

**Title:** Forecasting Civil Conflict under Different Climate Change Scenarios

**MRI topic number:**

2. Models of Societal Resilience and Change,  
2-B. Energy, environment, and resource factors

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While it is unlikely that the physical impacts of climate change will have a direct effect on conflict, there are a number of plausible causal mechanisms that run through intermediate variables, such as population exposure and human health, economic growth, institutional capacity and governance, and other known conflict predictors. Additionally, there is growing consensus that the anticipated physical effects of climatic changes will have serious implications for human wellbeing and security, but quantitative efforts to assess how the impacts will influence the future probability of armed conflict is relatively limited. Improving the understanding of these dynamics as well as forecasting how conflicts will emerge as the impacts of climate change are realized over the next few decades is critical for developing interventions and adaptations to mitigate these risks.

We propose the development of an integrated model to forecast the onset and duration of intrastate conflict under different climate change and socioeconomic trajectories. We will then employ the model to evaluate how different policies for development, climate mitigation and adaptation can alter the global and regional burdens of conflict.

Our model consists of the following elements: 1) statistical models that capture how the physical impacts of climate change will influence conflict through indirect and structural variables with known risks for conflict; 2) scenarios for both socio-economic and climate change variables that are internally consistent and span the range of expected projections; 3) a simulation approach that allow us to generate probabilistic forecasts at different resolutions and model emergent system behavior by incorporating variables that are endogenous to the conflict; and, 4) demonstrable utility for the security community to evaluate a wide range of military and policy interventions that aim to reduce intrastate conflicts. This effort requires a highly interdisciplinary team. CISSM leads the effort with its experience with data and policy analysis for the security community. We then leverage existing research relationships to augment our team with conflict researchers (PRIO) and climate researchers (JGCRI).

Our model will provide a consistent and integrated framework for testing new hypotheses regarding conflict and climate as well as for examining the implications of the existing parameters in literature and theory. We also intend for our model to address the needs of the security and policy communities for information to allocate of resources for conflict prevention and to provide guidance on the costs and risks associated with climate change.