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Congressional Hearing Summary
From NPOESS to JPSS: An Update on the Nation's Restructured Polar Weather
Satellite Program
House Committee on Science, Space and Technology
Joint Subcommittee Hearing
September 23, 2011

Subcommittee on Investigations and Oversight (I&O):

Chair: [Paul Broun](#) (R-GA) ([opening statement](#))

Ranking Member: [Donna Edwards](#) (D-MD) ([prepared statement](#)) (not in attendance)

Subcommittee on Energy and Environment (E&E):

Chair: Rep. [Andy Harris](#) (R-MD) ([opening statement](#))

Ranking Member: Rep. [Brad Miller](#) (D-NC) ([opening statement](#))

Witnesses:

- The Honorable Dr. Kathryn Sullivan, Assistant Secretary of Commerce for Environmental Observation and Prediction, Deputy Administrator, NOAA ([prepared statement](#))
- Mr. Christopher Scolese, Associate Administrator, NASA ([prepared statement](#))
- Mr. David A. Powner, Director, Information Technology Management Issues, Government Accountability Office ([prepared statement](#))

Background

In 1994, the Clinton Administration decided to unite the two U.S. operational polar weather satellite systems operated independently by the Department of Defense (DOD) and the National Oceanic and Atmospheric Administration (NOAA). The tri-agency National Polar-orbiting Operational Environmental Satellite System (NPOESS) program, including the National Aeronautics and Space Administration (NASA) in a technology development capacity, was born. Although the original goals of NPOESS were to reduce duplication and costs in U.S. weather satellites, the program was plagued by numerous management issues, explosive cost-growth and delays. In light of these, in 2010, the Obama Administration announced that it was reverting to separate programs: the Joint Polar Satellite System (JPSS) to be managed by NOAA, with NASA acting as the acquisition agent, and the Defense Weather Satellite System (DWSS), managed by

the DOD. Under the new plan, JPSS would include three operational satellites: NASA's NPOESS Preparatory Project (NPP) satellite to be launched in October 2011, which was originally designed as a research satellite for the NPOESS constellation, followed by two new satellites JPSS-1 and 2. The launch of the first JPSS satellite is slated for 2017. Congress did not provide full funding for JPSS in FY2011, however, creating concern that a coverage gap will develop in the 2016-2017 time frame when NPP and existing NOAA satellites may cease operating before the first JPSS is launched. This hearing was convened to discuss progress made thus far by NOAA and NASA to move forward with JPSS and their efforts to prepare for the potential coverage gap. See the [webcast](#) and [charter](#) of the hearing for more information.

Nuggets

"Every American is impacted by this program, whether they know it or not."

I&O Subcommittee Chairman Paul Broun

"The JPSS program does appear to be the poster child of a runaway government program that has overpromised, is over-budget and has honestly underperformed."

E&E Subcommittee Chairman Andy Harris

"Our friends in the Appropriations Committee did drop the ball by failing to fund this program fully...that short sighted choice means that there will be gaps in weather and climate forecasting data."

I&O Subcommittee Ranking Member Brad Miller

"This remains a snake bit project, but it appears that, because of your efforts, it has been bitten by fewer and less venomous snakes."

Ranking Member Miller

"I do believe... [that] when it comes to the high precision, high accuracy and highly stable data of atmospheric sounding -- the life blood of weather forecasting -- we have seen no proposals...that demonstrate any sense of a market other than the United States government for instruments of that class."

Dr. Kathryn Sullivan, NOAA Associate Administrator

Hearing Highlights

This joint hearing of the House Science, Space and Technology Committee's Investigations and Oversight (I&O) and Energy and Environment (E&E) Subcommittees served as a status report for NOAA's progress thus far with the JPSS program (NASA is the acquisition agent for the program). The discussion revealed that Committee members are making different judgments on the program's status and what is needed to ensure its success. The Republican majority's general opposition to providing funds for climate monitoring, a sense of confusion as to what capabilities the program offers and

likely funding limitations, all came to bear as potential causes of problems for the struggling program.

In his opening remarks, Chairman Paul Broun (R-GA) briefly described the history of the program and noted that it is still facing challenges. He faulted “a perfect storm of factors” for this, particularly drastic reorganization, flat funding from Continuing Resolutions (CRs) and the proposed ramp-up in development costs. He noted his continuing support of the program, though, and called for full funding for JPSS; “every American is impacted by this program, whether they know it or not,” he said.

Chairman Broun’s main concern was the lack of a defined baseline for the program and pressed the witnesses by pointing out that both the NASA Authorization Act of 2005 and the Consolidated Appropriations Act of 2008 make this a requirement for both NASA and NOAA programs. Dr. Kathryn Sullivan, Assistant Secretary of Commerce for Environmental Observation and Prediction and Deputy Administrator of NOAA, responded by saying that there are “various usages of the word baseline,” and that, in a sense, NOAA had been working with an established budget estimate and program requirements. She added, though, that a new baseline would be provided later this year.

E&E Ranking Member Brad Miller (D-NC) was more hopeful of the program’s recent progress: “This remains a snake bit project, but it appears that, because of your efforts, it has been bitten by fewer and less venomous snakes.” In fact, he faulted the program’s funding shortfall in FY2011 as the main culprit. “Our friends in the Appropriations Committee did drop the ball by failing to fund this program fully [and] decisions have consequences. That short sighted choice means that there will be gaps in weather and climate forecasting data.” He added that “the idea of not fully funding this satellite program is unacceptable.”

Rep. Andy Harris (R-MD), Chair of the E&E subcommittee, in turn, described JPSS as “the poster child of a runaway government program that has overpromised, is over-budget and has honestly underperformed.”¹ He expressed support for the program saying that “there is no doubt that weather satellites play a vital role in keeping the country informed and safe.” However, since it will have taken 17 years to go from the original directive in 1994 to launch of the first satellite (NPP), he wondered if perhaps other arrangements for obtaining this data should be explored.

In their testimony, Dr. Sullivan and Mr. Christopher Scolese, NASA Associate Administrator, reiterated their respective agencies’ commitments to ensure the success of the program. Mr. Scolese said that the program is “critical” to the nation’s Earth Science research. Dr. Sullivan tied the program’s success to the weather forecasting models that proved so critical during this year’s numerous extreme weather events. She explained that over 90% of the data that goes into numerical weather models comes from satellites.

¹ Rep. Harris said JPSS, but probably meant NPOESS, the predecessor program that was restructured into JPSS and its DOD counterpart the Defense Weather Satellite System.

Dr. Sullivan went on to describe the agency's achievements in the last several months which include: completing Level 1 requirements for JPSS, which entails a definition of scope and focus; staffing the JPSS Program Office; and developing a management control plan that details how NOAA and NASA will work together, which should be completed in the near future. She noted that funding for the program under the 2011 CR fell "well short" of the President's request so that "even after reprogramming, the JPSS program was unable to move forward at the rate needed to assure continuity of data...we now face a near-certain gap of data in the 2016 time frame." Dr. Sullivan stressed the importance of receiving full funding for FY2012 to meet the launch readiness date of 2017 for JPSS-1.

Mr. David A. Powner, Director of Information Technology Management Issues at GAO, praised this progress as "commendable" and noted that the management structure, now without the DOD involved in satellite acquisition, was "much more streamlined," and made GAO more comfortable. While certainly more optimistic, he said that "it's important to keep everyone on their toes," and warned that transitioning program management to NASA would not guarantee success. It is "imperative that NOAA perform rigorous executive oversight of JPSS," he said. He also named two critical decisions that the agency must make with haste to remain on track: determining a baseline and defining contingency actions in the event of a coverage gap between NPP and JPSS-1.

Mr. Powner explained that due to NPP's "necessary on-orbit checkout period," there is an anticipated gap of coverage of 6-12 months, which he said could increase if NPP does not last for five years. He said that NASA engineers are concerned that some sensors were not made to last beyond three years. When pressed by Chairman Harris, who found this finding "disturbing," Mr. Powner explained that as NPP was originally conceived as a research satellite, it was "not built with the rigor of an operational satellite."

The differences between an operational and a research satellite were just one of the discussions that revealed that the Committee Members are not clear on the requirements of the new program. Members asked about what advantages the system would provide, why there was an increase in costs when there are fewer requirements (when compared to NPOESS), as well as the difference between NPP and JPSS. On this last point, Mr. Scolese explained that while NPP would serve as an operational satellite, JPSS would not be "an identical clone of NPP," as NPP's prime purpose is to verify technology. Because of this goal, the requirements for lifetime operations were simply not there.

The biggest source of contention for the Republican members, many of whom are skeptical that climate change is human-induced and therefore do not consider government funding of climate measurements to be a priority, involved whether the JPSS satellites carried climate sensors or not. Chairman Harris, for example, compared the JPSS satellites to a new car, and asked Dr. Sullivan whether leaving out the "bells and whistles on the car" – in his analogy, sensors to study long term climate change -- would allow the National Weather Service to focus on its core mission – weather -- and

bring JPSS back to schedule and cost. Dr. Sullivan explained that those sensors were “de-manifested” earlier and are “no longer carried on the JPSS” satellites. To this, Chairman Harris responded with an enthusiastic, “good for you!” The question was again brought up by Representative Sandy Adams (R-FL) who said Members were under the impression that the mission did involve climate monitoring. Dr. Sullivan replied that those sensors were “de-scoped” at an earlier juncture and that they would be potentially launched on other platforms, options that NOAA is still exploring.

Finally, a lengthy discussion ensued over NOAA’s contingency plans in the event of an increasingly likely coverage gap. Dr. Sullivan explained that NOAA continues to cooperate with other nations to obtain the necessary data. When prompted by a question by Chairman Harris about the absence of initiatives involving the private sector in her testimony, Dr. Sullivan explained that NOAA has released requests for information (RFI) to private companies about potential options and that it had been an omission on her part not to include that.

Chairman Harris, who said the Committee must know everything the agency is doing to fill the gap, said that this was a “glaring omission,” and that he suspected that the problem amounted to her belief that only the government could fulfill the job of providing weather data. “I do believe, Dr. Harris,” said Dr. Sullivan, that “when it comes to the high precision, high accuracy and highly stable data of atmospheric sounding -- the life blood of weather forecasting -- we have seen no proposals...that demonstrate any sense of a market other than the United States government for instruments of that class.” Rep. Harris, who is a physician by training, argued that the private sector is entrusted with providing medical instruments to care for patients so that perhaps NOAA should look to them for this endeavor: “for medical instruments, we also need a little accuracy and the government doesn’t make any,” he said.

Chairman Broun urged the agencies to pursue as many contingency options as possible, due to his expectation that the program will not receive the ramp-up in funding requested. He said that it was “a real good bet,” and that he “firmly believes” with “high certainty,” that the government will be funded by CRs for the remainder of the Congress. This, he said, would be a “huge issue” for the program: “I think you all need to look at every single option that’s available because I want to see these birds flyin’. I want to see it done in the most cost-effective way [and] be good stewards of the hard-earned money of taxpayers that they’re giving to this program.”