



STOCHASTIC HYGROTHERMAL PERFORMANCE ASSESSMENT OF HERITAGE CONSTRUCTIONS IN

IRAN SUBJECTED TO CLIMATE CHANGE EFFECTS

PhD Research | Hamed Hedayatnia

SHORT DESCRIPTION

RESEARCH AIM & METHODOLOGY

- How current and projected climate changes are expected to impact cultural heritage in Iran?
- *Understanding how climate change accelerates or slows down the process of material deterioration is the first step towards assessing adaptive approaches for the preservation of historical heritage.* This research focuses on identifying how the projected climate change can be expected to affect the historical heritage of Iran. Assessment of the hygrothermal behavior of wall assemblies under the impact of current and projected climate change is a decisive and key factor in finding adaptive strategies for mitigation. Some numerical softwares like Delphin can simulate the Hygrothermal behavior of materials under the impact of climate change. Afterward, we should valorize the results by In-situ measurements. After finding how these changes can affect the hygrothermal performance of materials, we can suggest affordable and adaptive strategies for mitigation.
- All the projection modelled data has been created by ALARO-SURFEX (Ghent University, Belgium) and REMO(HZG-GERICS, Germany) RCM. Historical dataset has been recorded by Iran meteorological organization. The analysis would be performed by using MATLAB, R and Delphin.

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