



## ACLED Methodology and Coding Decisions around Conflict in Ukraine

Following the 2014 Euromaidan protest movement in Ukraine and the ouster of former President Viktor Yanukovich, pro-Russian demonstrations began in March 2014 across several provinces of eastern Ukraine against the government in Kiev. As had happened during the Euromaidan protests, many of these events involved the occupation of government buildings by pro-Russian activists. After Russia's annexation of the Crimean peninsula, the demonstrations escalated into an armed conflict after the central government in Kiev arrested several of the leaders of the separatist movements and attempted to clear out the occupied administrative buildings, leading to the replacement of the demonstrators by armed separatists.<sup>1</sup> This culminated in the separatist movements in Donetsk and Luhansk (collectively referred to as the Donbass region), which had organized themselves into "people's assemblies", declaring the creation of the Donetsk People's Republic (DPR) and Luhansk People's Republic (LPR) on 6 April and 27 April 2014, respectively. Since the beginning of the conflict, the separatists have been widely reported to have received support from the Russian Federation in the form of personnel, war materiel, and financing.<sup>2</sup>

These events marked the beginning of the conflict in Ukraine's Donbass region. A long frontline now stretches from the Sea of Azov coast near Mariupol to the northeastern border with Russia near Luhansk city, demarcating the lines between the Ukrainian government forces and the armed groups of the separatist rebels. Since the initial phases of the conflict in 2014 and 2015, the frontlines between the two actors have remained largely static as both sides have dug in and fortified their positions. Despite various ceasefire agreements, the most notable of which being the [Minsk Protocol](#) following negotiations between the parties facilitated by the Organization for Security and Cooperation in Europe (OSCE) in September 2014,<sup>3</sup> hundreds of ceasefire violations are reported weekly across the 'no man's land' that separates the sides by often no more than several hundred meters.

This conflict has presented a number of methodological challenges for the tracking and recording of political violence, including how to track specific actors given the number of disparate groups involved; how to handle the variety of sources reporting on ceasefire violations (and often reporting on the same violations from different perspectives); how to

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<sup>1</sup> Kofman, Michael, et al. *Lessons from Russia's Operations in Crimea and Eastern Ukraine*. Washington, D.C.: Rand Corporation (2017): 38-40. <[Link](#)>

<sup>2</sup> Ibid, 45.

<sup>3</sup> Interfax. "OSCE releases original of Minsk ceasefire memorandum". *Interfax*. Published Sept 22, 2014. Accessed April 3, 2019. <[Link](#)>



deal with differing fatality counts that are often aggregated across larger sections of the conflict (e.g. fatality counts for the entire Donetsk sector of the frontline); and how to incorporate data from specific sources such as the OSCE's ceasefire reporting. This document will seek to outline how ACLED handles each of these challenges in turn.

## **Actors**

Most of the rebel units in the Donbass operate as part of the United Armed Forces of Novorossiia (NAF), a nominal coalition structure under which their activities are coordinated. The NAF is therefore coded as the default actor for rebel units in the region. The specific groups, when reported, are coded as associated actor to the NAF. In almost all cases, such associated actors are either the Donbass People's Militia or Luhansk People's Militia, which are the two largest rebel groups belonging to the separatist DPR and LPR, respectively. In a few exceptional cases where rebel groups are explicitly not part of the NAF -- for example, the volunteer Chechen ["Death Battalion" \(Батальон «Смерть»\)](#) -- these are coded as distinct, separate actors.

The actors "Military Forces of Ukraine (2014-)" or "Military Forces of Ukraine (2014-) National Guard" are the main actors representing the Ukrainian state forces in the conflict.

## **Sources**

There are few first-hand sources reporting on ceasefire violations in the Donbass region. The operational commands of the Ukrainian armed forces, the LPR militia, and the DPR militia each provide daily operational reports systematically detailing ceasefire violations committed against targets in the territories they control. Another first-hand source is provided by the daily reports of the OSCE which monitors ceasefire violations at various points along the front line. News sources tend to re-report information from these first-hand sources, sometimes adding additional information on damage or casualties.

## **Disaggregation and Event Types**

The information available in the daily operational reports provided by the LPR/DPR militias and Ukrainian government is often limited to a list noting which of their positions were fired upon with certain weapon types by the opposite side on a particular day. The reports generally do not report the direction of fire or any return-fire on their part. Because this



information is unknown, the weapon type is used to distinguish between the *Battles* and *Explosions/Remote violence* event types.

Where small arms fire is reported (which includes sniper rifles and light machine guns, among others), with no other information present to indicate a particular interaction type,<sup>4</sup> ACLED interprets this as a firefight between the military forces of Ukraine and NAF rebels by default, and hence codes this as event type: *Battles*, sub-event type: *Armed clash*. Based on the static frontlines and the regular firing along these frontlines, it is assumed that small arms fire reported along the frontline is directed at the opposite actor.

Where the sole use of heavy weapons is reported (which includes automatic grenade launchers [AGL], recoilless guns, heavy machine guns [HMG], weapons on infantry fighting vehicles [IFV, or BMP in Russian], cannons, mortars, artillery, and various missiles, among others), it is coded under event type: *Explosions/Remote violence*, sub-event type: *Shelling/artillery/missile attack*. If the shelling targets civilians or causes damage to civilian housing, civilians are coded as an actor as well: either as Actor 2 when solely targeted or as Associated Actor 2 if they are affected in addition to an armed group. If the shelling is directed 'at a town', or if some other general description is given that does not indicate actors being specifically targeted, no second actor is coded. But in all cases the event type remains: *Explosions/Remote violence* with sub-event type: *Shelling/artillery/missile attack*.

Where unknown weapons are reported, these are assessed according to any additional context available. For example, unknown weapons causing explosions or described as projectiles or missiles, are coded as event type: *Explosions/Remote violence*, sub-event type: *Shelling/artillery/missile attack*. If no such additional information is available, the coding will default to the most prevalent type of arms used in the Donbass, which are small arms, and hence coded as event type: *Battles*, sub-event type: *Armed clash*.<sup>5</sup>

## Fatality Reporting

Fatalities in the Donbass are often mentioned in operational reports that detail the shelling and armed clashes at various locations across a specific day. The fatalities mentioned in the

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<sup>4</sup> E.g. firing at civilians would be coded as *Violence against civilians* with the sub-event type *Attack* as per regular coding rules.

<sup>5</sup> Assessment based on a sample of OSCE SMM-Ukraine ceasefire violation observation statistics.



report are not tied to a particular location, leaving it uncertain at which specific location or locations the fatalities occurred. For example, the following may be reported:

*“On 12 September, Svitlodarsk and Novotroitske were shelled with mortars and artillery. Armed clashes occurred at Luhanske and Myronivka. During the day, three Ukrainian soldiers were killed.”*

In such cases, the reported fatalities are split among the locations reported in that source report, with each of the four events belonging to that split specifically mentioning in their Notes -- for example, in the example above, this would say: *“During the day, three Ukrainian soldiers were killed. [3 fatalities split among 4 events]”*.

Operational reports generally only report that their own positions are being hit, so if ‘enemy’ casualties are reported, it implies that there must have been return fire to cause these. In such cases, the fatalities are distributed only among the events that could have contained such return fire -- i.e. those with event type *Battles* with the sub event type *Armed clash* given that Explosions/Remote violence events are asymmetrical.

### **Tracking the Reporting of Ceasefire Violations by the OSCE Special Monitoring Mission in Ukraine (SMM)**

The SMM monitors ceasefire violations in Donbass through a combination of static and mobile observation teams, automated static acoustic and visual sensors posted mainly along the frontlines, and through reconnaissance drone flights.

Monitoring occurs around the clock, with daily reports covering incidents over the previous 24 hours as reported up to 19:30 local time the day before. The ceasefire observations are summarized in the main daily report with the details of each observation published in an [annex](#) attached to the report. The annex contains information on eight variables for each observed ceasefire violation: the location from which the SMM made the observation (‘SMM location’); the compass direction and distance in kilometres of the observed event relative to the SMM location (‘Event location’); the means of observation, such as hearing, seeing, or recording (‘Means’); the general type of observation, such as shots, explosions, burst of fire, or projectiles (‘Observation’); the number of observed items for that set of observations (‘No.’); a description that can help to indicate the direction of fire, such as whether it is part of a live-fire exercise or other miscellaneous information (‘Description’); the assessed



weapon-type involved ('Weapon'); and the date and time of the observation ('Date, time'). Note that the SMM does not attribute any of these observations to either of the conflict parties to maintain impartial status. These variables can be seen in the table snippet below.

SMM position	Event location	Means	No.	Observation	Description	Weapon	Date, time
SMM camera in Avdiivka (government-controlled, 17km N of Donetsk)	3-5km SSE	Recorded	2	Explosion	Undetermined	N/K	22-Mar, 19:43
Oleksandrivka (non-government-controlled, 20km SW of Donetsk)	1-2km NW	Heard	31	Burst		HMG	24-Mar, 09:30-09:36
	1-2km NW	Heard	2	Explosion	Undetermined	N/K	24-Mar, 09:35
	1-2km NW	Heard	Uncountable	Burst	Overlapping	HMG	24-Mar, 09:36
	2-3km NNW	Heard	2	Burst	WNW to ESE	HMG	24-Mar, 09:58

In order to code SMM observations using ACLED methodology, ACLED uses the same assumptions that apply to the rest of the reporting on the conflict in the Donbass region. ACLED converts SMM data into a format more readily transcribed using ACLED methodology and then aggregates observations to establish a single ACLED event for each location for each day. In a two-step process described below, 'SMM data' are first transcribed to 'ACLED data', where each incident reported by SMM is translated into ACLED formatting; next, these new 'events' are aggregated per ACLED methodology so that all engagement between the same actors in the same location on the same day appear as 'one ACLED event'.

### Step 1: Data Conversion

For each line in the annex table shown above, ACLED converts SMM data into the following ACLED format:

**Event date:** This is given by the SMM in the 'date and time' column with new days starting at 00:00.

**Event type:** As described above, in the Donbass, when no other information is available, ACLED uses weapon type to determine the Event type. Weapon type is reported in the 'Weapon' column of the annex, and if unknown (reported as 'n/k' by the SMM), it is determined by the observation type, with explosions interpreted as shelling/artillery (event type: *Explosions/Remote violence*, sub-event type: *Shelling/artillery/missile attack*) and remaining observations, such as shots and bursts, interpreted as small arms fire (event type: *Battles*, sub-event type: *Armed clash*).



**Actors:** The SMM does not attribute ceasefire violations to actors. Given the static nature of the frontline, ACLED assumes that fire from NAF-held territory into Ukrainian government-held territory, or vice versa, involves NAF forces and Ukrainian forces and codes Actors 1 & 2 as such.

For example: *An explosion is observed by the SMM camera in Svitlodarsk (government-controlled, 57km NE of Donetsk) with 'description' SE to NE. To the southeast of that 'SMM position' is NAF-held territory. Therefore, Actor 1 and Actor 2 would be coded as NAF and the military forces of Ukraine.*

If there is no direction of fire in the 'description', the location of the event is used to determine who is targeting whom. If the location is within government-held territory, and the observation is described as 'outgoing' (i.e. originating from that location), the military forces of Ukraine would be assumed to be the perpetrator. If however, the observation is not described as 'outgoing', and the location is within government-held territory, the fire is interpreted as originating from the opposite side of the frontline, and it would hence be assumed that NAF was doing the targeting.

Because the information provided by SMM does not provide information on whether the targeted location also contained actors -- e.g. one of the main armed actors or civilians -- the second actor in the event type *Explosions/Remote violence* will be empty in most cases. Only by relying on information from other sources can a second actor be established. For example, if an operational report for that same day states that NAF positions, civilians, or civilian housing were hit at that same location, then they would be coded as Actor 2. For the *Battles* event type, the presence of a second actor is assumed, as described above.

**Location:** One of the more complicated aspects of dealing with SMM reporting is that the 'SMM position' is not the location of the actual event. In addition, ACLED codes events to the nearest populated place when no other specific information about a location is reported. This being the case, when coding SMM reporting, ACLED determines the event's location in three steps. First, the coordinates of the 'SMM position' are determined. Second, the compass direction and distance of the 'Event location' column are used to establish the exact location. Third, the event is coded to the nearest populated place to those coordinates with geoprecision 2.



For example: An explosion is observed by the SMM camera in Svitlodarsk (government-controlled, 57km NE of Donetsk) from ‘SMM position’ at coordinates 48.4323,38.2218 (A), occurring 4-5 km to the southeast at ‘event location’ coordinates 48.4065,38.2528 (B) which is coded to ACLED location Luhanske located at coordinates 48.4305,38.2554 (C) as the nearest populated place at geoprecision 2.



The location of each event is coded according to the location of SMM observers, corrected for the distance and direction of the observed event, and coded to the nearest populated place of that location.

**Source:** The source name is coded as “OSCE SMM-Ukraine” with the source-scale coded as “Subnational” due to the SMM having observers present in each region.

**Notes:** The notes specify the details of all SMM observations aggregated into a single ACLED event. This includes number of observed shots/projectiles/explosions, the involved



observation types, the involved weapon types, and whether fire was observed coming from both directions of the frontline.

## **Step 2: Event Aggregation**

The individual SMM observations translated to ACLED data are aggregated to create a single ACLED event that contains all the observations for each **individual location** for that particular **day**. The ACLED event coding is then updated based on the observations contained within that ACLED event.

**Event type:** If one of the individual observations contained in the event is assessed to be the event type *Battles* with the sub-event type *Armed clash*, the event is coded as such. If the event contains observations with both actors involved, it is also coded as event type *Battles* with sub event type *Armed Clash*. If the event contains only incidents of heavy weapons use, then the event type *Explosions/Remote violence* with sub-event type *Shelling/artillery/missile attack* is coded. This is because ACLED coding hierarchy places Battles higher than Explosions/Remote violence (i.e. explosions or remote violence coded within the confines of a battle are coded as a Battle in ACLED data).

**Notes:** The notes are updated with the details of all SMM observations contained within the ACLED event. This includes the sum of all the numbers of observed shots/projectiles/explosions and the involved observation types, the involved weapon types, and whether fire was observed coming from both directions of the frontline.

For example: *an ACLED event based on three SMM observations, consisting of 5 explosions from artillery and 3 explosions from unknown weapons and 25 shots from small arms, is summarized in the Notes as “32 shots/explosions from artillery/unknown weapons/small arms”*

## **Conclusion**

The use of OSCE SMM annex data enables ACLED to provide a more comprehensive and detailed overview of violence along the frontlines in Donbass. Text summaries of SMM daily reports alone do not allow for the same level of nuance. More than half of the Battles and Explosions/Remote violence events coded by ACLED in the Donbass region are uniquely generated from SMM annex data, providing a more granular overview of areas where fighting occurs. In addition, SMM data can be used to cross-reference the reports of the operational commands of the Ukrainian military and the DPR and LPR militias which tend to report





primarily on ceasefire violations committed by the other side. By cross-referencing incidents by location and date, ACLED has third-party verification for 25% of the events reported by the operational commands and can update events with information on whether the SMM observed return-fire and the use of particular weapon types.