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Increasing occurrence of severe weather events

Houses are submerged in flood waters after Hurricane Isaac hit Braithwaite, Louisiana in 2012
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Extreme weather events are a major consequence of climate change, and are becoming more frequent, powerful and erratic. What is needed is not just relief when disaster strikes, but adaptation to the massive effects these phenomena produce, including disease, political unrest and economic stress – issues explored elsewhere in this report. It's obvious that adapting to – or ideally, preventing severe weather events – results in a better outcome for everyone.

Severe weather events have dominated headlines recently, causing immense devastation. Every continent has been affected, from one of the world's strongest storms hitting the Philippines and the widest tornado ever seen in the United States, to extreme droughts gripping central Africa, Brazil and Australia and a series of massive floods in Pakistan.

Improved computer modelling facilitates scientists' assessment of man-made climate change on individual severe weather events, a task that's been difficult in the past. The Intergovernmental Panel on Climate Change's 2014 report on climate change mitigation provided new evidence linking extreme weather events and climate change. The American Meteorological Society combined

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research from 92 scientists to examine 16 of the biggest weather events from 2013, concluding that global warming greatly increased the risk of severe heat waves occurring. Despite this, there's a real failure to grasp the problem at hand. A lack of international leadership has definitely affected the development of this trend.

The irony and cruelty of climate change is that the costs of extreme weather events are highest for society's poorest. They are those least able to cope and least able to afford insurance. Over 90% of respondents to this year's Survey on the Global Agenda expect Asia to be most affected by increasing severe weather events. This is significantly higher when compared to the other regions, which are rated at between 10% and 51% (each respondent named up to three regions).

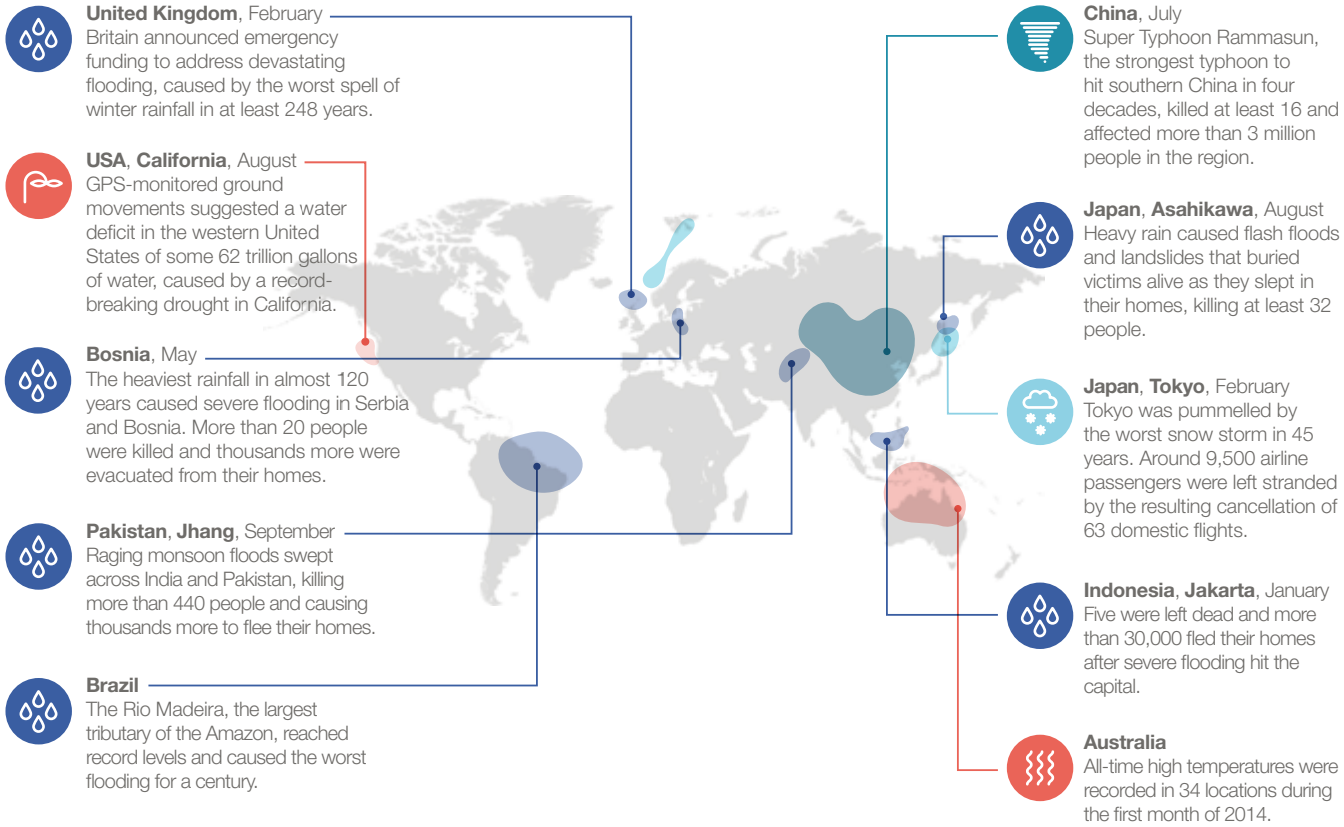
Severe weather events are changing perceptions about climate change. However, when we think of climate change we think less about its already evident impacts and instead more about emissions, particularly around energy production and carbon. Unfortunately, this means most climate change discussion gets reduced to a discussion about carbon management. Carbon management is undoubtedly the essential challenge in mitigation, but in a world defined by climate impacts and adaptation – and that's the world we currently live in – it's not enough to focus on carbon management alone.

We need to do more, and I see a great opportunity for the private sector to take advantage. Since the challenge of response is the challenge of development, we need to turn this into an investment question. Presently, we're only putting band aids on the problem: the disaster happens, and we express sorrow. We raise funds and send aid. We try to relieve whatever pain we can with the best intentions. Yet we still wait for the next crisis. Running from disaster to disaster just will not work.

The way to convince countries and companies to invest in climate resilience is the same as getting them to invest in mitigation. First of all, carry out 'no regret' spending: invest in policies that are good even

Increasing occurrence of severe weather events: **Inside the data**

Where have **severe weather events** occurred in 2014?

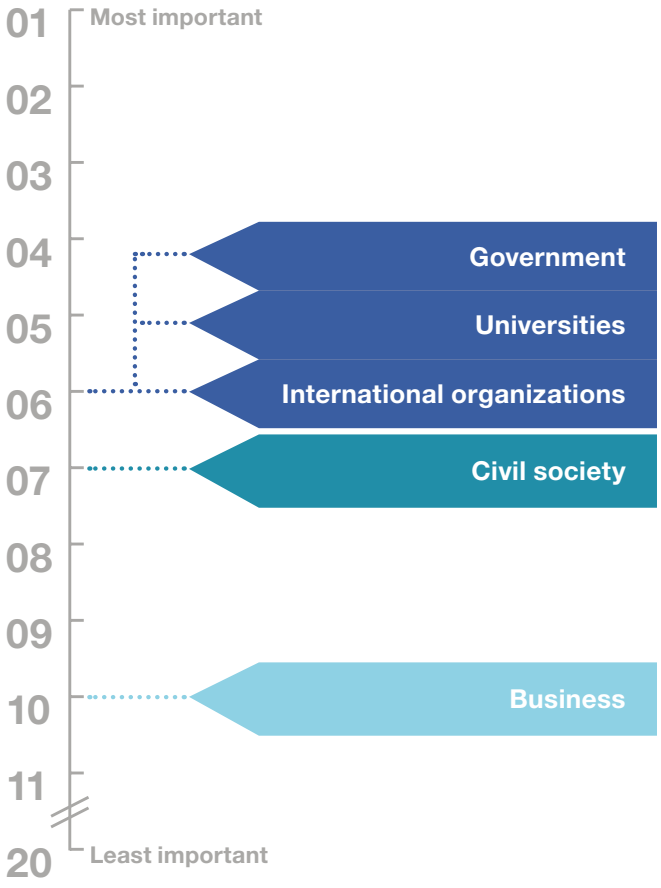


Source: World Economic Forum, 2014

if climate change adaptation wasn't needed – infrastructure, for example. Second, find low-hanging fruits: inexpensive policies with high net gains, including disaster preparedness and early warning activities. Finally, look at long-term costs and benefits. Adaptation investments in sustainable and resilient technologies (such as saline agriculture) are just as good as clean energy investments. The other point to make is that disasters are unpredictable. The cost of potentially gigantic disasters is what good adaptation policy protects us against.

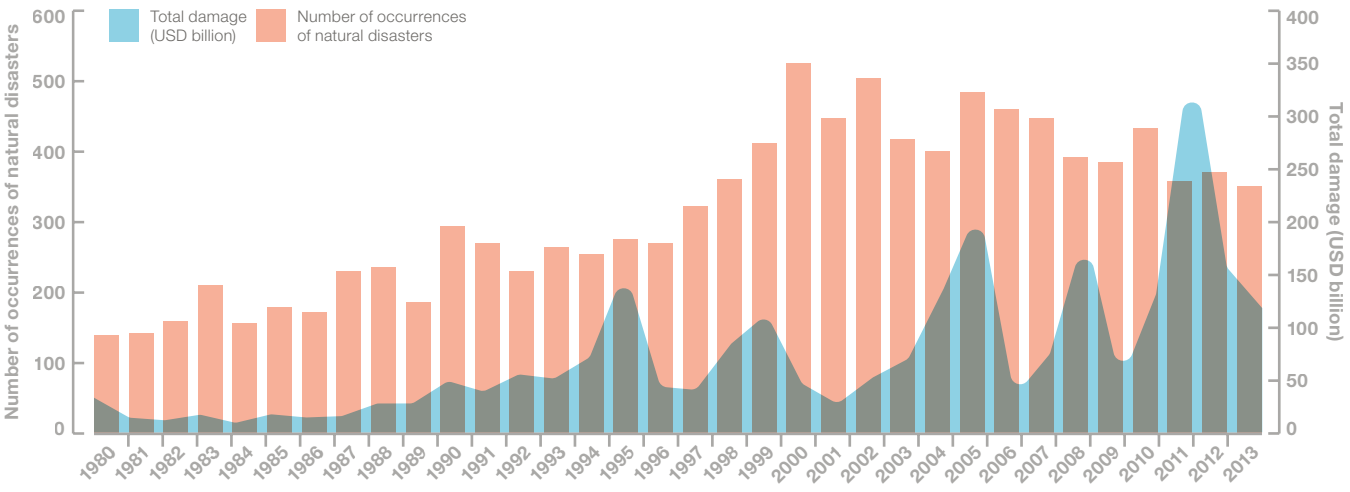
To sum up, the solution is to strengthen resilience before disaster strikes. That means investing in developments that work in the future, not just in the short-term. Costs can be high and speed of change can be slow, but long-term payoffs are impressive: for national economies, for business, and certainly for the poorest and most vulnerable populations who will suffer and pay if we fail to take these measures ■

How did different stakeholders rank **increasing occurrence of severe weather events** among the list of 20 trends in the Survey on the Global Agenda?



Source: Survey on the Global Agenda 2014

What have been the economic consequences of a global **increase in occurrence of severe weather events**?



Source: The International Disaster Database, EM-DAT database