# Qualitative Assessment of the Condition of Tatarstan Medieval Fortified Settlements Under the Data of Remote Sensing

Gainullin I.I., Khomyakov P.V., Sitdikov A.G., Usmanov B.M. (Kazan, Russian Federation)

#### $\leftarrow \text{ Previous article } \mid \text{ Next article } \rightarrow$

#### page 303-320 UDC 069.4 DOI: https://doi.org/10.24852/pa2017.2.20.303.320



The article considers the modern condition of the archaeological monuments of the Republic of Tatarstan as an essential manmade part of the cultural landscape. According to UNESCO directive, the "cultural landscape" is considered not only as a result of cooperation between man and nature, but also as a natural and cultural territorial complex with a structural and functional

integrity developing in specific physical and geographical, cultural and historical conditions. Medieval fortified settlements with a system of defensive fortifications which are easily identified on the basis of remote sensing data were selected as research subjects. The identification and evaluation of monument destruction risks are a priority in the investigation of cultural heritage sites. Due to the fact that most of the monuments are located on the banks of minor rivers, the primary task of investigation was the assessment of the risk of their destruction as a result of natural (dangerous exogenous) processes. The second objective was to evaluate the role of the human factor in the destruction of archaeological sites. One of the main utilized techniques is the search and analysis of archival and modern remote sensing data. This approach allows to correct settlement shapes, confirm their sizes and location in the landscape, thus resolving the issue of updating the information on cultural heritage sites. For the first time in the Tatarstan Republic, investigation results will allow to determine the past and current changes in the condition of the monuments and conduct a quantitative assessment of the risks of their destruction prior to the determination of priority regions for the performance of salvage and rescue excavations.

### Keywords

archaeology cultural heritage human factor exogenous processes remote sensing aerial photography

geoinformation systems fortified settlements the Middle Ages

## About the author(s)

**Gainullin Iskander I.** Institute of Archaeology named after A. Kh. Khalikov, Tatarstan Academy of Sciences. Butlerov Str., 30, Kazan, 420012, the Republic of Tatarstan, Russian Federation; ihigh@mail.ru

**Sitdikov Airat G.** TAS Corresponding Member. Doctor of Historical Sciences. Institute of Archaeology named after A. Kh. Khalikov, Tatarstan Academy of Sciences. Butlerov Str., 30, Kazan, 420012, the Republic of Tatarstan, Russian Federation; sitdikov\_a@mail.ru

**Usmanov Bulat M.** Kazan (Volga Region) Federal University. Kremlyovskaya St., 18, Kazan, 420000, the Republic of Tatarstan, Russian Federation; BUsmanof@kpfu.ru

**Khomyakov Petr V.** Kazan (Volga Region) Federal University. Kremlyovskaya St., 18, Kazan, 420000, the Republic of Tatarstan, Russian Federation; Petr.Khomyakov@ksu.ru