



Sounder Science Team Meeting

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Earth Science Missions

President's Budget Request (May 2017)

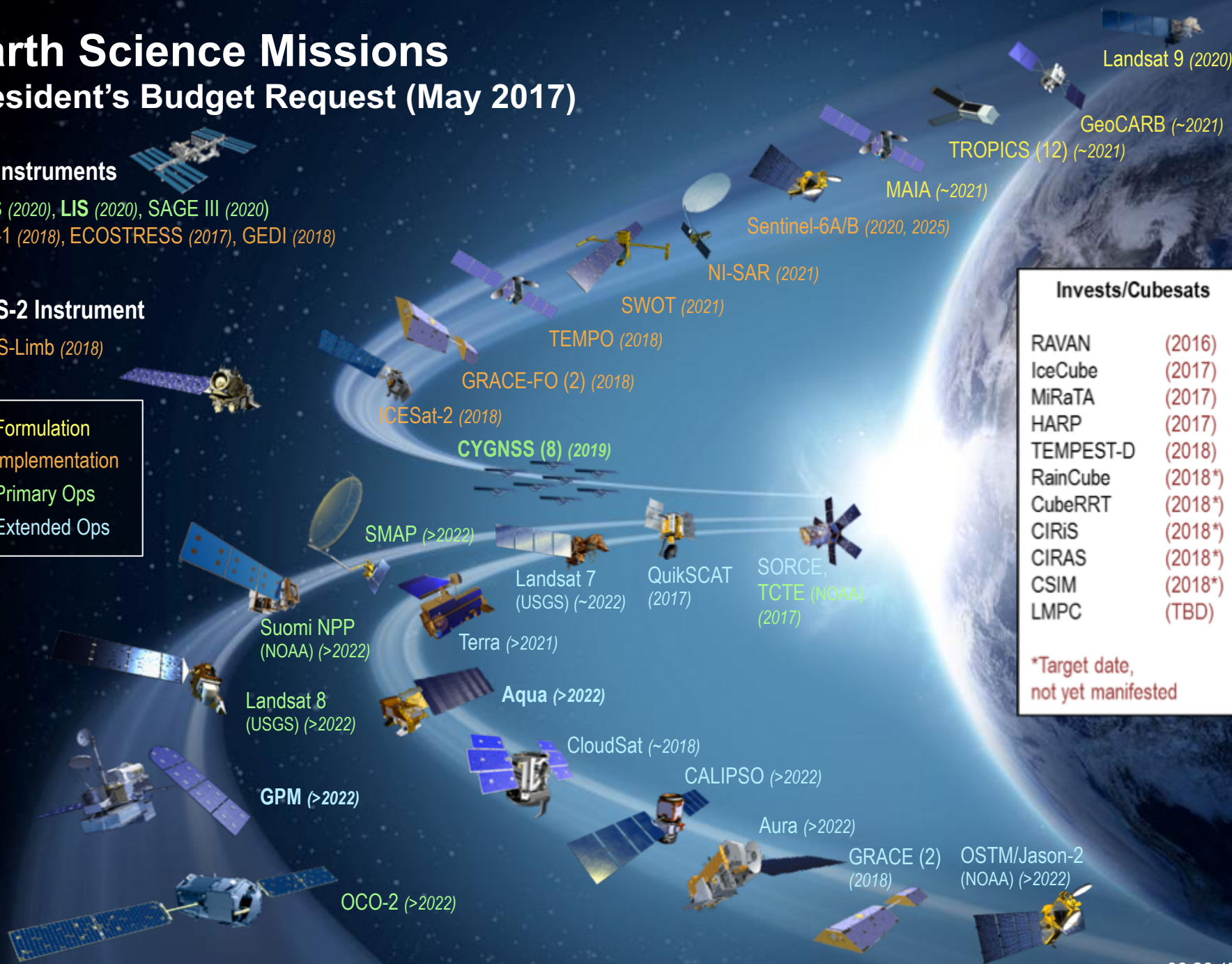
ISS Instruments

CATS (2020), LIS (2020), SAGE III (2020)
 TSIS-1 (2018), ECOSTRESS (2017), GEDI (2018)

JPSS-2 Instrument

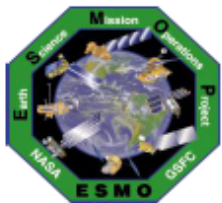
OMPS-Limb (2018)

■ Formulation
■ Implementation
■ Primary Ops
■ Extended Ops



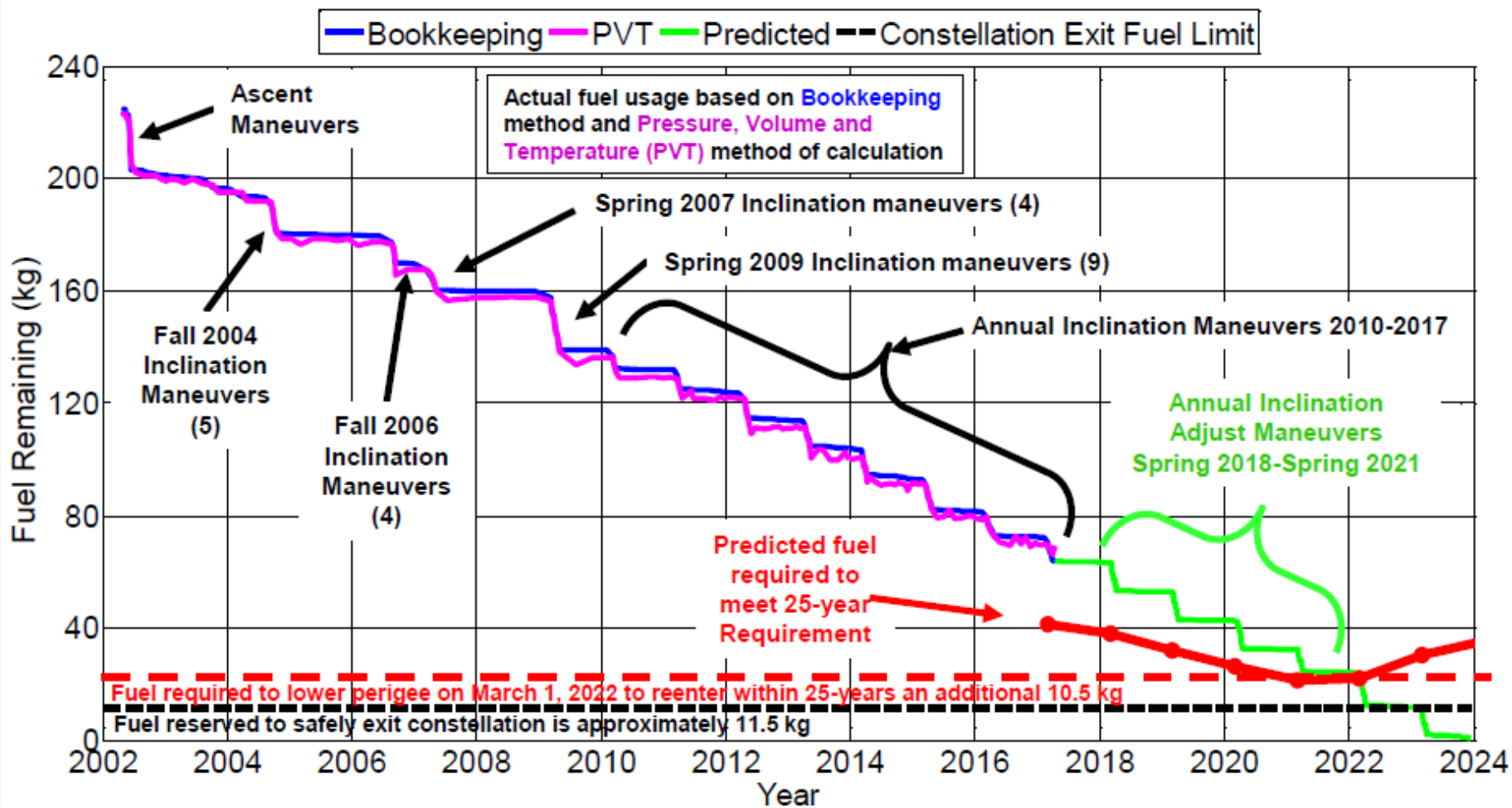
Invests/Cubesats	
RAVAN	(2016)
IceCube	(2017)
MiRaTA	(2017)
HARP	(2017)
TEMPEST-D	(2018)
RainCube	(2018*)
CubeRRR	(2018*)
CIRiS	(2018*)
CIRAS	(2018*)
CSIM	(2018*)
LMPC	(TBD)

*Target date, not yet manifested



Fuel Usage: Actual & Predicted

(May 2, 2017)





FY17 Senior Review Mission Summary Scores

Table 1 Mission-specific findings

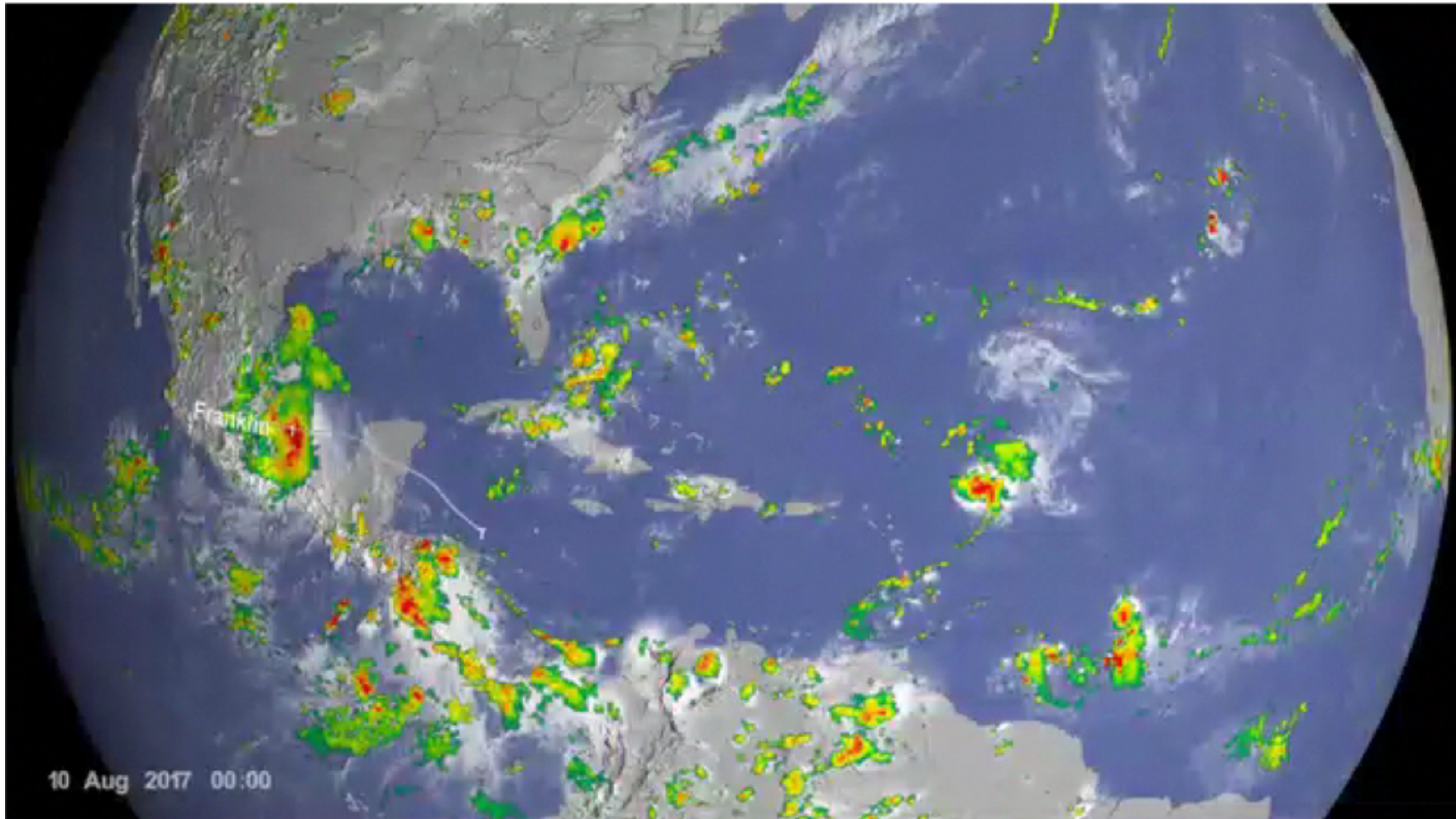
Mission	Science Score			Summary Science Score	Adject. Summary Science Score	Natl Int. Utility Score	Technical Risk Rating	Cost Risk Rating
	Sci. Merit	Relev. to NASA E.S.	Data Quality					
Aqua	5.0	5.0	5.0	5.0	Excellent	V. High	Low	Low

Table 2 Mission extension recommendations

Mission	Conclusion		Suggested Change in Scope
	FY18-20	FY21-23	
Aqua	Continue	Continue	

The Aqua spacecraft is still going strong after 15 years, and four of its instruments (AIRS, AMSU, CERES, and MODIS) continue to collect valuable data about the atmosphere, oceans, land, and ice.

Based upon Aqua’s high quality climate data records, the continuity of this time series is critical for the scientific community, governmental agencies and the international operational user community. Therefore, the Subcommittee found that Aqua mission should be continued as currently baselined.



- Want GPM data from NASA? gpm.nasa.gov
 - Products Available from: <http://pps.gsfc.nasa.gov>
 - Precipitation from DPR, GMI, Combined, IMERG, constellation partner
 - Levels 1 (calibrated instrument data), 2 (instantaneous swath), 3 (gridded, accumulated)
 - Application viewer tools
- TRMM V8 (=GPM V05) Level 1 (TB and Z) reprocessing began Oct 2, 2017
- TRMM Level 2 reprocessing expected early 2018
- TRMM+GPM IMERG reprocessing expected mid-2018
- In three years of operations:
 - thousands of scientific, application, and operational users have downloaded GPM data,
 - GPM generated more than 225 peer-reviewed publications,
 - communication efforts have reached about 4 million people online and 33,000 in person





Potential Concern Regarding Long-Term Climate Record

- The data directly acquired by the FTIR instrument is in the form of an interferogram of the infrared light that passed through the sample (the Earth's atmosphere). It may not be possible to carry out Fourier Transformation of an IR Interferogram in a unique manner. The impact may not be large enough for assimilation in weather models but probably needs to be better understood before compiling climate records.
- This is probably a minor complication but it still needs to be investigated.
- We may also need to look at the AIRS data more closely.



Summary

- NASA Earth Science Division Satellite Fleet (vigorous plan in place)
- Senior Review of 13 Earth Science “Extended” Missions is complete
- Aqua and AIRS are in excellent health
- From the HQ perspective, AIRS is doing a splendid job