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Resilience service technologies for identifying climate change adaptation gaps

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Communities around the world in natural hazard-prone regions are increasingly aware of the benefits of using spatio-temporal data to better understand their predicament. With the advent of new service technologies, such as web mapping, free and open satellite data and the proliferation of mobile technologies, the possibilities for both understanding and improving community resilience are on the rise. Resilience service technologies aim to provide risk-informed products in easy-to-use manner for enabling stakeholders to implement efficient and practical resilience activities in their communities.

This paper presents a service-oriented approach aiming to harnessing risks and resilience data in hazard-prone regions for raise awareness regarding early warning systems, safety conditions of minorities in community groups and plan for long-term resilience strategies. With our resilience dashboard platform, we utilize information of various risk and resilience services to identify and visualize susceptible hotspots for decision-makers. Our resilience dashboard also brings about the coordination between different web services to retrieve the features and impose the thresholds. We co-developed with local humanitarian and development teams the resilience dashboard which is designed to put geo-spatial flood resilience data into the hands of decision-makers. We identified three use cases which consider an added value of resilience service technologies by focusing on early warning systems, targeting minority groups and long-term resilience planning in Nicaragua, Nepal and Bangladesh. We will demonstrate the context-specific needs of resilience services technologies, how to target user needs and how it could potentially be scaled up and applied to similar regions around the world.