A history of human settlement evolution and trajectories of resilience or collapse

Mark Altaweel

Types of Social Ecological Systems and the Role of Place Based Resilience

Past settlement systems hold valuable lessons for today's societies. This presentation looks at how settlement systems in the Near East evolved over time in semi-arid and arid environments. The paper investigates how certain societies were relatively resilient over long periods, while other settlements and settlement strategies appeared to have much shorter lifespans. The presentation discusses what settlement strategies enabled some societies to be more resilient to social-ecological change. The methods advanced apply computational social-ecological models using an integrated modeling approach that couples social and natural dynamics within a geospatial environment. The methods apply grid and parallel computing techniques to address rapid and slow social-ecological changes in these societies. Validation is conducted using available historical documents and data from the Near East and archaeological information. The discussion will conclude by summarizing how lessons from past settlement strategies may inform our modern world.