

# Developing a NASA case study

An exercise in understanding and developing *patience* & recognizing the importance of *vision* in achieving *value*

“The author who benefits you most is not the one who tells you something you did not know before, but the one who gives expression to the truth that has been dumbly struggling in you for utterance.”

----- Oswald Chambers

## The Backstory



Three Hills

2003, 2008

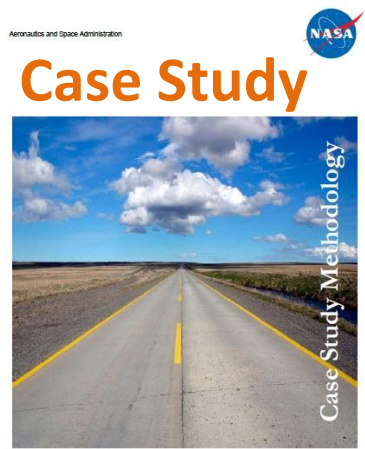
SDO, LRO, THEMIS, GLAST, JWST, GRAIL, GPM, MMS...

2011 – LDEM – ‘Pam’

??? # \$ @ % ^ ???

Case Study – IV&V – NO!

“The Quest”



case studies

## The Case Study Recipe



Goal: Case Study, NASA Catalog, RTMS, 1 year

September 2011 – September 2012



Management

Emails, Meetings, Ideas

OCKO

MMS

Emails, Meetings, Ideas...an initial outline

STOP!

Christmas, New Year's...relief!

Back to work...anxiety, fear, etc.

5-6 Pages of Text

Wait...Be Patient...Wait...Be Patient

Relief...at least I have until Fall...

April? What?! Two weeks?!

Emails, Meetings, Ideas

More anxiety, fear...

RTMS, 50+ NASA Scientists/Engineers, OCKO

SUCCESS!!!!!!

**Copies of the case study available at the back of the room...**

So what?

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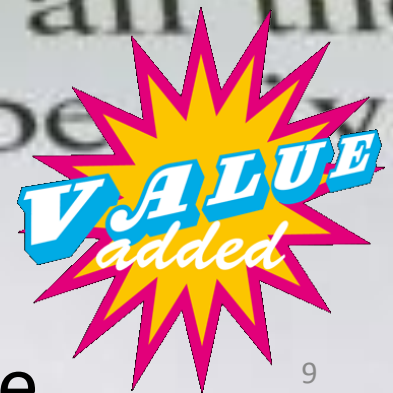


VALUABLE CO  
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love and a

## VALUATION

1. estimating worth or
2. act of estimating the

VALUE worth of all the  
thing that will be



VALUE: relative worth, merit, or importance



Patience

P<sub>3</sub> A<sub>1</sub> T<sub>1</sub> I<sub>1</sub> E<sub>1</sub> N<sub>1</sub> C<sub>3</sub> E<sub>1</sub>

## PATIENCE

is not about how long one  
can wait, but how well  
one behaves while waiting.

# Application

- Patience is the key to endurance
  - Geographic challenges
  - Organizational challenges
  - Relationship vs. Independence
  - Awareness with limited insight
  - We are NOT experiencing what the developer is
- Trappings of impatience
  - Quick judgment
  - Motivation is at an all time low today
  - The Big Picture
  - Bull Dog vs. Chihuahua
- Practically speaking
  - Be realistic wrt your expectations
  - Set timeframes
  - Trust the process
  - Trust the methods (aka, CoM)
  - Trust your judgment
  - Use peer reviews
  - Objectively consider ALL feedback
  - Seek out continuing education
  - Learn to learn
  - Power of positive thinking
  - Recognize that setbacks, challenges and delays WILL occur
  - Have a vision...





# Application

- You need one!
- Vision vs. Sight
- Vision without sight – Helen Keller
- Sight without vision – Hmmm, can't think of anyone...or maybe it's basically everyone?!
- No vision = No success!
- Practically speaking
  - Why are we doing what we are doing?
  - What result(s) are we looking for?
  - Vision should be time & milestone sensitive/aware
  - Vision should be system/domain/component/app oriented
  - Think Big Picture, then scale down as appropriate/necessary
  - Anchor/align your daily/weekly/monthly/annual activities to your vision
  - If it does not align, ask yourself 'why am I doing this?'
  - Having a vision does not equate to an 'easy' life, walking the straight/narrow path, etc.
  - Communicate your vision within team, to customers & stakeholders...initially & often
  - Orient your analysis work, results, reports, briefings to your vision

Apollo 17  
11 Dec 1972

Apollo 15  
7 Aug 1971

Luna 17  
17 Nov 1970

Luna 13  
24 Dec 1966

Luna 9  
3 Feb 1966

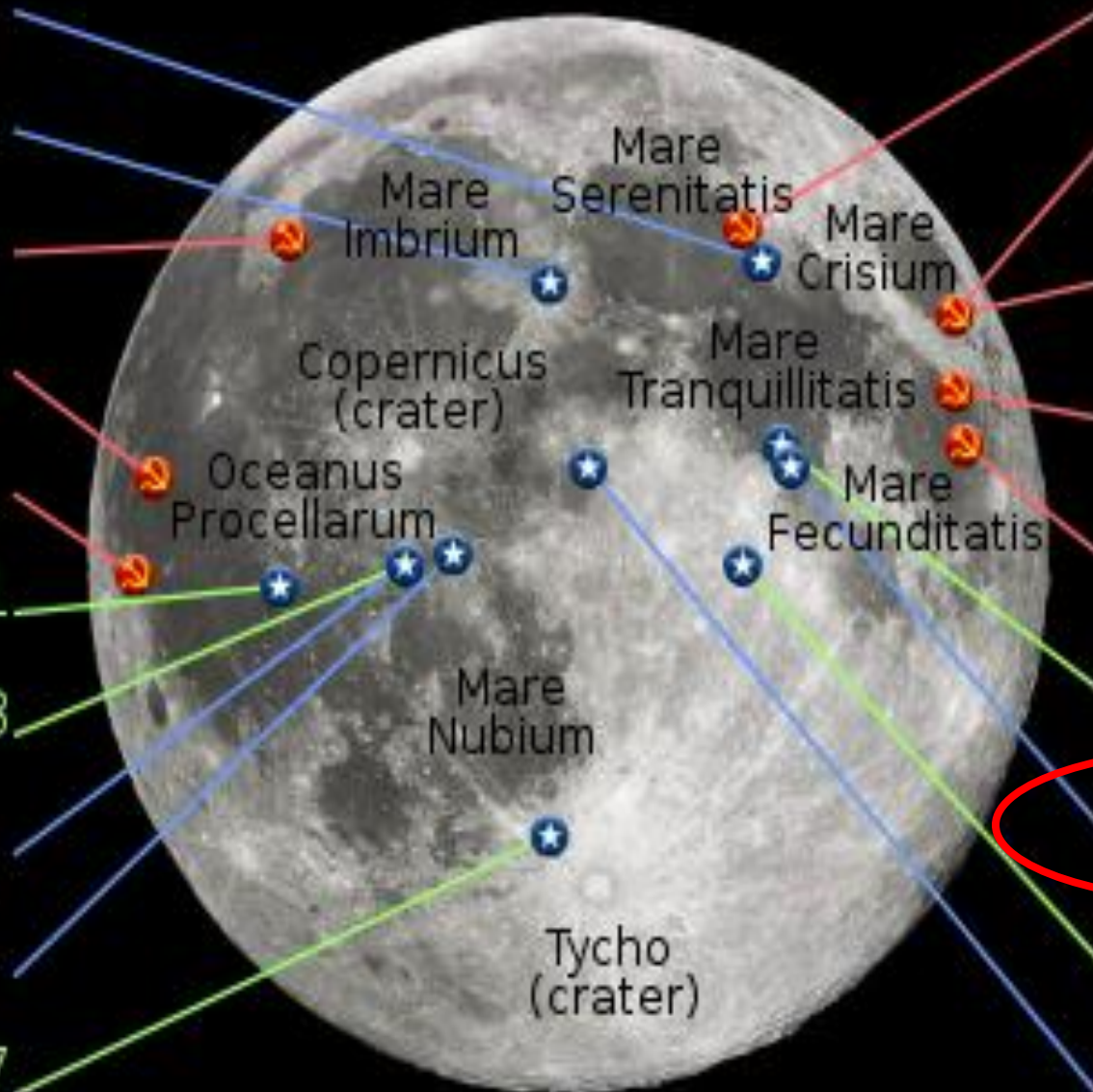
Surveyor 1  
2 Jun 1966

Surveyor 3  
20 Apr 1967

Apollo 12  
24 Nov 1969

Apollo 14  
5 Feb 1971

Surveyor 7  
10 Jan 1968



Luna 21  
15 Jan 1973

Luna 23  
6 Nov 1974

Luna 24  
19 Aug 1976

Luna 20  
21 Feb 1972

Luna 16  
20 Sep 1970

Surveyor 5  
11 Sep 1967

Apollo 11  
24 Jul 1969

Surveyor 6  
7 Nov 1967

Apollo 16  
27 Apr 1972



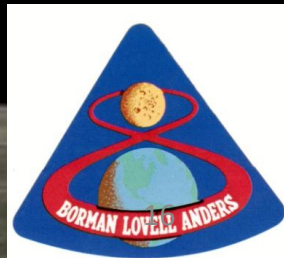
# The Apollo Program

- Conceived during Presidency of Dwight Eisenhower (1953-1961)
- Began in earnest after Kennedy's address to Congress on May 25, 1961
- What we usually remember...
  - The famous JFK Quote
  - 1967 Apollo 1 tragedy
  - Neil Armstrong and boots on the Moon in 1969
- What we usually don't remember...
  - All of the setbacks, challenges and struggles
  - Apollo 8 (1968)



**The view of the Earth from the Moon  
fascinated me -- a small disk, 240,000 miles  
away. . . . Raging nationalistic interests,  
famines, wars, pestilence don't show from that  
distance.**

**--- Frank Borman, Commander Apollo 8**





**To reach for new heights and reveal the unknown  
so that what we do and learn  
will benefit all humankind.**

