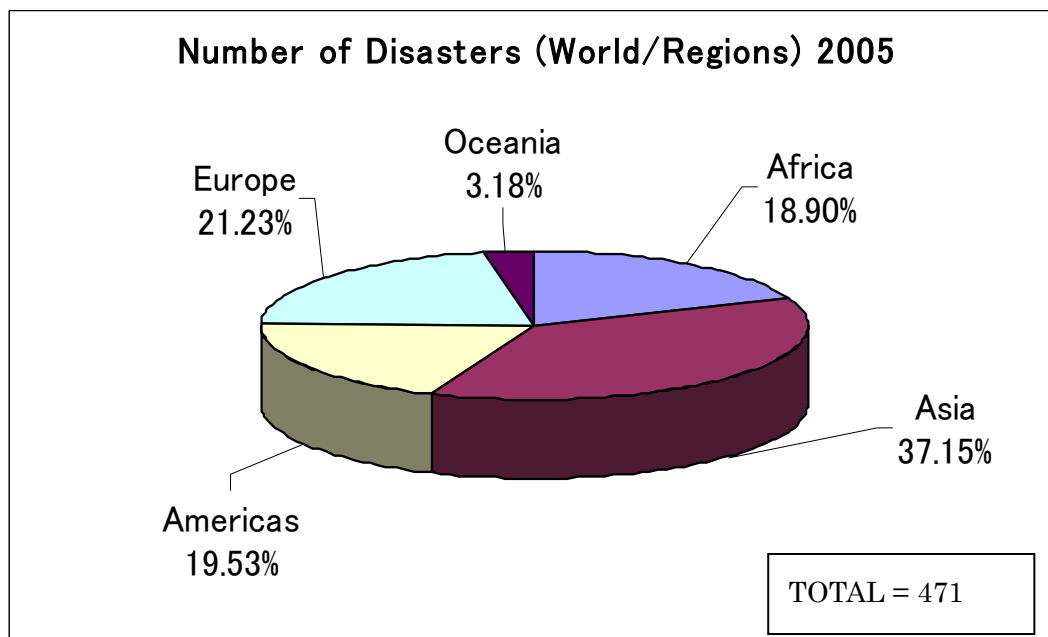


Chapter 3: Regional Characteristics of Natural Disasters

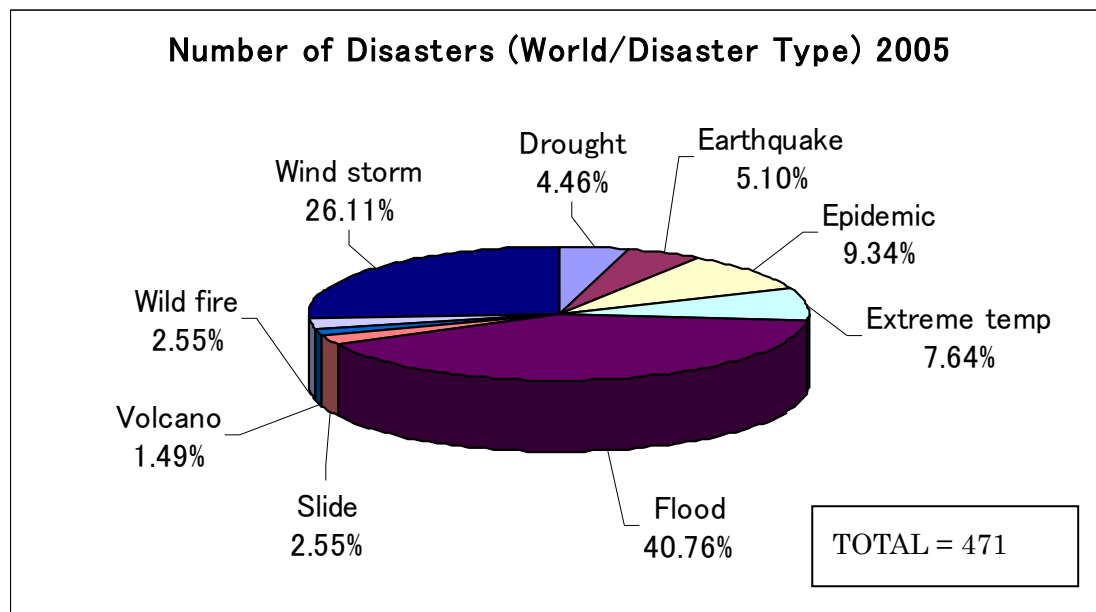
3.1 Proportion of Natural Disasters by Region

As in the previous year, Asia accounted for most of the devastating disasters that occurred in 2005 (37%, almost the same as 2004), followed by Europe (21%), the Americas (19%), Africa (19%), and Oceania (3%). Although the 2005 disaster trends look similar to those for 2004, their impacts in terms of human and economic losses were different. Figure 30A summarizes the 2005 data visually. Figure 30B summarizes the world data by type of disaster. The majority of the disasters in 2005 were floods and wind storms followed by epidemics, extreme temperatures, earthquakes, and droughts.

Figure 30A Proportion of Worldwide Disasters by Region, 2005



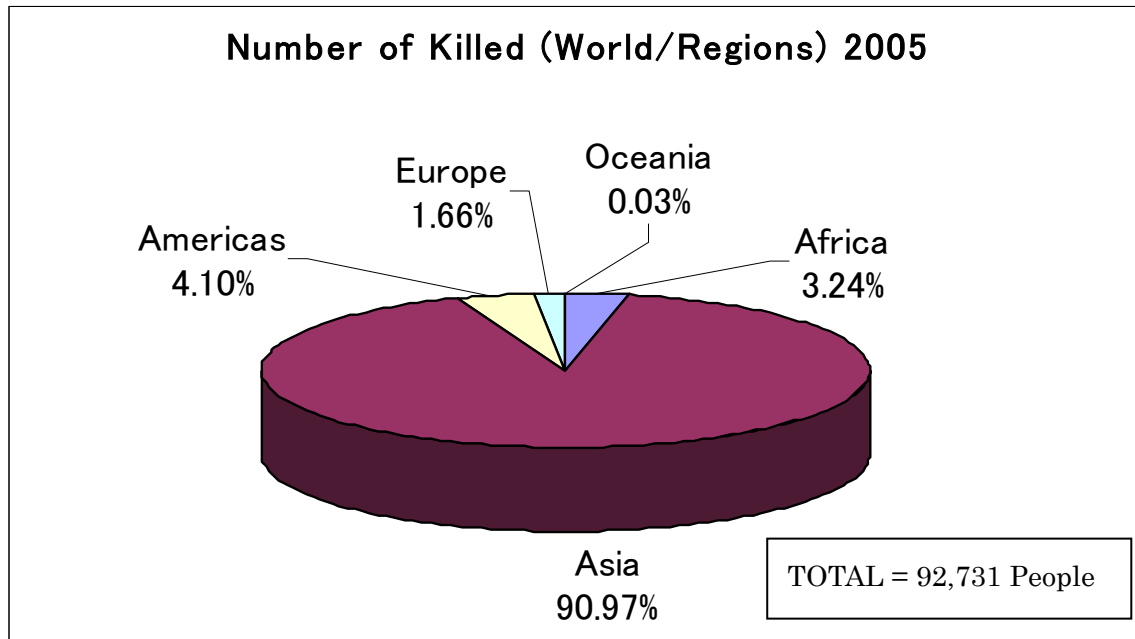
Source: CRED-EMDAT, Université Catholique de Louvain, Brussels, Belgium, 2005

Figure 30B Proportion of Worldwide Disasters by Type, 2005

Source: CRED-EMDAT, Université Catholique de Louvain, Brussels, Belgium, 2005

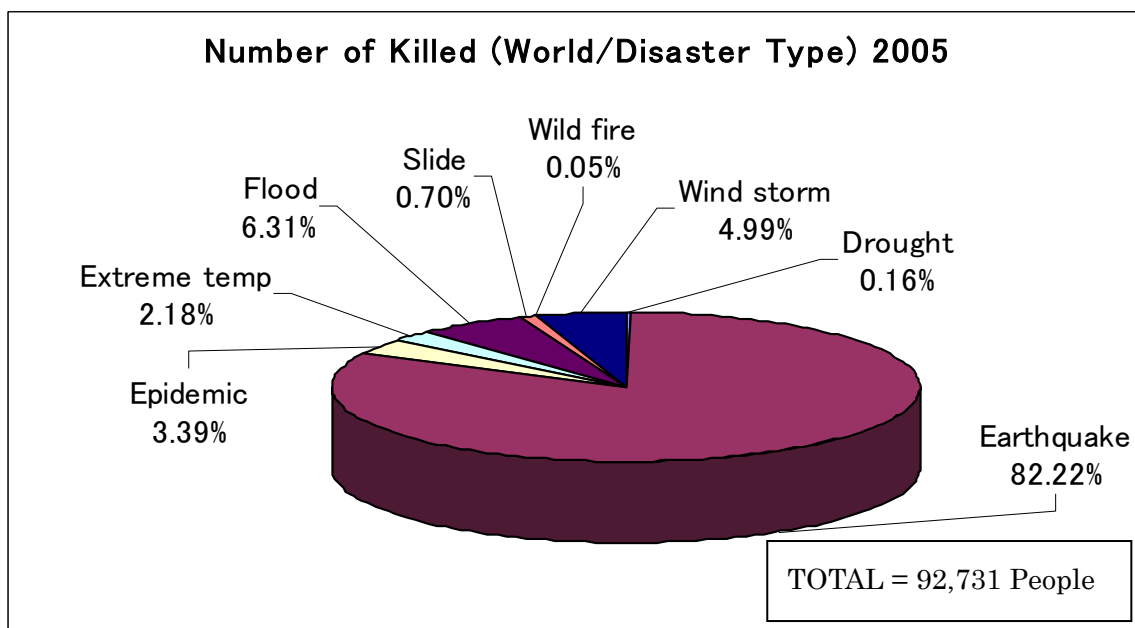
As can be seen in Figure 31A, the majority of people killed by natural disasters in the year 2005 lived in Asia, which accounted for 91% of the total number of people killed by disasters worldwide (down 5% from the previous year). This is due to the catastrophic South Asian Earthquake that struck India and Pakistan. Asia. Another significant region is the Americas, which accounted for 4% of the people killed in 2005 (up from the previous year). The number of people killed in Africa increased from 2% in 2004 to 3% in 2005. Europe also saw an increase in people killed, from 0.1% in 2004 to 2% in 2005. This was due to the extreme weather condition that prevailed in Europe in 2005. Oceania registered almost the same number of people killed by natural disasters as in the previous year. The heavy death toll in Asia caused by the South Asian earthquake makes other regions' figures look smaller in 2005. Earthquakes were responsible for the majority of the death toll worldwide (82%), followed by floods and wind storms, as shown in Figure 31B.

Figure 31A Proportion of People Killed Worldwide by Region, 2005



Source: CRED-EMDAT, Université Catholique de Louvain, Brussels, Belgium, 2005

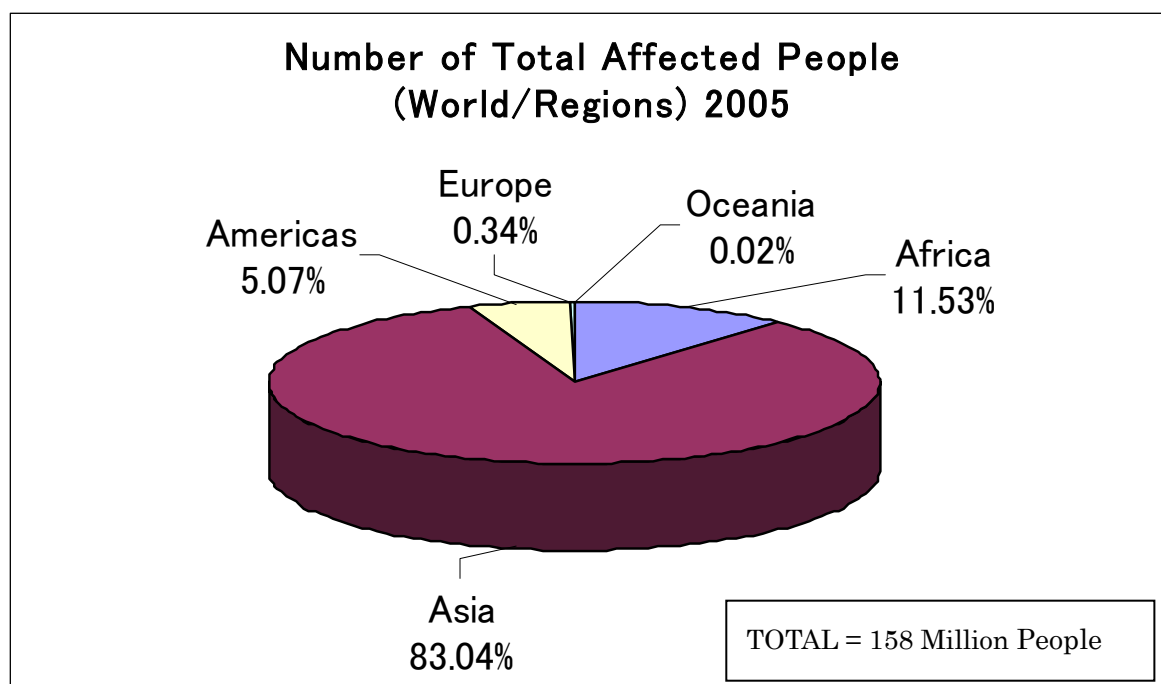
Figure 31B Proportion of People Killed Worldwide by Disaster Type, 2005



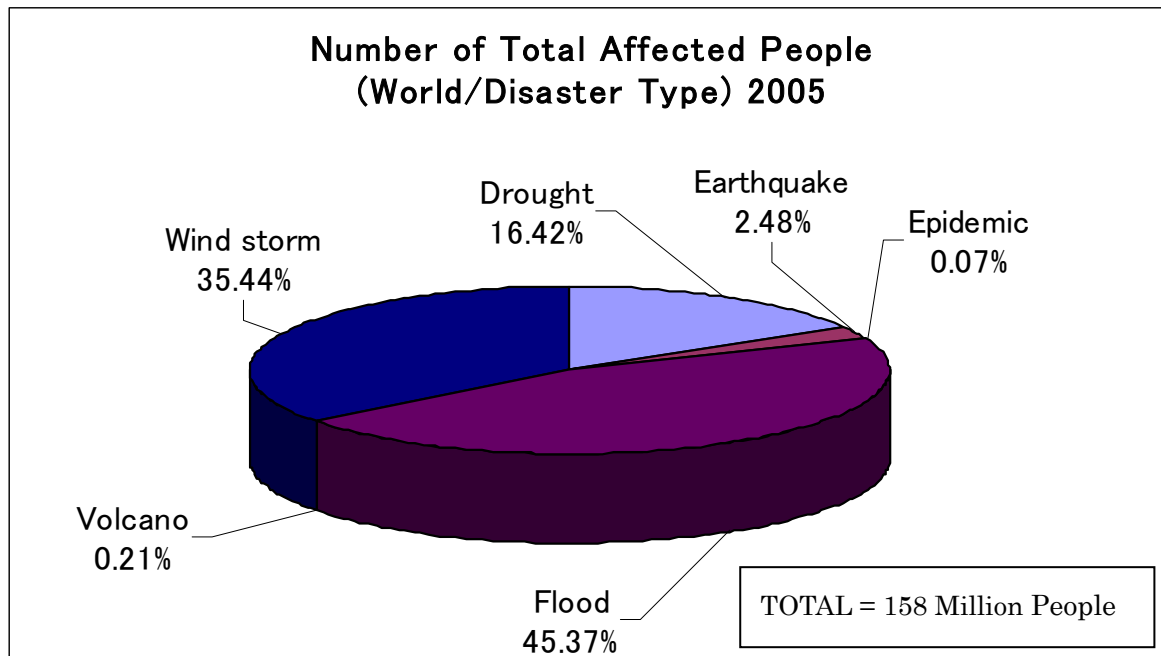
Source: CRED-EMDAT, Université Catholique de Louvain, Brussels, Belgium, 2005

The number of total affected people increased from 145 million in 2004 to 158 million in 2005 due to the South Asian earthquake and a drought in Africa. As shown in Figure 32A, the Asian region accounted for the highest percentage of total affected people, with 83% (down 7% from the previous year). In addition to the South Asian Earthquake, which affected many people in Asia, other disasters in other parts of the world, especially Africa and the Americas, also had a significant impact. The number of total affected people in Africa and the Americas increased significantly over previous years. Nevertheless, the trend clearly reflects Asia's continued vulnerability to natural hazards. Figure 32B shows the percentages of total affected people by disaster type. Hydro-meteorological disasters, such as floods, wind storms, and droughts had a significant impact on people worldwide.

Figure 32A Proportion of Total Affected People Worldwide by Region, 2005



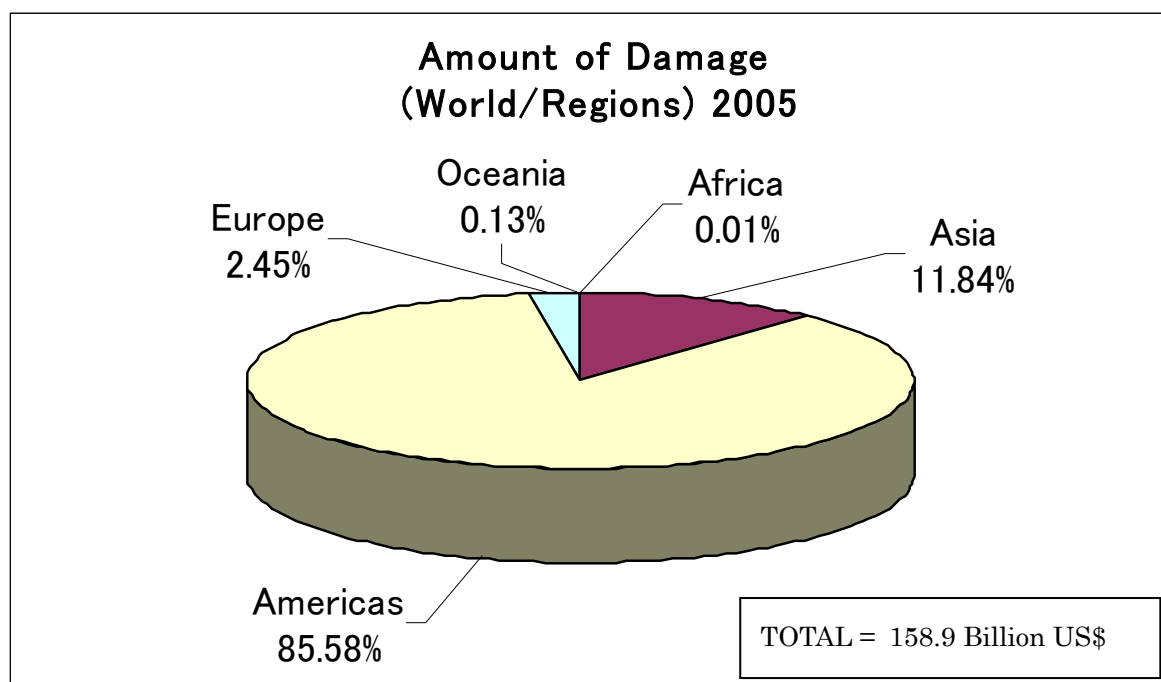
Source: CRED-EMDAT, Université Catholique de Louvain, Brussels, Belgium, 2005

Figure 32B Proportion of Total Affected People Worldwide by Disaster Type, 2005

Source: CRED-EMDAT, Université Catholique de Louvain, Brussels, Belgium, 2005

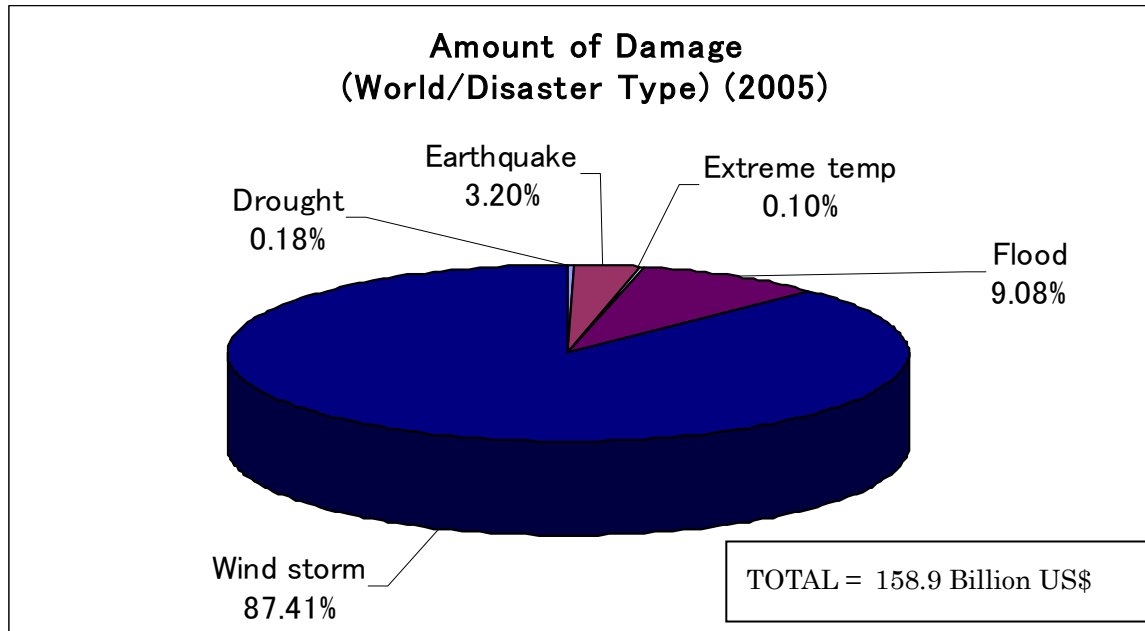
In contrast to the previous year's figures, the Americas accounted for more than two-thirds of the economic damage caused by natural disasters in 2005 (Figure 33A). This is mainly due to the impact of Hurricanes Katrina, Wilma, and others that struck the US in 2005, as well as the resulting floods. Asia accounted for less economic damage than in the previous year (12%), a tremendous decrease from 2004, the year of the devastating Indian Ocean Tsunami. The majority of damage in Asia was due to the South Asian earthquake. Europe (3%) accounted for the next highest level of economic losses, following the same patterns in 2004 in terms of damage. Figure 33B shows the amount of damage worldwide for 2005 by disaster type. Wind storms and floods were the leading causes of damage worldwide, followed by earthquakes. The socio-economic structure of these regions and the disaster occurrences and countermeasures could be attributed to these trends. All other regions accounted for much less of the economic damage sustained in 2005. Overall damage increased more than 1.5-fold over the previous year, from US\$98 billion to US\$159 billion, posing a huge blow to development efforts.

Figure 33A Proportion of Worldwide Damage by Region, 2005



Source: CRED-EMDAT, Université Catholique de Louvain, Brussels, Belgium, 2005

Figure 33B Proportion of Worldwide Damage by Disaster Type, 2005



Source: CRED-EMDAT, Université Catholique de Louvain, Brussels, Belgium, 2005

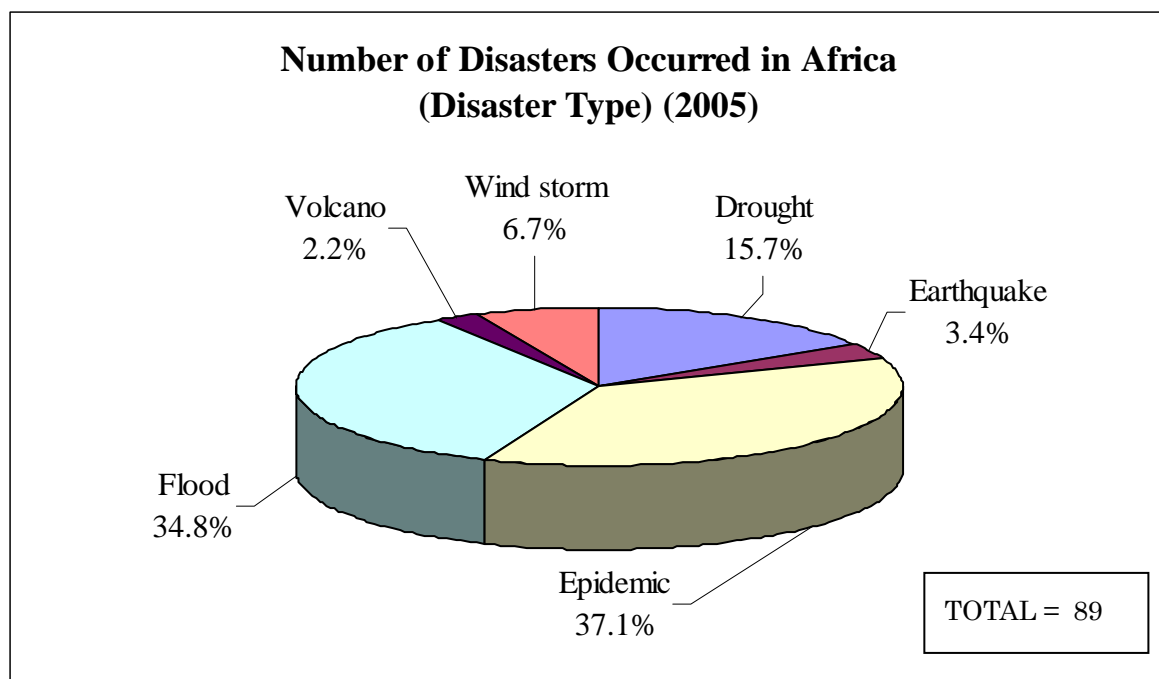
These figures indisputably demonstrate that the disaster vulnerability of the Asian region cannot be neglected in relation to global sustainable development and the need of stronger disaster countermeasures.

3.2 Natural Disasters Around the World

3.2.1 Characteristics of Disasters in Africa

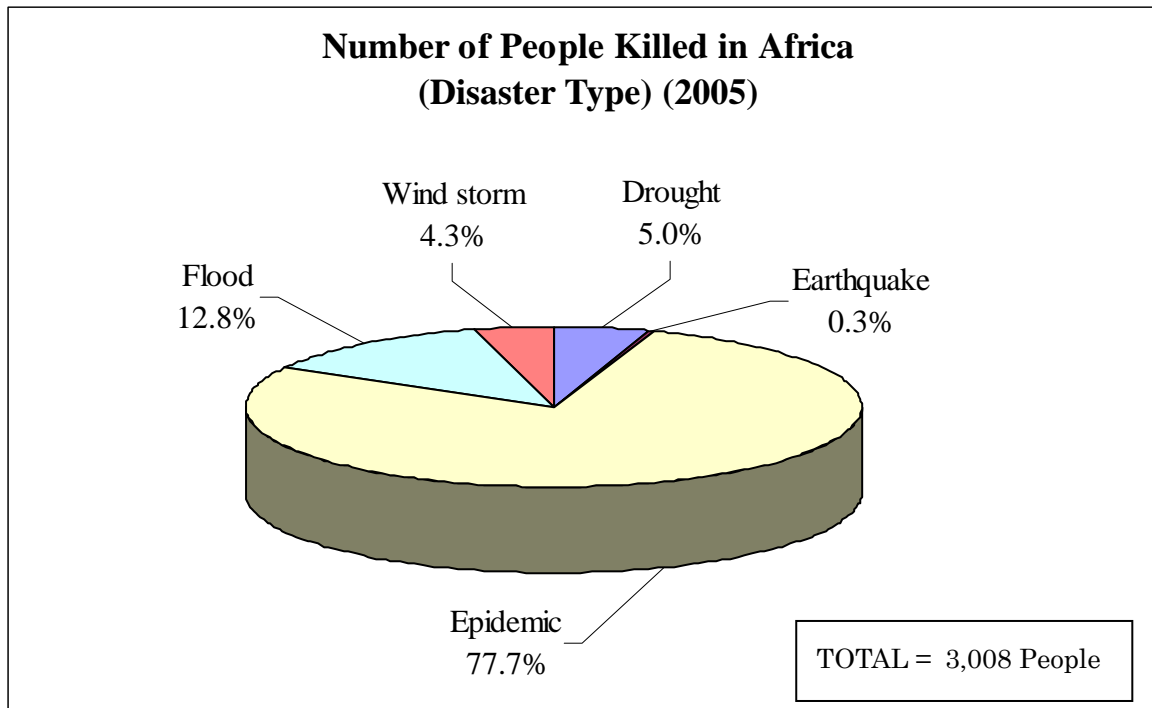
About 95% of the natural disasters that occurred in Africa in 2005 consisted of epidemics, floods, wind storms, and droughts (Figure 34). Furthermore, the majority of the human losses (99%) in Africa were due to epidemics, floods, droughts, and wind storms (Figure 35). Meanwhile, the majority of people affected by disasters in Africa were affected by droughts, which account for nearly 94% of the total affected people in Africa 2005 (Figure 36). The same pattern was seen in the previous year, when droughts accounted for almost 75% of the people affected. Droughts, volcanic eruptions, wind storms, and floods accounted for nearly 99% of the total affected population in Africa in 2005. Niger, Kenya, Malawi, Mozambique, Zambia, and Burundi were severely hit by drought. It is interesting to note, however, that all of the economic damage sustained in Africa was caused by flooding in 2005 (Figure 37). These figures show Africa to be a disaster-prone region with socio-economic vulnerabilities, where the majority of human suffering comes from droughts, floods, and epidemics.

Figure 34 Proportion of Disasters in Africa by Type, 2005



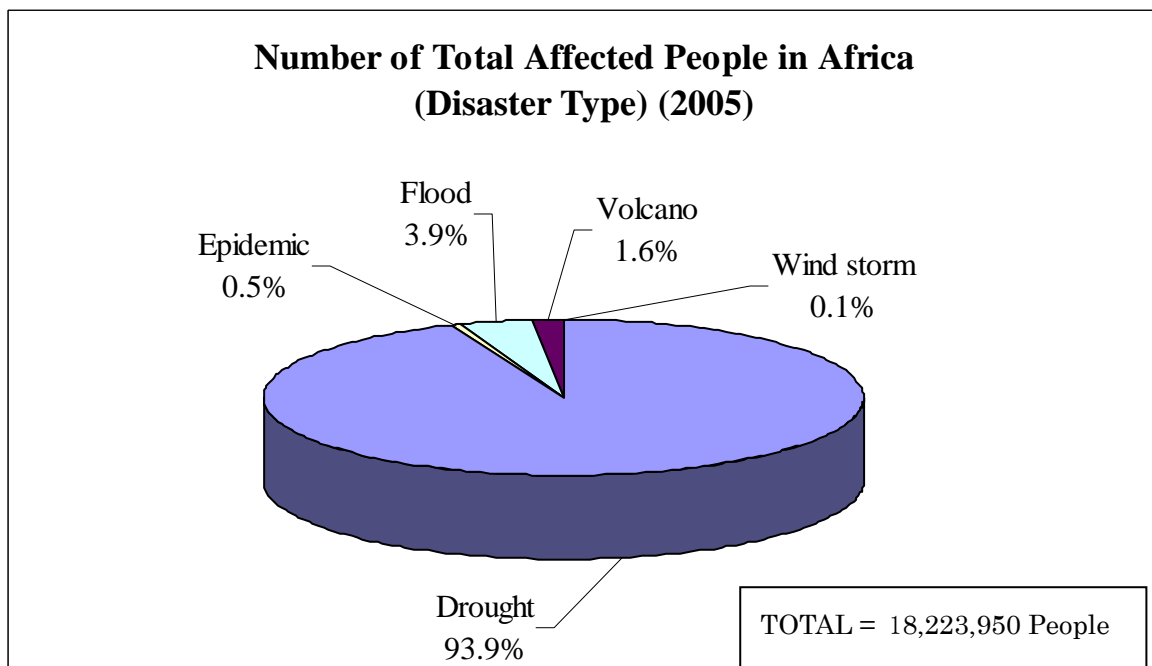
Source: CRED-EMDAT, Université Catholique de Louvain, Brussels, Belgium, 2005

Figure 35 Proportion of People Killed in Africa by Disaster Type, 2005

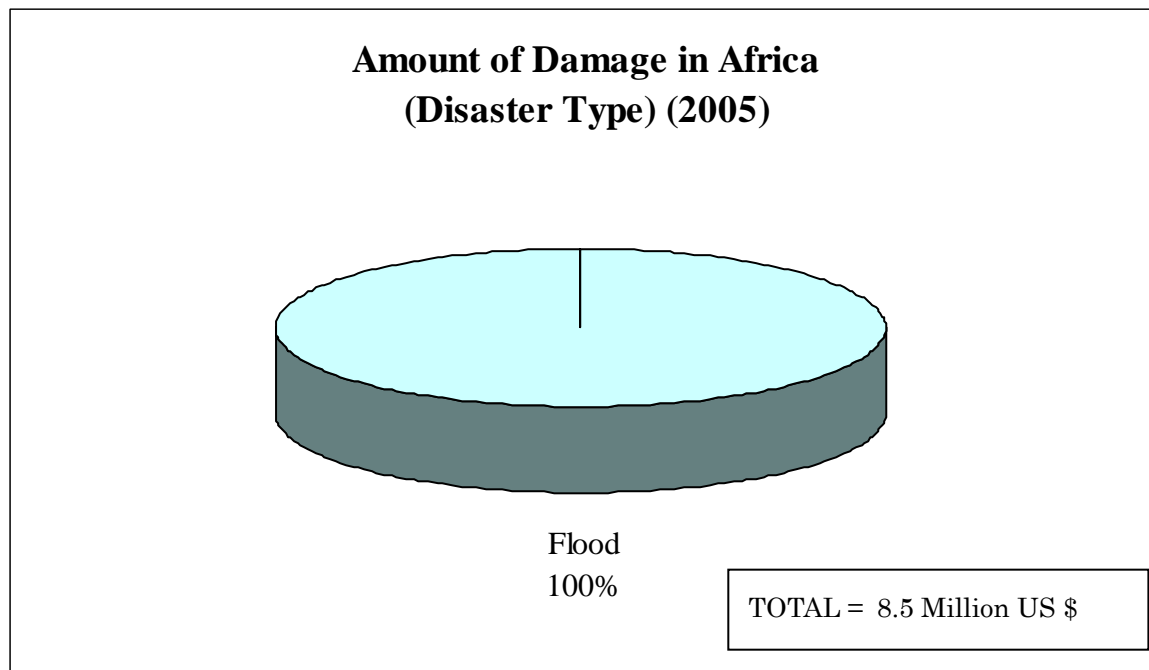


Source: CRED-EMDAT, Université Catholique de Louvain, Brussels, Belgium, 2005

Figure 36 Proportion of Total Affected People in Africa by Disaster Type, 2005



Source: CRED-EMDAT, Université Catholique de Louvain, Brussels, Belgium, 2005

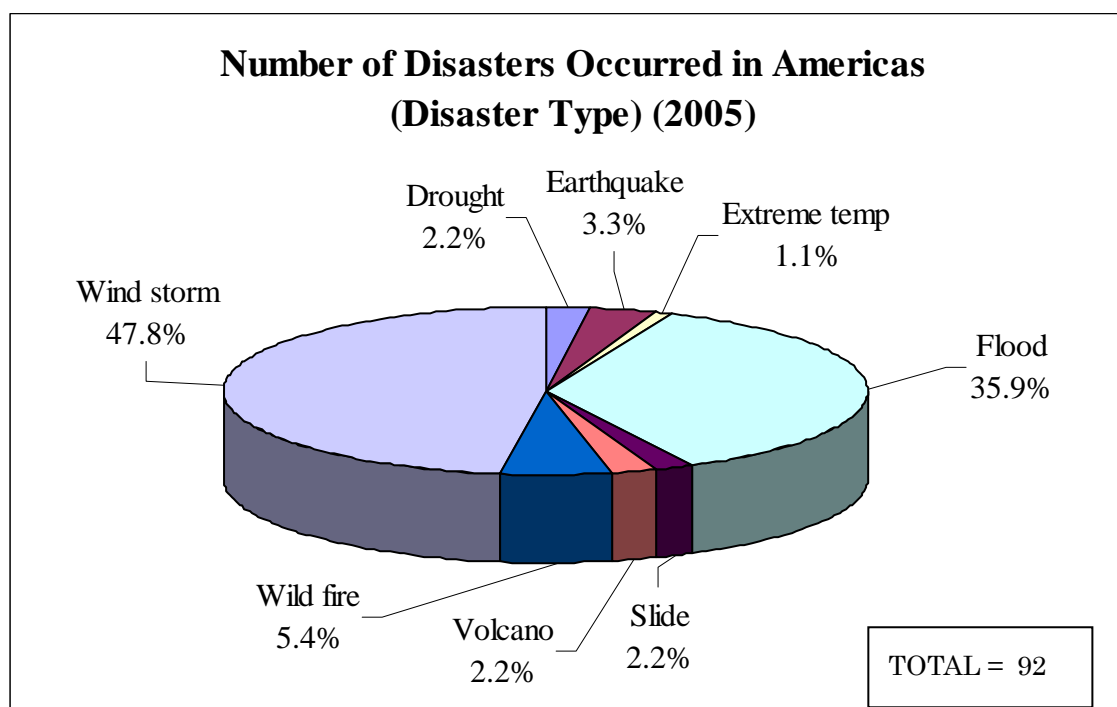
Figure 37 Proportion of Damage in Africa by Disaster Type, 2005

Source: CRED-EMDAT, Université Catholique de Louvain, Brussels, Belgium, 2005

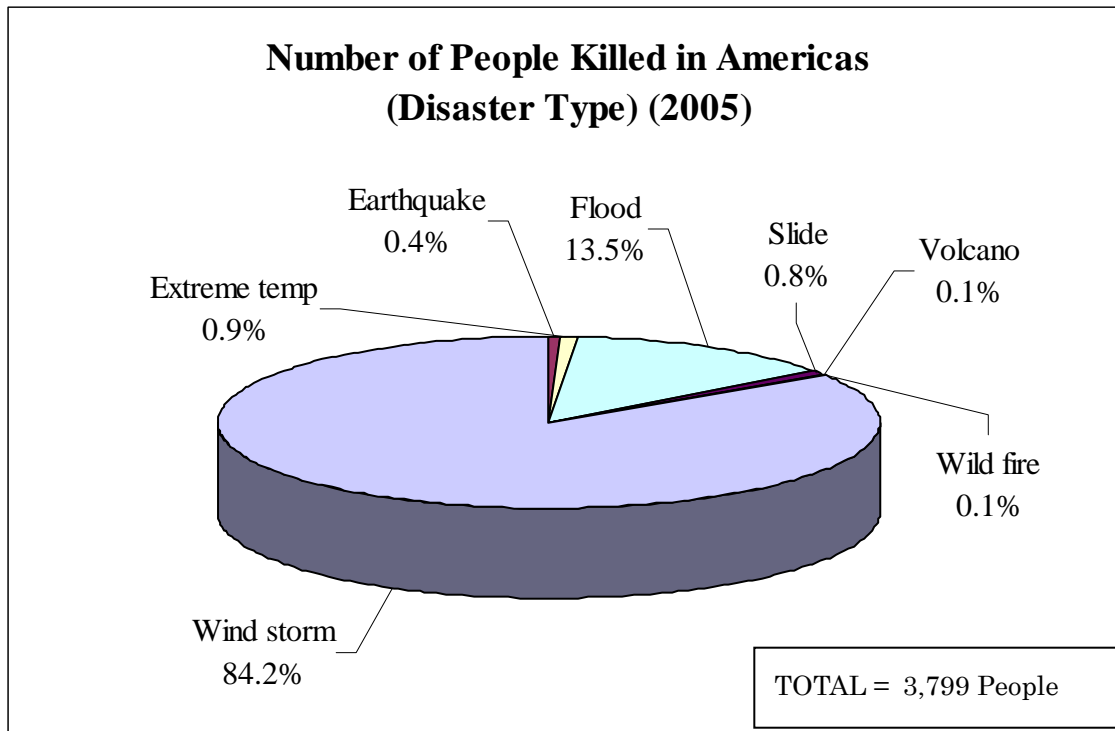
3.2.2 Characteristics of Disasters in the Americas

In the Americas, which includes the countries of North and South America, floods and windstorms accounted for the vast majority (almost 84%) of natural disasters that occurred in 2005. In terms of human loss and suffering, 98% of people killed were killed by floods and wind storms. Nearly 99% of the people affected were affected by wind storms and floods. The majority of the economic damage sustained was caused by wind storms (hurricanes) in 2005. Severe damage was inflicted by Hurricanes Katrina, Wilma, and others that hit the US and the Caribbean. Figures 38 to 41 show that the Americas were visited by significant hydro-meteorological disasters in 2005, as they had been in 2003 and 2004 as well.

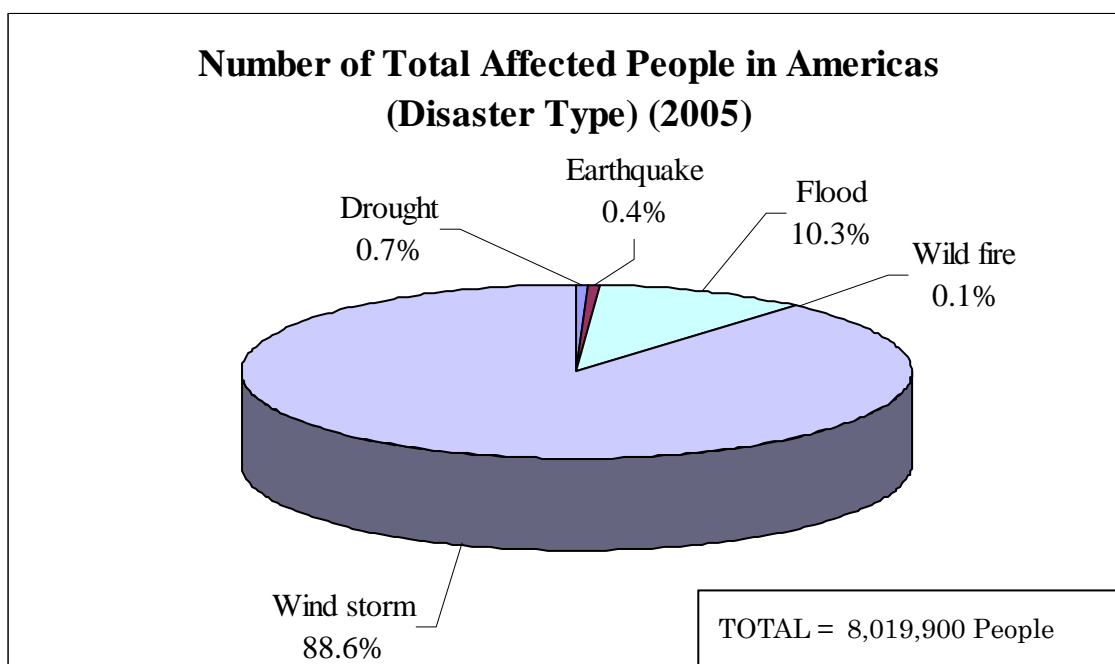
Figure 38 Proportion of Disasters in the Americas by Type, 2005



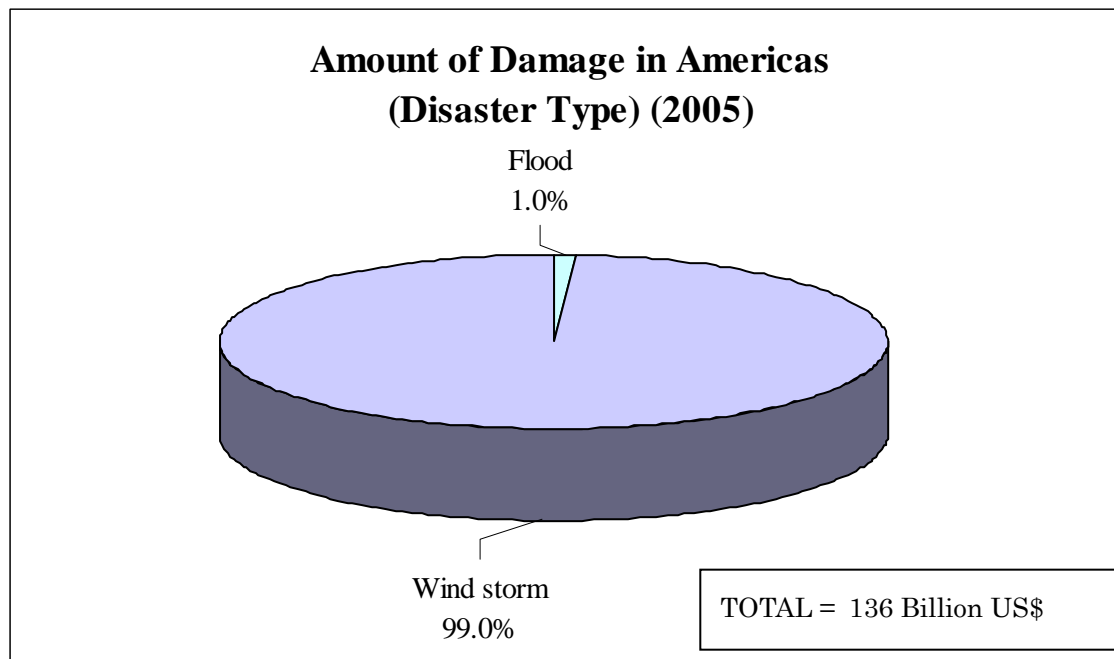
Source: CRED-EMDAT, Université Catholique de Louvain, Brussels, Belgium, 2005

Figure 39 Proportion of People Killed in the Americas by Disaster Type, 2005

Source: CRED-EMDAT, Université Catholique de Louvain, Brussels, Belgium, 2005

Figure 40 Proportion of Total Affected People in the Americas by Disaster Type, 2005

Source: CRED-EMDAT, Université Catholique de Louvain, Brussels, Belgium, 2005

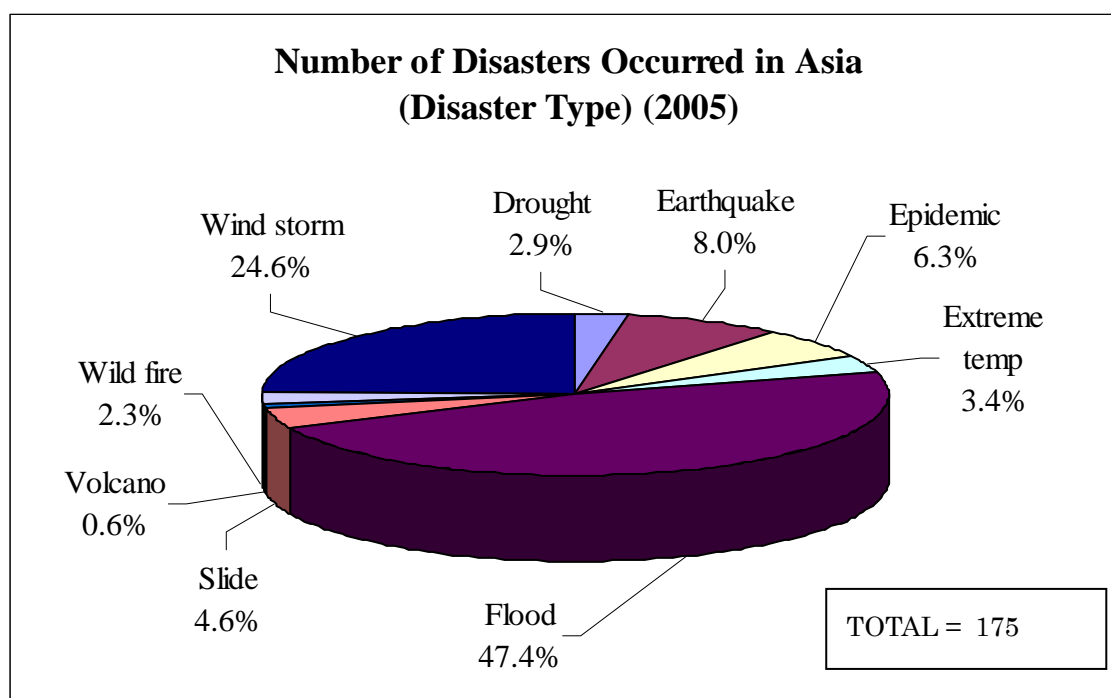
Figure 41 Proportion of Damage in the Americas by Disaster Type, 2005

Source: CRED-EMDAT, Université Catholique de Louvain, Brussels, Belgium, 2005

3.2.3 Characteristics of Disasters in Asia

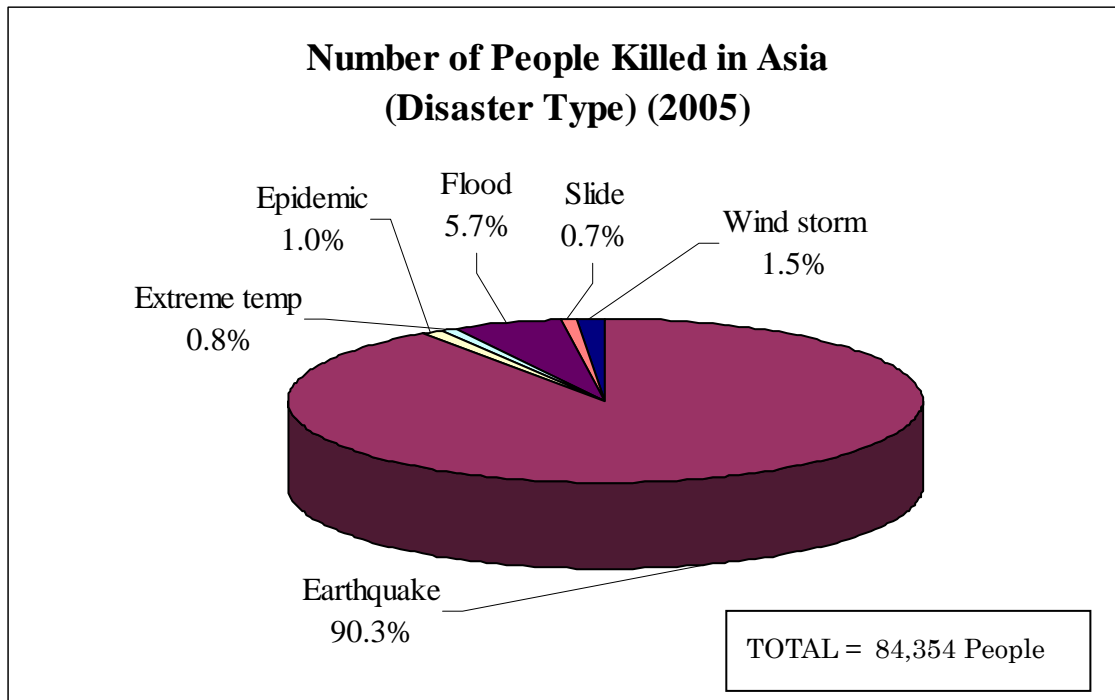
An earlier chapter demonstrated the high vulnerability of the Asian region to natural disasters. The same trend will be observed here. Floods, wind storms, earthquakes, landslides, and epidemics occurred at a greater rate than other disasters in 2005 (Figure 42). About 72% of the disasters in Asia consisted of wind storms and floods, followed by earthquakes (8%), epidemics (6%) and landslides (5%). It is worth noting that the South Asian Earthquake caused the largest number of human losses (more than 90%) in Asia, followed by floods and wind storms (Figure 43). Floods in China, India and Bangladesh also contributed to the high death toll in Asia. Figure 44 shows that floods, wind storms, droughts, and earthquakes caused severe human suffering in Asia, as these accounted for almost all the people affected by natural disasters in the region in 2005. Although the South Asian earthquake caused heavy human losses, earthquakes did not account for a large percentage of the total affected people in Asia. Furthermore, about 78% of the economic damage sustained was due to floods and earthquakes. The remainder was due to wind storms and droughts (Figure 45). Clearly, the Asian region is severely disaster-prone and vulnerable to both hydro-meteorological and geophysical disasters. The following figures highlight these trends.

Figure 42 Proportion of Disasters in Asia by Type, 2005



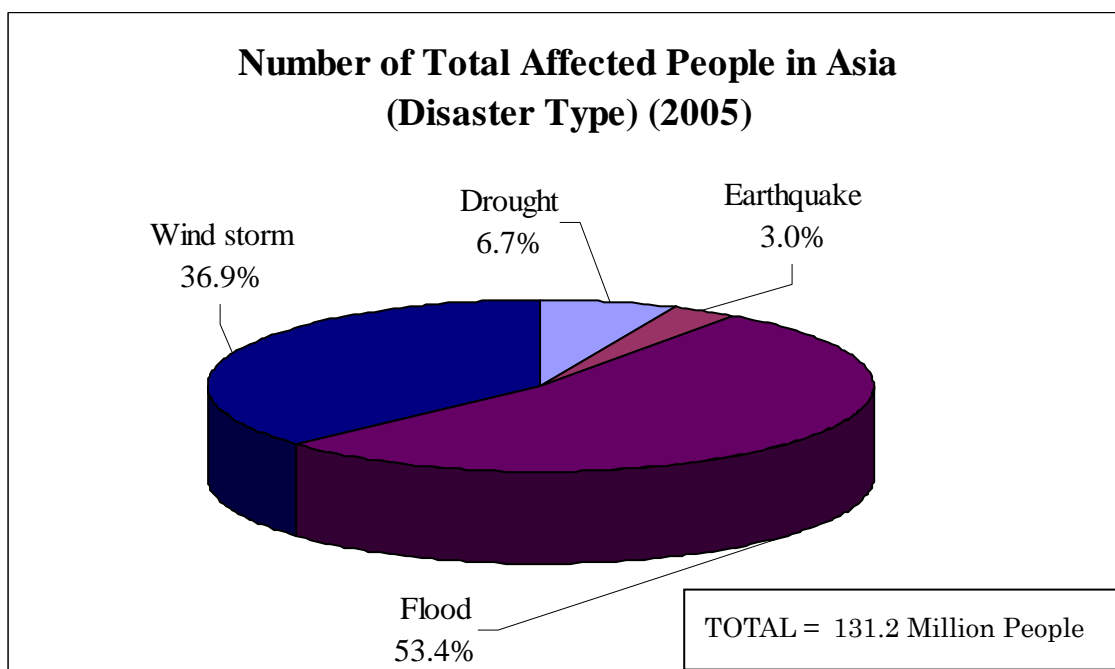
Source: CRED-EMDAT, Université Catholique de Louvain, Brussels, Belgium, 2005

Figure 43 Proportion of People Killed in Asia by Disaster Type, 2005

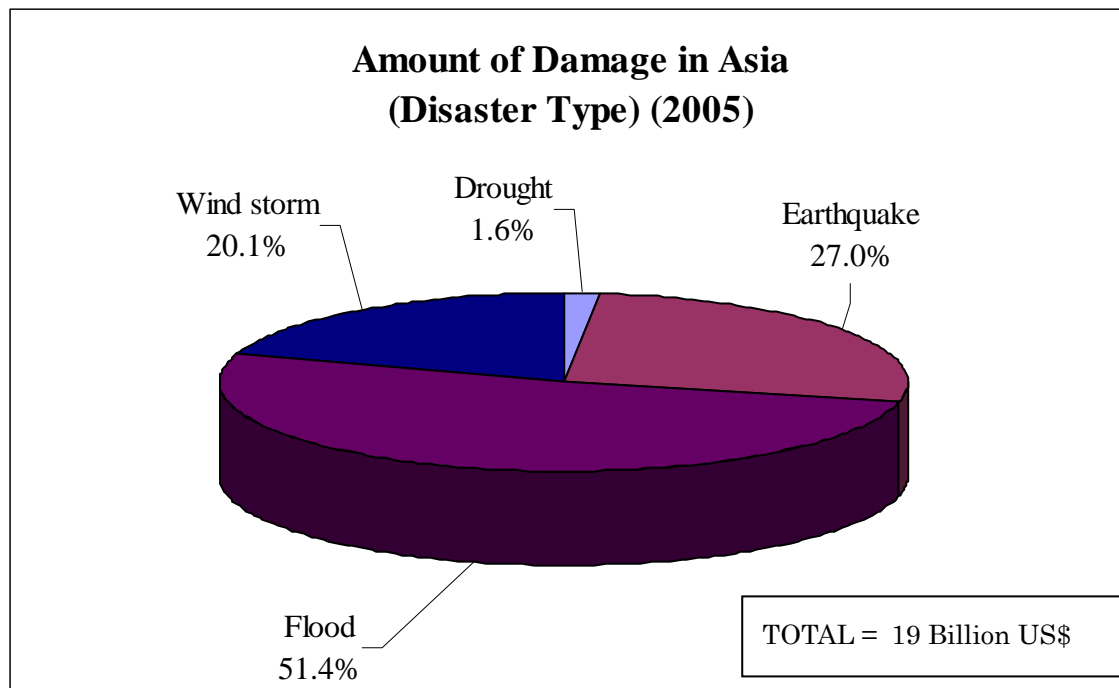


Source: CRED-EMDAT, Université Catholique de Louvain, Brussels, Belgium, 2005

Figure 44 Proportion of Total Affected People in Asia by Disaster Type, 2005



Source: CRED-EMDAT, Université Catholique de Louvain, Brussels, Belgium, 2005

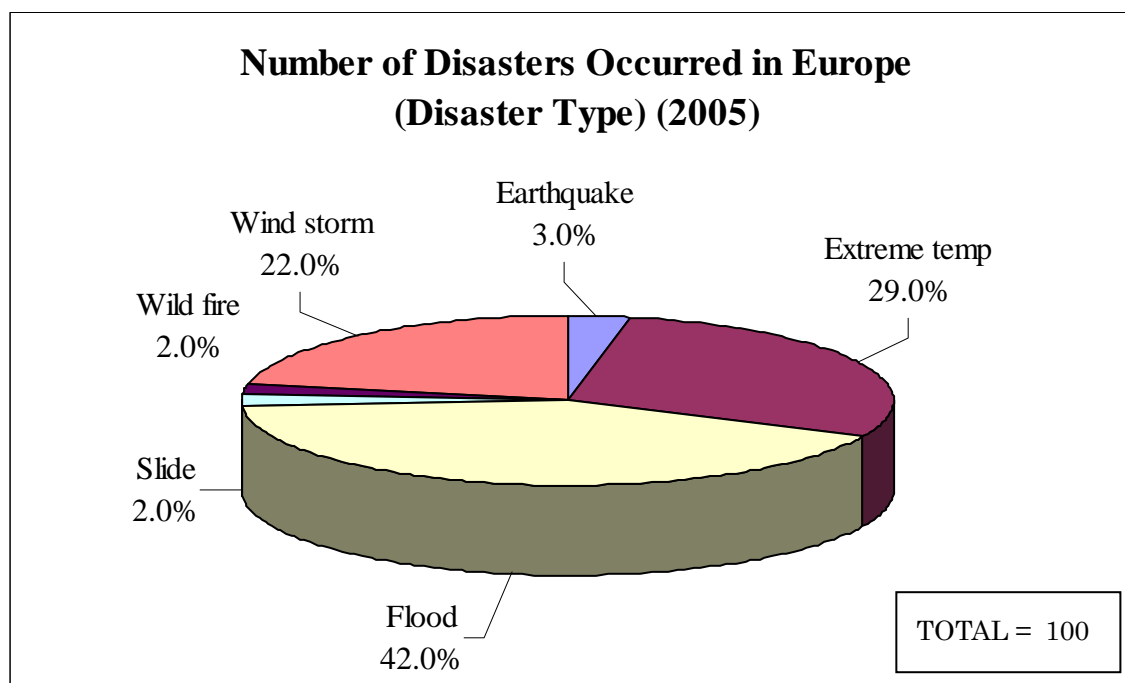
Figure 45 Proportion of Damage in Asia by Disaster Type, 2005

Source: CRED-EMDAT, Université Catholique de Louvain, Brussels, Belgium, 2005

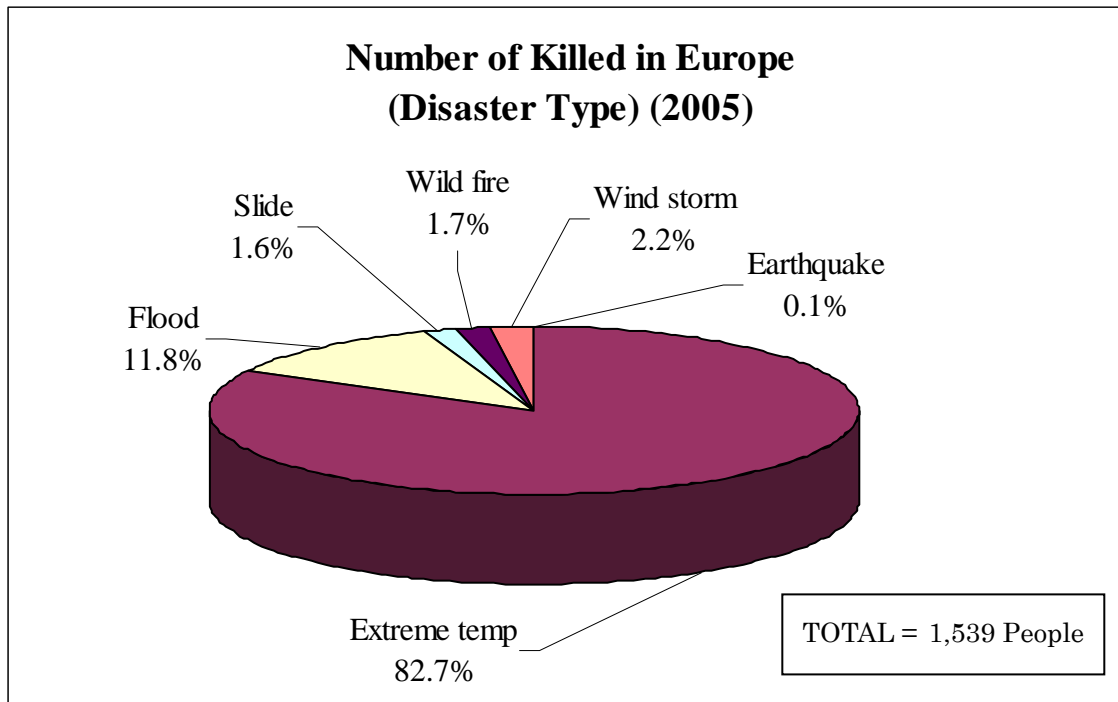
3.2.4 Characteristics of Disasters in Europe

The year 2004 was not a difficult year for Europe in comparison with the extreme temperatures and heat wave of 2003, and the devastating floods of 2002. Figures 46 to 49 show that extreme temperatures (heat wave), floods, wind storms, and wild fires caused severe human losses in the region. The majority of disasters in 2005 were floods and extreme temperatures, accounting for 71% of all disasters (Figure 46). The majority of human losses were due to extreme temperatures (heat wave, 83%), followed by wind storms and floods (Figure 47). All of these disasters caused about 97% of the total human losses in the region in 2005. Furthermore, 76% of the total affected people were affected by windstorms (Figure 48), much like 2004. In 2002, as many as 84% were affected by floods, whereas in 2003, many people were affected by heat waves. Floods in Romania, Bulgaria, and Switzerland contributed significantly to the human losses and economic damage in this region in 2005. In contrast to 2004, when droughts created heavy economic losses in the region, floods caused severe economic damage in the region in 2005 (much as they had in 2003). Floods primarily in Romania and Bulgaria contributed to this trend. The year 2005 was a rather tumultuous one for Europe, which once again sustained significant damage caused by hydro-meteorological disasters.

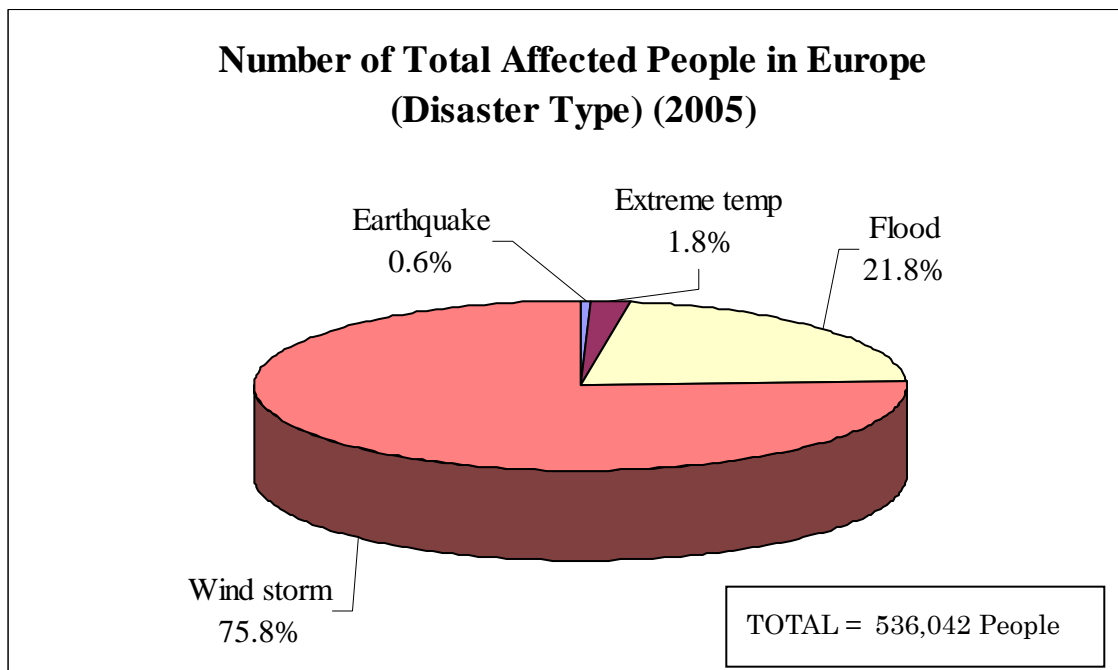
Figure 46 Proportion of Disasters in Europe by Type, 2005



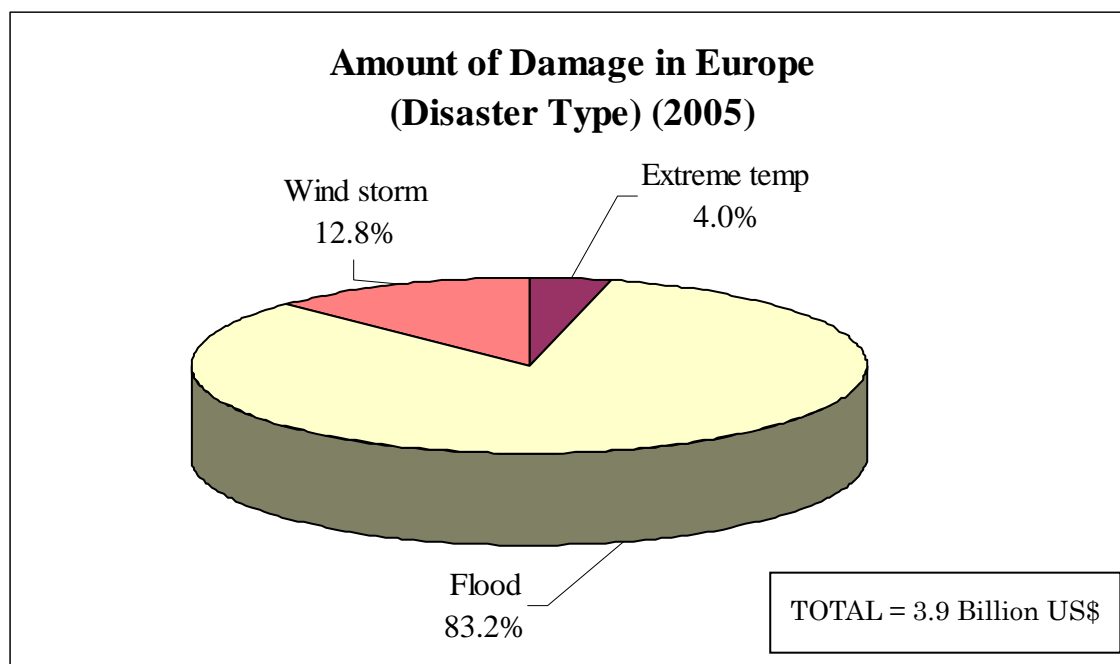
Source: CRED-EMDAT, Université Catholique de Louvain, Brussels, Belgium, 2005

Figure 47 Proportion of People Killed in Europe by Disaster Type, 2005

Source: CRED-EMDAT, Université Catholique de Louvain, Brussels, Belgium, 2005

Figure 48 Proportion of Total Affected People in Europe by Disaster Type, 2005

Source: CRED-EMDAT, Université Catholique de Louvain, Brussels, Belgium, 2005

Figure 49 Proportion of Damage in Europe by Disaster Type, 2005

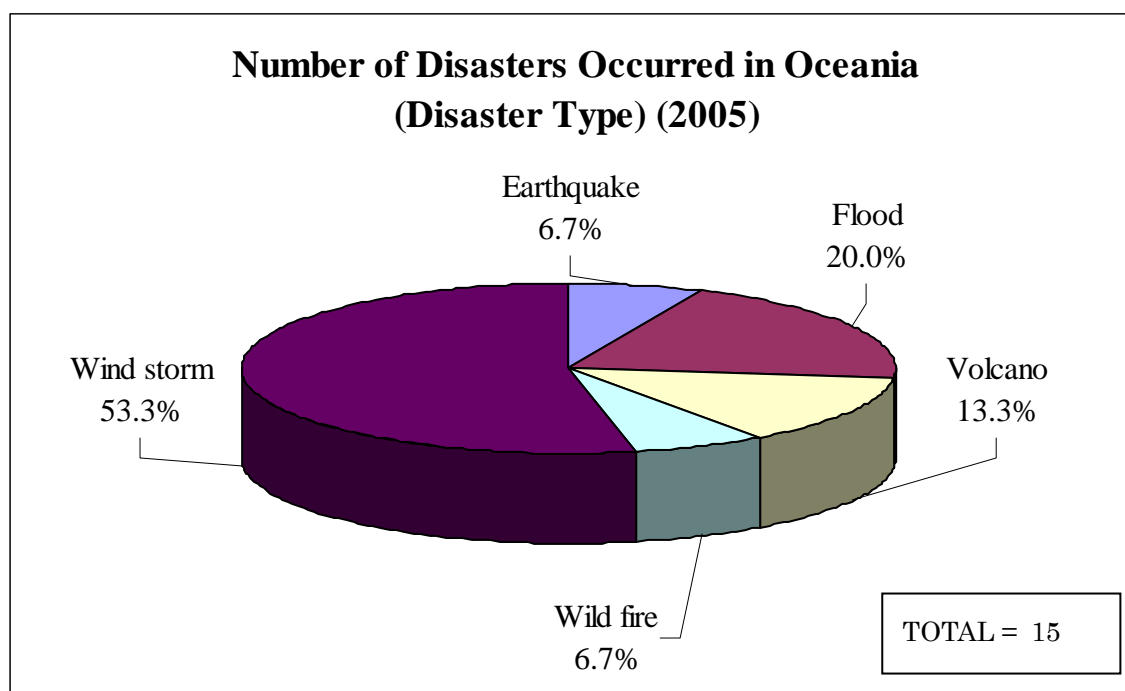
Source: CRED-EMDAT, Université Catholique de Louvain, Brussels, Belgium, 2005

3.2.5 Characteristics of Disasters in Oceania

Disaster trends in Oceania were a bit different from those of other regions in 2005, as the natural disasters strayed from the average regional pattern. Not all types of natural disasters occurred here, but the majority that did occur were wind storms and floods, accounting for 73% of the total. The remainder consisted of volcanic eruptions, earthquakes, and wild fires (Figure 50). The majority of human losses were due to wild fires (52%), followed by wind storms, earthquakes, and floods (Figure 51). This was due to the wild fires in Australia and storms in the Pacific island countries (Fiji, Niue, Vanuatu, Micronesia Federal States and American Samoa). The total affected people in Oceania in 2005 were largely affected by a volcanic eruption and earthquake in Papua New Guinea (71%), while the remainder were subject to floods and windstorms (Figure 52). The Papua New Guinea volcanic eruption and earthquake accounted for the majority of those affected in Oceania in 2005. This unusual picture is due to severe wind storms that hit the small Pacific island countries in Oceania, the volcanic eruption and earthquake in Papua New Guinea, and wild fires in Australia. The majority of the economic damage was caused by floods (50%), wind storms (30%) and wild fires (20%), as shown in Figure 53.

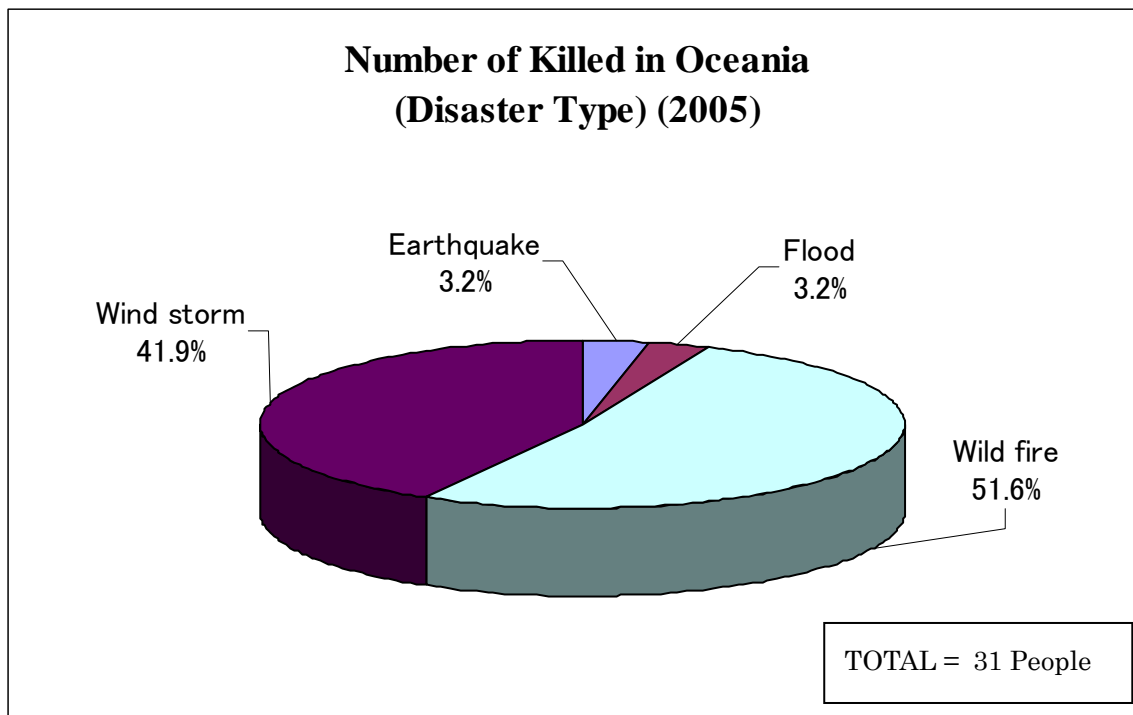
In 2005, Oceania experienced both hydro-meteorological disasters and geo physical disasters in almost equal amounts due to its geographical location.

Figure 50 Proportion of Disasters in Oceania by Type, 2005



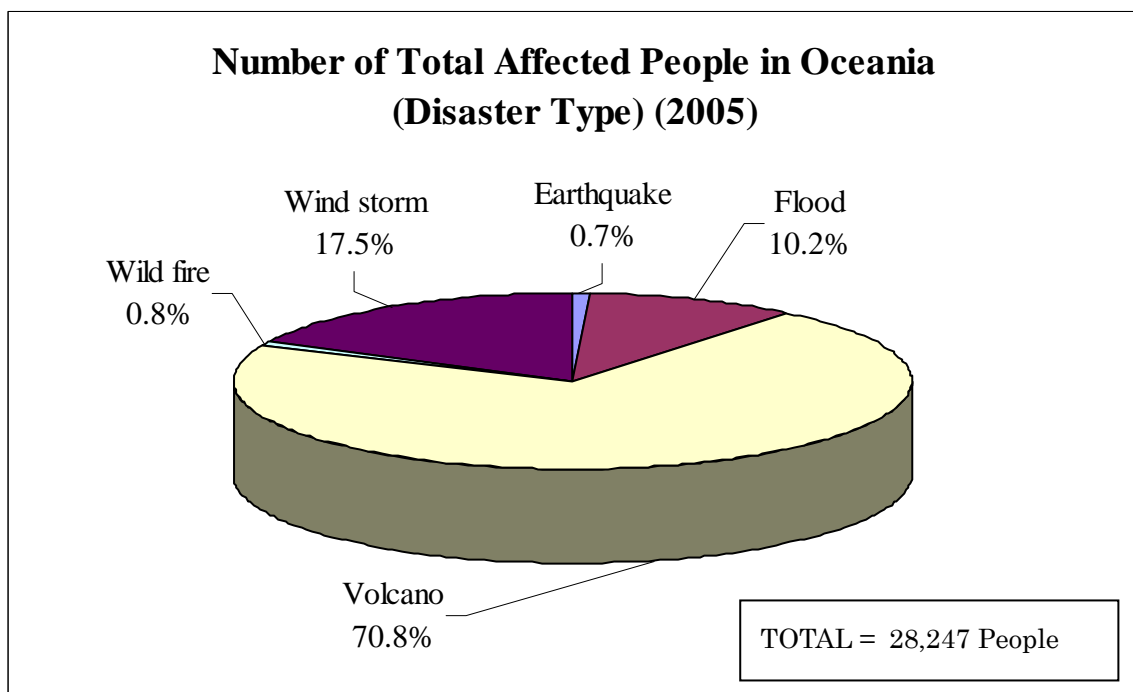
Source: CRED-EMDAT, Université Catholique de Louvain, Brussels, Belgium, 2005

Figure 51 Proportion of People Killed in Oceania by Disaster Type, 2005

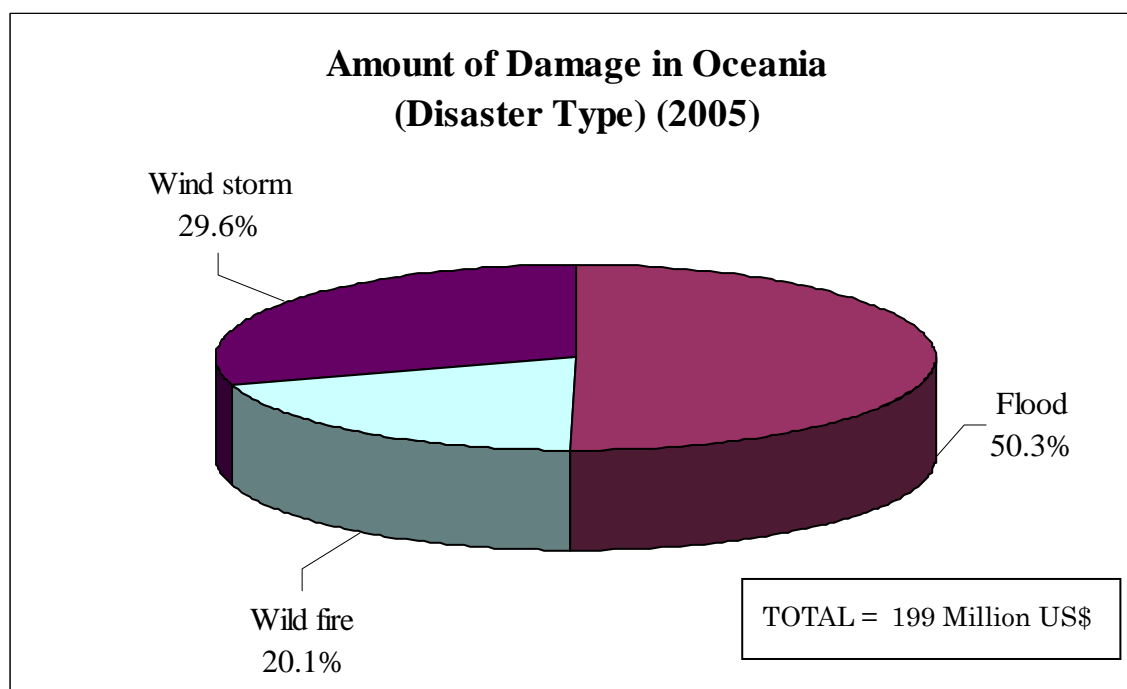


Source: CRED-EMDAT, Université Catholique de Louvain, Brussels, Belgium, 2005

Figure 52 Proportion of Total Affected People in Oceania by Disaster Type, 2005



Source: CRED-EMDAT, Université Catholique de Louvain, Brussels, Belgium, 2005

Figure 53 Proportion of Damage in Oceania by Disaster Type, 2005

Source: CRED-EMDAT, Université Catholique de Louvain, Brussels, Belgium, 2005

This section summarizes worldwide natural disaster patterns by region. Tables 2B and 3B in Chapter 1 also provide these figures in a tabulated form. Regions all over the world, including Oceania, experienced both hydro-meteorological and geo-physical disasters in 2005. The most significant human and economic losses resulted from the South Asian earthquake that struck Pakistan and India, and the hurricanes that hit the US, respectively. The data shown here clearly demonstrates that Asia is a disaster-prone region of the world that sustains considerable levels of human losses and suffering. The most severe disasters that occurred in 2005, such as the South Asian Earthquake and the floods in India, China, and Bangladesh, occurred in the Asian region. Natural disasters deprive the affected populations of the benefits of socio-economic development, and hinder progress toward sustainable economic development - in disaster-prone regions and all over the globe.