

An Updated Assessment of the Hazard Due to Earth Impacts

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We report on a recent comprehensive and quantitative reassessment of the hazard posed by Near-Earth Objects (NEOs). This hazard originates from three distinct impact-related phenomena. We estimate, in the mean, $60(+45/-25)$ fatalities per year from direct blast effects, $180(+200/-120)$ people displaced per year from impact tsunami inundation, and $1000(+2050/-700)$ fatalities per year from global climatic disruption. Of these hazards, the global threat is largely associated with impacts by kilometer-plus diameter objects. These larger objects are far fewer and much easier to discover than the sub-km objects that are primarily responsible for the blast and tsunami risks. We find as a result that current survey efforts are making substantial progress in reducing the global hazard, in terms of fatalities per year, and should retire over 90% of it before 2008, but that little progress can be expected in removing the hazard from sub-km impactors. By 2008 the remaining global hazard will be on par with the remaining sub-km hazard and a more capable survey will be required to preserve momentum in NEO hazard retirement.