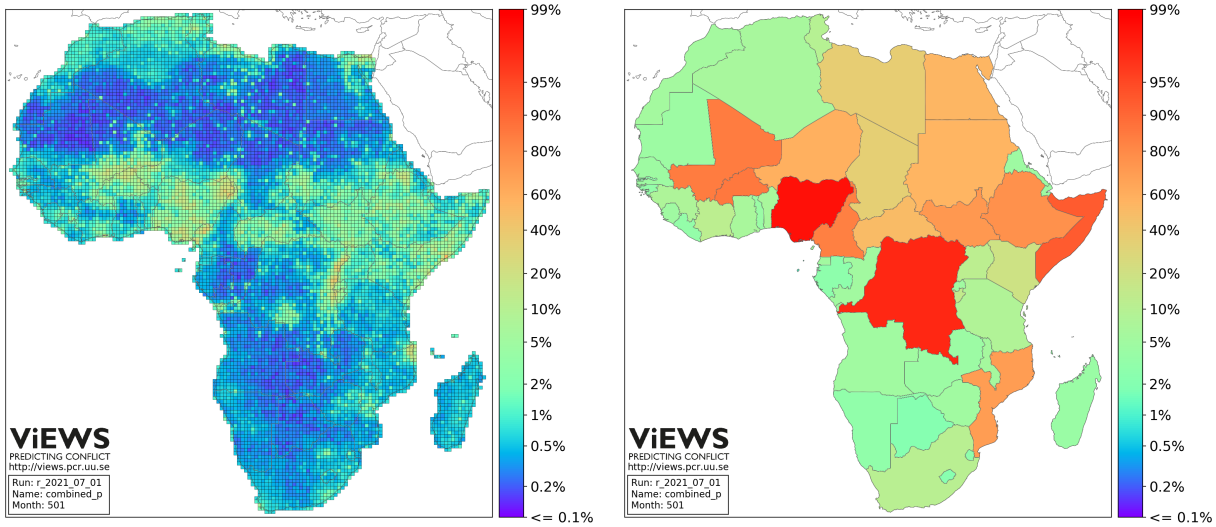
The Risk Monitor: September 2021

Africa-wide forecasts from the Violence Early Warning System (ViEWS)

Forecasts as of 1 July 2021, based on data up until and including May 2021*

By: The ViEWS Team



(a) Forecasts, sub-national level

(b) Forecasts, country level

Figure 1. Combined forecasts for fatal political violence in September 2021. Predicted risk (0-100%) that at least one fatality occurs per sub-national location (left), or at least 25 fatalities per country (right)—from either state-based, non-state, or one-sided violence.

EXECUTIVE SUMMARY

ViEWS generates high-risk alerts for countries with a recent history of fatal political violence. By September 2021, 25 or more fatalities per month from at least one type of violence that ViEWS predicts (see list and definitions on page 8) are almost certain in DRC and Nigeria, and highly likely in Somalia, Mali, Ethiopia, Cameroon, and Burkina Faso ($> 75\%$ risk; Figure 1b).

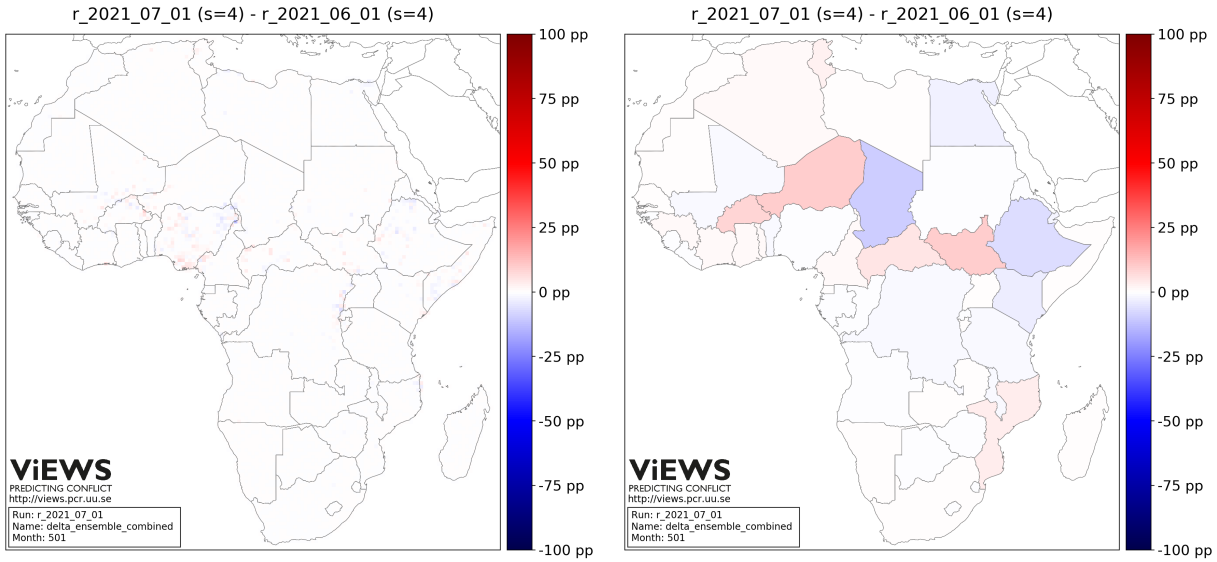
More specifically, the sub-national forecasts for at least one fatality per approximately 55x55km location and month highlight Borno, Katsina, Kaduna, Zamfara, and the South-East states in Nigeria, the Far North and Anglophone region of Cameroon, the Ituri and Kivu provinces of DRC, the extended border areas between Mali, Burkina Faso and Niger, the Tigray region and scattered locations across Oromia and Amhara in Ethiopia, Mogadishu and other select locations in southern and central Somalia, the coast of the Sinai peninsula in Egypt, as well as the Cabo Delgado province in Mozambique, as particular 'hot-spots' for political violence over the near future (Figure 1a). Diffuse risks furthermore form a belt across the Sahel region, its southern neighbours, and the Horn of Africa.

*The full suite of data sources and descriptions of the ViEWS methodology can be found at `http://views.pcr.uu.se`, further detailed in Hegre et al. (2019) and Hegre et al. (2021). The full list of models are carefully detailed in the corresponding online appendices to the 2020 update article on ViEWS in *Journal of Peace Research*, available at `http://files.webb.uu.se/uploader/1576/AppendixB.pdf` and `http://files.webb.uu.se/uploader/1576/AppendixC.pdf`. Brief definitions, notations and other useful information can in turn be found on page 8 of this report.

Table I. Short-term watchlists[a]

Top 5 high-risk locations in September 2021		Most notable risk elevations since last month	
Nationally	*Locally*	*Nationally*	*Locally*
Nigeria	Borno state (NGA)	Niger∗	Est (BFA)∗
DRC	Ituri and Kivu provinces (COD)	South Sudan∗	South-South, South-East (NGA)
Somalia	Mogadishu (SOM)	Burkina Faso	Katsina, Kaduna, Zamfara (NGA)
Mali	Anglophone Cameroon	CAR∗	Ouaka/N.-Grébizi/N.-Mambéré/M.-Kadéi (CAR)∗
Burkina Faso∗	Cabo Delgado (MOZ)	Mozambique∗	Anglophone Cameroon∗

[a]Based on Figure 1–2. New entries this month are marked by an asterisk (∗).



(a) Changes, local level

(b) Changes, country level

Figure 2. Changes to the combined forecasts since last month by percentage points (pp). Sub-national level (left) and country level (right).

Changes to the sub-national forecasts as compared to last month are predominantly confined to the regions above (Figure 2a). Of particular note are the risk elevations in southern Nigeria, Anglophone Cameroon, and Central African Republic (CAR), further discussed in the sections below.

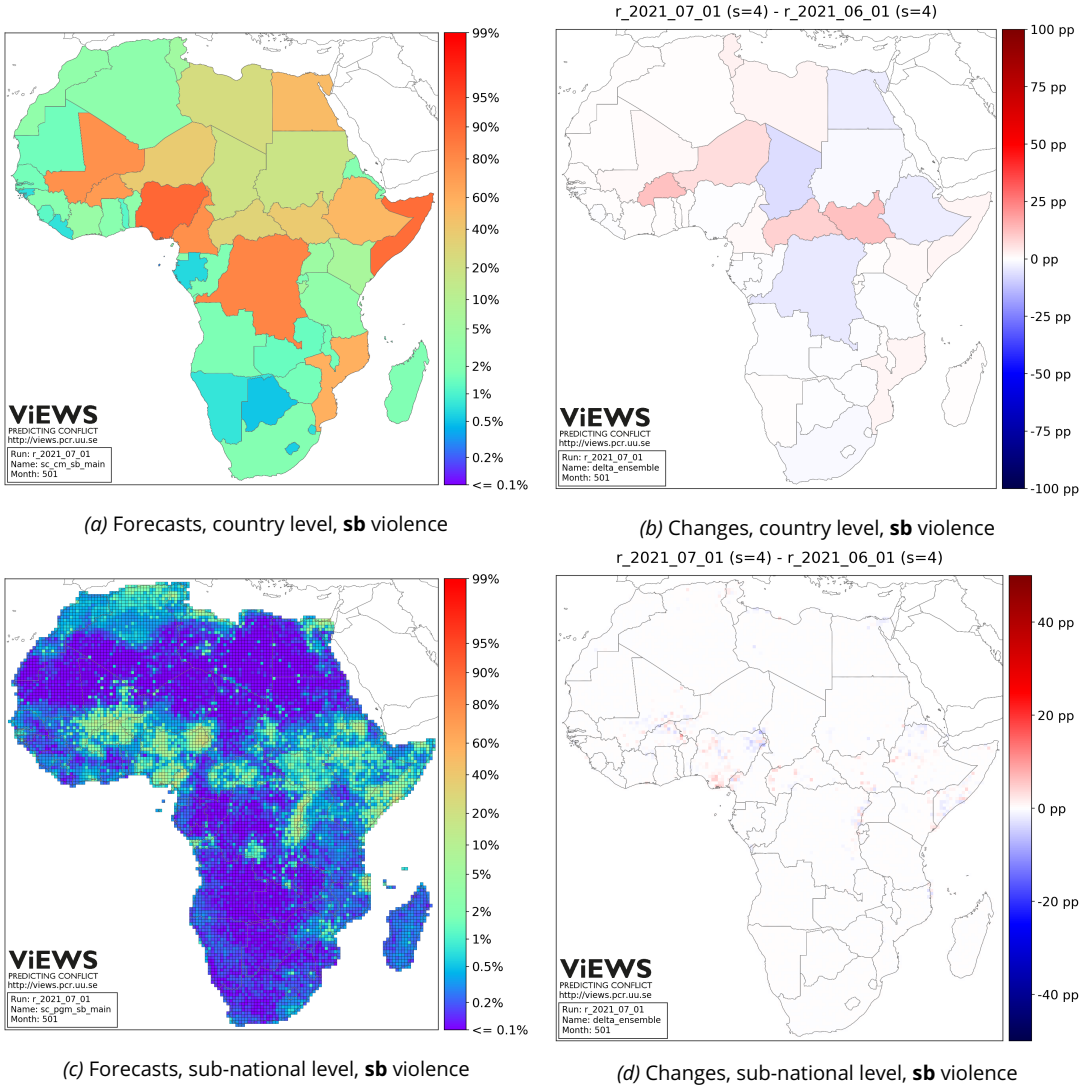
At the country level, the combined risk of 25 or more fatalities per month from at least one of the three types of violence that ViEWS predicts has increased for a number of countries, most notably for Burkina Faso, Niger, CAR, South Sudan, and Mozambique (Figure 2b). Pronounced risk reductions are also observed for Chad, Ethiopia, Kenya, and Egypt.

STATE-BASED CONFLICT (SB)

The ViEWS system continues to generate alerts for conflict involving a government of a state in countries with a recent history of fatal political violence and/or mass protests. In Nigeria, DRC, Somalia, Cameroon, Mali, Mozambique, Burkina Faso, Egypt, and Ethiopia, the risk of 25 or more fatalities per month by September 2021 remain high and above 50%, as seen from the red and bright orange fill colors in Figure 3a (red colors indicating a near-certain risk, light orange a risk equal to a coin toss, and purple $< 0.1\%$ risk.)

At the sub-national level, mapping the risk of fatal state-based violence per approximately 55x55km (0.5x0.5 decimal degree location, or 'PRIO-GRID cell')[1])and month, the most pronounced risks (orange colors in Figure 3c) are observed for Borno, Katsina, Kaduna, Zamfara, and the South-East states in Nigeria; the Far North and Anglophone region of Cameroon; the Ituri and Kivu provinces of DRC; the extended border areas between Mali, Burkina Faso and Niger; the Tigray region in Ethiopia along with a number of locations across Oromia and Amhara; Mogadishu and other select locations in southern and central Somalia; the north-eastern coast of Egypt, the north-western coast of Libya; the Saloum mountain in Tunisia, and several regions in the Central African Republic (CAR).

Notable changes to the forecasts produced in July 2021, as compared to those generated in June 2021, are found at both levels of analysis.[2] Figure 3b maps these



(a) Forecasts, country level, **sb** violence

(b) Changes, country level, **sb** violence

(c) Forecasts, sub-national level, **sb** violence

(d) Changes, sub-national level, **sb** violence

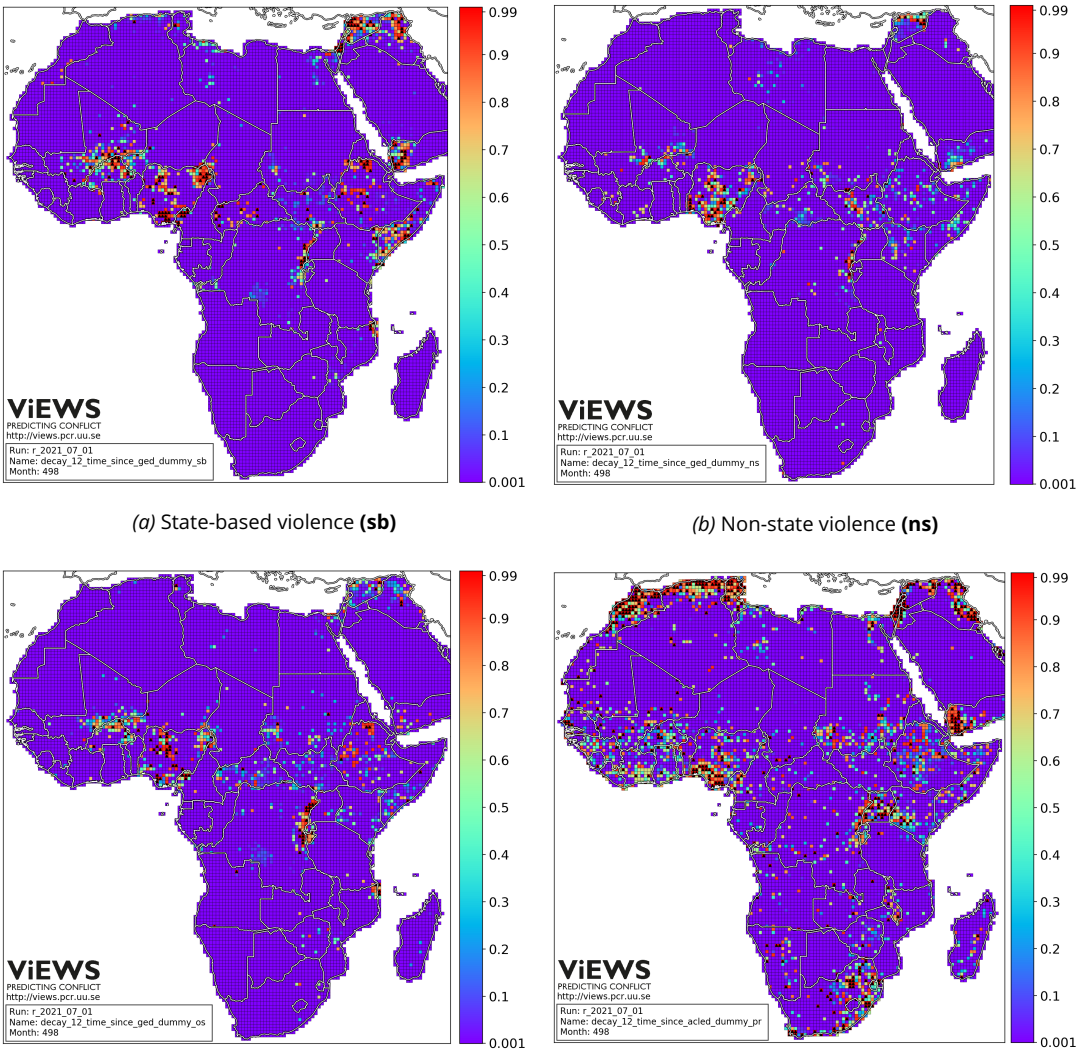
Figure 3. Forecasts for the risk of at least 25 fatalities (country level, top left) and 1 fatality (sub-national level, bottom left) from state-based (**sb**) violence in September 2021, and changes to the respective forecasts since last month by percentage points (right-hand column).

changes to the country-level forecasts, while Figure 3d shows the same for the sub-national forecasts. Red colors in the two figures point to heightened risks, whereas blue colors indicate that risks are reducing. The severity of each risk alteration (by percentage points, *pp*) is illustrated by the color saturation; white indicating no change.

Seen from the country-level change map (Figure 3b), the ViEWS system alerts to heightened tensions in Burkina Faso, Niger, Kenya, Somalia, Mozambique, Tunisia, CAR, South Sudan, and Libya. All but the last[3] observed fatal political violence involving a government of a state in May 2021, the last month of conflict data informing the July production of the ViEWS forecasts.[4] The locations of these incidences are marked with black triangles superimposed on red grid cells on the conflict history map in Figure 4a.

A comparison of Figure 4a with the figure mapping changes to the sub-national forecasts (Figure 3d) further illustrates the influence that recent conflict history has on forecasts for future violence—risks are generally heightened for locations in which fatal violence has occurred in the recent past.[5]

For Burkina Faso, Niger, Kenya, Somalia, Mozambique, Tunisia, and northern-most Cameroon, the heightened conflict risks at both levels of analysis are primarily informed by recent militant Islamist activity, and government operations to combat it. For CAR, they are informed by the continued conflict between the government and the CDC rebels, and for South Sudan, the heightened risks are underpinned by the recent surge of attacks along key trade routes in the country, most recently a road ambush that killed four members of the Central Equatoria state governor's security convoy on 13 May. Also a NAS attack on SSPDF barracks in West Equatoria state this May contributed to the risk escalation.



(a) State-based violence **(sb)**

(b) Non-state violence **(ns)**

(c) One-sided violence **(os)**

(d) Protests **(pr)**

Figure 4. Illustrations of the recent history of fatal political violence as well as protests (violent and non-violent), as recorded by the UCDP (`http://ucdp.uu.se`) and ACLED (`http://acleddata.com`), respectively. Red cells observed qualifying incidents in May 2021 (distinguished by a black marker) or April 2021. Purple cells have not experienced such incidents for many years.

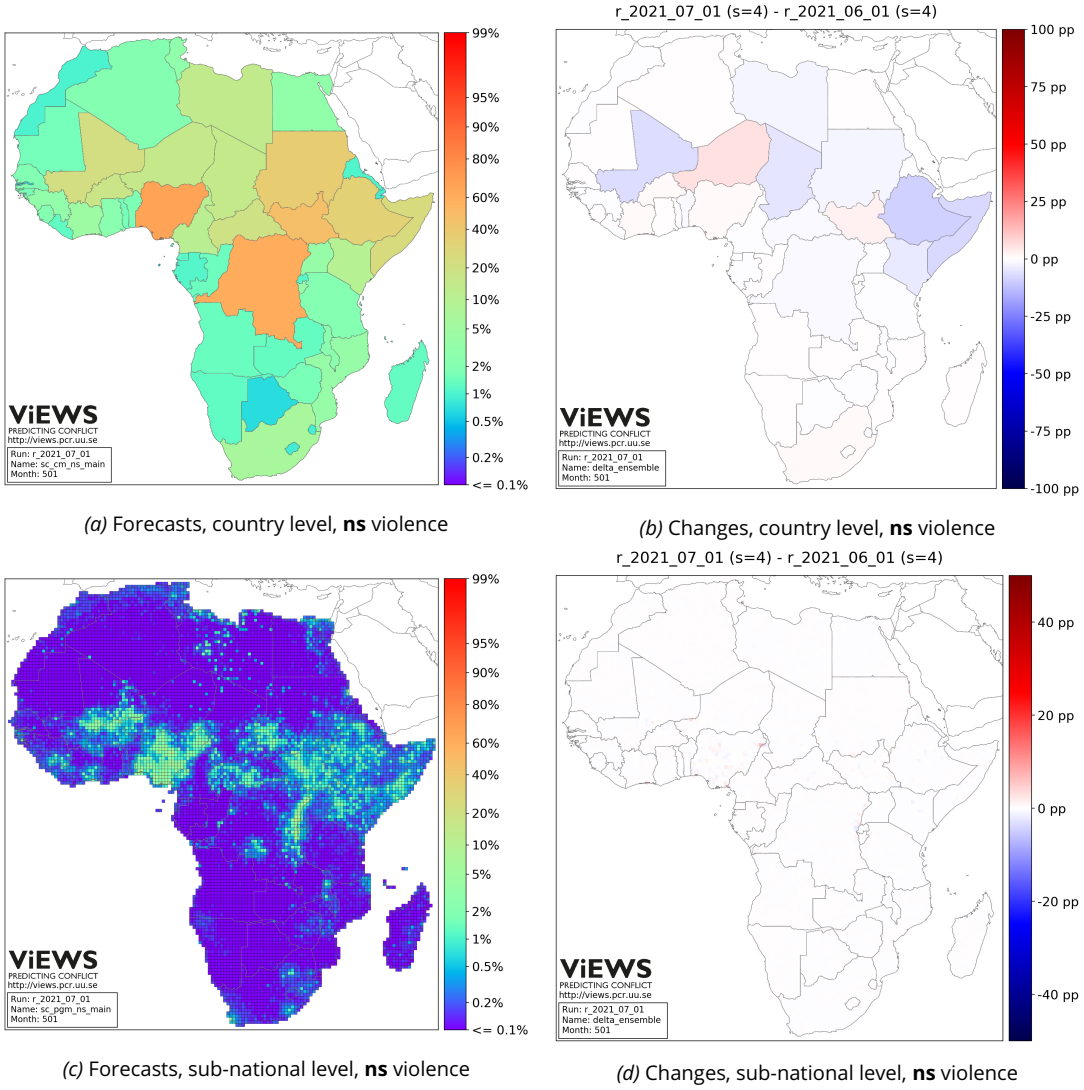
In addition to the cases above, rising tensions are detected locally in Nigeria's South-South and South-East states, where numerous fatal attacks on military and police personnel by suspected members of the separatist group Indigenous People of Biafra (IPOB) were reported this May, in addition to rampant banditry and other attacks by unidentified gunmen. The latter affected also Katsina, Zamfara, Kaduna, Kebbi, Niger and Kwara states this May. Islamist activity furthermore prevailed in both Borno and Yobe state, albeit the monthly fatality count in both regions declined substantially between April and May, resulting in the declining risks illustrated by the blue shades in Figure 3d.

Local risk elevations are also detected for Anglophone Cameroon, where violence related to the separatist Ambazonia insurgency took nearly 90 lives this May, and for DRC's Ituri and North Kivu provinces, where continued clashes were recorded between government forces and numerous armed groups.

Last, the case of Ethiopia should not go unnoticed; despite several hundred fatalities over the course of April, less than 20 deaths were recorded by the UCDP this May, paving way for risk reductions at both the local and national levels of analysis this month (Figure 3d and 3b).

NON-STATE CONFLICT (NS)

Seen from the mostly blue, green, or light orange shades in Figure 5a, the short-term risks of 25 or more fatalities per month from conflict between two or more armed non-



(a) Forecasts, country level, **ns** violence

(b) Changes, country level, **ns** violence

(c) Forecasts, sub-national level, **ns** violence

(d) Changes, sub-national level, **ns** violence

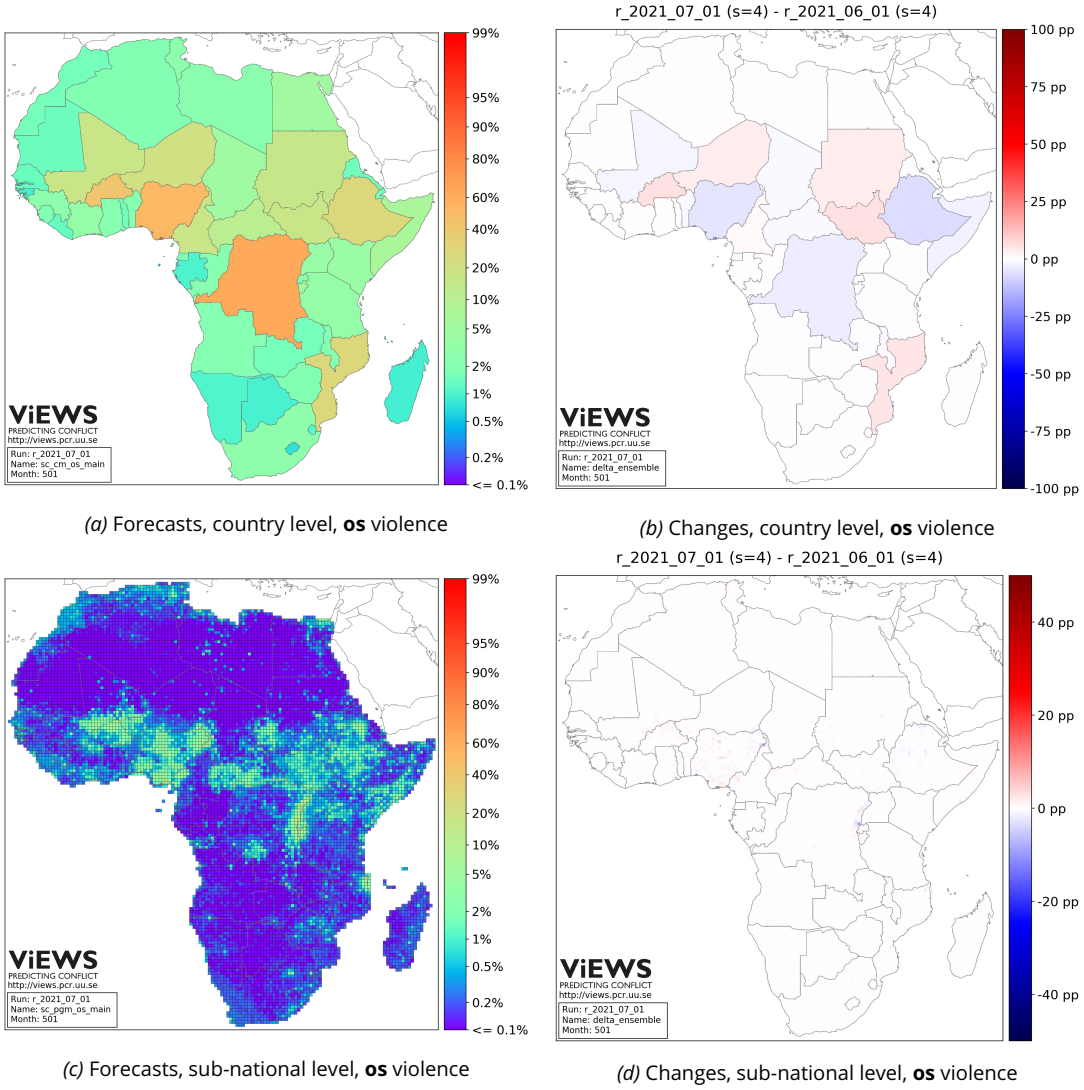
Figure 5. Forecasts for the risk (0-100%) of at least 25 fatalities (country level, top left) and 1 fatality (sub-national level, bottom left) from non-state (**ns**) violence in September 2021, and changes to the respective forecasts since last month by percentage points (right-hand column).

state groups (non-state conflict) are relatively low for the strong majority of the African countries, most often less than 10 or even 5%. DRC and Nigeria are the only two countries to exceed a monthly risk of 50% over the next few months.

At the sub-national level, geographic locations at risk of at least one fatality per month over the near future form a belt spanning the Horn of Africa, the southern parts of Sudan, South Sudan, CAR, south-eastern and south-western Chad, northern-most and Anglophone Cameroon, Nigeria, and the extended border areas between Mali, Burkina Faso and Niger (Figure 5c). A more intense risk cluster is also found in the Ituri and Kivu provinces in DRC, coupled with scattered at-risk locations across Libya, broader areas at risk over the Nile delta, southern Côte d'Ivoire and Guinea, West Kasai in DRC, and the largest cities in South Africa.

Changes to the country-level forecasts for non-state violence as compared to last month predominantly point to reducing risks (Figure 5b). Ethiopia, Somalia, Kenya, Chad, and Mali, in particular, show notably lowered risks of 25 or more fatalities per month over the next quarter, while a pronounced risk elevation is detected for Niger and South Sudan. The Nigerien escalation follow the death of five Fulani in an attack by members of the Zarma community on 4 May, while the South Sudanese escalation is informed by both cattle-related and intercommunal violence over the course of May.

At the sub-national level, changes to the forecasts are both few and moderate, seen from the predominantly white or faint color saturation in Figure 5d. Somewhat heightened risks are found in geographic locations where



(a) Forecasts, country level, **os** violence

(b) Changes, country level, **os** violence

(c) Forecasts, sub-national level, **os** violence

(d) Changes, sub-national level, **os** violence

Figure 6. Forecasts for the risk (0-100%) of at least 25 fatalities (country level, top left) and 1 fatality (sub-national level, bottom left) from one-sided (**os**) violence in September 2021, and changes to the respective forecasts since last month by percentage points (right-hand column).

fatal non-state violence took place in May 2021 (see the conflict history map in Figure 4b). This includes Niger (ethnic violence) and South Sudan (cattle-related and intercommunal violence), as well as Nigeria (cultist-, farmer-herder-, and communal violence, as well as numerous fatalities from banditry and gunmen); the Ituri and Kivu provinces of DRC (militant Islamist-, communal violence, and clashes between various armed groups); and select locations in central Mali (JNIM-Dan na Ambassagou), Cameroon (communal violence), Sudan (tribal and intercommunal clashes), and Côte d'Ivoire (clashes between Ivorians and Nigerians). Local risk reductions are nevertheless detected for almost all of the countries above, in addition to Ethiopia, Kenya and Chad.

ONE-SIDED VIOLENCE (OS)

With a handful exceptions, the risk of 25 or more fatalities per month are relatively low (less than 5–10%) also with regards to one-sided violence—violence exerted by an armed actor against unarmed civilians—for the majority of African countries. Most pronounced are the risk profiles for DRC and Nigeria (bright orange colors in Figure 6a). Also Burkina Faso, Mali, Niger, Cameroon, CAR, Sudan, South Sudan, Ethiopia, Somalia, and Mozambique nevertheless stand out in the conflict forecasts for September 2021.

At the sub-national level—assessing the risk of at least one fatality per 0.5x0.5 degree location—results are more refined (Figure 6c). We find the Ituri and Kivu provinces of DRC to be particular hot-spots for one-sided violence,

persistently plagued by police brutality, Islamist militants, and various armed groups. A less severe risk cluster is also found over DRC's Kasai/Kasai-Central. In Nigeria, in turn, particular high-risk locations include Borno state (grappling with Boko Haram and IS-affiliated groups), Katsina, Kaduna, and Zamfara states (with a history of banditry), and the southern regions. Other 'hot-spots' include Cabo Delgado in Mozambique, central and western CAR, Darfur in Sudan, and the broader risk cluster spanning central Mali, northern/north-eastern Burkina Faso, and south-western Niger (all of which are prone also to state-based violence due militant Islamist operations in the area). Last, a more diffuse risk cluster is found over the Horn of Africa.

Changes to the risk projections can be observed for a number of countries and sub-national locations, most prominently on the country level of analysis. Compared to last month's projections, the predicted risk of 25 or more fatalities per country and month come September 2021 has decreased for Nigeria, DRC, Ethiopia, Somalia, Mali, Chad, and CAR (blue colors in Figure 6d), while increasing for Burkina Faso, Niger, Cameroon, Sudan, South Sudan, and Mozambique (red colors in the figure).

Also at the sub-national level are heightened risks detected for the countries above, for locations in which one-sided violence was observed over the course of May 2021 (see the conflict history map in Figure 4c in relation to the change map in Figure 6d). Most pronounced are the risk elevations for Anglophone Cameroon and the southern regions of Nigeria,[6] both informed by security forces and/or police brutality, coupled with the continued separatist struggle in the former, and banditry and/or attacks by other armed groups in the latter.

NOTES

1. The systematic grid structure formed is known as the PRIO-GRID. It is the most spatially granulated level that the ViEWS system currently produces forecasts for. See page 8 for the full definition.

2. Changes to the risk assessments as compared to last month are indicative of effects from new input data, most commonly by publicly available conflict and protest data from the Uppsala Conflict Data Program (UCDP, `http://ucdp.uu.se`) (Pettersson, Högbladh, and Öberg, 2019; Sundberg and Melander, 2013; Hegre et al., 2020) and the Armed Conflict Location and Event Dataset (ACLED, `http://acleddata.com`) (Raleigh et al., 2010).

3. The exception is Libya, for which the heightened risk assessment is informed by protest data from ACLED, as well as updated data on the strength of political institutions and the level of democracy from Varieties of Democracy (V-Dem), and development measures from the World Bank's World Development Indicators (WDI).

4. Unless otherwise stated, all fatality counts and details on conflict events in this report are derived from the UCDP Candidate Events Dataset (Pettersson, Högbladh, and Öberg, 2019; Sundberg and Melander, 2013; Hegre et al., 2020). Fatality counts listed correspond to the 'best estimate' records.

5. The sub-national forecasts are derived from a suite of forecasting models that are optimised to generate predictions at this more geographically refined level. While thus different from those applied for the country level forecasts, also the sub-national level models are predominantly informed by recent violence. For more on this, please see page 8.

6. Reducing risks of one-sided violence are nevertheless detected for north-eastern Nigeria, where the monthly fatality count decreased between April and May 2021, giving rise to the overall risk reduction at the national level of analysis.

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DATA SOURCES

Conflict and protest data

Uppsala Conflict Data Program (UCDP)
`http://ucdp.uu.se`

Armed Conflict Location and Event Data (ACLED)
`https://acleddata.com`

Other input data

Varieties of Democracy (V-Dem)
`https://v-dem.net`

World Bank World Development Indicators (WDI)
`https://datacatalog.worldbank.org/dataset/world-development-indicators`

International Crisis Group's Crisis Watch (ICGCW)
`https://www.crisisgroup.org/crisiswatch`

PRIO-GRID dataset
`https://grid.prio.org/#/`

REIGN Rulers, Elections, and Irregular Governance dataset (REIGN), `https://oefdatascience.github.io/REIGN.github.io/`

SPEI Global Drought Monitor (SPEI)
`https://spei.csic.es/index.html`

Shared Socioeconomic Pathways dataset (SSP)
`https://tntcat.iiasa.ac.at/SspDb/dsd?Action=htmlpage&page=welcome`

Ethnic Power Relations dataset (EPR)
`https://icr.ethz.ch/data/epr/`

DEFINITIONS AND MODELING SET-UP

Types of violence

The ViEWS forecasts take the form of monthly probabilistic assessments of the risk and likely severity of three forms of organized political violence occurring in a given month, as defined by the Uppsala Conflict Data Program (UCDP):

- **State-based (sb) violence**: the use of armed violence over either government or territory between armed actors, in which at least one is a government of a state;
- **Non-state (ns) violence**: the use of armed force between two organized armed groups, neither of which is a government of a state, and;
- **One-sided (os) violence**: the deliberate use of armed force by the government of a state, or by a formally organized group, against civilians.

Levels of analysis

The results are presented at two levels of analysis using the calendar month as the temporal unit of analysis:

- The country-month (*cm*) level, which follows the country outline determined by CShapes (Weidmann, Kuse, and Gleditsch, 2010), and;
- The PRIO-GRID-month (*pgm*) level, which is outlined by fine-grained geographical locations known as PRIO-GRID-cells, a global quadratic grid structure with cells measuring 0.5 x 0.5 degrees in longitude and latitude, spanning approximately 55 km^2 along the equator (Tollefsen, 2012, `https://grid.prio.org/#/`).

Model descriptions

The forecasting system consists of a suite of forecasting models, each of which has been trained to capture the effects of a particular theme of conflict-inducing factors.

At the national level, the system gives particular weight to structural, slow-moving features and patterns that often characterize countries over a longer period of time, such as the stability of political institutions, democracy indices, and socio-economic factors. It also relies heavily on a number of conflict and protest history models that capture not only the long-term trends in each country and region, but also the most recent developments in each country. Changes to the ViEWS projections are nevertheless most often informed by the latter, more specifically by data updates from the Uppsala Conflict Data Program (UCDP, `http://ucdp.uu.se`) and the Armed Conflict Location and Event Dataset (ACLED, `http://acleddata.com`).

While the national level forecasts do inform the the local forecasts—and vice versa—the forecasting models employed at the two levels of analysis differ from each other. While models informing the national level forecasts, for instance, bring valuable structural and historical factors to the table, models tailored to the sub-national level excel in accentuating effects from local compound risks. This includes—but is not limited to—heightened risks related to local demography, terrain, proximity to natural resources, local precipitation levels, droughts, and conflict history in neighbouring areas. The two sets of forecasts should therefore be seen as separate assessments, which nevertheless are best interpreted in conjunction with each other.

The full suite of forecasting models are described in detail in Appendix B and C to our forthcoming article in *Journal of Peace Research*, available at `https://pcr.uu.se/research/views/publications/`

Steps s ahead

In some figures, you may see a reference to a particular step s. This refers to the internal ViEWS notation for what number of months ahead (1-36) a given forecast is produced. In any given run of the forecasting system, $s = 1$ refers to the first calendar month following the last month of available data. In this report, the last month of available data was May 2021). Forecasts for $s = 1$ would thus effectively have referred to forecasts for last month, $s = 2$ to the 'nowcast' for the month of writing, $s = 3$ to the forecasts for the following calendar month, and so forth.

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COLLABORATIONS

ViEWS has an active interaction with other projects, including CLIMSEC, CAVE and CROP at PRIO (`https://prio.org/`), the MISTRA Geopolitics project, and most importantly the Uppsala Conflict Data Program (`https://ucdp.uu.se/`) at Uppsala University.

CODEBASE & PUBLICATIONS

ViEWS' codebase is available at:
`https://github.com/UppsalaConflictDataProgram/OpenViEWS2`

The full list of publications are accessible at:
`https://pcr.uu.se/research/views/publications/`