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First estimate of the future global population at risk of flooding

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Abstract:

Flooding is one of the major risks anticipated to increase in association with anthropogenically induced climate change which is likely to intensify the global water cycle. Currently, 20 to 300 million people per year are affected by floods that threaten both social security and sustainable development. This study presents the first estimate of future populations at risk of flooding. Results indicate that in the case of 3°C warming from the average of 1980-1999, approximately 300 million people could be at risk even in years of relatively low flooding; this number corresponds to the number of people affected in a devastating flood year at present. If the temperature increase is greater than 3°C, the flood-affected population would likely be even larger. We suggest that approximately 2°C warming, rather than 3°C warming, should be considered the critical level of temperature increase.

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