



Understanding climate-related risks to infrastructure in Chinese cities, Climate Risk Assessment of Infrastructure Tool

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Climate resilient infrastructure is essential for the safety, wellbeing, sustainability and economic prosperity of cities. An understanding of current and future climate risks is an essential consideration for the planning, design, delivery and management of new and existing resilient infrastructure systems. While there is a growing number of tools which focus on assessing specific components of climate risk there is a need for tools which help bridge the gap between climate science, resilience practitioners, infrastructure owners and policy makers.

The Climate Risk Infrastructure Assessment Tool developed within the Climate Science for Service Partnership China (CSSP China) aims to help planners and policy-makers understand how climate change may impact a city's infrastructure systems. CSSP China seeks to bring together climate practitioners in China and the UK, and to forge links between climate scientists and industry practitioners to develop practical tools that translate the science into valuable insights for policymaking, planning and design. The development of this tools builds on earlier work carried out with the Shanghai Met Service and the British Embassy in Beijing to develop a qualitative tool to guide the assessment of climate risks for infrastructure.

The tool guides the user through a semi-quantitative climate risk assessment for a section of an infrastructure system. At present it uses ensemble data from global climate models from the Coupled Model Intercomparison Project Phase 5 (CMIP5) to estimate and visualise future climate change projections helping cities understand the current and future likelihood of weather events. The tool then enables cities to assess the overall impact of severe weather on infrastructure by determining its vulnerability and criticality. Risk is estimated as a combination of event likelihood and impact. For key risks, guidance on implementing appropriate adaptation measures is provided to support planners and policy-makers to consider what action is needed.