

“INFORMATION DISORDER” CAMPAIGNS IN NATURAL HAZARDS AND EXTREME EVENTS – A FORM OF FOREIGN INFLUENCE AND A HYBRID THREAT?

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Abstract

The objective is to prove that the nexus of "information disorder" campaigns, through rumours, conspiracy theories, and natural hazards/extreme events, may allow powerful and frequent foreign influence campaigns against communities in their most vulnerable situation. It can be a form of hybrid threat. In other words, this paper aims to understand how social media platforms can be weaponised through "information disorder" campaigns, particularly during extreme events. It was considered two examples where information disorder had a solid social and political impact, with security consequences – during natural hazards and extreme public health events. "Information disorder" campaigns, during extreme events and disasters, through social media platforms can immediately impact political, geopolitical and security dynamics. It is information whose veracity is indisputable but leads to distorted conclusions and can subvert the current political environment. Information is multiplied at high speed and low cost, allowing the dissemination of false information to cement political and social division and influence different decision-making procedures. This type of operation could be more than a question of strategic communication. It is a threat to democracies that may place communication at the heart of a geopolitical and security strategy. The nexus, "information disorder," campaigns for natural hazards and extreme events favour influence campaigns against communities in their most vulnerable situation.

Keywords

Information disorder campaigns, rumours, online social media platforms, natural hazards, extreme events, disaster communications, hybrid threats, wildfires, COVID-19.



Resumo

O objetivo é demonstrar que a relação entre campanhas de "desordem de informação" – através de rumores e teorias da conspiração – e eventos extremos pode permitir intervenção nociva estrangeira, através de operações de influência, contra comunidades na sua situação mais vulnerável. Portanto, esta relação pode permitir formas de ameaças híbridas. Por outras palavras, neste artigo pretende-se analisar a forma como as plataformas de redes sociais podem ser transformadas em armas através de campanhas de "desordem de informação", particularmente durante eventos extremos. Para tal, foram considerados dois exemplos de eventos extremos em que este tipo de campanha teve um impacto social e político sólido, com consequências securitárias e geopolítica – durante desastres naturais e durante uma pandemia. As campanhas de "desordem de informação", através das plataformas de redes sociais, podem ter impacto imediato nas dinâmicas políticas, geopolíticas e de segurança. São informações cuja veracidade se torna indiscutível, mas que levam a conclusões distorcidas e podem subverter o ambiente político vigente. A informação é multiplicada a alta velocidade e baixo custo, permitindo a disseminação de informações falsas para cimentar a divisão política e social e influenciar diferentes procedimentos de tomada de decisão. Este tipo de operação é mais do que uma questão de comunicação estratégica. É uma ameaça às democracias que pode colocar a comunicação no centro de uma estratégia geopolítica e de segurança. A relação entre campanhas de "desordem de informação" e eventos extremos favorecem ações de influência contra comunidades na sua situação mais vulnerável.

Palavras-chave

Campanhas de desordem de informação, rumores, plataformas de redes sociais online, desastres naturais, eventos extremos, comunicação de risco natural, ameaças híbridas, incêndios florestais, COVID-19.

How to cite this article

Duarte, Filipe Pathé (2024). "Information Disorder" Campaigns in Natural Hazards and Extreme Events – A Form of Foreign Influence and A Hybrid Threat?. *Janus.net, e-journal of international relations*. VOL 15, Nº.1, May-October, pp. 322-334. DOI <https://doi.org/10.26619/1647-7251.15.1.18>

Article received on March 30, 2024, and accepted for publication on April 13, 2024.





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1. Introduction

Hybrid threats result from a strategy based on a broad and multidimensional combination of conventional and unconventional methods, with open and covert actions implemented by military, paramilitary, or civilian actors. The main objective of a hybrid threat is to create political and social destabilisation, reflecting this impact on governments and opponent institutions by creating chaos and a power vacuum (Duarte, 2020, 2023; Giannopoulos *et al.*, 2020; Treverton *et al.*, 2018).

Both State and non-state actors use hybrid threats to pursue their political and military aims, which can be kinetic or non-kinetic. Kinetic actions are those which, because of military or non-military action, have a direct physical impact, with possible use of lethal force. Nevertheless, these do not necessarily represent an act of war. Non-kinetic actions are broader than kinetic. These have to do with perception and conditioning. Non-kinetic actions determine how and where the enemy does direct kinetic action, potentially preventing him from pursuing or, in another case, forcing him to direct it against himself (Duarte, 2020).

These actions are not mutually exclusive and sometimes overlap.

In the full range of activities that pose a hybrid threat, the consequences of "information disorder" campaigns (or influence operations) through social media platforms (a non-kinetic form of hybrid threat) in natural hazards and extreme events will be considered. This realm is about narrative-driven activities that, through words, images, and coordinated actions, aim to change the perception and behaviour of the target audience during a disaster and emergency crisis, but with the specific objective of changing social and political dynamics (Giles *et al.*, 2019; Mazzuchi, 2022; Nissen, 2012, 2015; Singer & Brooking, 2018; Patrikarakos, 2017; Svetoka, 2016).

Following the common taxonomy is the field of mal-information, disinformation, and misinformation (Wardle & Derakhshan, 2017; UNDP, 2022). Disinformation is false information deliberately created to harm a person, social group, organisation, or country. It is information that passes out of context, which can be manipulated and whose content



is manufactured. It may have a propagandistic purpose. Misinformation or rumour is false information that is not created with the intent to cause harm. It is false information, however, without the intention of inflicting any harm. Mal-information is incorrect information that is factually based and used to inflict harm on a person, organisation, or country. It is information based on facts but manipulated with the concrete aim of causing harm. It is the field of hate speech, harassment and incitement to violence.

"Information disorder" campaigns are difficult to identify. Therefore, information is scarce, which has complicated the research, leading to assume, in many cases, speculation about perpetrators and intentions. Although it neither points out vulnerabilities nor makes procedural recommendations or considerations, it is fundamental in identifying the peculiarity of "information disorder" campaigns, based on rumours and conspiracy theories, during disasters and emergency crises in democratic states.

So far, "information disorder" campaigns related to emergency crises and natural disasters have generally been more grassroots than those from foreign influence and state actors (Johansmeyer, 2023 February 20). However, influence operations coordinated by States have already been deployed during periods of vulnerability, mainly in the periods preceding and following elections or during civil unrest (Bradshaw *et al.*, 2022; Faleg & Kovalčíková, 2022; Siegle, 2021, 2022). It must be noted nonetheless that such operations have not yet been identified during disasters. "Information disorder" campaigns related to emergency crises offer conditions for influencing operations against communities when they are most vulnerable. Until now, it has not been a significant problem.

Nevertheless, the increasing possibility of major natural disasters due to climate change (Huppert & Sparks, 2006; IPCC, 2022; Rädler, 2021) may offer more opportunities for State actors to weaponise social media platforms as a form of hybrid threat, particularly when communities are weakened or the State tends to fail or be weak.

This paper has two parts: a conceptual analysis of "information disorder" campaigns as a form of hybrid threat and, based on the typology previously presented, an analysis of two examples where there were "information disorder" campaigns based on rumours and conspiracy theories – the first is on natural hazards (wildfires in Australia and the United States), the second on extreme events (public health, COVID-19). The first part relied on source analysis as the result of a desk review methodology supported by monographs, declassified official documents and reports. The second part is also the result of source analysis but is more extensive. In addition to the desk review methodology, the study included semi-structured interviews with stakeholders from security services in Brazil who asked not to be quoted. Media content analysis was also carried out – for trends and fact-checking.

2. "Information Disorder" Campaigns – A Weaponization of Social Media Platforms

"Information disorder" campaigns, or influence operations, are among the most effective formulas for hybrid threats. They take advantage of the mass structure and exploit the



individual's feelings of self-assertion – two actions taken simultaneously for manipulation (Ellul, 1990). It is not new. However, today, this kind of action is facilitated by mass access to the internet and the proliferation of media, which has become the most effective way to convey ideologies, spread ideas, and information disorder – in continuous action, without fail or interruption. It depends more on the channel that spreads the information than on the nature of the information itself. These are narrative-oriented activities through words, images, and synchronised actions. They target different audiences.

The information is received and transmitted to analyse the social and political environment and manipulate the perception of reality through propaganda, fake news, strategic leaks, and State or parastatal news media (Duarte, 2020; Giannopoulos *et al.*, 2020; Treverton *et al.*, 2018; Wigell, 2020). However, information multiplies quickly and cheaply through social media platforms. The main goal is perception to create divisiveness and influence different decision-making procedures, with the concrete objective of changing social and political dynamics. For that, the concept of "truth" in the political facts must be distorted (Kavanagh & Rich, 2018). Thus, for the perpetrators of this type of action, it is crucial to flood internet news sites and social media platforms with fake news and alternative narratives of news events to muddy the ability of populations to separate fact from fiction, undermine dominant media sources and instill doubt in hitherto trusted sources of information (D'Ancona, 2017; Kavanagh & Rich, 2018).

Depending on the context and targets, the consequences of these "information disorder" campaigns, which spread through social media platforms, could assume several forms. It could be fostering radicalisation and recruitment for violent extremist groups. The intensification of hate speech in fragile contexts polarises a specific social and political community (Nemr & Gangware, 2019; Perez-Escobar & Noguera-Vivo, 2022). Disinformation/mal-information campaigns can erode social/political cohesion and delegitimise adversaries in a conflict (Byman *et al.*, 2023; OHCHR, 2022; Fitzpatrick *et al.*, 2022). The manipulation of political discourse within a State may subvert a democratic process (Colomina *et al.*, 2021).

During natural hazards and extreme events, social media users become "citizen reporters" as the first responders to a situation and, in this way, contribute to the dissemination of information (Abdullah *et al.*, 2015; Muhammed & Mathew, 2022). Easy access allows them to contribute to greater public awareness of a crisis within and beyond their online networks. Furthermore, when posting to social media accounts, individuals can use a hashtag to broaden access to other users outside their network.

The spread of inciteful and/or false narratives and the systematic dissemination through social media platforms can disrupt, corrupt, or usurp the decision-making process. False information, information overload or information scarcity in social media platforms are the main concerns that interrupt the communication between the affected community and the rescue team (Muhammed & Mathew, 2022). While social media platforms can help coordinate disaster relief efforts, information credibility can be a leading issue amongst individuals using social media during an emergency crisis.



Thus, emergency or disaster events could be an ideal context for deliberately misusing social media. The platforms can be transformed into a weapon by disseminating mal-information and/or disinformation to sow social disruption and mistrust in the authorities.

3. "Information Disorder" Campaigns During Natural Hazards or Extreme Events

During a natural hazard or an extreme event, individuals on social media platforms can be the first respondents to a situation (Abdullah *et al.*, 2015). This way, deliberately or not, besides being the frontline and help the authorities (Gonçalves & Oliveira, 2022), they also may contribute to "information disorder". A dread rumour can be more trustworthy and more likely to go viral, possibly directly impacting a community (Mukherjee, 2017 July 14; Muhammed & Mathew, 2022). Rumours are unverified stories or "propositions for belief" spread through informal channels, often during crises and stressful events (Spiro & Starbird, 2023). According to the disaster management cycle, several stages can vary between organisations and governments. However, the principles remain the same (Sawalha, 2020). Initially, the cycle includes resilience, risk reduction, and mitigation. Then, there is the disaster preparedness. The third phase is disaster response, followed by disaster recovery. The possibility of an "information disorder" campaign in any part of the cycle will cause harmful effects, such as in the disaster response and recovery stages (UNDDR, 2016). An "information disorder" campaign through social media platforms is an easily accessible tool for almost all actors. It is a dynamic, user-oriented, and ever-changing environment.

The effect tends to be inversely proportional to the investment. Furthermore, it is difficult to identify the source of information, verify its authenticity, and separate facts from fiction. Alternatively, it is also possible to expand the message's visibility. In that case, the content can be spread and generated automatically through "spamming" (such as Twitter bombs) or fake identities (with trolls' sock puppets and bots).

It is also possible to saturate cyberspace with information through social media posts and op-eds coordinated by activists, opinion leaders, avatars, or regular people trying to shape disaster governance.

Suppose someone wants to attack or distract the opponent. In that case, there is the dissemination of disinformation and mal-information, attacks on specific targets (blocking or denigrating the opponent's content), social engineering actions, or deception, creating "noise" or "fog" around a controversial topic, such as fake news. In many cases, fake news or news with fabricated content was spread in communications during the post-disaster phase. (Bak-Coleman *et al.*, 2022; Spiro & Starbird, 2023; Svetoka, 2016; Zade *et al.*, 2023; Zhou *et al.*, 2023)

For instance, after the Boston Marathon, a false rumour on Twitter circulated that a young girl killed was in remembrance of the Sandy Hook victims. Despite this information being unfounded, this tweet received 33,000 retweets: "RIP to the 8-year-old girl who died in Boston's explosions while running for the Sandy Hook kids. #prayforboston". Corrective tweets were minimal compared to the volume of tweets that spread incorrect information. Of the 8 million tweets sent in the days following the Boston bombing, just 20% were



accurate pieces of factual information (Schultz, 2013, October 24); unquestionably, "information disorder" contributed to the public hysteria of both disaster events (Starbird *et al.*, 2014).

During the Ebola outbreak in Africa, there was widespread dissemination of a rumour, mainly through the application WhatsApp, that the virus was engineered (Martin, 2019). A rumour claimed that Ebola patients had risen from the dead, and treatment centres were deemed death houses (Martin, 2019 June 15; Spinney, 2020). False information circulated online about alternative remedies, such as consuming Ewedu plants or drinking large amounts of salt water (Oyeyemi *et al.*, 2014). Alternatively, during the 2018 floods in the South Indian State of Kerala, a fake video on Mullaperiyar Dam leakage created unnecessary panic, negatively impacting the rescue operations (Muhammed & Mathew, 2022). With minor exceptions, most fake news is propagated through social media and social network platforms like Twitter, WhatsApp and Facebook (Varghese & Yadukrishnan, 2019).

The plot can thicken if one considers the use of "deep fakes" on social media platforms. "Deep fakes" are digital simulations of images and sounds produced through deep learning within the scope of artificial intelligence. An increased power characterises this technological device for simulation and realistic effects. Therefore, it is used with malicious intentions in common cyber-criminality and political and military disinformation/mal-information campaigns. The fact that there is an increasing set of reports and news that stress the threat of this kind of technological device leads this reflection to evaluate its impact. It is interesting to understand this impact in the political/military and disinformation scope, knowing that there are more substantial malicious effects at the cyber-crime level, with successful cases of CEO fraud, for instance. (Byman *et al.*, 2023; Giles *et al.*, 2019; Mazzucchi, 2022). So far, no evidence exists of "deep fakes" during natural hazards or extreme events.

4. Examples of Extreme Events and Disasters

a) Social Media Platforms and "Information Disorder" Campaigns in Natural Hazards

A recent study on counteracting wildfire misinformation examined how "information disorder", spread by social media or news media, confuses people about the causes, contexts, and impacts of wildfires and substantially hinders society's ability to adapt to proactively and plan for inevitable future fires (Jones *et al.*, 2022). At the same time, social media can also be employed to diminish its influence. It can help avoid overstating or oversimplifying complicated wildfire issues to garner attention in a competitive media ecosystem (West and Bergstrom 2021, *in* Jones *et al.* 2022.)

In 2019 and 2020, massive wildfires sowed panic in Australia. Different sources present different estimates. However, according to the environmental organisation World Wide Fund for Nature (2020), the flames, which were particularly severe between December 2019 and January 2020, consumed up to 19 million hectares, destroyed more than 3000 homes and killed or caused the displacement of around three billion animals.



Climate change deniers blamed Australia's wildfires on arson (Chow *et al.* 2020, January 09). Disinformation has spread across social media platforms. Two pieces of "information disorder" stand out from the rest: that an "arson emergency", rather than climate change, was behind the wildfires and that environmentalists and eco-terrorists were preventing firefighters from reducing fuel loads in the Australian bush (Knaus, 2020, January 11).

Much of the "information disorder" on Twitter centred around the #arsonemergency hashtag. Nevertheless, many suspicious accounts were posted on the #australiafire and #bushfireaustralia hashtag. A study found that bot and troll accounts were involved in an "information disorder" campaign exaggerating the role of arson in Australia's wildfires (Keller *et al.*, 2020). The accounts carried out activity similar to past "information disorder" campaigns, such as the coordinated behaviour of Russian trolls during the 2016 US presidential election (Chappel, 2020, January 10; Daume *et al.*, 2023).

There was an explicit politicisation of climate change, and social media platforms have provided fertile ground for "information disorder" campaigns. Populist conservatives, far-right and conspiracy figures all pushed the exaggerated arson claims to millions of followers on Twitter, Facebook, and Instagram (Badham, 2020 January 08; Weber *et al.*, 2022). However, claims about arson are not the only falsehoods being spread on social media. Other false claims include that the government created the bushfire crisis to clear land for high-speed rail. Another claim was that the Islamic State was responsible for the wildfires (Smyth, 2020, January 5).

In 2020, the United States also experienced a severe wildfire season. Millions of acres burned in California, Oregon, and other parts of the Western United States, devastating towns, destroying lives, and covering communities in thick smoke. Scientists said these wildfires were the worst in 18 years and linked their increasing prevalence and intensity to climate change (BBC, 2020, September 18). At the same time, related to the crisis, a viral wave of misinformation and disinformation spread across social media platforms.

In Oregon, a rumour spread that radical activists lighted the wildfires and that it was a politically motivated arson. Various posts have for days strongly suggested and claimed outright that members of far-left Antifa or the far-right movement Proud Boys are deliberately setting the fires (Jankonwicz, 2020 September 11). Rumours, especially about Antifa, have spread wildly on Facebook and Twitter. Although there have been arrests for alleged arson amid the fires, authorities have vehemently denied political motivations. These rumours also formed a nexus between local communities, sometimes violent protest groups, and even elected officials in rural areas. It complicated the emergency response by motivating armed patrols in towns gripped by rumours of Antifa arson attacks and inspiring vigilante acts.

b) Social Media Platforms and "Information Disorder" Campaigns in Public Health Extreme Events

COVID-19 created the perfect condition for "information disorder" campaigns, primarily because of the mixture of misinformation, disinformation and mal-information spread on social media platforms. As little information came out of the Chinese government in the



first days of the spread of the virus, the scenario of disinformation and mal-information preceded misinformation (Ahmad *et al.*, 2022; Azzim *et al.*, 2020; European Commission, 2022).

As the epidemic turned into a pandemic, the amount of fear it generated because of the scarcity of information and mixtures of misinformation, mal-information, and disinformation, along with a combination of facts, kept flowing, leading to an infodemic. During the 2020 Munich security conference, the Director-General of the World Health Organization, Tedros Adhanom Ghebreyesus, said, "We are not just fighting an epidemic; we are fighting an infodemic, fake news spreads faster and more easily than this virus, and is just as dangerous" (World Health Organization, 2020), referring to the faster spread of COVID-19 "information disorder" through social media platforms. In fact, in the first quarter of 2020, more than 6000 people were hospitalised, and at least 800 people may have died due to COVID-19-related disinformation (Coleman, 2020 August 12; Islam *et al.*, 2020). As COVID-19 vaccination began, many popular myths and conspiracy theories arose. They were easily spread, and, in some cases, it led to arsons, assaults and conspiracies, or racial tensions and violent attacks (Spring, 2020, May 27). One such rumour purported, for instance, that Bill Gates wanted to use vaccines to embed microchips in people to track them, and this created vaccine hesitancy among the citizens; another that the origin of the virus from failed biological experiments, that the virus is a result of genetic modification; that the virus could be cured by ingesting fish-tank cleaning products containing chloroquine; also that self-medication of hydroxychloroquine, a medicine used to treat malaria, could prevent the virus; or homoeopathy medicine and ingestion of bovine excreta could protect from the virus (Azzim *et al.*, 2020; Islam *et al.*, 2020; Spring, 2020 May 27). The reference to the trade war between the US and China (Kurlantzick, 2020), the shifting of responsibility towards a particular religion and sending corona-affected terrorists to neighbouring countries were also examples of rumour and conspiracy theories spread (UNCRI, 2020) that could have the objective to delegitimise governments' efforts to face pandemics.

According to a report from the European Union Parliament (Jacob *et al.*, 2023), Russia and China were the two central foreign countries at the frontline of COVID-19 "information disorder" campaigns. During the pandemic, the European Commission and the European External Actions Service monitored false or misleading narratives and operations by foreign actors using the Rapid Alert System against disinformation, an essential element in tackling COVID-19 disinformation across the EU (Jacob *et al.*, 2023, p. 23).

Nevertheless, we can consider Brazil by putting aside the external influence and focusing on using COVID-19 disinformation and mal-information through social media platforms as an internal political weapon. A parliamentary commission of inquiry concluded that, over 18 months, then-president Bolsonaro made statements that downplayed the health emergency, contravened guidelines from the World Health Organization and promoted treatments without scientific proof, in addition to repudiating the vaccines (Oliveira, 2021 October 21; Senado Federal, 2021).

One of the most damaging cases, as stated in the report, was his defence of the research and conduct of Prevent Senior, a Brazilian healthcare company, accused of masking deaths from COVID-19, distributing early treatment kits and conducting research without



patient consent (Betim *et al.*, 2021 September 23). Jair Bolsonaro was a "leader and spokesperson" of a coronavirus-denial movement in his own country, concluded the parliamentary commission (Senado Federal, 2021).

For this strategy, different forms of "information disorder" campaigns have been leveraged to lead a dangerous crusade against scientific and evidence-based recommendations. Hundreds of examples of false information circulating on social media were identified, and government members relaid several of those mentioned above (Lupa, 2020). Without surprise, government public authorities follow Bolsonaro's rhetoric. Posts of distorted or decontextualised information on their social media platforms led to wrong conclusions and manipulated content (Ricard & Medeiros, 2020).

Through Facebook, for example, "information disorder" campaigns were started with posts made by fake accounts and then digital influencers were hired to disseminate this information, many of them paid by agencies hired by the Special Secretariat for Communication in public expenses that amounted to more than four million reais (Oliveira, 2021 October 21; Senado Federal, 2021). The report of the Parliamentary Commission of Inquiry concluded that around 120,000 lives could have been saved in Brazil – according to the most conservative estimate of epidemiologists interviewed by the Parliamentary Commission of Inquiry if the health measures advocated by international authorities such as the World Health Organization had been adopted and disseminated (Senado Federal, 2021).

A study of Spanish negationist content on Twitter revealed that antivaccine tweets were the most frequent (Herrera-Peco *et al.*, 2021). The study also showed that attacks against vaccine safety were the most important, but a new kind of message presenting the vaccine as a means of manipulating the human genetic code was detected. In short, it was concluded that the antivaccine movement and its tenets significantly influenced the COVID-19 denialist movement.

Another exciting study analyses the role of information disorder during the pandemic by using audio content disseminated through WhatsApp in Portugal (Cardoso *et al.*, 2022). The study explores the discussion about the potential shift toward nontextual and nonvisual forms of information disorder; the new social role of audio, namely related to the critique of governmental measures during the early stage of the pandemic, making WhatsApp a fertile environment for the circulation and dissemination of "information disorder" campaigns.

Of the various types of content that were analysed, there was a predominance of content focused on the authorities' response to the pandemic, the performance of institutions, and guidelines on how to contact or access them. The government was a common target, and the audio messages heightened uncertainty and caused social alarm. The accusations were focused on two main ideas: the distance and disparity between citizens and government structures and the questioning of the government's capacity (Cardoso *et al.*, 2022, p. 9).



5. Final Remarks

Following the analyses of the examples, it is concluded that social media platforms can be weaponised through "information disorder" campaigns. It is a form of narrative-driven operations to condition the cognitive predisposition. The objective is to influence the perception of security and vulnerability. A disaster, or "information disorder," can be a weapon foreign actors use. It is a form of hybrid threat. The weaponisation of social media platforms is a practice easily accessible to almost all actors. With this activity, information is multiplied at high speed and low cost, allowing the spread of disinformation or mal-information for divisiveness and influencing different decision-making procedures. The effect tends to be inversely proportional to the investment.

Furthermore, it is difficult to identify the source of information, verify the authenticity and separate facts from fiction. The weaponisation of information is nothing new. However, regular citizens are the first responders to a crisis during an emergency. Thus, they are the primary vehicle, deliberate or not, for the "information disorder" causing harmful effects in disaster response and recovery stages, challenging the legitimacy and efficiency of the response process or the government/State. It is an easily accessible tool for almost all actors. It is a dynamic, user-oriented, and ever-changing environment. Identifying the perpetrator is complex, making it highly effective for political and security purposes. "Information disorder" campaigns and the weaponisation of social media platforms are more than about strategic communication. It may put communication at the centre of a geopolitical and security strategy. These two examples demonstrated that "information disorder" campaigns through online social media can immediately impact political, geopolitical and security dynamics. It is about information whose veracity is indisputable but which leads to distorted conclusions and which can subvert the current political environment. Through public disorder, it is intended to change the current democratic order by erasing the basic principles of the social contract. Due to climate change, there is a trend toward more natural disasters, more powerful and impactful. This nexus, "information disorder" campaigns and extreme events, favours the perfect condition for powerful and frequent influence campaigns against communities in their most vulnerable situation.

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