Overview of the NEO-related work of the UN Committee on the Peaceful Uses of Outer Space – STSC, WG on NEOs and AT-14

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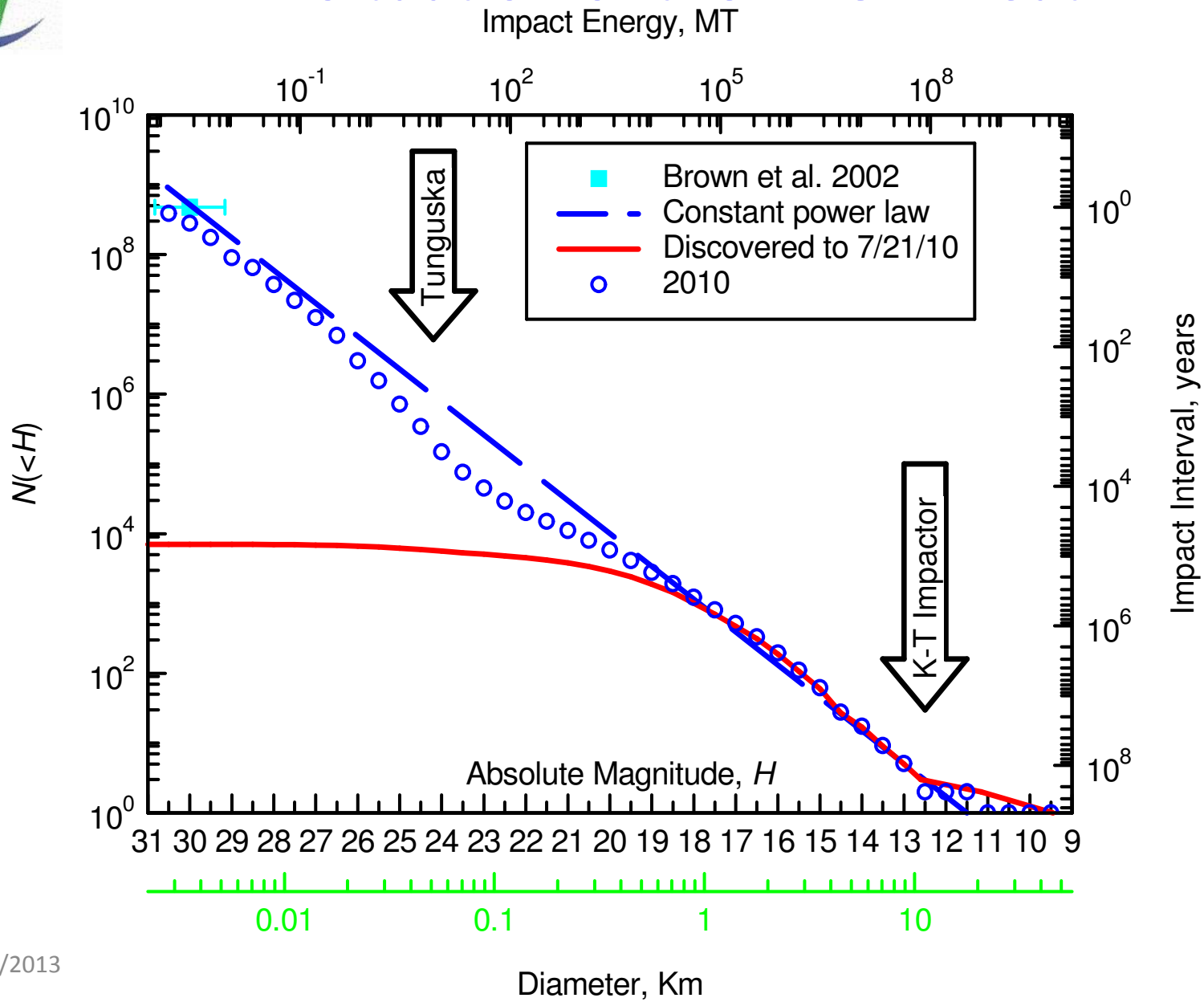
United Nations/Argentina Workshop on Space Law "Contributions of Space Law to Economic and Social Development"
Buenos Aires, Argentina
5 to 8 November 2012

Situation of the NEO Threat



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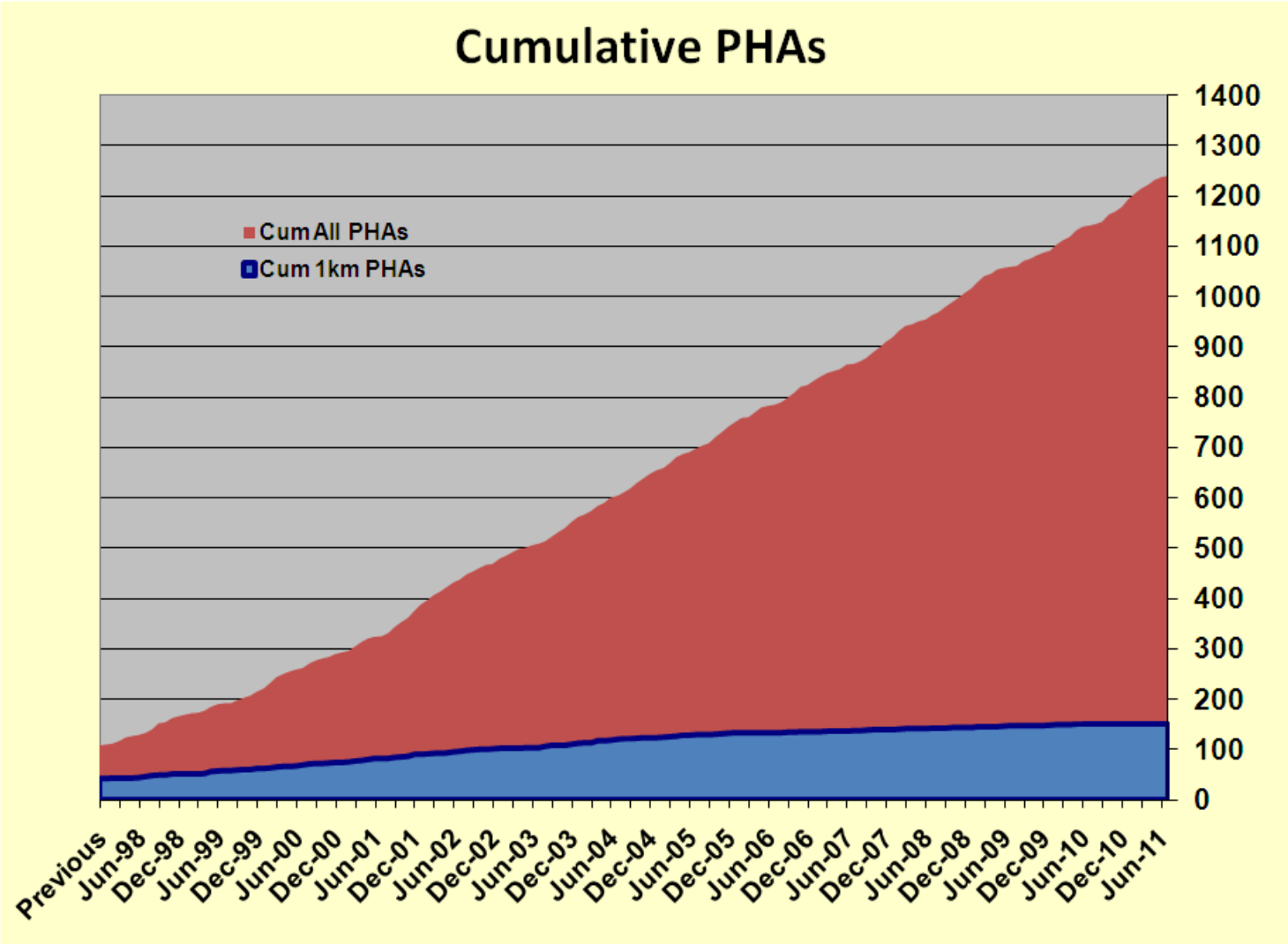
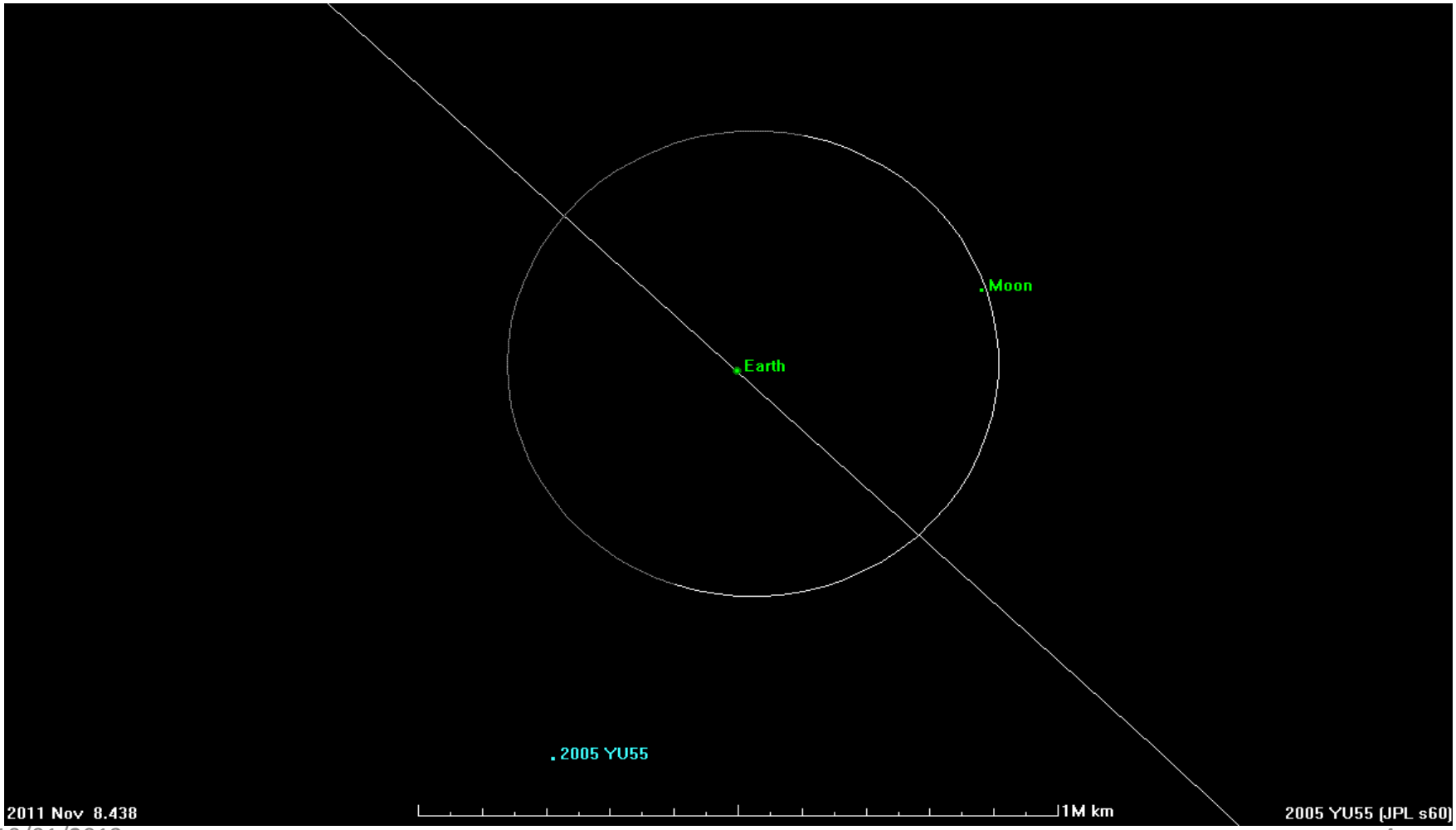


2005 YU55 to Approach Earth Nov. 8, 2011

C-type asteroid - Diameter ~400 meters Earth & Moon close approach



Origin of NEOs issue in the United Nations UNISPACE III - 1999

A/Conf.184/6

- The Space Millennium: Vienna Declaration on Space and Human Development, Resolution 1 , para (1) (c)

(i) To improve the scientific knowledge of near and outer space by promoting cooperative activities in such areas as astronomy, space biology and medicine, space physics, **the study of near-Earth objects** and planetary exploration;

(iii) **To improve the international coordination of activities related to near-Earth objects**, harmonizing the efforts directed at identification, follow-up observations and orbit prediction, while at the same time giving consideration to **developing a common strategy that would include future activities related to near-Earth objects.**

Establishment of Action Teams

- Mechanism to implement recommendations of UNISPACE III
  - 2001 STSC, Working Group of the Whole, (A/AC.105/761, annex II, paras. 3-14)
- Establishment of the Action Teams
  - **2001 Committee on the Peaceful Uses of Outer Space** (A/56/20, paras 44 – 61)
  - Two types of recommendations

    (a) *Group 1*. Those recommendations which were considered by Member States as of highest priority as indicated by the results of the survey;

    (b) *Group 2*. Those **recommendations for which there were States that had offered to be coordinators** of action teams to implement recommendations.

Establishment of Action Teams

- *Recommendations for which an offer to be leader of the activity had been received* (A/56/20 , para 55)*:*

…

14.	**Improve the international coordination of activities related to near-Earth objects**	**United Kingdom**

Establishment of Action Teams

- Setting the mandates of Action Teams (COPUOS)
  - For all ATs - Assessment phase & Implementation phase
- Assessment phase - by open-ended action team consisting of interested countries:
  - **(a) examination of the current status;**
  - **(b) definition of actions to be taken during the implementation phase;**
  - **(c) preparation of a possible work plan.**
- Assessment phase result - important to identify IGOs & NGOS with a strong interest in contributing to and participating in the implementation of the recommendations.
- COPUOS agreed that **Action Teams should actively consider NGOs that could be invited to participate**

Relationships: AT-14, STSC, COPUOS

- AT-14 open-ended; composed of government and non-government experts
  - Works intersessionally
  - **Prepares an interim report for STSC**
- STSC considers NEOs item (71 Member States)
  - in Plenary
  - **through it Working Group on NEOs**
- COPUOS considers of report STSC on NEOs and sets STSC new mandate
  - Set multi-year work plan for STSC (2009 – 2011)

Report by ASE's International Panel on Asteroid Threat Mitigation

2008

ASTEROID THREATS: A CALL FOR GLOBAL RESPONSE

A report on the need to develop an international decision-making program for global response to Near Earth Object threats. Submitted for consideration and subsequent action by the United Nations, its goal is to assist the international community in preventing loss of life and property resulting from an asteroid impact on Earth.

25 September 2008

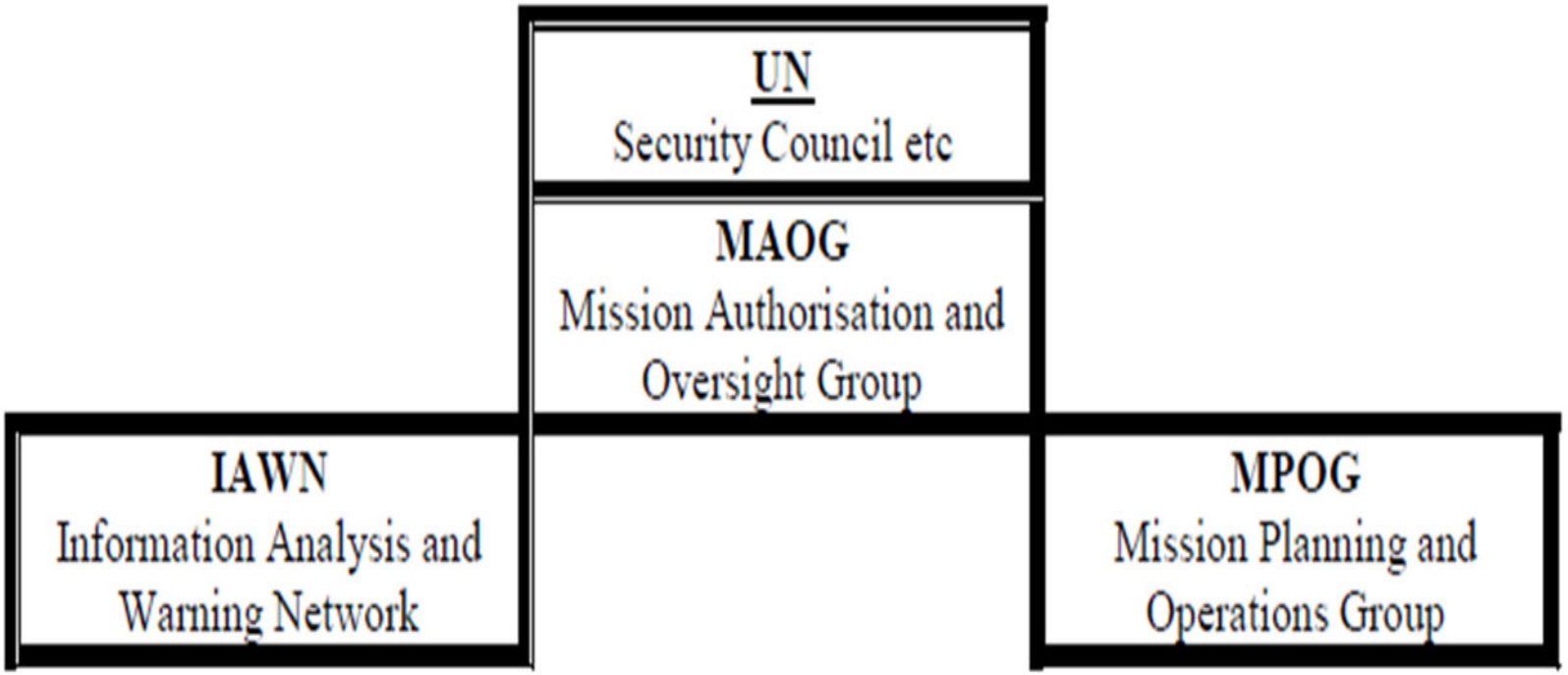
30 September 2008 - Report presented to AT – 14

November 2008 - Summary of recommendations integrated into AT - 14 Interim report to STSC

February 2009 - STSC agrees on multi-year workplan to prepare a proposal for international response to an NEO threat

- **Information, Analysis and Warning Network**
- **Mission Planning and Operations Group**
- **Mission Authorization and Oversight Group**

Proposed protocol



Work of STSC 2009

- **STSC** 2009
- – Reports by international organizations, regional bodies, Member States
  - Presentations by ASE, IAA, IAF
  - Presentations by Member States
  - Interim rept - Action Team on Near-Earth Objects (2008-2009) (A/AC.105/C.1/L.298)
  - Information on research by MS, int'l orgs & others
- NEOs process under a **work plan – 2009 to 2011**
  - Work carried out by STSC (and its WG) & COPUOS
  - Intersessionally by AT-14

STSC Status as of Feb. 2009 (A/AC.105/933)

- STSC noted with satisfaction that … international teams … were currently searching for, investigating and cataloguing near-Earth objects …
- STSC noted with satisfaction that … institutions were investigating possibilities for mitigating threats by NEOs
- STSC noted that … to mitigate such threats would require coordinated international efforts, as well as increased knowledge of the properties of near-Earth objects.
- STSC noted with satisfaction that the ASE PATM had prepared a report …"Asteroid threats: a call for a global response", (submitted to AT-14 in 2008).

Working Group on Near-Earth Objects

(2009) The Working Group considered:

(a) Reports submitted in response to the annual request for information on NEO activities and intersessional work;

(b) Review of policies and procedures related to the handling of the NEO threat at the international level and drafting of international procedures for handling the NEO threat;

(c) Activities undertaken within the framework of the International Year of Astronomy 2009 to raise awareness of the NEO threat;

(d) The interim report of the Action Team on Near-Earth Objects (2008-2009) (A/AC.105/C.1/L.298).

WG agreement on intersessional work

- WG on NEOs agreed - ASE report is a good basis to continue drafting by the WG, and for seeking agreement on, international procedures for handling the NEO threat.

- Action Team – 14 met in February 2009 to discuss its interim report and the report "Asteroid threats: a call for a global response". On the basis of those discussions, the AT - 14 prepared "Draft recommendations for near-Earth objects threat mitigation" (A/AC.105/C.1/2009/CRP.13), for consideration by the WG.

WG agreement on intersessional work

- WG agreed that AT - 14 should continue intersessional work, under the multi-year workplan, to further review and develop draft recommendations for the international response to the threat of NEO impacts, for consideration at the session of the Subcommittee, in 2010.
- The WG encouraged member States to participate in the intersessional work on NEOs.
- AT-14 met on the margins of COPUOS in 2009 to continue preparation of its interim report for the period 2009 – 2010

Work of AT-14 and WG at STSC 2010

- AT-14 prepared its interim report for the period 2009 – 2010, (A/AC.105/C.1/L.301) for the 2010 session of the STSC

- Interim report, L.301, contains as an annex the revised "Draft Recommendations for international response to the Near-Earth Object Impact Threat " that resulted from its intersessional work.

- AT – 14 and WG reviewed L.301 and those updates were incorporated in the interim report of AT – 14 for 2010 – 2011.

Intersessional Work in 2010

- January, 2010: ASE, SWF and CRECTEALC organized a workshop in Mexico City to examine and analyze the needed makeup of a near-Earth-object Information, Warning and Analysis Network (IAWN) – Executive summary submitted to AT – 14 in February 2010
- Report and Exec. Summary on "Legal aspects of NEO threat response and related institutional issues" - prepared by U. of Nebraska-Lincoln to examine key legal and institutional issues linked to potential future threats by NEOs - submitted to AT – 14 in February 2010
- Above Exec. Summaries considered by AT – 14 during 2010 COPUOS for its 2010 – 2011 interim report

Intersessional Work in 2010

- Workshop on a NEO Mission Planning and Operations Group (MPOG) at ESA's ESOC in Darmstadt in October 2010 - Executive summary submitted to AT – 14 in November 2010

- Conclusions and recommendations of Executive Summary were considered and included by AT – 14 for its 2010 – 2011 interim report

Work of AT-14 and WG at STSC 2011

- AT-14 prepared its interim report for the period 2010 – 2011, (A/AC.105/C.1/L.308) for the 2011 session of the STSC

- Interim report, L.308, contains as an annex the **revised** "Draft Recommendations for international response to the Near-Earth Object Impact Threat " that resulted from its intersessional work

- AT – 14 (27 members) and WG reviewed L.308 and those updates were incorporated in the interim report of AT – 14 for 2011 – 2012.

Highlights of work of AT-14 and WG at STSC 2011

- a) The multi-year work plan on NEOs has been extended for two more years (2012 and 2013);
- b) Intersessional work in 2011-2012 could include workshops of experts on various aspects of the draft recommendations made by the Action Team
- c) That intersessional work in 2011-2012 could include meetings to facilitate the establishment of an MPOG

Highlights of work of AT-14 and WG at STSC 2011

Future work

i) Address the workplan for 2012, focusing on activating the work of the NEO IAWN;

ii) Organize a meeting of representatives of space agencies to establishing a MPOG;

iii) Meet at COPUOS; continue drafting recommendations for the international response to the NEO impact threat;

iv) Prepare the interim report of AT-14 to the STSC for 2012, taking into account inputs from the above-mentioned activities and other activities such as the 2011 IAA Planetary Defense Conference, in Bucharest

Highlights of work of AT-14 in 2011

The high-level tasks of the MPOG were prepared by the Action Team

-Meeting by AT-14 (ASE, SWF, ESA) in Darmstadt in October 2010

-Meeting by AT-14, (NASA, SWF, ASE) in Pasadena, USA, August 2011

Agreed on ground rules for the proposed MPOG

AT-14 - first draft Terms of Reference for MPOG

model - Inter-Agency Space Debris Coordination Committee; (IADC)

Highlights of work of AT-14 and WG at STSC 2012

Address the workplan for 2012, focusing on activating the work of the NEO IAWN; ToR MPOG

ii) Meet at COPUOS; continue drafting recommendations for the international response to the NEO impact threat;

iii) Organize a meeting of representatives of space agencies to establish Steering Committee for IAWN;

iv) Prepare the interim report of AT-14 to the STSC for 2013

v) Organize a meeting of representatives of space agencies to establish MPOG – January 2013

Thank you

Any questions?

Thank you

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