

PLANETARY DEFENSE  
INTERAGENCY  
TABLETOP EXERCISE 5



# TTX5: Day 2

## Objectives, Format, and Scenario

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# Welcome to Planetary Defense TTX5 – Day 2

- Welcome
  - From APL
  - From the sponsor





## ASSESS

Determine NEO population survey completeness and hazard from NEOs that pose the highest risk

CENTER FOR NEAR-EARTH OBJECT STUDIES (CNEOS)



## SEARCH, DETECT & TRACK

Find the natural near-Earth objects – asteroids and comets – and track to determine those whose orbits create an impact hazard to Earth

GROUND & SPACE-BASED OBSERVATORIES,  
MINOR PLANET CENTER (MPC),  
INTERNATIONAL ASTEROID WARNING NETWORK

# PLANETARY DEFENSE

## MITIGATE

Demonstrate technologies and techniques to divert or disrupt asteroids in space or inform emergency response activities on the ground

DOUBLE ASTEROID REDIRECTION TEST (DART), FEMA EXERCISES

## PLAN & COORDINATE

Work with the U.S. interagency and international collaborations on effective actions for impact threat response

SPACE MISSION PLANNING ADVISORY GROUP,  
PLANETARY IMPACT EMERGENCY RESPONSE WG,  
PLANETARY DEFENSE IWG

## CHARACTERIZE

Determine physical characteristics of NEOs (size, shape, composition, rotation) to understand their natural state

INFRARED TELESCOPE FACILITY,  
GOLDSTONE SOLAR SYSTEM RADAR,  
NEOWISE



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- A few remarks from certain participants. For example,
  - What is the primary focus of your agency or organization?
  - What role might the agency or office where you have responsibilities play in a planetary defense scenario?
  - What do you aim to take away from this TTX?



# An Excerpt from Asteroid Hunters







# TTX5 Is Organized Around Four Objectives

Awareness raising



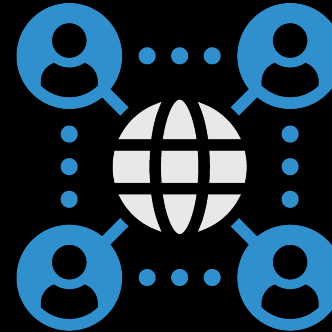
Raise awareness of the nature of asteroid threats and challenges related to preparing an effective international response

Space response



Explore potential in-space responses to an asteroid threat with >10 years of warning time, including international collaboration and contributions

Disaster preparedness



Assess the challenges of and readiness for international emergency preparedness and response to an asteroid impact that would be large enough to devastate entire regions

Information sharing & public messaging



Identify current mechanisms for and barriers to international asteroid threat-related information sharing and communications, including public messaging strategies



# Structure of the TTX – Day 2

TTX will explore a single moment in time through the lenses of three themes:



Module	Description
1	Scene setting and initial international coordination
2	Space mission options
3a	Recommended courses of action
3b	Senior leader briefing
4	Public information messaging
5	Disaster preparedness

- Day 1: Modules 1, 2, and 3a
- Day 2: Modules 3b, 4, and 5
- Participants discussed potential courses of action (COAs) on Day 1 and identified options to share with senior leadership on Day 2



# Intent of This TTX

- Generate dialogue about issues that pertain to preparedness for and response to a potential asteroid impact
- Accept the scenario at face value and address the events as they unfold
- Engage in an interactive discussion about different organizations' and governments' policies, procedures, and potential responses
- Learn from each other and enhance cross-agency and international communications and coordination

All participants are encouraged to contribute in this *no-fault* environment.

Views *are not* expected to be official government or organizational positions.

Varying viewpoints, contrary opinions, and/or disagreements are welcome.





# What to Expect: Data Collection

- Data collectors in the room will take notes on discussions.
- Players will share thoughts via participant feedback forms.
- Facilitators will lead hot washes to get lessons learned, best practices from players.
- There will be no media in the TTX room; comments in the final report will be anonymized.



TTX4 AAR helped define  
future investments

Your comments and discussions are the data that will help this TTX culminate in an impactful after-action report.



# High-Level Agenda

## Day 1 (April 2): 8 a.m. – 5 p.m.

- 7:30 a.m. Arrival, check-in
- 8:00 a.m. Welcome, introductions, logistics, etc.
- 9:00 a.m. Module 1: Scene setting and initial international coordination
- 9:45 a.m. Break
- 10:00 a.m. Module 1 (cont.)
- 11:10 a.m. Module 2: Space mission options
- 12:00 p.m. Lunch
- 1:00 p.m. Module 2 (cont.)
- 2:10 p.m. Module 3a: Courses of action
- 3:00 p.m. Break
- 3:15 p.m. Module 3a (cont.)
- 4:30 p.m. Day 1 hotwash
- 5:15 p.m. Planetary defense social hour

## Day 2 (April 3): 8 a.m. – 4 p.m.

- 7:30 a.m. Arrival, check-in
- 8:00 a.m. Welcome
- 8:30 a.m. Module 3b: Senior leader brief
- 10:15 a.m. Break
- 10:30 a.m. Module 4: Public information messaging
- 12:15 p.m. Lunch
- 1:15 p.m. Module 5: Disaster preparedness
- 3:15 p.m. Break
- 3:30 p.m. TTX debrief, capability gaps, next steps
- 4:00 p.m. Adjourn

