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**Key International and Political Developments**

**THE FUTURE ROLE FOR THE UNITED STATES IN PLANETARY DEFENSE**

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The United States has long been one of the leaders in space exploration and research, but a problem so great as planetary defense cannot simply rely on the capabilities of one nation. This issue is inherently global and thus requires global cooperation and planning.

The United States has so far led the world in taking steps necessary for adequate planetary protection. The nation has invested more resources into its program and has developed a more specific and detailed response plan to a potentially dangerous NEO. Since 2005, NASA’s planetary defense budget has grown by more than 4,200%, with the goal of tracking at least 90% of NEOs greater than 150 meters by 2020[[1]](#footnote-1). This ambitious goal was aimed at proactively taking steps to raise the planet’s ability to identify and respond to NEOs. This goal was largely successful, with exponential growth in the number of NEOs identified (See Figure 1).

More recently, the United States has put forward plans to ensure international cooperation on the issue and will continue to seek out partners to address the possibility of a dangerous NEO. This will be done both with programs designed to incorporate the ability of other nations’ telescopes for NEO discovery and tracking, as well as research into mitigation and deflection methods[[2]](#footnote-2).

The collapse of the Arecibo radio telescope also presents a new challenge in the planet’s ability to discover and track NEOs. Before its collapse, the telescope accounted for the discovery of up to 100 NEOs a year[[3]](#footnote-3). This new challenge will require international cooperation to restore discovery and tracking capabilities equivalent to the loss with the collapse of Arecibo. The future restoration of these capabilities is imperative, but it remains to be seen what role the United States will play in it.

Moving forward, other nations' contributions to planetary defense will become increasingly large, but the research and investment already put forward by the United States will remain some of the best in the world. Consequently, the nation will remain a leader in the field and will guide planning and strategy for years to come. That being said, the necessity for input and investments from other nations cannot be understated, planning for a global event requires active global input and contributions.



**Figure 1: NEO DETECTIONS OVER TIME** *NASA / Center for NEO Studies*

**Comments:**

*This Paper is Eligible for the Student Competition*

**References**

1. Dreier, C. (2019, September 26). How NASA's Planetary Defense Budget Grew By More Than 4000% in 10... Retrieved January 13, 2021, from https://www.planetary.org/articles/nasas-planetary-defense-budget-growth
2. Marshall, S. (n.d.). Planetary Radar. Retrieved January 13, 2021, from https://www.naic.edu/ao/scientist-user-portal/planetary-sciences
3. Wackler, T. (n.d.). *National Near-Earth Object Preparedness Strategy and Action Plan* (United States, Executive Office of the President of the United States, National Science and Technology Council).
1. Drier, C [↑](#footnote-ref-1)
2. Marshall, S [↑](#footnote-ref-2)
3. Wackler, T [↑](#footnote-ref-3)