

A magnitude 8.5 earthquake (such as the 1964 Good Friday earthquake in Alaska) releases about 1×10^{18} joules of energy. The atomic bomb exploded over Hiroshima released about 1.5×10^{13} joules of energy.

Thus, a 1 kiloton nuclear weapon is one which produces the same amount of energy in an explosion as does 1 kiloton (1,000 tons) of TNT. Similarly, a 1 megaton weapon would have the energy equivalent of 1 million tons of TNT. One megaton is equivalent to 4.18×10^{15} joules.

How many megatons of nuclear bomb are needed to destroy the entire Earth in a single strike?

A megaton TNT is equivalent to 4.18×10^{15} joules. You need about 2×10^{32} Joules to completely obliterate the planet.