

## Climate Change Vulnerability Mapping for the Greater Mekong Sub-region

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### ABSTRACT

*Climate change poses a serious threat to the environment, socio-economic development, and livelihoods, especially those in developing countries, where severe natural disasters are common. Adaptation strategies and mitigation responses for the world's most vulnerable people are needed, including in the Greater Mekong Sub-region (defined here as Cambodia, Lao PDR, Myanmar, Thailand, and Vietnam, and excluding Yunnan Province, China). Within this context, this study aims to identify the most vulnerable areas to climate change and climate-induced water problems in the Mekong countries. The study used the framework of the Intergovernmental Panel on Climate Change (IPCC) in 2001, by looking at the exposure, sensitivity, and adaptive capacity of an area to adapt or recover from the effects of hazardous climate events. The results showed that Mekong countries would be affected more severely by major natural disasters, including tropical cyclones, floods, and droughts. Among the Mekong countries, we found that Thailand had a high adaptive capacity to climate change, whereas the western coastline of Myanmar and the Cambodian Mekong lowland region were the most vulnerable areas.*

**Keywords:** Climate change, Human Development Index, Exposure, Sensitivity, Adaptive capacity

### INTRODUCTION

Climate change research is of importance and considerable current interest (Chooprateep and McNeil, 2014). According to the Intergovernmental Panel on Climate Change (IPCC) in 2001, developing countries will be more vulnerable to climate change than developed nations. Most developing countries in Asia lack the capacity to adapt to climate change, and need external support (Francisco, 2008). According to the United Nations (2014), the Asia-Pacific region is the world's most natural disaster-prone region, with a three-fold increase in the number of deaths due to disasters between 2004 and 2013, and one of the poorest, with 41.2 percent of people living in areas prone to natural hazards (United Nations,