The results of our investigation at the Khindiktig-Khol' Lake Basin (Mongun-Taiga massif, Tuvan Republic) and Bertek depression (plateau Ukok, Altai Republic) are presented. In frame of study 75 samples (56 – subfossil, 13 flower buds, 6 recent) were collected for pollen analysis. Two key questions are to define the possible steppe-tundra palynological pattern based on project BIOME 6000 relying on steppe and tundra data and to compare palynological pattern with the subfossil data from Altai expeditions (2018-2019). The study was financially supported by Russian Foundation for Basic Research (RFBR) (Grant 18-05-00860).

Within international investigation project BIOME 6000 the palynological patterns of tundra and steppe vegetation were composed (Bigelow et al., 2003). Tundra is characterized by several biomes, such as low- and high-shrub tundra (SHRU; *Alnus fruticosa*, *Betula nana*, *Salix vestita*, *Eriophorum*, *Sphagnum*), erect dwarf-shrub tundra (DWAR; *Betula nana*, *Salix herbacea*, *Cassiope*, *Empetrum*, *Vaccinium*, Poaceae, Cyperaceae), prostrate dwarf-shrub tundra (PROS; *Salix herbacea*, *Dryas*, *Pedicularis*, Asteraceae, Caryophyllaceae, Poaceae, true mosses), cushion-forb tundra (CUSH; *Draba*, *Papaver*, Caryophyllaceae, Saxifragaceae, lichens, true mosses) and graminoid and forb tundra (DRYT; *Artemisia*, *Kobresia*, Asteraceae, Brassicaceae, Caryophyllaceae, Poaceae, true mosses). Steppe is described by two biomes: temperate grassland (STEP; Asteraceae, Chenopodiaceae, Liliaceae, grasses) and temperate xerophytic shrubland (STEP; *Artemisia*, *Chrysothamnus*, *Hippophae*, *Purshia*, grasses). In spite of the absence of steppe-tundra palynological pattern, it may include the pollen data both from steppe (*Artamisia*, *Chisotomammus*, *Hippophae*, *Kobresia*, *Purshia*, Brassicaceae, Chenopodiaceae) and tundra (*Alnus fruticosa*, *Betula nana*, *Salix herbacea*, *Cassiope*, *Draba*, *Dryas*, *Empetrum*, *Eriophorum*, *Papaver*, *Pedicularis*, *Vaccinium*, Cyperaceae, Saxifragaceae, *Sphagnum*, lichens) patterns.

In pollen spectra of western Mongun-Taiga trees mean values vary from 36.4% to 45.4%. The predominance of dwarf birch (*Betula nana*) dust with the average number 28.7% is identified. As for the Bertek depression, the values change from 36.4% in Muzdy-Bulak to 59.3% in Argamdzhi (2019). Data from subfossil samples in 2018 show the dominance of Betula nana pollen (23.0%),
whereas in 2019 it is indicated the significant and constant wind drift of *Betula sect. Albae* particles (average number – 36.7%) through the massif valleys to the region of sample collection.

In pollen spectra of herbs in Mongun-Taiga region mean value equals 57.9%, whereas at the Bertek depression the values differ from 62.8% (2018) to 37.3% (2019). Those spectra mostly consist of dust samples, such as *Carex*, Cyperaceae and Poaceae. Asteraceae, Caryophyllaceae, Chenopodiaceae and Fabaceae are also present in both regions.

*Artemisia* and Chenopodiaceae are the prime indicators of steppe conditions. The vegetation description of the landscapes, where the subfossil samples were collected, proves those conditions. Both vegetation and pollen data are also correlated with the DRYT and STEP biomes from project BIOME 6000. The only difference is that *Artemisia* prevails at the steppe sites of central and eastern part of Bertek depression, whereas Chenopodiaceae is mostly found within the coexistence of tundra and steppe cenoses in Khindiktig-Khol' area and western part of Bertek depression.