

Re: Need scientific backup for comet impact story I'm writing.

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 - *Date:* Wed, 14 Nov 2007 06:59:01 GMT
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On Wed, 14 Nov 2007 01:48:10 +0000, Chaz wrote:

Hi everyone. I'm writing a story about a comet hitting the Earth. What I need to happen is a comet will hit the Earth and cause some serious localized damage but not end the world as we know it. What I need to know is:

Is this even scientifically possible? I ask because from what I've already read some say that even a very small object could end all life on Earth.

Overall effect would depend both on the size and the site of impact. Comets are not solid bodies and it is likely to break up into smaller pieces, so multiple smaller impact is the most likely event. Remember Shoemaker-Levy impact on Jupiter ?

What size would this comet have to be to hit the Earth and not kill everyone? The size of a car? A house? An office building?

To kill every human being it has to be some kilometers wide. To kill every living thing on the earth it would have to be several tens of kilometer, may be even hundreds of kilometers wide. Biosphere extends to several kilometers down the earth's crust. Vent organisms in deep oceanic spreading ridges are least likely to be affected.

Are there any circumstances that would make survival more likely? For example, if the comet hit the North Pole or somewhere with very deep snow? Would this make any difference at all in the outcome? Would deep snow or ice dampen the amount of debris flung up into the atmosphere? What if it hit an inland lake or a swamp?

Hitting Arctic or Antarctic icesheets will release lots of meltwater. That

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would cause flood, rise of sea level, etc., thus causing more after effect than hitting ocean or land. Hitting ocean will of course cause a great tsunami.

This is going to be a work of fiction but I'd like to make it as close to real as possible. I'm one of those nitpicky people who likes details like that. If anyone has any input on this I'd love to hear it! Thanks!

Nobody has any previous experience of such an event. So basically anything goes.

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gautam

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