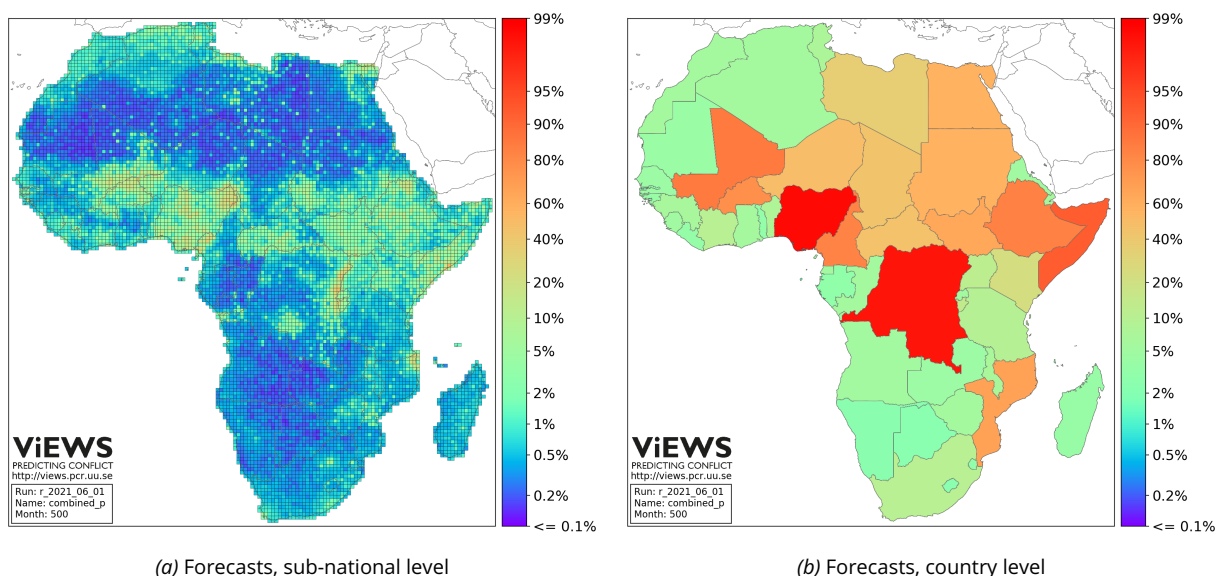


The Risk Monitor: August 2021

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

*Forecasts as of 1 June 2021, based on data up until and including April 2021**

By: The ViEWS Team



(a) Forecasts, sub-national level

(b) Forecasts, country level

Figure 1. Combined forecasts for fatal political violence in August 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 August 2021, 25 or more fatalities per month from at least one type of violence that ViEWS predicts (see list and definitions on page 9) is 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 9 of this report.

Table I. Short-term watchlists^a

Top 5 high-risk locations in August 2021		Most notable risk elevations since last month	
Nationally	Locally	Nationally	Locally
Nigeria	Ituri & Kivu provinces (COD)	Chad*	Tigray (ETH)
DRC	Borno state (NGA)	Ethiopia	Amhara, Oromia (EHT) *
Somalia	Mogadishu (SOM)	Burkina Faso*	South-South, South-East (NGA)*
Mali	Anglophone Cameroon	Somalia*	Katsina, Kaduna, Zamfara (NGA)*
Ethiopia*	Cabo Delgado (MOZ)	Kenya*	Ituri & Kivu provinces (COD)*

^aBased on Figure 1–2. New entries this month are marked by an asterisk (*).

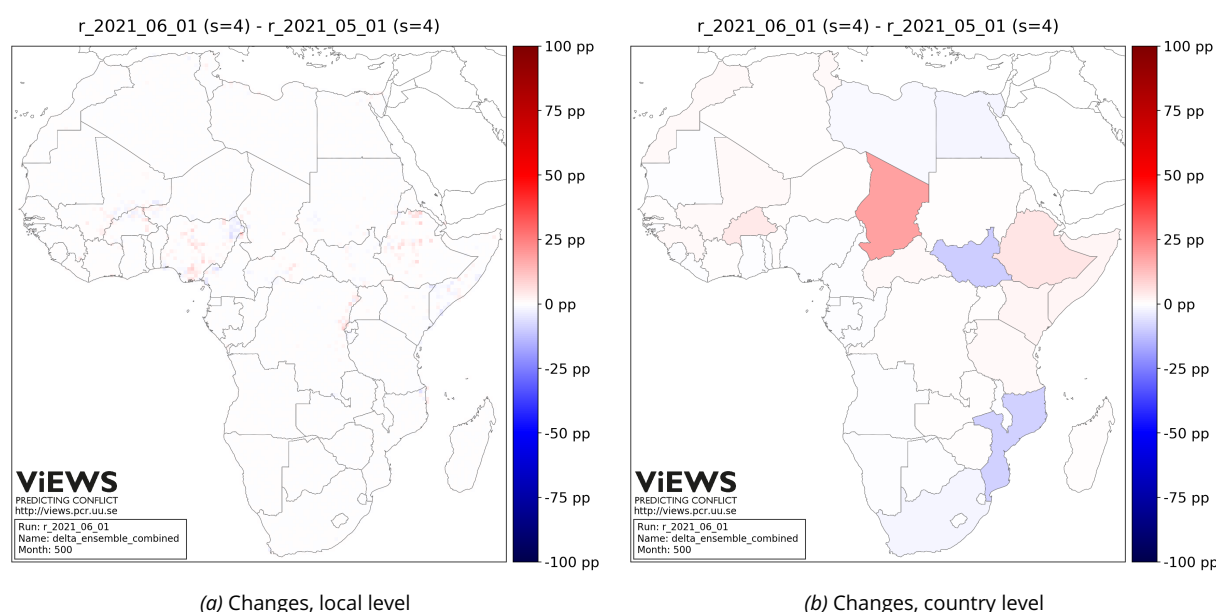


Figure 2. Changes to the combined forecasts since last month by percentage points (pp). Sub-national level (left) and country level (right).

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 Ethiopia and Nigeria, further discussed in the sections below.

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

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 August 2021 remain high and above 50%, as seen from the red and bright or-

ange 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 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 scattered locations across Oromia and Amhara; Mogadishu and other select locations in southern and central Somalia; the north-eastern coast of Egypt, and the north-western coast of Libya; parts of Darfur in Sudan; and several regions in the Central African Republic (CAR).

Notable changes to the forecasts produced in June 2021, as compared to those generated in May 2021, are found at both levels of analysis.² Figure 3b maps these changes to the country-level forecasts, while Figure 3d shows the same for the sub-national forecasts. Red col-

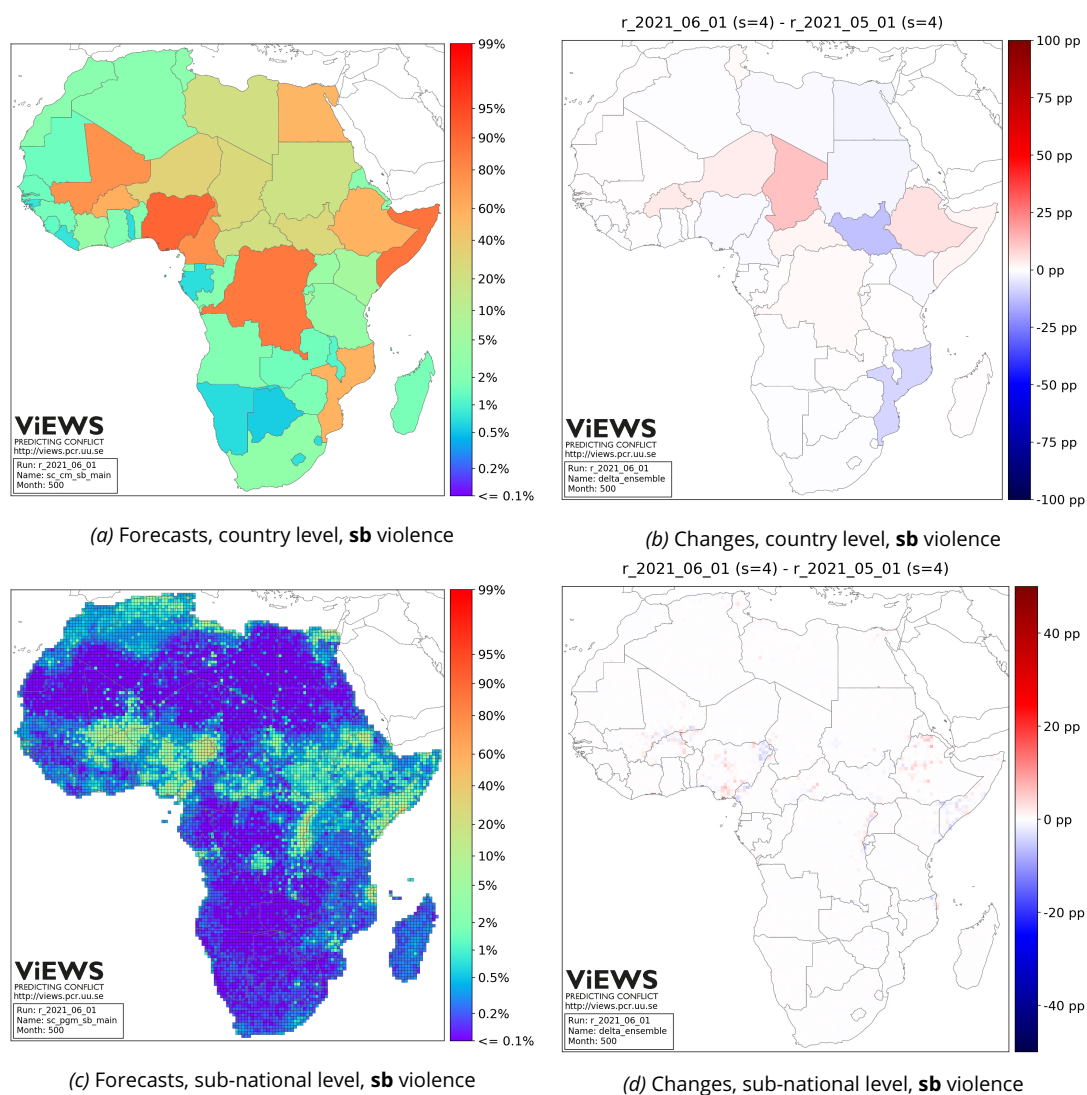


Figure 3. Forecasts for the risk of at least 25 fatalities (country level, top left) and 1 fatality (sub-national level, bottom left) from state-based (**sb**) violence in August 2021, and changes to the respective forecasts since last month by percentage points (right-hand column).

ors 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 Chad, Ethiopia, Niger, Burkina Faso, Somalia, CAR, DRC, and Tunisia this month, all of which observed fatal violence involving a government of a state in April 2021, the last month of conflict data informing the June production of the ViEWS forecasts. The locations of these incidences are marked with black triangles superimposed on red grid cells in the conflict history map of Figure 4a.

A comparison of the conflict history map above with the change map from the sub-national forecasts (Figure 3d) further illustrates the influence that recent conflict history has on forecasts for future violence—risks

are generally heightened where fatal violence has occurred in the recent past.³ Most notably, the ViEWS system once more alerts to heightened tensions across the Ethiopian Tigray and Oromia regions as the multi-sided conflict rages on in the former, and continued clashes between Ethiopian forces and the OLA are recorded for the latter, resulting in several hundred fatalities from state-based violence alone this April.

Rising tensions are also captured in Nigeria's South-South and South-East states after a number of fatal attacks by gunmen on military and police personnel. Katsina and Zamfara, in turn, continue to grapple with banditry—recorded also in Kebbi, Niger, Oyo, Taraba, and Benue state in April—while Borno⁴ and Yobe observed continued ISWAP and Boko Haram activity.

Islamist activity furthermore served as a key driver for the heightened conflict risks also for Mali, Burkina Faso,

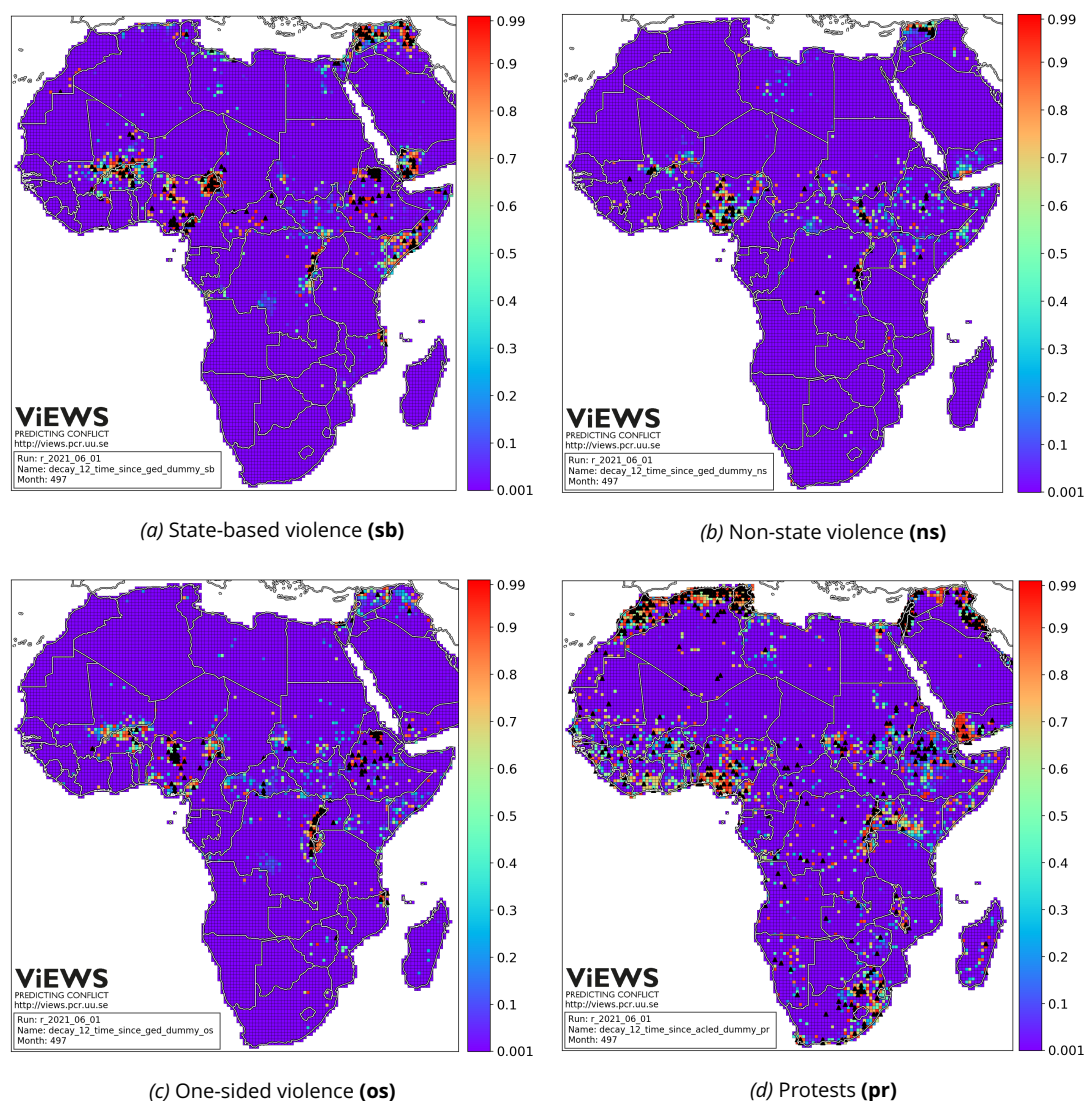


Figure 4. Illustrations of the recent history of fatal political violence as well as protests (violent and non-violent), as recorded by the UCDP (<http://ucdp.uu.se>) and ACLED (<http://acleddata.com>), respectively. Red cells observed qualifying incidents in April 2021 (distinguished by a black marker)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

Niger, Mozambique, and northern-most Cameroon this month.

For Chad, the contribution from the recent history of violence is two-fold. In the Kanem province, the rebel group Front for Change and Concord in Chad (FACT) amped up its operations over the month of April, advancing towards the Chadian capital in a bid to topple Déby's government upon his recent re-election to a sixth term in office. The fighting that erupted between the rebels and the Chadian army took over 400 lives, leading both the UK and US governments to urge its Chad-based nationals to leave the country. The neighbouring Lac region, in turn, observed two attacks by Islamist militants; an ambush that killed two soldiers on April 8th, and an attack on a military post later the same month that resulted in the death of 12 Chadian soldiers and 40 of the Islamist group's mem-

bers. The ViEWS system consequently alerts to heightened tensions at select locations in both regions, while the combination of conflict, protest, and coup data, coupled with warnings from the International Crisis Group's Crisis Watch, informed the notable risk elevation at the country-level.

Finally, as compared to last month, local risk elevations are also detected for Anglophone Cameroon as separatist violence prevails; for Egypt's North Sinai governorate, and Somalia's southern and central regions, due to Islamist violence; for the regions of Haute-Kotto, Vakaga and Ouham in Central African Republic following a number of incidences related to the ongoing conflict between the government and the CDC rebels (causing nearly 50 fatalities in April); for DRC's Ituri and Kivu provinces due to continued clashes in all three; and for the Sa-

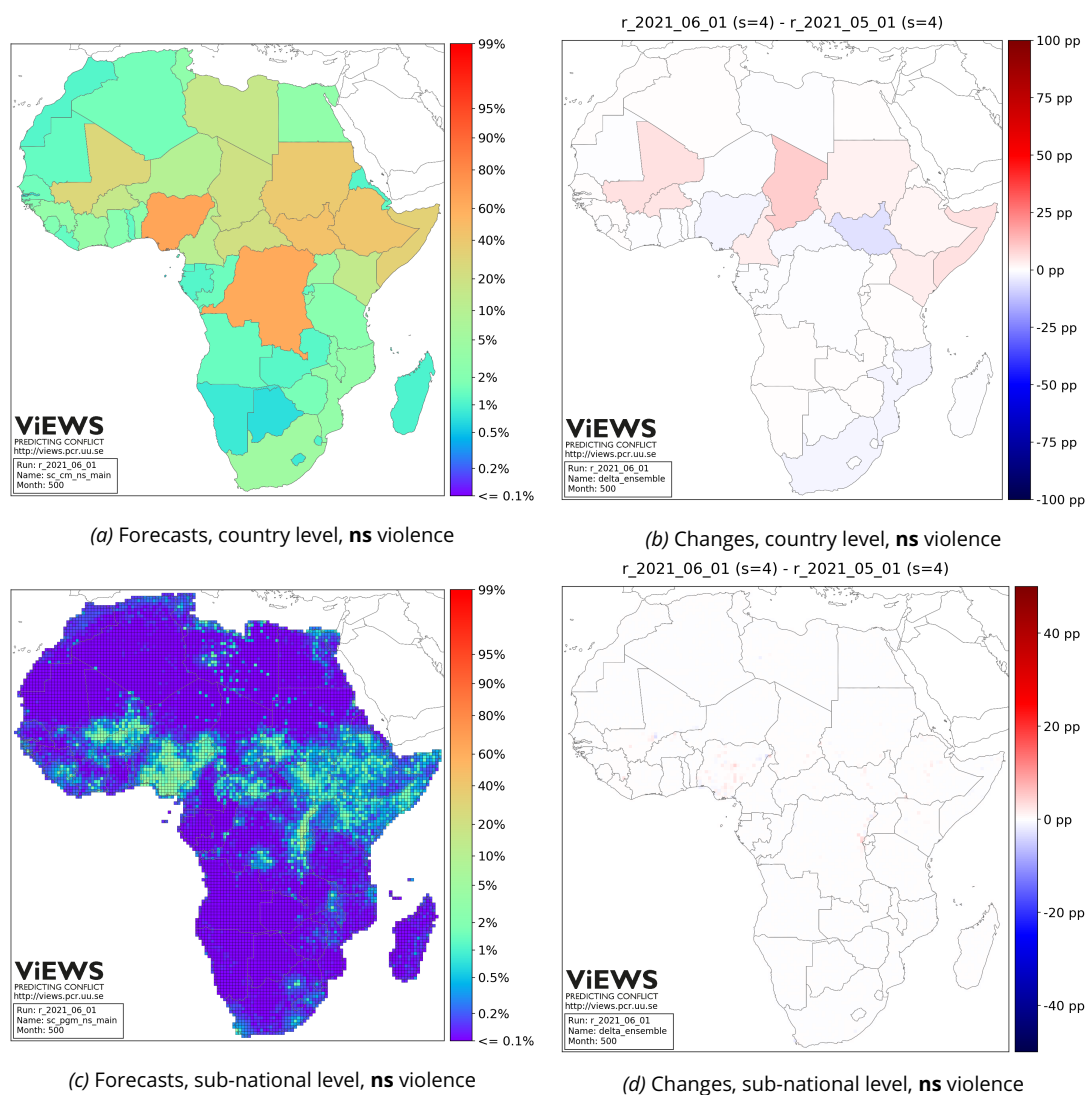


Figure 5. Forecasts for the risk (0-100%) of at least 25 fatalities (country level, top left) and 1 fatality (sub-national level, bottom left) from non-state (**ns**) violence in August 2021, and changes to the respective forecasts since last month by percentage points (right-hand column).

loulou mountain near the Algerian border after the killing of three suspected militants this April.⁵

Last, some positive changes ought to be noted, most importantly for South Sudan and Mozambique. The former was free from fatal state-based violence this April, while the latter observed a decline from 70 to 17 fatalities as compared to March 2021, giving rise to the notable blue shades in the change map of Figure 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-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-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 higher 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 sub-national forecasts as compared to last month are few and relatively moderate, seen

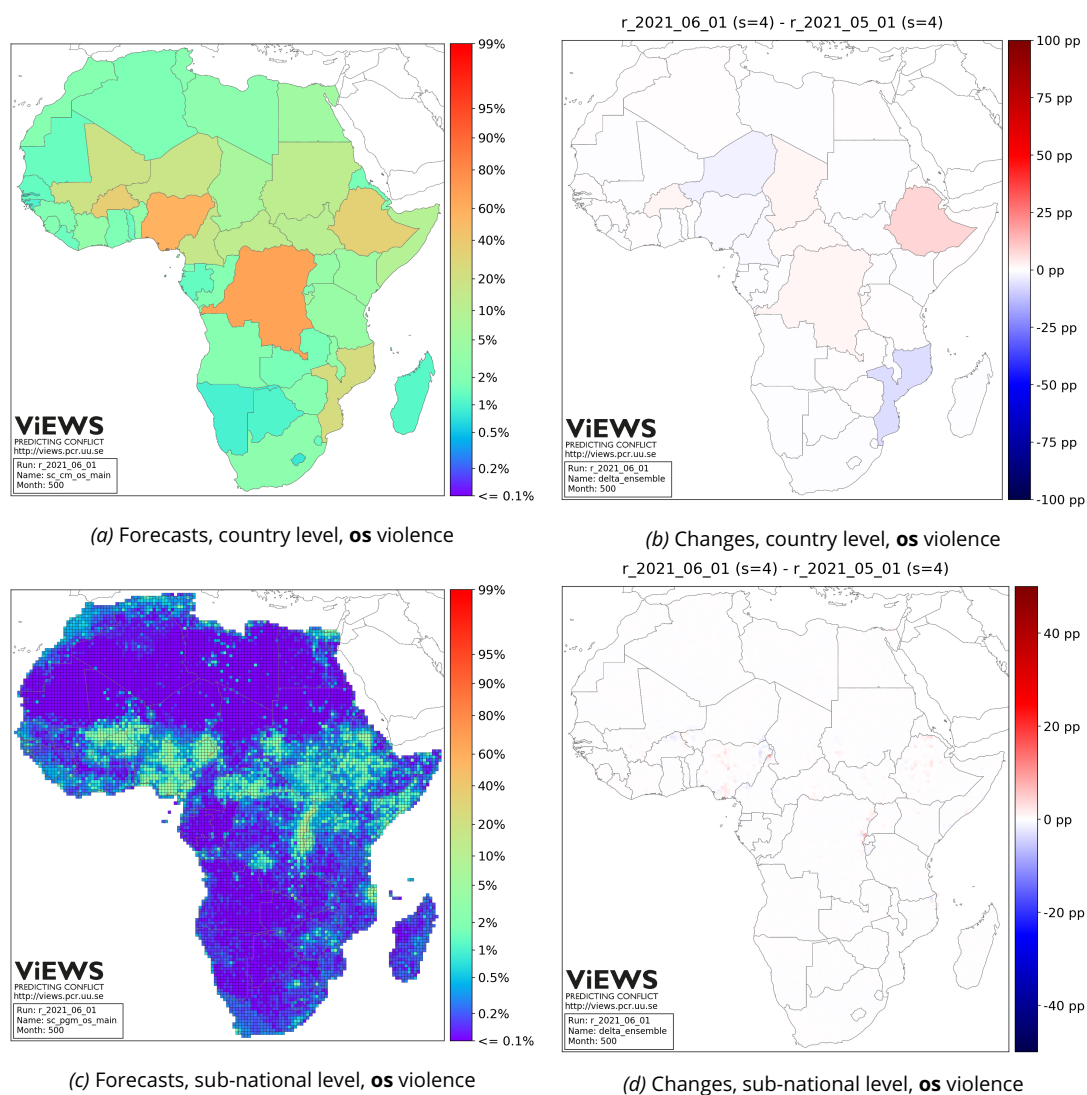


Figure 6. Forecasts for the risk (0-100%) of at least 25 fatalities (country level, top left) and 1 fatality (sub-national level, bottom left) from one-sided (**os**) violence in August 2021, and changes to the respective forecasts since last month by percentage points (right-hand column).

from the predominantly white or mostly faint color saturation in Figure 5d. Heightened risks are nevertheless found in geographic locations where fatal non-state violence took place in April 2021 (see the conflict history map in Figure 4b). Such effects are seen across Nigeria (cultist-, farmer-herder-, militant Islamist-, and ethnic violence, as well as numerous fatalities from banditry); for the Ituri and Kivu provinces of DRC (ethnic and/or communal violence, and clashes between various armed groups); and for select locations in central Mali (JNIM-Dozos, JNIM-Dan na Ambassagou), Burkina Faso (IS-JNIM), Chad (fresh spouts of farmer-herder violence killing 100 in the Salamat region), Cameroon (Islamist violence in the Far North), South Sudan (cattle-related and inter-communal violence), Sudan (tribal clashes, and clashes between militiamen and members of the Masalit tribe with more than 140 dead), Ethiopia (ethnic violence in

Amhara leaving nearly 300 dead), and Kenya (banditry and inter-communal violence).

Changes to the country-level forecasts for the risk of 25+ fatalities per month from this category of violence are more pronounced. The list of countries at heightened risk nevertheless mostly align with those listed above. The exception is Somalia, for which a country-level risk elevation is detected despite a lack of fatalities in April 2021. In this case, the risk increase was informed by a heightened alert from the ViEWS models informed by ACLED protest data and the International Crisis Group's Crisis Watch.

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 August 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 to 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 August 2021 has decreased for Niger, Nigeria, Cameroon, and Mozambique (blue colors in Figure 6d), while increasing for Burkina Faso, Chad, CAR, DRC, and—most notably—for Ethiopia (red colors in the figure).

Also at the sub-national level are heightened risks detected for the countries above, at locations in which one-sided violence was observed over the course of April 2021 (see the conflict history map in Figure 4c in relation to the change map in Figure 6d). Most pronounced are the risk elevations across Ethiopia, the Ituri and Kivu provinces of DRC and—somewhat contradictory to the country-level forecasts—for Nigeria.

In Ethiopia, the risk elevations at both levels of analysis follow the death of more than 200 civilians at the hands of Ethiopian and Eritrean government forces in Tigray this April, another 12 in Amhara (by Amhara Regional Forces), 16 at the hands of armed groups Benishangul-Gumuz, up towards 80 in Oromia (Ethiopian security forces, OLA,

gunmen and other armed groups), and another 18 in SNNP (armed groups). For the Ituri and the Kivu provinces of DRC, the risk escalation follows fatal violence against civilians by a number of armed groups, IS, and government forces. For Nigeria, in turn, local risk elevations in the southern states are informed by fatal violence at the hands of government forces, while elevations in Katsina, Zamfara, and Kaduna are due to continued banditry, the elevation in Imo is attributed to IPOB, and the Yobe and Adamawa escalations follow recent IS activity. For Borno, however, not a single fatality from one-sided violence was recorded in April 2021, giving rise not only to the risk reduction in the north-eastern region, but also to the overall decline at the country-level.

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 9 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 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 9.
4. The monthly fatality count in Borno nevertheless declined between March and April, resulting in somewhat declining risks in the region over the near future (Figure 3d).
5. Unless otherwise stated, all fatality counts and details on conflict events in this report are derived

from the UCDP Candidate Events Dataset (Pettersson, Högladh, and Öberg, 2019; Sundberg and Melander, 2013; Hegre et al., 2020). Fatality counts listed correspond to the 'best estimate' records.

REFERENCES

- Hegre, Håvard, Marie Allansson, Matthias Basedau, Mike Colaresi, Mihai Croicu, Hanne Fjelde, Frederick Hoyles, Lisa Hultman, Stina Högladh, Remco Jansen, Naima Mouhleb, Sayeed Auwn Muhammad, Desirée Nilsson, Håvard Mogleiv Nygård, Gudlaug Olafsdottir, Kristina Petrova, David Randahl, Espen Geelmuyden Rød, Gerald Schneider, Nina von Uexkull, and Jonas Vestby (2019). "ViEWS: A political Violence Early Warning System". In: *Journal of Peace Research* 56.2, pp. 155–174. doi: 10.1177/0022343319823860. url: <https://doi.org/10.1177/0022343319823860>.
- Hegre, Håvard, Curtis Bell, Michael Colaresi, Mihai Croicu, Frederick Hoyles, Remco Jansen, Angelica Lindqvist-McGowan, David Randahl, Espen Geelmuyden Rød, Maxine Ria Leis, and Paola Vesco (2021). "ViEWS₂₀₂₀: Revising and evaluating the ViEWS political Violence Early-Warning System". In: *Journal of Peace Research* In press.
- Hegre, Håvard, Mihai Croicu, Kristine Eck, and Stina Högladh (2020). "Introducing the UCDP Candidate Events Dataset". In: *Research & Politics* 7.3 (3), p. 2053168020935257. doi: 10.1177/2053168020935257. url: <https://doi.org/10.1177/2053168020935257>.
- Pettersson, Therése, Stina Högladh, and Magnus Öberg (2019). "Organized violence, 1989–2018 and peace agreements". In: *Journal of Peace Research* 56.4, pp. 589–603. doi: 10.1177/0022343319856046. url: <https://doi.org/10.1177/0022343319856046>.
- Raleigh, Clionadh, Håvard Hegre, Joakim Karlsen, and Andrew Linke (2010). "Introducing ACLED: An Armed Conflict Location and Event Dataset". In: *Journal of Peace Research* 47.5, pp. 651–660. doi: 10.1177/0022343310378914. url: <https://doi.org/10.1177/0022343310378914>.
- Sundberg, Ralph and Erik Melander (2013). "Introducing the UCDP Georeferenced Event Dataset". In: *Journal of Peace Research* 50.4, pp. 523–532. doi: 10.1177/0022343313484347.

Tollefsen, Andreas Forø (2012). *PRIO-GRID Codebook*. Typescript, PRIO. url: http://file.prio.no/ReplicationData/PRIO-GRID/PRIO-GRID_codebook_v1_01.pdf.

Weidmann, Nils B, Doreen Kuse, and Kristian Skrede Gleditsch (2010). "The geography of the international system: The CShapes dataset". In: *International Interactions* 36.1, pp. 86–106.

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 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 April 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.

FUNDING

The research presented in this report was funded by the European Research Council, project H2020-ERC-2015-AdG 694640 (ViEWS), and Uppsala University (www.uu.se).

**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](https://github.com/UppsalaConflictDataProgram/OpenViEWS2)

The full list of publications are accessible at:



[https://pcr.uu.se/research/
views/publications/](https://pcr.uu.se/research/views/publications/)