

*Online Appendix*  
Introducing **xSub**:  
A New Portal for Cross-National Data on Sub-National Violence

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## A1 xSub Overview

**xSub** /cross-sub.org/ is a repository of micro-level, subnational event data on armed conflict and contention around the world. Our goal is to preserve and consolidate multiple open-source data collections in one comprehensive electronic archive, creating a “database of databases” for purposes of research, education, policy-making and evaluation.

The archive currently includes data on armed conflict and contention from 156 countries (1969-2017), from 21 data sources, including both large data collections and individual scholars. The data are available as individual events, and as analysis-ready spatial panel datasets. To facilitate comparisons across countries and sources, **xSub** organizes these data into common units of analysis, by space (country, province, district, grid cell, electoral constituency) and time (year, month, week, day). We also provide several pooled, multi-source versions of the data for every country.

### A1.1 Terms of Use

In accordance with Title 17 U.S.C. Section 107, the material on [x-sub.org](http://x-sub.org) is distributed without profit for research and educational purposes only, to advance understanding on political, social and economic issues, human rights and national security.

All data or images produced by **xSub** or acquired through the **xSub** website should be acknowledged, and cited in accordance with guidelines described in the How to Cite section below.

None of the data or images acquired through the **xSub** website may be distributed or used for any commercial purpose, without express permission from **xSub** project leadership, and the corresponding data provider.

### A1.2 Individual Data Sources

The current **xSub** release features data on 156 countries from 21 sources, including

- [American Bar Association / Darfur](#) (short code: `ABADarfur`)
- [Armed Conflict Location and Event Data Project \(ACLED\)](#) (`ACLED`)
- [Beissinger / Protest](#) (`BeissingerProtest`)
- [Beissinger / Riot](#) (`BeissingerRiot`)
- [Beissinger / Ukraine](#) (`BeissingerUkraine`)
- [Empirical Studies of Conflict Project \(ESOC\) / Afghanistan / WITS](#) (`ESOCAfghanistanWITS`)
- [Empirical Studies of Conflict Project \(ESOC\) / Iraq / SIGACT](#) (`ESOCIraqSIGACT`)
- [Empirical Studies of Conflict Project \(ESOC\) / Iraq / WITS](#) (`ESOCIraqWITS`)
- [Empirical Studies of Conflict Project \(ESOC\) / Mexico / Drug-Related Murders](#) (`ESOCMexicoDrugRelatedMurders`)

- [Empirical Studies of Conflict Project \(ESOC\)](#) / Mexico / Homicides (ESOCMexicoHomicide)
- [Empirical Studies of Conflict Project \(ESOC\)](#) / Pakistan / BFRS (ESOCPakistanBFRS)
- [Empirical Studies of Conflict Project \(ESOC\)](#) / Pakistan / WITS (ESOCPakistanWITS)
- [National Violence Monitoring System \(NVMS\) Indonesia](#) (NVMS)
- [Northern Ireland Research Initiative \(NIRI\)](#) (NIRI)
- [Political Instability Task Force / Worldwide Atrocities Dataset](#) (PITF)
- [Social Conflict Analysis Database \(SCAD\)](#) (SCAD)
- [UCDP / Georeferenced Event Dataset](#) (GED)
- [Zhukov](#) / North Caucasus (yzCaucasus)
- [Zhukov](#) / Chechnya (yzChechnya)
- [Zhukov](#) / Libya (yzLibya)
- [Zhukov](#) / Ukraine (yzUkraine)

### A1.3 Multiple Source Data

In addition to the data collections above, xSub features several pooled, multiple-source datasets, integrated and disambiguated with the [MELTT](#) software package. These datasets combine events from our 21 collections, helping to offset under-reporting in each source with information from another. For details about MELTT’s underlying methodology, please see

- Donnay, Karsten, Eric Dunford, Erin C. McGrath, David Backer and David E. Cunningham, “Integrating Conflict Event Data,” *Journal of Conflict Resolution* (forthcoming, 2018). <https://doi.org/10.1177/0022002718777050>

We currently provide 8 sets of integrated data, organized by the spatial, temporal and event taxonomy filters used to remove duplicate events:

- Spatial filter (which events are ‘co-located’):
  - 1 km: contemporaneous events located within a 1 km radius of each other count as a single event
  - 5 km: contemporaneous events located within a 5 km radius of each other count as a single event
- Temporal filter (which events are ‘contemporaneous’):
  - 1 day: geographically co-located events reported within 1 day of each other count as a single event
  - 2 days: geographically co-located events reported within 2 days of each other count as a single event

- Dyad type:
  - A: directed (includes only events where initiator and target are both known)
  - B: undirected (all events, including those with some ambiguity over which actor was initiator vs. target)

**NOTE:** ACLED and UCDP-GED contain only undirected dyad information. Most other sources include directed dyad information. Accordingly, type-A dyads exclude ACLED and UCDP-GED from the integrated event counts.

In all, we offer eight different sets of integrated, multiple-source data:

- 1 km, 1 day, dyad type A (MELTT1km1dA)
- 1 km, 1 day, dyad type B (MELTT1km1dB)
- 5 km, 1 day, dyad type A (MELTT5km1dA)
- 5 km, 1 day, dyad type B (MELTT5km1dB)
- 1 km, 2 days, dyad type A (MELTT1km2dA)
- 1 km, 2 days, dyad type B (MELTT1km2dB)
- 5 km, 2 days, dyad type A (MELTT5km2dA)
- 5 km, 2 days, dyad type B (MELTT5km2dB)

Of these, 1km1d has the most stringent standard for duplicates (resulting in more unique events), and 5km2d has the loosest (resulting fewer unique events).

#### A1.4 How to Use xSub

xSub offers data in four formats, including two types of data sources (individual and multiple) and two data structures (spatial panel data and raw events).

##### Spatial Panel Data: Individual Sources

Through the [online interface](#), users select:

1. a country (or multiple countries)
2. a data source
3. a unit of analysis
  - space: country / province / district / grid / electoral constituency
  - time: year / month / week

The website then generates a compressed archive with:

1. dataset

- file format: comma-separated values delimited text file (.csv)
  - data structure: cross-sectional time-series
  - number of observations:  $N \times T$ , where  $N$  is the number of spatial units (e.g. districts, grid cells), and  $T$  is the number of time units (e.g. months, weeks)
  - variables included: unit IDs, violence event counts (broken down by actors and tactics), covariates (local demographics, geography, ethnicity, weather)
2. map and time plot of violence
    - file format: portable network graphics (.png)
    - map: number of violent events per spatial units (darker shade = more violence)
    - time plot: number of violent events per time unit (higher bars = more violence)
  3. codebook
    - file format: portable document format (.pdf)
    - contents: information on variable names, data structure
  4. actor dictionary
    - file format: portable document format (.pdf)
    - contents: information on which specific actors are classified as “government,” “rebel,” and other categories in the file

## Spatial Panel Data: Multiple Sources

Through the [online interface](#), users select:

1. a country (or multiple countries)
2. a geographic and date matching window for event de-duplication:
  - geographic: 1 km / 5 km
  - date: 1 day / 2 days

all events of the same type (i.e. same actors, actions, targets) that fall within the same matching window (e.g. occurred within 1 km of each other on the same day) are treated as a single unique event

3. a dyad type:
  - A: directed (includes only events where initiator and target are both known)
  - B: undirected (all events, including those with some ambiguity over which actor was initiator vs. target)

ACLED and GED contain only undirected dyad information; most other sources include directed dyad information.

4. a unit of analysis

- space: country / province / district / grid / electoral constituency
- time: year / month / week / day

The website then generates a compressed archive with:

1. dataset

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3. codebook

- file format: portable document format (.pdf)
- contents: information on variable names, data structure

4. actor dictionary

- file format: portable document format (.pdf)
- contents: information on which specific actors are classified as “government,” “rebel,” and other categories in the file

## Event-Level Data: Individual Source

Through the [online interface](#), users select:

1. a country (or multiple countries)
2. a data source

The website then generates a compressed archive with:

1. dataset

- file format: comma-separated values delimited text file (.csv)
- data structure: event data
- number of observations:  $N$ , the number of political events that occurred within a country over the time period covered by each data source

- variables included: unit IDs, violence event counts (broken down by actors and tactics), including more specific event categories than are included in the aggregate, panel datasets
2. map and time plot of violence
    - file format: portable network graphics (.png)
    - map: number of violent events per spatial units (darker shade = more violence)
    - time plot: number of violent events per time unit (higher bars = more violence)
  3. codebook
    - file format: portable document format (.pdf)
    - contents: information on variable names, data structure
  4. actor dictionary
    - file format: portable document format (.pdf)
    - contents: information on which specific actors are classified as “government,” “rebel,” and other categories in the file

## Event-Level Data: Multiple Sources

Through the [online interface](#), users select:

1. a country (or multiple countries)
2. a geographic and date matching window for event de-duplication:
  - geographic: 1 km / 5 km
  - date: 1 day / 2 days

all events of the same type (i.e. same actors, actions, targets) that fall within the same matching window (e.g. occurred within 1 km of each other on the same day) are treated as a single unique event

3. a dyad type:
  - A: directed (includes only events where initiator and target are both known)
  - B: undirected (all events, including those with some ambiguity over which actor was initiator vs. target)

ACLED and GED contain only undirected dyad information; most other sources include directed dyad information

4. a unit of analysis
  - space: country / province / district / grid / electoral constituency
  - time: year / month / week / day

The website then generates a compressed archive with:

## 1. dataset

- file format: comma-separated values delimited text file (.csv)
- data structure: event data
- number of observations:  $N$ , the number of political events that occurred within a country, after pooling across multiple sources and removing duplicate events
- variables included: unit IDs, violence event counts (broken down by actors and tactics), including more specific event categories than are included in the aggregate, panel datasets

## 2. map and time plot of violence

- file format: portable network graphics (.png)
- map: number of violent events per spatial units (darker shade = more violence)
- time plot: number of violent events per time unit (higher bars = more violence)

## 3. codebook

- file format: portable document format (.pdf)
- contents: information on variable names, data structure

## 4. actor dictionary

- file format: portable document format (.pdf)
- contents: information on which specific actors are classified as “government,” “rebel,” and other categories in the file

## A1.5 How to Cite

When using data from the **xSub** archive, please cite both the original data source you are using and the xSub project.

### Citation information for xSub

Authors . 2019. Introducing xSub: A New Portal for Cross-National Data on Subnational Violence. [*Journal Name*] [volume] ([issue]): [pages]

### Citation information for MELTT (if using multiple-source data)

- Donnay, Karsten, Eric Dunford, Erin C. McGrath, David Backer and David E. Cunningham, “Integrating Conflict Event Data,” *Journal of Conflict Resolution* (forthcoming, 2018). <https://doi.org/10.1177/0022002718777050>



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**Citation information for data sources featured in xSub**

- [American Bar Association / Darfur](#)
  - Totten, Samuel. “The US Investigation into the Darfur Crisis and the US Government’s Determination of Genocide.” *Genocide Studies and Prevention* 1, no. 1 (2006): 57-78.
- [Armed Conflict Location and Event Data Project \(ACLED\)](#)
  - Raleigh, Clionadh, Andrew Linke, Håvard Hegre, and Joakim Karlsen. “Introducing ACLED: An armed conflict location and event dataset special data feature.” *Journal of Peace Research* 47, no. 5 (2010): 651-660.
- [Beissinger / Protest](#)
  - Beissinger, Mark R. *Nationalist mobilization and the collapse of the Soviet State*. Cambridge University Press, 2002.
- [Beissinger / Riot](#)
  - Beissinger, Mark R. *Nationalist mobilization and the collapse of the Soviet State*. Cambridge University Press, 2002.
- [Beissinger / Ukraine](#)
  - Beissinger, Mark R. *Nationalist mobilization and the collapse of the Soviet State*. Cambridge University Press, 2002.
- [Empirical Studies of Conflict Project \(ESOC\) / Afghanistan / WITS](#)
  - Wigle, John. “Introducing the worldwide incidents tracking system (WITS).” *Perspectives on Terrorism* 4, no. 1 (2010).
- [Empirical Studies of Conflict Project \(ESOC\) / Iraq / SIGACT](#)
  - Eli Berman, Jacob N. Shapiro, and Joseph H. Felter, “Can Hearts and Minds Be Bought? The Economics of Counterinsurgency in Iraq,” *Journal of Political Economy* 119, no. 4 (August 2011).
- [Empirical Studies of Conflict Project \(ESOC\) / Iraq / WITS](#)
  - Wigle, John. “Introducing the worldwide incidents tracking system (WITS).” *Perspectives on Terrorism* 4, no. 1 (2010).
- [Empirical Studies of Conflict Project \(ESOC\) / Mexico / Drug-Related Murders](#)
  - Calderón, Gabriela, Gustavo Robles, Alberto Díaz-Cayeros, and Beatriz Magaloni. “The beheading of criminal organizations and the dynamics of violence in Mexico.” *Journal of Conflict Resolution* 59, no. 8 (2015): 1455-1485.
- [Empirical Studies of Conflict Project \(ESOC\) / Pakistan / BFRS](#)

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- de Mesquita, Bueno, Ethan C. Christine Fair, Jenna Jordan, Rasul Bakhsh Rais, and Jacob N. Shapiro. “The BFRS Political Violence in Pakistan Dataset.” (2013).
  - [Empirical Studies of Conflict Project \(ESOC\) / Pakistan / WITS](#)
    - Wigle, John. “Introducing the worldwide incidents tracking system (WITS).” *Perspectives on Terrorism* 4, no. 1 (2010).
  - [Northern Ireland Research Initiative \(NIRI\)](#)
    - Davenport, Christian, Cyanne Loyle, and Christopher Sullivan. Northern Ireland Research Initiative. (February 9, 2017).
  - [National Violence Monitoring System \(NVMS\) Indonesia](#)
    - Barron, Patrick, Sana Jaffrey, and Ashutosh Varshney. “When Large Conflicts Subside: The Ebbs and Flows of Violence in Post-Suharto Indonesia.” *Journal of East Asian Studies* 16, no. 02 (2016): 191-217.
  - [Political Instability Task Force / Worldwide Atrocities Dataset](#)
    - Schrodtt, Philip A. and Jay Ulfelder, “Political Instability Task Force Atrocities Event Data Collection,” Version 1.1b1 (September 12, 2016)
  - [Social Conflict Analysis Database \(SCAD\)](#)
    - Salehyan, Idean, Cullen S. Hendrix, Jesse Hamner, Christina Case, Christopher Linebarger, Emily Stull, and Jennifer Williams. “Social conflict in Africa: A new database.” *International Interactions* 38, no. 4 (2012): 503-511.
  - [UCDP / Georeferenced Event Dataset](#)
    - Sundberg, Ralph, and Erik Melander. “Introducing the UCDP Georeferenced Event Dataset.” *Journal of Peace Research* 50, no. 4 (2013): 523-532.
  - [Zhukov / North Caucasus](#)
    - Toft, Monica Duffy, and Yuri M. Zhukov. “Islamists and nationalists: Rebel motivation and counterinsurgency in Russia’s North Caucasus.” *American Political Science Review* 109, no. 02 (2015): 222-238.
  - [Zhukov / Chechnya](#)
    - Zhukov, Yuri M. *Theory of Indiscriminate Violence*. Ph.D. Dissertation, Harvard University (2014).
  - [Zhukov / Libya](#)
    - Baum, Matthew A., and Yuri M. Zhukov. “Filtering revolution: Reporting bias in international newspaper coverage of the Libyan civil war.” *Journal of Peace Research* 52, no. 3 (2015): 384-400.
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- [Zhukov](#) / Ukraine
  - Zhukov, Yuri M. “Trading hard hats for combat helmets: The economics of rebellion in eastern Ukraine.” *Journal of Comparative Economics* 44, no. 1 (2016): 1-15.

## A1.6 Units of Analysis

xSub spatial panel datasets are available at multiple levels of analysis, which users can customize to their needs. The spatio-temporal resolution of the panel data can thus range from macro-level (e.g. country-year) to meso-level (e.g. province-month) and micro-level (e.g. grid-week).

Spatial units:

- `country` [`adm0`]: country or national level
- `province` [`adm1`]: 1st order administrative division (e.g. U.S. state)
- `district` [`adm2`]: 2nd order administrative division (e.g. U.S. county)
- `grid cell` [`priogrid`]: 0.5 x 0.5 decimal degree regular grid (PRIO-GRID)
- `electoral constituency` [`clea`]: geographic units used by the Constituency-Level Elections Archive (CLEA)

Temporal units:

- `year`
- `month`
- `week`
- `day`

Output datasets feature violent event counts and local demographic, geographic, ethnic and weather variables, aggregated to the user’s preferred units. For example, if the user selects “Space: district” and “Time: week”, the dataset will include repeated weekly observations for each district, with the total number of violent incidents at each time period (broken down by actor and tactics), and local average statistics for weather and other covariates.

xSub event-level datasets, by construction, have no discrete units of analysis. To situate each event in space and time, all records contain geographic coordinates (longitude, latitude) and dates, along with geographic and temporal precision codes.

## A1.7 Variables Included

xSub datasets include variables from two categories:

1. conflict and violence
2. local demographics, geography, ethnicity, weather

## ID variables

The following variables identify spatial and temporal units, and can be used for merging and aggregation:

- ID\_0: GADM country ID (numeric)
- ISO: ISO3 country ID (string)
- NAME\_0: country name (string)
- ID\_1: GADM province ID (numeric)
- NAME\_1: province name (string)
- ID\_2: GADM district ID (numeric)
- NAME\_2: district name (string)
- CLEA\_CST: electoral constituency ID / format is “A.B.C”, where A is the CLEA country code, B is the election year, C is the CLEA constituency number (string)
- CLEA\_CST\_N: name of electoral constituency (string)
- PRIO\_GID: PRIO-GRID cell ID (numeric)
- PRIO\_XCOORD: longitude of cell centroid (numeric)
- PRIO\_YCOORD: latitude of cell centroid (numeric)
- PRIO\_COL: PRIO-GRID column number (numeric)
- PRIO\_ROW: PRIO-GRID row number (numeric)
- YEAR: year (numeric)
- YRMO: year-month (YYYYMM) (numeric)
- WID: week ID (numeric)
- DATE: date (YYYYMMDD) (numeric)
- GEOPRECISION: geographic precision code (only included in event-level data):
  - settlement: event geo-coded to nearest settlement (e.g. village, town, city)
  - adm2: event geo-coded to center of nearest second-order administrative unit (e.g. district, county, rayon)
  - adm1: event geo-coded to center of nearest first-order administrative unit (e.g. province, state, oblast)
  - adm0: event geo-coded to country level
- TIMEPRECISION: temporal precision code (only included in event-level data):

- day
- week
- month
- year

## Event counts: conflict and political violence

### ACTORS

- SIDE\_A: incumbent government, pro-govt militia, third party acting on incumbent’s behalf
- SIDE\_B: rebels, anti-government militia, third party acting on rebels’ behalf, and other armed groups directly challenging the government
- SIDE\_C: civilians
- SIDE\_D: local militia, tribe, other non-state actors *not* directly challenging the government

The **actor dictionary** specifies which factions belong to SIDE\_A ... SIDE\_D for each conflict.

- INITIATOR variables:
  - INITIATOR\_SIDEA, INITIATOR\_SIDEB, INITIATOR\_SIDE\_C, INITIATOR\_SIDE\_D
- TARGET variables:
  - TARGET\_SIDEA, TARGET\_SIDEB, TARGET\_SIDE\_C, TARGET\_SIDE\_D
- ACTION variables:
  - ACTION\_ANY, ACTION\_IND, ACTION\_DIR, ACTION\_PRT
- INITIATOR\_ACTION variables:
  - SIDEA\_ANY, SIDEA\_IND, SIDEA\_DIR, SIDEA\_PRT
  - SIDEB\_ANY, SIDEB\_IND, SIDEB\_DIR, SIDEB\_PRT
  - SIDE\_C\_ANY, SIDE\_C\_IND, SIDE\_C\_DIR, SIDE\_C\_PRT

### DYAD

- DYAD\_X\_Y: interaction between actors X and Y

**NOTE:** ACLED and UCDP-GED do not explicitly distinguish between the initiators and targets of conflict events. In those cases (*undirected dyads*), the variables DYAD\_\* are to be interpreted as “event involving actors X and Y.” In all other cases (*directed dyads*), they are to be interpreted as “action by actor X against actor Y.”

## ACTION

General categories:

- ANY: any use of force
- IND: indirect violence. This category includes the following actions:
  - ACTION\_AIRSTRIKE – air strike, strategic bombing, helicopter strike
  - ACTION\_ARMOR – tank battle or assault
  - ACTION\_ARTILLERY – shelling by field artillery, howitzer, mortar (“mine-thrower”)
  - ACTION\_BOMB – improvised explosive device, roadside bomb, landmine, car bomb
  - ACTION\_CHEMICAL – chemical weapons attack
  - ACTION\_CIV\_ABUSE – other civilian abuses
  - ACTION\_DISPLACE – forcible population displacement
  - ACTION\_RAID – assault/attack, followed by a retreat
  - ACTION\_ROCKET – shelling by artillery rockets like Grad/BM-21, Uragan/BM-27, other Multiple Launch Rocket System (MRLS)
  - ACTION\_SIEGE – siege of a building, base or town
  - ACTION\_STORM – storming of a building or base
  - ACTION\_SUICIDE – suicide bombing
  - ACTION\_TERROR – terrorist attack, tactics unspecified
- DIR: direct violence. This category includes the following actions:
  - ACTION\_AMBUSH – surprise attack
  - ACTION\_ARREST – arrest/detention
  - ACTION\_FIREFIGHT – any exchange of gunfire with handguns, semi-automatic rifles, automatic rifles, machine guns, rocket-propelled grenades (RPGs)
  - ACTION\_KIDNAP – kidnapping or abduction
  - ACTION\_KILLING – assassination, execution, extrajudicial killing, other targeted killing
  - ACTION\_KILLING\_A – attempted (unsuccessful) assassination, execution, extrajudicial killing, other targeted killing
- PRT: protest. This category includes the following actions:
  - ACTION\_PROTEST – non-violence protest
  - ACTION\_PROTEST\_V – violent protest
  - ACTION\_RIOT – violent public disturbance against property or people

Specific categories (only included in event-level data):

- ACTION\_AIRSTRIKE

- ACTION\_AMBUSH
- ACTION\_ARMOR
- ACTION\_ARREST
- ACTION\_ARTILLERY
- ACTION\_BOMB
- ACTION\_CHEMICAL
- ACTION\_CIV\_ABUSE
- ACTION\_DISPLACE
- ACTION\_FIREFIGHT
- ACTION\_KIDNAP
- ACTION\_KILLING
- ACTION\_KILLING\_A
- ACTION\_OCCUPY
- ACTION\_PROPERTY
- ACTION\_PROTEST
- ACTION\_PROTEST\_V
- ACTION\_RAID
- ACTION\_RIOT
- ACTION\_RIOTCONTROL
- ACTION\_ROBBERY
- ACTION\_ROCKET
- ACTION\_SIEGE
- ACTION\_STORM
- ACTION\_SUICIDE
- ACTION\_TERROR
- ACTION\_UNKNOWN

While some sources provide information on specific categories of actions, others contain either no precise description of tactics, or offer rather extensive notes. In the former case, we either coded such violence as ANY or referred to the original article or the author. In the latter case, we used the detailed notes to categorize a specific event into one of the standard action categories above.

**Local demographics, geography, ethnicity, weather**

- POP\_1990: population per square kilometer, 1990 (GPW v3) (numeric)
- POP\_1995: population per square kilometer, 1995 (GPW v3) (numeric)
- POP\_2000: population per square kilometer, 2000 (GPW v3) (numeric)
- ELEV\_MEAN: average elevation, meters (ETOPO05) (numeric)
- ELEV\_SD: standard deviation of elevation, meters (ETOPO05) (numeric)
- ELEV\_MAX: maximum elevation, meters (ETOPO05) (numeric)
- OPEN\_TERRAIN: proportion of land covered by open terrain (shrublands, savannah, grasslands, barren or sparsely vegetated) (GLCC) (numeric)
- FOREST: proportion of land covered by evergreen, deciduous or mixed forest (GLCC) (numeric)
- WETLAND: proportion of land covered by wetlands or water bodies (GLCC) (numeric)
- FARMLAND: proportion of land covered by croplands (GLCC) (numeric)
- GREG\_NGROUPS: number of local ethnic groups (GREG) (numeric)
- GREG\_GROUPS: names of local ethnic groups (GREG) (string)
- WLMS\_NLANG: number of local languages (WLMS) (numeric)
- WLMS\_LANGS: names of local languages (WLMS) (string)
- NBUILTUP: number of built-up areas (GGIS) (numeric)
- BUILTUP: names of built-up areas (GGIS) (string)
- NPETRO: number of petroleum fields (PRIO) (numeric)
- PETRO: names of petroleum fields (PRIO) (string)
- DIST2PROVCAP: distance to nearest provincial capital, km (GGIS) (numeric)
- DIST2CAP: distance to national capital, km (GGIS) (numeric)
- ROAD\_XING: number of primary, secondary roads crossing border (DCW) (numeric)
- ROAD\_LENGTH: length of primary, secondary roads, km (DCW) (numeric)
- AREA\_KM2: area of spatial unit, km<sup>2</sup> (numeric)
- ROAD\_DENSITY: road density, km/km<sup>2</sup> (DCW) (numeric)
- TEMP: average temperature in Celsius (NOAA) (numeric)
- RAIN: average precipitation in millimeters (NOAA) (numeric)



## A1.8 GIS Compatibility

**xSub** datasets are designed for compatibility with Geographic Information Systems (GIS). Each file contains a spatial unit ID that can be used to merge the event data to GIS spatial geometry files, like ESRI polygon shapefiles (.shp), and R SpatialPolygons (.RData).

Spatial Unit	Type	Merge Variables	Link to GIS Files
country [adm0]	Global Administrative Areas	ID_0, NAME_0	<a href="http://gadm.org">gadm.org</a>
province [adm1]	Global Administrative Areas	ID_1, NAME_2	<a href="http://gadm.org">gadm.org</a>
district [adm2]	Global Administrative Areas	ID_2, NAME_2	<a href="http://gadm.org">gadm.org</a>
grid [priogrid]	PRIO Grid	PRIO_GID, PRIO_COL, PRIO_ROW	<a href="http://grid.prio.org">grid.prio.org</a>
constituency [clea]	CLEA polygons	CLEA_CST_N, CLEA_CST	<a href="http://electiondataarchive.org">electiondataarchive.org</a>

## A1.9 xSub Data by Country

The following Table provides information on each country included in **xSub**. It includes information on data sources, the number of reported violent events in each source, the time period covered, and the most detailed level of geographic and temporal precision.

ID	Country	ISO3	Source	Dates	Events	Geo	Time
1	Afghanistan	AFG	ACLED	2017/01/01-2018/03/03	9010	settlement	day
			ESOCAfghanistanWITS	2002/09/05-2009/09/12	7846	settlement	day
			GED	1989/01/01-2016/12/31	42882	settlement	day
			PITF	1995/01/02-2017/09/29	746	settlement	day
2	Angola	AGO	ACLED	1997/01/01-2018/02/27	3175	settlement	day
			GED	1989/01/02-2016/09/04	12512	settlement	day
			PITF	1995/02/01-2016/08/09	84	settlement	day
			SCAD	1990/01/01-2015/11/04	8412	settlement	day
3	Albania	ALB	GED	1999/04/09-1999/06/04	4	settlement	day
			PITF	1996/02/26-1999/06/28	3	settlement	day
4	United Arab Emirates	ARE	ACLED	2017/05/01-2017/05/01	2	settlement	day
			GED	2010/01/20-2010/01/20	1	settlement	day
5	Argentina	ARG	GED	1992/03/17-1992/03/17	1	settlement	day
6	Armenia	ARM	BeissingerProtest	1987/09/01-1992/11/09	386	settlement	day
			BeissingerRiot	1988/03/25-1992/12/30	175	settlement	day

ID	Country	ISO3	Source	Dates	Events	Geo	Time
			GED	1992/02/21-2016/12/29	48	settlement	day
			PITF	2000/07/14-2015/01/12	2	settlement	day
7	Azerbaijan	AZE	BeissingerProtest	1988/02/12-1992/12/04	347	settlement	day
			BeissingerRiot	1987/10/01-1992/12/29	830	settlement	day
			GED	1991/12/29-2016/11/13	3984	settlement	day
8	Burundi	BDI	ACLED	1997/01/05-2018/02/26	7645	settlement	day
			GED	1990/08/13-2016/12/01	3631	settlement	day
			PITF	1995/01/01-2017/07/16	262	settlement	day
			SCAD	1991/11/25-2015/12/26	6326	settlement	day
9	Belgium	BEL	GED	2016/03/15-2016/08/06	3	settlement	day
			NIRI	1974/05/28-1979/03/22	3	settlement	day
			PITF	2016/03/22-2016/03/22	1	settlement	day
10	Benin	BEN	ACLED	1997/10/10-2018/03/02	175	settlement	day
			SCAD	1990/01/01-2014/12/11	812	settlement	day
11	Burkina Faso	BFA	ACLED	1997/02/01-2018/03/02	984	settlement	day
			GED	2016/01/15-2016/01/16	2	settlement	week
			PITF	2002/01/01-2017/08/13	7	settlement	day
			SCAD	1991/09/30-2015/11/27	503	settlement	day
12	Bangladesh	BGD	ACLED	2015/01/01-2018/03/01	3130	settlement	day
			GED	1989/05/20-2016/12/24	1588	settlement	day
			NIRI	1970/07/03-1971/03/06	2	adm2	day
			PITF	1995/02/13-2017/09/06	73	settlement	day
13	Bulgaria	BGR	PITF	2005/08/15-2012/07/18	2	settlement	day
14	Bahrain	BHR	ACLED	2017/01/01-2018/02/21	243	settlement	day

ID	Country	ISO3	Source	Dates	Events	Geo	Time
			GED	2011/02/14-2011/12/31	24	settlement	day
			PITF	1996/03/14-2017/05/23	3	settlement	day
15	Bahamas	BHS	PITF	2014/08/25-2014/08/25	1	adm2	day
16	Bosnia and Herzegovina	BIH	GED	1992/04/27-1995/12/31	5614	settlement	day
			PITF	1995/01/01-2008/05/29	31	settlement	day
17	Belarus	BLR	BeissingerProtest	1987/11/01-1992/10/18	105	settlement	day
			BeissingerRiot	1988/10/15-1991/12/23	4	settlement	day
			PITF	2011/04/11-2011/04/11	1	adm2	day
18	Belize	BLZ	PITF	2000/05/30-2014/11/26	2	settlement	day
19	Bolivia	BOL	GED	1998/01/26-2000/07/08	163	settlement	day
			PITF	2000/09/18-2016/08/25	9	settlement	day
20	Brazil	BRA	GED	1993/06/19-2014/03/30	690	settlement	day
			PITF	1995/04/10-2017/05/25	82	settlement	day
21	Barbados	BRB	PITF	2010/09/03-2010/09/03	1	adm2	day
22	Bhutan	BTN	GED	1997/09/27-2004/09/05	2	settlement	day
23	Botswana	BWA	ACLED	1997/10/30-2016/11/07	45	settlement	day
			GED	1990/04/23-1990/04/23	1	settlement	day
			SCAD	1991/09/01-2012/01/10	109	settlement	day
24	Central African Republic	CAF	ACLED	1997/01/01-2018/03/01	3887	settlement	day
			GED	1991/08/08-2016/12/31	7731	settlement	day
			PITF	1997/06/20-2017/09/07	91	settlement	day
			SCAD	1990/09/01-2015/12/16	5505	settlement	day
25	Canada	CAN	GED	1994/10/20-2001/01/12	1506	settlement	day
			NIRI	1972/08/05-1974/10/20	4	settlement	day

ID	Country	ISO3	Source	Dates	Events	Geo	Time
			PITF	2017/01/29-2017/01/29	1	settlement	day
26	Switzerland	CHE	PITF	2001/09/27-2001/09/27	1	adm2	day
27	China	CHN	GED	1989/03/05-2015/03/13	120	settlement	day
			PITF	1996/09/29-2017/06/15	69	settlement	day
28	Cote D'Ivoire	CIV	ACLED	1997/01/19-2018/02/28	1724	settlement	day
			GED	1990/09/05-2016/03/25	2482	settlement	day
			PITF	1995/10/16-2017/05/30	74	settlement	day
			SCAD	1990/02/21-2015/12/02	2729	settlement	day
29	Cameroon	CMR	ACLED	1997/02/23-2018/02/28	966	settlement	day
			GED	1990/05/26-2016/12/31	881	settlement	day
			PITF	2004/05/31-2017/09/17	36	settlement	day
			SCAD	1990/05/26-2015/12/11	1533	settlement	day
30	Democratic Republic of the Congo	COD	ACLED	1997/01/01-2018/03/02	12016	settlement	day
			GED	1989/02/01-2016/12/31	30868	settlement	day
			PITF	1995/04/12-2017/09/15	273	settlement	day
			SCAD	1990/04/30-2015/12/13	6844	settlement	day
31	Congo	COG	ACLED	1997/01/06-2017/12/23	421	settlement	day
			GED	1992/11/30-2016/12/10	3306	settlement	day
			PITF	1997/05/01-2016/09/30	14	settlement	day
			SCAD	1991/01/05-2015/10/25	1515	settlement	day
32	Colombia	COL	GED	1989/01/01-2016/12/29	14174	settlement	day
			PITF	1995/02/02-2016/12/26	322	settlement	day
33	Comoros	COM	GED	1989/11/26-1998/12/08	14	settlement	day
			PITF	1998/12/05-1998/12/05	1	adm2	day

ID	Country	ISO3	Source	Dates	Events	Geo	Time
34	Costa Rica	CRI	SCAD	1993/03/08-2013/01/12	224	settlement	day
35	Cuba	CUB	PITF	2002/08/29-2002/08/29	1	settlement	day
			SCAD	1990/01/28-2012/12/09	686	settlement	day
36	Germany	DEU	GED	1989/07/02-2016/12/19	5	settlement	day
			NIRI	1980/02/16-1990/06/02	6	settlement	day
			PITF	2000/09/01-2016/12/19	4	settlement	day
37	Djibouti	DJI	ACLED	1997/09/01-2017/10/27	105	settlement	day
			GED	1989/05/29-2014/05/24	254	settlement	day
38	Dominican Republic	DOM	PITF	1998/08/25-2017/08/01	8	settlement	day
			SCAD	1990/07/16-2013/11/22	601	settlement	day
39	Algeria	DZA	ACLED	1997/01/01-2018/02/28	5168	settlement	day
			GED	1990/12/20-2016/10/13	10494	settlement	day
			PITF	1995/01/30-2015/07/18	360	settlement	day
			SCAD	1990/05/31-2015/12/25	8834	settlement	day
40	Ecuador	ECU	GED	1995/01/29-2008/03/01	7	settlement	day
			PITF	2000/12/13-2014/12/01	3	settlement	day
41	Egypt	EGY	ACLED	1997/01/03-2018/03/01	8722	settlement	day
			GED	1990/01/22-2016/12/11	1121	settlement	day
			PITF	1995/06/03-2017/07/24	77	settlement	day
			SCAD	1990/01/02-2015/12/31	9703	settlement	day
42	Eritrea	ERI	ACLED	1997/02/12-2017/10/31	408	settlement	day
			GED	1993/12/16-2016/06/13	1383	settlement	day
			PITF	1996/12/27-2004/11/05	6	settlement	day
			SCAD	1993/05/21-2013/01/25	1005	settlement	day

ID	Country	ISO3	Source	Dates	Events	Geo	Time
43	Western Sahara	ESH	PITF	1999/09/01-1999/09/01	1	settlement	month
44	Spain	ESP	GED	1989/04/12-2011/11/07	144	settlement	day
			PITF	1995/12/11-2017/08/17	4	settlement	day
45	Estonia	EST	BeissingerProtest	1987/05/01-1992/11/07	123	settlement	day
			BeissingerRiot	1989/04/08-1992/06/27	8	settlement	day
46	Ethiopia	ETH	ACLED	1997/01/15-2018/03/01	4306	settlement	day
			GED	1989/01/01-2016/12/31	32263	settlement	day
			PITF	1995/05/04-2017/09/13	65	settlement	day
			SCAD	1990/01/01-2015/12/31	16896	settlement	day
47	Finland	FIN	PITF	2002/10/12-2002/10/12	1	adm2	day
48	France	FRA	GED	1992/06/08-2016/07/26	9	settlement	day
			NIRI	1985/05/01-1985/05/01	1	settlement	day
			PITF	1995/01/01-2016/07/26	11	settlement	day
49	Gabon	GAB	ACLED	1997/08/24-2018/02/05	164	settlement	day
			PITF	2009/09/09-2009/09/09	1	adm2	day
			SCAD	1990/02/26-2015/05/01	909	settlement	day
50	United Kingdom	GBR	GED	1989/01/25-2011/04/02	225	settlement	day
			NIRI	1965/05/22-2006/05/08	9467	settlement	day
			PITF	1997/12/27-2017/06/03	9	settlement	day
51	Georgia	GEO	BeissingerProtest	1987/12/26-1992/12/24	755	settlement	day
			BeissingerRiot	1987/10/17-1992/12/29	448	settlement	day
			GED	1991/12/22-2011/04/08	472	settlement	day
			PITF	2000/05/20-2008/08/01	2	settlement	day
52	Ghana	GHA	ACLED	1997/03/10-2018/02/24	603	settlement	day

ID	Country	ISO3	Source	Dates	Events	Geo	Time
			GED	1991/04/07-2010/04/09	529	settlement	day
			PITF	1995/03/14-2017/02/09	7	settlement	day
			SCAD	1991/04/01-2015/08/24	1303	settlement	day
53	Gibraltar	GIB	NIRI	1988/03/06-1988/03/06	3	settlement	day
54	Guinea	GIN	ACLED	1997/11/21-2018/02/26	901	settlement	day
			GED	1994/05/30-2015/10/11	172	settlement	day
			PITF	1996/03/30-2017/02/20	20	settlement	day
			SCAD	1991/05/03-2015/11/09	1251	settlement	day
55	Gambia	GMB	ACLED	1997/06/06-2018/02/26	184	settlement	day
			PITF	2000/04/10-2016/04/19	2	settlement	day
			SCAD	1994/07/22-2015/11/22	28	settlement	day
56	Guinea Bissau	GNB	ACLED	1997/04/28-2018/02/18	224	settlement	day
			GED	1992/12/12-2000/04/12	271	settlement	day
			PITF	1998/07/03-2014/09/26	4	settlement	day
			SCAD	1995/04/13-2014/05/18	631	settlement	day
57	Equatorial Guinea	GNQ	ACLED	1997/07/15-2018/02/27	53	settlement	day
58	Greece	GRC	PITF	2013/11/01-2013/11/01	1	adm2	day
59	Guatemala	GTM	GED	1989/01/01-2015/11/30	31702	settlement	day
			PITF	1995/10/05-2017/08/16	40	settlement	day
			SCAD	1990/01/12-2013/09/08	681	settlement	day
60	Guyana	GUY	GED	2008/01/25-2008/06/17	5	settlement	day
			PITF	2003/01/01-2016/03/03	5	settlement	day
61	Honduras	HND	GED	1999/11/12-2016/08/14	219	settlement	day
			PITF	2000/05/07-2017/06/15	35	settlement	day

ID	Country	ISO3	Source	Dates	Events	Geo	Time
			SCAD	1990/03/31-2013/12/01	535	settlement	day
62	Croatia	HRV	GED	1992/04/29-1995/09/21	303	settlement	day
			PITF	1995/08/01-1995/08/07	3	adm1	day
63	Haiti	HTI	GED	1989/04/03-2005/08/21	621	settlement	day
			PITF	1997/02/25-2014/02/08	24	settlement	day
			SCAD	1990/01/12-2013/12/11	1968	settlement	day
64	Indonesia	IDN	ACLED	2017/01/23-2018/02/26	82	settlement	day
			GED	1989/04/20-2015/11/03	20769	settlement	day
			NVMS	1997/01/01-2015/03/31	241849	settlement	day
			PITF	1995/01/12-2016/03/26	97	settlement	day
65	India	IND	ACLED	2015/01/01-2016/12/31	15833	settlement	day
			GED	1989/01/01-2016/12/31	45184	settlement	day
			NIRI	1972/11/29-1972/11/29	1	settlement	day
			PITF	1995/01/23-2017/09/20	513	settlement	day
66	Ireland	IRL	NIRI	1969/07/18-2006/04/04	724	settlement	day
67	Iran	IRN	ACLED	2017/01/01-2018/03/03	591	settlement	day
			GED	1990/04/17-2016/09/18	1910	settlement	day
			PITF	1995/04/04-2017/06/09	31	settlement	day
68	Iraq	IRQ	ACLED	2017/01/01-2018/03/03	5823	settlement	day
			ESOCIraqSIGACT	2004-2009	27456	adm2	week
			ESOCIraqWITS	2004/01/01-2010/12/31	25490	settlement	day
			GED	1989/01/01-2016/12/31	13769	settlement	day
			PITF	1995/02/27-2017/09/14	2121	settlement	day
69	Israel	ISR	ACLED	2017/01/03-2018/02/24	330	settlement	day
			GED	1989/01/16-2016/07/26	4781	settlement	day



ID	Country	ISO3	Source	Dates	Events	Geo	Time
			PITF	1995/01/01-2014/11/18	152	settlement	day
70	Italy	ITA	GED	1993/03/16-1993/03/16	1	settlement	day
			PITF	1995/02/25-2010/12/27	6	settlement	day
71	Jamaica	JAM	GED	1989/01/17-2003/10/02	294	settlement	day
			PITF	2000/04/22-2010/08/13	11	settlement	day
			SCAD	1992/02/27-2013/09/11	583	settlement	day
72	Jordan	JOR	ACLED	2017/01/06-2018/03/02	92	settlement	day
			GED	1992/12/07-2016/12/20	8	settlement	day
			PITF	1997/03/13-2016/09/25	5	settlement	day
73	Japan	JPN	PITF	1995/03/20-2016/07/25	2	settlement	day
74	Kazakhstan	KAZ	BeissingerProtest	1986/12/17-1992/12/16	132	settlement	day
			BeissingerRiot	1986/12/17-1992/10/16	48	settlement	day
			PITF	2012/08/13-2015/03/12	2	settlement	day
75	Kenya	KEN	ACLED	1997/01/15-2018/03/02	6063	settlement	day
			GED	1989/01/01-2016/12/26	10777	settlement	day
			PITF	1995/01/01-2017/07/31	193	settlement	day
			SCAD	1990/02/20-2015/12/31	4936	settlement	day
76	Kyrgyzstan	KGZ	BeissingerProtest	1988/08/17-1992/10/26	52	settlement	day
			BeissingerRiot	1989/07/13-1992/09/16	50	settlement	day
			GED	1999/08/29-2010/06/15	136	settlement	day
			PITF	2002/03/18-2010/06/10	4	settlement	day
77	Cambodia	KHM	ACLED	2015/01/01-2018/01/05	487	settlement	day
			GED	1989/01/01-2012/05/16	3945	settlement	day
			PITF	1995/01/03-2016/07/10	25	settlement	day

ID	Country	ISO3	Source	Dates	Events	Geo	Time
78	Republic of Korea	KOR	PITF	1996/08/03-1996/08/03	1	adm1	day
79	Kuwait	KWT	ACLED	2017/05/02-2018/01/03	6	settlement	day
			GED	1990/08/01-2015/06/26	414	settlement	day
			PITF	2005/01/31-2015/06/26	2	settlement	day
80	Laos	LAO	ACLED	2015/03/18-2017/06/18	20	settlement	day
			GED	1989/08/25-2006/10/06	1037	settlement	day
			PITF	2003/02/06-2006/04/06	5	adm2	day
81	Lebanon	LBN	ACLED	2017/01/02-2018/03/02	378	settlement	day
			GED	1989/01/01-2016/11/25	2356	settlement	day
			PITF	1996/04/11-2016/12/28	88	settlement	day
82	Liberia	LBR	ACLED	1997/01/16-2018/02/19	1341	settlement	day
			GED	1989/12/01-2003/12/31	43990	settlement	day
			PITF	1995/01/14-2015/02/13	28	settlement	day
			SCAD	1990/01/01-2015/09/13	3794	settlement	day
83	Libya	LBY	ACLED	1997/01/02-2018/03/02	6710	settlement	day
			GED	2011/02/16-2016/12/18	1869	settlement	day
			PITF	2006/02/17-2017/09/29	130	settlement	day
			SCAD	1990/03/15-2015/12/18	4223	settlement	day
			yzLibya	2011/02/15-2011/10/20	1510	settlement	day
84	Sri Lanka	LKA	ACLED	2015/01/01-2018/03/02	1021	settlement	day
			GED	1989/01/01-2013/08/01	7693	settlement	day
			PITF	1995/05/26-2017/02/27	159	settlement	day
85	Lesotho	LSO	ACLED	1997/02/10-2017/09/06	117	settlement	day
			GED	1998/09/04-1998/09/28	10	settlement	day

ID	Country	ISO3	Source	Dates	Events	Geo	Time
			PITF	2002/02/13-2017/06/15	2	settlement	day
			SCAD	1991/04/01-2015/06/25	464	settlement	day
86	Lithuania	LTU	BeissingerProtest	1987/08/23-1992/10/28	365	settlement	day
			BeissingerRiot	1987/10/17-1991/03/20	24	settlement	day
			PITF	1998/02/15-2013/03/06	2	settlement	day
87	Latvia	LVA	BeissingerProtest	1986/12/27-1992/12/02	167	settlement	day
			BeissingerRiot	1988/10/07-1992/03/26	10	settlement	day
			PITF	1995/03/09-1995/03/09	1	settlement	day
88	Morocco	MAR	ACLED	1997/01/13-2018/02/24	1248	settlement	day
			GED	1989/06/21-2003/09/11	11	settlement	day
			PITF	2003/05/16-2017/03/07	4	settlement	day
			SCAD	1990/12/14-2015/10/31	1234	settlement	day
89	Moldova	MDA	BeissingerProtest	1988/06/28-1992/12/19	255	settlement	day
			BeissingerRiot	1987/05/01-1992/08/20	179	settlement	day
			GED	1992/03/01-1992/07/31	87	settlement	day
			PITF	2006/07/08-2006/07/08	1	settlement	day
90	Madagascar	MDG	ACLED	1997/07/20-2018/03/01	1046	settlement	day
			GED	2002/02/26-2012/10/31	141	settlement	day
			PITF	2009/01/28-2014/05/07	4	settlement	day
			SCAD	1990/05/13-2015/09/14	1220	settlement	day
91	Maldives	MDV	PITF	2017/04/23-2017/04/23	1	settlement	day
92	Mexico	MEX	ESOCMexicoDrugRelatedMurders	2006-2011	14736	settlement	year
			ESOCMexicoHomicide	1998-2011	34398	settlement	year
			GED	1989/01/22-2016/12/31	48354	settlement	day
			PITF	1995/01/01-2017/09/12	263	settlement	day

ID	Country	ISO3	Source	Dates	Events	Geo	Time
			SCAD	1990/01/01-2013/12/28	5121	settlement	day
93	Macedonia	MKD	GED	1999/04/14-2001/08/17	211	settlement	day
			PITF	2001/05/24-2001/08/10	3	settlement	day
94	Mali	MLI	ACLED	1997/01/06-2018/03/01	1882	settlement	day
			GED	1990/06/28-2016/12/21	1840	settlement	day
			PITF	1999/07/14-2017/06/17	29	settlement	day
			SCAD	1990/07/21-2015/12/24	2472	settlement	day
95	Malta	MLT	GED	1995/10/26-1995/10/26	1	settlement	day
96	Myanmar	MMR	GED	1989/01/01-2016/12/14	21874	settlement	day
			PITF	1995/03/10-2017/08/27	36	settlement	day
97	Mozambique	MOZ	ACLED	1997/05/05-2018/02/21	805	settlement	day
			GED	1989/01/01-2016/10/30	1584	settlement	day
			PITF	2003/05/05-2016/10/30	10	settlement	day
			SCAD	1990/01/01-2015/11/02	1379	settlement	day
98	Mauritania	MRT	ACLED	1997/03/11-2018/02/25	480	settlement	day
			GED	1989/01/01-2012/07/15	1272	settlement	day
			PITF	2003/06/06-2003/06/06	1	adm1	day
			SCAD	1990/10/01-2015/07/30	1125	settlement	day
99	Mauritius	MUS	SCAD	1999/02/22-2015/06/02	52	settlement	day
100	Malawi	MWI	ACLED	1997/04/07-2018/01/31	378	settlement	day
			PITF	2011/07/20-2015/07/04	3	settlement	day
			SCAD	1990/03/18-2015/04/21	874	settlement	day
101	Malaysia	MYS	GED	2013/03/01-2013/11/15	40	settlement	day
			PITF	2007/06/06-2014/02/04	2	settlement	day

ID	Country	ISO3	Source	Dates	Events	Geo	Time
102	Namibia	NAM	ACLED	1997/01/12-2018/02/02	685	settlement	day
			GED	1989/04/01-2002/02/11	36	settlement	day
			PITF	2000/01/01-2014/06/20	3	adm2	day
			SCAD	1992/11/21-2014/08/27	375	settlement	day
103	Niger	NER	ACLED	1997/01/06-2018/02/25	560	settlement	day
			GED	1989/09/19-2016/12/31	924	settlement	day
			PITF	1995/06/26-2017/07/05	20	settlement	day
			SCAD	1990/02/09-2015/12/12	3076	settlement	day
104	Nigeria	NGA	ACLED	1997/01/07-2018/03/02	11915	settlement	day
			GED	1990/09/25-2016/12/30	10228	settlement	day
			PITF	1995/05/15-2017/09/26	1070	settlement	day
			SCAD	1990/04/22-2015/12/28	9010	settlement	day
105	Nicaragua	NIC	GED	1989/01/01-1990/04/15	597	settlement	day
			PITF	2000/05/18-2014/07/20	4	settlement	day
			SCAD	1990/01/01-2013/12/05	975	settlement	day
106	Netherlands	NLD	GED	1990/05/28-1990/05/28	1	settlement	day
			NIRI	1988/05/01-1990/05/27	5	settlement	day
			PITF	1997/03/25-2014/02/10	4	settlement	day
107	Norway	NOR	PITF	2011/07/22-2011/07/22	1	settlement	day
108	Nepal	NPL	ACLED	2015/01/02-2018/02/25	1810	settlement	day
			GED	1990/02/20-2009/12/05	5682	settlement	day
			PITF	1996/02/01-2008/04/09	26	settlement	day
109	New Zealand	NZL	NIRI	1974/07/23-1974/07/23	1	settlement	day
110	Oman	OMN	ACLED	2018/01/22-2018/01/22	2	settlement	day

ID	Country	ISO3	Source	Dates	Events	Geo	Time
			PITF	2011/02/27-2011/02/27	1	settlement	day
111	Pakistan	PAK	ACLED	2010/01/01-2018/03/02	39628	settlement	day
			ESOCPakistanBFRS	1988/01/01-2011/11/08	29969	settlement	day
			ESOCPakistanWITS	2004/01/05-2009/12/31	5601	settlement	day
			GED	1989/01/25-2016/12/12	8255	settlement	day
			PITF	1995/02/05-2017/09/21	765	settlement	day
112	Panama	PAN	GED	1989/10/03-1989/12/23	6	settlement	day
			SCAD	1990/01/15-2013/03/09	293	settlement	day
113	Peru	PER	GED	1989/01/01-2016/10/15	7076	settlement	day
			PITF	1996/12/25-2017/09/01	16	settlement	day
114	Philippines	PHL	GED	1989/01/01-2016/12/18	13361	settlement	day
			PITF	1995/03/20-2017/08/21	144	settlement	day
115	Papua New Guinea	PNG	GED	1989/01/01-2012/11/29	1908	settlement	day
			PITF	1996/06/05-2017/05/17	8	settlement	day
116	Poland	POL	PITF	1998/09/01-1998/09/01	1	settlement	month
117	Puerto Rico	PRI	PITF	2009/10/17-2009/10/17	1	settlement	day
118	Portugal	PRT	PITF	2000/04/16-2000/04/16	1	adm2	day
119	Paraguay	PRY	GED	1989/02/03-1989/02/03	1	settlement	day
			PITF	2016/08/05-2016/08/05	1	settlement	day
120	Palestine	PSE	ACLED	2017/01/03-2018/03/03	1607	settlement	day
			PITF	2012/03/09-2014/08/22	5	adm2	day
121	Qatar	QAT	ACLED	2017/03/01-2017/03/01	1	settlement	day
			GED	2004/02/12-2004/02/12	1	settlement	day
122	Romania	ROU	GED	1989/12/16-1989/12/29	34	settlement	day

ID	Country	ISO3	Source	Dates	Events	Geo	Time
123	Russian Federation	RUS	BeissingerProtest	1987/02/22-1992/12/17	2164	settlement	day
			BeissingerRiot	1988/01/31-1992/11/21	133	settlement	day
			GED	1989/01/01-2016/12/18	11283	settlement	day
			PITF	1994/11/25-2017/04/03	125	settlement	day
			yzCaucasus2000	2000/03/25-2012/04/04	97148	settlement	day
			yzChechnya	1991/11/01-1996/08/22	13298	settlement	day
124	Rwanda	RWA	ACLEDD	1997/01/01-2018/02/23	630	settlement	day
			GED	1990/10/01-2013/08/29	4012	settlement	day
			PITF	1995/01/07-2001/01/13	89	settlement	day
			SCAD	1990/10/01-2015/06/24	6379	settlement	day
125	Saudi Arabia	SAU	ACLEDD	2017/01/01-2018/02/28	1547	settlement	day
			GED	1991/01/25-2016/12/31	138	settlement	day
			PITF	1995/10/20-2017/07/26	14	settlement	day
126	Sudan	SDN	ABADarfur	2004/07/01-2004/08/31	22720	adm2	day
			ACLEDD	1997/01/01-2018/03/03	11104	settlement	day
			GED	1989/01/01-2016/11/21	35384	settlement	day
			PITF	1995/04/19-2017/07/23	325	settlement	day
			SCAD	1990/01/01-2015/09/28	10582	settlement	day
127	Senegal	SEN	ACLEDD	1997/03/13-2018/02/25	981	settlement	day
			GED	1989/04/09-2013/04/26	1829	settlement	day
			PITF	1995/10/31-2014/08/17	18	settlement	day
			SCAD	1990/08/01-2015/01/24	2864	settlement	day
128	Solomon Islands	SLB	GED	1992/09/12-2001/11/22	93	settlement	day
			PITF	2002/09/03-2003/07/01	3	adm2	day

ID	Country	ISO3	Source	Dates	Events	Geo	Time
129	Sierra Leone	SLE	ACLED	1997/01/01-2017/11/06	4635	settlement	day
			GED	1991/03/01-2002/03/31	38879	settlement	day
			PITF	1995/01/14-2007/12/20	33	settlement	day
			SCAD	1990/05/24-2015/12/17	4253	settlement	day
130	El Salvador	SLV	GED	1989/01/01-1992/01/06	780	settlement	day
			PITF	1996/01/30-2016/03/03	13	settlement	day
			SCAD	1992/01/01-2013/11/14	439	settlement	day
131	Somalia	SOM	ACLED	1997/03/31-2018/03/02	25185	settlement	day
			GED	1989/01/01-2016/12/29	9357	settlement	day
			PITF	1995/01/01-2017/09/28	578	settlement	day
			SCAD	1990/01/01-2015/12/19	7955	settlement	day
132	Serbia	SRB	GED	1991/01/01-2001/03/29	3432	settlement	day
			PITF	1998/01/01-2004/03/17	52	settlement	day
133	South Sudan	SSD	ACLED	2011/07/14-2018/03/01	4818	settlement	day
			GED	2011/08/18-2016/12/26	4819	settlement	day
			PITF	2011/10/29-2017/08/05	69	settlement	day
			SCAD	2011/08/18-2015/11/26	636	settlement	day
134	Slovakia	SVK	PITF	1999/03/25-2010/08/30	2	settlement	day
135	Swaziland	SWZ	ACLED	1997/02/05-2018/01/31	194	settlement	day
			GED	1989/02/12-1989/02/12	2	settlement	day
			PITF	1996/02/16-1996/02/16	1	adm1	day
			SCAD	1990/11/14-2014/04/23	475	settlement	day
136	Syrian Arab Republic	SYR	ACLED	2017/01/01-2018/03/03	23058	settlement	day
			GED	2004/09/26-2014/12/31	1610	settlement	day



ID	Country	ISO3	Source	Dates	Events	Geo	Time
			PITF	1996/12/31-2017/09/29	4536	settlement	day
137	Chad	TCD	ACLED	1997/02/15-2018/02/27	701	settlement	day
			GED	1989/02/28-2016/11/25	3904	settlement	day
			PITF	1997/10/01-2017/04/12	28	settlement	day
			SCAD	1990/01/01-2015/12/05	5953	settlement	day
138	Togo	TGO	ACLED	1997/01/19-2018/02/28	299	settlement	day
			GED	1991/04/05-2005/06/04	1026	settlement	day
			PITF	1998/06/01-2005/04/27	3	settlement	day
			SCAD	1990/01/01-2015/11/07	858	settlement	day
139	Thailand	THA	GED	1989/02/17-2016/12/26	3110	settlement	day
			PITF	1995/04/13-2017/07/10	46	settlement	day
140	Tajikistan	TJK	BeissingerProtest	1987/12/01-1992/12/08	87	settlement	day
			BeissingerRiot	1989/02/20-1992/12/26	82	settlement	day
			GED	1992/05/05-2013/01/17	2074	settlement	day
			PITF	1995/01/01-2000/11/27	9	settlement	day
141	Turkmenistan	TKM	BeissingerProtest	1991/08/27-1991/08/27	1	settlement	day
			BeissingerRiot	1989/05/01-1989/05/09	4	settlement	day
			PITF	2014/12/18-2014/12/18	1	adm2	day
142	Timor-Leste	TLS	PITF	2006/05/25-2006/05/27	2	settlement	day
143	Trinidad and Tobago	TTO	GED	1990/07/27-1990/08/02	9	settlement	day
			PITF	1995/03/06-2013/08/02	3	adm2	day
			SCAD	1995/08/07-2012/11/29	707	settlement	day
144	Tunisia	TUN	ACLED	1997/12/20-2018/03/03	3996	settlement	day
			GED	2015/03/18-2015/06/26	2	settlement	day

ID	Country	ISO3	Source	Dates	Events	Geo	Time
			PITF	2011/01/13-2016/03/07	8	settlement	day
			SCAD	1991/01/14-2015/11/24	1103	settlement	day
145	Turkey	TUR	ACLED	2017/01/01-2018/03/02	1483	settlement	day
			GED	1989/01/01-2016/12/28	8535	settlement	day
			PITF	1992/01/01-2017/09/20	78	settlement	day
146	Tanzania	TZA	ACLED	1997/06/27-2018/02/26	722	settlement	day
			GED	1992/01/10-2007/01/20	87	settlement	day
			PITF	1995/01/01-2017/08/16	13	settlement	day
			SCAD	1990/04/15-2015/10/23	416	settlement	day
147	Uganda	UGA	ACLED	1997/01/01-2018/03/01	4983	settlement	day
			GED	1989/04/03-2016/04/30	8763	settlement	day
			PITF	1995/05/15-2016/26/11	161	settlement	day
			SCAD	1990/01/01-2015/03/30	7573	settlement	day
148	Ukraine	UKR	BeissingerProtest	1987/11/22-1992/12/26	1196	settlement	day
			BeissingerRiot	1987/09/01-1992/10/16	43	settlement	day
			BeissingerUkraine	1987/11/22-1992/12/26	1196	settlement	day
			GED	2014/01/22-2016/12/28	2074	settlement	day
			PITF	1996/02/09-2017/03/23	69	settlement	day
			yzUkraine2014	2014/02/25-2016/05/02	26248	settlement	day
149	United States of America	USA	GED	2001/09/11-2015/12/02	4	settlement	day
			NIRI	1970/03/10-1988/07/23	23	settlement	day
150	Uzbekistan	UZB	BeissingerProtest	1987/07/24-1992/04/25	156	settlement	day
			BeissingerRiot	1988/12/01-1992/01/16	52	settlement	day
			GED	1999/02/16-2009/05/26	46	settlement	day

ID	Country	ISO3	Source	Dates	Events	Geo	Time
			PITF	1999/02/16-2005/05/13	4	settlement	day
151	Venezuela	VEN	GED	1989/02/06-2013/05/16	1765	settlement	day
			PITF	1996/10/22-2017/08/27	31	settlement	day
152	Viet Nam	VNM	ACLED	2015/01/06-2018/02/28	148	settlement	day
			PITF	1997/07/29-2013/09/12	4	settlement	day
153	Yemen	YEM	ACLED	2017/01/01-2018/03/03	9134	settlement	day
			GED	1994/02/21-2016/12/27	2280	settlement	day
			PITF	1998/06/01-2017/09/16	237	settlement	day
154	South Africa	ZAF	ACLED	1997/01/05-2018/03/02	9524	settlement	day
			GED	1989/01/01-2016/08/01	26264	settlement	day
			PITF	1995/01/01-2017/09/29	79	settlement	day
			SCAD	1990/01/01-2015/11/24	5684	settlement	day
155	Zambia	ZMB	ACLED	1997/03/09-2018/02/19	1143	settlement	day
			GED	1989/05/14-2001/11/25	85	settlement	day
			PITF	2001/11/08-2012/11/24	6	settlement	day
			SCAD	1990/06/25-2015/02/24	1180	settlement	day
156	Zimbabwe	ZWE	ACLED	1997/04/09-2018/02/26	5817	settlement	day
			GED	1989/03/18-2012/03/17	724	settlement	day
			PITF	2002/01/01-2013/02/25	2	settlement	day
			SCAD	1990/01/08-2015/08/08	6049	settlement	day

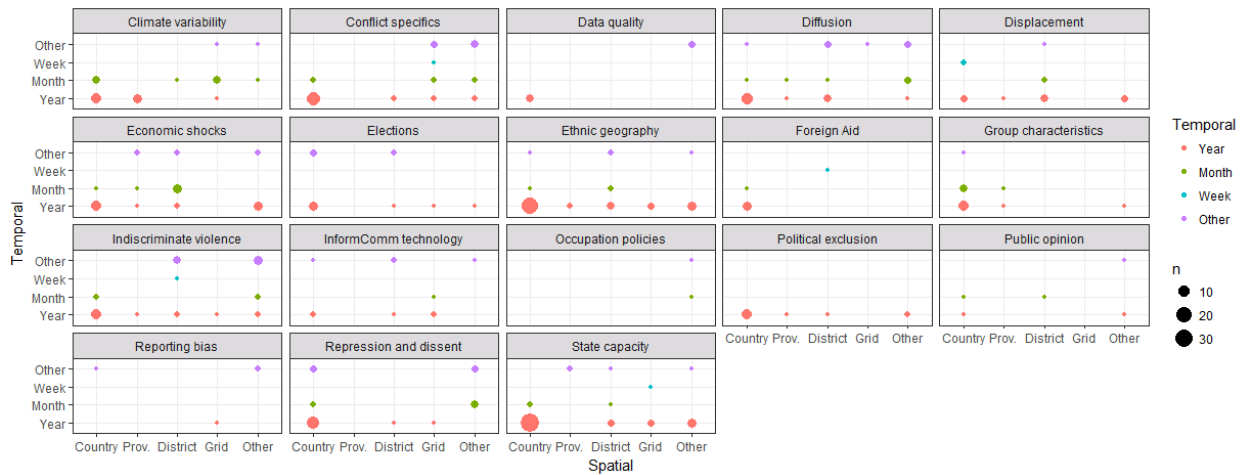
## A2 Literature review in details

### A2.1 Past sub-national studies

To take stock of the rapidly growing literature on subnational conflict, we surveyed the universe of topically-related studies published between 2006 and 2017 in top political science and international relations journals.<sup>1</sup> We used the [Science Journal Ranking](#) database to identify the inclusion criteria for our literature survey. Besides these journals, we also included topically-related articles that appear in scientific journals, such as *Science* and *Nature*.

There are 385 articles in our dataset, from 2006 to 2017.<sup>2</sup> 84% of these studies were published after 2010, the median study in 2013. Empirical approaches vary from ethnographic field work and interviews to regression analysis and computational modeling.<sup>3</sup> Theoretical narratives focus on different correlates of conflict, including climate, displacement, economic shocks, ethnicity, elections, target selection, information/communication technologies, foreign occupation, political exclusion, reporting bias, repression, dissent, and state capacity. Their spatio-temporal scope covers all major regions of the world, from 1400 to the present.<sup>4</sup> Figure A2.1 summarizes variation in units of analysis across topics, with larger dots indicating more studies in our sample.

Figure A2.1: SPATIAL-TEMPORAL UNITS OF ANALYSIS, BY TOPIC.



<sup>1</sup> Examples of these journals include but are not limited to *American Political Science Review*, *American Journal of Political Science*, *International Organization*, *World Politics*, *Journal of Peace Research*, and *Journal of Conflict Resolution*.

<sup>2</sup> We did not include 6 articles in our review, as they covered a period prior to World War II.

<sup>3</sup> In our literature review, we included studies that use ethnographic work, surveys and interviews as their main or complementary empirical strategies (along with formal modeling, regression analysis and computational modeling) because these studies also provided answers to various questions related to an armed conflict and contention around the world, the primary areas of interest of the xSub project. That said, studies whose primary empirical strategy involves *only* ethnographic work, surveys and interviews lie beyond the scope of the xSub project, because such data cannot be deposited to the xSub web-repository.

<sup>4</sup> Besley and Reynal-Querol (2014) “exploits variation between and within countries to examine the legacy of recorded conflicts in Africa in the precolonial period between 1400 and 1700” (p. 319).

Table A2.2: QUANTITATIVE AND QUALITATIVE STUDIES OF CONFLICT

Page 1 of Table A2.2								
<b>Climate Variability (28)</b>								
<i>Study</i>	<i>Sample Period</i>	<i>Sample Region(s)/country(ies)</i>	<i>Time Unit</i>	<i>Spatial Unit</i>	<i>Actor(s)</i>	<i>Violence by Actor(s)</i>	<i>Preexisting Data</i>	<i>Level of Analysis</i>
2012 AdanoEtAl	1929-2010	Kenya	Y	C	G,R	V,V	N	
2008 Benjaminsen		Mali	Y	P	G, R	V,V	N	
2012 BenjaminsenEtAl	1992-2009	Mali	Y	P	G,R	V,V	N	
2012 BergholtLujala	1981-2007	MN	Y	C	G,R	V,V	Y	MC
2010 BohlkenSergenti	1982-1995	India	Y	P	G,R	V,V	N	
2010 Buhaug	1960-2005	Africa	Y	C	G,R	V,V	Y	MCD
2012 ButlerGates		East Africa		C	R	V	N	MC
2016 CarusoPetrarcaRicciuti	1993-2003	Indonesia	M	D	G,R	V,V	Y	
2015 CrostEtAl	2001-2009	Philippines	Y	P	G,R	V,V	Y	
2016 Detges	1990-2010	Sub-Saharan Africa	Y	C	G,R	V,V	Y	MC
2012 DevittTol		Sub-Saharan Africa	Y	C	G,R	V,V	Y	MC
2014 HammondWeidmann	1997-2008	Africa	M	G	G,R,Pr	V,V,V	Y	MCD
2012 HeikkilaEtAl	1880-1920	US	Y	P	O	B	N	
2012 HendrixSalehyan	1990-2009	Africa	M	C	G,R,Pr	B,B,B	Y	MCD
2017 JonesEtAl	1991-2011	Africa	M	C	G,R	V,V	Y	MC
2012 KoubiEtAl	1980-2004	Global	Y	C	G,R	V,V	Y	MC
2014 Landis	1979-2010	MN	M	C	G,R	V,V	Y	MCD
2011 LinkeRaleigh	1975-2006	Somalia	D	M	G,R,Pr	V,V,V	Y	
2015 MaystadtCalderoneYou	1997-2009	Sudan	S	G	G,R,Pr	V,V,V	Y	
2015 NardulliEtAl	1981-2004	MN	M	C	R,Pr	B,B	Y	MC
2014 OLoughlinLinkeWitmer	1960-2005	Africa	Y	C	G,R	V,V	Y	MCD
2012 OLoughlinWitmerLinkeEtAl	1990-2009	East Africa	M	G	G,R,Pr	V,V,V	Y	MC
2012 RaleighKniveton	1997-2009	East Africa	M	G	G,R	V,V	Y	MC
2014 RaleighLinkeOLoughlin		Africa		C	G,R	V,V	Y	
2012 Slettebak	1950-2010	Global	Y	C	G,R	V,V	Y	MC
2012 Theisen	1989-2004	Kenya	Y	G	G,R,Pr	V,V,V	N	
2017 WitmerEtAl	1980-2012	Sub-Saharan Africa	M	G	G,R	V,V	Y	MCD
2015 Yeeles	1960-2006	MN	M	T	G,Pr	B,B	Y	MC
<b>Conflict Specifics (35)</b>								
2009 BasedauLay	1990-2005	MN	Y	C	G,Pr	V,V	Y	MC
2014 BesleyReynal-Querol	1400-1700, 1997-2010	Africa	D	G	G,R	V,V	B	MCD
2017 BlairBlattmanHartman	2008,2010	Liberia	Y	T	G,R	V,V	N	
2006 BuhaugRod	1970-2001	Africa	D	G	G,R,Pr	V,V,V	Y	MC
2010 CedermanHugKrebs	1946-2004	MN	Y	C	G,R	V,V	Y	MC
2017 ChaudoinEtAl	1960-2008	MN	Y	C	G,R	V,V	Y	MC
2017 ChibaGleditsch	1996-2012	MN	M	C	G,R	V,V	Y	MCD
2012 CollierDuponchel	1991-2002	Sierra Leone	Y	D	G,R	V,V	Y	
2010 CunninghamD	1945-2004	MN	Y	C	G,R	V,V	Y	MC
2013 CunninghamK	1960-2005	MN	Y	C	G,R	V,V	Y	MC
2012 Daly	1964-1984	Colombia	M	M	R	V	N	
2017 DaxeckerPrins	1993-2010	MN	M	G	G,R	V,V	Y	MC
2009 DeLaLuzInclan	1994-2003	Mexico	D	M	G,Pr	B,B	N	
2010 DeSoysaFjelde	1970-2005	MN	Y	C	G,R	V,V	Y	MC
2010 Escriba-Folch	1959-1999	MN	Y	C	G,R	V,V	Y	MC
2009 HegreEtAl	1989-2002	Liberia	D	G	G,R	V,V	Y	MC
2009 JohnsonBraithwaite	2005	Iraq	W	G	G,R	V, V	Y	
2006 Lacina	1946-2002	MN	Y	C	G,R	V,V	Y	MC
2010 Lujala	1946-2003	MN	Y	C	G,R	V,V	Y	MC
2009 Lujala	1946-2002	MN	Y	C	G,R	V,V	Y	MC
2011 MageeMassoud	1950-2004	MN	Y	C	G,R	V,V	Y	MC
2011 Olzak	1984-2002	MN	Y	C	G,R	V,V	Y	MC
2008 Ostby	1986-2004	Global	Y	C	G,R	V,V	Y	MC
2015 Raleigh	1997-2013	Africa	D	T	G,R,Pr	V,V,V	Y	MC
2009 RaleighHegre	1960-2004	Africa	Y	G	G,R	V,V	Y	MC
2015 Ruhe	1993-2004	Africa	M	C	G,R	V,V	Y	MC
2012 RustadBinningsbø	1946-2006	MN	Y	G	G,R	V,V	Y	MC
2013 Salverda	1989-2003	MN	Y	C	G,R	B,V	Y	MC
2013 ShortlandEtAl	1993-2009	Somalia	Y	T	G,R	V,V	Y	
2007 TadjoeddinMurshed	1994-2003	Indonesia	Y	D	G,R	V,V	N	
2012 Verpoorten	1994	Rwanda	D	CM	G,R	V,V	Y	
2014 WallaceEtAl	2006	US	D	ST	Pr	NV	N	
2010 WardGreenhillBakke	1960-2005	MN	Y	C	G,R	V,V	Y	MC
2010 WeidmannWard	1992-1995	Bosnia	M	M	G,R,Pr	V,V,V	Y	
2017 WitmerEtAl	1980-2012	Sub-Saharan Africa	M	G	G,R	V,V	Y	MCD
<b>Data Quality (7)</b>								
2008 AshworthEtAl	1980-2001	MN	Y	C	G,R	V,V	Y	
2012 Eck	1997-2016, 1989-2014	Africa	D	M	G,R,Pr	V,V,V	Y	MCD
2014 HammondWeidmann	1997-2016, 1989-2014, 1979-2014	Global	D	M	G,R,Pr	V,V,V	Y	MCD
2015 Kennedy	1995-2013	MN	Y	C	G,R	V,V	Y	MC

*Country:* MN-multinational; *Time Unit:* DC-decade, Y-year, S-season, M-month, W-week, D-day; *Spatial Unit:* C-country, P-province, M-municipality, D-district, CN-county, T-town, G-grid, N-neighborhood, CM-commune, ST-street address, H-household, GR-group, OR-organization, PR-person; *Actor:* G-government, R-rebel, Pr-protectors, C-criminals, O-other; *Violence by Actor(s):* V - violence, NV - no violence, B - both; *Preexisting Data:* Y=yes, N=no, B-both; *Level of Analysis:* MC-multiple countries, MD-multiple datasets, MCD-multiple countries and datasets

*Continued on next page*

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Study	Sample Period	Sample Region(s)/country(ies)	Time Unit	Spatial Unit	Actor(s)	Violence by Actor(s)	Preexisting Data	Level of Analysis
<b>Data Quality (7)</b>								
2015 Kreutz	1946-2012	MN	Y	C	G,R	V,V	Y	MC
2008 Theisen	1945-2007	MN	Y	C	G,R	V,V	Y	MC
2013 WardBegerCutlerEtAl	1979-2013, 2007-2013	Global	D	M	G,R,Pr	B,B,B	Y	MCD
<b>Diffusion (32)</b>								
2016 Barcells Daniels Escriba-Folch	2005-2012	Northern Ireland	Y	D	G,R	V,V	N	
2010 Braithwaite	1960-2001	DRC	Y	N	G,R	V,V	N	
2015 Braithwaite Braithwaite Kucik	1946-2006	MENA	Y	C	G,Pr	B, NV	Y	MC
2011 Braun	2001-2003	Netherlands	D	M	G,Pr	V,V	N	
2015 CalderonEtAl	2006-2011	Mexico	M	M	O	V	Y	
2012 Cunningham Bakke Seymour	1960-2008	MN	Y	GR	R	V	N	MC
2014 DannemanRitter	1981-2004	Global	Y	C	G,R	V,V	Y	MC
2012 FjeldeNilsson	1989-2007	Global	Y	GR	R	V	Y	MC
2008 Forsberg	1989-2004	Global	Y	C	G,R	V,V	Y	MC
2007 Gleditsch		MN	Y	C	G,R	V,V	Y	MC
2017 HegreEtAl	1950-2014	MN	Y	C	G,R	V,V	Y	MC
2014 HultmanEtAl	1992-2011	Africa	M	C	G,R	V,V	Y	MC
2012 Inclan	1994-2003	Mexico	M	M	G,Pr	B,B	N	
2014 JenkinsMaherFahrer	1986-1999	Egypt	Y	D	G,Pr	V,V	N	
2014 KlasnjaNovta	1980-2000, 1992-1995	India, Bosnia	Y	D,M	G,R	V,V	Y	MC
2011 Kolas		India	Y	P	G,R	V,V	N	
2016 Linebarger	1968-2001	MN	Y	C	G,R	V,V	Y	MC
2015 LinkeSchutteBuhaug	2000-2009	Sub-Saharan Africa	Y	D	G,R,Pr	V,V,V	Y	MC
2013 McDoom	1994	Rwanda	D	N	G,R	V,V	N	
2011 OLoughlin Holland Witmer	1999-2011	Russia/Caucasus	D	D	G,R	V,V	N	
2011 OLoughlinWitmer	1999-2007	Russia/Caucasus	D	D	G,R	V,V	N	
2012 OLoughlinWitmer	1999-2010	Russia/Caucasus	D	D	G,R	V,V	N	
2015 Osorio	2000-2010	Mexico	D	M	O	V	N	
2015 Nakao		MN	C		G,R	V,V	N	MC
2006 SalehyanGleditsch	1951-2001	Global	Y	C	G,R	V,V	Y	MC
2011 SchutteWeidmann	1992-1995, 1998-1999, 1993-2003, 1994	Bosnia, Kosovo, Burundi, Rwanda	D	G	G,R,Pr	V,V,V	Y	MC
2016 Shesterinina	2010-2013	Georgia	P		G,R	V,V	N	
2017 Steinert-Threlkeld	2010-2011	MENA	D	C	G,Pr	V,V	B	MCD
2012 ToftZhukov	2000-2008	Russia/Caucasus	M	P	G,R	V,V	N	
2015 Weidmann	1996-2007	Global	Y	C	G,R	V,V	Y	MCD
2012 Zhukov	2000-2008	Russia/Caucasus	M	M	G,R	V,V	N	
2013 Zhukov	1943-1950	Ukraine	M	D	G,R	V,V	N	
<b>Displacement (17)</b>								
2012 Adhikari	1996-2004	Nepal	Y	D	G,R	V,V	Y	
2013 Adhikari		Nepal	Y	C				
2014 BarryEtAl	1981-2007	MN	Y	C	G,Pr	NV,NV	Y	MC
2015 BhavnaniLacina	1991-2001	India	Y	S	G,Pr	V,V	N	
2016 Belge	1982-1987	Turkey	M	D	G,R	V,V	N	
2011 BohraMishraMassey	1996-2006	Nepal	M	D	G,R	V,V	Y	MD
2009 CzaikaKisKatos	1999-2002	Indonesia	Y	T	G,R	V,V	Y	
2014 GilliganEtAl	2009-2010	Nepal	D	D			N	
2011 HendrixGlaser	1952-2004	MN	Y	C	G,R	V,V	Y	MC
2014 MillerRitter	1981-2008	MN	Y	C	G,R	V,V	Y	MC
2008 OLoughlin Tuathail Kolossov	1992	Russia/Caucasus	Y	T	G,R	V,V	Y	
2007 ShellmanStewart	1994-2004	Haiti	W	C			Y	MD
2007a ShellmanStewart	1990-2004	Haiti	W	C			Y	
2007 Steele	1990-2006	Colombia	Y	D	G,R	V,V	N	
2009 Steele		Colombia	Y	H	G,R	V,V	N	
2011 Steele	1991-1998	Colombia	Y	D	O	V	N	
2014 Zhukov	1943-1955	Ukraine	Y	D	O	V	N	
<b>Economic Shocks (31)</b>								
2008 AngristKugler	1990-2000	Colombia	Y	D			Y	
2011 BermanCallenFelterEtAl	2004-2007, 2008-2009, 1997-2006	Iraq, Afghanistan, Philippines	M	D,D,P	G,R	V,V	Y	MCD
2012 Berman Felter Kapstein EtAl	2002-2008	Philippines	D	P	G,R	V,V	Y	
2011 BermanShapiroFelter	2004-2009	Iraq	M	D	G,R	B,V	Y	
2017 BlairBlattmanHartman	2008,2010	Liberia	Y	T	G,R	V,V	N	
2013 BlairFairMalhotraEtAl	2009-2010	Pakistan	D	P	R	V	N	
2013 BlakesleeFishman	1971-2000	India	S	D	C	B	Y	
2012 CamachoRodriquez	1988-2004	Colombia	Y	M	G,R	V,V	Y	
2017 ChaudoinEtAl	1960-2008	MN	Y	C	G,R	V,V	Y	MC

*Country:* MN-multinational; *Time Unit:* DC-decade, Y-year, S-season, M-month, W-week, D-day; *Spatial Unit:* C-country, P-province, M-municipality, D-district, CN-county, T-town, G-grid, N-neighborhood, CM-commune, ST-street address, H-household, GR-group, OR-organization, PR-person; *Actor:* G-government, R-rebel, Pr-protectors, C-criminals, O-other; *Violence by Actor(s):* V - violence, NV - no violence, B-both; *Preexisting Data:* Y-yes, N-no, B-both; *Level of Analysis:* MC-multiple countries, MD-multiple datasets, MCD-multiple countries and datasets

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Study	Sample Period	Region(s)/country(ies)	Time Unit	Spatial Unit	Actor(s)	Violence by Actor(s)	Preexisting Data	Level of Analysis	
<b>Economic Shocks (31)</b>									
2017 Chadefaux	1816-2007	MN	Y	C	G,R	V,V	Y	MCD	
2012 CollierDuponchel	1991-2002	Sierra Leone	Y	D	G,R	V,V	Y		
2017 CostalliMorettiPischedda	1960-2010	MN	Y	C	G,R	V,V	Y	MC	
2014 CrostFelterJohnstonEtAl	2008-2011	Philippines	D	M	G,R	V,V	Y		
2012 Deiwiks Cederman Gleditsch	1991-2005	MN	Y	P	G,R	V,V	Y	MC	
2010 DeSoysaFjelde	1970-2005	MN	Y	C	G,R	V,V	Y	MC	
2010 DoIyer		Philippines							
2014 DubeNaidu	1988-2005	Colombia	Y	M	G,R	V,V	N		
2013 DubeVargas	1988-2005	Colombia	Y	M	G,R	V,V	N		
2010 Escriba-Folch	1959-1999	MN	Y	C	G,R	V,V	Y	MC	
2017 GawandeEtAl	2000-2009	India	S	D	G,R	V,V	N		
2012 GublerSelway	1945-1999	MN	Y	C	G,R	V,V	Y	MCD	
2017 GuttingSteinwand	1970-2008	MN	Y	C	G,R	V,V	Y	MC	
2015 HendrixHaggard	1961-2010	MN	Y	T	G,Pr	NV,NV	Y	MC	
2014 IyerTopalova	1971-2010	India	M	D	C	B	Y		
2016 LektzianRegan	1950-2005	MN	Y	C	G,R	V,V	Y	MC	
2014 MaystadtEcker	1997-2009	Somalia	M	D	G,R,Pr	V,V,V	Y	MD	
2011 NepalEtAl	1996-2003	Nepal	Y	V	G,R	V,V	N		
2007 Robertson	1997-2000	Russia	M	P	G,Pr	NV,NV	N		
2015 RaleighChoiKniveton	1997-2010	Africa	M	D	G,R,Pr	V,V,V	Y	MC	
2014 Smith	1990-2012	Africa	M	C	G,R	B,B	Y	MC	
2016 Zhukov	2014-2015	Ukraine	D	M	G,R	V,V	N		
<b>Elections (14)</b>									
2007 Carey	1971-1995	Sub-Saharan Africa	Y	C	G,R	V,V	Y	MC	
2013 CedermanGleditschHug	1960-2000	MN	Y	GR	G,R	V,V	Y	MC	
2015 CoupeObrizan	2014	Ukraine	Y	T			N		
2012 Daxecker	1997-2009	Africa	Y	C	G,Pr	V,V	Y	MC	
2015 Goldsmith	1997-2013	Africa	D	C	G,R,Pr	V,V,V	Y	MCD	
2017 HarishLittle	1990-2010	MN	D	C	G,Pr	V,V	Y	MC	
2015 Heger	1980-2014	Northern Ireland, MENA	Y	C	G,Pr	V,V	Y	MC	
2008 JoshiMason	1991-1999	Nepal	Y	D	G,R	V,V	N		
2015 KlausMitchell	2007-2008, 2010-2011	Kenya, Cote d'Ivoire	Y	C	G,Pr	V,V	Y	MC	
2013 Linke	2003-2007	Kenya	D	D	G,R,Pr	V,V	Y	MD	
2016 Smidt	1990-2009	Africa	D	C	G,R,Pr	V,V,V	Y	MC	
2017 TaylorEtAl	1990-2008	Africa	Y	C	G,R,Pr	V,V,V	B	MCD	
2012 Theisen	1989-2004	Kenya	Y	G	G,R,Pr	V,V,V	N		
2012 WeidmannCallen	2009	Afghanistan	D	D	G,R	V,V	Y	MD	
<b>Ethnic Geography (46)</b>									
2016 AsalEtAl	1946-2005	MN	Y	C	G,R	V,V	Y	MC	
2014 BalcellsDaniels	2005-2012	Northern Ireland	Y	D	G,R	V,V	N		
2016 Bacells Daniels Escriba-Folch	2005-2012	Northern Ireland	Y	D	G,R	V,V	N		
2014 Bara	1990-2009	MN	Y	C	G,R	V,V	Y	MC	
2016 BasedauEtAl	1990-2010	MN	Y	C	G,R	V,V	Y	MC	
2014 Bhavnani Donnay Miodownik EtAl	2001-2009	Israel	Y	N	R	V	N		
2017 BlairBlattmanHartman	2008,2010	Liberia	Y	T	G,R	V,V	N		
2016 BlairKalmanovitz	1979-2004	Afghanistan	Y	P	G,R	V,V	N		
2011 BleaneyDimico	1940-2000	MN	Y	C	G,R	V,V	Y	MCD	
2006 Blimes	1945-1999	MN	Y	C	G,R	V,V	Y	MC	
2006 BoharaEtAl	1996-2004	Nepal	Y	D	G,R	V,V	N		
2010 BohlkenSergenti	1982-1995	India	Y	P	G,R	V,V	N		
2017 BormannCedermanVogt	1946-2009		Y	C	G,R	V,V	Y	MC	
2016 BunteVinson	1970-2010	Nigeria	D	D	G,R	V,V	N	MD	
2006 Buhaug	1946-1999	MN	Y	C	G,R	V,V	Y	MC	
2015 Butcher	1975-2011	MN	M	C	G,R	V,V	Y	MC	
2009 CedermanBuhaugRod	1951-2005	MN	Y	C	G,R	V,V	B	MC	
2009 Cederman Girardin Gleditsch	1945-2005	MN	Y	C	G,R	V,V	Y	MC	
2017 Cederman Gleditsch Wucherpfennig	1949-1999	MN	Y	C	G,R	V,V	Y	MC	
2010 CedermanWimmerMin	1946-2005	MN	Y	C	G,R	V,V	Y	MC	
2013 CedermanEtAl	1946-2009	MN	Y	C	G,R	V,V	Y	MC	
2017 CostalliMorettiPischedda	1960-2010	MN	Y	C	G,R	V,V	Y	MC	
2012 CostalliMoro	1992-1995	Bosnia	Y	M	G,R	V,V	Y		
2015 DeJuanBank	2011-2012	Syria	D	D	G,R	V,V	N		
2014 DennyWalter	1946-2005	MN	Y	C	G,R	V,V	Y	MC	
2010 DoIyer	1996-2006	Nepal	M	D	G,R	V,V	N		
2012 Dyrstad	1989, 2003	Former Yugoslavia	Y	M	G,R	V,V	N	MC	
2008 Forsberg	1989-2004	Global	Y	C	G,R	V,V	Y	MC	
2012 GublerSelway	1945-1999	MN	Y	C	G,R	V,V	Y	MCD	
2017 HunzikerCederman	1990-2013	MN	Y	C	G,R	V,V	Y	MC	
2016 Isaacs	1970-2012	MN	Y	OR	G,R	V,V	Y	MC	
2012 JhaWilkinson	1931-1951	South Asia	M	D	G,R	V,V	N	MC	
2014 KlasnjaNovta	1980-2000, 1992-1995	India, Bosnia	Y	D,M	G,R	V,V	Y	MC	

Country: MN-multinational; Time Unit: DC-decade, Y-year, S-season, M-month, W-week, D-day; Spatial Unit: C-country, P-province, M-municipality, D-district, CN-county, T-town, G-grid, N-neighborhood, CM-commune, ST-street address, H-household, GR-group, OR-organization, PR-person; Actor: G-government, R-rebel, Pr-protectors, C-criminals, O-other; Violence by Actor(s): V - violence, NV - no violence, B-both; Preexisting Data: Y-yes, N-no, B-both; Level of Analysis: MC-multiple countries, MD-multiple datasets, MCD-multiple countries and datasets

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Study	Sample Period	Region(s)/country(ies)	Time Unit	Spatial Unit	Actor(s)	Violence by Actor(s)	Preexisting Data	Level of Analysis	
<b>Ethnic Geography (46)</b>									
2017 KorenBagozzi	1997-2009	Africa	Y	G	G,R	V,V	Y	MCD	
2016 Kreibaum	1980-2004	MENA	Y	G	G,R	B,B	Y	MC	
2009 Lujala	1946-2002	MN	Y	C	G,R	V,V	Y	MC	
2011 Olzak	1984-2002	MN	Y	C	G,R	V,V	Y	MC	
2016 Ray	1946-2010	MN	Y	C	G,R	V,V	Y	MC	
2013 SambanisShayo	1945-2006	MN	Y	C	G,R	V,V	Y		
2011 Sorens	1950-2003	MN	Y	C	G,R	V,V	Y	MC	
2014 VadlamannatiEtAl	1985-2006	MN	Y	C	G,R	V,V	Y	MC	
2009 Weidmann	1945-2003	MN	Y	G	G,R	V,V	Y	MC	
2011 Weidmann	1991	Bosnia	Y	M	O	V	N		
2013 WeidmannSalehyan	2006-2007	Iraq	D	N	G,R	V,V	Y		
2012 Wucherpfennig Metternich Cederman EtAl	1946-2005	MN	D	C	G,R	V,V	Y	MC	
2016 WucherpfennigEtAl	1946-2009	MN	Y	C	G,R	V,V	Y	MC	
<b>Foreign Aid (8)</b>									
2008 BlouinPallage	1946-1999	MN	Y	C	G,R	V,V	Y	MC	
2014 Colaresi	1980-2000	Peru	M	C	G,R	V,V	N		
2012 FieldingShortland	1980-2000	Peru	M	C	G,R	V,V	N		
2011 NielsenEtAl	1981-2005	MN	Y	C	G,R	V,V	Y	MC	
2011 RobertsonTeitelbaum	1980-2005	MN	Y	C	G,Pr	NV,NV	N	MC	
2014 SalehyanSirokyWood	1989-2009	MN	Y	OR	G,R	V,V	Y	MC	
2011 SavunTirone	1990-2003	MN	Y	C	G,R	V,V	Y	MC	
2016 Sexton	2008-2010	Afghanistan	W	D	G,R	V,V	Y	MD	
<b>Group Characteristics (16)</b>									
2015 Cederman Weidmann Bormann		South Africa	Y	C	G,R	V,V	N		
2006 CunninghamD	1946-2005	MN	M	C	G,R	V,V	Y	MC	
2011 CunninghamK	1960-2005	MN	Y	C	G,R	V,V	Y	MC	
2013 CunninghamK	1960-2005	MN	Y	C	G,R	V,V	Y	MC	
2013 CunninghamKEtAl	1960-2005	MN	Y	C	G,R	V,V	Y	MC	
2012 Dyrstad	1989, 2003	Former Yugoslavia	Y	M	G,R	V,V	N	MC	
2011 Evans	1990-2000	U.S.	Y	CN	G,Pr	NV,NV	N		
2017 LiebermanSingh	1946-2005	MN, India	DC	C	G,R	V,V	Y	MC	
2008 Ostby	1986-2004	Global	Y	C	G,R	V,V	Y	MC	
2013 Parkinson	1982-1988	Lebanon	Y	C	G,R	V,V	N		
2016 Prorok	1980-2011	MN	M	C	G,R	V,V	N	MC	
2007 Robertson	1997-2000	Russia	M	P	G,Pr	NV,NV	N		
2017 Schricker	2008-2013	Afghanistan, Pakistan	M	GR	G,R	V,V	Y		
2010 ShellmanEtAl	1980-2004	Cambodia, Indonesia	D	GR	G,R	V,V	N	MC	
2015 Tiernay	1945-2003	MN	Y	C	G,R	V,V	N	MC	
2014 Thomas	1989-2010	Africa	Y	C	G,R	V,V	Y	MC	
<b>Indiscriminate Violence (13)</b>									
2012 CondraShapiro	2004-2009	Iraq	W	D	G,R	V,V	Y		
2017 DeLaCalle	1980-1995	Peru	Y	D	G,R	V,V	N		
2010 FieldingShortland	1990-2000	Egypt	M	C	G,R	V,V	N		
2006 Kalyvas	1943-1949	Greece	D	V	G,R	V,V	Y		
2009 Lyall	2000-2005	Russia/Chechnya	D	V	G,R	V,V	N		
2010 Lyall	2000-2005	Russia/Chechnya	D	V	G,R	V,V	N		
2016 PoloGleditsch	1970-2011	MN	Y	GR	G,R	V,V	Y	MC	
2015 Schutte	1970-2014	Africa	Y	G	G,R	V,V	Y	MC	
2015 SirokyDzutsati	2000-2012	Russia/Caucasus	D	D	G,R	V,V	Y		
2016 SouleimanovSiroky		Russia/Caucasus	V	V	G,R	V,V	N		
2014 VoorsBulte	1998-2007	Burundi	V	M	G,R	V,V	N		
2014 Zhukov	1943-1955	Ukraine	Y	D	O	V	N		
2017 Zhukov	1941-1944	Belarus	M	V	G	V	N		
<b>Information Communications Technology (12)</b>									
2015 Bailard	2007-2009	MN	Y	D	G,R,Pr	V,V,V	Y	MC	
2015 CrabtreeEtAl	1989	Germany	D	D	Pr	NV	Y		
2015 DafoeLyall									
2015 Gohdes	2011-2013	Syria	D	C	G,R	V,V	N	MD	
2011 Kern	1989	Germany	D	D	Pr	NV	Y		
2013 PierskallaHollenbach	1989-2010	Africa	Y	G	G,R	V,V	Y	MC	
2015 RodWeidmann	1993-2010	MN	Y	C	G,Pr	B,B	Y	MC	
2015 ShapiroSiegel									
2015 ShapiroWeidmann	2004-2009	Iraq	M	G	G,R	V,V	Y		
2015 Warren	1989-2010	Africa	Y	G	G,R	V,V	Y	MC	
2015 Weidmann	1996-2007	Global	Y	C	G,R	V,V	Y	MC	
2014 YanagizawaDrott	1994-1995	Rwanda	D	V	G,R	V,V	N		
<b>Occupation Policies (2)</b>									
2012 BiddleFriedmanShapiro	2007	Iraq	D	V	G,R	V,V	Y		
2014 FerwerdaMiller	1942-1944	France	M	V	G,R	V,V	N		
<b>One-Sided Violence (18)</b>									
2010 Balcells	1936-1939	Spain	D	M	G,R	V,V	N		
2011 Balcells	1936-1939	Spain	D	M	G,R	V,V	N		
2011 BhavnaniEtAl	2006-2008	Israel, Palestine	Y	P	G,R	V,V	N		
2013 Cohen	1980-2009	MN, Sierra Leone	Y	C	G,R	V,V	Y		
2007 EckHultman	1989-2004	Global	Y	C	G,R	V,V	Y	MC	
2012 FieldingShortland	1980-2000	Peru	M	C	G,R	V,V	N		

*Country: MN-multinational; Time Unit: DC-decade, Y-year, S-season, M-month, W-week, D-day; Spatial Unit: C-country, P-province, M-municipality, D-district, CN-county, T-town, G-grid, N-neighborhood, CM-commune, ST-street address, H-household, GR-group, OR-organization, PR-person; Actor: G-government, R-rebel, Pr-protectors, C-criminals, O-other; Violence by Actor(s): V - violence, NV - no violence, B-both; Preexisting Data: Y=yes, N=no, B-both; Level of Analysis: MC-multiple countries, MD-multiple datasets, MCD-multiple countries and datasets*

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Study	Sample Period	Sample Region(s)/country(ies)	Time Unit	Spatial Unit	Actor(s)	Violence by Actor(s)	Preexisting Data	Level of Analysis
<b>One-Sided Violence (18)</b>								
2009 Justino		Vietnam	D	H	G,R	V,V	N	
2009 KalyvasKocher	1969	Vietnam	D	D	G,R	V,V	N	
2011 KocherPepinskyKalyvas	1969	Vietnam	D	D	G,R	V,V	N	
2013 LyallBlairImai	2010	Afghanistan	D	V			N	
2015a Schutte		Afghanistan		V			N	
2015 Stanton	1989-2010	MN	Y	C	G,R	V,V	Y	MC
2009 Steele		Colombia	Y	H	G,R	V,V		
2012 Sullivan	1959-1996	Guatemala	M	M	G	V	N	
2014 SuttonButcherSvensson	1989-2011	MN	Y	C	G,Pr	V,NV	Y	MC
2015 ToffZhukov	2000-2012	Russia/Caucasus	D	D	G,R	V,V	N	
2010 Wood	1989-2044	MN	Y	C	R	V	Y	MC
2012 WoodKathmanGent	1989-2005	MN	Y	C	G,R	V,V	Y	MC
<b>Political Exclusion (12)</b>								
2014 Bartusevicius	1961-2009	MN	Y	C	G,R	V,V	Y	MC
2011 Cederman Weidmann	1946-2005	MN	Y	M	G,R	V,V	N	MC
Gleditsch								
2010 CedermanWimmerMin	1946-2005	MN	Y	C	G,R	V,V	Y	MC
2010 GleditschRuggeri	1946-2004	MN	Y	C	G,R	V,V	Y	MC
2009 Fjelde	1985-1999	MN	Y	C	G,R	V,V	Y	MC
2008 JoshiMason	1991-1999	Nepal	Y	D	G,R	V,V	N	
2014 KoubiBohmelt	1951-2004	MN	Y	C	G,R	V,V	Y	MC
2010 Tezcur	1994-2008	Turkey	Y	M	G,R	V,V	N	
2011 Vadlamannati	1970-2007	India	Y	P	G,R	V,V	Y	
2014 VadlamannatiEtAl	1985-2006	MN	Y	C	G,R	V,V	Y	MC
2016 Wig	1946-2009	Africa	Y	C	G,R	V,V	Y	MC
2009 WimmerCedermanMin	1946-2005	MN	Y	C	G,R	V,V	Y	MC
<b>Public Opinion (5)</b>								
2015 BrantonEtAl	2006	U.S.	D	ST	G,Pr	NV,NV	Y	
2015 Hillesund	2000-2009	Palestine,Israel	M	D	G,R	V,V	N	
2017 HiroseImaiLyall	2011	Aghanistan	Y	V	G,R	V,V	N	
2013 ShellmanEtAl	1997-2006	Philippines, Sri Lanka	M	C	G,Pr	B,B	Y	MC
2015 TirSingh	1989-2008	MN	Y	C	G,R	V,V	Y	MC
<b>Reporting Bias (4)</b>								
2015 BaumZhukov	2010-2011	Libya	D	C	G,Pr	B,B	N	
2006 DavenportStam	1994	Rwanda	D	CM	G,R	V,V	N	MD
2009 DavenportStam	1994	Rwanda	D	CM	G,R	V,V	N	MD
2015 HollenbachPierskalla	1989-2010	Africa	Y	G	G,R	V,V	Y	MC
<b>Repression and Dissent (32)</b>								
2016 BakkerHillMoore	1971-2007	MN	Y	C	G,Pr	V,V	Y	MC
2015 CadenasEtAl	1995-2015	Eurasia	D	M	G,Pr	B,B	Y	MC
2012 ConradDeMeritt	1981-2011	MN	Y	C	G,R	V,V	Y	MC
2014 DannemanRitter	1981-2004	Global	Y	C	G,R	V,V	Y	MC
2013 DavenportTrivedi	2005-2008	India		V	G,Pr	B,B	N	
2009 DeLaLuzInclan	1994-2003	Mexico	D	M	G,Pr	B,B	N	
2012 Driscoll	1992-2006	Tajikistan	Y	PR	G,R	V,V	N	
2010 EarlSoule	1960-1990	US			G,Pr	B,B		
2014 GiblerMiller	1946-2007	MN	Y	C	G,R	V,V	Y	MC
2015 Gohdes	2011-2013	Syria	D	C	G,R	V,V	N	MD
2017 GohdesCarey	2002-2013	Global	Y	C	G,P,Pr	B,B,B	B	MCD
2006 Herreros		El Salvador, Soviet Union, Israel	Y	C	G,Pr	V,V	N	MC
2014 HillJones	1981-1999	MN	Y	C	G,P,Pr	V,V,V	Y	MCD
2015 HoigiltPalestine		Israel	Y	C	G,Pr	NV,NV	N	
2014 JenkinsMaherFahrer	1986-1999	Egypt	Y	D	G,Pr	V,V	N	
2014 KimEtAl		Tunisia, North Korea		C	G,Pr	B,B	N	
2013 KingPanRoberts	2012	China	D	C	G,Pr	NV,NV	N	
2014 LoyleSullivanDavenport	1968-1998	Northern Ireland	D	ST	G,Pr	V,V	N	
2006 Lyall	1994-1996, 1999-2005	Russia	M	T	G,Pr	NV,NV	N	
2012 McLaughlinPearlman	1975, 1988, 1987, 2000	Iraq, Palestine	Y	C	GR,Pr	V,V	N	MC
2013 Metternich Dorff Gallop EtAl	2001-2010	Thailand	M		G,R	V,V	Y	
2010 Pierskalla					G,Pr	V,V		
2013 PierskallaHollenbach	1989-2010	Africa	Y	G	G,R	V,V	Y	MC
2015 RodWeidmann	1993-2010	MN	Y	C	G,Pr	B,B	Y	MC
2016 Ryckman	1965-2006	MN	Y	C	G,Pr	NV, NV	Y	MC
2013 ShellmanEtAl	1997-2006	Philippines, Sri Lanka	M	C	G,Pr	B,B	Y	MC
2013 ShellmanLeveyYoung	1997-2006	Philippines, Sri Lanka	M	C	G,Pr	B,B	Y	MC
2016 Smidt	1990-2009	Africa	D	C	G,R,Pr	V,V,V	Y	MC
2014 Sullivan	1977-1994	Guatemala	M	M	G,R	V,V	N	
2015 Sullivan	1975-1985	Guatemala	M	M	G,R	V,V	N	
2016 Sullivan	1975-1985	Guatemala	M	M	G,R	V,V	N	
2014 SuttonButcherSvensson	1989-2011	MN	Y	C	G,Pr	V,NV	Y	MC

*Country:* MN-multinational; *Time Unit:* DC-decade, Y-year, S-season, M-month, W-week, D-day; *Spatial Unit:* C-country, P-province, M-municipality, D-district, CN-county, T-town, G-grid, N-neighborhood, CM-commune, ST-street address, H-household, GR-group, OR-organization, PR-person; *Actor:* G-government, R-rebel, Pr-protectors, C-criminals, O-other; *Violence by Actor(s):* V - violence, NV - no violence, B-both; *Preexisting Data:* Y=yes, N=no, B-both; *Level of Analysis:* MC-multiple countries, MD-multiple datasets, MCD-multiple countries and datasets

Continued on next page

Study	Sample Period	Sample Region(s)/country(ies)	Time Unit	Spatial Unit	Actor(s)	Violence by Actor(s)	Preexisting Data	Level of Analysis
<b>State Capability (53)</b>								
2013 AcemogluRobinsonSantos	1991-2006	Colombia	Y	M	G,R	V,V	Y	
2012 Akcinaroglu	1946-2008	MN	Y	C	G,R	V,V	Y	MC
2012 AkcinarogluRadziszewski	1990-2008	Africa	Y	C	G,R	V,V	Y	MC
2016 AsalEtAl	1946-2005	MN	Y	C	G,R	V,V	Y	MC
2006 BakkeWibbels	1978-2000	MN	Y	C	G,R,Pr	V,V,V	Y	MC
2009 BasedauLay	1990-2005	MN	Y	C	G,Pr	V,V	Y	MC
2016 BayerBethkeLambach	1955-2006	MN	Y	C	G,Pr	B,B	Y	MC
2008 Boix	1919-1997	MN	Y	C	G,R	V,V	Y	
2010 Braithwaite A	1960-2001	DRC	Y	N	G,R	V,V	N	
2010 CedermanHugKrebs	1946-2004	MN	Y	C	G,R	V,V	Y	MC
2013 CelestinoGleditsch	1900-2004	MN	Y	C	G,Pr	B,B	Y	MC
2013 Clayton	1946-2004	MN	Y	C	G,R	V,V	Y	MC
2015 Colgan	1946-2014	MN	Y	C	G,R	V,V	Y	MC
2012 ConradDeMeritt	1981-2011	MN	Y	C	G,R	V,V	Y	MC
2016 CookSavun	1951-2009	Global	Y	C	G,Pr	V,V	Y	MC
2016 CunninghamD	1975-2011	MN	Y	C	G,R	V,V	Y	MC
2016 Deglow	1969-1998	Northern Ireland	Y	D	G,R	V,V	N	
2015 DeJuanBank	2011-2012	Syria	D	D	G,R	V,V	N	
2015 DeJuanPierskalla	2006-2010	South Sudan	D	CN	G,R	V,V	Y	
2012 DeLaCalle Sanchez-Cuenca	1970-1997	MN	Y	C	G,R	V,V	Y	MC
2014 DennyWalter	1946-2005	MN	Y	C	G,R	V,V	Y	MC
2012 DiGiuseppeBarryFrank	1981-2007	MN	Y	C	G,R	V,V	Y	MC
2010 DoIyer	1996-2006	Nepal	M	D	G,R	V,V	N	
2015 Duran-Martinez	1984-2010	Mexico, Colombia	Y	T	G,R	V,V	N	MC
2014 Eck	1990-2009	West Africa	Y	C	G,R	V,V	Y	MC
2015 Eck	1962-2010	Myanmar	Y	D	G,R	V,V	Y	
2015 Elfversson	1989-2010	Sub-Saharan Africa	Y	C	G,R	V,V	Y	MC
2009 Fjelde	1985-1999	MN	Y	C	G,R	V,V	Y	MC
2016 Gandrud	1981-2012	MN	Y	C	G,Pr	V,V	N	MC
2014 GiblerMiller	1946-2007	MN	Y	C	G,R	V,V	Y	MC
2016 Holtermann	1996-2006	Nepal	Y	D	G,R	V,V	N	
2016 Houle	1960-2008	MN	Y	C	G,R	V,V	Y	MCD
2013 Hultquist	1989-2004	MN	Y	C	G,R	V,V	Y	MC
2017 JonesEtAl	1991-2011	Africa	M	C	G,R	V,V	Y	MC
2016 Kreibbaum	1980-2004	MENA	Y	G	G,R	B,B	Y	MC
2017 Lake	2005-2012	DRC	D	P	G,R	V,V	B	MD
2009 Lujala	1946-2003	MN	Y	C	G,R	V,V	Y	MC
2011 MageeMassoud	1950-2004	MN	Y	C	G,R	V,V	Y	MC
2010 MattesSavun	1945-2005	MN	M	C	G,R	V,V	Y	MC
2016 Paine	1960-2006	MN	Y	C	G,R	V,V	Y	MCD
2017 Prorok	2002-2013	MN	Y	C	G,R	V,V	Y	MC
2016 Ray	1946-2010	MN	Y	C	G,R	V,V	Y	MC
2015 Rios	1990-2010	Mexico	Y	M	O	V	Y	
2016 Rivera	1980-2010	Latin America	Y	C	O	V	Y	MC
2017 RuggeriEtAl	1989-2006	Sub-Saharan Africa	Y	G	G,R	V,V	N	MC
2011 Salehyan	1951-1999	MN	Y	C	G,R	V,V	Y	MC
2012 TaydasPekse	1975-2005	MN	Y	C	G,R	V,V	Y	MC
2008 Theisen	1945-2007	MN	Y	C	G,R	V,V	Y	MC
2010 Thies	1960-1999	MN	Y	C	G,R	V,V	Y	MC
2009 Trejo	1975-2000	Mexico	D	M	G,Pr	B,B	N	
2014 VoorsBulte	1998-2007	Burundi	V	M	G,R	V,V	N	
2015 Warren	1989-2010	Africa	Y	G	G,R	V,V	Y	MC
2016 Zhukov	1921-1927	Russia/Caucasus	W	G	G,R	V,V	N	

*Country:* MN-multinational; *Time Unit:* DC-decade, Y-year, S-season, M-month, W-week, D-day; *Spatial Unit:* C-country, P-province, M-municipality, D-district, CN-county, T-town, G-grid, N-neighborhood, CM-commune, ST-street address, H-household, GR-group, OR-organization, PR-person; *Actor:* G-government, R-rebel, Pr-protectors, C-criminals, O-other; *Violence by Actor(s):* V - violence, NV - no violence, B-both; *Preexisting Data:* Y=yes, N=no, B-both; *Level of Analysis:* MC-multiple countries, MD-multiple datasets, MCD-multiple countries and datasets

## A2.2 Topics covered in past sub-national research

The articles in our dataset range across the following topics:

1. *Climate Variability*: includes studies that investigate relationship between various climate variables – water availability, rainfall, etc. – and conflict. Currently, there are 28 sources in the dataset.
2. *Conflict specifics*: includes studies that investigate various dimensions of conflict – its onset, duration, intensity, colonial conflict presence. Currently, there are 35 articles in the dataset.
3. *Data quality*: includes studies that investigate the quality of data used to draw conclusions in the existing studies. Currently, there are 7 sources in the dataset.
4. *Diffusion*: includes studies that investigate diffusion of the conflict into neighboring areas. We decided to distinguish these category from the *conflict specifics* category for the following two reasons. First, it studies a slightly different question related to conflict – instead of conflict specifics it looks at how it spreads. Second, the literature that studies this question is rather rich. Currently, there are 32 articles in the dataset.
5. *Displacement*: includes studies that investigate how conflict either affects people’s choices to other places or forces them to move somewhere else. Currently, there are 17 articles in the dataset.
6. *Economic shocks*: includes studies that investigate how economic shocks related to firm’s behavior or caused by economic sanctions or change in global food prices can cause the conflict onset. Currently, there are 30 articles in the dataset.
7. *Elections*: includes studies that investigate how elections outcomes affect the spread of violence, or non-violent protest. Currently, there are 14 articles in the dataset.
8. *Ethnic geography*: includes studies that investigate how ethnic and/or religious background of groups that co-exist next to each other can affect the spread of violence and how it could be further explained by the geographic peculiarities of the region where this violence or protest takes place. Currently, there are 47 articles in the dataset.
9. *Foreign Aid*: includes studies that investigate how foreign aid and foreign direct investment affect the spread of violence, or non-violent protest. Currently, there are 8 articles in the dataset.
10. *Group characteristics*: includes a variety of feature of a rebel group – their usage of tactics, leadership change, internal structure, aggregation, interdependencies between a few groups, expertise dynamics. Currently, there are 16 articles in the dataset.
11. *Indiscriminate violence*: includes studies that investigate how rebel or government forces target civilians to gain their support. Currently, there are 13 articles in the dataset.
12. *Information and communication technologies*: includes studies that investigate how access to information and communication technologies affects the spread of conflict and protest. Currently, there are 12 articles in the dataset.

13. *Occupation policies*: includes studies that investigate how new regimes' policies affect the development of protest or violence. Currently, there are 2 articles in the dataset.
14. *One-sided violence*: includes studies that investigate how violence against civilians. Currently, there are 18 articles in the dataset.
15. *Political exclusion*: includes studies that investigate how excluding certain groups from access to resources and certain rights can cause conflict or protest. Currently, there are 12 articles in the dataset.
16. *Public opinion*: includes studies that investigate how excluding certain groups from access to resources and certain rights can cause conflict or protest. Currently, there are 12 articles in the dataset.
17. *Reporting bias*: includes studies that investigate reporting bias in the study of conflict. Currently, there are 5 articles in the dataset.
18. *Repression and dissent*: includes studies that investigate repression and dissent. Currently, there are 33 articles in the dataset.
19. *State capacity*: includes studies that investigate how state capacity affects the development of protest and conflict. A quite broad concept of 'state capacity' includes institutions, usage of proxy militias and peacekeeping operations, etc. Currently, there are 53 articles in the dataset.

Table A2.3 summarizes the distribution of these topics by region.

Table A2.3: TOPIC STUDIED BY REGION

Number of Empirical Studies by Topic and Region (2006-2017).							
Topic	Africa	Americas	Asia	Europe	Multinational	Global	Total Number
Climate Variability	18	1	3	0	4	2	28
Conflict Specifics	11	3	2	1	18	1	36
Data Quality	1	0	0	0	4	2	7
Diffusion	5	3	1	9	9	5	32
Displacement	0	5	6	3	3	0	17
Economic Shocks	3	5	11	1	10	0	31
Elections	8	0	2	1	3	0	14
Ethnic Geography	3	0	8	5	28	1	46
Foreign Aid	0	1	1	0	5	0	8
Group Characteristics	2	1	4	1	7	1	16
Indiscriminate Violence	3	1	5	3	1		13
Information & Communication Technology (ICT)	2	0	3	2	2	1	12
Occupation Policies	0	0	1	1	0	0	2
One-Sided Violence		3	6	2	5	1	17
Political Exclusion	1	0	2	1	8	0	12
Public Opinion	0	1	3	0	1	0	5
Reporting Bias	4	0	0	0	0	0	4
Repression and Dissent	2	5	10	2	10	2	32
State Capability	10	5	4	2	31	1	53

## A3 Additional meta-analysis results

### A3.1 Dynamic panel data analysis

Our main analysis employed the following core model specification:

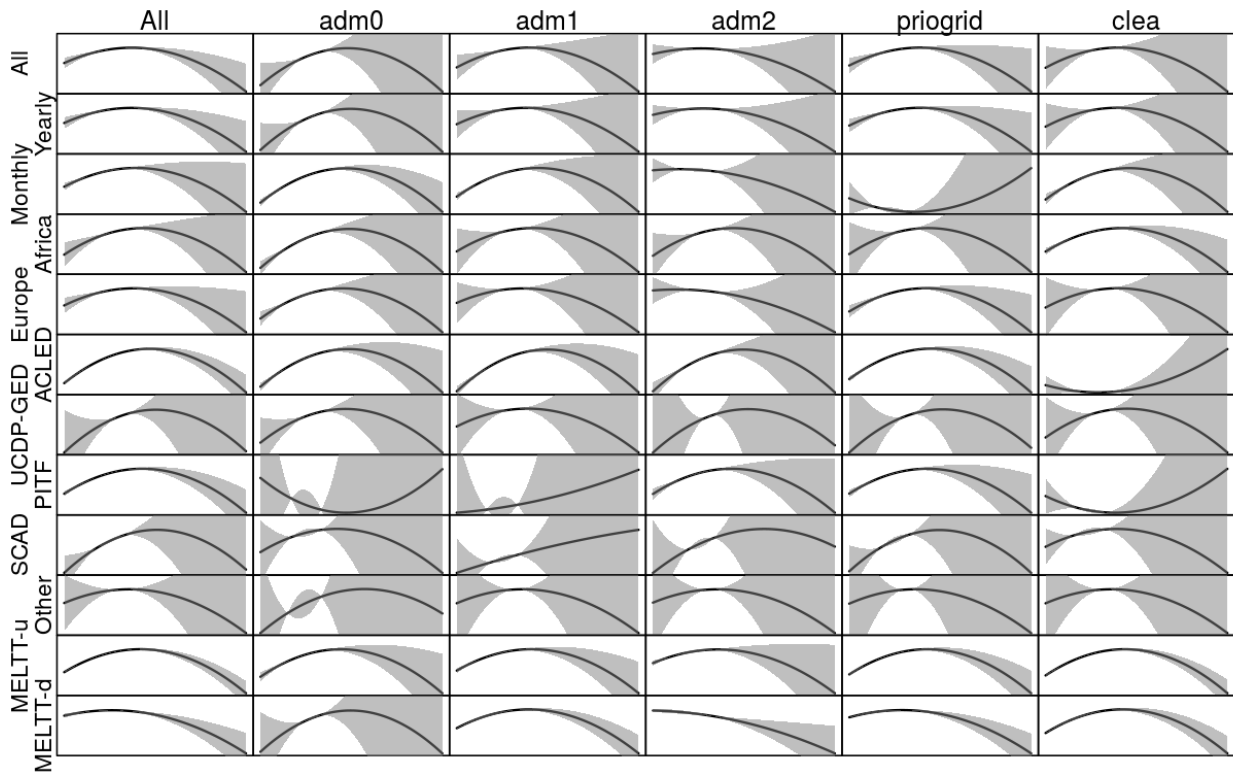
$$\text{Dissent}_{it} = \text{Repression}_{it-1}\beta_1 + \text{Repression}_{it-1}^2\beta_2 + \alpha_i + \gamma_t + u_{it} \quad (1)$$

here  $\text{Dissent}_{it}$  is the number of opposition actions in locality  $i$  at time  $t$ ,  $\text{Repression}_{it-1}$  is the number of government actions in  $i$  at  $t - 1$ ,  $\alpha_i$  are locality fixed effects, and  $\gamma_t$  are time fixed effects.

The model in equation 1 omits a lagged dependent variable because of the structure of our panel data: there are many datasets in xSub with relatively few time periods and many spatial units. In the context of a fixed effect estimator, including a lagged  $y$  for “small  $T$ , large  $N$ ” data can – through the demeaning process – induce a correlation between regressors and the error term. The resulting correlation biases estimates of the coefficient on the lagged dependent variable, and potentially other regressors if they are correlated with the lagged dependent variable (Nickell, 1981). Omitting the temporal lag, however, risks overlooking the dynamic nature of our dependent variable, which may depend on its own past realizations in an autoregressive manner.

To address this concern, we considered a generalized method of moments (GMM) estimator. Figure A3.2 replicates the results in Figure A3.2 in the main text, using the Arellano and Bover (1995) forward orthogonal deviations (FOD) transformation, which avoids serial correlation of the transformed error terms by subtracting the average of all available future observations from the current value, rather than simple demeaning or subtracting previous observations from current ones. These dynamic panel data models produce estimates that are more uncertain than those we reported in the main text, but in the same general direction.

Figure A3.2: META-ANALYSIS OF REPRESSION AND DISSENT (GMM). Quantities reported are weighted averages of standardized coefficient estimates and bootstrapped 95% confidence intervals from an Arellano and Bover (1995) dynamic panel data model. Spatial units are years [adm0], provinces [adm1], districts [adm2], grid cells [priogrid], and electoral constituencies [clea]. Data sources include ACLED, UCDP GED, PITF, SCAD and the remaining providers listed in footnote 9 of the main text (“Other”). MELTT-u/-d are multiple-source undirected and directed dyadic data, integrated with MELTT (Donnay et al., 2018).



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