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The Carter Center

# Explosive Weapons Contamination in Syria, Report 1

Southern Syria: As Sweida, Daraa, and Quneitra  
Governorates

Syria Project, Conflict Mapping

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## Introduction

Contamination from explosive remnants of war (ERW), unexploded ordnance (UXO), as well as landmines and improvised explosive devices (IEDs) (see “Terminology” section at end of the study) can pose an enduring threat to a population long after violence has ended. The contamination from these categories of explosive weapons can continue to kill and injure people for years to come and limit a community’s future development.

While on-the-ground assessments, surveys, and clearance operations are some of the most effective ways to deal with the physical threat of explosive weapons contamination, these can be challenging to do in Syria because of access and security constraints in parts of the country.

Instead, organizations have turned to desk-based studies to plan future operations that can be carried out when conditions improve, as well as to help prioritize risk-education programs.

The Carter Center aims to contribute to these efforts by analyzing and visualizing its own data on explosive weapons use in Syria between 2013 and 2019.

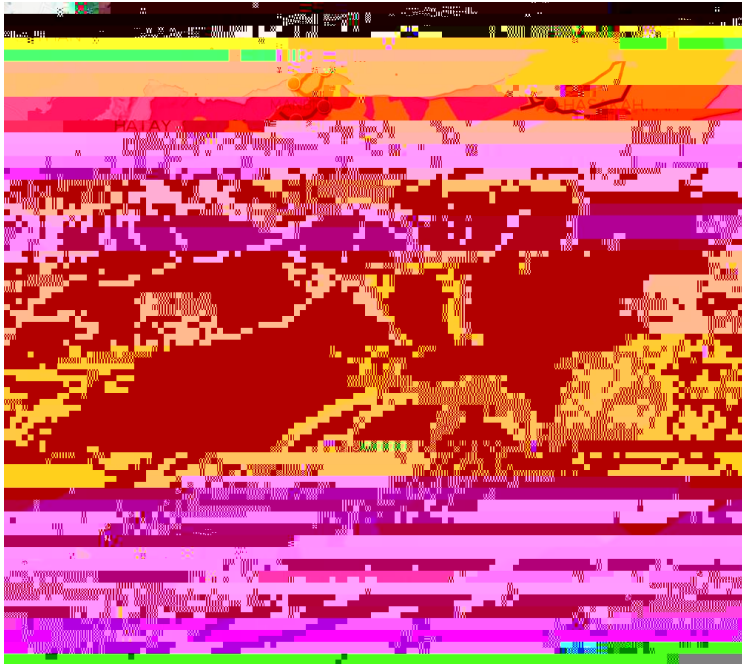


Figure 1: Areas of control in Syria October 18, 2019.

This project provides a detailed view of the scale and complexity of explosive weapons use in Syria. This, in turn, can help with identifying and prioritizing areas that are potentially at risk from explosive weapons contamination and require on-the-ground assessments. However, a variety of factors contribute to the risk of explosive weapons contamination, including ground type, firing conditions, and munitions used.

## Methodology

This report is the first in a series exploring explosive weapons use in Syria between July 2013 and May 2019. The focus of this report is on southern Syria, specifically the governorates of Quneitra, Daraa, and As Sweida.

Using primarily open-source data collected by The Carter Center’s Syria Project and the publicly available [Armed Conflict Location & Event Data Project](#) (ACLED), the team examined 9,446 conflict events in southern Syria to extrapolate individual uses of explosive weapons. An example of the method used to document numbers of explosive weapons:

One conflict event from the Syrian Observatory for Human Rights (SOHR) that states, “Government Forces shelled Duma City on 3 February 2016 using 30 artillery shells, 20 mortar shells and 5 rockets while warplanes carried out at least 10 airstrikes” was recorded as 65 individual uses of explosive munitions (30 artillery shells, 20 mortar shells, 5 rockets, and 10 airstrikes).

While much of the data contains the number of munitions used in an event, such as in the example above, some does not. In those cases, the number of explosive munitions was estimated by assigning a maximum count of 3 to any mention of plural munitions use. For example:

One conflict event that states, “A warplane conducted airstrikes onto Sheikh Miskine in conjunction with heavy shelling onto the town” was recorded as 6 uses of explosive munitions – 3 airstrikes and 3 shelling.

While the count was likely higher, especially when the report included adjectives such as “heavy” or “intense,” there was no way to accurately estimate munitions use. Instances that did not mention explosive munitions were not included in the study. These included small-arms fire, heavy machine guns; abductions, kidnappings, detentions, and arrests; (armed) clashes; riots, protests, and demonstrations; stabbings; executions; murder; torture; assault; and curfew or arrest operations.

Notably, [previous](#) studies on explosive weapons use in Syria have typically focused on the number of conflict events to determine potential explosive munitions contamination (amongst other techniques) rather than on individual uses of explosive munitions. This means the scale and complexity of the issue often has been underrepresented, a gap this study aims to fill.

After extrapolating individual explosive munitions use from the conflict events, the data was divided into four broad categories: 1) air-launched explosive weapons, 2) ground-launched explosive weapons, 3) cluster munitions, and 4) landmines, improvised explosive devices (IEDs), or unexploded ordnance (UXO). Following this, the data was analyzed and visualized based upon administrative delineations provided by the United Nations Office for the Coordination of Humanitarian Affairs (UNCOHA), which details locations to the neighborhood level.

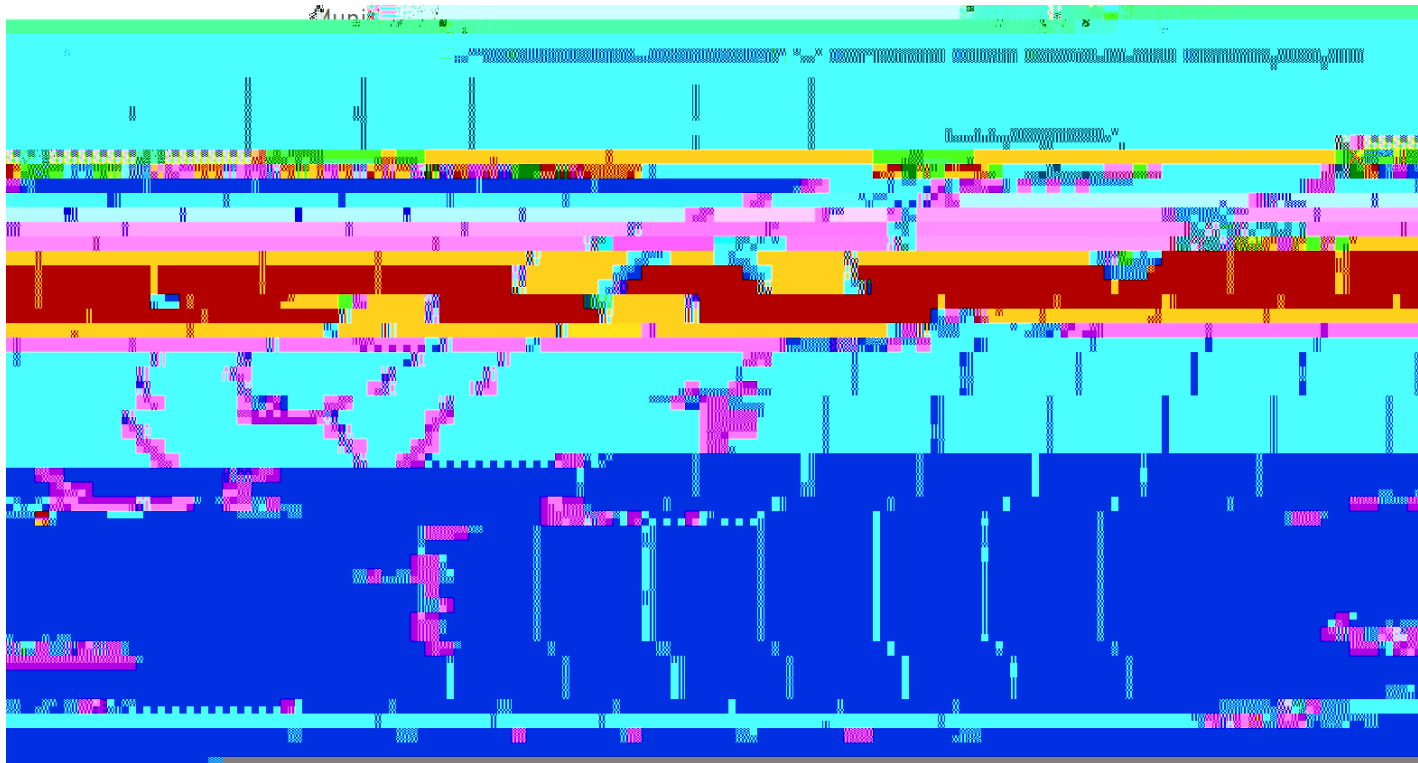
While a variety of factors contribute to the presence of explosive weapons in an area—including firing conditions, operator error, munitions age, and weather and terrain types—this method of providing a baseline use of explosive weapons could help prioritize communities in need of on-the-ground assessments. There is a potentially higher risk of explosive weapons contamination in

As a final note, while The Carter Center strives to record as many conflict events as possible, the restrictive reporting environment in Syria and the high volume of violence make it likely that some incidents have not been recorded. Therefore, figures presented in this report should be viewed as a representation of a minimum situation rather than an exact depiction of every single incident.

## Overview

After reviewing 9,546 documented conflict events between July 2013 and May 2019, The Carter Center estimates that a minimum of 36,404 individual explosive munitions were used across southern Syria.

The vast majority of those were from ground-launched weapons of various types (57%) followed by airplanes and helicopters (42%). See Figure 2 below to explore the numbers further.



*Figure 2: Munitions type breakdown by governorate (left) as well as munitions category breakdown (right). Visit the Center's [interactive version](#) of this study to explore the figure further.*

Across the three governorates, shelling of unknown types accounted for 40% of munitions use across southern Syria, followed by helicopter-dropped barrel bombs at 23% and airplane-launched munitions at 19%. Various types of rockets, artillery shells, and mortar shells also made up sizable counts of munitions used in southern Syria, with limited activity of cluster munitions,

and landmines or IEDs (Figure 1).<sup>2</sup> Under-reporting of landmine and IED detonation is a strong possibility given the nature of these weapons.

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*Figure 4: Locations that saw over 60% of munitions use in southern Syria between July 2013 and May 2019.*

## **As Sweida Governorate**

Out of 231 documented conf4Sp64



*Figure 5*











