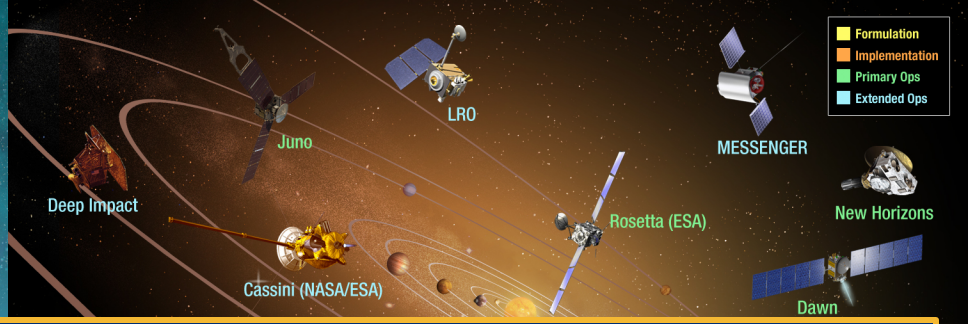
National Aeronautics and Space Administration

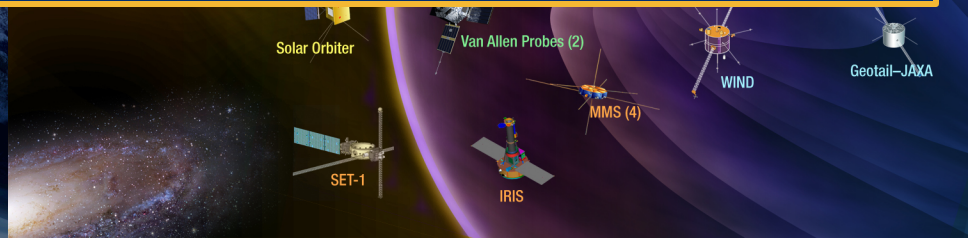
Science@NASA

Chuck Gay
Deputy Associate Administrator for Science



Science @ NASA executes:

- 95 missions
- 71 operating spacecraft
- 9 Balloon launches (FY2012)
- 21 Sounding rockets (FY2012)
- 3,300+ Airborne hours (FY2012)



Astrophysics | Earth Science
Heliophysics | Planetary Science

Total Missions / Spacecraft
95 / 120

2013-Mar-17

Formulation 16 / 24

JPL 5 / 6
- InSight 3/8/2016
- GRACE FO (1/2) 8/2017
- *OCO-3 Late 2017*
- *Euclid 3/2020*
- SWOT 10/2020

GSFC 9
- DSCOVR 11/15/2014
- *MOMA-MS 2016*
- Free Flyer-1 NET 7/2016
- **OSIRIS-Rex 9/4/2016**
- **JPSS-1 12/2016**
- *Solar Orbiter Collaboration 1/2017*
- **Solar Probe + 7/30/2018**
- Astro EX-1 TBD
- Helio EX-1 TBD

LaRC 2 / 9
- CYGNSS (1/8) 10/2016
- *TEMPO 2017*

Implementation 20 / 25

LaRC 1
- *SAGE-3/ ISS 8/2014*

ARC 1
- LADEE 8/12/2013

JPL 4
- OCO-2 7/1/2014
- SMAP 10/31/2014
- *ST-7 NET CY2015*
- Jason-3 3/1/2015

GSFC 12/18
- LDCM 2/11/2013
- IRIS: 6/26/2013 (protect 5/18)
- *TCTE: NET Sep 2013*
- MAVEN: 11/18/2013
- GPM: 2/14/2014
- **MMS (1/4): 10/15/2014**
- *Astro-H: NET CY2015*
- *SET-1: 9/2015*
- **GOES-R Series (1/4): 10/2015**
- ICESat-2: 7/22/2016
- *MetOp-C: 10/1/2017*
- **JWST: 10/31/2018**

DFRC 1 / 0
- **SOFIA (1/0) 10/4/2013 FOC**

MSFC 1
- *Strofio 8/16/2015*

Primary Ops 12 / 13

MSFC 1
- New Horizons

JPL 6
- NuSTAR
- *Herschel*
- *Rosetta*
- Dawn
- Juno
- MSL Curiosity

GSFC 5 / 6
- Fermi
- SDO
- Suomi NPP~
- Van Allen Probes (1/2)
- Aquarius

Extended Ops 47 / 58

ARC 1
- Kepler

JPL 15/17
- Spitzer
- *Planck*
- CloudSat
- ACRIMSAT
- GRACE (1/2)
- Jason-1
- OSTM/Jason-2~
- QuikSCAT
- Voyager (1/2)
- *Mars Express*
- Mars Odyssey
- MER Opportunity
- Cassini
- MRO
- Deep Impact

MSFC 3
- Chandra
- *Hinode*
- MESSE-NGER

GSFC 27/36
- HST
- *Suzaku*
- EO-1
- XMM
- Swift
- Aqua
- SORCE
- IBEX
- Terra
- TRMM
- Landsat 7~
- ARTEMIS (1/2)
- THEMIS (1/3)
- STEREO (1/2)
- GEOTAIL
- *Cluster-2 (1/4)*
- TWINS-A & B (1/2)

LaRC 1
- *CALIPSO*
- ACE
- CINDI
- AIM
- Aura
- RHESSI
- SOHO
- TIMED
- WIND
- LRO
- LAGEOS (1/2)

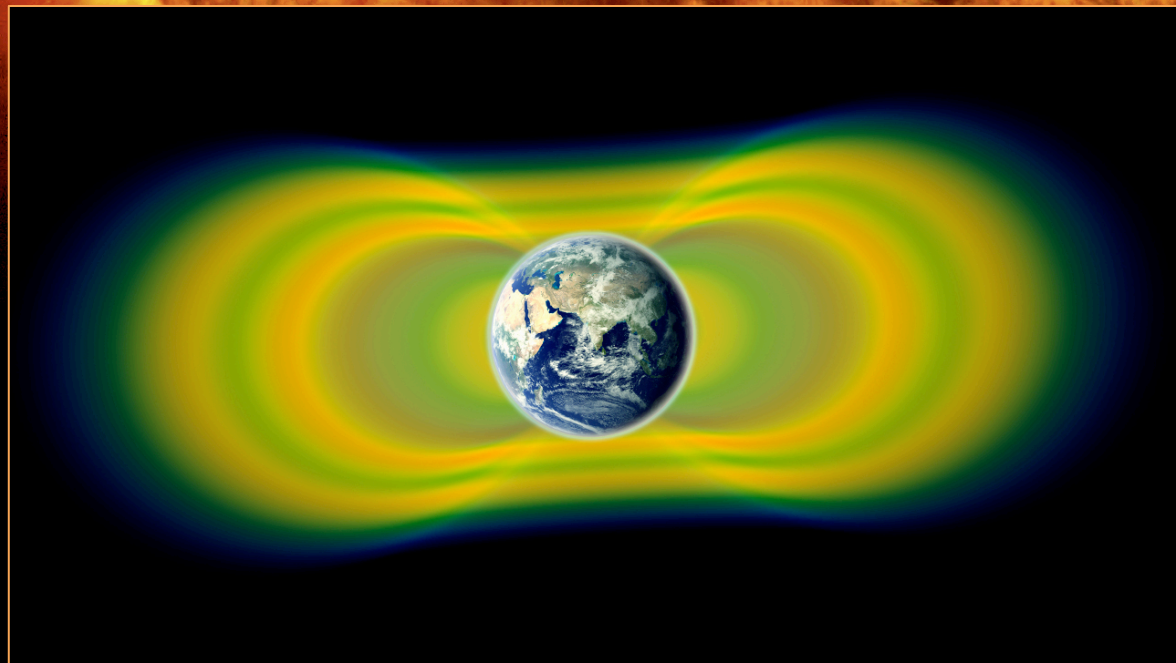
Joint Agency Satellite Division (JASD)
NOAA Reimbursables

Div	Form	Imp	Pri Ops	Ext Ops	Total
Astro	2	4	3	8	**17**
Earth	5	6	2	15	**28**
Helio	3	3	2	15	**23**
Planet	3	3	5	9	**20**
JASD	3	4	NA	NA	**7**
Total	**16**	**20**	**12**	**47**	**95**

Italics = NASA instruments on commercial, DOD, or international spacecraft
X / Y = # of missions / # of spacecraft
~ Operated by another agency
IRIS LRD updated from 4/28/2013 to 6/26/2013.

12 font: LCC > $1B
10 font: $250M < LCC < $1B
8 font: LCC < $250M
for projects in formulation & implementation

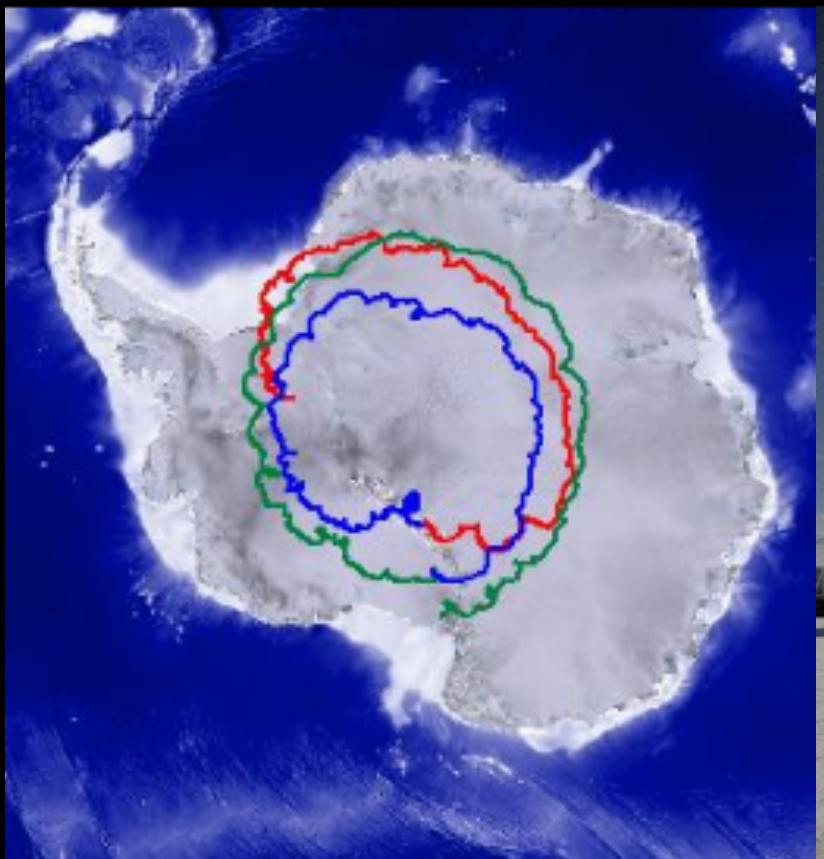
Earth's Third Radiation Belt

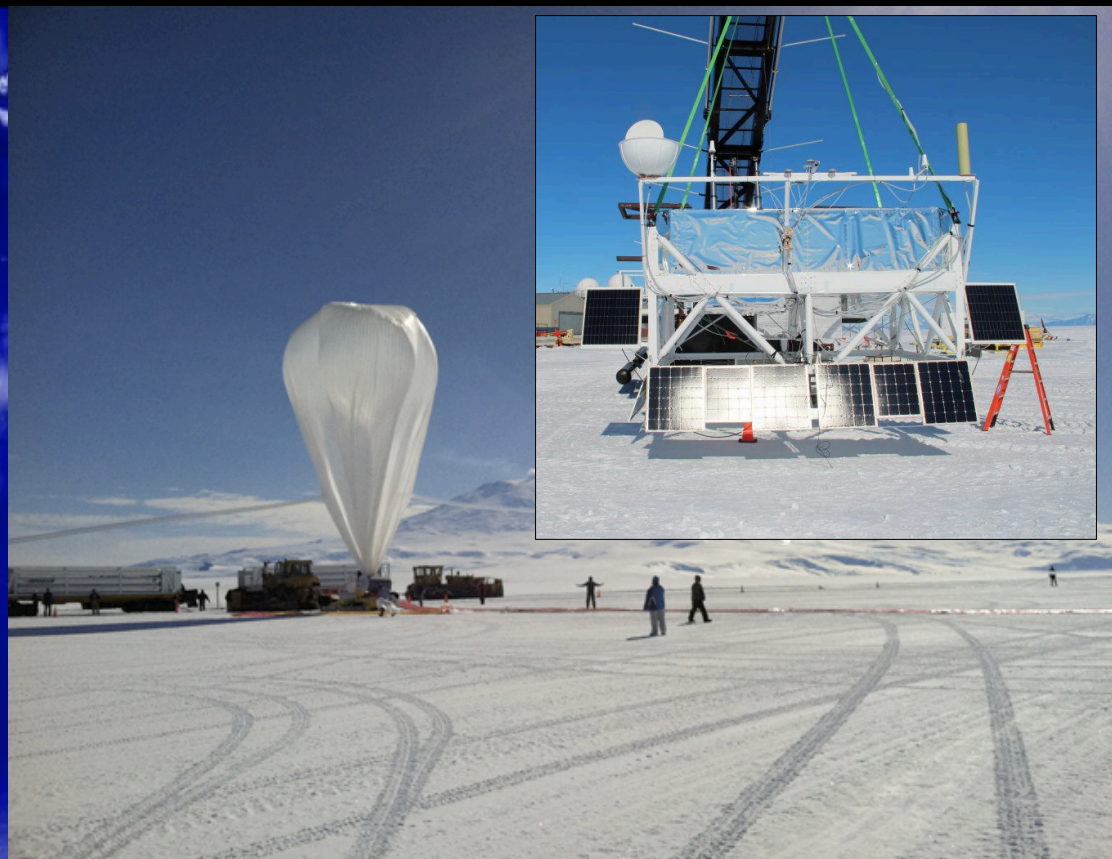


Credit: Daniel Baker, principal investigator (UC Boulder) for the Relativistic Electron Proton Telescope (REPT) instrument on the Van Allen Probes.

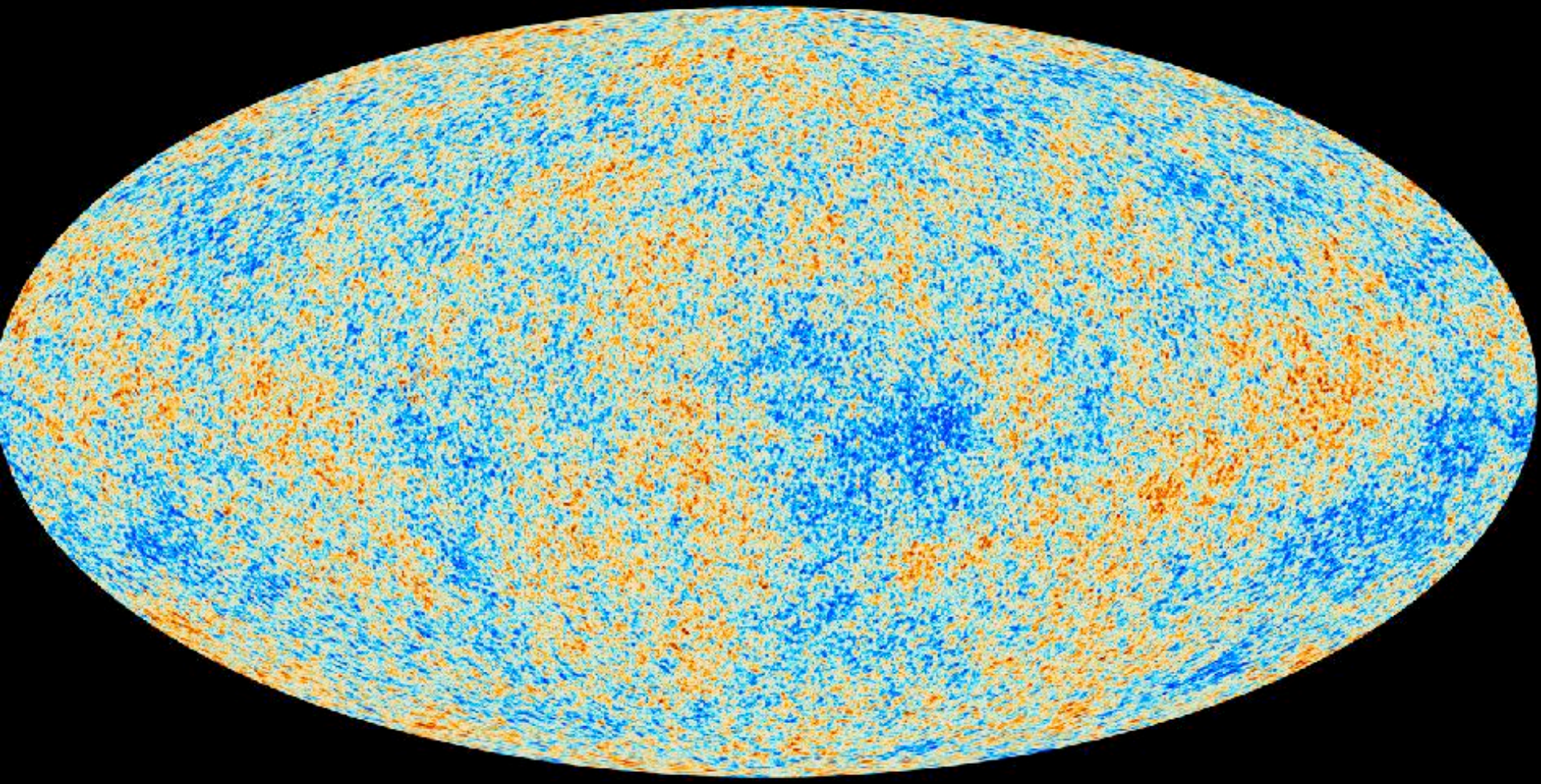
Super-TIGER Antarctic Campaign

Launched Dec 8, 2012. Landed Feb 1, 2013.
Total flight time of 55 days, 1 hour, 34 minutes
NEW RECORD!



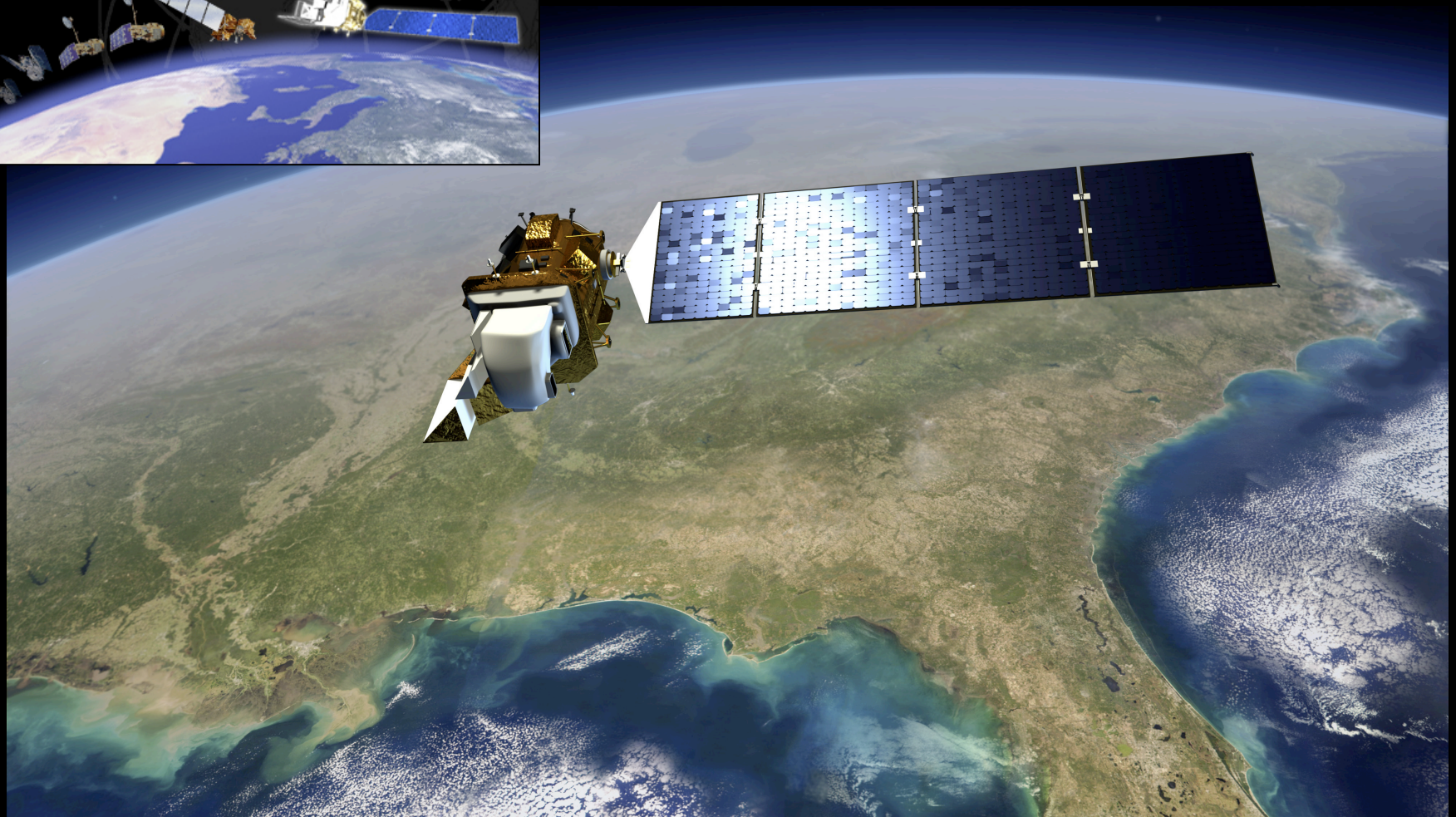


Planck's View of the Early Universe



Drill Test and First Drill Hole on Mars

Landsat Data Continuity Mission
Launched February 11, 2013




Fort Collins
Galena Fire burn scar—
—Horsetooth Reservoir

Upcoming Launch: Interface Region Imaging Spectrograph (IRIS)

LRD: June 2013

Upcoming Launch: Lunar Atmosphere and Dust Environment Explorer (LADEE)

LRD: August 2013

Upcoming Launch: Mars Atmosphere and Volatile EvolutioN (MAVEN)

LRD: November 2013

Funding for NASA Science

- FY 2013 Budget
  - Continuing Resolution
- Sequestration
- FY 2014 Budget

FY 2013 Budget

Continuing Resolution (H.R. 933) signed March 26

- Total NASA funding: $17.8 B
- Total Science funding: $5.1 B

However:

- There will be ~2% rescission across the government to match the discretionary funding limit specified in the fiscal cliff legislation signed in January
- There will be ~5% reduction due to sequestration

FY 2013 Budget

Continuing Resolution (H.R. 933) signed March 26

- Total NASA funding: ~~$17.8 B~~ ~$16.6B
- Total Science funding: ~~$5.1 B~~ ~$4.8B

NASA is still waiting for guidance on the full impact of the rescission and sequester

Sequestration

Steps NASA has taken, Agency-wide, include:

- Reductions in training and travel
- Cancelled or reduced participation in conferences
- Curtailment of education and public outreach activities

NASA is not:

- Furloughing employees
- Changing its hiring policy

NASA is developing guidelines for implementing these changes

Sequestration

The Science Mission Directorate will respond to the impacts of sequestration once they are fully known

- Reductions to SMD will be absorbed primarily out of savings from several recent missions launching under budget
- No anticipated impact to our ongoing projects or the workforce supporting them

FY 2014 Budget

COMING APRIL 10