

MORPHOGENETIC ANALYSIS OF BURIED SOILS AS A PROXY FOR PALEO GEOGRAPHIC RECONSTRUCTION (LOESS-PALEOSOL SEQUENCE OF SREDNAYA AKHTUBA KEY SECTION, LOWER VOLGA AREA)

Lebedeva, M.¹, Makeev, A.², Romanis, T.³, Rusakov, A.⁴, Kurbanov, R.⁵, Yanina, T.⁶

^{1,3} Dokuchaev Soil Science Institute, Pyzhevskii per. 7, Moscow, 119017 Russia;
¹m_verba@mail.ru

³romanis.tatyana@yandex.ru

^{2,5,6} Lomonosov Moscow State University, 1 Leninskie Gory, Moscow 119991, Russia
²makeevao@gmail.com

⁵roger.kurbaniv@gmail.com

⁶didacna@mail.ru;

⁴ St. Petersburg State University, 7–9 Universitetskaya nab., Saint Peterburg 199034, Russia

a.rusakov@spbu.ru

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The Caspian Lowland is a part of the extensive Ponto-Caspian basin that reflects fluctuations in the level of the Caspian and Black sea, glacial-interglacial cycling, and related fluctuations in fluvial activity and aeolian sedimentation. The outcrops at the banks of the Volga River and its tributaries expose detailed Late Pleistocene pedosedimentary sequences, with marine, aeolian, and fluvial deposits intermixed with pedogenetic levels of interglacial and interstadial paleosols (Yanina, 2014). During the last deglaciation and degradation of permafrost, the Volga River basin collected meltwater and acted as a trap for fine-grained sediments from the southern margin of the Scandinavian ice-sheet (Yanina, 2014; Svitoch, 2009; 2010; Tudryn et al., 2016; Makeev et al., 2016). A sequence of seven pedogenetic levels buried in the Late Pleistocene was studied at the Srednaya Akhtuba key section (48°43 N, 44°52 E) in Volgograd oblast of Russia (Fig. 1) with the use of a set of macro- meso-micromorphological, physicochemical and instrumental methods.

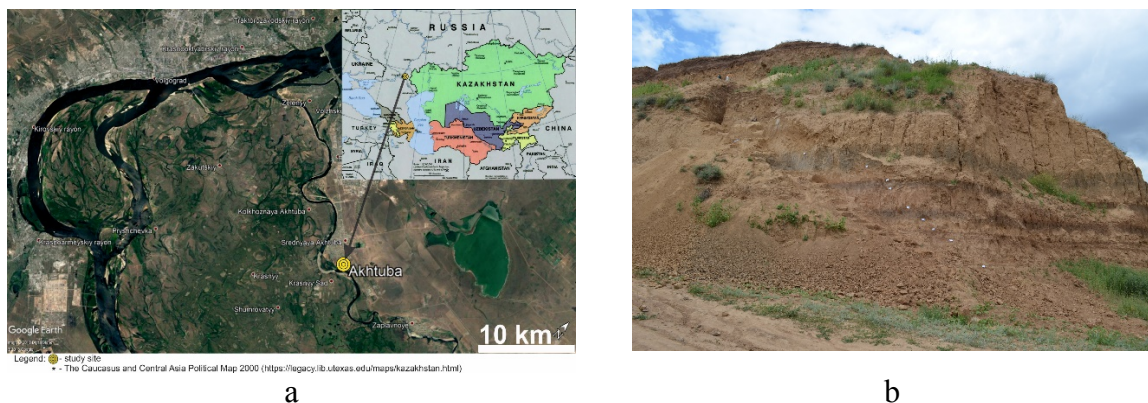


Figure 1. Geographical location of Middle Akhtuba key section (a) and general view of the exposure (b)

It was found that the buried soil had been formed under subaerial conditions with loess sedimentation alternating with the periods of fluvial and marine sedimentation. The soil–