



EARLY WARNING PROJECT

COUNTRIES AT RISK FOR MASS KILLING 2020–21

STATISTICAL RISK ASSESSMENT RESULTS

DECEMBER 2020

UNITED STATES
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MUSEUM

SIMON-SKJODT CENTER
FOR THE PREVENTION OF GENOCIDE

DARTMOUTH

Foreword

Genocide and related crimes against humanity are devastating in their scale and scope; in the enduring scars for survivors and their families and the long-term trauma they cause in societies; and in the economic, political, and social costs and consequences, often extending far beyond the territory in which they were committed.

Working to prevent future genocides requires an understanding of how these events occur, including considerations about warning signs and human behaviors that make genocide and mass atrocities possible.

We know from studying the Holocaust and other genocides that such events are never spontaneous. They are always preceded by a range of early warning signs. If warning signs are detected and their causes addressed, it may be possible to prevent catastrophic loss of life.

This assessment identifies the risk—the possibility—that a mass killing may take place. On average, one or two countries experience a new episode of mass killing each year. But relative infrequency does not make the brutality less devastating for victims: a mass killing, by our definition, is 1,000 or more civilians deliberately killed by armed forces (whether government or non-state), over a period of a year or less, because of their membership in a particular group. Virtually all cases of genocide include mass killings that meet this definition.

The United States Holocaust Memorial Museum’s founding charter, written by Holocaust survivor Elie Wiesel, mandates that our institution strive to make preventive action a routine response when warning signs appear. Wiesel wrote, “Only a conscious, concerted attempt to learn from past errors can prevent recurrence to any racial, religious, ethnic or national group. A memorial unresponsive to the future would also violate the memory of the past.”

The Museum’s Simon-Skjodt Center for the Prevention of Genocide was established to fulfill that vision by transmitting the lessons and legacy of the Holocaust, and “to alert the national conscience, influence policy makers, and stimulate worldwide action to confront and prevent genocide.” The Simon-Skjodt Center’s Early Warning Project works to fulfill this aspect of the Museum’s mandate by using innovative research to identify early warning signs. In doing so, we seek to do for today’s potential victims what was not done for the Jews of Europe. One of the Simon-Skjodt Center’s goals is to ensure that the United States government, other governments, and multilateral organizations have institutionalized structures, tools, and policies to effectively prevent and respond to genocide and other mass atrocities.

¹ See Scott Straus, *Fundamentals of Genocide and Mass Atrocity Prevention* (Washington, DC: The United States Holocaust Memorial Museum, 2016), <https://www.ushmm.org/m/pdfs/Fundamentals-of-Genocide-and-Mass-Atrocity-Prevention.pdf>.

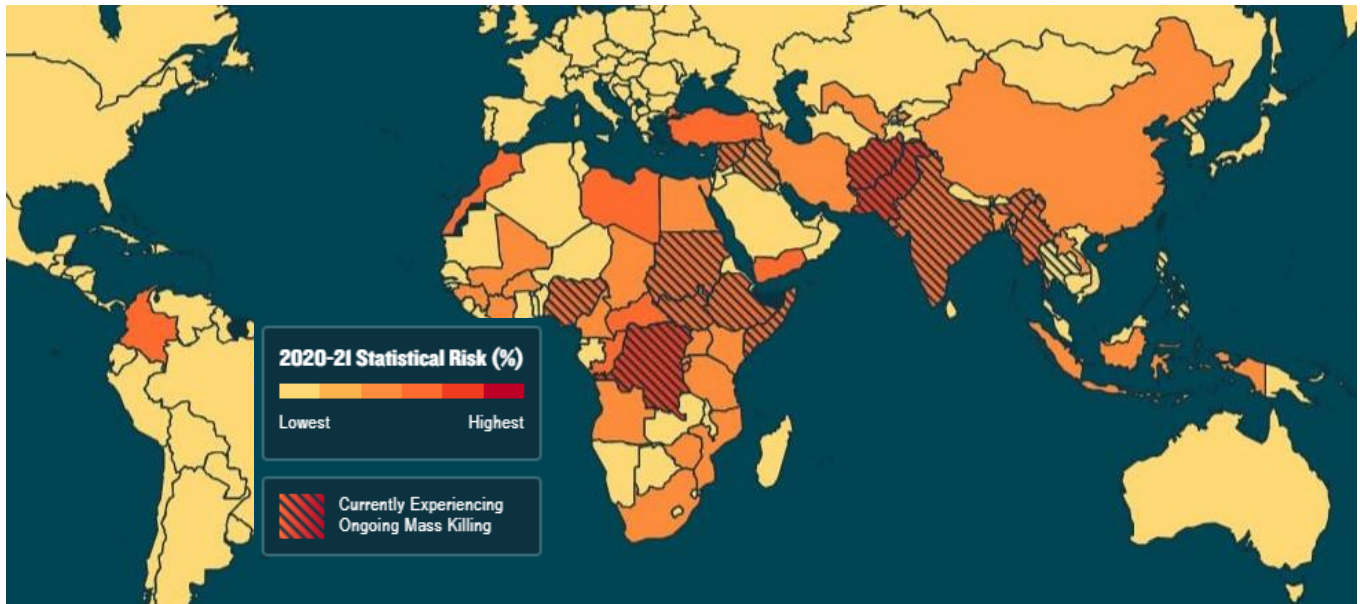
The more governments and international organizations develop their own early warning tools and processes, the better our Early Warning Project can help serve as a catalyst for preventive action.

In many places, such violence is ongoing—in countries such as Burma, Syria, and South Sudan. These cases are well-known. But this risk assessment's primary focus—and the gap we seek to fill—is to draw attention to countries at risk of a new outbreak of mass killing. We use this model as one input for selecting countries for more in-depth research and policy engagement. The Simon-Skjodt Center focuses on situations where there is a risk of, or ongoing, large-scale group-targeted identity-based mass atrocities and where we believe we can make the most impact based on a combination of factors. These factors include the ability for Simon-Skjodt Center staff to conduct rigorous field work in the area (or a pre-existing level of staff expertise in the area), opportunities for effective engagement with the community at risk, and the need to draw attention to cases where policy, media, and public attention on the case are lower than merited by the level of risk.

Preventing genocide is of course difficult. In deciding how to respond, policy makers face an array of constraints and competing concerns. The choice to prevent one potential tragedy often takes a back seat when policy makers are confronted by multiple ongoing conflicts. But we know from the Holocaust what can happen when early warning signs go unheeded. We aim for this risk assessment to serve as a tool and a resource for policy makers and others interested in prevention. We hope this helps them better establish priorities and undertake the discussion and deeper analysis that can help reveal where preventive action can make the greatest impact in saving lives.

Naomi Kikoler
Director
Simon-Skjodt Center for the Prevention of Genocide
December 2020

Figure 1: Heat map of estimated risk of new mass killing, 2020–21



Data: Early Warning Project, earlywarningproject.org; cross-hatch pattern denotes countries with ongoing mass killing episodes.

Introduction

The Early Warning Project’s Statistical Risk Assessment uses publicly available data and statistical modeling to produce a list of countries ranked by their estimated risk of experiencing a new episode, or onset, of mass killing.

Policy makers face the challenge of simultaneously responding to ongoing mass atrocities, such as those in Burma, South Sudan, and Syria, and trying to prevent entirely new mass atrocity situations. A critical first step toward prevention is accurate and reliable assessment of countries at risk for future violence. Earlier identification of risk broadens the scope of possible preventive actions. This report aims to help identify countries meriting preventive actions.

In essence, our statistical model identifies patterns in historical data to answer the question, *which countries today look most similar to countries that experienced mass killings in the past, in the year or two before those mass killings began?* The historical data include basic country characteristics, as well as data on governance, war and conflict, human rights and civil liberties, and socioeconomic factors.

This report highlights findings from our Statistical Risk Assessment for 2020–21, focusing on:

- Countries with the highest estimated risks of a new mass killing in 2020 or 2021
- Countries where estimated risk has been consistently high over multiple years
- Countries where estimated risk has increased or decreased significantly from our last assessment
- Countries with unexpected results

We recognize that this assessment is just one tool. It is meant to be a starting point for discussion and further research, not a definitive conclusion. **We aim to help governments, international organizations, and nongovernmental organizations determine where to devote resources for additional analysis, policy attention, and, ultimately, preventive action.** We hope that this report and our Early Warning Project as a whole inspire governments and international organizations to invest in their own early warning capabilities.

Understanding these results

Before discussing the results, we underscore five points about interpreting this Statistical Risk Assessment:

First, as a statistical matter, mass killings are rare. On average, just over one percent of countries see a new mass killing in any given year—that means one or two countries. Our risk model predicts a similar number of new episodes of mass killing, so the average two-year risk estimate produced by our model is just under two percent. Just three out of 162 countries have a two-year risk estimate greater than ten percent, and the highest-risk country, Pakistan, is estimated to have about a one in six chance of experiencing a new mass killing in 2020 or 2021.

Second, our model is designed to assess the risk of a new mass killing, not of the continuation or escalation of ongoing episodes. Much of the Simon-Skjodt Center’s work spotlights ongoing atrocities and urges life-saving responses. We focus here on the risk of *new* mass killing to help fill an analytic gap that is critical to prevention. This feature is especially important to bear in mind when interpreting results for countries that are currently experiencing mass killings, such as Burma/Myanmar and Syria (see Figure 1 and [our website](#) for a full list of these countries). For these countries, our assessment should be understood as an estimate of the risk that a new mass killing event would be launched by a different perpetrator or targeting a different civilian group in 2020 or 2021. (Our model estimates that having a mass killing currently in progress is associated with lower risk of another one beginning.) Regardless of their ranking in this assessment, cases of ongoing atrocities demand urgent action.

Definition: Mass Killing

By our definition, a mass killing occurs when the **deliberate actions** of armed groups in a particular country (including but not limited to state security forces, rebel armies, and other militias) result in the deaths of at least **1,000 noncombatant civilians** in that country over a period of **one year or less**. The civilians must also have been targeted for being part of a **specific group**.¹ Mass killing is a subset of “mass atrocities,” which we define more generally as “large-scale, systematic violence against civilian populations.”²

Third, for practical reasons, we only forecast mass killings within countries (i.e., in which the perpetrator group and the targeted civilian group reside in the same country). This risk assessment does not forecast civilian fatalities from interstate conflict. Situations in which large numbers of civilians are killed deliberately by an armed group from another country are not captured in our historical data or current forecasts. This decision does not involve a value judgment about the moral or practical significance of such atrocities, only a pragmatic judgment about what we are able to forecast reliably.

Fourth, readers should keep in mind that our model is not causal: the variables identified as predicting higher or lower risk of mass killings in a country are not necessarily the factors that drive or trigger atrocities. For example, a large population does not directly cause mass atrocities; however, countries with large populations have been more likely to experience mass killing episodes in the past, so this

¹ To distinguish mass killings from large numbers of unrelated civilian fatalities, the definition states that victims of a mass killing must appear to be perceived by the perpetrators as belonging to a discrete group. That group may be defined communally (e.g., by ethnicity or religion); politically (e.g., by partisan affiliation or ideology); socioeconomically (e.g., by class or profession); or geographically (e.g., by residence in specific villages or regions). Unrelated executions by police or

other state agents would not qualify as a mass killing, but capital punishment directed against members of a specific political or communal group would.

² Scott Straus, *Fundamentals of Genocide and Mass Atrocity Prevention* (Washington, DC: The United States Holocaust Memorial Museum, 2016), <https://www.ushmm.org/m/pdfs/Fundamentals-of-Genocide-and-Mass-Atrocity-Prevention.pdf>, p. 31.

factor helps us identify countries at greater risk going forward. We make no effort to explain these kinds of relationships in the data; we only use them for their predictive value. An important consequence of the non-causal nature of these forecasts is that actions aimed at addressing risk factors identified in the model are not necessarily effective ways of mitigating the risk of mass atrocities; this assessment does not seek to evaluate atrocity prevention policy prescriptions. For example, although our model finds that countries coded as having severely limited freedom of movement for men are at greater risk of experiencing mass killings than are other countries, this does not imply that action to improve freedom of movement for men would help prevent mass killings.

Fifth, this assessment is based on available data reflecting conditions as of the end of 2019. Events that occurred in 2020 are not reflected in country risk estimates. Our assessment relies on publicly available data that is reliably measured for nearly all countries in the world, annually updated, and historically available going back many years. Because mass killing is rare, global data spanning decades are necessary to identify patterns. This means that some risk factors that might be useful predictors, but for which data meeting the above criteria are not available, are not included in the model (e.g., data on dangerous speech may be a useful predictor, but is not currently included due to a lack of data availability). Additionally, in situations where governments deliberately restrict access to international observers, such as in Burma’s Rakhine state or China’s Xinjiang region, existing data might not fully reflect conditions on the ground. In addition, updated data for 2019 were not available

on two risk factors that we have used to produce previous assessments: regime type and regime duration, both from the Center for Systemic Peace. We found that dropping these two variables did not affect the overall accuracy of the model by most measures, but it may account for shifts in specific countries’ risk-ranking.³

Highlights from the 2020–21 Statistical Risk Assessment

Our model generates a single risk estimate for each country, representing the estimated risk for a new state-led or non-state-led mass killing. Figure 2 displays the estimated risk in 2020 or 2021 for the 30 highest-ranked countries. For every country in the top 30, we recommend that policy makers consider whether they are devoting sufficient attention to addressing the risks of mass atrocities occurring within that country. Strategies and tools to address atrocity risks should, of course, be tailored to each country’s context.⁴

Further qualitative analysis is needed to understand the specific drivers of risk in a given situation, the mass atrocity scenarios that could be deemed plausible, and the resiliencies that could potentially be bolstered to help prevent future atrocities. This kind of deeper qualitative assessment is exemplified in Early Warning Project reports on [Côte d’Ivoire](#) (2019), [Mali](#) (2018), [Bangladesh](#) (2017), and [Zimbabwe](#) (2016). Concerned governments and international organizations should consider conducting their own assessments of countries at risk,⁵ which should suggest where adjusting plans,

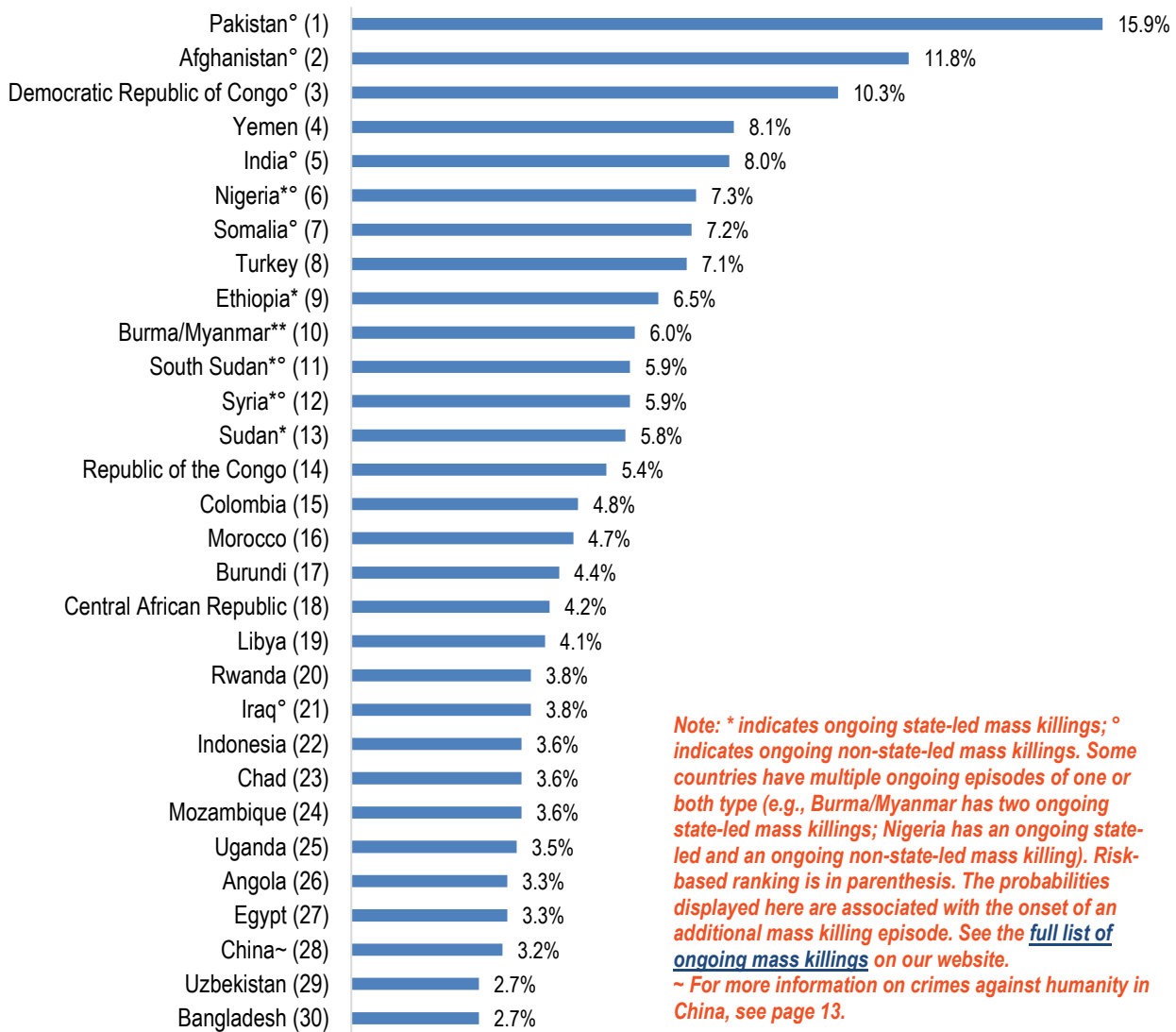
³ Simon-Skjodt Center staff can help users understand what accounts for shifts in specific countries that are not discussed in this report. Contact us at ewp@ushmm.org.

⁴ Resources on strategies and tools that might be useful in preventing mass atrocities include the following: Scott Straus, *Fundamentals of Genocide and Mass Atrocity Prevention* (Washington, DC: The United States Holocaust Memorial Museum, 2016), <https://www.ushmm.org/m/pdfs/Fundamentals-of-Genocide-and-Mass-Atrocity-Prevention.pdf>; USAID, *Field Guide: Helping Prevent Mass Atrocities* (Washington DC: USAID, 2015), <https://www.usaid.gov/sites/default/files/documents/1866/Field>

[%20Guide%20Mass%20Atrocities.pdf](#); and Bridget Conley-Zilkic, Saskia Brechenmacher, and Aditya Sarkar, *Assessing the Anti-Atrocity Toolbox* (Medford, MA: The World Peace Foundation, 2016), https://sites.tufts.edu/wpf/files/2017/05/Atrocity-Toolbox_February-2016.pdf.

⁵ For example, the US government has developed and implemented a framework for analysis of atrocity risk and implemented it in multiple countries, including Burundi. This framework was referenced in the September 2019 “Elie Wiesel

Figure 2: Top 30 countries by estimated risk of new mass killing, 2020–21



budgets, programs, and diplomatic strategies might help prevent mass killings in high-risk countries. Because these qualitative assessments are resource intensive, policy makers should prioritize that type of analysis on countries whose risk estimate is

relatively high according to this Statistical Risk Assessment, and where opportunities for prevention exist.

Genocide and Atrocities Prevention Report” (“Elie Wiesel Genocide and Atrocities Prevention Report,” The White House, September 12, 2019. <https://www.whitehouse.gov/wp-content/uploads/2019/09/ELIE-WIESEL-GENOCIDE-AND-ATROCITIES-PREVENTION-REPORT.pdf>). See: US Department of State and USAID, “Working Draft, Atrocity Assessment Framework: Supplemental Guidance on

State/USAID Conflict Assessment Framework,” <https://www.state.gov/documents/organization/241399.pdf>, and Sarah Sewall, “Making Progress: U.S. Prevention of Mass Atrocities,” April 24, 2015, <https://2009-2017.state.gov/j/remarks/241222.htm>.

Key Questions Users Should Ask

The results of this risk assessment should be a starting point for discussion and further analysis of opportunities for preventive action. For countries in each of the following categories, we recommend asking certain key questions to gain a fuller understanding of the risks, adequacy of policy response, and to identify additional useful lines of inquiry.

Highest-Risk and Consistently High-Risk

- Are the risks of large-scale, systematic attacks on civilian populations in the country receiving enough attention?
- What additional analysis would help shed light on the level and nature of atrocity risk in the country?
- What kinds of crises or events (e.g., coups, elections, leadership changes, protests, etc.) might spark large-scale violence by the government or non-state actors?

Increasing Risk

- What events or changes explain the big shifts in estimated risk?
- Have there been additional events or changes, not yet reflected in the data, which are likely to further shift the risk?
- Is the increase part of an ongoing trend?

Unexpected Results

- What accounts for the discrepancy between the statistical results and experts' expectations?
- What additional analysis would help shed light on the level and nature of atrocity risk in the country?

In the paragraphs below, we discuss each country's risk according to our statistical model, and note any instances of ongoing violent conflict, group-targeted human rights abuses, and significant events that pose risk for major political instability.⁶ These brief summaries include information that goes beyond the data in our statistical model, but they are not intended to provide a comprehensive analysis of factors contributing to atrocity risk. Rather, they are intended to serve as starting points for those who are interested in deeper qualitative analysis. For each country, we also identify the specific factors that account for the risk estimates from our model (see "Methods" below for more detail on the risk factors

in the model) and note whether the country is experiencing an ongoing mass killing.

Highest-risk countries

- **Pakistan (Rank: 1):** Pakistan has ranked among the ten highest-risk countries every year this assessment has been produced. Pakistan faces multiple security and human rights challenges, including violence by the Tehrik-e-Taliban Pakistan, other [ideologically-driven militant groups](#), and [separatist movements](#). President Imran Khan came to power in a contested election in 2018, and political tensions persist. The

⁶ Most mass killings occur in the context of ongoing armed conflict (Benjamin Valentino, Paul Huth, and Dylan Balch-Lindsay, "Draining the Sea": Mass Killing and Guerrilla Warfare. *International Organization* 58, no. 2 (2004): 375–407). Political instability and contestation of political power also increases risk for mass killing (Barbara Harff, "No Lessons Learned from the Holocaust? Assessing Risks of Genocide and

Political Mass Murder since 1955." *American Political Science Review* 97, no. 1 (2003): 57–73). Group-targeted human rights abuses can escalate to mass killing themselves, or contribute to intergroup grievances that may influence atrocity risk. They may indicate identified mass atrocity risk factors including transformative or exclusionary ideology and prior discrimination against a particular group (Straus, 2016).

Pakistan Tehreek-e-Insaf government has imprisoned political opposition on alleged [politically motivated charges](#) and backed controversial blasphemy laws, which are used to incite hatred, persecute individuals from minority religious groups, and allow for attacks on minority religious communities. An economic crisis associated with COVID-19 may contribute to the country’s political instability, as [mass protests and a unified opposition](#) seek to oust the current government. According to our model, the factors that explain Pakistan’s risk estimate include its large population, lack of freedom of movement for men, its high infant mortality rate, and its history of mass killing. According to our model, the factors that explain Pakistan’s risk estimate include its lack of freedom of movement for men, large population, high infant mortality rate, and its history of mass killing. The Early Warning Project considers there to be an ongoing mass killing perpetrated by the Taliban Movement of Pakistan and associated militias since 2001; this risk assessment relates to the possibility of a new and distinct non-state-led or state-led episode beginning, not to the ongoing episode continuing or increasing.

- **Afghanistan (Rank: 2):** Afghanistan has ranked among the three highest-risk countries in our last four assessments and has ranked in the ten highest-risk countries since 2015. The United Nations (UN) [reported](#) more than 3,400 civilian fatalities in Afghanistan in 2019, fewer than were recorded in 2018, but still the second [most fatal year](#) for civilians in Afghanistan since counting began in 2009. The reduction in civilian killings can largely be traced to a decrease in the self-proclaimed Islamic State activity (681 civilian killings in [2018](#) as

compared to 309 in [2019](#)). Some of these incidents may amount to crimes against humanity or war crimes. In February 2020, the US government and the Taliban signed a peace agreement which set a timeline for the withdrawal of American forces. The agreement did not include a ceasefire and

Figure 3

Highest-Risk Countries Not Currently Experiencing Mass Killing		
Country	Risk Estimate	Rank
Yemen*	8%	4
Turkey	7%	8
Rep. of Congo	5%	14
Colombia	5%	15
Morocco	5%	16
Burundi	4%	17
Cent. Af. Rep.	4%	18
Libya	4%	19
Rwanda	4%	20
Indonesia	4%	22

*Note that the majority of civilian killings in Yemen have been perpetrated by a Saudi-led coalition and thus do not qualify under our definition as it is a foreign-led campaign.

intra-Afghan negotiations between the state and the Taliban are ongoing. More than 1,200 civilians were [killed](#) from January to June of 2020. In addition to the various ongoing conflicts, the Afghan government has struggled to control the spread of COVID-19, which may have [weakened the state’s capacity](#) to combat violence as security forces struggled to control massive outbreaks amongst their ranks. According to our model, the factors that contribute most to Afghanistan’s risk estimate include its lack of freedom of movement for men,⁷ the

⁷ *Freedom of Movement*, disaggregated by sex, is a variable coded by the V-Dem dataset. Note that both *Freedom of Movement, Men*, and *Freedom of Movement, Women*, are included in our model, but that variation in Freedom of Movement, Women, was not usefully associated with the risk of onset of a mass killing. According to V-Dem, “This indicator

specifies the extent to which all men are able to move freely, in daytime and nighttime, in public thoroughfares, across regions within a country, and to establish permanent residency where they wish. Note that restrictions in movement might be imposed

presence of battle-related deaths (conflicts involving the Taliban, Islamic State, and the Government of Afghanistan), its history of mass killing, and high infant mortality rate. The Early Warning Project considers there to be an ongoing mass killing perpetrated by the Taliban, Haqqani network, and associated armed groups since 2001; this risk assessment relates to the possibility of a new and distinct non-state-led or state-led episode beginning, not to the ongoing episode continuing or increasing.

- **Democratic Republic of Congo (DRC) (Rank: 3):** The DRC has ranked among the ten highest-risk countries every year this assessment has been produced. Despite a mostly peaceful election and transfer of power in January 2019, violence persists, particularly in the DRC’s eastern provinces: [Ituri](#), [North Kivu](#), and [South Kivu](#). The UN [reports](#) that roughly 1,300 civilians were killed between October 2019 and May 2020 in a number of separate conflicts involving 130 [active armed groups](#) and government forces. Some of these incidents may amount to crimes against humanity or war crimes. Few have been held accountable for human rights violations and other crimes since the country’s wars began in 1999. According to our model, the factors that explain DRC’s risk estimate include its history of mass killing, lack of freedom of movement for men, large population, and high infant mortality rate. The Early Warning Project considers there to be an ongoing mass killing in the northeast perpetrated by various militias since 1998; this risk assessment relates to the possibility of a new and distinct non-state-led or state-led episode beginning, not to the ongoing episode continuing or increasing.

The remaining seven countries in the top ten are Yemen, India, Nigeria, Somalia, Turkey, Ethiopia, and Burma/Myanmar. Yemen, India, and Nigeria are discussed in different sections below. To learn more about the factors that contributed to the high-risk estimate of any of these countries, visit the country pages on [our website](#).

Consistently high-risk countries

In addition to Pakistan, Afghanistan, and the DRC, a few other countries have appeared near the top of our rankings for several years.

- **Yemen (Rank: 4):** Yemen has ranked sixth or higher since the 2017-18 risk assessment, with an average ranking of fourth for the last four years. Yemen’s civilian population has suffered tremendously since the country’s civil war escalated in March 2015. Fatality estimates vary; the UN [verified](#) 7,700 civilian deaths from March 2015 through March 2020, while the Armed Conflict Location Dataset records over [12,000 civilians killed](#) from late 2014 through March 2020. The UN has detailed the [indiscriminate use of aerial bombardment on civilian targets](#) (in 2020 Saudi-led coalition attacks reached their [highest levels](#) since 2018). The UN is currently warning about the resurgence in [famine risk](#) in 2021. Famine-related fatalities can count toward mass killing if they result from actions designed to compel or coerce civilian populations to change their behavior against their will, and if the perpetrators could have reasonably expected that these actions would result in widespread death among the affected populations: e.g., forced mass starvation, the intentional confiscation or destruction of healthcare supplies, forced relocation, and forced labor. According to our model, the factors that explain Yemen’s risk estimate include its lack of freedom of

by the state and/or by informal norms and practices. Such restrictions sometimes fall on rural residents, on specific social groups, or on dissidents.” (p. 233)

Burma and Syria: The difference between new onsets and continuing mass killing

Two countries that may be conspicuously absent from our highest-risk rankings are Burma/Myanmar and Syria. In Burma, the United States Holocaust Memorial Museum determined in 2018 that the Burmese military had committed genocide against the Rohingya population. The scale and intensity of the war crimes and crimes against humanity in Syria is well-known, with devastating effects on civilians.

Why are Syria and Burma/Myanmar not ranked #1 and #2 in our risk assessment?

The percentage risk and ranking for each country represents the probability that a *new onset of mass killing* begins in that country—that either a new perpetrator group emerges and kills more than 1,000 civilians of a specific group, or an existing perpetrator group begins targeting a new group of civilians—not that an existing mass killing continues. In the cases of Burma and Syria we already count two ongoing mass killings in each.

In Burma there is the genocide against the Rohingya that culminated in 2017, as well as a long-simmering conflict in the country's east in which the state has been perpetrating mass killing against other minority groups (i.e., the Karens, Shan, and Mon) since 1948. Note that we consider a mass killing to be “ongoing” until we see three consecutive years with fewer than 100 civilians killed as part of the campaign. Burma's risk and ranking (six percent risk and tenth rank) represents the likelihood that a new perpetrator group emerges or that the state begins a campaign of violence against a new target group in 2020 or 2021.

In Syria there is an ongoing, state-led mass killing against perceived political opposition since 2011, as well as a non-state-led mass killing perpetrated by the self-proclaimed Islamic State (IS) and its affiliates against perceived opposition since 2012. In the case of Syria, it is difficult to imagine the state or IS targeting a new group of civilians, as the current parameters of the target groups are so broad. That means that Syria's risk and ranking (5.9 percent risk and 12th rank) is the likelihood that a *new* perpetrator group emerges in 2020 or 2021.

movement for men, its geographic region⁸ (Middle East and North Africa), the presence of battle-related deaths⁹ (armed conflict between the Saudi-led coalition, Houthi rebels, and a multitude of other domestic and foreign armed actors), its high infant mortality rate, and its large population. It should be noted, as we

explained in a [November 2015 blog post](#), that our project's definition of *mass killing* excludes situations in which one country's armed forces attack civilians in another country's territory. Thus, killings perpetrated by foreign militaries (in this

⁸ Our model includes *geographic location* (region, as determined by the US Department of State) as a variable. Though geographic location is a contextual descriptor and does not directly influence risk—meaning, for example, that a country's location in the Middle East does not cause the country to experience a mass killing—it can, in some cases, be a useful predictor of a mass killing onset. Our model found that presence in the regions of South and Central Asia, the Middle East and North Africa, or Africa serves as a useful predictor of risk.

⁹ “Typically, battle-related deaths occur in what can be described as ‘normal’ warfare involving the armed forces of the warring parties. This includes traditional battlefield fighting,

guerrilla activities (e.g. hit-and-run attacks / ambushes) and all kinds of bombardments of military units, cities and villages, etc. The targets are usually the military itself and its installations, or state institutions and state representatives, but there is often substantial collateral damage in the form of civilians killed in crossfire, indiscriminate bombings etc. All deaths—military as well as civilian—included in such situations, are counted as battle-related deaths.” Department of Peace and Conflict Research, “UCDP Definitions,” Uppsala University, https://www.pcr.uu.se/research/ucdp/definitions/#tocjump_03643159720710165_5.

case, the [Saudi-led coalition](#)) are not reflected in this forecast.

- South Sudan (Rank: 11):** South Sudan has ranked 11th or higher since the 2017–18 risk assessment, with an average ranking of sixth for the last four years. In February 2020, South Sudan formed a unity government—an important milestone in fulfilling the Revitalized Agreement on the Resolution of the Conflict in South Sudan that was brokered in September 2018. However, critical components of the peace agreement, such as the reconstitution of the Transitional National Legislative Assembly and the realization of transitional justice, remain outstanding. Meanwhile, [government and opposition leaders](#) have stoked [ethnic-based communal violence](#), particularly in Western Bahr el Ghazal, Warrap, Lakes, Unity, and Jonglei states as well as in Central Equatoria, in clashes that have [killed hundreds](#) and [left tens of thousands displaced](#). The UN Commission for Human Rights in South Sudan has reported on alarming rates of sexual violence and recently concluded that [parties to the conflict have used starvation as a method of warfare](#). In September 2020 the UN Mission in South Sudan (UNMISS) [announced](#) it would withdraw peacekeepers and turn over control of Protection of Civilian sites (PoCs) to the South Sudanese government. This shift could increase risk for violence against those who have been displaced as they are encouraged to return home despite continuing high levels of violence. According to our model, the factors that explain South Sudan’s risk estimate include its lack of freedom of movement for men, its high infant mortality rate, and its history of mass killing. South Sudan is one of four countries the Early Warning Project considers to be experiencing both state-led and non-state-led mass killings. We consider there to be ongoing mass killing since 2013 perpetrated by the state against members of the Nuer ethnic group and by forces loyal to rebel leader Riek Machar against perceived

supporters of President Salva Kiir and members of the Dinka ethnic group. This risk assessment relates to the possibility of a new and distinct non-state-led or state-led episode beginning, not to the ongoing episodes continuing or increasing.

- Sudan (Rank: 13):** Sudan has ranked 13th or higher every year this assessment has been produced, with an average ranking of ninth for the last four years. Sudan has been in the midst of a delicate political transition since the [removal of President Omar al-Bashir](#) in April 2019. The civilian-military transitional government, formed in August 2019, is [facing economic collapse](#) and a population increasingly dissatisfied with the pace of promised reforms after the protest movement that brought down the previous government. Some analysts [warn](#) that the violence previously concentrated in Sudan’s peripheries (i.e., Darfur, South Kordofan, etc.) is now spreading to the core, with paramilitaries and other irregular forces playing central roles. Further, levels of violence against civilians have [increased](#) since the fall of Bashir. According to our model, the factors that explain Sudan’s risk estimate include its lack of freedom of movement for men, its large population, its history of mass killing, and the fact that there has been a coup attempt in the last five years. The Early Warning Project considers there to be an ongoing mass killing perpetrated by the state against civilians in Darfur since 2003; this risk assessment relates to the possibility of a new and distinct non-state-led or state-led episode beginning, not to the ongoing episode continuing or increasing.

Significant shifts in ranking

We highlight three countries that moved up in our rankings substantially between the 2019–2020 and 2020–21 assessments.

- Colombia (Rank: 15):** Columbia increased significantly in our risk assessment, jumping 50 spots from 65th in 2019–2020 to 15th in

2020–21. Before this shift, its highest ranking had been 59th in 2017–18. Four years after the historic peace deal ending five decades of war between the government and Revolutionary Armed Forces of Colombia (FARC), violence against civilians persists. In October 2020, the UN [raised concerns](#) about a “[surge](#)” in massacres, or killings of three or more people, verifying more than 40 massacres in 2020, up from 36 massacres in 2019, 29 in 2018 and 11 in 2017. The country is experiencing rising [violence](#) against human rights activists, other civilians, and amongst armed groups; as during the war, those most impacted by violence continue to be Indigenous, Afro-descendant, and campesino (peasant farmer) communities. According to our model, the factors that account for Colombia’s risk estimate include its lack of freedom of movement for men, large population, its history of mass killing, and the presence of battle-related deaths (armed conflict between the state and the FARC and National Liberation Army (ELN)).

- **Turkey (Rank: 8):** Last year, we highlighted Turkey as a shift moving *down* in the rankings from eighth (in the 2018–19 assessment) to 24th (in the 2019–2020 assessment). This year, however, the country moved back to its previous eighth spot, mainly due to a decrease in freedom of movement for men, according to V-Dem. Turkey is embroiled in both domestic and regional conflicts, including increasing fighting with Kurdistan Workers’ Party separatists domestically, and involvement in conflict in Syria and Azerbaijan. As IS’s power wanes in Syria, Turkey is reintegrating [thousands of returned foreign fighters](#), some of whom may pose a threat to domestic security. The Erdoğan government has [detained and convicted journalists](#), political opposition, activists, and [human rights defenders](#), especially those defending the rights of the Kurdish community. According to our model, the factors that account for Turkey’s risk estimate include

its lack of freedom of movement for men, large population, the fact that there has been a coup attempt in the last 5 years ([July 2016](#)), the presence of battle-related deaths (armed conflict in the Kurdistan region, also known as Turkey’s Eastern Anatolia and Southeastern Anatolia), and its history of mass killing.

- **Nigeria (Rank: 6):** Nigeria increased in our rankings, from 17th in 2019–2020 to 6th in 2020–21, its first appearance in the top ten since 2016. Nigeria faces multiple security challenges, most notably ongoing violence related to Boko Haram in the north and increasing intercommunal violence in the North-Central Zone, as well as long-running conflicts and separatist movements in the Niger Delta and South-East Zone. Though total fatalities in the North-Central Zone have exceeded 1,000 in 12 months, we do not consider the violence to meet our criteria for a mass killing. Violence is being perpetrated by many groups with a variety of motivations (e.g., land disputes, banditry, ethnic grievances, etc.) and though some may share an ethnicity and many of these groups target civilians, we do not see sufficient evidence that they are working in coordination as part of a campaign against a particular group of civilians. According to our model, the factors that account for Nigeria’s risk estimate include its large population, its high infant mortality rate, the presence of battle-related deaths (armed conflict between Boko Haram and the state in the North), its history of mass killing, and its degree of ethnic fractionalization. The Early Warning Project considers there to be two ongoing mass killings in Nigeria: one perpetrated by the state against suspected supporters of Boko Haram beginning in 2009, and one perpetrated by Boko Haram against suspected supporters of the state beginning in 2010. This risk assessment relates to the possibility of a new and distinct non-state-led or state-led episode beginning, not to the ongoing episodes continuing or increasing.

Unexpected results

One way global statistical risk assessments are helpful is in identifying countries whose relatively high (or low) risk estimates may surprise regional experts. In cases where our statistical results differ substantially from expectations, we recommend conducting deeper analysis and revisiting assumptions. The purpose of this analysis is not to pit qualitative analysts and statistical models against one another but rather to deepen our understanding of risk in the country in question.¹⁰ We highlight three countries that, in our informal judgment, fall into this category.

- India (Rank: 5):** India has ranked in the top 15 highest-risk countries for the last four years. Given its history of democracy and major political role on the international stage, many people do not expect to find India among countries at greatest risk of mass killing, or to learn that India is already experiencing an [ongoing non-state-led mass killing](#). Developments that may be relevant to its risk in 2020–21 include the [revocation](#) of special status for the disputed Muslim-majority territory of Jammu and Kashmir and accompanying heavy-handed counterinsurgency tactics, which included violence against civilians, as well as the proliferation of [dangerous speech](#) and [rhetoric](#) linked to [nationalist](#) and exclusionary ideologies on social media. The government has [advanced](#) Hindutva (Hindu nationalist) ideology through policies often intentionally targeting Muslims and other minorities. These policies include widespread voter suppression measures against Muslims and Dalits and the expulsion and detention of Muslim Indians, which the government calls “illegal infiltrators.” The UN [described](#) the Citizenship Amendment Act of 2019, which [excludes Muslims](#) from a list of protected religious minorities and hinders their path to

citizenship, as “fundamentally discriminatory in nature,” and protests in response to its passing were met with arrests of journalists and activists. According to our model, the factors that account for India’s risk estimate include its large population, the presence of battle-related deaths (armed conflicts involving Naxalite-Maoists and Kashmir insurgents and Indian state security forces), its history of mass killing, and its geographic region (South and Central Asia). The Early Warning Project considers there to be an ongoing mass killing perpetrated by Naxalite-Maoists against civilians since 2004; this risk assessment relates to the possibility of a new and distinct non-state-led or state-led episode beginning, not to the ongoing episode continuing or increasing.

- China (Rank: 28):** China has ranked 28th or 30th for the last four years, barely making the top-30 “high-risk” category. This ranking may be unexpectedly low to many observers based on the [apparent crimes against humanity](#)—notably imprisonment, persecution, and enforced sterilization—being perpetrated by the state against Uyghur and other Turkic Muslim populations since 2016. In the Xinjiang Uyghur Autonomous Region, the Chinese government is using sophisticated social and technological surveillance systems to control everyday aspects of Uyghur life, crack down on expressions of identity, and detain millions (approximately one million people are currently detained, and approximately three million have been detained since 2016). The state’s repressive campaign is multifaceted and systematic, but to date has not included widespread killing. According to our model, the factors that are associated with higher risk in China’s estimated risk include its large population, its lack of freedom of movement for men, and its history of mass killing. Conversely, China’s

¹⁰ See: Jack A. Goldstone, “Using Quantitative and Qualitative Models to Forecast Instability,” The United States Institute of Peace, October 1, 2008,

<https://www.usip.org/publications/2008/03/using-quantitative-and-qualitative-models-forecast-instability>.

New Tool for Assessing Counterfactuals: the Examples of Mali and Venezuela

The data used to produce this assessment is from 2019 (published by most sources in early- to mid-2020). This means that changes due to the COVID-19 global pandemic and various other economic and social crises that occurred in 2020 are not captured in this risk assessment.* To enable users to explore how such changes might affect a country's risk estimate and ranking, we are releasing a [new interactive data tool](#), which allows users to:

- (1) Pose hypotheticals and assess counterfactuals (e.g., if a war were to break out in a country—captured by the “battle deaths” variable—how would that impact the risk-ranking?)
- (2) Manually update country risk based on known changes (e.g., knowing that COVID-19 regulations have already resulted in significant changes in a country's freedom of domestic movement, users can see how a change in that variable impacts the risk-ranking)
- (3) Adjust risk factor values where users disagree with data source's coding judgments

For example, in 2020–21, Mali ranks 38th, with a 2.3 percent estimated risk. This assessment is based on 2019 data. However, someone following events in Mali may suspect that events over the course of 2020 may have an impact on that risk, specifically the coup d'état that occurred on August 18. Soldiers from the Malian military detained several government officials including President Ibrahim Boubacar Keïta, who resigned and dissolved the government later that night. Using the tool to change “any coup attempts in the last 5 years” from “no” to “yes”, we see that Mali's updated risk assessment is 3%.

Another example is Venezuela. On the risk factor “freedom from political killings,” the Varieties of Democracy dataset codes Venezuela as, “Weakly respected by public authorities. Political killings are practiced frequently and top leaders of government are not actively working to prevent them.” The next interval in their coding scheme is “Not respected by public authorities. Political killings are practiced systematically and they are typically incited and approved by top leaders of government.”

Some analysts may argue that Venezuela merits the latter coding – that in 2019 political killings were practiced systematically and approved by top leaders of the government. Changing this variable in the interactive tool** shifts Venezuela's estimated risk from 3% to 5%, moving its ranking from 88th to 19th.

*For more on the relationship between COVID-19 and atrocity prevention, see Lawrence Woocher, “Assessing COVID-19's effects on mass atrocities and atrocity prevention,” Simon-Skjoldt Center for the Prevention of Genocide, June 4, 2020. Available at: <https://www.usmmm.org/genocide-prevention/blog/assessing-covid-19s-effects-on-mass-atrocities-and-atrocity-prevention>; “COVID-19 and Atrocity Prevention in Cameroon and South Sudan,” Simon-Skjoldt Center for the Prevention of Genocide, October 8, 2020. Available at: <https://www.usmmm.org/genocide-prevention/blog/covid-19-and-atrocity-prevention-in-cameroon-and-south-sudan>; Alex Vandermaas-Peeler, “COVID-19 and the Dynamics of Mass Atrocities,” Simon-Skjoldt Center for the Prevention of Genocide, October 21, 2020. Available at: <https://www.usmmm.org/genocide-prevention/blog/covid-19-and-the-dynamics-of-mass-atrocities>.

**In our model for some variables we collapse V-Dem's five-interval coding scheme into two – either political killings are practiced systematically and approved by top leaders of the government, or they are coded as “not occurring.” For more information, see our [Data Dictionary](#).

lower than average infant mortality rate is associated with lower risk.

- **Cameroon (Rank: 35):** Despite the ongoing Anglophone crisis and Boko Haram conflict, both of which have included civilian

targeting, Cameroon moved down in its risk-ranking, from ninth in 2019–2020 to 35th in 2020–21. This shift can be largely attributed to an improvement in freedom of movement

for men, according to V-Dem.¹¹ In the country's Northwest and Southwest regions, several Anglophone separatist groups are attempting to break away and form their own country called Ambazonia in response to the Francophone government's [marginalization](#) of the English-speaking minority; the government has [launched a crackdown](#) in response. In violation of their duty to protect civilians, Cameroonian security forces are waging a targeted campaign against civilians they perceive to support separatists. Security forces have been [accused of](#) arbitrarily arresting, detaining, and torturing civilians; firing indiscriminately into crowds; forcibly entering homes and killing inhabitants; and rounding up and shooting villagers. Meanwhile, armed separatists have been accused of [attacking and killing](#) civilians they perceive to be associated with or sympathetic to the government. Since 2017, the crisis has resulted in 3,000 Cameroonians killed, close to 1,000 of whom have been civilians, and approximately 760,000 people forced from their homes. The Simon-Skjoldt Center issued a [policy brief](#) in June 2020 that stressed the risk of further atrocities. In the Far North, the Boko Haram insurgency has been responsible for [attacks on civilians](#) since 2013, and in response state security forces have carried out a response that disproportionately targets civilians, [characterized by](#) human rights violations and violations of international law. In total, [thousands](#) of people have been killed and more than [322,000](#) displaced since the conflict began in 2013. According to our model, the factors that account for Cameroon's estimated risk include its high infant mortality rate, the presence of battle-related deaths (conflicts between the state and Ambazonia insurgents and with Boko

Haram), its degree of ethnic fractionalization, its large population, and its geographic region (Sub-Saharan Africa). We do not currently consider there to be ongoing mass killing in Cameroon but are closely monitoring the situation.

Methods

To produce this assessment, we employ data and statistical methods designed to maximize the accuracy and practical utility of the results. Our model assesses the risk for onset of both state-led and non-state-led mass killings over a two-year period.

Data

The data that inform our model come from a variety of sources. On the basis of prior empirical work and theory, we selected more than 30 variables, or risk factors, as input for our statistical model (see the discussion of our modeling approach, below). All data used in our model are publicly available, regularly updated, and available without excessive delay. They also have, in our estimation, minimal risk of being retrospectively coded in ways that could depend on observed mass killings or their absence, cover all or almost all countries in the world, and go back at least to 1980 (but ideally to 1945). We include variables reflecting countries' basic characteristics (e.g., geographic region, population); socioeconomic measures (e.g., changes in gross domestic product per capita); measures of governance (e.g., restrictions on political candidates and parties); levels of human rights (e.g., freedom of movement); and records of violent conflict (e.g., battle-related deaths, ongoing mass killings). Alongside the model, we publish a data dictionary¹² and make the model and all data available on our

¹¹ Though V-Dem does not provide explanations for its coding, we believe this shift reflects the lack of curfews imposed in 2019 in comparison to 2018.

¹² "Data Dictionary," Early Warning Project, https://earlywarningproject.ushmm.org/pdf/EWP_Data_Dictionary_10.9.18.pdf.

GitHub repository.¹³ The only dataset the Early Warning Project maintains is that of ongoing mass killing.¹⁴

In 2020, the Center for Systemic Peace stopped producing its annual Polity dataset, which included measures of regime type and duration, formerly used by our model. The 2020-21 assessment does not include measures of these risk factors.

Modeling approach

Our modeling approach is described in detail on [our website](#). We use a logistic regression model with “elastic-net” regularization. In summary, based on a set of about 30 variables and data on mass killing going back to 1945, the algorithm identifies predictive relationships in the data, resulting in an estimated model. We then apply this model to recent data (from 2019 for the 2020–21 assessment) to generate forecasts. While the exact number of countries varies by year, the project includes all internationally recognized countries with populations of more than 500,000. The model automatically selects variables that are useful predictors; see our [methodology page](#) for a list of variables selected by the model. We emphasize that these risk factors should not be interpreted as causes or “drivers” of risk but simply as correlates of risk that have proven useful in forecasting.

Accuracy

We assessed the accuracy of this model in ways that mimicked how we use its results: We built our model on data from a period of years and then tested its accuracy on data for later years (i.e., we conducted out-of-sample testing). Our results indicate that about two out of every three countries that later experienced a new onset of mass killing ranked among the top-30 countries in a given year. See the [accuracy page](#) on our website for more details. We are preparing a technical paper in which we assess our model and others according to multiple performance measures.

¹³ Early Warning Project Github, <https://github.com/earlywarningproject>.

Conclusion

Early warning is a crucial element of effective atrocity prevention. The purpose of our statistical risk assessment is to provide one practical tool to the public for assessing risk in countries worldwide. This tool should enable policy makers, civil society, and other analysts to focus attention and resources on countries at highest risk, especially those not currently receiving sufficient attention.

This quantitative assessment is designed to serve as a starting point for additional analysis. States and international organizations have developed and implemented tools for qualitative atrocity risk assessments—we see the application of such tools as a complementary next step after our statistical analysis. These in-depth assessments should in turn spur necessary adjustments in strategic plans, budgets, programs, and diplomatic strategies toward high-risk countries. By combining these approaches—global risk assessment, in-depth country analysis, and preventive policy planning—we have the best chance of preventing future mass atrocities.

¹⁴ “Ongoing Mass Killing,” Early Warning Project, <https://earlywarningproject.usmmm.org/ongoing-mass-killing>.

The Simon-Skjodt Center for the Prevention of Genocide of the United States Holocaust Memorial Museum works to prevent genocide and related crimes against humanity. The Simon-Skjodt Center is dedicated to stimulating timely global action to prevent genocide and to catalyze an international response when it occurs. Our goal is to make the prevention of genocide a core foreign policy priority for leaders around the world through a multipronged program of research, education, and public outreach. We work to equip decision makers, starting with officials in the United States but also extending to other governments, with the knowledge, tools, and institutional support required to prevent—or, if necessary, halt—genocide and related crimes against humanity.

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