



IAWN & SMPAG

International Asteroid Warning Network Space Mission Planning Advisory Group

Small Bodies Assessment Group

30 June 2015

Washington, DC

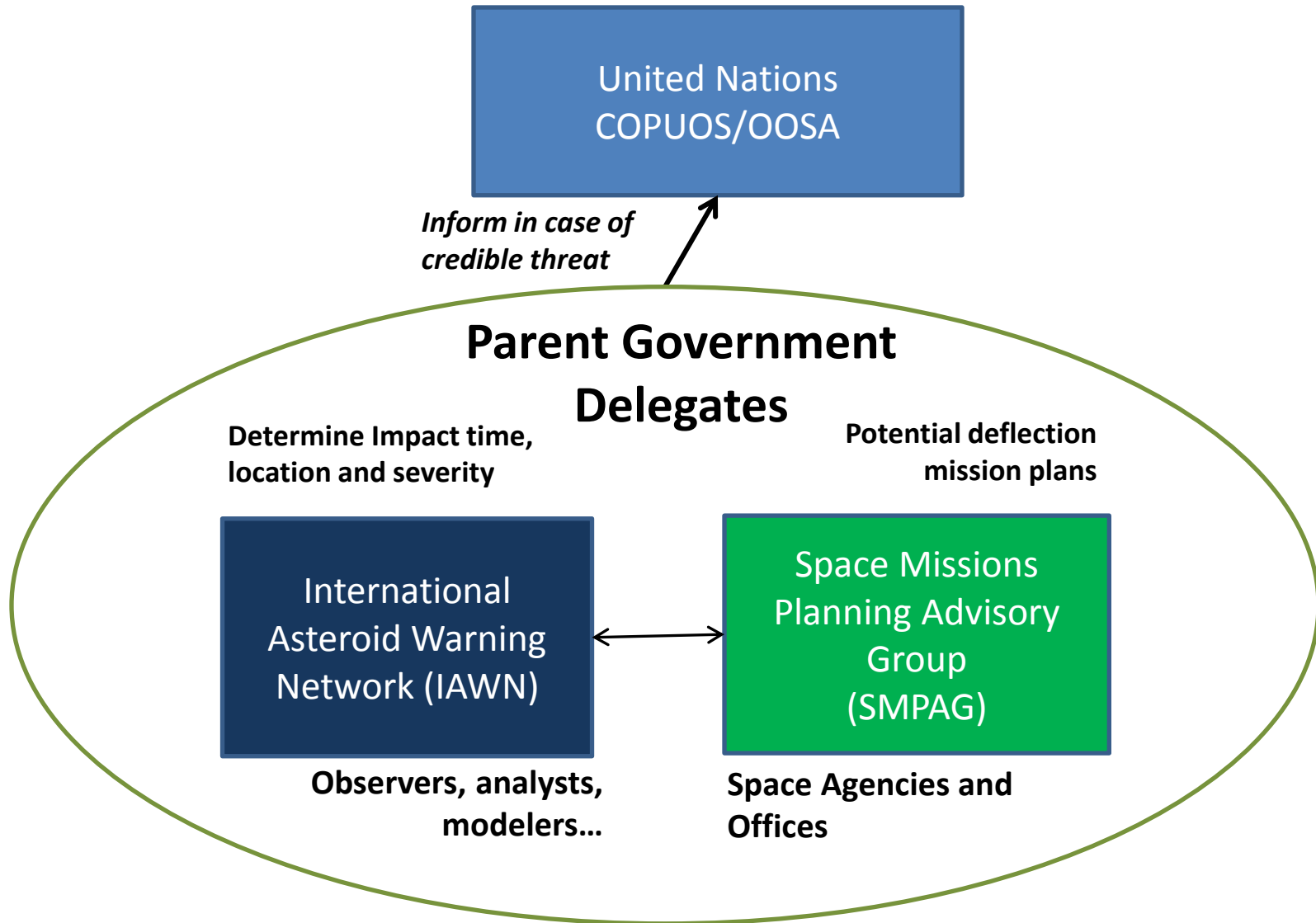
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Background/Overview

- **UN Committee On Peaceful Uses of Outer Space (UNCOPUOS) tasked from UNISPACE III (1999)**
 - **Work for agreement that would coordinate international efforts to address the NEO impact threat to Earth**
 - **Assigned to Scientific and Technical Subcommittee (STSC)**
 - **Action Team 14 (AT-14) established in 2001 to examine issue**
 - **NEO Working Group est. in 2007 – NASA NEO PE is US Delegate**
- **AT-14 findings/recommendations (*February 2013*)**
 - **Many of the elements needed for an international response to the NEO impact threat already exist.**
 - **Primary components to threat mitigation:**
 - **Discovering threatening NEOs (& identifying those that require action)**
 - **Planning a mitigation campaign**
 - **Implementing/executing that mitigation mission**

Three Overarching Recommendations (Genesis of IAWN & SMPAG)

- **An International Asteroid Warning Network (IAWN)** should be established
 - Organize and Coordinate member state assets for NEO survey
- **A Space Mission Planning Advisory Group (SMPAG)** should be established
 - Forum for member state space agencies to establish planning framework, timeline, and decision points for options for initiating/executing a response
- **An Impact Disaster Planning Advisory Group (IDPAG)** should be established
 - **Did not achieve consensus within NEO Working Group**
 - Intent was to inform the civil defense community on the nature of impact disasters and incorporate that community into overall mitigation community. Many functions could be performed by IAWN.*



IAWN Charter (1/2)

*An international asteroid warning network (IAWN), open to contributions by a wide spectrum of organizations, **should be established** by linking together the institutions that were already performing, to the extent possible, the proposed functions, including discovering, monitoring and physically characterizing the potentially hazardous NEO population and maintaining an internationally recognized clearing house for the receipt, acknowledgment and processing of all NEO observations. Such a network would also recommend **criteria and thresholds** for notification of an emerging impact threat.*

IAWN Charter (2/2)

The IAWN should interface with the relevant international organizations and programs to establish linkages with existing national and international disaster response agencies **to study and plan response activities for potential NEO impact events** as well as to recommend strategies using well-defined communication plans and procedures to **assist Governments in their response to predicted impact consequences**. This does not limit **the possibility of organizing, In this respect, additional international specialized advisory groups**, if necessary.

Functions of International Asteroid Warning Network (IAWN)

- ✓ (a) To discover, monitor, and physically characterize the potentially hazardous NEO population using optical and radar facilities and other assets based in both the northern and southern hemispheres and in space;
- ✓ (b) To provide and maintain an internationally recognized clearing house function for the receipt, acknowledgement and processing of all NEO observations;
- ✓ (c) To act as a global portal, serving as the international focal point for accurate and validated information on the NEO population;
- ✓ (d) To coordinate campaigns for the observation of potentially hazardous objects;
- ❑ (e) To recommend policies regarding criteria and thresholds for notification of an emerging impact threat;
- ❑ (f) To develop a database of potential impact consequences, depending on geography, geology, population distribution and other related factors;
- ❑ (g) To assess hazard analysis results and communicate them to entities that should be identified by Member States as being responsible for the receipt of notification of an impact threat in accordance with established policies;
- ❑ (h) To assist Governments in the analysis of impact consequences and in the planning of mitigation responses.

IAWN Gatherings

- **1st Meeting of Steering Committee**
 - 13-14 January 2014 at MPC
- **2nd Meeting of Steering Committee**
 - 11 November 2014 (with DPS, Tucson, AZ)
- **Communications workshop**
 - 9-10 September 2014 in Broomfield, CO at SWF
- **3rd Meeting ... TBD ...**
 - in conjunction with DPS (~8-11 Nov 2015) and SMPAG

<http://www.minorplanetcenter.net/IAWN/>

SMPAG

A space mission planning advisory group (SMPAG) should be established by Member States of the United Nations that have space agencies. The group should include representatives of spacefaring nations and other relevant entities. Its responsibilities should include laying out the framework, timeline and options for initiating and executing space mission response activities. The group should also promote opportunities for international collaboration on research and techniques for NEO deflection.

SMPAG Meetings

- **1st Meeting of Steering Committee**
 - 6-7 Februaryy 2014 at ESOC, Darmstadt, Germany
- **2nd Meeting**
 - 12-13 June 2014 UN Office, Vienna, Austria
- **3rd Meeting**
 - 9-10 April 2015 at ESRIN, Frascati, Italy
- **4th Meeting ... TBD ...**
 - in conjunction with DPS (~8-11 Nov 2015) and IAWN

<http://www.cosmos.esa.int/web/smpag/home>