



Investigating the effects of climate change on structural resistance and actions

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Abstract

One major issue when considering the effects of climate change is to understand, qualify and quantify how natural hazards and the changing climate will likely impact infrastructure assets and services as it strongly depends on current and future climate variability, location, asset design life, function and condition. So far, there is no well-defined and agreed performance indicator that isolates the effects of climate change for structures. Rather, one can mention some key considerations on how climate change may produce changes of vulnerability due to physical and chemical actions affecting structural durability or changes of the exposure in terms of intensity/frequency of extreme events. This paper considers these two aspects and associated challenges, considering some recent activities of members of the IABSE TG6.1.

Keywords: Climate change, adaptation, vulnerability, durability, extreme events.

1 Introduction

The ageing and deterioration of civil engineering structures is likely to be exacerbated in the next

decades by the effects of climate change. On the resistance side, one may observe a change in kinematics of the materials degradation mechanisms being influenced by the surrounding