**Data Description**

Time Period: 1997-2018

Spatial Extent: Continent Africa

Resolution: 0.5 by 0.5 resolution

Conflict Data: ACLED Data, see: <https://www.acleddata.com/>

The ACLED event types include protests, riots, remote violence/explosions, battles, strategic development, and violence against civilians. Further, the different types of events are broken into violent and nonviolent events, where nonviolent events are defined as protests and strategic developments. The other four event types are categorized as violent events. Table 2 provides the ACLED definitions for each type of conflict.

We use the disaggregated, point level ACLED dataset on each individual event that occurred across the African continent from 1997 to 2018. Rather than analyzing every single conflict data point, we utilize a raster based methodology. First, an empty raster was developed at a 0.5˚by 0.5˚ resolution. Then, based on an overlay of the raster with the conflict point data, every ACLED event was assigned to the appropriate grid cell. The assignment of points to grid cells was stratified in multiple fashions: (1) all ACLED defined conflict points, (2) violent and nonviolent conflict events, and (3) by event type including battles, explosions & remote violence, violence against civilians, riots, protests, and strategic development. The individual grid cell is our unit of analysis.

For each cell and conflict type, we calculated the average number of events across the 22 year time period. The long term average number of events was then subtracted from the annual conflict to determine the yearly trend in the grid cell. In other words, negative numbers indicate a year when events in a given cell fell below their long term mean and positive numbers indicate a year then events were above the long term mean. We normalize cells in this way because some areas have much higher levels of chronic violence than others. For example, cells in the middle of Cairo, cells in the middle of Harare, or cells straddling the border between Congo and Uganda tend to have higher levels of conflict. Examining these deviations from the long term mean allows us to better understand these changes in conflict from the normal state in each area. For each cell and event type, we assigned a binary indicator for cells above (0) or below (1) their long-run average. A zero can be interpreted as “more peaceful than average” and a one as “more violent than average.”

**Region Definition:**

**Central Africa:** Angola, Cameroon, Chad, Central African Republic, Democratic Republic of Congo, Equatorial Guinea, Gabon, Republic of Congo/Congo Brazzaville

**East Africa:** Burundi, Djibouti, Eritrea, Ethiopia, Kenya, Madagascar, Malawi, Mozambique, Rwanda, Somalia, Tanzania, Uganda

**North Africa:** Algeria, Egypt, Libya, Morocco, Sudan, Tunisia, Western Sahara

**Southern Africa:** Botswana, eSwatini/Swaziland, Lesotho, Namibia, South Africa, Zambia, Zimbabwe

**West Africa:** Benin, Burkina Faso, Gambia, Ghana, Guinea, Guinea-Bissau, Ivory Coast/ Cote d’Ivoire, Liberia, Mali, Mauritania, Niger, Nigeria, Senegal, Sierra Leone, Togo

Note 1: This paper treats South Sudan as part of Sudan and Somaliland as part of Somalia.

Note 2: ACLED recorded no events for the islands of Cape Verde, Comoros, and Sao Tome and Principe.

**ACLED Conflict Types**

**Battles:** a violent interaction between two politically organized armed groups at a particular time and location

**Explosions/Remote violence:** one-sided violent events in which the tool for engaging in conflict creates asymmetry by taking away the ability of the target to respond

**Violence against civilians:** violent events where an organized armed group deliberately inflicts violence upon unarmed non-combatants

**Riots:** violent events where demonstrators or mobs engage in disruptive acts

**Protests:** a public demonstration in which the participants do not engage in violence, though violence may be used against them

**Strategic developments:** contextually important information regarding the activities of violent groups that is not itself recorded as political violence, yet may trigger future events or contribute to political dynamics within and across states

Note: In this paper “Violent Events” are battles, explosions/remote violence, violence against civilians and riots. “Nonviolent events” are protests and strategic developments. Source: <https://www.acleddata.com/2019/03/14/acled-introduces-new-event-types-and-sub-event-types/>

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| **Markov Transitional Probabilities: Violent and Non-Violent Events** | | | | | | | | | | | | |
|  | All | | | | Violent | | | | Non-Violent | | | |
| Region | Peace, Peace | Peace, Conflict | Conflict, Peace | Conflict, Conflict | Peace, Peace | Peace, Conflict | Conflict, Peace | Conflict, Conflict | Peace, Peace | Peace, Conflict | Conflict, Peace | Conflict, Conflict | |
| Central Africa | .956 | .044 | .642 | .358 | .959 | .041 | .641 | .359 | .982 | .018 | .702 | .298 | |
| East Africa | .924 | .076 | .616 | .384 | .927 | .073 | .621 | .379 | .964 | .036 | .691 | .309 | |
| North Africa | .969 | .031 | .642 | .358 | .971 | .029 | .604 | .396 | .983 | .017 | .732 | .268 | |
| Southern Africa | .957 | .043 | .673 | .327 | .964 | .036 | .668 | .332 | .973 | .027 | .733 | .267 | |
| West Africa | .95 | .05 | .63 | .37 | .953 | .047 | .646 | .354 | .976 | .024 | .633 | .367 | |
| Note: transition probabilities are for the ACLED region designated countries in that rectangle… see 30 SEP Transition Matrices Word Doc mod\_total | | | | | | | | | | | | |

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| **Table 3: Markov Transitional Probabilities from Peace to Violence by Conflict Type** | | | | | | |
| Region | Protests | Battles | Explosions & Remote Violence | Violence against Civilians | Riots | Strategic Development |
| All of Africa | .016 | .027 | .008 | .027 | .016 | .013 |
| Central Africa | .007 | .029 | .005 | .027 | .009 | .015 |
| East Africa | .025 | .047 | .013 | .047 | .025 | .021 |
| North Africa | .013 | .02 | .011 | .017 | .011 | .01 |
| Southern Africa | .023 | .005 | .001 | .021 | .025 | .007 |
| West Africa | .019 | .031 | .007 | .029 | .02 | .011 |
| Note: transition probabilities are for the ACLED region designated countries in that rectangle… see 30 SEP Transition Matrices Word Doc mod\_total | | | | | | |