

DISASTERS IN ASIA AND THE PACIFIC: 2014 YEAR IN REVIEW



Pakistan coping with severe floods: UN Photo/WFP/Amjad Jamal

Although there were no extreme catastrophes in 2014, Asia and the Pacific witnessed 119 disaster events. There were 6,050 fatalities compared to 18,744 in 2013. Economic losses from natural disasters remained high. For instance, 2014 was an atypical year in terms of storms, transboundary floods and landslides,¹ which collectively contributed to the region's total economic losses of US\$59.6 billion. Tropical Cyclones, such as Hudhud (India), Lingling and Kajiki (Japan) and Hagupit (Philippines) resulted in economic losses of about US\$11 billion (India), US\$5.2 billion (Japan) and US\$75 million (Philippines) respectively. Transboundary floods that affected India and Pakistan resulted in losses of at least US\$18 billion, the largest of which was the river basin flood in India that caused 1,281 fatalities and US\$16 billion in damages.

Effective cyclone early warning systems, together with enhanced preparedness, including timely evacuation of communities at risk, saved countless lives. From their ocean-based origin to their landfall, cyclones were tracked and monitored continuously by a constellation of weather satellites, radars and a range of monitoring networks. Regional cooperation was integral in accessing these products and services. Real-time information exchange helped improve the quality of early warning systems by granting sufficient lead time to respond and evacuate people at risk.

2014 Fact Snapshot: Natural Disasters in Asia and the Pacific



US\$59.6 BILLION

total cost of economic losses



45+ MILLION PEOPLE

were affected by floods and storms



79.6 MILLION PEOPLE

were affected by natural disasters



TROPICAL CYLONES

Hudhud, Lingling, Kajiki and Hagupit caused US\$16.3 billion in economic losses



119 DISASTER EVENTS

were recorded in the Asia-Pacific region



FLOODS

resulted in the most fatalities (3,559) & the highest economic losses (US\$26.8 billion)



6,050 PEOPLE

lost their lives due to natural disasters

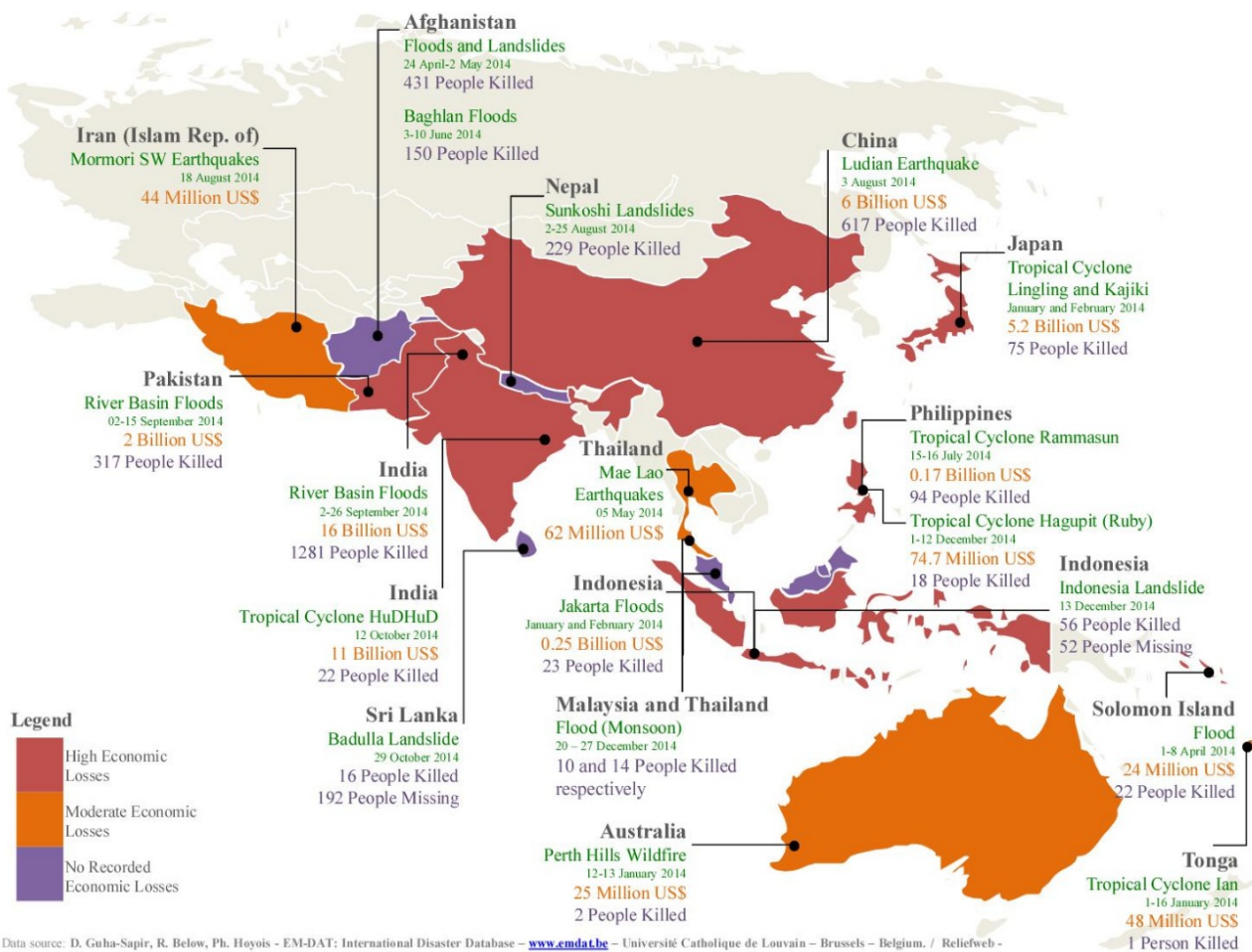


LANDSLIDES

resulted in 657 fatalities & affected approximately 177,781 people



MAP SNAPSHOT: 2014 ASIA-PACIFIC NATURAL DISASTERS



The lessons from 2014 show that building resilience in the Asia-Pacific region remains a key priority in protecting lives and assets. Four areas that require urgent attention: (1) strengthening existing regional cooperation for cyclone/typhoon early warning with a focus on under-served high risk and low capacity countries; (2) establishing regional cooperation mechanisms for transboundary floods and landslides; (3) utilizing innovative technologies for disaster assessment; and (4) communicating the risk of slow-onset disasters through scientific analyses, early warning and impact outlooks to highlight their less publicized impact across various sectors for preparedness and mitigation.

AREAS IN NEED OF URGENT ATTENTION



1. Strengthening existing regional cooperation for cyclone/typhoon early warning



2. Establishing regional cooperation mechanisms for transboundary floods and landslides



3. Utilizing innovative technologies for disaster assessment



4. Communicating the risk of slow-onset disasters through scientific analyses, early warning and impact outlooks

2014: AT A GLANCE

- Out of 226 recorded natural disaster occurrences in the world in 2014, 119 events took place in the Asia-Pacific region. While the region witnessed no major catastrophes caused by earthquakes or tsunamis, the number of natural disasters remained high, reflecting region's continued high exposure to natural hazards.

52.7%

IN 2014, OVER HALF OF THE WORLD'S 226 NATURAL DISASTERS OCCURRED IN THE ASIA-PACIFIC REGION.

2013

155 
NATURAL DISASTER EVENTS

84.9 
MILLION PEOPLE AFFECTED

62.7 
BILLION US\$ ECONOMIC DAMAGE

2014

119 
NATURAL DISASTER EVENTS

79.6 
MILLION PEOPLE AFFECTED

59.6 
BILLION US\$ ECONOMIC DAMAGE

- Natural disasters affected approximately 79.6 million people in 2014, compared to 84.9 million in 2013. In 2014, the number of lives lost was 6,050, lower than the 18,744 fatalities in 2013. One of the most severe events of the year was the river basin floods that took place in India, which resulted in a total of 1,281 deaths.
- Overall economic losses from natural disasters totaled approximately US\$59.6 billion in 2014 compared to US\$62.7 billion in 2013. Transboundary floods contributed at least US\$18 billion to the 2014 total.

TABLE 1: 2014 ASIA-PACIFIC LOSSES BY DISASTER TYPE

Disaster type	Occurrences	Deaths	Total Affected	Economic Losses (US\$)
Flood	52	3559	28.6 million	26.8 billion
Storm	37	730	16.3 million	25.8 billion
Earthquake	7	733	1.9 million	6.7 billion
Volcanic activity	5	101	0.17 million	186 million
Drought	5	180	31.5 million	18 million
Landslide	9	657	0.18 million	Not recorded
Extreme Temperature	3	88	1 million	Not recorded
Wildfire	1	2	168	25 million
Total	119	6050	79.6 million	59.6 billion

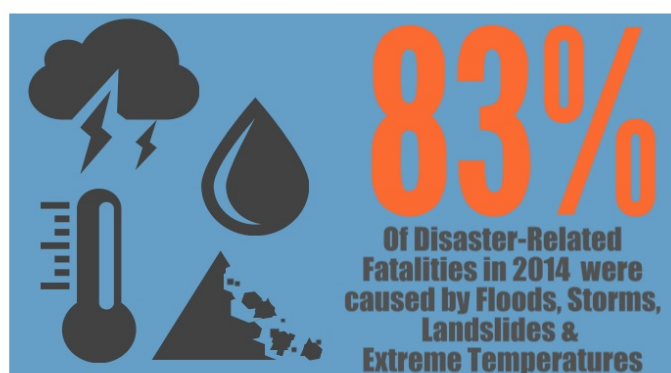
Data source: D. Guha-Sapir, R. Below, Ph. Hoyois - EM-DAT: International Disaster Database - www.emdat.be - Université Catholique de Louvain - Brussels - Belgium.
Data accessed: 9 February 2015

2014: AT A GLANCE



Hundreds of people were killed when a landslide struck in Abi-Barik's Nowabad area in north-eastern Afghanistan following heavy rainfall. UNAMA Photo/Fardin Waezi.

- Hydrological hazards (such as floods and landslides triggered by heavy precipitation) and meteorological hazards (such as storms and extreme temperatures) were the most frequent disasters in 2014. Nearly 85 per cent of natural disasters in 2014 were hydrological or meteorological-related events. These events accounted for 83 per cent of total deaths and 88 per cent of total economic losses in 2014.
- Nine landslide events took place across the Asia-Pacific region, resulting in 657 fatalities and affecting 177,781 people. The most significant landslides occurred in Afghanistan, Indonesia, Nepal and Sri Lanka.



- Seven earthquake-related disaster events were recorded with the Ludian earthquake in China reporting the highest death toll at 617 and economic losses of US\$6 billion.

TABLE 2: TOP 5 ECONOMIC LOSSES AND FATALITIES IN ASIA AND THE PACIFIC

5 Top Economic Losses Natural Hazards in 2014			5 Top Fatalities Natural Hazards in 2014		
Name	Country	Economic Losses	Name	Country	Number of Fatalities
Riverine Floods	India	16 billion US\$	Riverine Floods	India	1281
Tropical Cyclone Hudhud	India	11 billion US\$	Ludian Earthquake	China	617
Ludian Earthquake	China	6 billion US\$	Floods and Landslides	Afghanistan	431
Tropical Cyclone Lingling and Kajiki	Japan	5.2 billion US\$	Riverine Floods	Pakistan	317
Riverine Floods	Pakistan	2 billion US\$	Sunkoshi Landslides	Nepal	229



6 KEY OBSERVATIONS FROM NATURAL DISASTER EVENTS IN 2014

1. END-TO-END EARLY WARNING SYSTEMS REDUCED DEATH TOLLS

2. ECONOMIC LOSSES REMAINED HIGH

3. TRANSBOUNDARY FLOODS- AN EMERGING TREND?

4. HYDROLOGICAL AND METEOROLOGICAL EVENTS WERE THE MOST FREQUENT HAZARD

5. LANDSLIDES TRIGGERED BY HEAVY PRECIPITATION

6. AGRICULTURAL PRODUCTION HAMPERED BY DROUGHT AND DRY SPELLS

1. END-TO-END EARLY WARNING SYSTEMS REDUCED DEATH TOLLS



An example of part of an early warning system: 1 of 52 broadcast towers installed in Sri Lanka. ESCAP Photo.

Tropical Cyclone Hudhud, which made landfall near the Indian port of Visakhapatnam on 12 October as a Category 4 storm, was the second most costly disaster in 2014 (US\$ 11 billion). However, the number of fatalities for a cyclone of this strength was relatively low (41)². A similar pattern can be identified in the Typhoon Hagupit experience, which made landfall on the Philippine island of Samar on 6 December as a Category 3 typhoon. While this typhoon itself was weaker than the 2013 Super Typhoon Haiyan (responsible for 6,293 deaths), authorities were also much more prepared, successfully evacuating approximately 165,000 people before Hagupit hit, resulting in the much lower death toll of 18 people.³

The success of Hudhud and Hagupit lies not only in the ability to precisely predict the movement and intensity of storms, but also in the capacity to engage and mobilize vulnerable communities in the disaster preparedness process. In the case of Hudhud, the National Disaster Response Force deployed 35 teams across the states of Andhra Pradesh and Odisha. A day before landfall, district administration officials were seen along the coast and seashore villages evacuating people to cyclone shelters.⁴ Reports have circulated regarding officials, personally knocking on doors to notify residents of the impending danger. In total, the local government made arrangements to shift half a million people.⁵ In addition, all fishing operations were suspended along with the cancellation of flights and trains en route to the neighbouring districts and islands. Timely and massive evacuation saved lives.

Cyclone Hudhud did, however, generate significant damage and losses (US\$11 billion) to critical infrastructure including the airport, navy installations, key industries and infrastructure. Authorities have underscored the need for prioritizing the establishment and enforcement of building codes so that structures are better able to withstand high-velocity winds. The indiscriminate denudation of the mangroves and casuarina plantations along the coast and the systematic removal of the thick tree cover on the hills that would have protected Visakhapatnam city from the vagaries of cyclones has also been recognized as a contributing factor to the large-scale infrastructure damage and losses. Mangrove forests and wetland vegetation have long been recognized as natural buffers against storms, flooding, coastal erosion and strong waves, and thus their presence reduces disaster losses.

One of the unforgettable lessons from Hudhud and Hagupit is the value of effective, end-to-end early warning systems that ultimately save lives. These disasters also show, as countries grow rapidly, their assets, and especially their critical infrastructure, are increasingly exposed to disasters. Reducing exposure to disasters should be given due consideration during both the planning and construction phases.

2. ECONOMIC LOSSES REMAINED HIGH

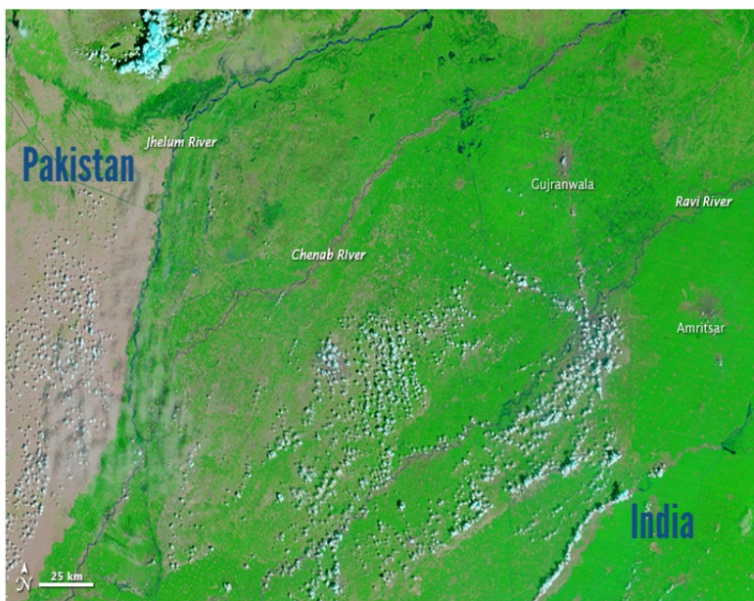
The rising trend of economic losses from disasters continued in 2014 (Tables 1 and 2). In total, annual economic losses in the region amounted to US\$59.6 billion. Hydrological and meteorological events such as floods, storms and droughts accounted for US\$52.6 billion or 88 per cent of these losses. The highest reported economic losses came from India and China, with India incurring US\$27 billion (or 45% of the Asia-Pacific region's total losses) while China reported losses of US\$23 billion (or 39%).

3. TRANSBOUNDARY FLOODS- AN EMERGING TREND?

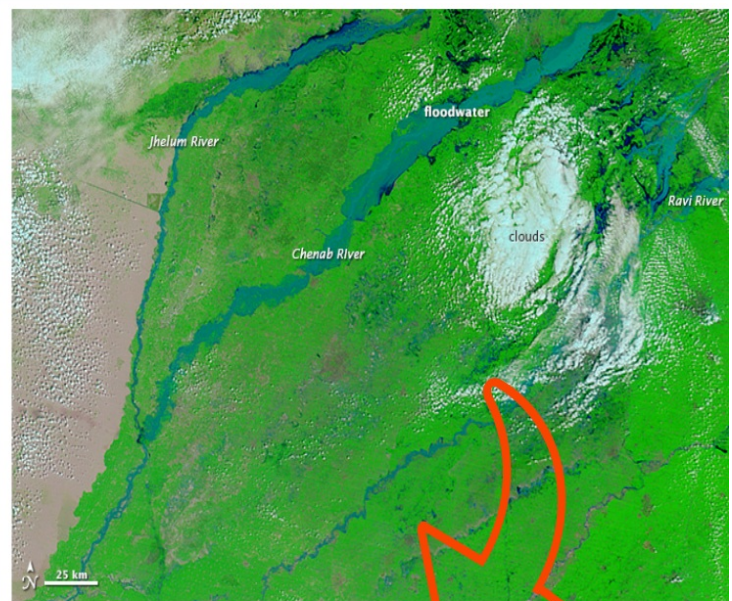
In early September of 2014, transboundary floods in India and Pakistan on Jhelum, Chenab, Ravi and Indus river basins contributed to US\$18 billion, approximately 30% of the region's total economic losses (Figure 1). Given that these hazards involve two or more countries, these numbers are notoriously difficult to verify and, therefore, they could very well be underestimated.


FIGURE 1: SATELLITE IMAGES OF BEFORE AND DURING TRANSBOUNDARY FLOODS IN INDIA AND PAKISTAN

Before floods: 31 AUGUST 2014

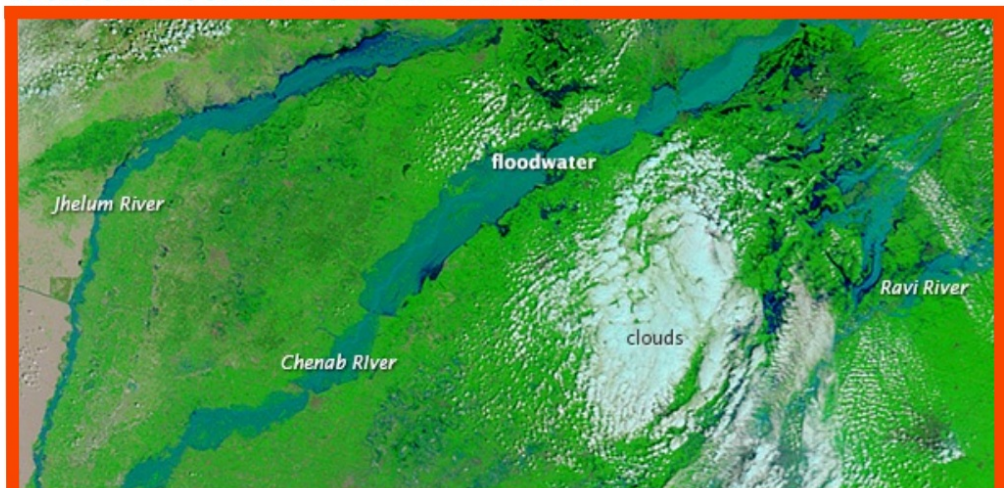


During floods: 7 SEPTEMBER 2014



-  VEGETATION
-  FLOODWATER
-  CLOUDS

A CLOSER LOOK AT 7 SEPTEMBER 2014



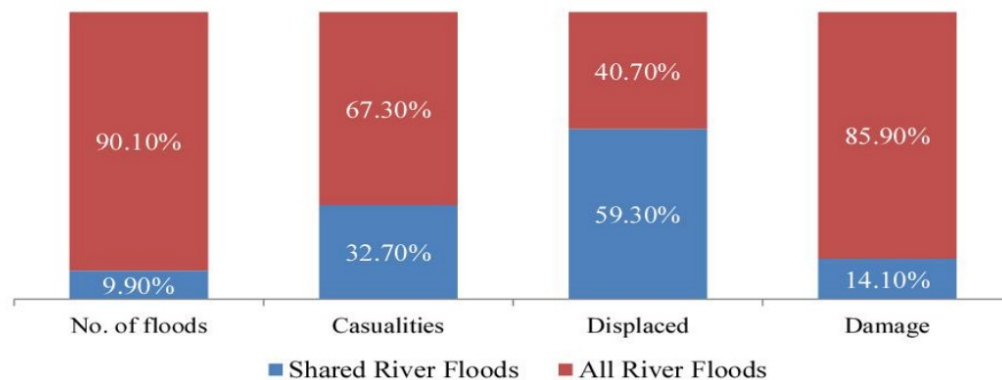
The Moderate Resolution Imaging Spectroradiometer (MODIS) on NASA's "Terra" satellite captured these images showing the progression of flooding between 31 August 2014 and 7 September 2014. All these 'false-color images' were made from a combination of infrared and visible light (MODIS bands 7-2-1). Water varies in color from blue to black; vegetation is bright green; and bare ground is brown. This band combination makes it easier to spot changes in river dimensions. NASA Photos.



3. TRANSBOUNDARY FLOODS- AN EMERGING TREND? (continued)

Transboundary floods are characterized by a large number of displaced people together with significant casualties and economic losses. A global study conducted over two decades from 1985-2005 asserts that although the occurrence of transboundary floods has historically accounted for less than 10% of the total number of river basin floods reported, they account for close to 60% of people displaced, more than 30% of casualties and close to 15% of the total economic losses (Figure 2).⁷

FIGURE 2: THE IMPACTS OF TRANSBOUNDARY RIVER FLOODS



Data source: After: Bakker 2006

Addressing transboundary floods requires information exchange and joint coordination for implementation of an effective response and overall flood management strategy. For example, risk information regarding a landslide blocking the Sun Koshi River in Nepal which formed a lake that was threatening to cause downstream flash floods in neighbouring districts of India, was shared with key stakeholders on a real-time basis. The governments in both Nepal and India collectively responded to the risk information by evacuating thousands of people along the river embankment, which helped keep the death toll to a minimum. This particular situation highlights the increasing need to foster regional cooperation, enhance the exchange of critical risk information and coordinate an effective management response to transboundary floods.

4. HYDROLOGICAL AND METEOROLOGICAL EVENTS WERE THE MOST FREQUENT HAZARDS

Out of 119 recorded natural disaster occurrences in the Asia-Pacific region, approximately 85% were hydrological (floods and landslides) or meteorological-related (storms and extreme temperatures) events. Among the people in Asia-Pacific affected by disasters in 2014, 28.6 million were affected by floods, while 31.5 million were affected by droughts and 16.3 million by storms (Figure 3). Incidentally, there were no major earthquakes or tsunamis reported in 2014 with the exception of the Ludian earthquake in China which accounted for US\$6 billion economic losses, while storms and floods accounted for US\$25.8 billion and US\$26.8 billion respectively (Figure 4).



A flooded street in Tacloban, Philippines. OCHA Photo.



FIGURE 3: THE 3 NATURAL HAZARD TYPES THAT AFFECTED THE MOST PEOPLE

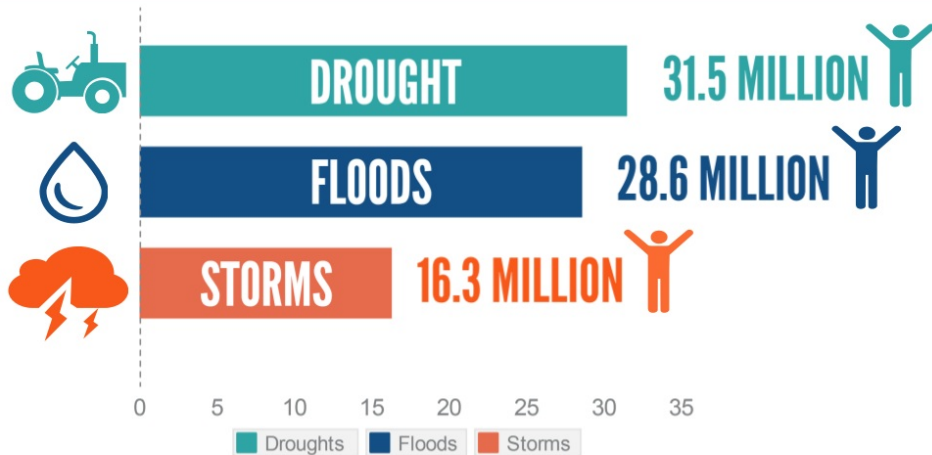
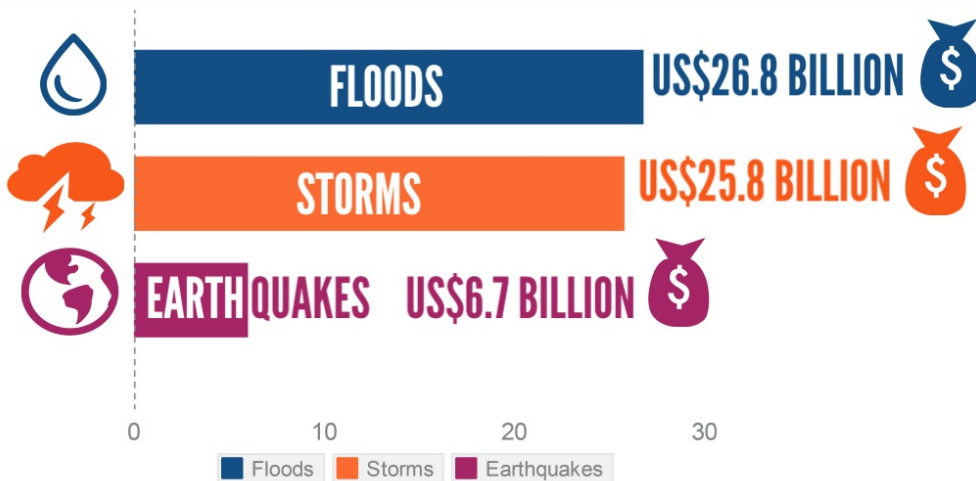


FIGURE 4: THE 3 NATURAL HAZARD TYPES THAT HAD THE HIGHEST ECONOMIC LOSSES



5. LANDSLIDES TRIGGERED BY HEAVY PRECIPITATION



2014 saw nine devastating landslides triggered by heavy precipitation including in Afghanistan,

预览已结束，完整报告链接和二维码如下：

https://www.yunbaogao.cn/report/index/report?reportId=5_4520



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