

An Historical Perspective on the Decadal Survey Process

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The timelines for the evolution of NASA and the NRC

NASA

1958: NASA is established

NRC

1958: Space Science Board is established.

1961: Goldberg Report on galactic and extragalactic astronomy is issued, as part of a comprehensive report of the Space Science Board on *Science in Space*.

1964: Decadal process, involving extensive community input begins, with the Whitford Report on ground-based astronomy, issued by Committee on Science and Public Policy.

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NASA

Throughout this period, NASA established its own internal advisory structure, of interlinked MOWGS, and Division Directors' and the Associate Administrator's advisory committees.

NRC

1970: Greenstein report on *Astronomy and Astrophysics for the 1970s* is issued, which recommends HEAO program.

1980: The Field report on a *Strategy for Space Astronomy and Astrophysics for the 1980's* is issued, which recommended the Great Observatory program, in addition to Hubble, AXAF and GRO.

The timelines for the evolution of NASA and the NRC

NASA

1987: When I became AA for science (OSSA), the 20% rule was in effect. Beggs promised 20% of the NASA budget for science.

Science had all of the tools to manage its program. A large Hdqs. Staff; program management at Hdqs.; GSFC & JPL reported to the AA for science.

The Administrator did not tell the AA for science what programs to do. The main interaction with OMB and the AA was an annual event.

A fertile environment for strategic planning. Three NRC boards are consolidated into the Space Studies Board, covering all of the science divisions of OSSA.

1988-1991: The NASA budget doubles and along with it the science budget.



9 MAY 1984

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Dr. Thomas M. Donahue
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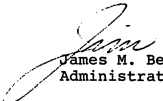
Dear Tom:

Please excuse my tardiness in responding to your March 5th letter. Please be assured that the issues you raised are of great importance to NASA and to me.

The summation of our meeting, I believe, accurately reflects the tenor of our discussion. However, the issue of spending priorities is one of exceeding difficulty to the Agency and, as you know, has caused problems with space science throughout our history. We are willing, however, to commit to budgeting at least 20 percent of NASA R&D funds for space science and applications, and will protect these funds from the demands resulting from Space Station development. This would mean that space science and applications would have the support that it achieved during the higher periods of activity.

I hope that this approach will be satisfactory to our science supporters. We will continue to consult frequently as our programs proceed.

Sincerely,



James M. Beggs
Administrator

The logo features the number "25" in a large, bold, serif font. Below it, the text "25th Anniversary" and "1958-1983" is written in a smaller, sans-serif font.

The timelines for the evolution of NASA and the NRC

NASA

1992: Dan Goldin becomes NASA Administrator and splits science into three parts: the traditional space sciences, Earth science, and Life Science and Microgravity. Goldin also reduces the staff at Headquarters and transfers program management to the NASA Centers.

Late 1990s. No one believes Goldin's cost estimates for Station. OMB puts NASA in the penalty box, and OMB becomes more invasive in the operational management of NASA, even in the science offices.

NRC

1989-92: The Bachall Report, another decadal survey in astrophysics, is issued. It recommends SIRTf, now Spitzer, to complete the great observatories, but it is issued as the NASA budget stops growing, and along with AXAF, now Chandra, needs to be descoped and delayed.

2000: Another astrophysical decadal; it embraces quicker-cheaper-better and assumes Webb can be done for a fraction of Hubble's cost. It cannot and the recommended well-balanced program cannot be achieved.

The timelines for the evolution of NASA and the NRC

NASA

2000: Goldin is replaced by O'Keefe, who is from OMB; O'Keefe institutes full-cost accounting at the NASA Centers (later Congress mandates that there can be no RIFs at the Centers).

2003: Columbia accident, which results in Bush Vision for Space Exploration. Good plan, until NASA interprets it literally, and supports only those science disciplines mentioned in Vision. Mars is in; the Earth, the Sun, and most of the universe are out.

NRC

2003: Planetary and Solar & Space Physics see the value of full-up decadal, as opposed to just committee reports: *New Frontiers in the Solar System* and *The Sun to the Earth and Beyond*.

The timelines for the evolution of NASA and the NRC

NASA

2004: O'Keefe is replaced by Griffin. Griffin abolishes the internal advisory structure of NASA. He fundamentally believes that NASA does not work for the science community; the science community works for NASA just like the aerospace contractors. Griffin changes NASA's management structure – centers no longer report to Associate Administrators. Griffin tries to rebalance science program but ends up removing \$3 billion from the science program run-out, and decimates the life science and microgravity communities. Earth Science is in free fall.

NRC

2007: There is a decadal in Earth Science to stop the bleeding. They plan for what is needed, and get a healthy increase in the Obama Administration. But the costs of missions are underestimated and NASA is unable to control the mission costs. And then NOAA cannot deliver NPOESS, which the the Decadal assumed would do some climate measurements.

The timelines for the evolution of NASA and the NRC

NASA

2009: Griffin is replaced by Bolden. The focus is on what to do with the human spaceflight program – commercial launches to Space Station, a heavy lift launch vehicle with no committed destination.

NRC

2010: Another astrophysical decadal. It assumes Webb is under control. It is not and the recommended program is not possible.

2011: Another planetary decadal. It tries decision rules to accommodate a flagship mission, but so far the budget does not support a flagship mission.

2012: Another solar & space physics decadal, which might be successful because it is a minimalistic strategy.

As we consider how we can improve the decadal process, we need to remember that the governing principles – the NRC does the planning and the NASA science program is conducted on behalf of all the nation’s space scientists – are principles instilled at the very beginning of the space program, and reinforced for the first 35 years of NASA. However, during the past 20 years, these principles have been challenged or disavowed.



Dan Goldin, Administrator
1992-2000

Had his own ideas about what science should be done;
Downsized Headquarters drastically;
Got in trouble with OMB so they are now more involved in NASA management.



Sean O'Keefe, Administrator
2000-04

Set science priorities by Presidential Directive;
Resulted in bifurcation of NASA science into disciplines mentioned in the Bush Vision for Space Exploration, and those not.



Mike Griffin, Administrator
2004-08

Fundamentally believed that the NASA science program was not conducted for space scientists; reduced several science disciplines.

Should we abandon our decadal process as irrelevant? **Certainly not!**

Should we try and adapt the decadal process for today's reality? **Absolutely!**

The damage to the management processes of NASA is irreversible, but we can do everything in our power to make sure that the planning process of the NRC is both useful and structured to be executable.

And throughout our planning, we must continue to insist, as it was in the beginning, that the science of NASA is conducted on behalf of all the nation's space scientists.