

Impact of Climate Change on Urban-Rural Built Heritage in the Eastern Black Sea Region: The case studies of Rize and Artvin

Keywords: sustainable urban/rural built heritage, climate change, adaptation, historic built environment, climate practices

Chair of History of Architecture and Urban Planning

Area of Research: Design & History



Research Summary: Vernacular architecture has traditionally responded to local conditions of geography, geology and climate. With climate change and sea-level rise these conditions are rapidly changing: to give just some examples: rain and drought patterns are shifting, the weather is getting cooler or hotter, we are experiencing more and different types of storms, new types of erosion. These new conditions will have a great impact also on heritage sites and buildings. This study first explores how local climate trends in the region have shaped construction and location technologies and lifestyles and discusses the impacts of climatic changes on urban settlements which form vernacular built heritage. It then sheds light on the conflicts between environmental risks posed by climate change and sustainable development of local built heritage in the Eastern Black Sea Region in Turkey. The aim of this study is to understand the relationship between historical construction and climate and contemporary climate change and to find sustainable solutions for the coastal towns and buildings in Rize and Artvin to tackle the potential risks caused by the environmental instability.



Gül Aktürk

PhD started in: 2018

MSc in Architectural Conservation at The University of Edinburgh 2013

BSc in Architecture 2011

Promoter(s): Prof. Carola Hein

Email: G.Akturk@tudelft.nl

Main Question: *The research asks: How have technology, engineering, urban form, governance, culture and lifestyles of cities/landscapes responded historically to climate change in the Black Sea area? What can we learn from these shifting conditions to make recommendations for future climate-proof heritage structures/urban form?*

Research Methodology: The historical relation between building and climate will be explored through archival research, secondary sources, and site visits. The local climate trends and their current and possible future effects in the coastal towns of the Eastern Black Sea Region will be assessed as a result of a literature survey which comprises of the data collected from the climate studies, publications of local planning authorities, private heritage organizations, archives and interviews with the local community in the region. Practices in the Netherlands will be studied through observations and review of the projects from private organizations. Meteorological data from Turkish State Meteorological Service and seasonal photographs from case study areas will present the existing climate hazards that affect the local historic built environment.

Deliverables: *Identification of the local climate practices and how it is adopted in rural built heritage*

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