

November 8th 2011

"AN ASTEROID four times the length of a football field will pass closer to Earth than the moon when it hurtles through our solar system tomorrow morning.

The asteroid is the first object of its size to come so close to Earth, flying within 320,000 kilometres of our planet, in more than 30 years.

But its trajectory had been well studied since it was discovered in 2005 and there was no threat of an Earth collision for at least the next 100 years, NASA said."

[Read More:](#) Sydney Morning Herald

September 1986 - Colin Keay

With the recent news of asteroid 2005 YU55 I thought I put up an article Colin wrote back in 1986.

The final formative event of our Earth was a long drawn out bombardment of primordial material of much the same composition as the Earth's crust, for that is what it became. The bombardment continues to this day, although its rate is now almost insignificant. About once a century we are struck by an interplanetary object large enough to flatten a city. The Tunguska devastation in 1908 was caused by one such object.

Smaller objects rain upon us all the time. Late in July a large fireball dropped a meteorite the size of a basketball just north of Lismore. The elasticity of the soil was such that it bounced into the scrub and was lost, leaving only the evidence of the initial impact. Later in the month a very bright fireball was photographed from the Siding Spring Observatory and from Tamworth, the two photographs revealing that it probably dropped a meteorite into the Pilliga scrub region. A very high proportion of these scientifically valuable objects are never found.

Then there are the near misses. The Earth presents a very tiny target when viewed against the vast backdrop of space. About once every few years we detect asteroidal objects passing within six million kilometers. One of these could wipe out half a continent. Simple arithmetic shows that the chance of the Earth being struck is one in a million or thereabouts. In other words we stand to meet with one of these agents of destruction every few million years.

Warning of such disasters is now possible, even if mass evacuation on a sub-continental scale is not. On the fourth of May this year a small asteroid called 1986 JK was discovered approaching the Earth. Later in the month it became the closest interplanetary object to be studied by radar as it passed less than 4.4 million kilometers from us. As a result of optical and radar observations the orbit of 1986 JK is now known well enough to predict that it will again pass close to us in 1995.

Asteroids having orbits which cross that of the Earth are collectively called Apollo asteroids. Of these, Hermes appears to be the one which has strayed closest to us, actually passing within the distance of the Moon's orbit. Icarus, having a diameter of about one and half kilometers, is the largest of the group and has the distinction of passing closer to the Sun than any other asteroid. Its elongated orbit also brings it on occasion within a million kilometers of the Earth.

Comets as well as asteroids may have very close encounters with our planet from time to time. Comet Halley passed barely six million kilometers from us on its most spectacular visit in the year 837 AD. Many smaller comets pass even closer. In fact there are a growing number of reports of very faint rapidly moving comets being sighted through telescopes. They appear as diffuse blobs moving as fast as ten degrees (20 moon-diameters) per hour. Just this very kind of cloudy object could have been responsible for the Tunguska event in which no actual fragments were ever found.