

1 Environmental Science

Urban heat islands occur when metropolitan areas experience significantly higher temperatures than surrounding rural regions. This phenomenon is primarily caused by the replacement of natural vegetation with concrete, asphalt, and other heat-absorbing materials. These surfaces retain solar radiation during the day and release it slowly at night, preventing the city from cooling efficiently. In addition, high population density contributes to increased energy consumption, which generates excess heat. As a result, urban planners are increasingly exploring mitigation strategies such as green roofs, reflective building materials, and expanded tree coverage to reduce thermal accumulation.

2 Psychology

Cognitive bias refers to systematic patterns of deviation from rational judgment. Rather than processing information objectively, individuals often rely on mental shortcuts known as heuristics. While heuristics enable rapid decision-making, they may also lead to persistent errors in reasoning. For instance, confirmation bias causes individuals to favor evidence that supports their preexisting beliefs while disregarding contradictory information. Over time, such tendencies can distort perception and reinforce polarized viewpoints, particularly in digital environments where algorithms personalize content exposure.

3 Economics – Supply Chain Disruption

Global supply chains have become increasingly interconnected over the past several decades. Although this integration has improved efficiency and reduced production costs, it has also created vulnerabilities. When disruptions occur—whether due to geopolitical conflict, natural disasters, or pandemics—the consequences can be widespread and severe. A shortage of critical components in one region may halt manufacturing operations in another. Consequently, many firms are reconsidering their reliance on single-source suppliers and are diversifying procurement strategies to enhance resilience.