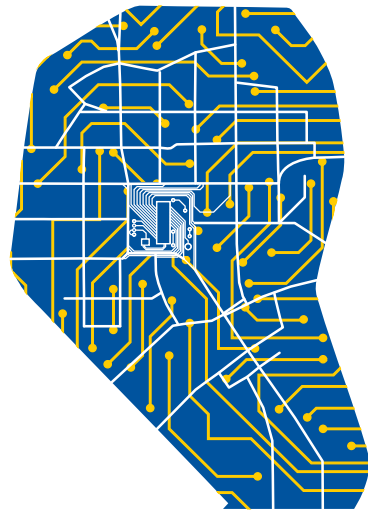


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of climate change. Changes in sea level in combination with projected increase in the severity of coastal storms is expected to intensify coastal erosion and coastal flooding. The EU funded CHERISH Project (Climate, Heritage and Environments of Reefs, Islands and Headlands) of the Irish and Welsh regional seas is researching these threats and brings together a cross-disciplinary, cross-border team of specialists in the development of a field toolkit which will combine multiple complimentary approaches and methods to evaluate current and future risk. This paper focuses on several CHERISH toolkit remote sensing methods, which are currently being developed and employed within the project in both the terrestrial and marine environments to digitally document a range of archaeological sites and the surrounding historic environment, including: terrestrial and marine laser scanning, aerial and marine SfM, photogrammetric modelling of historic aerial imagery and terrestrial and marine geophysics. Critical evaluation of their approach, results and applicability to longer term monitoring will be explored, including:

- The ability for field methods to detect coastal change of the historic environment
- The development of proxy methods in the detection of climate change on marine archaeology
- The evaluation of cost effective metric recording against costly high-end methods
- Identifying the full extent of hidden subsurface archaeology features at coastal monuments and archaeological sites, which are at risk

Complex Study of Exogenous and Antropogenic Impact within Territory of Volga-Bulgar Fortified Settlements (Tatarstan, Russia)

Iskander Gainullin, Bulat Usmanov, Artur Gafurov, Alexey Kasimov

The report 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. The identification and evaluation of monument destruction risks are a priority in the investigation of cultural heritage sites. A new method for assessing the risks of destruction of archeological monuments within the territory of fortified settlements with the use of remote sensing methods, complex field studies and cartographic-geoinformation approaches to data processing is developed. Modern instrumental methods applied in order to collect information on dangerous exogenous processes and antropogenic impact within the monument territory. The scientific task of our work is creating a system for assessment of cultural heritage object (monument of archaeology) territory state using both archaeological and geoecological research methods.