Abstract

Climate change is one of the most significant global challenges that need to be managed; however, the current governance of climate change is not bearing the desired results. This thesis thus examines the opportunities Big Data-based tools offer for more efficient climate change governance. It provides an overview of the current state of play regarding climate governance and the way climate change is entering the realm of security. The study then introduces the concept of Big Data and, through two case studies, offers specific examples of Big Data applications in the context of climate change. It identifies several categories of Big Climate Data applications i) monitoring behaviour, perceptions and social attitudes, ii) monitoring markets and supply chains, iii) smart buildings, energy and smart cities, and iv) carbon monitoring and monitoring of natural conditions and changes. The thesis also highlights the main critiques and barriers these applications face, which include i) the lack of theoretical and methodological framework, ii) the issues of opacity, accountability, lack of transparency, iii) missing efficient governance system to employ the technology, iv) the complexity of climate and climate data, v) the environmental consequences of AI. It concludes that the trend of public-private partnerships, which is evident also on a general level in global governance, has, so far, proved to offer the most effective for the application of Big Data in the context of climate change.