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Disaster diplomacy and planetary defense: a policy perspective on low probability events

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The characterization of near-Earth-objects (NEOs) with regard to physical attributes and potential risk presents a complex scientific challenge. The societal and policy risks and impacts are no less complex. If, in fact, humankind is finally at the stage where it can technically prevent or mitigate a catastrophic asteroid impact, through deflection or other physical means, the question remains as to whether or not humankind has the political will, and appropriate institutions, to do so. As such, planetary defense represents a unique opportunity to link public policy theory and disaster diplomacy with regard to a low probability/high risk problem. What challenges does this opportunity raise, and how should we look into this situation? The problems of NEOs, asteroids and planetary defense and the solutions prescribed to address them presents an interesting and unique challenge for public policy theory. David Morrison's definition of the problem (2010) sets the diplomatic and policy stage... "the potential exists for an impact catastrophe at any time, in any country, with little or no warning." Current planetary defense policy approaches can be characterized into three areas:

- 1) Identification, characterization, and monitoring of objects and their potential threat. Creation of the concept of "planetary defense" which is a policy statement in itself, and the institutionalization of PD (NASA, ESA, UN, interagency working groups, universities).
- 2) Response (solution) type 1, or the determination and implementation of effective deflection or mitigation responses. The solution is more science and technology.
- 3) Response (solution) type 2, the traditional civil defense and natural hazard response, preparation and response activities.

Are NEOs scientific and technological problems to be "solved" through more research funding, decrease the uncertainty, or are they more of a traditional civil defense problem, global security problem, or even an opportunity for larger issues of the peaceful and legal use of space and the economic exploitation of space resources? Each of these definitions of the "problem" is connected to potential "solutions," which compete for attention and resources with significant implications for disaster diplomacy and governance. This contribution will connect current disaster diplomacy thinking with our understanding of the policy challenges from low probability/high consequence disaster events.

