There are approximately 6,000 earthquakes in the database. The global distribution of these earthquakes is 17% East Asia, 17% Europe, 15% Central and South Pacific, 13% Middle East, 10% South America, 8% North America, and Hawaii, 5% in Africa, 5% in the Americas and the Caribbean, 5% Central Asia and the Caucasus, 5% Southern Asia, 3% Africa, and 2% Kamchatka and the Kuril Islands. These events caused a total of 8 million casualties and almost USD $1.5 trillion (2017 dollars) in damage.

Instrumental seismology is a young science. The first calibrated instruments to measure seismic waves were installed by the United States Government, their instruments, they were able to only locate the large magnitude events.

The 1960s saw two major advances. First, a network of seismological observatories, the Worldwide Standardized Seismograph Network (WWSSN), was installed by the United States Government, principally to monitor underground nuclear tests. These sensitive instruments could detect and identify earthquakes anywhere in the world larger than magnitude 4.5.

Second, computers became available in the late 1960s. Computers enabled seismologists to stop relying on relatively inaccurate and cumbersome graphical methods of locating earthquakes, and instead, to process the increasing volume of new network data more rapidly than ever before. Prior to 1962, only hundreds of earthquake epicenters could be determined each year by Government and academic researchers; but with the increasing number of computerized location methods. For some special local studies, more than 100,000 earthquakes per year were located in 1972.

In summary, using the data in the Significant Earthquake Database, 2150 B.C. to the present to suggest that there has been an increase in worldwide earthquake activity is misleading and erroneous. The number of earthquakes is not homogeneous in space or time, particularly for periods prior to the 1900s. Because this database mainly lists those earthquakes that have caused death or damage, the number of earthquakes is dependent on the written history available for a particular region, as well as on the rate of development of population centers and related structures. Therefore, it is misleading to use the numbers of significant earthquakes in that publication to suggest statistically that there has been an increase in worldwide seismic activity since 1900 or for any time period.

In 1973, a UNESCO/IOC-NOAA Partnership, have collaborated to produce a map showing significant earthquakes. These data are from the NCEI Significant Earthquake Database that includes information on destructive earthquakes from 2150 B.C. to A.D. 2017 that meet at least one of the following criteria: moderate damage (approximately $1 million or more), 10 or more deaths, magnitude 7.5 or greater, Modified Mercalli Intensity X or greater, or the earthquake generated a tsunami.

Earthquakes are caused by ruptures in the crust, and these ruptures are accompanied by the release of large amounts of energy. The energy released during an earthquake is typically measured in terms of magnitude, which is a logarithmic scale that measures the size of the earthquake.

The table below shows the earthquakes that have caused significant damage, along with their year, magnitude, and the number of deaths and damage in USD million.