

RISK ATLAS ENVIRONMENTAL RISKS

The next 10 catastrophes

Climate change is most likely to strike in the countries least able to cope with the effects, according to Maplecroft's new index

THOSE COUNTRIES THAT PRODUCE THE LEAST BY WAY OF greenhouse gas emissions are most vulnerable to the effects of climate change, according to new research.

The huge earthquake and ensuing tsunami that struck the east coast of Japan in March is the latest horrifying example of the power of Mother Nature. Fortunately for its citizens, Japan has the resources to assist the victims. Cruelly, according to Maplecroft's Climate Change Vulnerability Index, the countries most exposed to climate-related catastrophes are those least able to cope.

Bangladesh and India top the table among other countries at most risk, characterised by high levels of poverty, dense populations and reliance on drought-prone agricultural land. India's massive population and increasing demand for scarce resources make it particularly sensitive to climate change.

The industrial giants of China, Brazil and Japan are all listed as 'high risk'. Wealthy European nations make up the 'low risk' countries. Russia, the USA, Germany, France and the UK are all 'medium risk'.

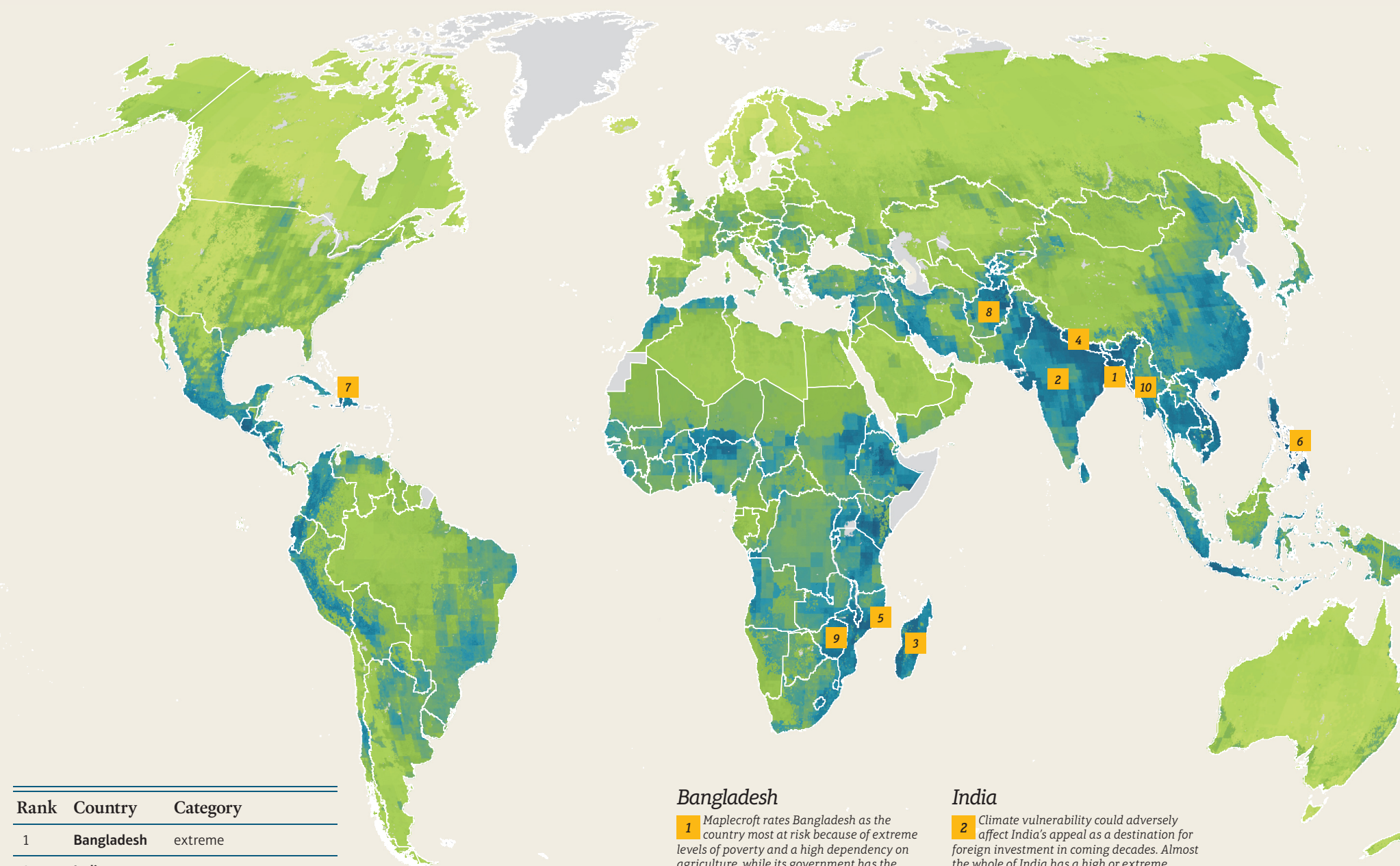
The National Centre for Atmospheric Research recently highlighted America's growing threat of severe and prolonged drought in the coming decades. In its Strategic Defence and Security Review, the UK also warned that climate change represents a potential threat to its security.

Rising climate risks could also hit foreign investments into vulnerable countries, warns Maplecroft principal environmental analyst Matthew Bunce.

"Organisations with operations or assets in these countries will become more exposed to associated risks, such as climate-related natural disasters, resource security and conflict," Bunce says. "Understanding climate vulnerability will help companies make their investments more resilient to unexpected change." **SR**

'Understanding climate vulnerability will help companies make their investments more resilient to unexpected change'

Matthew Bunce, Maplecroft



Rank	Country	Category
1	Bangladesh	extreme
2	India	extreme
3	Madagascar	extreme
4	Nepal	extreme
5	Mozambique	extreme
6	Philippines	extreme
7	Haiti	extreme
8	Afghanistan	extreme
9	Zimbabwe	extreme
10	Myanmar	extreme

Key

- Extreme risk
- High risk
- Medium risk
- Low risk
- No data

Map, data and indices courtesy of Maplecroft

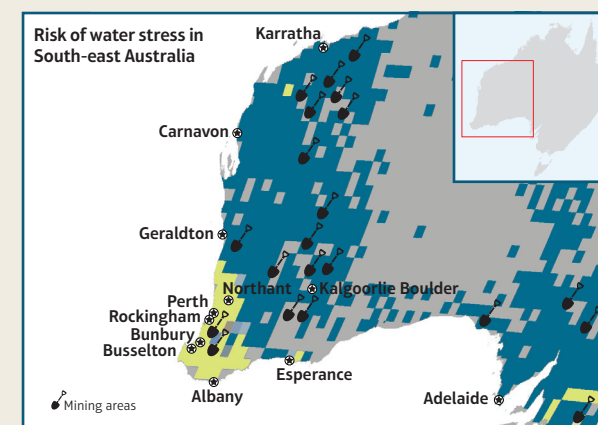
→ [READ MORE ONLINE] Download a PDF of this risk map at www.strategic-risk.eu or goo.gl/wrNha or go to maplecroft.com for more maps and indexes

Bangladesh

1 Maplecroft rates Bangladesh as the country most at risk because of extreme levels of poverty and a high dependency on agriculture, while its government has the lowest capacity of all countries to adapt to predicted changes in the climate. In addition, Bangladesh has a high risk of drought and the highest risk of flooding.

India

2 Climate vulnerability could adversely affect India's appeal as a destination for foreign investment in coming decades. Almost the whole of India has a high or extreme degree of sensitivity to climate change, according to Maplecroft. This is compounded by a high level of poverty and agricultural dependency, it added.



SPOTLIGHT ON AUSTRALIA

Vast swathes of Australia are rated at 'extreme risk' of water stress because demand is exceeding 90% of total renewable water resources. The issue is particularly pressing in the south of the country. Nearly one million sq km of land is at 'extreme risk' of water stress, which represents 12.8% of the total land area, warned Maplecroft. High demand for water from the industrial and mining sectors is compounding the problem, as illustrated in the map, left.

EXPERT VIEW

Michael Bruch is head of R&D at Risk Consulting, Allianz

Tools and processes must keep ahead of climate upheaval

INSURERS SUFFERED AT LEAST \$36BN in catastrophe losses in 2010, according to Swiss Re. This is the highest loss year if major hurricanes are excluded and the fourth highest overall in the past decade.

Devastating floods in Pakistan and Australia; cyclone Yasi – climate change seems to materialise and affect natural catastrophes worldwide, including regions that haven't been hit in the past. From an insurer's perspective, these developments have major ramifications for businesses on various levels.

Internal risk models of insurers and reinsurers are currently not adequately reflecting the growing severity and frequency of natural catastrophes. Risk management tools and processes therefore have to be adjusted to maintain sustainable (re)insurance business models now and in the future.

In addition, accumulation of values in areas prone to natural hazards increases the vulnerability of businesses. Having adequate building codes, early warning systems and loss prevention measures in place, and being prepared to take the right contingency actions, is critical to avoid future losses.

But carbon emission reduction efforts also offer business opportunities. This is reflected in significant growth rates of wind or solar industry. Those projects are becoming larger in scale, which leaves them more prone to risks such as natural hazards, breakdown or design failure.

The insurance industry plays an important role as technology enabler by identifying, analysing and offering mitigation solutions for those risks.