

Adaptation and resilience in regional hot spots of the climate-security nexus: Tipping between conflict and cooperation in human-environment interaction

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An integrative framework of human-environment interactions is applied to analyze multiple pathways connecting climate change, natural resources, human security and societal instability. Compound risks can multiply stressors and amplify their consequences beyond tipping points through impact chains and cascading events that affect critical infrastructures and supply networks; land-use in the water-food-energy nexus and urban-coastal relations; human security and livelihood. One focus is how climate and conflict risks are connected through weather extremes, resource scarcity, health impacts and forced migration, such as experienced in the Corona or climate crisis. A challenge is to develop adaptive governance to facilitate positive social tipping points for a transformation to resilience and sustainable peacebuilding. Agent-based approaches can help to find synergies and strategies for resilience, analyze multi-scale decisionmaking, the formation and breakup of coalitions and the transition between conflict and cooperation. Regional hot spots of the climate-security nexus in the Mediterranean, Southern Asia and Arctic serve as examples to assess complex interactions of vulnerability, adaptation and resilience, as well as conditions for conflict and cooperation.