

NATURAL DISASTERS

THE SEVEREST NATURAL DISASTERS SINCE 1900

A natural disaster is defined as a major adverse event caused by the natural processes of the Earth. Natural disasters often cause loss of life, property damage and economic instability depending on the affected population.



DROUGHT

A drought is a period of time - from as little as 15 days to as long as months or years - where an area has a deficiency in its water supply. This is usually caused by below average rainfall but can also be caused by other atmospheric events such as prevalent high pressure systems or a change in wind composition.



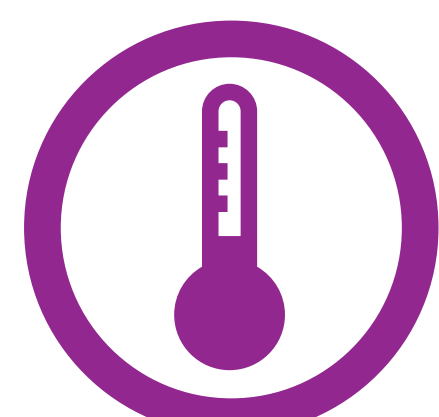
EPIDEMIC

A case of infectious disease is classed as an 'epidemic' when the occurrences of the disease far exceed the expected number of new cases in a given population. An epidemic occurs when there is a change in the ecology of the host population. An epidemic is classed as a pandemic when it spreads beyond a single country.



EARTHQUAKE

An earthquake or seismic event is the release of energy that is caused by the shifting of the Earth's crust. An earthquake can be expressed as a tsunami if the epicentre is under the ocean. Earthquakes will usually occur along fault lines but can also occur mid-plate.



EXTREME TEMPERATURE

Extreme temperature refers to periods of time characterised by abnormally high or low temperatures. The degree of temperature change needed to be classed as 'extreme' is dependant on the geographic location of the event. A cold wave is further characterised by a substantial temperature drop within a 24 hour period, rather than a slow decline.



FLOOD

A flood is when a large amount of water submerges land that is usually dry. Floods can be caused by bodies of water like lakes or rivers breaking their banks and overflowing, often because of high levels of rainfall. They can be caused when structures like a dam walls or levees break. Floods are often slow and are classed as flash floods when they develop in just a few minutes.



MASS MOVEMENT

Mass movement is a general term for landslides, rockfalls, avalanches and debris flows. Mass movements occur when a patch of land experiences some kind of instability that causes it to shift with gravity. Some common causes of mass movements include a change in ground water pressure, erosion and earthquakes. Mass movements are often exacerbated by human activities like deforestation and earthworks.



STORM

In this instance, storm is the general term for extreme weather patterns like tropical cyclones, tropical storms and other severe weather. Tropical cyclones, the most common, form over large bodies of warm water around the equator which create low pressure systems. These systems develop into storms that can range from simple thunderstorms to large weather systems.



VOLCANO

A volcano is a rupture in the Earth's crust that allows lava, ash and volcanic gases to escape from the mantle. Volcanos often form along tectonic plate boundaries but can also form mid-plate where the crust is stretched or thinning. Volcanic events are hazardous in multiple ways; flowing lava can cause fires, volcanic ash can bring down aircraft and large ash clouds can obscure the sun and cause sulphuric acid rain.



WILDFIRE

A wildfire - also called a bushfire, forest fire or grassfire depending on the vegetation type - is an uncontrolled fire in an area of vegetation. A wildfire is distinct from other types of fire by how quickly it spreads, its ability to change direction unexpectedly and its extensive size. Although dangerous to humans, wildfires can have many benefits to vegetation.

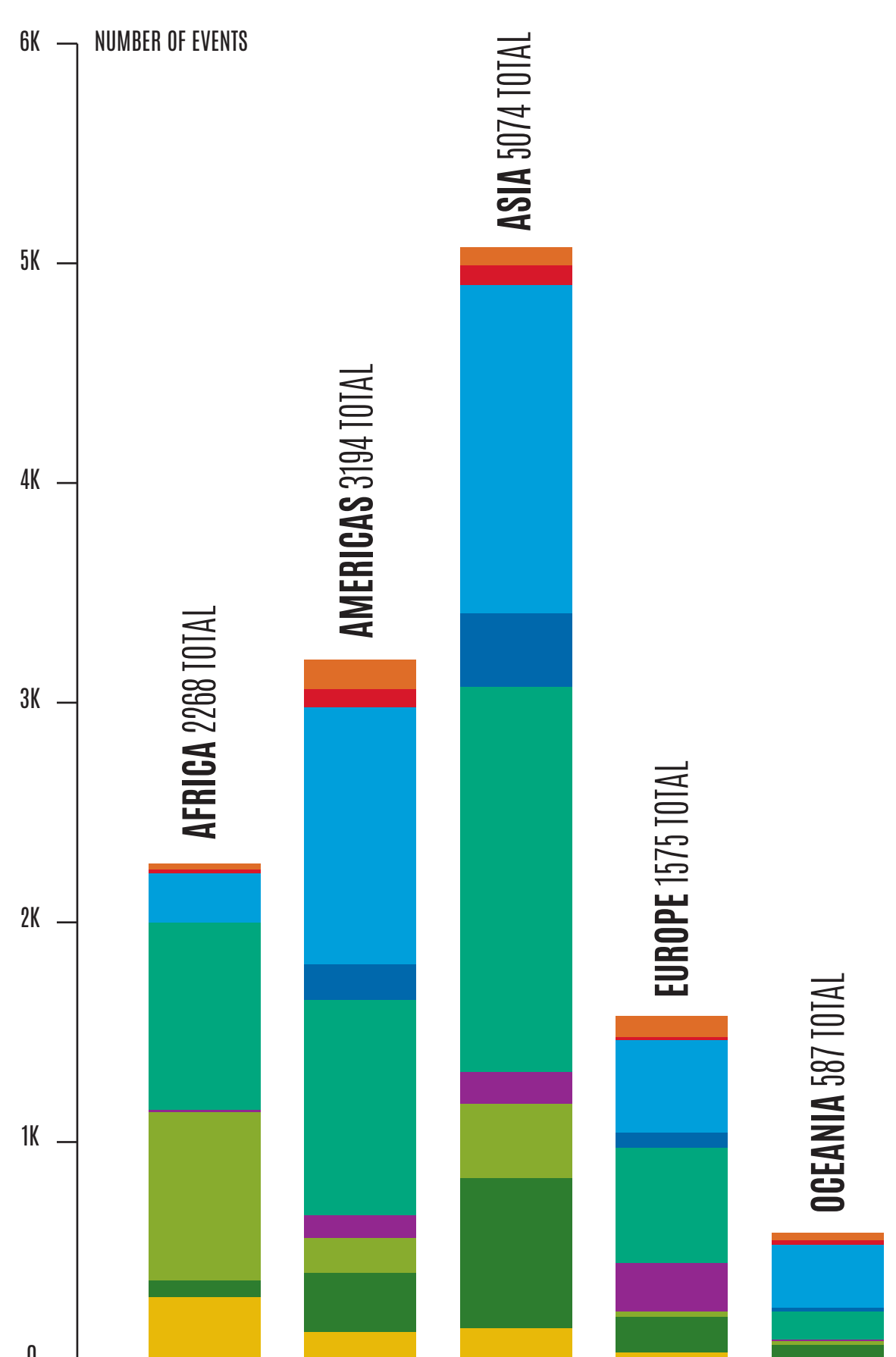
TOTAL NATURAL DISASTERS SINCE 1900

Every recorded natural disaster since 1900.

The graph below is a stacked bar graph of the total number of natural disaster events between 1900 and 2013. Each type of disaster is represented by a different colour corresponding to the disaster summaries above.

From the graph we can see that of the 5 regions shown, Asia has the highest occurrence of natural

disasters, 10 times more than Oceania. Floods and storms are the most common natural disasters, especially in Asia, which also has a high instance of earthquakes. Extreme temperature events, volcanos and wildfires are the least common disaster types. Africa has the highest number of epidemics than any other region as well as a large number of droughts.



Alexandra Curtis
DAI 523 | Trogu
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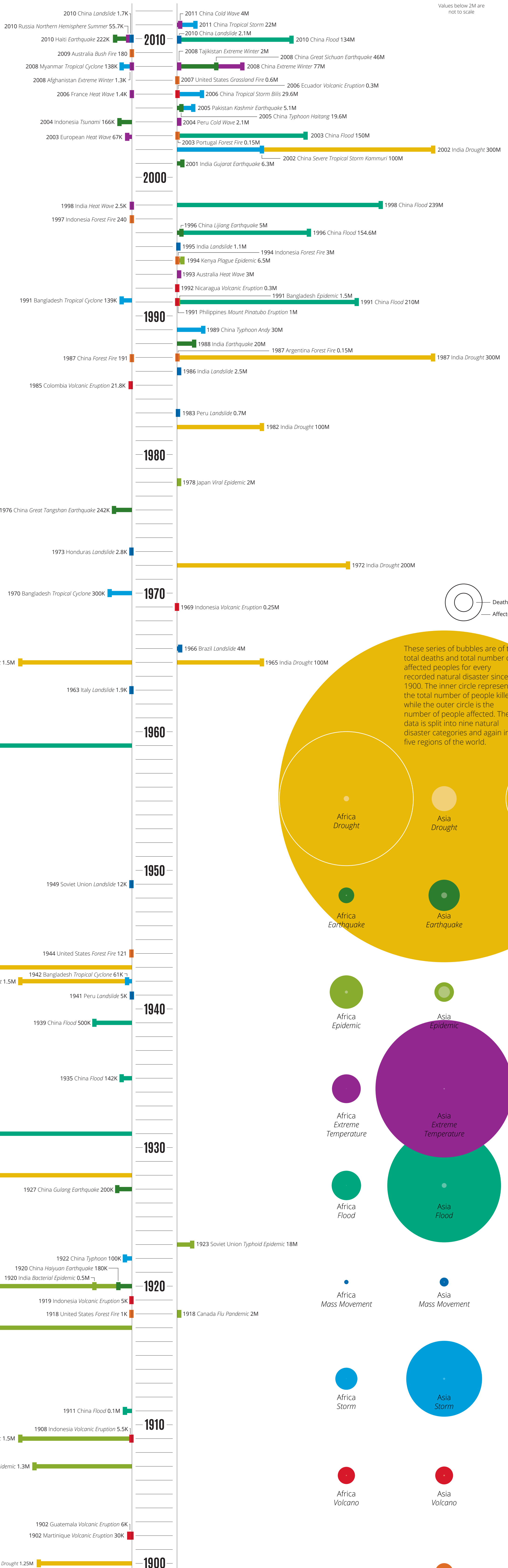
Sources
http://www.wikipedia.org/wiki/Natural_disaster
http://www.em-dat.net
http://www.em-dat.net/disaster-profiles
http://www.em-dat.net/statistics

Values below 20K are not to scale

DEATHS CAUSED BY NATURAL DISASTERS

PEOPLE AFFECTED BY NATURAL DISASTERS

Values below 2M are not to scale



THE SEVEREST NATURAL DISASTERS SINCE 1900

A time line of the top 10 severest Natural Disasters from 1900 to 2013 grouped by total deaths and total number of people affected.

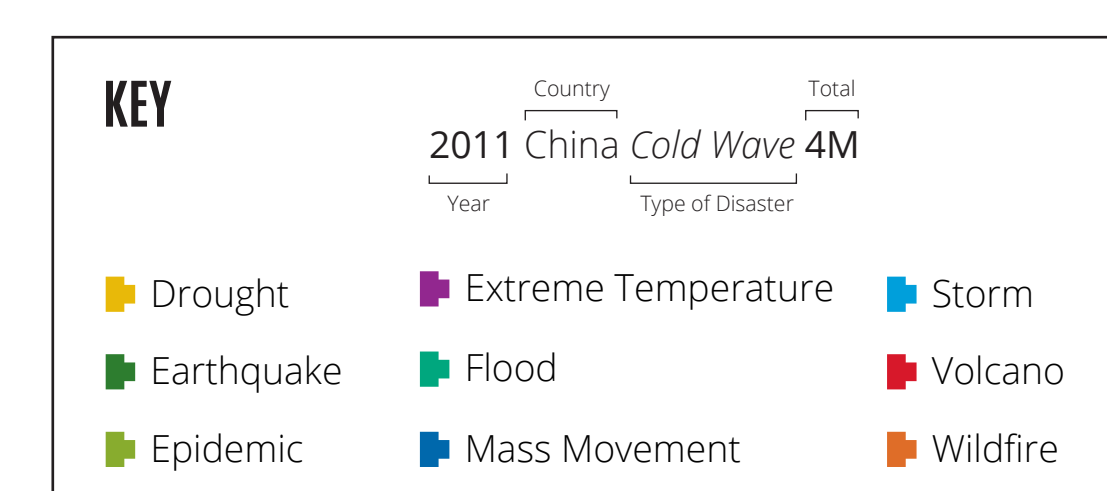
This is a time line listing the top 10 most severe natural disasters in 9 categories since 1900. The left side of the time line lists the 5 severest disasters by number of deaths, while the right side lists the top 5 severest by the total number of affected people. The disasters listed on each side of the time line do not necessarily match as large disasters affecting many do not necessarily kill the most people. The colour of each line indicates the type of disaster while the length of the line represents the number of people either killed or affected. Values that are below 2 million on the right side are not to scale, and values below 20 thousand on the left are not to scale.

There is a fair amount of uncertainty related to this time line. The grouping of data at the top right could be caused by the scarcity of accurate records for the

number of people affected by natural disasters before 1960. Some of the numbers used on the time line before 1950 are only estimates because again, records were not as accurate and numbers weren't recorded as precisely.

One of the most interesting things that this time line shows is the change in deaths versus affected peoples over the last 100+ years. Ignoring the uncertainty, this could be because humanity is better at keeping ourselves alive, be it through knowledge, engineering or preparedness in the past 30 years than we were in the early 1900s.

It is also interesting to see which disaster types cause the most deaths and affect the most people. Epidemics in particular are something that used to be a much greater threat to humanity before 1920 than they are today.



TOTAL DEATHS AND AFFECTED PEOPLES SINCE 1900

Total recorded Natural Disasters since 1900 shown with death toll and total affected peoples in 5 regions.

