

# The many impacts of climate change



## Storms

Scientists aren't yet certain if the number of tropical cyclones will increase in a warmer world. According to the UN climate panel, global warming of 3 to 4 deg C will more likely than not mean the global number of storms will decrease while the number of very intense cyclones will increase. What is clearer is that storms are already dumping more intense rainfall, triggering worse flooding. Studies also suggest a small poleward shift of South-Hemisphere storm tracks.



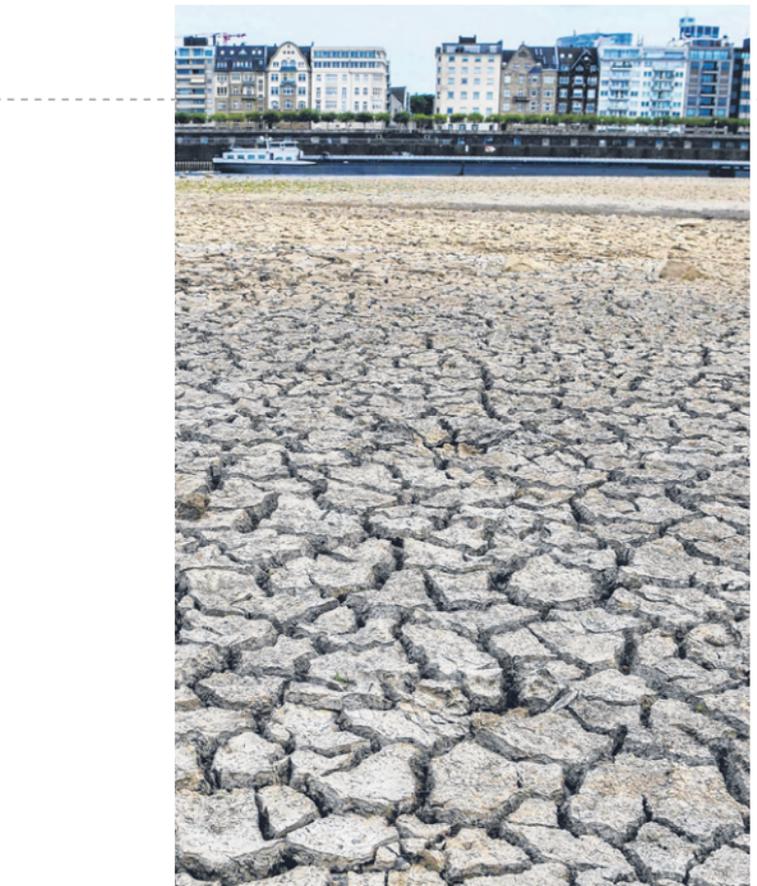
## Floods

As temperatures rise, the atmosphere holds more moisture. This in turn means more rainfall. According to the UN climate panel, many places, including South-east Asia, will face more intense rainfall events with a rise of between 1.5 and 2 deg C, with the intensity rising as temperatures increase beyond that point. Scientists say climate change is already triggering more intense floods, such as the floods that hit Japan this year and during Hurricane Harvey in Texas last year.



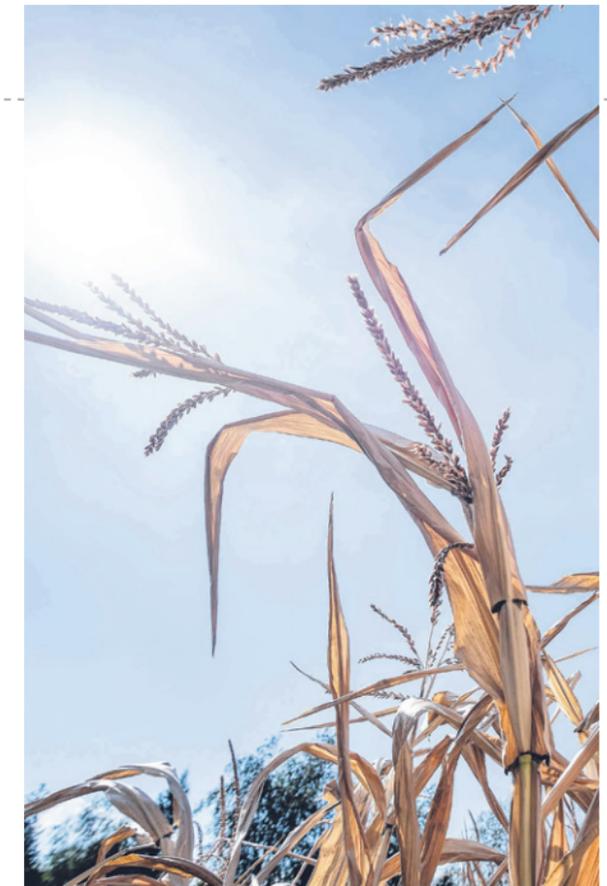
## Temperatures

Severe heatwaves, like the one that killed more than 200 people in Japan this year, are expected to become more frequent in the higher latitudes of the world, including Asia, the UN climate panel says. If greenhouse gas emissions aren't cut drastically, global average summer temperatures are expected to increase by more than 6 deg C above pre-industrial levels by 2100, which could prove deadly. But deep emissions cuts can limit summer temperature increases to about 2 deg C by the end of the century.



## Drought

Generally, climate scientists say wet regions get wetter and dry areas get drier as the world warms. That means dry seasons and periodic droughts are expected to be longer lasting and more intense, doubly so with higher temperatures and higher rates of evaporation. For example, people in South Asia are likely to face deteriorating water and food security caused by increasing droughts, according to a study by the Asian Development Bank published last year.



## Crops

The UN climate panel says crop yields are likely to fall as temperatures increase. For warming of 1.5 deg C or less, global maize crop reductions total about 10 per cent, rising to 15 per cent between 1.5 and 2 deg C. Up to 3 deg C could trigger drastic maize crop reductions globally. For South-east Asia, a 2 deg C warming by 2040 is likely to cause a one-third decline in per-capita crop production associated with general decreases in crop yields. Studies have also suggested yield declines for rice as well as a drop in the nutritional value.



## Rising sea levels

Sea levels have already risen about 20cm from pre-industrial times and, on average are rising 3.4mm a year, threatening low-lying island nations and coastal cities. The UN climate panel says that by 2100, global sea-level rise would be 10 cm lower with global warming of 1.5 deg C compared with 2 deg C. But scientists estimate that if nothing is done to rein in greenhouse gas emissions, sea-level rise would accelerate and could be higher by 1m or more from pre-industrial times by 2100 and keep on rising for centuries to come.

Source: INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE, ASIAN DEVELOPMENT BANK  
PHOTOS: AFP, AP, REUTERS  
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