

Talking Points Summary re impact of JWST Termination and request for support - July 12 with update July 22

Re: JWST terminated by House Appropriations Committee with loss of all its funding from Astrophysics and Space Science

Hi Folks:

The House Appropriations Committee released the fiscal year 2012 Commerce, Justice, Science Appropriations bill last Wednesday. The House Appropriations Subcommittee that deals with NASA considered this last Thursday but made no changes.

NASA loses nearly \$2B in total of which \$431 is lost from NASA Science and terminate JWST. The Space science part:

"\$4.5 billion for NASA Science programs, which is \$431 million below last year's level. The bill also terminates funding for the James Webb Space Telescope, which is billions of dollars over budget and plagued by poor management."

Note that the money is LOST COMPLETELY from Astrophysics and Space Science. It is for deficit reduction. This is as expected. Every time an astronomy program has been terminated or reduced over the last few years, Astrophysics has lost the funding. Terminating JWST would be the same - Astrophysics loses all the funding. Yet this termination would go beyond what has happened over the last few years - the funds would be lost to Space Science and NASA also....

This is not the last word. The House Appropriations Committee has sent this to the full House for a vote. It is not expected to be reversed on the floor by amendment (though it would be great if it were). The Senate will also have a separate bill on NASA funding. However, in the present climate this step puts the centerpiece of astronomy's future at great risk.

JWST and Astrophysics has entered a very dangerous zone. Astrophysics has had its budget reduced to basically that of Heliophysics and so no new major missions will be possible in the future. If JWST is not recovered the future is SOFIA and Explorers, etc.

Before summarizing the impacts/talking points I would like to first note that the 2010 Independent Comprehensive Review Panel on JWST (requested by Senator Mikulski and carried out with full NASA support) had as one of its key findings that the technical progress on JWST had been "commendable and often excellent." It is my view from watching developments that NASA has been making the ICRP recommended changes to the program management and oversight, and is trying to support the key recommendations of the ICRP regarding enhancements to the budget. NASA fully supports completing JWST in a timely way.

The \$3.5B of funding that has been spent on JWST to date was not wasted. The project is delivering high-technology hardware with remarkable cutting-edge performance. The beryllium mirrors are all polished and are delivering better-than-expected performance with 10-15 nm surface errors at cryogenic temperatures. The problem identified by the ICRP was that the planning for launch was inadequate and the future costs and schedules were not well-established. Substantial efforts have been made to improve the management and forward planning. Management and oversight changes at NASA have been complemented by substantial changes at the prime contractor Northrop Grumman.

There remains a lot to do before launch, but with an appropriate funding profile JWST could be launched later in the decade for less than the cost of Hubble in current dollars, and carry out a science program of unprecedented scope with capabilities that far exceed Hubble.

The impacts are numerous if JWST is terminated:

- 1) termination is inconsistent with the substantial progress that is being made on technical developments, management changes and improved oversight and working relationships with the key aerospace contractors. The 18 beryllium flight mirror segments for the JWST mirror have completed polishing and their cryogenic performance is being demonstrated to be excellent. Roughly 75% of all the hardware for JWST has been delivered or is in final fabrication. Revised and more realistic test programs are in place with major changes to the management and oversight.
- 2) termination is very damaging for future astronomy and astrophysics scientific productivity and for the pre-eminence of US science;
- 3) termination would result in no observatory-class mission to carry out broadly-based research when the current Great Observatories reach end-of-life;
- 4) termination undercuts the Decadal Survey process since it was the top ranked program in the prior 2000 Decadal Survey, and it is identified numerous times in the 2010 Decadal Survey as a foundational program for future astrophysics research;
- 5) termination of JWST, as the natural successor to Hubble, would result in the loss, once Hubble fails, of a very large part of the remarkable public interest that astronomy has enjoyed;
- 6) termination would eliminate a major source of inspirational science education and outreach results, particularly for the interest in STEM (science, technology, engineering and math) that comes from the high profile HST and JWST science results;
- 7) termination would reduce the strength and visibility world-wide of the US science program, not just astrophysics;
- 8) termination would reduce US credibility as an international partner given the Canadian and European partnership on JWST and their substantial contributions to the program;
- 9) termination of JWST, following on from the termination of the SSC (Superconducting Super Collider), would send the message that the US is relinquishing leadership in major science projects -- it will be very difficult to start any other major science project or mission;
- 10) termination would eliminate the broadly-based research funding for the community that results from the Great Observatory-class missions if none are operating, and greatly reduces opportunities for undergraduate, graduate and post-graduate education;

It is essential that we make our voices heard. It is particularly crucial that we each act quickly and email, fax or call our local House Representatives and also contact our Senators.

The loss of JWST will affect us all. It will damage the prospects for Astronomy for a decade or more and severely impact our ability to carry out the current Decadal Survey.

Please use any of these points in your own words and any other good arguments that you can think of...

Please distribute widely to your department members and colleagues.

Thanks Garth

NEWS RELEASE FROM HOUSE APPROPRIATIONS

NEWS House Appropriations Committee Chairman Hal Rogers Website address:
<http://appropriations.house.gov/> For Immediate Release: July 6, 2011
Contact: Jennifer Hing, (202) 226-7007

Appropriations Committee Releases the Fiscal Year 2012 Commerce, Justice,
Science Appropriations Bill

WASHINGTON, D.C. - The House Appropriations Committee today released the fiscal year 2012 Commerce, Justice, Science Appropriations bill, which will be considered in subcommittee tomorrow. The bill funds the Department of Commerce, the Department of Justice, the National Aeronautics and Space Administration (NASA), the National Science Foundation (NSF), and other related agencies.

NASA PART OF THE RELEASE:

National Aeronautics and Space Administration (NASA) - NASA is funded at \$16.8 billion in the bill, which is \$1.6 billion below last year's level and \$1.9 billion below the President's request. This funding includes:

\$3.65 billion for Space Exploration which is \$152 million below last year. This includes funding above the request for NASA to meet Congressionally mandated program deadlines for the newly authorized crew vehicle and launch system.

\$4.1 billion for Space Operations which is \$1.4 billion below last year's level. The legislation will continue the closeout of the Space Shuttle program for a savings of \$1 billion.

\$4.5 billion for NASA Science programs, which is \$431 million below last year's level. The bill also terminates funding for the James Webb Space Telescope, which is billions of dollars over budget and plagued by poor management.