

Implementing the Sendai Framework through Disaster Diplomacy Efforts to Foster the Sustainable Development Goals 2030

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Sustainable development cannot be achieved while disasters disrupt society. There is no disaster without people, and coping capacity ranges widely. Earth scientists investigate, model, monitor, forecast, and communicate the state of natural processes that lead to disasters and influence recovery. They also measure probability of events, often through interpretation of the geologic record and hydrometeorological changes. Planetary scientists have an exceptionally clear view of some kinds of hazards: bolide impact (all solid planetary bodies), outburst flooding (Mars), and volcanic eruptions (Venus, Mars). Space scientists are already monitoring and forecasting space weather, with its catastrophic potential to disrupt communication and electric power transmission globally (e.g., Carrington Event, 1859). But disaster is an entirely human construct whose outcome is dependent much upon behavior, culture, cooperation, and communication among people. Therefore, social science and social processes, as well as non-academic expertise (e.g., Indigenous knowledge and practitioners' experience) are as important as physical science in mitigating disaster risk and must be fully integrated. The Sendai Framework for Disaster Risk Reduction (Sendai Framework) – a voluntary, non-binding agreement among the United Nations (UN) member states – sets seven target goals and four priorities for action to prevent new and significantly reduce existing disaster risks by 2030. The Sendai Framework goals and priorities are interlinked with the UN Sustainable Development Goals (SDGs) 2030. Transdisciplinary research along with intergovernmental and interagency cooperation and policy, such as the open access and use of critical scientific data to inform decisions, plays a vital role in implementing the Sendai Framework and meeting the SDGs. Disasters do not know borders and geopolitical tensions between countries often hinder the necessary collaborative efforts while organizational silos divide actors from academic and disaster relief sectors at local, national, regional, and international levels. Disaster-related science diplomacy (disaster diplomacy) provides avenues to advance disaster risk reduction efforts while simultaneously reducing conflicts and fostering cooperation between states where relations could otherwise be strained. In this presentation, we illustrate how 1) effective disaster diplomacy can facilitate implementation of the Sendai Framework through peer-to-peer exchanges between scientists and non-academic disaster experts and practitioners combined with the official conflict-resolution efforts led by governments, and 2) effective implementation of the Sendai Framework can advance progress towards meeting the SDGs.