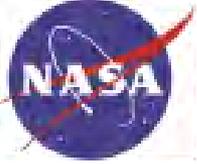




Sounder Science Team Meeting

October 13, 2015

Ramesh Kakar
Aqua Program Scientist
NASA Headquarters



Brief Points

- Senior Review of 10 Earth Science “Extended” Missions is complete
- Aqua and AIRS are in excellent health
- From the HQ perspective, AIRS is doing a splendid job
- We need to focus on the next NRC Decadal Survey
- NASA Weather Focus Area Workshop was held April 7-9, 2015
- CIRAS was one of four projects selected by In-Space Validation of Earth Science Technologies (InVEST) Program



2015 Senior Review Guidance for Aqua

The review panel's findings for Aqua are:

Adjectival Summary Science Score	Utility Score	Technical Risk	Cost Risk
Excellent	Very High	Low	Low

Since its launch in 2002, Aqua has provided a wealth of information about the Earth system, spanning almost all fields of Earth science, from trace gases, aerosols and clouds in the atmosphere, to chlorophyll in the oceans, to fires on land, to the global ice cover and numerous other geophysical variables. Thousands of scientists and operational users from around the world are making use of the Aqua data to address NASA's all six interdisciplinary Earth Science Focus Areas.

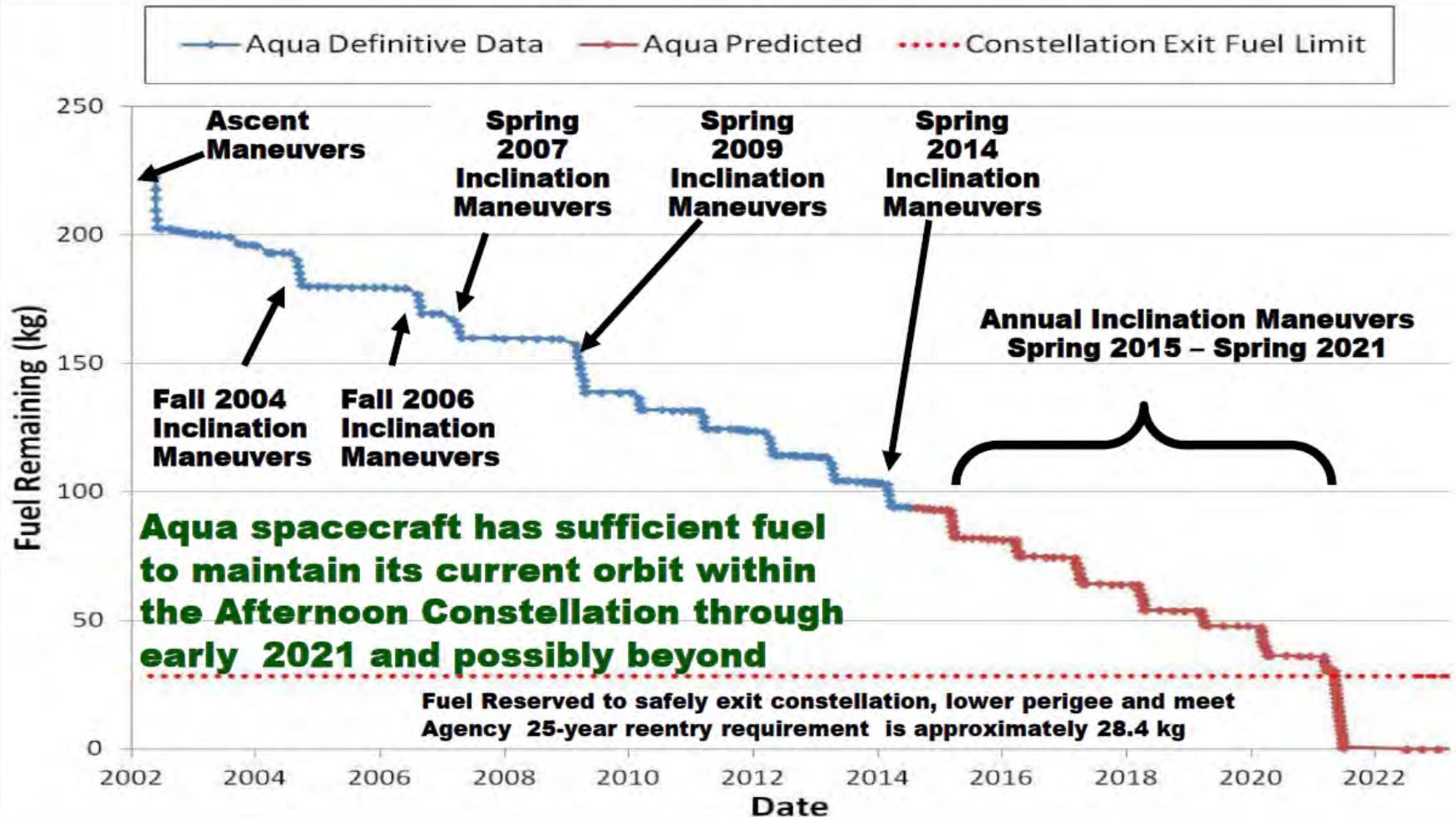
The Aqua proposed mission extension is rated as Low Risk. **Four of Aqua's six instruments continue to perform very well, maintain redundancy, and appear able to support the proposed mission extension period. The spacecraft bus is in excellent condition and should be fully functional well past the mission extension period.** The risk for a four-year mission is expected to be higher.



No Changes

Fuel Usage: Actual & Predicted

(Updated September 2014)

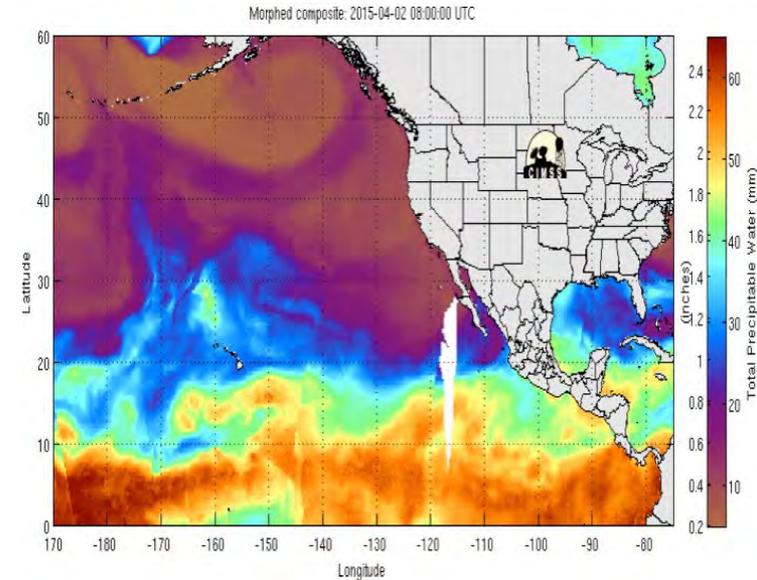


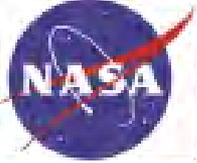


NASA Weather Focus Area Workshop

Preliminary Result, April 7 – 9, Arlington, VA

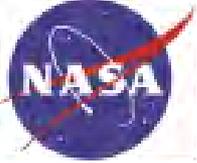
- About 80 people attended the two and a half days NASA weather focus area workshop
- Top phenomena:
 - ✓ Extreme events
- Top observations:
 - ✓ high res wind profile obs in all weather
 - ✓ **high res temp and moisture profiles**
 - ✓ Atmosphere – Land fluxes
- Top system capability development
 - ✓ advanced DA (including coupled)
 - ✓ high res global models
 - ✓ OSSE





Comparison of AIRS and CIRAS

Parameter	AIRS Performance	CIRAS Requirement
Vertical Range	0-<100mb	0-500 mb
Temperature Profile	≤ 1.5 K/km	≤ 1.5 K/km
Humidity Accuracy	15%/2km	20%/2km
Spectral Range	3.7-15.4 μ m	4.78-5.03 μ m
Spectral Resolution	$\leq 2.2-0.5$ cm ⁻¹	≤ 0.7 cm ⁻¹
Spatial Res. (nadir)	13.5 km	13.5 km
Scan Range	1750 km	≥ 250 km
NEdT	0.1-1.0K	<0.35K



Summary

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