

National Aeronautics and  
Space Administration



# EXPLORESCIENCE

**Geospace Dynamics Constellation  
Science and Technology Definition Team**

2 October 2019

Jared Leisner  
GDC Program Scientist

# Introduction

- The Decadal Survey recommended GDC as the LWS strategic mission.
- NASA formed the STDT to update the science objectives from the Decadal Survey, produce a compelling science investigation, and to develop potential mission implementations.
  - The STDT is chartered as a subcommittee for the Heliophysics Advisory Committee (HPAC). The STDT report will come to HPAC, who will then make a recommendation to NASA.
  - The scope of the STDT work has been modified since the last HPAC meeting. (To be discussed in a later slide.)
- The STDT has held three in-person meetings, and the public has been invited to virtually attend via WebEx. Everything presented to the STDT at those meetings has been made available to the public via HPD's GDC STDT webpage.

# Timeline

- Aug. 2017  
Call for Letters of Application published
- Oct. 2017  
Request for Information released
- May 2018  
STDT first in-person meeting
- Jul. 2018  
STDT second in-person meeting
- Nov. 2018  
STDT third in-person meeting
- **Dec. 19, 2018**  
**STDT mid-term report to HPAC**
- Oct. 2019  
STDT report delivered to HPAC  
STDT disbanded  
HPAC delivers recommendation to NASA

# Timeline

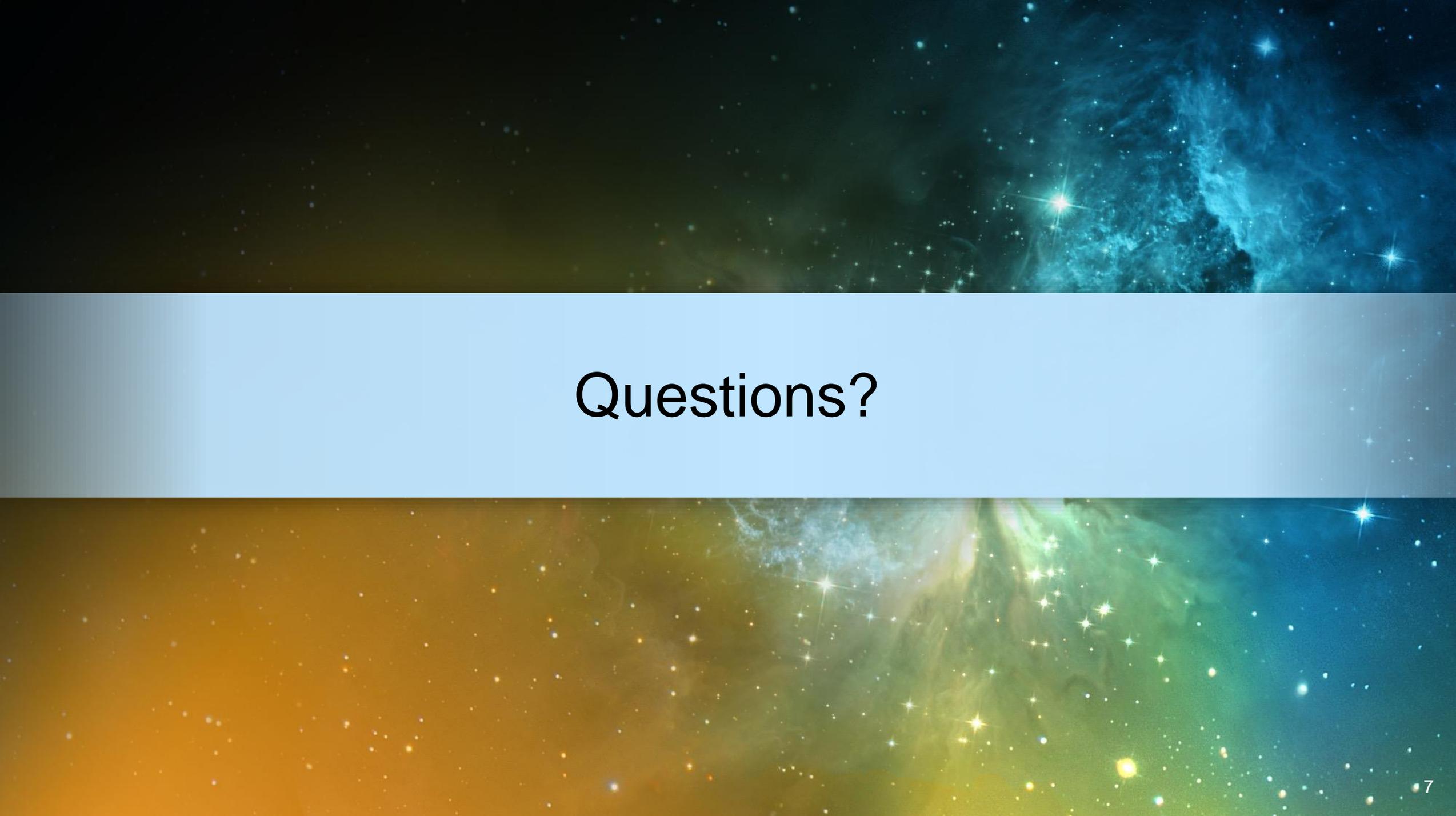
- **Aaron Ridley (co-chair). Univ of Mich.**
- Brian Anderson. *JHU/APL*
- Stuart Bale. *Univ. of Calif., Berkeley*
- Rebecca Bishop. *Aerospace Corp.*
- Cynthia Cattell. *Univ. of Minn.*
- James Clemmons. *Univ. of New Hampshire*
- Hyunju Connor. *Univ. of Alaska, Fairbanks*
- Lynette Gelinas. *Aerospace Corp.*
- Larisa Goncharenko (HPAC). *MIT*
- **Allison Jaynes (co-chair). Univ. of Iowa**
- Roderick Heelis. *Univ. of Texas, Dallas*
- Gang Lu. *NCAR*
- Tomoko Matsuo (HPAC). *Univ. of Colo.*
- Martin Mlynczak. *NASA LaRC*
- Robert Pfaff. *NASA GSFC*
- Cora Randall (HPAC). *Univ. of Colo.*
- Eftyhia Zesta. *NASA GSFC*

# Scope of Work

- When NASA planned and began implementing the STDT as defined by the Terms of Reference, conflicts arose related to the process it is operating within.
- NASA rescoped the STDT work to ensure that the final report is scientifically and programmatically valuable to NASA and the community.
- The STDT will produce a compelling mission concept, but the report will not contain the same content seen in previous reports.
  - Focus on the science objectives and the geophysical parameters that must be acquired (regardless of how that is done)
  - No particular mission implementations
  - No discussion of topics leading to instrumentation, anything involved with procurement activities, or any other related topics

# Scope of Work

- “Define a compelling and executable mission concept for GDC...” [TOR]
  - conduct a mission concept study
  - define design reference mission(s) for GDC
  - assessment of the science rationale for the mission
  - the provision of science parameters
  - investigation approaches
  - key mission parameters
  - any other scientific studies needed

The background of the slide is a composite of two cosmic images. The top half features a dark space filled with numerous small stars and a prominent, glowing blue nebula on the right side. The bottom half shows a similar starry field but with a large, bright orange and yellow nebula on the left side, transitioning into a greenish-blue hue towards the right. A horizontal light blue band runs across the middle of the slide, containing the text.

Questions?