

ASTR 4800: Space Science - Practice & Policy

- Today's Topic: *Beginnings of the Space Race – The US Before Sputnik*
- Homework: McDougall, Chapters 6 and Science: The Endless Frontier by V. Bush (web article)

A Space Program in a Jeffersonian Federal Government?

- Founding Fathers drafted Constitution to limit & balance federal power. Is this consistent with a large space program?
- Contrast U.S. approach to R&D to that of Soviets.
- Technology as a means to serve higher values?
- Role of Presidents to keep a lid on spending.



Franklin Roosevelt (1882-1945)



1933



1942

Roosevelt changed fundamental view of the size, scope, and services provided by the Federal Government

Contrast in Size of Research in Federal Budget in 1933 versus 2007

- Only \$6 million spent in 1933 on research. Let's inflate this to 2007 \$ using Consumer Price Index calculator =>\$93.8 M.
- This number grew to \$1.59 B by 1945 (\$17.9 B in FY07 dollars).
- Using AAAS analysis today's total R&D Federal budget is \$143 B for FY08.
- What happened and why?

Robert Goddard (1882-1945)



1926 in Roswell, NM

No sponsors for rocketry in the U.S. before WWII

J. Robert Oppenheimer & the Atomic Bomb

(1904-1967)

It all changed after the Manhattan Project!



"I am death, destroyer of worlds" (from Bhagavad-Gita)



Harry Truman
(1884-1972)



- Truman opted for superiority of weapons technology to balance USSR.
- Joint Industry-Government coordination of R&D began after 1946 (Project RAND).

Why was Russia viewed as technology threat to America?

- Tough Soviet rhetoric (superiority of communism, world revolution).
- Communist subversion of Poland and Eastern Europe
- Berlin Blockade