



# **REPORT TO CONGRESS**

## **SHORT-TERM MANAGEMENT OF ENVIRONMENTAL OBSERVATIONS. - MICROSATELLITE CONSTELLATIONS**

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*Developed pursuant to: Public Law 115-25, Title III, Section 301(a)(1)(B)*

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TITLE III OF P.L. 115-25 INCLUDED THE FOLLOWING LANGUAGE

***Title III—Weather Satellite and Data Innovation.***

***SEC. 301. National Oceanic and Atmospheric Administration Satellite and Data Management.***

***(a) SHORT-TERM MANAGEMENT OF ENVIRONMENTAL OBSERVATIONS.—***

***(1) MICROSATELLITE CONSTELLATIONS.—***

***(A) IN GENERAL.—The Under Secretary shall complete and operationalize the Constellation Observing System for Meteorology, Ionosphere, and Climate–1 and Climate–2 (COSMIC) in effect on the day before the date of the enactment of this Act—***

***(i) by deploying constellations of microsatellites in both the equatorial and polar orbits;***

***(ii) by integrating the resulting data and research into all national operational and research weather forecast models; and***

***(iii) by ensuring that the resulting data of National Oceanic and Atmospheric Administration’s COSMIC–1 and COSMIC2 programs are free and open to all communities.***

***(B) ANNUAL REPORTS.—Not less frequently than once each year until the Under Secretary has completed and operationalized the program described in subparagraph (A) pursuant to such subparagraph, the Under Secretary shall submit to Congress a report on the status of the efforts of the Under Secretary to carry out such subparagraph.***

THIS REPORT RESPONDS TO THE CONGRESSIONAL DIRECTION.

### **Status of the COSMIC-1 Constellation**

In 2006, the COSMIC-1 mission partners launched six microsattellites in a polar orbit as a proof of concept for a new, inexpensive atmospheric radio-occultation (RO) sounding technique. These RO data proved beneficial to NOAA's numerical weather prediction (NWP) models, and NOAA's National Weather Service (NWS) began using the science data operationally within 1 year of the launch. Only two of the original six microsattellites continue to transmit data that NWS can use in its NWP models.

### **Status of the COSMIC-2 Constellation**

NOAA and its partners initiated the COSMIC-2 program to continue the RO mission as well as develop and launch 12 satellites: six in a polar orbit to replenish the COSMIC-1 data stream, and six in an equatorial orbit.

Due to schedule, technical, and funding constraints, the Administration and its partners have decided to only deploy the equatorial orbit. The COSMIC-2 mission is scheduled to launch six equatorial-orbit satellites in late fiscal year (FY) 2018/early FY 2019 as part of the Air Force's Space Test Program-2 mission. The President's FY 2019 Budget request supports NOAA's responsibilities to process data from these satellites.

### **Data Archive and Access**

NWP model output from the COSMIC-1 polar orbit data and COSMIC-2 equatorial orbit data will be made freely and openly available to all sectors of the weather community. Additionally, COSMIC-2 data will also be made available via the Comprehensive Large Array-data Stewardship System.

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