

Floods have become less deadly worldwide

March 5th, 2024



Photo: [KOMUnews, www.flickr.com](https://www.komunews.com)

Over the last 1ve decades, floods have become less deadly. The global number of flood events has increased over time, but the average number of people killed and affected per event has decreased. This was concluded from an analysis of global data of flood fatalities for the period 1975-2022.

These data are part of the widely used EM-DAT International Disaster Database. The analysis includes 5582 flood events with one or more fatalities.

Fewer deaths per event

Since 1975, the global number of flood events has increased over time, albeit with a slower increase since 2000 compared to previous decades. However, floods have become less deadly. The doubling of global population since 1975, partly in flood prone areas along coasts and in river basins, has not increased the total number of annual flood fatalities over time. In fact, since 1975, the average number of people killed and affected per event has decreased. The latter reflects the impact of increased flood protection, better warning, forecasting and

early warning communication and other forms of risk reduction over the last decades. The annual number of large events ⁵with over 100 fatalities ⁵has decreased since 2000.

Biggest change for middle-income countries

In their analysis, the researchers also made a distinction in low-, middle- and high-income countries. They showed that especially middle-income countries have succeeded in reducing mortality from flooding. For low-income countries mortality increased after the year 2000 whereas no trend was found for high-income groups. According to the authors of the study this may be due to an increase of the number of people living in floodplains. In low-income countries, people moving into floodplains are too poor to adequately protect themselves against flooding. Indeed, [as we have shown before](#), more and more natural floodplains are being converted into agricultural land and built-up areas, globally, increasing exposure to flooding.

High mortality flash flooding

The study includes riverine, coastal, and flash flooding. The analysis shows that riverine and flash floods are the most frequent flood type for flood events up to 1,000 fatalities. Around 60 events of these types of flooding occur each year with 5 or more fatalities. The study also highlights the relatively high mortality from flash flooding, consistent with [previous findings](#) we have published. Although coastal floods from storms and tropical cyclones occur less frequently, they are dominant for events over 1,000 fatalities. Particularly due to these large events, most flood fatalities ⁵around 85% ⁵occurred in Asia.

Source: Jonkman et al. (2024). Natural Hazards, doi: 10.1007/s11069-024-06444-0.