

BRIEFING PAPER

# GLOBAL CLIMATE RISK INDEX 2016

Who Suffers Most From Extreme Weather Events?  
Weather-related Loss Events in 2014 and 1995 to 2014

Sönke Kreft, David Eckstein, Lukas Dorsch & Livia Fischer

## Brief Summary

The Global Climate Risk Index 2016 analyses to what extent countries have been affected by the impacts of weather-related loss events (storms, floods, heat waves etc.). The most recent data available—from 2014 and 1995–2014—were taken into account.

The countries affected most in 2014 were Serbia, the Islamic Republic of Afghanistan as well as Bosnia and Herzegovina. For the period from 1995 to 2014 Honduras, Myanmar and Haiti rank highest.

This year's 11<sup>th</sup> edition of the analysis reconfirms that, according to the Climate Risk Index, less developed countries are generally more affected than industrialised countries. Regarding future climate change, the Climate Risk Index may serve as a red flag for already existing vulnerability that may further increase in regions where extreme events will become more frequent or more severe due to climate change. While some vulnerable developing countries are frequently hit by extreme events, there are also some others where such disasters are a rare occurrence.

The Paris climate summit is the keystone to an international year advancing several international policy issues relevant to reduce impacts of extreme events. Paris needs to deliver a far-reaching and durable climate regime that safeguards affected populations through the agreement of a global adaptation goal, an adaptation policy cycle, support for adaptation investments and an international agenda to address loss and damage.

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## How to read the Global Climate Risk Index

The Germanwatch Global Climate Risk Index is an analysis based on one of the most reliable data sets available on the impacts of extreme weather events and associated socio-economic data. The Germanwatch Climate Risk Index 2016 is the 11<sup>th</sup> edition of the annual analysis. Its aim is to contextualize ongoing climate policy debates—especially the international climate talks—with real-world impacts of the last year and the last 20 years.

However, it must not be mistaken for a comprehensive climate vulnerability scoring. It represents one important piece in the overall, more comprehensive puzzle of climate-related impacts and associated vulnerabilities but, for example, does not take into account important aspects such as sea-level rise, glacier melting or more acidic and warmer seas. It is based on past data and should not be used for a linear projection of future climate impacts. Specifically, not too far reaching conclusions should be drawn for the political discussions around which country is the most vulnerable to climate change. Also, it is important that the occurrence of a single extreme event cannot be attributed to anthropogenic climate change. Nevertheless, climate change is an increasingly important factor for changing the odds of occurrence and intensity of these events. There is an increasing body of research that looks into the attribution of the risk of extreme events to the influence of climate change.<sup>1</sup>

The Climate Risk Index thus indicates a level of exposure and vulnerability to extreme events that countries should understand as warning to be prepared for more frequent and/or more severe events in the future. Due to the limitations of available data, particularly long-term comparative data, including socio-economic data, some very small countries, such as certain small island states, are not included in this analysis. Moreover, the data only reflects the *direct* impacts (direct losses and fatalities) of extreme weather events, whereas, for example, heat waves—which are a frequent occurrence in African countries—often lead to much stronger *indirect* impacts (e.g. as a result of droughts and food scarcity). Finally, it does not include the total number of affected people (in addition to the fatalities) since the comparability of such data is very limited.

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<sup>1</sup> See, for instance, Coumou and Rahmstorf (2012); Coumou et al. (2013); Herring et al. (2014); Lehmann et al. 2015; and Herring et al. (2015)

## Key messages

- According to the Germanwatch Global Climate Risk Index, Honduras, Myanmar and Haiti were the countries most affected by extreme weather events between 1995 and 2014.
- Of the ten most affected countries (1995–2014), nine were developing countries in the low income or lower-middle income country group, while only one (Thailand) was classified as an upper-middle income country.
- Altogether, more than 525 000 people died as a direct result of approx. 15 000 extreme weather events and losses between 1995 and 2014 amounted to over 2.97 trillion USD (in Purchasing Power Parities).
- In 2014, Serbia, the Islamic Republic of Afghanistan as well as Bosnia and Herzegovina led the list of the most affected countries.
- Among the 10 most affected countries in the long-term index, most have a high ranking due to exceptional catastrophes. Over the last few years another category of countries has been gaining relevance: Countries that are recurrently affected by catastrophes, such as the Philippines and Pakistan, and that feature both in the long term index and in the last 4 years' lists of countries most affected.
- The host region of the COP—the continent of Europe—is also affected by climatic events. Germany (18<sup>th</sup>), France and Portugal (both 19<sup>th</sup>) rank among the 20 countries world-wide most affected in the past two decades. The Balkans have been repeatedly hit by large flooding events.
- Precipitation, floods and landslides were the major causes of damage in 2014. High incidence of extreme precipitation matches with scientific expectations of accelerated hydrological cycles caused by climate warming.
- The Paris climate summit is the keystone to an international year advancing several international policy issues relevant to reduce impacts of extreme events. Paris needs to deliver a far-reaching and durable climate regime that safeguards affected populations through the agreement of a global adaptation goal, an adaptation policy cycle, support for adaptation investments and an international agenda to address loss and damage.

# 1 Key Results of the Global Climate Risk Index 2016

People all over the world have to face the reality of climate variability and in many parts of the world an increasing variability. Between 1995 and 2014, more than 525 000 people died worldwide and losses of more than USD 2.97 trillion (in PPP) were incurred as a direct result of over 15 000 extreme weather events. The 2014 New Climate Economy Report forewarns of similar disasters that will occur if no action towards limiting global warming to 2°C (compared to pre-industrial times) is taken, with many of these events affecting developing countries whose vulnerability to climate change is particularly high. There is still time to achieve the 2°C limit and minimise the consequences of climate change; however, if mitigation efforts are not immediately taken, the world will continue heading down the path towards dangerous climate change.<sup>2</sup> And in fact, from scientific results we can derive the strong advice to even strive for a 1.5°C limit (see p. 14).

The **Global Climate Risk Index (CRI)** developed by Germanwatch<sup>3</sup> analyses the quantified impacts of extreme weather events<sup>4</sup>—both in terms of fatalities as well as economic losses that occurred—based on data from the *Munich Re NatCatSERVICE*, which is worldwide one of the most reliable and complete data bases on this matter. The CRI examines both absolute and relative impacts to create an average ranking of countries in four indicating categories, with a stronger emphasis on the relative indicators (see chapter “Methodological Remarks” for further details on the calculation). The countries ranking highest are the ones most impacted and should see the CRI as a warning sign that they are at risk for either frequent events or rare, but extraordinary catastrophes.

The Climate Risk Index does not provide an all-encompassing analysis of the risks of anthropogenic climate change, but should be seen as just one analysis explaining countries' exposure and vulnerability to climate-related risks along with other analyses,<sup>5</sup> based on the most reliable quantified data. It reflects impacts of current and past climate variability and—to the extent that climate change has already left its footprint on climate variability over the last 20 years—also of climate change.

## Countries affected most in the period 1995–2014

**Honduras, Myanmar and Haiti** have been identified as the most affected countries in this 20 year period.<sup>6</sup> They are followed by **the Philippines, Nicaragua, and Bangladesh**. Table 1 shows the ten most affected countries of the last two decades with their average, weighted ranking (CRI score) and the specific results relating to the four indicators analysed.

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<sup>2</sup> See The Global Commission on the Economy and Climate, 2014: The New Climate Economy Report <http://newclimateeconomy.report/TheNewClimateEconomyReport.pdf>

<sup>3</sup> See Anemüller et al. (2006)

<sup>4</sup> Meteorological events such as tropical storms, winter storms, severe weather, hail, tornados, local storms; hydrological events such as storm surges, river floods, flash floods, mass movement (landslide); climatological events such as freezing, wildfires, droughts.

<sup>5</sup> See e.g. analyses of Columbia University: <http://ciesin.columbia.edu/data/climate/>, Maplecroft's Climate Change Vulnerability Index: <http://maplecroft.com/themes/cc/>

<sup>6</sup> The full rankings can be found in the Annexes.

**Table 1: The Long-Term Climate Risk Index (CRI): the 10 countries most affected from 1995 to 2014 (annual averages)**

<b>CRI 1995–2014</b> (1994–2013)	<b>Country</b>	<b>CRI score</b>	Death toll	Deaths per 100 000 inhabitants	Total losses in million US\$ PPP	Losses per unit GDP in %	Number of events (total 1995–2014)
<b>1 (1)</b>	Honduras	11.33	302.75	4.41	570.35	2.23	73
<b>2 (2)</b>	Myanmar	14.17	7 137.20	14.75	1 140.29	0.74	41
<b>3 (3)</b>	Haiti	17.83	252.65	2.76	223.29	1.55	63
<b>4 (5)</b>	Philippines	19.00	927.00	1.10	2 757.30	0.68	337
<b>4 (4)</b>	Nicaragua	19.00	162.30	2.97	227.18	1.23	51
<b>6 (6)</b>	Bangladesh	22.67	725.75	0.52	2 438.33	0.86	222
<b>7 (7)</b>	Vietnam	27.17	361.30	0.44	2 205.98	0.70	225
<b>8 (10)</b>	Pakistan	31.17	487.40	0.32	3 931.40	0.70	143
<b>9 (11)</b>	Thailand	32.33	164.20	0.25	7 480.76	1.05	217
<b>10 (9)</b>	Guatemala	32.50	83.35	0.66	407.76	0.50	88

There are merely slight changes compared to the analyses presented in the CRI 2015, which considered the period from 1994 to 2013.<sup>7</sup> Nine out of ten countries that made the **Bottom 10**<sup>8</sup> list last year appear again in this year's edition. Haiti, the poorest country of the Western Hemisphere, as well as Honduras and Myanmar remain the top three most affected countries over the past two decades. These rankings are attributed to the aftermath of exceptionally devastating events such as Hurricane Sandy in Haiti and Hurricane Mitch in Honduras. Likewise, Myanmar has also been struck hard, most notably by Cyclone Nargis in 2008, responsible for an estimated loss of 140 000 lives as well as the property of approximately 2.4 million people.<sup>9</sup>

Particularly in relative terms poorer, developing countries are hit much harder. These results emphasise the particular vulnerability of poor countries to climatic risks, despite the fact that the absolute monetary losses are much higher in richer countries. Loss of life and personal hardship is also much more widespread especially in low-income countries.

### Countries affected most in 2014:

**Serbia, the Islamic Republic of Afghanistan as well as Bosnia and Herzegovina** have been identified as the most affected countries last year followed by **the Philippines, Pakistan and Bulgaria**.<sup>10</sup> Table 2 shows the ten most affected countries, with their average, weighted ranking (CRI score) and the specific results relating to the four indicators analysed.

<sup>7</sup> See Kreft et al., 2014: Global Climate Risk Index 2015. <http://germanwatch.org/de/download/10333.pdf>

<sup>8</sup> The term "Bottom 10" refers to the 10 most affected countries in the respective time period

<sup>9</sup> See OCHA, 2012, <http://reliefweb.int/sites/reliefweb.int/files/resources/Myanmar-Natural%20Disasters-2002-2012.pdf>

<sup>10</sup> The full rankings can be found in the Annexes.

**Table 2: The Climate Risk Index for 2014: the 10 most affected countries**

Ranking 2014 (2013)	Country	CRI score	Death toll	Deaths per 100 000 inhabitants	Absolute losses (in million US\$ PPP)	Losses per unit GDP in %	Human Development Index 2014 <sup>11</sup>
1 (93)	Serbia	8.17	59	0.8236	3 300.307	3.4435	77
2 (15)	Islamic Republic of Afghanistan	10.67	434	1.3875	337.085	0.5543	169
3 (89)	Bosnia and Herzegovina	11.50	26	0.6717	3 584.776	9.3617	86
4 (1)	Philippines	12.50	328	0.3299	3 312.686	0.4777	117
5 (6)	Pakistan	12.67	1 227	0.6590	2 220.527	0.2511	146
6 (77)	Bulgaria	13.83	31	0.4304	2 383.604	1.8463	58
7 (143)	Nepal	15.83	533	1.8962	143.101	0.2131	145
8 (109)	Burundi	16.00	80	0.8695	73.382	0.8727	180
8 (33)	Bolivia	16.00	47	0.4162	449.454	0.6395	113
10 (3)	India	16.17	1 863	0.1460	36 950.507	0.4986	135

Two of the three most affected countries in 2014 were hit by the heaviest rainfalls and worst floods since records began 120 years ago.<sup>12</sup> An extreme weather event in Southeast Europe in mid-May 2014 caused losses and damage of over 2 billion USD in **Serbia**.<sup>13</sup> In **Bosnia and Herzegovina** the flooding and over 3 000 landslides displaced almost 90 000 people and caused extensive damage, the highest per GDP in 2014.<sup>14</sup> Heavy floods also occurred in eastern **Bulgaria** in June 2014, killing at least a dozen people and badly affecting agriculture and the tourism sector.<sup>15</sup> Furthermore a severe hailstorm on 8 July 2014 caused a lot of damage in the Bulgarian capital, Sofia.<sup>16</sup>

In the **Islamic Republic of Afghanistan** landslides in the northern province Badakhshan triggered by heavy rains killed at least 350 people, displaced many families and caused widespread damage to homes and agriculture.<sup>17</sup> In the forefront floods had already hit the country sorely.<sup>18</sup>

Millions of people in **the Philippines** were affected throughout 2014 by typhoons, tropical storms, floods and landslides.<sup>19</sup> The year's strongest typhoon, Typhoon Rammasun, killed around 100 people, destroyed over 100 000 houses and damaged 400 000 others.<sup>20</sup>

<sup>11</sup> UNDP, 2014: Human Development Report, p. 159

<sup>12</sup> BBC, 2014c, <http://www.bbc.com/news/world-africa-27439139>

<sup>13</sup> European Commission, 2014, [http://ec.europa.eu/enlargement/pdf/press\\_corner/floods/20140715-serbia-rna-report.pdf](http://ec.europa.eu/enlargement/pdf/press_corner/floods/20140715-serbia-rna-report.pdf), losses and damage converted from EUR to US\$ at the historic exchange rate of May 2014

<sup>14</sup> Reliefweb 2014b, <http://reliefweb.int/disaster/ff-2014-000059-srb>

<sup>15</sup> Reuters, 2014,

<http://www.reuters.com/article/2014/06/21/us-bulgaria-floods-idUSKBN0EW0KA20140621#EzjL2yYbvGRUJb7S.97>

<sup>16</sup> EUMETSAT, 2014, [http://www.eumetsat.int/website/home/Images/ImageLibrary/DAT\\_2412070.html](http://www.eumetsat.int/website/home/Images/ImageLibrary/DAT_2412070.html)

<sup>17</sup> UN News Centre, 2014, <http://www.un.org/apps/news/story.asp?NewsID=47711#.Vk71b0aVOzF>

<sup>18</sup> BBC, 2014b, <http://www.bbc.com/news/world-asia-27261783>

<sup>19</sup> Reliefweb, 2014g <http://reliefweb.int/disasters?date=20140101-20150101&country=188#content>

<sup>20</sup> Reliefweb, 2014c, <http://reliefweb.int/disaster/tc-2014-000092-phl>

After low rainfalls in March 2014 threatened the food security of poor households in **Pakistan**, heavy monsoon rains and floods in September caused 367 deaths, affected more than 2.5 million people and destroyed nearly 130 000 houses and over 1 million acres of cropland.<sup>21</sup> <sup>22</sup> The monsoon floods also hit the states Jammu and Kashmir in **India**, killing 150 people and causing severe damage.<sup>23</sup> India was also affected by Tropical Cyclone Hudhud in October, causing 22 deaths and affecting 320 villages, where there were also floods in August.<sup>24</sup> A landslide in **Nepal** caused by those deadly floods covered an entire village and buried 156 people.<sup>25</sup>

In **Burundi** torrential rain on 9 February 2014 caused flooding, landslides and mudslides with 64 reported fatalities. Due to that disaster in one of the ten poorest countries on earth, 12 500 people were made homeless.<sup>26</sup> The torrential rain and floods in February 2014 were also the reason that **Bolivia** came to be on the Bottom 10 list. The floods killed at least 64 people and displaced approximately 10 000 families.<sup>27</sup>

### Exceptional catastrophes or continuous threats?

The Global Climate Risk Index 1995–2014 is based on average values over a twenty year period. However, the list of countries featured in the Bottom 10 can be divided into two groups: those that only have a high ranking due to exceptional catastrophes and those that are continuously affected by extreme events.

Countries falling into the former category include Myanmar, where Cyclone Nargis in 2008 caused more than 95% of the damage and fatalities in the past two decades, and Honduras, where more than 80% of the damage in both categories was caused by Hurricane Mitch in 1998. The latest addition to this group is Thailand, where the floods of 2011 accounted for 87% of the total damage. With new superlatives like Hurricane Patricia in October 2015 being the strongest land-falling pacific hurricane on record, it seems to be just a matter of time until the next exceptional catastrophe occurs.<sup>28</sup> Cyclone Pam, that severely hit Vanuatu in March 2015, once again showed the vulnerability of Least Developed Countries (LDCs) and Small Island Developing States (SIDS) to climate risks.<sup>29</sup>

Countries like the Philippines, Pakistan and India are threatened by extreme weather events each year and remain in the Bottom 10. As a country that is struck by eight to nine typhoons per year and the victim of exceptional catastrophes, namely Typhoon Haiyan in 2013, the Philippines suggests that a new and unique classification of countries that fit both moulds may be emerging.

Similarly, the appearance of some European countries among the Bottom 30 countries can to a large part be attributed to the extraordinary number of fatalities due to the 2003 heat wave, in which more than 70 000 people died across Europe. Although some of these countries are often hit by extreme events, the relative economic losses and the fatalities are usually relatively minor compared to the countries' populations and economic power. However, Bosnia and Herzegovina lost almost 10% of its GDP due to the 2014 flooding.

<sup>21</sup> BBC 2014a, <http://www.bbc.com/news/world-asia-26609858>

<sup>22</sup> Reliefweb, 2014d, <http://reliefweb.int/disaster/fl-2014-000122-pak>

<sup>23</sup> Reliefweb, 2014e, <http://reliefweb.int/disaster/fl-2014-000089-ind>

<sup>24</sup> Reliefweb, 2014h, <http://reliefweb.int/disasters?date=20140101-20150101&country=119#content>

<sup>25</sup> The Guardian, 2014, <http://www.theguardian.com/world/2014/aug/18/nepal-india-relief-effort-monsoon-floods>

<sup>26</sup> Reliefweb, 2014f, <http://reliefweb.int/report/burundi/burundi-floods-dref-operation-n-mdrbi010-final-report>

<sup>27</sup> Reliefweb, 2014a, <http://reliefweb.int/disaster/fl-2014-000008-bol>

<sup>28</sup> See The Weather Channel, 2015, <http://www.weather.com/storms/hurricane/news/hurricane-patricia-mexico-coast>

<sup>29</sup> See BBC 2015, <http://www.bbc.com/news/world-asia-31866783>



## The link between climate change and extreme weather events

Climate change-related risks stemming from extreme events such as heat waves, extreme precipitation, and coastal flooding, can already be observed as the Fifth Assessment Report of the Intergovernmental Panel on Climate Change (IPCC) from 2014 stresses.<sup>30</sup> The frequency of heat waves has increased in large parts of Europe, Asia and Australia. Likewise the number of heavy precipitation events has increased in most land regions. Especially in North America and Europe the frequency or intensity of heavy precipitation events has increased.<sup>31</sup>

The IPCC has already predicted that risks associated with extreme events will continue to increase as the global mean temperature rises.<sup>32</sup> However, the link between certain weather events and climate change is still a frontier in science. A bundle of studies published by the American Meteorological Society in 2015 researched the causes of weather events in 2014 and their connection to climate change.<sup>33</sup> The studies show that anthropogenic climate change increased the likelihood of extreme weather events in 2014, especially the likelihood of heat waves. But also tropical cyclones turned out to be more likely due to climate change, as an analysis of storms in the Hawaii region has shown. For other events such as flooding, it is more difficult to prove the impact of climate change, however this does not mean that it is not there, the researchers suggest. Furthermore, other human-driven factors increasing climate risks were found, especially reduced drainage capacity due to land-use changes. This emphasises the importance of integrative approaches to reduce climate risks.

The above-mentioned examples of the Bottom 10 countries in the CRI for 2014 show how destructive extreme precipitation can be, namely through floods and landslides. Extreme precipitation is expected to increase as global warming intensifies the global hydrological cycle. A new study by Lehmann et al. 2015 strengthens the scientific link between record breaking rainfall events since 1980 and rising temperatures. According to the scientists, the likelihood of a new extreme rainfall event being caused by climate change reached 26% in 2010.<sup>34</sup> An example of such an extreme rainfall event in the Russian town Krymsk, in 2012, was studied by Meredith et al. 2015. With simulation models, they showed that the current warmer surface of the Black Sea changes the local atmospheric characteristics and leads to a 300% increase in simulated precipitation compared to the temperature in 1980.<sup>35</sup> As they found that less uniform patterns of precipitation are at higher temperatures, Wasko and Sharma 2015 suggest that warmer temperatures due to climate change could increase the magnitude and frequency of short-duration floods.<sup>36</sup> Also there is increasing evidence on the link between extreme El Niño events and global warming, as a simulation by Cai et al. 2015 showed that the occurrence of such events could double in the future due to climate change.<sup>37</sup>

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<sup>30</sup> IPCC, 2014, p.12

<sup>31</sup> IPCC, 2013, p.3

<sup>32</sup> IPCC, 2014, p.12

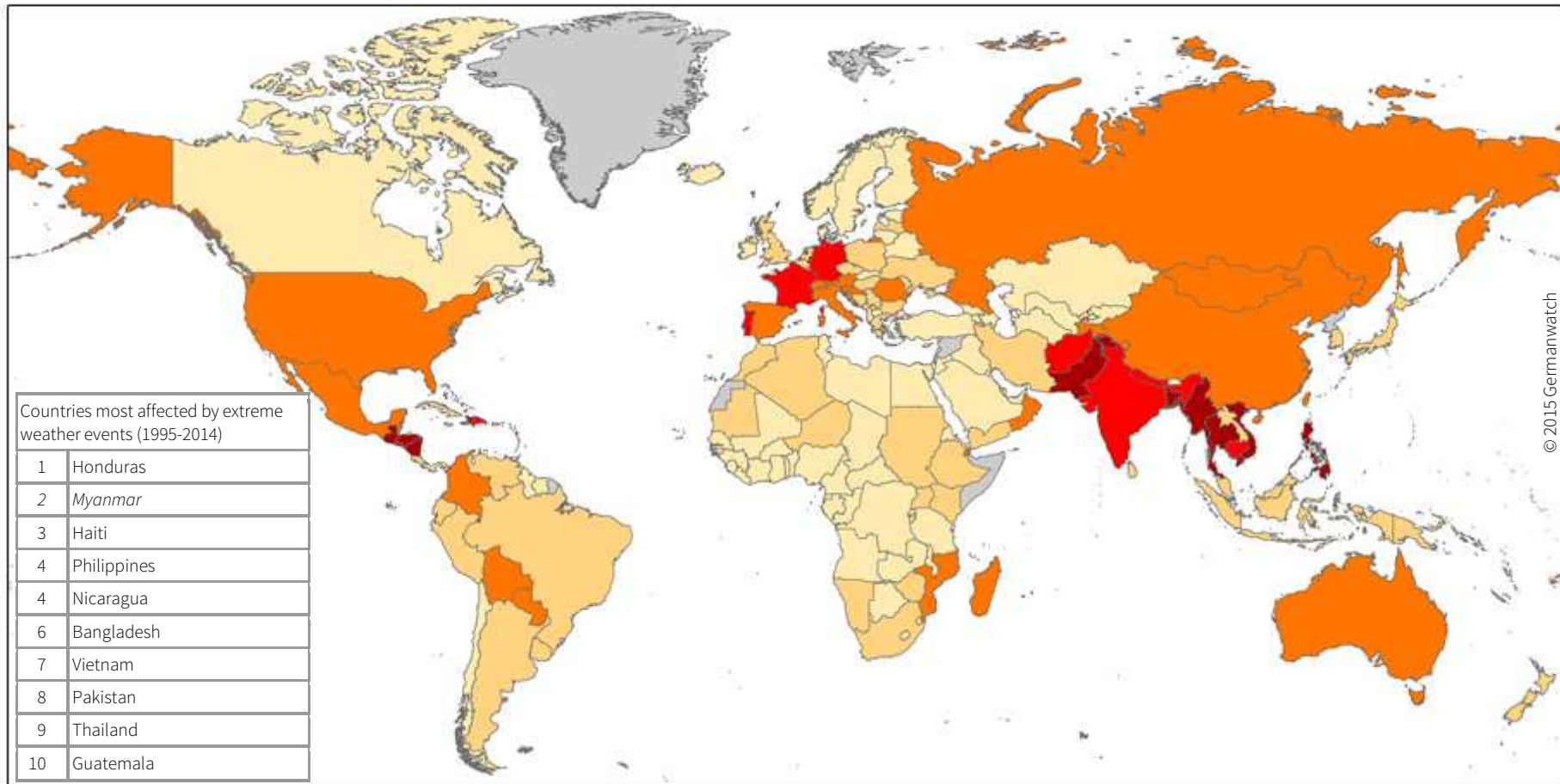
<sup>33</sup> Herring et al. 2015

<sup>34</sup> Lehmann et al., 2015

<sup>35</sup> Meredith et al., 2015

<sup>36</sup> Wasko, and Sharma, 2015

<sup>37</sup> Cai et al., 2015



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*Cursive: Countries where more than 90% of the losses/deaths occurred in one year/event*

### Climate Risk Index: Ranking 1995 – 2014



**Figure 1: World Map of the Global Climate Risk Index 1995–2014**

Source: Germanwatch and Munich Re NatCatSERVICE

## 2 Hosting Region of the Climate Summit: Europe—Impacts in the Region

The climate summit 2015 rotates to Western Europe with France hosting the Conference of the Parties (COP) under the United Nations Framework Convention on Climate Change (UNFCCC) in Paris. While—compared to other regions—climate awareness in the EU is comparatively high in several of its member states, the issue of climate impacts has not entirely penetrated societal discourses and is not a top-priority for EU decision makers. Climate protection policy has been institutionalised, but in the policy processes becomes frequently truncated by competing interests.

Yet the EU is affected by climatic risks. Several of its core members, such as Germany (18.) and France (19.), rank among the 20 countries world-wide most affected by weather related catastrophes in the past 20 years. Especially the heat-wave of 2003, which claimed human tolls in the tens of thousands in France, Italy and Germany, stands out as a major event—the likelihood of which scientist directly link to climate change.<sup>38</sup>

Also in the past year, EU countries and countries on its periphery have been heavily struck by weather catastrophes. Serbia, on rank one of the CRI, was hit hard by a flood in May 2014. Approximately 32 000 people had to leave their homes and over 50 died. The flood led to water and power shortages in Serbia and Croatia. Other countries in the region such as Bosnia and Herzegovina and the Former Yugoslav Republic of Macedonia were impacted by heavy rains, followed by landslides. Especially since the eastern part of Europe is rather poor and dependent on agriculture the resulting loss of farm land was disastrous for many individuals.<sup>39</sup>

However, while policy ambition needs to improve, the EU is not without mechanisms to handle the aftermath of climatic disasters. The European Union Solidarity Fund (EUSF) is a mechanism to ensure the united mode of operating and support after the occurrence of natural disasters. The EUSF was founded in 2002 after extensive flooding in many European countries. It has since provided financial support in 24 countries totalling € 3.7 billion.<sup>40</sup>

Currently, the EUSF's annual budget amounts to € 1 billion. This money can be given to countries that suffer large scale catastrophes. Direct costs of at least € 3 billion or 0.6% of the country's gross national income (GNI) qualify for that category.<sup>41</sup> Affected countries apply for these funds through the European Commission, since the budget is raised outside the EU budget the Council's approval as well as Parliament's is needed.<sup>42</sup> After the heavy floods in Eastern Europe in 2014, € 80 million was provided to Serbia (€ 60.2 million), Croatia (€ 8.96 million) and Bulgaria (€ 10.5 million).<sup>43</sup>

This is an inspiring example and shows how transboundary solidarity and responsibility can be operationalised. The topic of regional and international mechanisms to help countries, when national capacities are overwhelmed, being included in discussions on “climate insurance” is long overdue in preparing for and managing the impacts of weather related disasters (see Box 1 on G7 initiative).

<sup>38</sup> UNEP, 2004, [http://www.grid.unep.ch/products/3\\_Reports/ew\\_heat\\_wave.en.pdf](http://www.grid.unep.ch/products/3_Reports/ew_heat_wave.en.pdf)

<sup>39</sup> Reliefweb 2014b, <http://reliefweb.int/disaster/ff-2014-000059-srb>

<sup>40</sup> European Commission, 2015, [http://ec.europa.eu/regional\\_policy/sources/thefunds/doc/interventions\\_since\\_2002.pdf](http://ec.europa.eu/regional_policy/sources/thefunds/doc/interventions_since_2002.pdf)

<sup>41</sup> EU-Info, 2015, <http://www.eu-info.de/foerderprogramme/strukturfonds/Solidaritaetsfonds/>

<sup>42</sup> European Commission, 2013, [http://europa.eu/rapid/press-release\\_MEMO-13-723\\_en.htm](http://europa.eu/rapid/press-release_MEMO-13-723_en.htm)

<sup>43</sup> ANP 2014, cited from European Commission, 2014, [http://www.parlementairemonitor.nl/9353000/1/j9tvvjgajcovz8izf\\_j9vvi5epmj1ey0/vjnwfaem9jta?ctx=vhd5dhvohazg&tab=1&start\\_tab0=20](http://www.parlementairemonitor.nl/9353000/1/j9tvvjgajcovz8izf_j9vvi5epmj1ey0/vjnwfaem9jta?ctx=vhd5dhvohazg&tab=1&start_tab0=20)

**Table 3: The 15 European countries most affected in 2014**

Ranking CRI	Country	CRI score	Death toll	Deaths per 100 000 inhabitants	Absolute losses (in million US\$ PPP)	Losses per unit GDP
<b>1</b>	Serbia	8.17	59	0.824	3 300.307	3.4435
<b>3</b>	Bosnia and Herzegovina	11.50	26	0.672	3 584.776	9.3617
<b>6</b>	Bulgaria	13.83	31	0.430	2 383.604	1.8463
<b>22</b>	Slovenia	35.50	2	0.097	770.301	1.2514
<b>25</b>	Croatia	37.50	3	0.071	1 120.213	1.2625
<b>27</b>	France	40.50	41	0.064	2 741.786	0.1058
<b>32</b>	Italy	43.17	27	0.044	2 859.903	0.1339
<b>43</b>	Romania	51.83	23	0.115	120.388	0.0306
<b>46</b>	Portugal	54.00	17	0.164	59.123	0.0210
<b>47</b>	Ireland	54.17	1	0.022	488.293	0.2066
<b>49</b>	Turkey	55.83	10	0.013	1 956.069	0.1291
<b>50</b>	United Kingdom	57.00	12	0.019	2 093.780	0.0815
<b>56</b>	Poland	60.00	48	0.126	38.822	0.0040
<b>59</b>	Germany	61.17	12	0.015	2 095.513	0.0559
<b>64</b>	Belgium	64.00	0	0.000	797.243	0.1649

**Table 4: The 15 European countries most affected in 1995-2014 (annual averages)**

Ranking CRI	Country	CRI score	Death toll	Deaths per 100 000 inhabitants	Absolute losses (in million US\$ PPP)	Losses per unit GDP
18	Germany	41.50	476.20	0.5816	3 446.096	0.120
19	France	41.83	958.65	1.5786	1 928.116	0.095
19	Portugal	41.83	143.85	1.3846	365.557	0.149
21	Russia	44.33	2 951.30	2.0376	2 171.603	0.068
24	Italy	45.33	999.80	1.7236	1 446.682	0.077
28	Romania	46.67	58.15	0.2713	1 144.896	0.328
30	Croatia	49.50	35.35	0.8120	158.361	0.204
33	Spain	50.00	702.85	1.6264	864.599	0.067
35	Switzerland	51.17	55.40	0.7429	401.563	0.114
36	Slovenia	52.50	12.05	0.5999	123.461	0.258
49	Austria	59.50	25.45	0.3111	485.587	0.159
58	United Kingdom	65.17	155.00	0.2559	1 469.249	0.077
60	Hungary	67.33	34.90	0.3449	216.070	0.107
61	Poland	68.17	53.80	0.1406	899.529	0.139
62	Belgium	69.00	86.15	0.8178	148.179	0.039

**Box 1: G7 Climate Insurance Initiative**

The Group of Seven (G7) initiative that promises to cover additional 400 million poor and vulnerable people worldwide by 2020 is to be understood as a mechanism of solidarity. As a first step the initiative seeks to expand sovereign risk sharing approaches, such as the African Risk Capacity (ARC). Based on predesigned contingency plans the ARC channels emergency funding into affected countries of Africa to help post-disaster operations and prevent further knock-on calamities. Similar private public partnerships are active in the Caribbean and in the Pacific.

States that have contributed the least to climate change are currently most affected. Such instruments would not only provide crucial services to vulnerable people and countries following disasters, they are also an international promise of solidarity. An internationally applicable and especially internationally supported mechanism could help combat, to some extent, the unequal division of the consequences of losses and damage worldwide.

### 3 The Paris Moment

The climate summit COP21 is the culmination of a four year preparatory process. It is the expectation that COP21 will establish a foundation that defines international climate policy up to 2050 and beyond. The next few decades will bring decisive, large scale climate impacts. They will hopefully also bring the full advent of the energy revolution. During this time there will also need to be unprecedented cooperation between countries if the climate crisis is to be averted and climate change held in check, with the global temperature increase being kept as far below 2°C as possible. Existing climate targets by countries, though far-reaching in their coverage, are not yet enough to get us there.<sup>44</sup>

Therefore, Paris needs to bring a mechanism that constantly (at least every 5 years, starting prior to 2020) increases countries' ambitions, that provides for scientific input and then gives transparency and clarity to the measures undertaken. This has to take place in connection with targets. Paris should convey the message that we must back out of fossil fuel economies within the next two generations. The backdrop is the 2°C limit. In Paris the call will be loud to see whether this suffices or whether 1.5°C should be the real guardrail to avoid unmanageable impacts, especially for island communities and the poorest countries.

Paris also needs to send the signal that it can effectively manage the response to climate change. Proactive policies and approaches prevent climate impacts from resulting in widespread negative consequences especially among poor populations, but also policies that help when avoidance is not possible are needed. This is covered under the topic "addressing loss and damage".

#### **...comes at the end of a decisive international year**

The Paris summit will come at the end of a remarkable year of international norm setting and cooperation. In March countries agreed on new international guidance—the Sendai Framework for Disaster Risk Reduction 2015-2030—which formulates international goals to prevent natural catastrophes. The Sendai Framework encourages countries to support and help each other to implement policies that help to further the understanding of disaster risks, strengthen disaster management governance, invest in risk reduction and resilience building and if disaster strikes, enhance response systems and "build back better" programmes.

In September, Heads of State also concluded years of negotiations on a new normative framework for development in the next decade. Starting from the successes and shortcomings of the Millennium Development Goals, the new agenda—the Sustainable Development Goals—are relevant for all countries and aim to strike both development and environment imperatives. It also gives goals and targets that if implemented through international and national policies, would help to reduce climatic catastrophes becoming social disasters. Table 5 shows what is in the SDGs relating to managing climate disaster.

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<sup>44</sup> UNEP (2015)

**Table 5: Managing climatic disasters in the SDGs. See United Nations, 2015**

Goal	Content related to reducing climatic losses
Goal 1: End poverty in all its forms everywhere	Target 1.5 – reduce exposure and vulnerability to climate-related extreme events.
Goal 2: End hunger, achieve food security, improve nutrition and promote sustainable agriculture	Target 2.4 – sustainable food production systems, resilient agricultural capacity for adaptation to climate change and extreme weather events.
Goal 9: Build resilient infrastructures, promote inclusive and sustainable industrialization and foster innovation	Target 9.1 and 9.4 – sustainable and resilient infrastructures and retrofitting industries. Target 9.a – financial and technical support to African countries, LDCs, LLDCs and SIDS to facilitate sustainable and resilient infrastructure development.
Goal 10: Make cities and human settlements inclusive, safe, resilient and sustainable	Target 11.5 – reduce deaths and economic losses from disasters Target 11.b – create integrated policies that include resource efficiency, mitigation and adaptation to climate change and disaster risk reduction (DRR), in line with the upcoming Hyogo Framework for Action. Target 11.c – support LDCs for sustainable and resilient buildings.
Goal 13: Take urgent action to combat climate change and its impacts	Target 13.1 – strengthen resilience and adaptive capacity to climate-related hazards and natural disasters in all countries Target 13.2 – Integrate climate change measures into national policies, strategies and planning Target 13.3 – improve education, awareness-raising and human and institutional capacity on climate change mitigation, adaptation, impact reduction and early warning Target 13.a – implement the commitment undertaken by developed-country parties to the United Nations Framework Convention on Climate Change to a goal of mobilizing jointly USD100 billion annually by 2020 from all sources to address the needs of developing countries in the context of meaningful mitigation actions and transparency on implementation and fully operationalize the Green Climate Fund through its capitalization as soon as possible Target 13.b – promote mechanisms for raising capacity for effective climate change-related planning and management in the LDCs and SIDS, including focusing on women, youth and local and marginalized communities

## Paris: Both a mitigation and an adaptation agreement

It is clear that Paris will have to deliver on managing climate impacts in the next few decades, both through adaptation as well as through addressing loss and damage. To be comprehensive on adaptation the following provisions should be part of the Paris agreement.

**Adaptation goal & cycles:** Like mitigation, Paris should also formulate a global goal for adaptation that guides international and national adaptation policies. Countries should bring forward their adaptation strategies and plans, in different forms. Similar to mitigation, a five year cycle would provide a galvanizing point that allows us to take stock of the state of adaptation and to trigger joint actions. Parties should have a commitment to better implement climatic risk screening in their mainstream policy affairs. Most vulnerable countries, especially small island states, least developed countries due to their limited capacities and other vulnerable countries—including those that the CRI frequently shows in its Bottom 10—should receive support for adaptation action.

**Adaptation Principles:** Adaptation action should be guided by common principles. Good adaptation must be gender-responsive, focus on vulnerable communities, be science-linked and built on the knowledge of indigenous people and local groups. Such adaptation principles were already agreed by countries at the climate summit in Cancún in 2010. However, their implementation could be improved. Therefore, anchoring adaptation principles in the core agreement, an agreement that will undergo national ratification and scrutiny, could improve this situation.

**Supporting adaptation:** Climate impacts will continue to increase over time, and so will adaptation needs. Today there is already a profound adaptation gap. Existing climate finance flows are tilted towards mitigation. Paris needs to bring confidence that international support for adaptation will further materialize. Allocating half of the resources in the Green Climate Fund for the adaptation cause is a good start. In Paris a commitment should be made to balance climate finance flows—further increasing from the USD 100 billion by 2020—to support adaptation action in developing countries.<sup>45</sup>

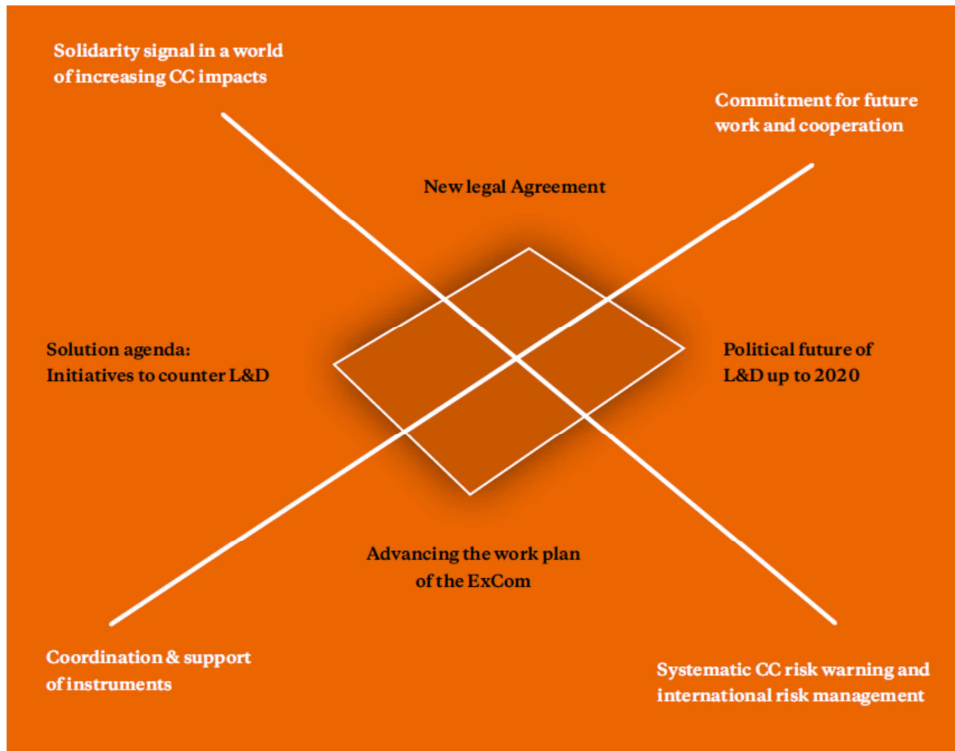
## Loss and Damage: Nobody should be left behind in Paris

The complete avoidance of climate impacts is fiction. In order to be an acceptable agreement for vulnerable countries, Paris needs to advance the international response on managing climatic losses and damages. This involves the inclusion of loss and damage—and with that the international commitment to establish a serious international agenda on the issue—in the core agreement. Also the Warsaw International Mechanisms, the body that is tasked with carrying out the initial work on the topic of loss and damage, should operate under better policy certainty in the next few years and be further institutionally strengthened. Figure 1 gives an indication of how a comprehensive loss and damage agenda in Paris might look like.

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<sup>45</sup> A recent study by OECD and CPI (2015) found that only 16% of the aggregate volume of public and private climate finance mobilised by developed countries is allocated towards climate change adaptation.





**Figure 1: Coordinates for “loss and damage” landing ground in Paris<sup>46</sup>**

Paris is not an end-point. Paris is a chance to come to an agreement that retrospectively could be perceived as a turning point and the start of a new era. However, it is high-time to curb emissions and to take real steps towards staying within the 2°C limit. Vulnerable people around the world ask how climate change can be held in check and how support can be organized. In November 2015 a Peruvian small-holder filed a lawsuit against the German energy giant RWE to provide help in managing glacier lake flooding.<sup>47</sup> The claim to provide adaptation support is based on RWE’s cumulative contribution to global warming.

If no meaningful agreement can be secured and involved parties do not change their behaviour to be compatible with a development path that maintain the 2°C defence line, we are bound to see further legal action being taken by vulnerable people and communities around the world.

<sup>46</sup> Hirsch et al. (2015)

<sup>47</sup> See [http://www.expatica.com/de/news/country-news/Peruvian-farmer-sues-German-energy-giant-over-climate-change\\_541519.html](http://www.expatica.com/de/news/country-news/Peruvian-farmer-sues-German-energy-giant-over-climate-change_541519.html)

## 4 Methodological Remarks

The presented analyses are based on the worldwide data collection and analysis provided by Munich Re NatCatSERVICE. They comprise “all elementary loss events which have caused substantial damage to property or persons.” For the countries of the world, Munich Re collects the number of total losses caused by weather events, the number of deaths, the insured damages and total economic damages. The last two indicators are stated in million US\$ (original values, inflation adjusted).

In the present analysis, only weather related events—storms, floods, as well as temperature extremes and mass movements (heat and cold waves etc.)—are incorporated. Geological factors like earthquakes, volcanic eruptions or tsunamis, for which data is also available, do not play a role in this context because they do not depend on the weather and therefore are not possibly related to climate change. To enhance the manageability of the large amount of data, the different categories within the weather related events were combined. For single case studies on particularly devastating events, it is stated whether they concern floods, storms or another type of event.

It is important to note that this event-related examination does not allow for an assessment of continuous changes of important climate parameters. A long-term decline in precipitation that was shown in some African countries as a consequence of climate change cannot be displayed by the CRI. Such parameters nevertheless often substantially influence important development factors like agricultural outputs and the availability of drinking water.

Although certainly an interesting area for analysis, the present data does also not allow for conclusions about the distribution of damages below the national level. Respective data quality would only be sufficient for a limited number of countries.

### Analysed indicators

For this examination, the following indicators were analysed in this paper:

1. Number of deaths,
2. Number of deaths per 100 000 inhabitants,
3. Sum of losses in US\$ in purchasing power parity (PPP) as well as
4. Losses per unit of Gross Domestic Product (GDP).

For the indicators 2–4, economic and population data primarily provided by the International Monetary Fund were taken into account. It must be added, however, that especially for small (e.g. Pacific Small Island Developing States) or extremely politically unstable countries (e.g. Somalia), the required data is not always available in sufficient quality for the whole observed time period. Those countries must be omitted from the analyses.

The Climate Risk Index 2016 is based on the loss-figures from 2014 and 1995-2014. This ranking represents the most affected countries. Each country's index score has been derived from a country's average ranking in all four indicating categories, according to the following weighting: death toll, 1/6; deaths per 100 000 inhabitants, 1/3; absolute losses in PPP, 1/6; losses per GDP unit, 1/3.

Therefore, an analysis of the already observable changes in climate conditions in different regions sends a sign of warning to those most affected countries to better prepare for the future. Although looking at socio-economic variables in comparison to damages and deaths caused by weather extremes—as was done in the present analysis—does not allow for an exact measurement of the vulnerability, it can be seen as at least an indication or pattern of vulnerability. In most cases, already afflicted countries will probably also be especially endangered by possible future changes in

climate conditions. Despite the historic analysis, a deterministic projecting of the past to the future is not appropriate. That is, climate change might change past trends in extreme weather events.

For another, new phenomena can occur in states or regions. In 2004, for example, a hurricane was registered in the South Atlantic, off the Brazilian coast, for the first time ever. The cyclone that hit Oman in 2007 or the one that hit Saudi Arabia in 2009 are of similar significance. So the appearance in the Climate Risk Index is an alarm bell for these countries. But the analyses of the Climate Risk Index should not be regarded as the only evidence for which countries are already afflicted or will be affected by global climate change. After all, people can in principle fall back on different adaptation measures. However, to which extent these can be implemented effectively depends on several factors, which altogether determine the degree of vulnerability.

### **The relative consequences also depend on economic and population growth**

Identifying relative values in this index represents an important complement to the otherwise often dominating absolute values because it allows for analysing country specific data on damages in relation to real conditions in those countries. It is obvious, for example, that for a rich country like the USA one billion US\$ causes much less economic consequences than for one of the world's poorest countries. This is being backed up by the relative analysis.

It should be noted that values, and hence the rankings of countries regarding the respective indicators do not only change due to the absolute impacts of extreme weather events, but also due to economic and population growth. If, for example, population increases, which is the case in most of the countries, the same absolute number of deaths leads to a relatively lower assessment in the following year. The same applies to economic growth. However, this does not affect the significance of the relative approach. Society's ability of coping with damages through precaution, mitigation and disaster preparedness, insurances or the improved availability of means for emergency aid, generally grows along with increasing economic strength. Nevertheless, an improved ability does not necessarily imply enhanced implementation of effective preparation and response measures. While absolute numbers tend to overestimate populous or economically capable countries, relative values give more prominence to smaller and poorer countries. So as to take both effects into consideration, the analysis of the Climate Risk Index is based on absolute as well as on relative scores, with an emphasis giving higher importance to relative losses than to absolute losses.

### **The indicator “losses in purchasing power parity” allows for a more comprehensive estimation of how different societies are actually affected**

The indicator “absolute losses in US\$” is identified by purchasing power parity (PPP), because using this figure better expresses how people are actually affected by the loss of one US\$ than by using nominal exchange rates. Purchasing power parity is a currency exchange rate which permits a comparison of, for instance, national GDPs, by incorporating price differences between countries. Basically this means that a farmer in India can buy more crops with US\$ 1 than a farmer in the USA with the same amount of money. Thus, the real consequences of the same nominal damage are much higher in India. For most of the countries, US\$ values according to exchange rates must therefore be multiplied by a factor bigger than one.

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# Annexes

CRI = Climate Risk Index; GDP = gross domestic product; PPP = purchasing power parity

**Table 6: Climate Risk Index for 1995–2014**

(Avg. = average figure for the 20-year period. E.g., 34 people died in Albania due to extreme weather events between 1995 and 2014; hence the average death toll per year was 1.70.)

CRI Rank	Country	CRI Score	Fatalities (annual average)		Fatalities per 100 000 Inhabitants (annual average)		Losses in million US\$ (PPP)		Losses per unit GDP	
			Avg.	Rank	Avg.	Rank	Avg.	Rank	Avg.	Rank
140	Albania	121.67	1.70	132	0.0572	123	17.025	128	0.078	112
98	Algeria	92.67	67.60	38	0.2049	70	101.371	76	0.025	151
129	Angola	112.67	27.60	61	0.1477	82	16.473	131	0.012	160
42	Antigua and Barbuda	56.33	0.40	159	0.5057	34	46.990	97	3.087	7
88	Argentina	86.00	25.15	63	0.0652	117	709.668	29	0.111	95
150	Armenia	137.17	0.20	164	0.0066	171	18.062	125	0.109	96
38	Australia	53.67	46.95	48	0.2288	68	2 032.701	14	0.246	62
49	Austria	59.50	25.45	62	0.3111	55	485.587	33	0.159	76
147	Azerbaijan	133.83	2.25	126	0.0263	158	61.262	91	0.051	135
138	Bahrain	120.83	2.90	120	0.3227	52	1.679	161	0.004	170
6	Bangladesh	22.67	725.75	8	0.5157	33	2 438.332	10	0.855	26
156	Barbados	141.00	0.05	175	0.0184	160	3.734	151	0.104	100
149	Belarus	134.67	4.95	102	0.0507	130	16.796	130	0.013	158
62	Belgium	69.00	86.15	30	0.8178	19	148.179	68	0.039	139
23	Belize	44.83	2.35	124	0.8197	18	56.613	93	3.027	8
145	Benin	133.17	4.00	113	0.0492	131	5.302	148	0.042	138
103	Bhutan	97.33	1.20	139	0.1887	73	5.064	149	0.170	75
34	Bolivia	50.83	39.30	54	0.4227	41	147.371	69	0.325	50
68	Bosnia and Herzegovina	72.17	2.30	125	0.0599	119	383.100	38	1.292	16
155	Botswana	139.83	1.60	135	0.0859	107	1.800	160	0.009	165
82	Brazil	80.50	162.40	21	0.0889	104	1 702.552	16	0.068	119
177	Brunei Darussalam	167.33	0.10	171	0.0283	155	0.387	173	0.001	175
64	Bulgaria	70.17	8.90	84	0.1148	95	323.321	41	0.300	53
104	Burkina Faso	98.67	6.60	92	0.0492	131	36.507	104	0.213	67
94	Burundi	88.67	5.70	98	0.0767	114	23.004	120	0.417	43
13	Cambodia	36.17	57.45	42	0.4363	39	235.280	51	0.945	23
148	Cameroon	134.00	7.50	91	0.0422	140	11.408	137	0.026	148
102	Canada	96.67	11.30	76	0.0351	149	1 346.423	20	0.113	93
159	Cape Verde	145.67	0.15	167	0.0322	153	1.436	163	0.067	119
164	Central African Republic	151.50	1.10	143	0.0278	156	1.042	166	0.033	144
113	Chad	102.33	4.60	106	0.0522	129	34.448	106	0.187	72
108	Chile	99.50	8.65	85	0.0537	127	255.122	48	0.093	105
31	China	49.67	1 410.40	4	0.1086	98	31 749.918	2	0.338	48
39	Chinese Taipei	55.00	76.05	34	0.3362	50	876.100	26	0.136	85
45	Colombia	58.17	107.05	26	0.2512	64	600.174	31	0.141	82
134	Comoros	117.50	1.00	149	0.1641	77	0.691	170	0.076	116
75	Costa Rica	76.50	8.10	89	0.1945	72	80.473	80	0.180	73
157	Cote d'Ivoire	142.17	6.35	94	0.0347	150	6.667	145	0.014	157

CRI Rank	Country	CRI Score	Fatalities (annual average)		Fatalities per 100 000 Inhabitants (annual average)		Losses in million US\$ (PPP)		Losses per unit GDP	
			Avg.	Rank	Avg.	Rank	Avg.	Rank	Avg.	Rank
30	Croatia	49.50	35.35	56	0.8120	20	158.361	65	0.204	68
65	Cuba	70.67	4.50	110	0.0402	143	2 957.074	8	2.063	10
97	Cyprus	90.83	3.35	117	0.4412	38	17.775	126	0.077	113
63	Czech Republic	70.00	10.30	80	0.0997	99	679.847	30	0.263	56
152	Democratic Republic of Congo	137.67	25.15	63	0.0412	141	3.304	153	0.009	164
180	Democratic Republic of Timor-Leste	174.33	0.10	171	0.0098	168	0.025	181	0.000	179
130	Denmark	114.00	0.90	150	0.0166	162	293.280	44	0.141	83
37	Djibouti	53.33	3.50	115	0.4783	36	34.022	109	1.929	12
44	Dominica	57.17	0.35	160	0.4930	35	36.832	103	6.558	5
11	Dominican Republic	33.50	210.40	19	2.3701	6	208.346	56	0.261	57
54	Ecuador	63.17	39.90	52	0.2913	57	192.192	57	0.158	78
161	Egypt	149.00	9.20	83	0.0130	166	13.485	133	0.002	173
14	El Salvador	37.17	33.70	58	0.5553	30	275.465	45	0.738	30
183	Equatorial Guinea	179.17	0.00	176	0.0000	176	0.000	183	0.000	182
125	Eritrea	111.83	0.15	167	0.0031	174	52.417	94	0.725	31
158	Estonia	143.00	0.45	156	0.0331	152	15.316	132	0.052	133
89	Ethiopia	86.67	90.55	28	0.1245	90	57.661	92	0.085	110
26	Fiji	45.67	5.45	100	0.6569	23	62.719	90	1.198	19
169	Finland	156.17	0.20	164	0.0038	173	26.117	117	0.015	155
105	Former Yugoslav Republic of Macedonia	99.00	1.15	141	0.0567	124	51.823	95	0.266	55
19	France	41.83	958.65	6	1.5786	11	1 928.116	15	0.095	104
174	Gabon	165.67	0.45	156	0.0336	151	0.099	178	0.000	179
109	Georgia	100.00	2.75	121	0.0651	118	42.223	101	0.189	71
18	Germany	41.50	476.20	11	0.5816	28	3 446.096	6	0.120	88
131	Ghana	114.83	17.95	68	0.0861	106	20.151	123	0.033	143
92	Greece	87.83	12.40	72	0.1128	96	252.372	49	0.091	107
15	Grenada	38.00	2.00	128	1.9417	8	78.547	82	8.278	1
10	Guatemala	32.50	83.35	33	0.6568	24	407.758	36	0.502	39
173	Guinea	160.67	1.05	147	0.0108	167	1.294	165	0.012	159
150	Guinea-Bissau	137.17	0.10	171	0.0071	170	2.881	158	0.158	77
111	Guyana	101.17	0.30	161	0.0389	145	34.051	108	0.931	24
3	Haiti	17.83	252.65	17	2.7550	5	223.288	54	1.548	13
1	Honduras	11.33	302.75	14	4.4086	2	570.345	32	2.229	9
183	Hong Kong SAR	179.17	0.00	176	0.0000	176	0.000	183	0.000	182
60	Hungary	67.33	34.90	57	0.3449	49	216.070	55	0.107	97
124	Iceland	110.83	1.70	132	0.5742	29	1.440	163	0.014	156
16	India	39.17	3 449.05	2	0.3120	54	9 514.966	3	0.248	61
66	Indonesia	70.83	257.10	16	0.1163	93	1 679.467	17	0.095	103
167	Iraq	154.50	1.65	134	0.0054	172	30.591	113	0.007	168
122	Ireland	110.67	1.90	130	0.0460	133	162.239	64	0.097	102
12	Islamic Republic of Afghanistan	34.67	259.85	15	0.9649	17	150.102	67	0.366	46
79	Islamic Republic of Iran	77.67	54.40	45	0.0789	113	1 269.387	21	0.126	87
136	Israel	118.00	4.55	107	0.0662	116	64.201	89	0.037	140
24	Italy	45.33	999.80	5	1.7236	9	1 448.682	19	0.077	115
56	Jamaica	64.00	4.35	111	0.1640	78	162.999	63	0.808	27



CRI Rank	Country	CRI Score	Fatalities (annual average)		Fatalities per 100 000 Inhabitants (annual average)		Losses in million US\$ (PPP)		Losses per unit GDP	
			Avg.	Rank	Avg.	Rank	Avg.	Rank	Avg.	Rank
96	Japan	90.00	75.70	35	0.0595	120	2 213.086	11	0.058	127
134	Jordan	117.50	2.45	123	0.0451	134	46.501	98	0.090	108
143	Kazakhstan	131.17	10.75	79	0.0686	115	11.760	136	0.004	171
85	Kenya	84.33	45.20	49	0.1343	88	86.120	79	0.101	101
128	Kiribati	112.50	0.00	176	0.0000	176	10.202	139	6.716	4
59	Korea, Republic of	66.17	87.25	29	0.1817	75	1 179.110	22	0.106	98
178	Kuwait	169.00	0.50	155	0.0173	161	0.161	175	0.000	181
119	Kyrgyz Republic	108.33	12.40	72	0.2393	66	3.559	152	0.026	147
81	Lao People's Democratic Republic	78.83	5.60	99	0.0961	100	74.961	84	0.375	45
100	Latvia	94.33	4.55	107	0.2012	71	34.631	105	0.092	106
146	Lebanon	133.50	1.50	136	0.0395	144	28.102	115	0.056	131
133	Lesotho	116.67	0.25	163	0.0133	165	17.429	127	0.494	40
171	Liberia	158.33	0.30	161	0.0087	169	0.938	167	0.036	142
171	Libya	158.33	1.05	147	0.0190	159	5.645	147	0.005	169
137	Lithuania	118.17	2.60	122	0.0808	111	34.176	107	0.057	129
110	Luxembourg	100.50	6.50	93	1.3956	12	3.018	154	0.008	166
22	Madagascar	44.50	68.80	37	0.3781	46	150.344	66	0.617	36
115	Malawi	104.50	6.05	95	0.0440	135	21.052	122	0.191	70
87	Malaysia	85.67	39.75	53	0.1540	80	270.359	47	0.058	127
181	Maldives	175.50	0.00	176	0.0000	176	0.059	179	0.002	173
122	Mali	110.67	5.20	101	0.0434	136	24.860	119	0.136	86
163	Malta	151.33	0.15	167	0.0377	147	2.956	157	0.030	145
127	Marshall Islands	112.17	0.00	176	0.0000	176	9.320	141	6.902	2
75	Mauritania	76.50	4.35	111	0.1480	81	40.851	102	0.419	42
112	Mauritius	102.17	1.10	143	0.0908	102	26.078	118	0.178	74
40	Mexico	55.17	147.75	24	0.1382	86	3 359.166	7	0.219	64
67	Micronesia	71.83	3.05	119	2.8979	4	0.572	172	0.217	66
74	Moldova	75.00	3.25	118	0.0877	105	121.889	74	0.931	24
45	Mongolia	58.17	10.80	78	0.4230	40	66.515	87	0.307	52
84	Morocco	83.50	33.45	59	0.1116	97	176.086	60	0.112	94
27	Mozambique	46.17	84.25	32	0.4029	44	78.636	81	0.523	38
2	Myanmar	14.17	7137.20	1	14.7464	1	1 140.288	24	0.744	29
51	Namibia	61.50	11.25	77	0.5837	27	33.877	110	0.219	64
17	Nepal	40.83	246.90	18	0.9963	16	108.908	75	0.250	60
71	Netherlands	74.00	84.60	31	0.5214	31	184.895	59	0.029	146
86	New Zealand	84.67	3.40	116	0.0826	110	274.290	46	0.230	63
4	Nicaragua	19.00	162.30	22	2.9736	3	227.183	52	1.232	17
75	Niger	76.50	11.35	75	0.0894	103	49.166	96	0.457	41
125	Nigeria	111.83	75.35	36	0.0554	125	100.078	77	0.016	154
154	Norway	139.17	1.30	138	0.0278	156	74.515	85	0.026	150
31	Oman	49.67	8.15	88	0.3022	56	802.251	28	0.668	35
8	Pakistan	31.17	487.40	10	0.3190	53	3 931.403	5	0.699	33
176	Palau	167.17	0.00	176	0.0000	176	0.056	179	0.026	148
107	Panama	99.33	9.45	82	0.2843	58	18.360	124	0.050	137
55	Papua New Guinea	63.50	24.55	65	0.4212	42	28.933	114	0.256	59
47	Paraguay	58.67	8.30	87	0.1429	83	294.360	43	0.755	28
68	Peru	72.17	104.90	27	0.3859	45	145.316	70	0.066	123
4	Philippines	19.00	927.00	7	1.1003	15	2 757.296	9	0.675	34

CRI Rank	Country	CRI Score	Fatalities (annual average)		Fatalities per 100 000 Inhabitants (annual average)		Losses in million US\$ (PPP)		Losses per unit GDP	
			Avg.	Rank	Avg.	Rank	Avg.	Rank	Avg.	Rank
61	Poland	68.17	53.80	46	0.1406	85	899.529	25	0.139	84
19	Portugal	41.83	143.85	25	1.3846	13	365.557	40	0.149	80
183	Qatar	179.17	0.00	176	0.0000	176	0.000	183	0.000	182
162	Republic of Congo	150.67	1.95	129	0.0583	122	0.156	175	0.001	178
72	Republic of Yemen	74.17	53.65	47	0.2565	61	94.137	78	0.105	99
28	Romania	46.67	58.15	41	0.2713	59	1 144.896	23	0.328	49
21	Russia	44.33	2951.30	3	2.0376	7	2 171.603	13	0.068	118
121	Rwanda	109.50	7.85	90	0.0926	101	8.119	143	0.084	111
80	Samoa	78.33	0.45	156	0.2478	65	8.742	142	1.100	21
183	San Marino	179.17	0.00	176	0.0000	176	0.000	183	0.000	182
183	Sao Tome and Principe	179.17	0.00	176	0.0000	176	0.000	183	0.000	182
119	Saudi Arabia	108.33	18.85	67	0.0796	112	225.369	53	0.022	153
142	Senegal	128.50	4.80	105	0.0425	137	12.613	134	0.057	129
78	Serbia, Montenegro and Kosovo	77.00	5.75	97	0.0586	121	421.438	35	0.396	44
170	Seychelles	157.67	0.00	176	0.0000	176	0.917	168	0.062	125
141	Sierra Leone	121.83	8.55	86	0.1723	76	0.610	171	0.011	161
179	Singapore	171.33	0.10	171	0.0022	175	3.006	155	0.001	176
101	Slovak Republic	95.67	4.55	107	0.0845	109	140.491	71	0.118	89
36	Slovenia	52.50	12.05	74	0.5994	26	123.461	73	0.258	58
73	Solomon Islands	74.83	1.75	131	0.3769	47	3.954	150	0.560	37
90	South Africa	86.83	57.20	43	0.1206	92	302.702	42	0.060	126
118	South Sudan	107.00	15.05	71	0.1415	84	12.526	135	0.052	134
33	Spain	50.00	702.85	9	1.6264	10	864.599	27	0.067	122
53	Sri Lanka	62.67	44.00	50	0.2277	69	247.865	50	0.199	69
50	St. Kitts and Nevis	60.33	0.20	164	0.4061	43	45.093	100	4.905	6
48	St. Lucia	59.33	1.10	143	0.6886	22	16.986	129	1.103	20
52	St. Vincent and the Grenadines	61.83	0.70	153	0.6490	25	11.317	138	1.299	15
99	Sudan	94.00	41.85	51	0.1236	91	76.638	83	0.065	124
175	Suriname	166.00	0.15	167	0.0303	154	0.150	177	0.002	172
106	Swaziland	99.17	0.90	150	0.0851	108	21.801	121	0.296	54
144	Sweden	132.83	1.45	137	0.0159	163	165.219	62	0.050	136
35	Switzerland	51.17	55.40	44	0.7429	21	401.563	37	0.114	92
29	Tajikistan	47.67	17.90	69	0.2599	60	173.448	61	1.199	18
116	Tanzania	104.67	19.85	66	0.0531	128	64.679	88	0.085	109
9	Thailand	32.33	164.20	20	0.2544	63	7 480.765	4	1.046	22
40	The Bahamas	55.17	1.15	141	0.3579	48	140.347	72	2.005	11
70	The Gambia	73.83	4.90	103	0.3278	51	6.911	144	0.348	47
160	Togo	146.17	2.20	127	0.0403	142	1.524	162	0.022	152
43	Tonga	56.83	1.20	139	1.1952	14	6.265	146	1.537	14
165	Trinidad and Tobago	152.00	0.55	154	0.0424	138	2.966	156	0.010	163
168	Tunisia	155.50	3.65	114	0.0365	148	0.809	169	0.001	177
116	Turkey	104.67	36.70	55	0.0541	126	370.283	39	0.037	141
182	Turkmenistan	179.00	0.00	176	0.0000	176	0.006	182	0.000	182
132	Tuvalu	115.50	0.00	176	0.0000	176	2.045	159	6.752	3
92	Uganda	87.83	33.10	60	0.1149	94	46.362	99	0.117	90
95	Ukraine	89.17	64.40	39	0.1370	87	192.173	58	0.055	132

CRI Rank	Country	CRI Score	Fatalities (annual average)		Fatalities per 100 000 Inhabitants (annual average)		Losses in million US\$ (PPP)		Losses per unit GDP	
			Avg.	Rank	Avg.	Rank	Avg.	Rank	Avg.	Rank
166	United Arab Emirates	154.33	0.75	152	0.0142	164	31.547	112	0.007	167
58	United Kingdom	65.17	155.00	23	0.2559	62	1 469.249	18	0.077	113
25	United States	45.50	475.60	12	0.1616	79	38 886.553	1	0.311	51
83	Uruguay	81.17	6.05	95	0.1825	74	74.082	86	0.155	79
153	Uzbekistan	139.00	10.30	80	0.0389	145	9.346	140	0.010	162
114	Vanuatu	103.83	1.10	143	0.5161	32	0.331	174	0.067	121
57	Venezuela	65.00	60.55	40	0.2317	67	475.430	34	0.115	91
7	Vietnam	27.17	361.30	13	0.4418	37	2 205.983	12	0.703	32
139	Zambia	121.50	4.90	103	0.0424	138	27.419	116	0.071	117
90	Zimbabwe	86.83	15.85	70	0.1312	89	31.988	111	0.147	81

Table 7: Climate Risk Index for 2014

CRI Rank	Country	CRI score	Fatalities in 2014		Fatalities per 100 000 inhabitants		Losses in PPP (million US\$)		Losses per unit GDP in %	
			Total	Rank	Total	Rank	Total	Rank	Total	Rank
96	Albania	85.67	3	80	0.108	43	0.238	118	0.0008	115
106	Algeria	92.00	15	51	0.038	74	0.874	105	0.0002	124
117	Angola	100.00	6	71	0.025	78	0.219	119	0.0001	127
72	Antigua and Barbuda	69.67	0	101	0.000	101	8.141	85	0.4006	15
68	Argentina	65.67	14	52	0.033	76	202.840	36	0.0213	77
131	Armenia	111.83	0	101	0.000	101	0.105	130	0.0004	119
41	Australia	50.50	10	62	0.042	72	1 340.386	19	0.1219	39
100	Austria	87.33	1	90	0.012	93	35.819	64	0.0090	92
138	Azerbaijan	117.67	0	101	0.000	101	0.000	137	0.0000	133
138	Bahrain	117.67	0	101	0.000	101	0.000	137	0.0000	133
38	Bangladesh	46.33	77	15	0.049	65	439.811	29	0.0820	52
138	Barbados	117.67	0	101	0.000	101	0.000	137	0.0000	133
113	Belarus	98.67	6	71	0.063	59	0.000	137	0.0000	133
64	Belgium	64.00	0	101	0.000	101	797.243	23	0.1649	29
138	Belize	117.67	0	101	0.000	101	0.000	137	0.0000	133
138	Benin	117.67	0	101	0.000	101	0.000	137	0.0000	133
138	Bhutan	117.67	0	101	0.000	101	0.000	137	0.0000	133
8	Bolivia	16.00	47	24	0.416	13	449.454	28	0.6395	9
3	Bosnia and Herzegovina	11.50	26	39	0.672	10	3 584.776	8	9.3617	1
138	Botswana	117.67	0	101	0.000	101	0.000	137	0.0000	133
21	Brazil	31.00	100	12	0.049	64	7 736.838	4	0.2362	21
138	Brunei Darussalam	117.67	0	101	0.000	101	0.000	137	0.0000	133
6	Bulgaria	13.83	31	36	0.430	12	2 383.604	13	1.8463	5
138	Burkina Faso	117.67	0	101	0.000	101	0.000	137	0.0000	133
8	Burundi	16.00	80	13	0.869	7	73.382	53	0.8727	8
16	Cambodia	26.00	55	18	0.359	17	91.072	50	0.1816	27
126	Cameroon	106.17	0	101	0.000	101	0.640	108	0.0009	113
70	Canada	67.83	0	101	0.000	101	1 687.854	18	0.1058	43
138	Cape Verde	117.67	0	101	0.000	101	0.000	137	0.0000	133

CRI Rank	Country	CRI score	Fatalities in 2014		Fatalities per 100 000 inhabitants		Losses in PPP (million US\$)		Losses per unit GDP in %	
			Total	Rank	Total	Rank	Total	Rank	Total	Rank
114	Central African Republic	99.17	0	101	0.000	101	0.332	114	0.0116	89
138	Chad	117.67	0	101	0.000	101	0.000	137	0.0000	133
62	Chile	63.00	16	49	0.090	49	57.611	57	0.0140	87
18	China	29.00	730	3	0.053	61	37 642.859	1	0.2081	24
35	Chinese Taipei	44.50	53	20	0.226	22	170.090	39	0.0158	82
32	Colombia	43.17	103	11	0.216	23	127.468	44	0.0198	79
54	Comoros	58.00	1	90	0.129	39	1.366	98	0.1148	41
93	Costa Rica	82.50	0	101	0.000	101	34.501	66	0.0484	63
87	Cote d'Ivoire	77.50	39	30	0.169	32	0.170	123	0.0002	124
25	Croatia	37.50	3	80	0.071	56	1 120.213	21	1.2625	6
138	Cyprus	117.67	0	101	0.000	101	0.000	137	0.0000	133
132	Czech Republic	112.17	0	101	0.000	101	0.308	116	0.0001	127
30	Democratic Republic of Congo	42.67	165	10	0.208	27	29.002	68	0.0502	62
138	Democratic Republic of Timor-Leste	117.67	0	101	0.000	101	0.000	137	0.0000	133
92	Denmark	82.00	0	101	0.000	101	83.470	51	0.0333	69
96	Djibouti	85.67	0	101	0.000	101	1.810	95	0.0629	58
138	Dominica	117.67	0	101	0.000	101	0.000	137	0.0000	133
104	Dominican Republic	90.50	2	85	0.020	80	3.525	92	0.0025	103
48	Ecuador	55.50	34	35	0.212	25	23.531	72	0.0130	88
138	Egypt	117.67	0	101	0.000	101	0.000	137	0.0000	133
61	El Salvador	62.83	0	101	0.000	101	144.847	40	0.2829	17
138	Equatorial Guinea	117.67	0	101	0.000	101	0.000	137	0.0000	133
138	Eritrea	117.67	0	101	0.000	101	0.000	137	0.0000	133
137	Estonia	117.50	0	101	0.000	101	0.014	136	0.0000	133
125	Ethiopia	104.67	0	101	0.000	101	1.324	99	0.0009	113
84	Fiji	75.83	0	101	0.000	101	10.409	82	0.1406	35
138	Finland	117.67	0	101	0.000	101	0.000	137	0.0000	133
138	Former Yugoslav Republic of Macedonia	117.67	0	101	0.000	101	0.000	137	0.0000	133
27	France	40.50	41	29	0.064	58	2 741.786	12	0.1058	43
86	Gabon	76.67	6	71	0.378	16	0.181	121	0.0005	118
75	Georgia	70.17	8	68	0.214	24	1.038	103	0.0030	101
59	Germany	61.17	12	56	0.015	88	2 095.513	15	0.0559	60
118	Ghana	101.50	4	76	0.015	87	0.337	113	0.0003	123
89	Greece	78.67	5	74	0.045	66	18.307	76	0.0064	95
138	Grenada	117.67	0	101	0.000	101	0.000	137	0.0000	133
40	Guatemala	47.00	13	54	0.082	53	142.093	42	0.1186	40
138	Guinea	117.67	0	101	0.000	101	0.000	137	0.0000	133
138	Guinea-Bissau	117.67	0	101	0.000	101	0.000	137	0.0000	133
121	Guyana	103.33	0	101	0.000	101	0.181	121	0.0033	98
42	Haiti	50.67	19	45	0.182	30	10.759	81	0.0585	59
24	Honduras	36.50	12	56	0.145	37	93.120	49	0.2374	20
138	Hong Kong SAR	117.67	0	101	0.000	101	0.000	137	0.0000	133
82	Hungary	75.17	0	101	0.000	101	180.389	38	0.0730	55
138	Iceland	117.67	0	101	0.000	101	0.000	137	0.0000	133
10	India	16.17	1 863	1	0.146	36	36 950.507	2	0.4986	11
19	Indonesia	29.17	242	8	0.096	48	4 011.817	7	0.1494	32

CRI Rank	Country	CRI score	Fatalities in 2014		Fatalities per 100 000 inhabitants		Losses in PPP (million US\$)		Losses per unit GDP in %	
			Total	Rank	Total	Rank	Total	Rank	Total	Rank
138	Iraq	117.67	0	101	0.000	101	0.000	137	0.0000	133
47	Ireland	54.17	1	90	0.022	79	488.293	27	0.2066	25
2	Islamic Republic of Afghanistan	10.67	434	5	1.388	4	337.085	31	0.5543	10
53	Islamic Republic of Iran	57.67	13	54	0.017	86	1 141.039	20	0.0841	50
128	Israel	107.50	1	90	0.012	92	0.267	117	0.0001	127
32	Italy	43.17	27	38	0.044	69	2 859.903	11	0.1339	36
91	Jamaica	81.00	0	101	0.000	101	18.581	75	0.0771	54
15	Japan	25.33	180	9	0.142	38	7 459.281	5	0.1565	31
116	Jordan	99.33	3	80	0.045	67	0.111	128	0.0001	127
135	Kazakhstan	115.67	0	101	0.000	101	0.136	125	0.0000	133
119	Kenya	101.67	5	74	0.012	94	0.524	110	0.0004	119
138	Kiribati	117.67	0	101	0.000	101	0.000	137	0.0000	133
45	Korea, Republic of	53.83	37	31	0.073	55	397.169	30	0.0223	76
138	Kuwait	117.67	0	101	0.000	101	0.000	137	0.0000	133
122	Kyrgyz Republic	103.50	1	90	0.017	85	0.130	127	0.0007	117
129	Lao People's Democratic Republic	108.33	1	90	0.014	89	0.059	134	0.0002	124
136	Latvia	117.33	0	101	0.000	101	0.015	135	0.0000	133
120	Lebanon	102.83	0	101	0.000	101	1.302	100	0.0016	107
108	Lesotho	92.50	0	101	0.000	101	1.256	102	0.0225	75
80	Liberia	73.50	0	101	0.000	101	7.005	86	0.1888	26
138	Libya	117.67	0	101	0.000	101	0.000	137	0.0000	133
138	Lithuania	117.67	0	101	0.000	101	0.000	137	0.0000	133
109	Luxembourg	92.83	0	101	0.000	101	8.171	84	0.0152	85
34	Madagascar	43.67	21	43	0.089	50	54.871	59	0.1611	30
60	Malawi	61.67	17	47	0.097	46	5.821	89	0.0297	71
28	Malaysia	41.00	24	40	0.078	54	983.578	22	0.1278	38
138	Maldives	117.67	0	101	0.000	101	0.000	137	0.0000	133
138	Mali	117.67	0	101	0.000	101	0.000	137	0.0000	133
127	Malta	106.83	0	101	0.000	101	0.201	120	0.0014	109
79	Marshall Islands	73.00	0	101	0.000	101	0.754	107	0.4145	14
138	Mauritania	117.67	0	101	0.000	101	0.000	137	0.0000	133
138	Mauritius	117.67	0	101	0.000	101	0.000	137	0.0000	133
26	Mexico	39.83	35	33	0.029	77	4 551.521	6	0.2118	23
138	Micronesia	117.67	0	101	0.000	101	0.000	137	0.0000	133
138	Moldova	117.67	0	101	0.000	101	0.000	137	0.0000	133
138	Mongolia	117.67	0	101	0.000	101	0.000	137	0.0000	133
138	Montenegro	117.67	0	101	0.000	101	0.000	137	0.0000	133
14	Morocco	24.83	53	20	0.160	34	708.256	25	0.2732	18
23	Mozambique	35.67	42	28	0.159	35	52.570	60	0.1684	28
94	Myanmar	83.17	18	46	0.035	75	4.258	91	0.0017	106
124	Namibia	104.00	0	101	0.000	101	0.517	111	0.0022	105
7	Nepal	15.83	533	4	1.896	3	143.101	41	0.2131	22
110	Netherlands	95.17	1	90	0.006	100	19.744	73	0.0024	104
58	New Zealand	61.00	2	85	0.044	70	137.677	43	0.0856	49
11	Nicaragua	19.33	43	27	0.694	9	123.964	45	0.4176	13
31	Niger	42.83	36	32	0.210	26	15.706	77	0.0872	48
95	Nigeria	84.17	30	37	0.017	84	12.345	80	0.0012	110

CRI Rank	Country	CRI score	Fatalities in 2014		Fatalities per 100 000 inhabitants		Losses in PPP (million US\$)		Losses per unit GDP in %	
			Total	Rank	Total	Rank	Total	Rank	Total	Rank
98	Norway	86.17	0	101	0.000	101	62.017	54	0.0179	80
78	Oman	71.83	10	62	0.269	19	1.299	101	0.0008	115
5	Pakistan	12.67	1 227	2	0.659	11	2 220.527	14	0.2511	19
138	Palau	117.67	0	101	0.000	101	0.000	137	0.0000	133
69	Panama	66.50	9	66	0.229	21	2.420	93	0.0032	99
81	Papua New Guinea	75.00	1	90	0.013	90	15.488	78	0.0833	51
44	Paraguay	52.67	12	56	0.174	31	24.969	70	0.0427	64
71	Peru	68.33	14	52	0.045	68	58.578	56	0.0157	83
4	Philippines	12.50	328	6	0.330	18	3 312.686	9	0.4777	12
56	Poland	60.00	48	23	0.126	40	38.822	63	0.0040	97
46	Portugal	54.00	17	47	0.164	33	59.123	55	0.0210	78
138	Qatar	117.67	0	101	0.000	101	0.000	137	0.0000	133
88	Republic of Congo	78.33	10	62	0.234	20	0.105	130	0.0004	119
111	Republic of Yemen	96.83	3	80	0.011	95	1.684	97	0.0016	107
43	Romania	51.83	23	41	0.115	42	120.388	46	0.0306	70
90	Russia	80.00	11	61	0.008	98	239.533	35	0.0067	94
132	Rwanda	112.17	0	101	0.000	101	0.072	132	0.0004	119
74	Samoa	70.00	2	85	1.042	5	0.060	133	0.0060	96
138	San Marino	117.67	0	101	0.000	101	0.000	137	0.0000	133
138	Sao Tome and Principe	117.67	0	101	0.000	101	0.000	137	0.0000	133
106	Saudi Arabia	92.00	12	56	0.039	73	1.790	96	0.0001	127
85	Senegal	76.33	0	101	0.000	101	35.001	65	0.1023	45
1	Serbia	8.17	59	17	0.824	8	3 300.307	10	3.4435	3
102	Seychelles	89.50	0	101	0.000	101	1.022	104	0.0422	65
103	Sierra Leone	90.00	4	76	0.064	57	0.133	126	0.0010	112
134	Singapore	115.50	0	101	0.000	101	0.148	124	0.0000	133
72	Slovak Republic	69.67	1	90	0.018	83	96.639	48	0.0631	57
22	Slovenia	35.50	2	85	0.097	45	770.301	24	1.2514	7
12	Solomon Islands	20.67	23	41	4.000	2	23.727	71	2.1688	4
37	South Africa	45.83	53	20	0.098	44	283.076	33	0.0400	67
36	South Sudan	45.33	45	25	0.395	14	8.246	83	0.0351	68
76	Spain	70.67	9	66	0.019	81	256.527	34	0.0163	81
13	Sri Lanka	23.50	80	13	0.382	15	312.053	32	0.1430	33
77	St. Kitts and Nevis	70.83	0	101	0.000	101	4.511	90	0.3521	16
138	St. Lucia	117.67	0	101	0.000	101	0.000	137	0.0000	133
99	St. Vincent and the Grenadines	86.83	0	101	0.000	101	0.805	106	0.0686	56
38	Sudan	46.33	77	15	0.206	28	43.536	61	0.0272	73
138	Suriname	117.67	0	101	0.000	101	0.000	137	0.0000	133
123	Swaziland	103.67	0	101	0.000	101	0.311	115	0.0029	102
82	Sweden	75.17	1	90	0.010	96	187.331	37	0.0416	66
66	Switzerland	65.17	7	69	0.086	51	73.570	52	0.0155	84
52	Tajikistan	57.17	16	49	0.193	29	6.060	88	0.0271	74
57	Tanzania	60.83	45	25	0.096	47	18.655	74	0.0146	86
65	Thailand	64.33	35	33	0.051	63	117.783	47	0.0110	90
138	The Bahamas	117.67	0	101	0.000	101	0.000	137	0.0000	133
138	The Gambia	117.67	0	101	0.000	101	0.000	137	0.0000	133
130	Togo	108.83	0	101	0.000	101	0.111	128	0.0011	111
17	Tonga	28.83	1	90	0.980	6	34.384	67	6.8493	2

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101	Trinidad and Tobago	87.67	0	101	0.000	101	12.793	79	0.0294	72
138	Tunisia	117.67	0	101	0.000	101	0.000	137	0.0000	133
49	Turkey	55.83	10	62	0.013	91	1 956.069	17	0.1291	37
138	Turkmenistan	117.67	0	101	0.000	101	0.000	137	0.0000	133
138	Tuvalu	117.67	0	101	0.000	101	0.000	137	0.0000	133
105	Uganda	91.17	3	80	0.008	97	6.416	87	0.0085	93
138	Ukraine	117.67	0	101	0.000	101	0.000	137	0.0000	133
112	United Arab Emirates	97.33	4	76	0.043	71	0.355	112	0.0001	127
50	United Kingdom	57.00	12	56	0.019	82	2 093.780	16	0.0815	53
20	United States	30.00	271	7	0.085	52	24 810.560	3	0.1430	33
50	Uruguay	57.00	4	76	0.118	41	38.874	62	0.0542	61
138	Uzbekistan	117.67	0	101	0.000	101	0.000	137	0.0000	133
29	Vanuatu	41.33	21	43	7.985	1	0.598	109	0.0876	47
67	Venezuela	65.50	2	85	0.007	99	590.930	26	0.1092	42
62	Vietnam	63.00	55	18	0.061	60	55.836	58	0.0109	91
114	Zambia	99.17	0	101	0.000	101	1.961	94	0.0032	99
55	Zimbabwe	59.00	7	69	0.053	62	26.009	69	0.0954	46

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