



Use of Unmanned Aircraft Systems in Joint Operations with State, Local, and Tribal Partners

July 5, 2016

Fiscal Year 2015 Report to Congress



**Homeland
Security**

U.S. Customs and Border Protection

Message from the Deputy Commissioner of CBP

July 5, 2016

I am pleased to submit the following report, "Use of Unmanned Aircraft Systems in Joint Operations with State, Local, and Tribal Partners," prepared by U.S. Customs and Border Protection (CBP).

This document has been compiled pursuant to a requirement in Senate Report 113-198 accompanying the *Fiscal Year (FY) 2015 Department of Homeland Security Appropriations Act* (P.L. 114-4).



Pursuant to congressional requirements, this report is being provided to the following Members of Congress:

The Honorable John R. Carter
Chairman, House Appropriations Subcommittee on Homeland Security

The Honorable Lucille Roybal-Allard
Ranking Member, House Appropriations Subcommittee on Homeland Security

The Honorable John Hoeven
Chairman, Senate Appropriations Subcommittee on Homeland Security

The Honorable Jeanne Shaheen
Ranking Member, Senate Appropriations Subcommittee on Homeland Security

I would be pleased to respond to any questions you may have. Please do not hesitate to contact my office at (202) 344-2001 or the Department's Deputy Under Secretary for Management and Chief Financial Officer, Chip Fulghum, at (202) 447-5751.

Sincerely,

A handwritten signature in black ink, appearing to read "K. McAleenan", with a long horizontal flourish extending to the right.

Kevin K. McAleenan
Deputy Commissioner
U.S. Customs and Border Protection

Executive Summary

This report details the CBP Air and Marine Operations (AMO) use of Unmanned Aircraft Systems (UAS) to conduct joint operations from FY 2010 to FY 2013. This report includes data on the number of times that AMO utilized the UAS in joint operations with state, local, and tribal partners; the geographical and environmental area in which these UAS operated; and the purpose, justification, and partner agencies for these joint operations. This report also contains information on AMO UAS flight hours and the geographical and environmental challenges that AMO faces with conducting manned operations in these regions.



Use of Unmanned Aircraft Systems in Joint Operations with State, Local, and Tribal Partners

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I. Legislative Language

This document was compiled pursuant to the legislative language set forth in Senate Report 113-198 accompanying the *Fiscal Year (FY) 2015 Department of Homeland Security (DHS) Appropriations Act (P.L. 114-4)*.

Senate Report 113-198 states:

Unmanned Aircraft Systems Usage

The Committee directs the Department to report annually, submitting the first report not later than 3 months after the date of enactment of this act, on the number of times that CBP unmanned aircraft systems are used in response to a specific request to support State, local, and/or tribal law enforcement entities in the prior fiscal year. The first report shall cover fiscal years 2010, 2011, 2012, and 2013. Such report shall identify the requesting State, local, or tribal entity; include a general description of the geographical locations of such uses; and provide the purpose and justification for such uses. Such report shall also include any crash or other significant accident involving an unmanned aircraft system operated by the Department and provide details concerning the circumstances and cause of such crash or accident.

II. Background

U.S. Customs and Border Protection's (CBP) Unmanned Aircraft System (UAS) program contributes to each of the CBP Air and Marine Operations' (AMO) four operational core competencies: domain awareness, interdiction, investigation, and national contingency operations. As illustrated in the AMO strategic plan, these core competencies directly align with and contribute to CBP goals and DHS missions.

Domain awareness is the observation of the operating domain (e.g., land or maritime) and understanding the baseline information associated with the domain. Domain awareness operations result in the detection of movement along the border areas of the United States. AMO's domain awareness has improved vastly with the advent of the Vehicle and Dismount Exploitation Radar and SeaVue Radar system. The UAS's main attribute as a platform is high endurance. This capability, coupled with an electro-optical/infrared camera and the ability to quickly change various radar payloads, allows CBP to sense and pinpoint illegal crossborder or maritime activity. The UAS has the ability to transmit real-time information such as full-motion video and synthetic aperture radar cueing to a common operating picture, which is passed to agents on the ground for tactical response. This capability contributes to high situational awareness throughout any type of operation, enhancing mission execution, officer safety, and evidence collection.



The same UAS capabilities facilitate national and state contingency operations that include response to natural and manmade disasters, as well as other humanitarian operations. For instance, during FYs 2010 and 2011, AMO used the UAS's sophisticated sensors to capture critical data for river forecast centers, allowing emergency personnel to assess flooding and damage to affected communities.

AMO will continue to work vigilantly with state, local, and tribal agencies within the United States and respond to critical incidents with respect to law enforcement operations, search and rescue, and natural disasters.

III. UAS Response to Requests for Support

A. Use of UAS in Joint Operations

Inquiries for UAS assistance are routed through AMO via an Aviation Support Request (ASR). Only support that is outside of scheduled UAS operations requires an ASR. Routine support that can be conducted without impact to current operations does not require an ASR. High-risk law enforcement requests, such as serving warrants, necessitate the submission of an ASR. Exigent circumstances that would require immediate response or launch shall proceed if able, followed by the appropriate required notifications. All ASRs are approved on a case-by-case basis to ensure maximum utility of the UAS asset.

From FY 2010 to FY 2013, AMO deployed the UAS for disaster response, surveillance, detection, and investigation operations with state, local, and tribal partners from three locations:¹

- National Air Security Operations Center – Grand Forks (NASOC-GF) in North Dakota
- National Air Security Operations Center – Corpus Christi (NASOC-CC) in Texas
- National Air Security Operations Center – Sierra Vista (NASOC-SV) in Arizona

AMO flew approximately 450 hours in support of state, local, and tribal joint operations during FY 2010 to FY 2013. This is 2.5 percent of the nearly 18,000 hours flown by AMO UAS during this period. The graph on the next page (Figure 1) depicts the number of AMO UAS flight hours flown each fiscal year in support of state and local joint operations.

In FY 2010, AMO conducted seven flights in response to flooding in the Red River. In FY 2011, the number of hours that AMO supported joint operations increased dramatically in response to severe flooding in the Northern Region and the tracking of damaging ice floes. NASOC-GF conducted approximately 24 flights in response to the Red River and Missouri River floods, providing critical imagery to civil response teams and emergency personnel assisting municipalities in North Dakota and Minnesota. All of the flights conducted within the NASOC-CC and NASOC-SV areas of responsibility were law enforcement-related.

¹ In FY 2011, National Air Security Operations Center – Cocoa Beach in Florida maintained and flew a UAS to assist the Federal Emergency Management Agency (FEMA) with damage assessment after Hurricane Irene; however, these flights were categorized as a national tasking.

Flight Hours by Fiscal Year for State and Local Joint Operations

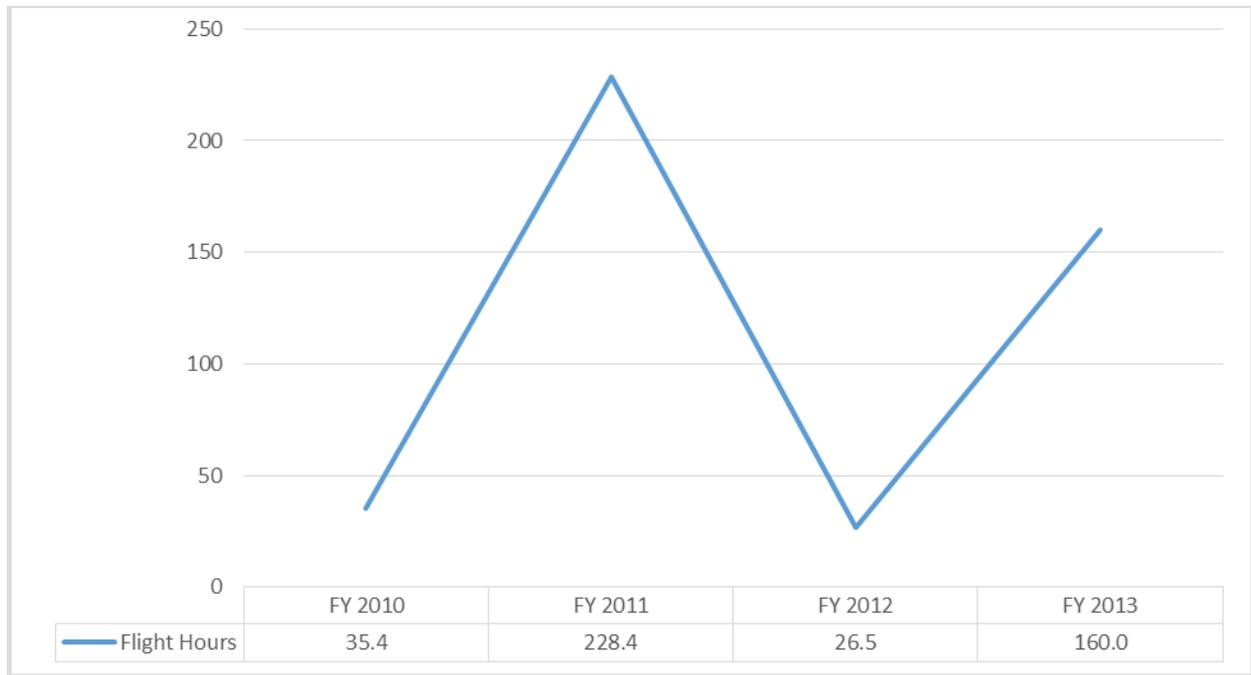


Figure 1

1. Number of Flights

Most flights conducted by AMO UAS and involving state, local, or tribal partners took place as part of a joint task force. These flights are included below in Table 1.

Flights Involving State, Local, and Tribal Partners from FY 2010-FY 2013	
AMO Operating Location	Number of Flights
NASOC-GF	81
NASOC-CC	32
NASOC-SV	5

Table 1

2. Types of Flights

From FY 2010 to FY 2013, NASOC-GF conducted the majority of the AMO UAS flights supporting state, local, and/or tribal partners. During the Red River flooding in FY 2010 and FY 2011, NASOC-GF flew most of its state and local hours providing assistance to

FEMA and various Minnesota, North Dakota, and Montana state agencies. During this period, NASOC-CC received all of its mission requests through the Office of Border Patrol and the South Texas Campaign, a joint task force established between CBP and federal, state, and local law enforcement partners in Texas. Likewise during this period, NASOC-SV received all of its requests through the U.S. Border Patrol and the Joint Field Command, a joint task force established between CBP and federal, state, and local law enforcement partners in Arizona.

B. State, Local, and Tribal Partners

The following tables show AMO’s UAS operations that provided some benefit to state, local, and tribal partners, as well as federal partners participating in a joint task force.

National Air Security Operations Center – Grand Forks (North Dakota)				
State, Local, or Tribal Partner	Federal Requestor	Type	Date(s)²	Purpose
Various state agencies	FEMA	Federal	March 16 to 25, 2010 March 24 to June 8, 2011	Disaster response
North Dakota Bureau of Criminal Investigations	U.S. Immigration and Customs Enforcement	Federal	April 28 to June 5, 2011	Law enforcement operations
Spirit Lake Indian Reservation (North Dakota)	Bureau of Indian Affairs	Federal	August 24, 2011	Law enforcement operations
Minnesota Bureau of Criminal Apprehension/ Fosston Police Department		State/ Local	June 1, 2011	Law enforcement operations
Minnesota Bureau of Criminal Apprehensions		State	July 6, 2011 November 13, 2012 to January 14, 2013	Law enforcement operations

² Date(s) for these three tables refer to periods during which AMO flew the UAS in joint operations.

National Air Security Operations Center – Grand Forks (North Dakota)				
State, Local, or Tribal Partner	Federal Requestor	Type	Date(s)²	Purpose
North Dakota Emergency Operations Center		State	June 22, 2011	Disaster response
North Dakota Bureau of Criminal investigation		State	December 9, 2011 May 15 to 18, 2012 July 13, 2012	Law enforcement operations
Minnesota Department of Natural Resources		State	December 27, 2011 to February 7, 2012 May 10, 2012 October 12, 2012	Law enforcement operations/ wildfire surveillance
Grand Forks Police Department (North Dakota)		Local	June 23, 2011 May 16, 2012	Law enforcement operations
Nelson County Sheriff's Office (North Dakota)		Local	June 29, 2011	Law enforcement operations
Pennington County Sheriff's Office (Minnesota)		Local	September 7, 2011	Law enforcement operations
Wells County Sheriff's Office (North Dakota)		Local	April 2, 2012	Disaster response
Walsh County Sheriff's Office (North Dakota)		Local	July 17 to 18, 2012	Law enforcement operations
McLean County Sheriff's Office (North Dakota)		Local	July 20, 2012	Search and rescue

National Air Security Operations Center – Grand Forks (North Dakota)				
State, Local, or Tribal Partner	Federal Requestor	Type	Date(s)²	Purpose
Polk County Sheriff's Office (North Dakota)		Local	August 8, 2013	Search and rescue

Table 2

National Air Security Operations Center – Corpus Christi (Texas)				
State, Local, or Tribal Partner	Federal Requestor	Type	Date(s)	Purpose
Texas Department of Public Safety, to include Texas Rangers	South Texas Campaign (joint task force)	Federal	November 14 to 18, 2011 January 18, 2012 January 23, 2012 February 1, 2012 March 9, 2012 May 3 to 6, 2012 October 12, 2012 January 23 to 24, 2013	Law enforcement operations

Table 3

National Air Security Operations Center – Sierra Vista (Arizona)				
State, Local, or Tribal Partner	Federal Requestor	Type	Date(s)	Purpose
Various state and local law enforcement agencies	Joint Field Command (joint task force)	Federal	November 10 to 11, 2011 January 5, 2012 January 31, 2012 May 30, 2012	Law enforcement operations

Table 4

C. Geographical Locations and Operating Environments

AMO operates UAS from three locations and utilizes a fourth location, National Air Security Operations Center – Jacksonville, for aircrew flying via satellite link. The conditions along the Northern Region are typified by cold winters and heavily forested terrain. The Southwest Region is typified by hot summers and mostly flat terrain.

Launch site weather and severe weather along an aircraft’s route of flight pose a significant challenge to any aircraft operation. Until 2016, because of route restrictions placed on the operation of UAS in the U.S. National Airspace System, UAS were more susceptible to cancellation due to their inability to easily divert from their preplanned route to circumvent severe weather. Additionally, as UAS aircraft landing/gear modifications are completed, cancellations due to existing crosswind limitations will decrease.

From FY 2010-FY 2013, AMO UASs experienced a 56-percent mission completion rate, with weather as the primary reason for mission cancellation.

National Air Security Operations Center – Grand Forks (North Dakota)	
Weather and Environmental Challenges	Weather consists of long, cold, and snowy winters and is very humid during the summer. Significant winds exceed aircraft operating limits.
Mission Areas	Smuggling and other illegal activities by transnational criminal organizations (TCO) (Northern and Southern Border); special investigative missions; and natural disasters.
Current Area of Responsibility Includes	Northern border of North Dakota, South Dakota, Montana, Washington State, Michigan, and Minnesota. Aircrews provide daily mission control element (MCE) flight operations to the Southern Border.

Table 5

National Air Security Operations Center – Corpus Christi (Texas)	
Weather and Environmental Challenges	Weather consists of long, hot summer months. Significant winds, convective weather (summer), and fog (winter months) exceed aircraft operating limits.
Mission Areas	Smuggling and other illegal activities by TCOs (primarily Southern Border); special investigative missions; and natural disasters. Lead deployment site. Conducts annual deployments of the Guardian (Predator maritime variant) to the Caribbean and Eastern Pacific Source and Transit Zones.
Current Area of Responsibility Includes	Texas, maritime Source, Transit, and Arrival zones.

Table 6

National Air Security Operations Center – Sierra Vista (Arizona)	
Weather and Environmental Challenges	Weather is dry, with very little humidity. Summers are hot and can bring consistent and torrential downpours. Significant winds and convective weather (winter and summer) exceed aircraft operating limits.
Mission Areas	Smuggling and other illegal activities by TCOs (primarily Southern Border); special investigative missions; and natural disasters.
Current Area of Responsibility Includes	Arizona, California, New Mexico, Texas, and Eastern Pacific.

Table 7

IV. Significant UAS Incidents

Between FY 2010 and FY 2013, AMO had one significant incident involving a UAS, though this did not occur during a joint operation with state, local, or tribal partners. On May 10, 2013, AMO dispatched a UAS from the now-closed National Air Security Operations Center – Cocoa Beach in Cape Canaveral, Florida, to fly a scheduled patrol in its area of responsibility. The aircraft suffered severe structural damage during the landing after the mission. As a result, the aircraft subsequently was dismantled and shipped to the manufacturer, General Atomics, for major repairs. The aircraft is expected to return to service in FY 2016.

V. Conclusion

AMO flies approximately 4,500 UAS hours each year, primarily in the accomplishment of domain awareness, interdiction, investigation, and national contingency operations. As a member of several national task forces, AMO is in a unique position to provide critical support through an efficient vetting process to state, local, and tribal partners that would otherwise lack this data collection capability. AMO will continue to build partnerships and work with its partners to further the priorities outlined by the Secretary and the Commissioner.

VI. Appendix – List of Acronyms

Acronym	Definition
AMO	Air and Marine Operations
ASR	Aviation Support Request
CBP	U.S. Customs and Border Protection
FEMA	Federal Emergency Management Agency
FY	Fiscal Year
NASOC-CC	National Air Security Operations Center – Corpus Christi
NASOC-GF	National Air Security Operations Center – Grand Forks
NASOC-SV	National Air Security Operations Center – Sierra Vista
TCO	Transnational Criminal Organization
UAS	Unmanned Aircraft System(s)