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The recent catastrophic floods in China, Belgium and Germany underscore the importance of building climate-resilient cities. We represent a consortium that has proposed a comprehensive climate-adaptation programme, one that can guide urban decision-making and governance to better prepare for future climate-related events. Such efforts hinge on five principles learnt from earlier disasters (see <https://go.nature.com/3ctpwau>). The world must: improve early-warning systems and strengthen flood barriers and civil protection, in particular for smaller watersheds; develop ‘sponge’ cities and landscapes that harness nature-based flood-risk mitigation; carry out climate risk assessments of critical infrastructure such as hospitals, transport and freshwater supply; climate-proof exposed buildings; and reinforce action with strong political cooperation and solidarity, particularly with the most vulnerable groups of people. We have the scientific knowledge to develop climate resilient cities (see, for example, X. Bai et al. *Nature* 555, 23-25; 2018). However, political will and bold decisions will be essential for implementing the solutions and the necessary societal transformations.

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