

SCIENTIFIC OBJECTIVITY AND THE IMPACT HAZARD: RESPONSIBLE REPORTING VERSUS CRYING WOLF

Paul R. Weissman, Earth and Space Sciences Division, Jet Propulsion Laboratory,
Pasadena, CA 91109

impacts of comets and asteroids on the Earth pose a real hazard, comparable in probability to other hazards which society deems worthy of concern. As such, it is prudent and reasonable to investigate and institute means for evaluating the exact nature of the hazard and possible means of mitigating the effects of impacts, primarily by preventing their occurrence through orbital deflection.

Decisions as to the nature of the hazard and possible detection and deflection programs must be made through a rational public discussion of the issues, provided with the best possible information. Unfortunately, some individuals have tended to overstate the problem either in terms of the probability of impact or the expected effects of impacts. Examples of this are the premature prediction of a possible impact by comet Swift-Tuttle, and the prediction of possible global catastrophes from impactors as small as 500 meters in diameter. In other instances, groups of investigators have arrived at disparate conclusions that appear (to a skeptical observer) to be closely matched to their respective personal interests. The best example of this is the conclusion by asteroid and comet observers that the greatest hazard to the Earth comes from relatively large objects, i.e., those which they can detect with current instruments and techniques, while the deflection community found that the greatest hazard comes from small objects, i.e., those which they can most likely destroy or deflect with current weapons and technology.

The net result of such actions is often to undermine public confidence in those attempting to promote an informed discussion of the impact hazard. This is particularly true in a time of declining budgets for both science and defense, and increased competition for federal R&D dollars.

It is thus important that the community find means of promoting responsible actions by the members of the community, and for dealing with public release of information, within the bounds of academic and individual freedom. For example, Commission 20 (Positions and Motions of Minor Planets, Comets, and Satellites) of the IAU could appoint a working group to review impact predictions, voluntarily submitted by investigators, prior to their being made public. The working group's evaluation would aid the investigators by either pointing out errors in incorrect or premature predictions, or by validating correct predictions.

The purpose of this abstract and poster talk is to promote a discussion of these issues within the community and to invite additional suggestions for methods to improve the providing of accurate information to the public, the media, and most importantly, to decision makers. Contributions to the discussion by all individuals are welcomed and encouraged.