

# GAO Highlights

Highlights of [GAO-16-143T](#), a testimony before the Subcommittees on Environment and Oversight, Committee on Science, Space, and Technology, House of Representatives

## Why GAO Did This Study

NOAA is procuring the next generation of polar and geostationary weather satellites to replace aging satellites that are approaching the end of their useful lives. GAO has reported that gaps in polar satellite coverage and in backup coverage for geostationary satellites are likely in the near future. Given the criticality of satellite data to weather forecasts, concerns that problems and delays on the new satellite programs will result in gaps in the continuity of critical satellite data, and the impact such gaps could have on the health and safety of the U.S. population, GAO added mitigating weather satellite gaps to its High-Risk List in 2013 and it remained on the list in 2015.

GAO was asked to testify, among other things, on the cause and impact of a recent launch delay on the GOES-R program, and the status and key remaining challenges on the JPSS program. To do so, GAO relied on prior reports issued from 2012 to 2015 as well as on ongoing work on both programs. That work included analyzing progress reports and interviewing officials.

## What GAO Recommends

GAO is not making any new recommendations in this statement, but—since 2012—has made 23 recommendations to NOAA to strengthen its satellite acquisition programs and contingency plans. The department agreed with GAO's recommendations and is taking steps to implement them. To date, NOAA has implemented 6 recommendations and is working to address the remaining 17. Timely implementation of these recommendations will help mitigate program risks.

View [GAO-16-143T](#). For more information, contact David A. Powner at (202) 512-9286 or [pownerd@gao.gov](mailto:pownerd@gao.gov).

December 10, 2015

# ENVIRONMENTAL SATELLITES

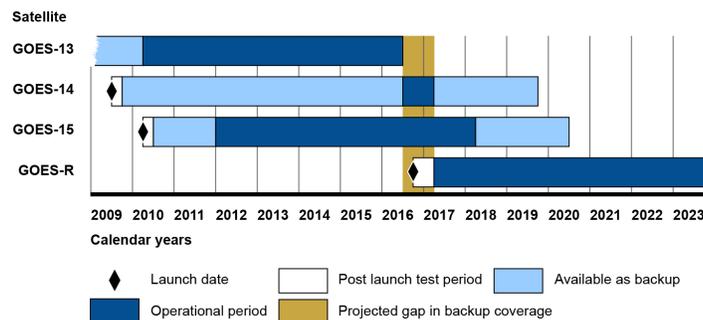
## Launch Delayed; NOAA Faces Key Decisions on Timing of Future Satellites

### What GAO Found

The National Oceanic and Atmospheric Administration's (NOAA) \$10.9 billion Geostationary Operational Environmental Satellite-R (GOES-R) program recently delayed the planned launch of the first satellite in the new series from March 2016 to October 2016. Based on its ongoing work, GAO found that the decision to delay the launch was due to poor schedule performance over the last few years (losing more than 10 days a month on average), recent technical issues with key components, and little schedule margin as the program entered integration testing. The October 2016 launch date may also be delayed if additional technical challenges arise or if schedule performance remains poor.

NOAA recently changed assumptions about the expected lifespan of existing GOES satellites from 7 to 10 years based on the longevity of prior satellites. However, the analysis supporting this change is over 10 years old. Even with this extension, NOAA may fall short of its policy of having 2 operational satellites and 1 backup satellite in orbit. The agency faces an 11 month gap in backup coverage until GOES-R is operational, during which time there would be only 2 operational satellites (see figure). Any further delays in the GOES-R launch date could exacerbate that gap. NOAA is now facing important decisions on when to launch the remaining satellites in the GOES-R series to maximize satellite coverage while minimizing development and storage costs.

**Timeline for a Potential Gap in Backup Geostationary Satellite Coverage**



Source: GAO analysis of NOAA data. | GAO-16-143T

Based on its ongoing work, GAO found that NOAA's \$11.3 billion Joint Polar Satellite System (JPSS) program is making progress toward the planned launch of the JPSS-1 satellite in March 2017. However, the program has experienced technical issues that have affected internal schedule deadlines, such as an issue with debris in an instrument's subsystem that delayed its delivery by approximately 8 months, and faces key risks in the remainder of development. NOAA is also facing the risk of a potential near-term gap in polar data prior to the launch of the JPSS-1 satellite. Similar to the decision on the GOES satellites, in April 2015, NOAA revised its assumptions about the expected life of the satellite that is currently in-orbit by adding up to 4 years, which would reduce the chance of a near-term gap. However, risks to the performance and health of the on-orbit satellite, and to development of the JPSS-2 satellite could increase the risk of a gap. Also, NOAA faces key decisions on timing the development and launch of the remaining JPSS satellites to ensure satellite continuity while balancing the possibility that satellites could last much longer than anticipated.