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Call for Papers

Special Collection on the “Impacts of Climate Change on Resilience of Civil Structures and Infrastructural Systems”



Aims & Scope

The global climate is changing at an unprecedented rate, as evidenced by slow or even extreme variations in climate variables—such as temperature, relative humidity, wind, and sea level—to name a few. This sustained climate change is expected to directly or indirectly affect the function and service life of civil structures and infrastructural systems. On the one hand, climate change leads to variations in the intensity, frequency, and spatial distribution of various hazards (e.g., hurricanes, floods, heatwaves, etc.), which would ultimately result in the increase of external loads imposed on the structures. On the other hand, the deterioration of the structural capacities, especially for concrete structures, could be accelerated by changes in CO₂ concentration, temperature, relative humidity, and so on. The fact that our built infrastructure has a long-term service life and that traditional design theory and assessment methods are based on historical stationary climate conditions calls upon renewed design and assessment methods to cater to the rapidly changing climate scenarios. Therefore, to guarantee the safety and functionality of the structures and the resilience of our infrastructural systems during the service life and to mitigate the losses that could arise from possible climate-related damages, the impact of climate change must be considered.

This Special Collection is aimed at bringing together the latest studies of the impacts of climate change on the resilience of civil structures and infrastructural systems. This is a multidisciplinary topic, and *ASCE OPEN: Multidisciplinary Journal of Civil Engineering* is an ideal platform to organize this collection. ASCE OPEN is ASCE's first Gold Open Access Journal that presents an all-encompassing civil engineering perspective on the built and natural environments.

ASCE OPEN: Multidisciplinary Journal of Civil Engineering



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Topics

Topics of interest in this collection include but are not limited to:

- Climate change impacts on natural hazards and their patterns
- Climate change impacts on structural capacities and durability
- Quantification and propagation of climate uncertainties
- Risk assessment methods considering climate change
- Climate-related multi-hazard risk assessment
- Design and assessment methodologies incorporating non-stationary climate parameters
- Climate change adaptation for civil structures and infrastructural systems

Submission Timeline

- Submission deadline for papers: September 1, 2023
- Submission deadline for the first round of reviews: December 1, 2023
- Submission deadline for revised papers: February 1, 2024
- Submission deadline for final decisions: April 1, 2024
- Final proofs: May 1, 2024