

Challenges in NEO science and risk communication

IAWN Steering Committee

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Association of Space Explorers with Five Astronauts from Three Nations Issue Call for Global Cooperation to Confront Asteroid Threats

New York, New York – October 25, 2013 – At a public event this morning at New York's American Museum of Natural History, the Association of Space Explorers (ASE)...issued a challenge to the global community to take the next vital steps to confront the threat from dangerous asteroids. The ASE Committee on Near-Earth Objects statement follows the United Nations General Assembly adoption of a suite of proposals to create an international decision-making mechanism for planetary asteroid defense....

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Al Jazeera A...

[UN aims to fight **asteroids**, creates a global warning network](#)

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Last week, the **U.N.** General Assembly approved measures to coordinate detection and response to **asteroid** strikes that could level cities and ...

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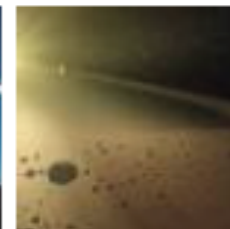
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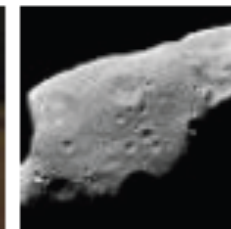
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Comments on selected paragraphs of ASE NEO Statement

...the General Assembly has approved concrete measures to help prevent asteroid disasters. *[This phrase is not accurate; the GA will have approved the recommendations in the STSC report once it agrees (without a vote) on the draft resolution discussed and agreed upon by the Fourth Committee]*

...The resulting 2013 COPUOS report (6) includes specific language authorizing and endorsing all three of these functions, and the General Assembly has now approved them. *[This sentence is not accurate; the STSC did not include a recommendation on authorization and oversight; also the GA has not yet approved anything]*

(Continued...)

First, several space agencies have agreed to set up an International Asteroid Warning Network.... *[The statement is not accurate; in discussions of AT-14 we have agreed that an IAWN should be established, but formally this has not happened. The first formal step will be the meeting that AT-14 was to convene and NASA was to host in the second half of October. As events did not allow this, we will now plan to organize it sometime at the beginning of 2014.]* ...an Impact Disaster Planning Advisory group will share information on the physical consequences of an NEO impact through UN and national disaster response institutions. *[This Group was not accepted by the Working Group on NEOs.]* Second, space agencies have agreed to set up a Space Missions Planning Advisory group... *[Same comment as above; the space agencies have not yet finalized their Terms of Reference.]* Third, COPUOS will consider and authorize any necessary NEO deflection campaigns. *[This is nowhere in the recommendations].*

Anderson cooper, CBS 60 Minutes, 12 mins., Sunday Oct. 6, "Cosmic Roulette"

Web site teaser: "Scientists say there are more than a million near-Earth objects in space big enough to destroy a city, but they only know where one percent of them are."

Cooper intro: Useless debris – "not any more" -- now "scientifically important and potentially very dangerous if they were to collide with our planet"

Odds of major collision are remote

Former astro: "it's like a game of cosmic roulette" and one that mankind "cannot afford to lose"

Chelyabinsk: "narrowly missing a city of 1 million" – clip, woman screaming

American Astronomical Society 2014 meeting

Gaylord National Resort & Convention Center, National Harbor, Maryland

January 9, 2014, 12:45-1:45 pm (press room), seminar for science writers

“Everything you’ve always wanted to ask about near-earth objects: what we know, what we don’t know, what we need to know”

Speakers (in order, 5-7 mins. each):

Lindley Johnson, Near-Earth Object Program Executive, NASA Headquarters, Washington, D.C., lindley.johnson@nasa.gov: overview of the work that NASA’s NEO program sponsors in discovery, tracking, and characterization; summary of what NEO scientists have learned from recent events (e.g. the February 2013 Chelyabinsk asteroid impact event); report on NEO program activities relating to asteroid impact mitigation/planetary defense.

Tim Spahr, Ph.D., Director, International Astronomical Union Minor Planet Center, Harvard-Smithsonian Center for Astrophysics, Cambridge, MA, tspahr@cfa.harvard.edu: overview of the MPC’s global database of NEO observations, global communication network for NEO observers, and procedures for identification and notification of potentially hazardous NEOs.

Eileen Ryan, Ph.D., Director, 2.4-Meter Telescope, Magdalena Ridge Observatory, New Mexico Institute of Mining and Technology, Socorro, NM, eryl@nmt.edu: report on ground-based optical NEO observations and physical characterization.

Amy Mainzer, Ph.D., Principal Investigator for NASA’s NEOWise mission (completed), NASA’s NEOWise II mission (starting 2014), and the proposed NEOCam mission, Jet Propulsion Laboratory, Pasadena, CA: report on past, present, and planned space-based infrared NEO observations and characterization.

The current environment (U.S.)

2012: NASA's NEO budget grows 5X from one fiscal year to the next.

2012: B612/Sentinel, Planetary Resources, Deep Space Industries...

Events of Feb. 15, 2013, draw attention of U.S. Congress. Mainstream media, social media, conspiracy theorists are paying attention.

NEO experts disseminate timely and complete information.

The current communication environment:

Global, networked, 24/7, multicultural, multilingual

November 6, 2013

Publication of papers in *Science* and *Nature* on the Chelyabinsk airburst event

NASA media teleconference call

Media coverage:

Most headlines pre-telecon emphasized higher threat level, while the focus post-telecon shifted to what the *Science* and *Nature* papers were primarily about: now having a detailed, in-depth understanding of the impact event.

Torino & Palermo scales, probabilistic risk assessment

(Lies, damn lies, and statistics)

The earliest instance of the phrase found in print:

[To the Editor of The National Observer] London, 8 June 1891, "Sir, It has been wittily remarked that there are three kinds of falsehood: the first is a 'fib,' the second is a downright lie, and the third and most aggravated is statistics. It is on statistics and on the absence of statistics that the advocate of national pensions relies....."

How to Lie With Statistics (Darrell Huff, Norton, 1954, 1982, 1993)

Working With Numbers and Statistics: A Handbook for Journalists
(Charles Livingston, Paul Voakes, Lawrence Erlbaum, 2005)

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