

ROLE OF THE
FEDERAL PROSECUTION SERVICE IN

THE PREVENTION OF CLIMATE- RELATED DISASTERS ASSOCIATED WITH PRECIPITATION

Flávia Rigo Nóbrega

MPF
Ministério Público Federal





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MINISTÉRIO PÚBLICO FEDERAL

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1 CLIMATE DISASTERS

According to the definition of the Intergovernmental Panel on Climate Change (IPCC), *climate disasters* consist of severe changes in the functioning of a community, with widespread adverse damage to life, property, the economy, and the environment, due to physical events that affect vulnerable territories. Climate disasters require an immediate emergency response to meet critical human needs, including through external assistance (IPCC, 2012). A similar concept is found in item V, of Law No. 12,608/12, according to which disasters consist of “the result of an adverse event, whether natural or induced by human action, on vulnerable ecosystems and populations that causes significant human, material, or environmental damage and economic and social losses.”

Based on the definition presented, **not every extreme weather event translates into a disaster**. At the heart of a climate disaster, two factors stand out: 1) the exposure of the territory and 2) the vulnerability of the affected communities¹. These factors, combined with inefficient climate governance, in which prevention, preparedness² and response systems do not work or do not exist, can characterize a situation of *socio-environmental injustice*.

In fact, even though they are caused by rain, a natural phenomenon, disasters resulting from floods, landslides, and flooding presuppose historical processes of urbanization and inadequate land use, as well as other political, social, and economic factors that contribute to, aggravate, or accentuate the vulnerability of the **affected populations**.

¹ In general terms, exposure consists of the presence of people, services, and infrastructure in places that may be adversely affected by physical events. Vulnerability, on the other hand, refers to the predisposition to be affected, due to a lack of anticipation capacity, an inability to resist, or recover (IPCC, 2012, p. 5).

² Prevention encompasses actions aimed at managing disaster risks in a broad sense. Preparedness, in turn, refers to the phase preceding the occurrence of a certain and expected event, announced by weather warnings and the issuance of hydrogeological alerts. Immediate response is the phase in which the disaster is happening and is intended to provide relief, save lives, manage the difficulties arising from the paralysis of essential services, etc.

In terms of climate disasters, Delton Winter de Carvalho rightly points out that the fine line between injustice and misfortune determines whether or not the State can be held civilly liable for omission:



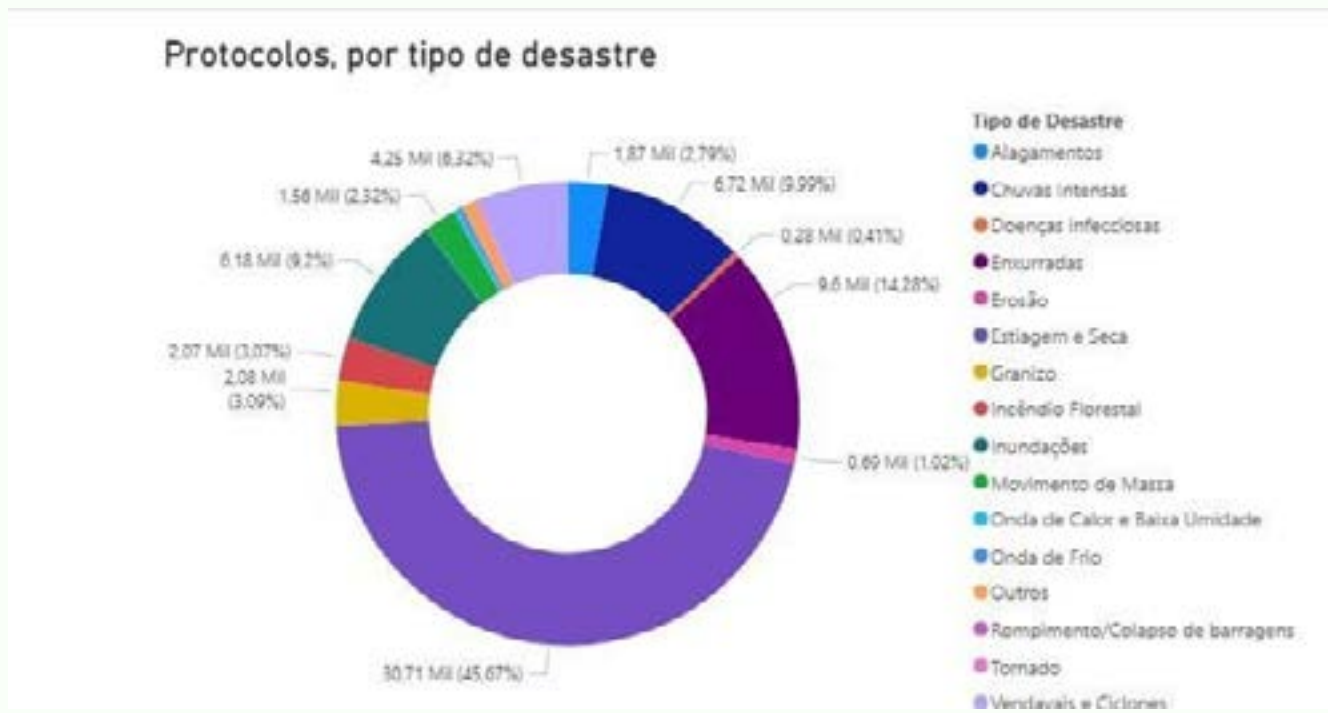
For injustice, responsibilities must be imposed. On the other hand, the legal response to misfortune is the exclusion of liability, based on the description of force majeure. While injustice depicts situations in which people were exposed to risks due to the omissions of those who should have acted, misfortune consists of cases in which, without vulnerabilities, people voluntarily take risks (Shklar, 1990). With the increase in scientific knowledge about climate change and the science of attribution, the scope for force majeure in cases of climate disasters is decreasing (Shklar, 1990). The task of the courts is to identify when state omissions result in passive injustices, that is, omissions capable of producing or exacerbating the vulnerabilities of individuals, groups, communities, or regions (Farber et al., 2024).

When the violation of individual and collective rights can be directly attributed to the failure of the government to fulfill its duties of precaution and care, the Federal Public Prosecutor's Office plays an essential role in ensuring that structural measures are adopted to prevent the recurrence of new disasters or to contribute to the proper development of preparedness and response actions.

2 DISASTERS ASSOCIATED WITH RAINFALL IN THE COUNTRY

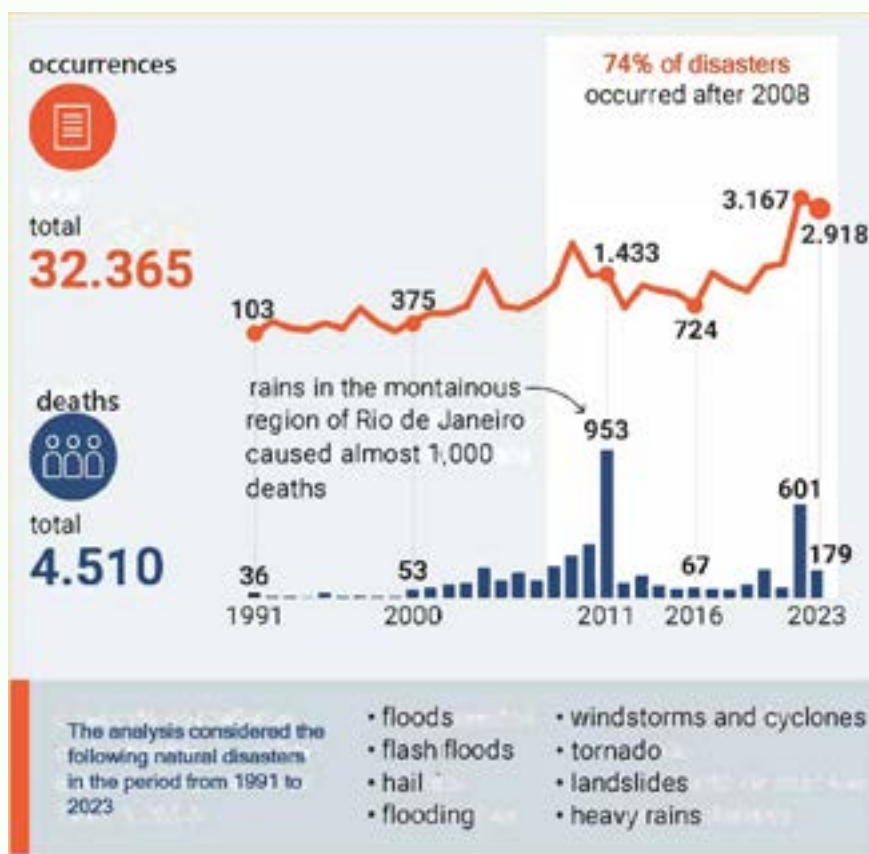
Different types of climate disasters, almost all related to hydrometeorological and climatological events involving either a lack of or excess rainfall, have given rise to occurrences that have endangered the Brazilian population and the economy of various regions of the country in recent decades.

Drought is by far the disaster that most affects the country, accounting for 45.67% of incidents recorded in the S2iD. In this regard, the following dashboard, extracted from the [Atlas of Disasters in Brazil](#), made available by the Ministry of Integration and Regional Development (MIDR), based on data from the S2iD system, which consists of an important analytical and information³, tool, with dashboards and tables that can be explored in a variety of ways:



3 Disponível em: <https://atlasdigital.mdr.gov.br/>. Acesso em: 19 jun. 2024.

On the other hand, in relation to **excessive rainfall**, between 2008 and 2023, there were 24,000 occurrences of flooding, flash floods, mass movements, tornadoes, windstorms, cyclones, heavy rains, and hail. As shown in the following infographic, 74% of rain-related disasters occurred in the last 15 years:



Such events stand out due to the number of victims. In 2011, landslides in the mountainous region of Rio de Janeiro left more than 900 dead, the highest number of fatalities in disasters of this kind in the country, and constituted a turning point in relation to the well-known assertion that Brazil was a country immune to natural disasters. Before that, in 2008, the Itajaí Valley in Santa Catarina faced three months of rain and recorded more than a hundred victims.

Between November 2021 and January 2022, storms in Bahia resulted in 27 deaths, 523 injuries, 30,000 homeless people, and 190 cities in a state of emergency. Several cities in north-central Minas Gerais were also directly impacted. In 2022, heavy rains again hit the mountainous region of Rio de Janeiro, and 130 people died in the states of Pernambuco, Alagoas, and Paraíba as a result of landslides and flash floods triggered by rains in late May and early June.

In February 2023, landslides on the northern coast of São Paulo left 65 victims and, once again, demonstrated the importance of prohibiting construction in permanent preservation areas. More recently, between June 2023 and June 2024, after a long period of drought, the state of Rio Grande do Sul faced three extreme weather events marked by heavy rainfall. The largest of these, which occurred in the last days of April and in May 2024, was a complex and prolonged disaster that affected 96% of the municipalities in Rio Grande do Sul and left thousands of people homeless, causing an unprecedented humanitarian crisis in the state. To this day, highways, bridges, engineering structures, schools, hospitals, and public buildings remain closed, awaiting reconstruction. A study conducted by UFRGS indicates that 42% of the population is experiencing post-traumatic stress as a result of the event. Unlike what happened in Petrópolis, the disaster experienced by Rio Grande do Sul was classified as a complex and prolonged disaster due to the persistence of flooding, especially in the state capital.

In the short period between December 21, 2024, and January 13, 2025, 94 municipalities in 13 different states declared a state of emergency. The climatic events in question were not episodic. Nor can they be said to be unprecedented, given the uncertainty regarding the date of their occurrence or the magnitude of their effects, which cannot always be anticipated by the Meteorological Institute (INMET) and, above all, by the National Center for Monitoring and Alerting Natural Disasters (Cemaden)⁴.

⁴ Since its creation, only one disaster has not been predicted and warned about by CEMADEN: the one that occurred in the mountainous region of Rio de Janeiro in 2022, which reinforces the importance of the Center in the disaster prevention structure.

The intensification of extreme weather events in a scenario of climate change induced by anthropogenic greenhouse gas emissions has been announced by the IPCC throughout its various reports⁵ as the main direct effect of global warming, with particular emphasis from the fifth and sixth reports (IPCC, 2013; IPCC, 2022).

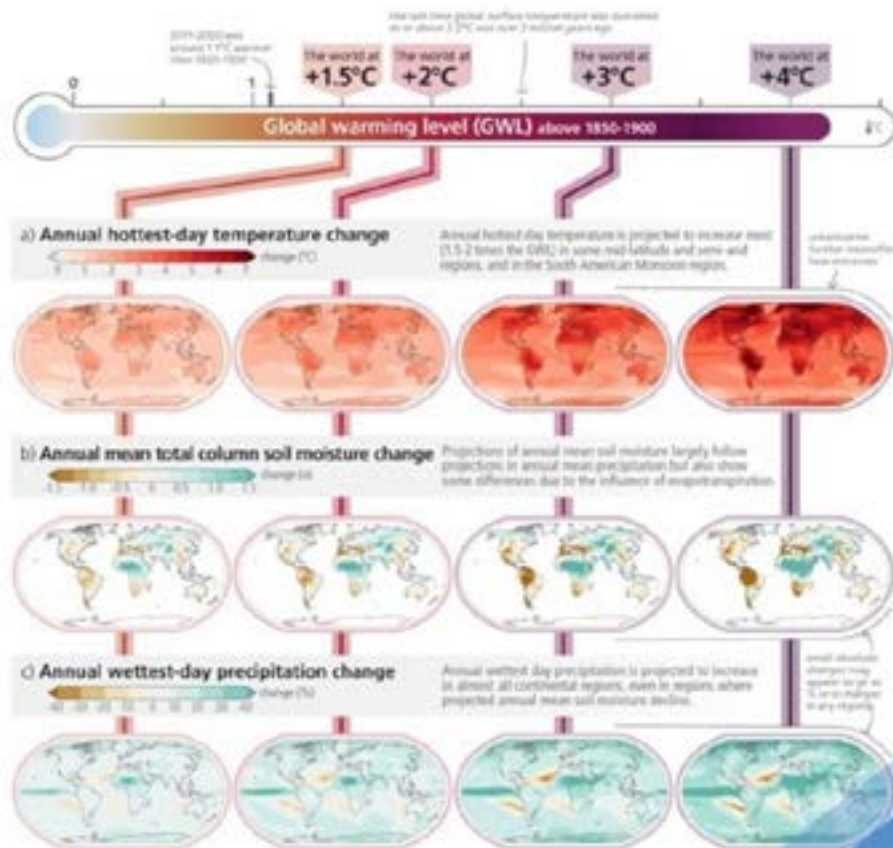
With regard to the southeastern region of South America, which covers the portion of the country with the largest population, the IPCC, in its [sixth report](#), pointed out that since 1960, there has been an increase in average and extreme precipitation in the region. The report also predicts, with high confidence, that this portion of the territory will be affected by **more frequent and intense rainfall floods**.

3 PRECIPITATION VS. GLOBAL WARMING

Precipitation variability has increased globally over the last century, and it is well known that the warmer and more humid the atmosphere, the more intense the precipitation will be, with more drastic fluctuations between them (ZHANG, 2024). As global average temperatures rise, climate disasters are occurring at increasingly shorter intervals. Furthermore, the events we will experience will be even more extreme, as shown in the following infographics:

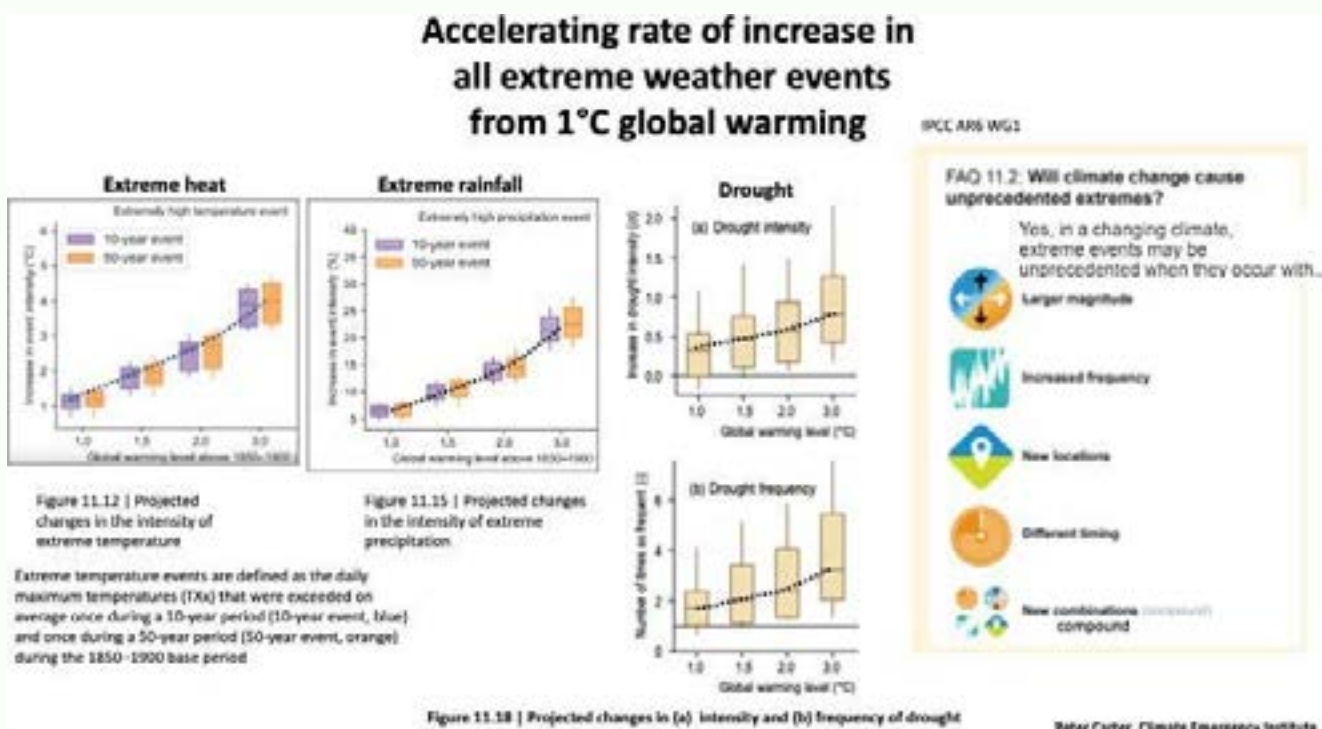
⁵ Created in 1988 by the World Meteorological Organization (WMO) and the United Nations Environment Programme (UNEP), the IPCC aims to provide governments at all levels with scientific information that can be used to develop climate policies. IPCC reports are based on an extensive analysis of scientific literature and are a key contribution to international negotiations on climate change.

With every increment of global warming, regional changes in mean climate and extremes become more widespread and pronounced



IPCC AR6 SYR Figure SPM 2
Sixth Assessment Report | Synthesis Report





An assessment carried out by Cemaden reveals that, in 2024, **3,620 disaster alerts** were issued, the highest number in the historical series since the research unit was created in 2011. Of these, 53% were related to geological risks, especially landslides, and 47% to hydrological risks, such as flash floods and flooding. As for **disasters** resulting from such events, the number was the third highest ever recorded: 1,690 disasters, 68% of which were hydrological in origin and 32% geological.

The high number of alerts not only indicates improvements in the monitoring system, but also the increased frequency of extreme weather events, caused by temperatures exceeding the 1.5°C threshold compared to pre-industrial⁶ levels. The floods and landslides experienced by the population of Rio Grande do Sul in May 2024, for example, according to the scientific network *World Weather Attribution*, an authority on improving the science of attribution between climate events and global warming, had their chance of occurrence **doubled** due to the escalation in the increase in global average

⁶ In 2024, temperatures reached 1.6°C above the average temperature recorded in the pre-industrial period.

temperature⁷. Estudos rápidos de atribuição também haviam destacado a correlação entre o evento e o atual cenário de mudanças climáticas induzidas pelas emissões antropogênicas.

Even if, in the coming years, there is an intensification of global efforts to significantly mitigate greenhouse gas (GHG) emissions, **frequent and intense weather events will be a reality for decades to come**⁸, result of the long residence time of most greenhouse gases in the atmosphere. As is well known, methane remains in the atmosphere for about 10 years after being emitted, nitrous oxide for about 120 years, and the complete deterioration of carbon dioxide can take a millennium. For this reason, there is no longer room for a policy focused solely on mitigating emissions. It is imperative that climate adaptation be integrated across all sectoral policies, especially given the fact that tropical countries will be the most directly affected by climate change.

If the occurrence of extreme weather events is certain, it is also correct to state, as explained above, that their occurrence may or may not result in climate disasters, depending on the susceptibility of the region and the vulnerability of the affected population. In the case of Brazil, the absence of a culture of disaster prevention and solid investments in this area, as well as disorderly land occupation (high social inequality has a direct impact on land occupation policy), place the country on the front line of a series of large-scale climate disasters.

Considering this scenario, and without any intention of exhausting the subject, this guide aims to assist members of the Federal Public Prosecutor's Office in understanding concepts related to Disaster Law and tools that can assist in ministerial action with regard to climate disaster risk management.

⁷ The heavier rains are attributable to climate change. The conclusion is a “rapid attribution analysis” and took into account meteorological data from the last 40 years. [ClimaMeter - 05/02/2024 South Brazil Floods](#). In the same vein: [Climate change made historic rains in RS twice as likely](#).

⁸ This is explained by the length of time greenhouse gases remain in the atmosphere.

4 FINANCIAL LOSSES

Climate deregulation has led to economic losses worldwide⁹, which far exceed the estimated costs of mitigating emissions as a necessary measure to limit global warming to 2°C.

According to the fourth report by the Institute and Faculty of Actuaries (IFoA), 'Planetary Solvency – finding our balance with nature', the global economy is expected to face a **50% loss in GDP between 2070 and 2090**, with mass mortality and displacement, severe economic contraction, and conflict over natural resources, if drastic measures are not taken urgently.

The anticipation of extreme weather events that were expected in the coming decades has called into question the global decision to relegate the Paris Agreement targets to the background. The argument that cutting fossil fuel use would have a negative impact on economic development has been gradually challenged by the financial losses that have been experienced in various productive sectors, especially in countries in the global south, as a result of climate change. Every day, there are reports of large-scale fires, catastrophes caused by rainfall, snowstorms that deviate from the pattern of the last hundred years (such as the one recently experienced in Florida), in addition to the high costs required for the reconstruction of such areas, the provision of relief, etc.

Losses, including those resulting from extreme events and changes in food crops, among others, have been projected for all regions of the globe, with the exception of areas at very high latitudes, where reductions in temperature variability—in a scenario that does not exceed 2°C—could bring¹⁰ benefits to the population, with less severe winters. The greatest losses are recorded in regions located at lower latitudes, especially in tropical countries, whose cumulative historical emissions are lower, as is the population's income.¹¹ Therefore, it is not certain that everyone will be indiscriminately affected by the effects of global warming, as was initially thought.

⁹ Available at: https://www3.weforum.org/docs/WEF_Global_Risk_Report_2020.pdf.

¹⁰ This scenario obviously disregards the possible collapse of the AMOC and other extreme possibilities that have been signaled by science.

¹¹ Kotz, M., Levermann, A. & Wenz, L. The economic commitment of climate change. *Nature* 628, 551–557.

With regard to Brazil, the World Bank conducted a detailed analysis and concluded that, between 1995 and 2019, **losses due to climate-related events cost the Brazilian economy more than R\$ 13.33 billion/year**. Total losses were estimated at around R\$ 330 billion. Of this total, 20% were direct losses (or damages), the vast majority in the infrastructure sector (59%). The housing sector was the second most impacted (37%). Indirect losses (or damages) accounted for approximately 80% of the total value of disaster impacts in the country, being most significant in agriculture (R\$ 149.8 billion), livestock (R\$ 55.7 billion), and water and transportation (R\$ 31.9 billion)¹². The human impact was even more significant: 4,065 deaths, 7.4 million people displaced, and more than 276 million people affected. Indicators of health, purchasing power, access to employment and income, education, among others, were not even estimated.

The study indicates **that drought is the most costly climate risk for the country** (R\$ 199.8 billion between 1995 and 2019), followed by **floods** (R\$ 55 billion) and **river flooding** (R\$ 32.2 billion). Other categories should be added to this calculation, which also tend to occur more frequently with the increase in climate change, such as losses resulting from large-scale **forest fires, coastal erosion**, etc.¹³

¹² World Bank. 2020. Report on material damage and losses resulting from natural disasters in Brazil — 1995–2019. Washington, DC: World Bank Group. Available at: <https://www.gov.br/mdr/pt-br/centrais-de-conteudo/publicacoes/protecao-e-defesa-civil/sedec/danos-e-prejuizos-versao-em-revisao.pdf>

¹³ Kotz, M., Levermann, A. & Wenz, L. The economic commitment of climate change. *Nature* 628, 551–557 (2024). Disponível em: <https://doi.org/10.1038/s41586-024-07219-0>

5 PREVENTION AS THE KEY TO REDUCING LOSSES

Reports from *Global Facility for Disaster Reduction and Recovery* (GFDRR)¹⁴ highlight the importance of a culture of prevention, emphasizing the importance of building climate resilience in cities and investing in meteorological and hydrological monitoring networks, among other fundamental aspects for the proper management of climate disasters.

This is because, while extreme weather events are inevitable, their effects can be substantially reduced if investments are made in preventive measures. According to the Federal Court of Accounts, for every dollar invested in prevention, ten dollars are saved in the post-disaster phase¹⁵ (**Judgment No. 182/2017-TCU**).

Data from “Resources for risk and disaster management” Panel¹⁶ show, however, that contrary to this guideline, the resources disbursed by the federal government in recent decades have been consistently allocated to response and recovery actions, such as relief for victims and restoration of essential services, water supply, food baskets, hygiene items, and urban cleaning. A significantly smaller portion has been allocated to prevention measures, infrastructure works, or nature-based solutions (green infrastructure, as it has been called), which are essential to prevent or reduce the occurrence of new disasters. The following table illustrates the existing mismatch:

¹⁴ <https://www.gfdr.org/>

¹⁵ (...) investments made in disaster risk reduction have the potential to save lives and mitigate the suffering of affected populations and present themselves as a viable solution to this type of problem. These investments can mean the use of resources in a more efficient and effective way than those spent in a possible response to a disaster that has occurred. In this regard, several studies indicate an excellent cost-benefit ratio in disaster prevention: each dollar invested in disaster risk reduction is equivalent to ten dollars in disaster response and recovery costs (**Judgment No. 182/2017**). .

¹⁶ The panel, maintained by the Federal Court of Accounts (TCU) since 2022, provides data on the evolution of the budgetary and financial execution of federal funds transferred to states and municipalities affected by disasters. The platform provides information on response and recovery actions, resources used in risk prevention initiatives (slope containment works, macro-drainage, marine and river erosion control, flood containment, etc.). The data comes from Tesouro Gerencial, a tool developed by the National Treasury Secretariat to enable customized queries based on information recorded in the Integrated Financial Administration System (SIAFI), so the data is reliable.



The prevalence of investments in response and recovery in disaster risk management in the country, to the detriment of prevention actions, is not isolated. Legislative production is also concentrated in post-disaster periods, and even though prevention is a central focus, public policies are not effectively regulated/implemented. Concern for the issue is usually relegated to the background as soon as the state of social commotion has passed.

As described below, laws on the subject emerged and/or were improved after the outcry caused by a major disaster.

6 LEGISLATIVE DEVELOPMENTS IN DOMESTIC DISASTER LAW

In 2010, Law No. 12,340 was passed, originating from Provisional Measure No. 494/2010, which arose as a result of extreme weather events experienced in Rio de Janeiro, Pernambuco, and Alagoas. Its purpose was to reduce obstacles to the transfer of funds from the federal government to states and municipalities for the implementation of prevention measures in disaster-prone areas, as well as response and recovery measures in affected areas. The law was also created to reformulate the National Fund for Public Calamities, Protection, and Civil Defense (Funcap) – which has existed since 1969 and remains unregulated to this day – as a financial instrument for such transfers^{17 18 19}.

The following year, Decree No. 7,513, dated July 1, 2011, created the National Center for Natural Disaster Monitoring, a unit of the Ministry of Science, Technology, and Innovation (MCTI), linked to the Secretariat for Research and Development Policies and Programs (SEPED), which is headquartered in the municipality of Cachoeira Paulista/SP, and which has, among other related competencies, the preparation of natural disaster alerts relevant to civil protection and defense actions in the national territory, the development of predictive computer models, and above all, the issuance of natural disaster alerts to the National Center for Risk and Disaster Management (CENAD), of the Ministry of National Integration, with which it meets daily in *briefings*, in which the main occurrences for the country are reported. Cemaden also issues *nowcasting* alerts (very short-term forecasts) for municipalities with high susceptibility to natural disasters.

In 2012, in light of the disaster that struck the mountainous region of Rio de Janeiro, Law No. 12,608 was passed, establishing the National Policy for Civil Protection and Defense (PNPDEC). This law sets out guidelines for **prevention, mitigation, preparedness, response and recovery actions** vaimed at civil protection and defense. According to the law, “the PNPDEC

¹⁷ A fund of an accounting and financial nature, linked to the MIDR, similar to the inter-federative health financing model. On the negative side, it provides for the financing of emergency and disaster response actions, without explicit provision for the financing of prevention actions, which continue to be included in PAC works and other government programs, greatly hindering the monitoring of the compatibility of such works with current climate resilience needs.

¹⁸ This program was audited by the TCU (Federal Court of Accounts) in case no. 035.869/2015-1, at which time a series of recommendations were made to the Ministry of Cities (TCU Decision 182/2017).

¹⁹ PA 1.00.000.004087/2024-14 is being processed by the PFDC on this matter.

must be integrated with policies on land use planning, urban development, health, the environment, climate change, water resource management, geology, infrastructure, education, science, and technology, as well as other sectoral policies, with a view to sustainable development,” ensuring the interdisciplinary approach that disaster risk management effectively requires.

Law No. 12.608/2012 also established the National Civil Protection and Defense System (SINPDEC), composed of agencies and entities of the federal government, states, Federal District, and municipalities, as well as public and private entities with significant activities in the area of civil protection and defense.

Between 2012 and 2014, the Federal Government published the National Plan for Risk Management and Response to Natural Disasters (PNGRD), which focuses on prevention, mapping of risk areas, response (involving relief, assistance, and reconstruction), monitoring, and warning. The Plan led to the structuring of Program 2040 (Risk Management and Disaster Response) in the 2012-2015 PPA, which continued in the 2016-2020 PPA but was ultimately abandoned as a government initiative.

In 2023, Law No. 14.750, dated December 12, drafted after the disaster in Rio Grande do Sul, amended Law No. 12,608/2012, legislatively improving the instruments for accident or disaster prevention and recovery of affected areas, as well as actions to monitor accident or disaster risks and produce early warnings.

In 2024, Law No. 14,904 of June 27, 2024, was enacted, establishing guidelines for the development of climate change adaptation plans. This law was part of the political response to climate extremes in Rio Grande do Sul. The law provides that the National Adaptation Plan (PNA) should establish guidelines for state and municipal plans and ensure priority support for the most vulnerable municipalities exposed to climate threats. It also provides that the preparation of district, state, and municipal plans may be financed by the National Fund on Climate Change (FNMC), among other sources of financing. Also in 2024, the National Civil Protection and Defense Plan (PN-PDC) was effectively published, which had been awaiting preparation since 2012, and whose consolidated proposal has not yet been disclosed. The effectiveness of the Plan, however, faces other challenges beyond its mere

publication. The PN-PDC needs to be integrated with other sectoral plans, considered on a federal scale, beyond the agreements and commitments made in this regard, and **effectively integrated into the budget matrix.**

On July 4, 2024, through [Resolution No. 3](#), the Presidency of the Republic established the Commitment to Climate Federalism, which establishes that the climate agenda should be a priority for the Executive Branch in government decisions at every level of government, that political decisions should be based on scientific evidence, and that entities are committed to coordinating in such a way that sectoral policies are planned, implemented, and monitored based on the risks and opportunities related to climate change and the cross-cutting nature of climate policy, so that the following commitments are observed:

Art. 3. (...)

- I all stages of the public policy cycle shall recognize the risks associated with climate change in their decision-making processes;
- II public policies should consider the mitigation of greenhouse gas emissions and adaptation to climate change;
- III the federative entities shall make coordinated efforts to address the climate emergency through risk mitigation measures, including actions for prevention and preparedness for extreme events;
- IV a public policies, especially those related to climate, shall be integrated across government sectors, in order to coordinate the different sectoral plans; and
- V the federative entities shall ensure the integration of climate policy into their short-, medium-, and long-term planning instruments, with a view to promoting greater consistency in climate action within their governmental planning processes, including, among other instruments, the Multi-Year Plan, the Budget Guidelines Law, and the Annual Budget Law.

Other important legislation resulting from the disaster in Rio Grande do Sul included:

- a. Law No. 14,872/2024 deals with the possibility of using Funcap resources for soil recovery and productive investments in properties affected by disasters, with priority given to family farming properties, understood as those that predominantly use family labor and are managed by the family, among other criteria. However, as already noted, the fund suffers from a lack of regulation, so that the legislation in question has no practical effect.
- b. ODecree No.12,084, dated June 28, 2024, established the Clean Energy Program in Minha Casa, Minha Vida, which expanded access to electricity generation from renewable sources to PMCMV housing units.

7 THE UNDERFUNDING OF CLIMATE ADAPTATION ACTIONS

The full effectiveness of civil protection and defense policy faces a number of challenges at the federal level, among which the need for its integration into various sectoral plans and, above all, budgetary support so that its instruments can be effectively implemented stand out.

According to a survey by the Institute for Socioeconomic Studies (Inesc), a non-governmental organization dedicated to budget analysis, "the figures show that the first cycle of structuring the PNPDEC – which corresponded to the 2012-2015 PPA – was accompanied by a greater allocation of budgetary resources, both in terms of appropriations and the effective execution of resources. In the following two Multi-Year Plans, for the period from 2016 to 2023, resources were severely restricted, reaching the end of the 2020-2023 PPA with the lowest execution in the historical series, which shows a persistent trajectory of dismantling of the aforementioned policy."²⁰. It continues:

²⁰ Technical note available at <https://inesc.org.br/wp-content/uploads/2024/12/nt-adaptacao-extremos-climaticos.pdf?x12453>



In 2024, the tragedy of the floods in Rio Grande do Sul highlighted the chronic inadequacy of the 2024-2027 PPA. If we look at the program's resources in the PPA document, we see that R\$ 4.86 billion is earmarked for the entire period from 2024 to 2027, with R\$ 1.91 billion initially planned for 2024. This planning was insufficient and radically altered in 2024 by extreme weather events. In an attempt to respond to the disaster in Rio Grande do Sul, the federal government opened, in Program 2318, until November 2024, extraordinary credits in the amount of R\$ 5 billion in additional credits. As a result, the R\$1.9 billion initially authorized for the program has been converted into a current allocation of R\$ 6.9 billion, with R\$ 4 billion to be executed by November 2024.²¹

However, even after a year marked by historic floods, droughts, and fires, the Federal Government allocated insufficient funds in the 2025 Annual Budget Bill (PLOA) to respond to disasters and, above all, prevent them: only R\$ 1.9 billion. Subsequently, the allocation for the climate adaptation program (Program 2318) was reduced to R\$ 1.7 billion—a cut of R\$ 200 million from the amount originally approved in 2024.

On the other hand, despite the need for a solid financing structure—Funcapp would serve this purpose, facilitating the control of funds and their allocation, since it even brings together private funds—the forecast for the allocation of federal resources through parliamentary amendments has made the existing landscape even more complex. Proof of this is that, although Bahia, Espírito Santo, and Pernambuco currently account for 42.7% of the population in risk areas, in 2024, of the three states, only Pernambuco received parliamentary amendments allocated to the program: R\$ 400,000 for slope containment projects in urban areas.

Also, with regard to the structuring of bodies essential to disaster prevention policy, such as Cemaden, there are several material and human resource shortcomings to be overcome — ranging from the training of a sufficient number of technical staff to the very subsistence of hydrogeometeorological monitoring networks — in order to ensure greater robustness in civil protection and defense actions.²²

²¹ Idem. *Ibidem*.

²² <https://oglobo.globo.com/brasil/meio-ambiente/noticia/2025/01/15/cemaden-esvaziado-principal-centro-de-monitoramento-de-desastres-naturais-tem-apenas-metade-dos-servidores-necessarios.ghtml>

In fact, when looking at the legal provisions contained in Laws No. 12,340/2010 and 12,608/2012, and their regulations, it is clear that the main instruments for disaster prevention — Funcap, the national registry of municipalities most susceptible to disasters, and the requirement for real-time monitoring of very high-risk and high-risk areas — have not been effectively implemented by the Federal Government.

The national registry of municipalities most susceptible to floods/landslides and related hydrological events, pursuant to Article 3-A, caput and § 1, of Law No. 12,340/2010 and Decree No. 10,692/2021, has not evolved, and only a few dozen municipalities are registered (some of them at the request/suggestion of the Federal Prosecution Service).

To overcome the slowness and inertia of municipalities – which, due to the obligations arising from joining the registry, tend not to register – Decree No. 10,692/2021 establishes that the inclusion of a municipality may also occur by **recommendation of the Federal Government and the states**.

It is important to consider that, although prior notification by the municipality is required in this case, according to the principle of cooperation between governments, this procedural aspect should not be confused with the need for approval by the municipal executive branch. In this sense, the legal wording:

DECREE No. 10,692, OF MAY 3, 2021.

[...] Art. 3 The registration of municipalities in the National Register referred to in this Decree shall occur through:

- I a request from the municipality; or
- II indication of the State or the Union.

[...]

§ 4° In the case provided for in item II of the caput, registration in the National Register shall be conditional upon prior approval by the municipality that has been recommended.

Thus, the inclusion of municipalities in the national registry at the initiative of the Union does not depend on the agreement of the municipal manager, although prior consultation with the federal entity is encouraged.

The interpretation that the municipality would have discretion to join the registry, or that other federal entities would have no legal obligation to include the municipality in the list in the event of inaction on the part of the municipality concerned, is undoubtedly mistaken. The national registry is merely **declaratory of the risk situation, which is pre-existing and independent of the municipality's registration in the registry**, consisting of the probability of damage occurring due to the possible occurrence of geological or hydrological processes. The obligations related to disaster prevention, mitigation, and preparedness do not arise from the municipality's registration in the registry, but from the finding of the existence of areas susceptible to high-impact landslides, sudden floods, or related geological or hydrological processes. In this regard, Statement 57 of the 1st Legal Conference on Environmental Crisis Prevention and Management, promoted by the Federal Justice Council in 2024, is particularly illuminating:

Statement 57: The identification and mapping of disaster risk areas, as well as the adoption of measures aimed at their prevention, are obligations of municipalities, which are not conditional on their prior registration in any registry.

Justification: According to Article 8, IV, of Law No. 12,608/2012, municipalities are responsible for identifying and mapping disaster risk areas. Prior registration in the national registry of municipalities with areas susceptible to high-impact landslides, flash floods, or related geological or hydrological processes should not be considered a condition for municipalities to carry out this identification and mapping. The aforementioned registry is merely declaratory in nature. The adoption of measures related to disaster prevention stems from the existence of risk areas and should not depend on the prior registration of municipalities in the aforementioned registry. The legislation establishes that uncertainty regarding disaster risk does not constitute an obstacle to the adoption of preventive and mitigating measures (Article 2, Paragraph 2, of Law No. 12,608/2012), reinforcing the obligation of municipalities to identify and map risk areas, regardless of registration in the registry, and, upon confirmation of their existence, to develop a contingency plan for civil protection and defense, geotechnical letters of suitability for urbanization, a registry of vulnerable populations, among others, contributing to the safety of the population and disaster prevention.

Nevertheless, the inclusion of the municipality in the national registry presupposes, from the outset, the possibility of requiring the preparation of a series of technical and regulatory documents essential to the protection of the territory:

- I. mapping of areas susceptible to high-impact landslides, flash floods, or related geological or hydrological processes;
- II. contingency plan for civil protection and defense, and creation of municipal civil defense agencies, in accordance with the procedures set by the central body of the National Civil Protection and Defense System (SINPDEC);
- III. plan for implementing works and services to reduce disaster risks;
- IV. creation of control and inspection mechanisms to prevent construction in areas susceptible to high-impact landslides, flash floods, or related geological or hydrological processes;
- V. geotechnical suitability map for urban development, establishing urban planning guidelines aimed at the safety of new land developments and the use of aggregates for civil construction;
- VI. registration of the population living in areas identified as per item I above. (Article 3-A, §2, Law No. 12,340/2010).

In addition to the above, there are a number of statements approved at the event in question that focus on issues such as water management and disaster prevention, particularly with regard to structural actions related to socio-environmental disasters.

The statements are available on the [Federal Justice Council's website](#). Several of them derive from proposals formulated by members of the Federal Public Prosecutor's Office and the 4th Chamber of Coordination and Review of the Federal Public Prosecutor's Office and establish decisive parameters to guide ministerial and, above all, jurisdictional action on the issue of climate disaster management.

Derived from the experience gained from the event experienced by the population of Rio Grande do Sul, we have, for example, the following statement, which is of great value in conducting structural civil actions:

Statement 71: The decision-making and consensus-building process in climate-related litigation and structural demands should be guided by scientific evidence and take into account the socioeconomic, structural, and environmental differences present in the country, in order to ensure the participation of society and the academic community in establishing the decision-making and negotiation parameters necessary to resolve the dispute.

Justification: Preventive, mitigating, response, compensation, and recovery strategies must be observed, jointly and in an integrated manner, with regard to disaster risk management (art. 4, II, of Law No. 12.608/2012). Therefore, conciliatory decisions and constructions carried out in the context of structural projects dealing with this issue must reconcile the urgent needs for response and relocation of residents with the need (i) for works and structures to be carried out in accordance with appropriate technical standards, which give them greater long-term resilience, considering the scenario of worsening extreme weather events; (ii) that ecological restoration actions are undertaken to mitigate the vulnerability of the affected areas; and (iii) that the measures adopted do not create even greater inequality among those affected. To this end, social participation in decision-making must be ensured (art. 4, VI, of Law No. 12.608/2012), considering the different existing socioeconomic contexts, and the scientific community must be consulted so that the solutions are not only socially appropriate but also observe the best technical practices. This ensures the proper use of public resources and safeguards the needs of territories and populations to adapt to the predictive scenarios established by the IPCC.

8 CHALLENGES IN THE USE OF FEDERAL RESOURCES

From a budgetary perspective, not only are budget allocations for climate adaptation actions, and specifically for disaster prevention and preparedness actions, scarce. The use of such resources also presents a series

of challenges, which are evident to the Federal Public Prosecutor's Office whenever it monitors the implementation of work plans registered with S2iD after a state of public calamity has been declared.

Transfers of financial resources for the implementation of response and reconstruction actions in areas affected by disasters comply with the provisions of [Law No. 12.340/2010](#), amended by [Law No. 12.983/2014](#), and considering the absence of specific Funcap regulations, are made through agreements and deposits into a specific account.²³

Such transfers imply the assumption of duties by the various federal entities, imposing on the Union the **responsibility for defining guidelines and approving work plans, monitoring the fulfillment of established goals, and ensuring compliance with their purpose**²⁴.

However, the aspect related to the definition of guidelines has not been observed. Basically, what happens is the approval of work plans aimed at the immediate reconstruction of the affected areas, which are not always internally consistent or effectively aligned with current climate resilience needs²⁵.

On the other hand, affected states and municipalities, with the exception of response actions, are required **to demonstrate the need for resources, submit work plans, estimate costs, implement prevention and recovery actions, and report to control agencies**.²⁶

In the case of municipalities with a population of less than 50,000 inhabitants, states may support the preparation of terms of reference, work plans and projects, price quotations, supervision, monitoring, and accountability, pursuant to Article 1-A, § 11, of [Law No. 12,340/2010](#). In practice, without cooperation from the federal government and the state, such municipalities are not even able to receive emergency funds for response actions, due to a complete lack of knowledge of how to operate the S2iD.

²³ Art. 1-A, I and II, of Law No. 12,340/2010.

²⁴ Art. 1-A, §1, of Law No. 12,340/2010.

²⁵ Of the nine municipalities affected in the Taquari Valley, only one presented work plans that included medium- and long-term structural measures.

²⁶ Art. 1-A, §2, of Law No. 12,340/2010.

Furthermore, with regard to the spatial distribution of resources and effective coordination by the Union, the TCU concluded, through an operational audit of the National Civil Protection and Defense Policy, carried out in 2020 (Case No. 023.751/2018-5/Judgment 351/2020), that the ten central problems regarding the proper application of federal resources to address natural disasters can be summarized as follows:

1. lack of technical criteria in the allocation of resources and selection of projects for disaster prevention;
2. lack of clear definition of the roles of the Ministries of National Integration and Cities, later merged into the Ministry of Regional Development;
3. allocation of resources to less needy areas, in addition to favoring certain states, without regard for impartiality, morality, and efficiency;
4. lack of clear definition of the roles of the bodies involved in prevention actions;
5. shortcomings in the structure and performance of municipal civil defense agencies, due to lack of preparation;
6. failures in the resource transfer processes, with a “high rate of irregularities”;
7. lack of technical qualifications among state and municipal civil servants;
8. release of funds without prior analysis of the projects and costs involved, with works being carried out with deficient designs and even without basic designs;
9. weaknesses in the controls exercised by the municipalities or states that receive federal funds and by the Ministry itself;
10. failures in the presentation and analysis of the accountability of funds.²⁷

²⁷ Available at: <https://portal.tcu.gov.br/data/files/AF/B5/74/87/9A5908102DFE0FF7F18818A8/Auditoria%20Operacional%20na%20Politica%20Nacional%20de%20Protecao%20e%20Defesa%20Civil.pdf>

At the time of the ruling, a series of measures were ordered to be taken by the Office of the Chief of Staff of the Presidency of the Republic, the MDR, and the National Secretariat for Civil Protection and Defense:

The Ministers of the Federal Court of Accounts, meeting in plenary session, AGREE, in view of the reasons presented by the Rapporteur, in:

9.1. to determine that the **Chief of Staff of the Presidency of the Republic**, based on art. 250, item II, of the Internal Regulations of the TCU, shall, within 120 (one hundred and twenty) days, regulate:

9.1.1. a Law No. 12,608/2012, which has been in force for more than six (6) years without proper regulation, in order to allow for the full implementation of the National Civil Protection and Defense Policy;

9.1.2. art. 3-A of Law No. 12.340/2010, in order to enable the establishment of a national registry of municipalities with areas susceptible to high-impact landslides, flash floods, or related geological or hydrological processes, a topic that has already been the subject of a recommendation in item 9.2 of Judgment No. 760/2014-TCU-Plenary and item 'e' of Judgment No. 1.567/2016-TCU-Plenary;

9.2. determine that the **Ministry of Regional Development**, based on Article 250, item II, of the Internal Regulations of the TCU, shall:

9.2.1. establish, within 120 (one hundred and twenty) days, clear and objective criteria for prioritizing prevention actions in disaster risk areas, based on aspects of materiality and potential social, human, economic, and environmental damage, a matter that has already been determined by the National Secretariat for Civil Protection and Defense in item 9.1.4 of Judgment 729/2010-TCU-Plenary;

9.2.2. establish, within 180 (one hundred and eighty) days, the National Civil Protection and Defense Plan, as established in item VIII of Article 6 of Law No. 12.608/2012, with short-, medium-, and long- term goals, so that this instrument, in addition to guiding the actions of the Federal Government, can be used as a guide for the civil protection and defense plans of the other members of Sinpdec, a matter that has already been the subject of a recommendation to the Ministry of National Integration in item 9.6 of Judgment No. 760/2014-TCU-Plenary, and item 'j' of Judgment 1.567/2016-TCU-Plenary;

9.2.3. take steps to, within 180 (one hundred and eighty) days, implement the National Fund for Public Disasters, Protection, and Civil Defense (Funcap), in order to comply with item II of Article 1A of Law No. 12.340/2010;

9.2.4. submit to the Court, within 90 (ninety) days, an action plan containing the measures to be adopted to comply with this determination;

9.3. recommend to the Ministry of Regional Development, based on Article 250, item III, of the Internal Regulations of the TCU, that:

9.3.1. establish objective and clear criteria, defining the role of each agency involved in prevention actions, so that the National Civil Protection and Defense Policy presents the desirable characteristics of consistency and cohesion recommended by the good governance practices defined by this Court in its Reference Framework for the Evaluation of Governance in Public Policies, minimizing the risks of fragmentation, overlap, and duplication of actions;

9.3.2. develop a plan containing effective measures to address the high volume of accounts awaiting analysis;

9.3.3. assess the convenience and opportunity to edit regulations supporting the detailed response plan created in S2ID, which has served as a good tool for planning response work by the entity requesting resources, as well as a tool to assist Cenad in monitoring the application of resources allocated to response actions and analyzing the respective accountability reports;

9.3.4. recommend to the **National Secretariat of Protection and Civil Defense** (Secretaria Nacional de Proteção e Defesa Civil - SEDEC), based on art. 250, item III, of the TCU Internal Regulations, that it: elaborate a structured execution plan for the National Continuous Capacity Building Program in Protection and Civil Defense (Programa Nacional de Capacitação Continuada em Proteção e Defesa Civil), which intensifies the offering of training and includes: the definition of the target audience and an attendance schedule, based on objective criteria, and the provision for periodic evaluations to assess the program's effectiveness with a view to allowing its improvement and, thus, ensuring the progressive overcoming of the observed capacity building shortcomings;

9.3.5. establish a routine for presenting basic and essential information to civil defense agents in states and municipalities;

9.4. inform the National Secretariat for Civil Protection and Defense that the inadequate monitoring and oversight of the use of public funds transferred to states and municipalities for civil protection and defense actions and the untimely analysis of accountability reports violate the powers of SEDEC and its units, as provided for in Articles 13, item XIV, and 15, item III, of Annex I to Decree No. 9,666/2019, and implies lower expectations of control, which may result in: i) less commitment on the part of the manager or any contracted company; ii) a greater possibility of loss and waste of public resources; and iii) less possibility of timely correction of any irregularities;

9.5. notify the Chief of Staff of the President of the Republic and the Ministry of Regional Development of this Judgment;

9.6. close this case.

Some determinations have been subject to a request for an extension of the deadline by the Executive Branch and are still pending fulfillment, such as the regulation of Funcap, provided for in arts. 7 to 14 of Law No. 12.340/2010²⁸, which has not yet been regulated.

The TCU also found that the Executive Branch failed to apply 35.5% of the funds allocated to the Civil Defense Risk and Disaster Management program between 2012 and 2023. Of the R\$ 33.75 billion budgeted for response, recovery, and prevention actions, only R\$ 21.79 billion was actually transferred to states and municipalities — equivalent to only 64.5% of the total. Many work plans end up being rejected because they do not meet the minimum requirements for approval, precisely because the entity affected by the disaster, the municipality, is in most cases technically and managerially incapable of supporting the claims that must be directed to the state and the federal government. On the other hand, the experience of Rio Grande do Sul shows that a number of benefits were not quickly analyzed by the Ministries of Integration and Cities due to inconsistencies in registration and other issues that have not yet been overcome by the federal government's data processing banks.

²⁸ Art. 7. The Special Fund for Public Disasters (FUNCAP), established by Decree-Law No. 950 of October 13, 1969, shall be governed by the provisions of this Law.

Art. 8 FUNCAP, which is of an accounting and financial nature, shall have the purpose of funding reconstruction actions in areas affected by disasters in federal entities that have a state of emergency or public calamity recognized under the terms of Art. 3.

The correct preparation of work plans, proper verification of local needs and the adequacy of works and services, as well as the proper intervention of the Federal Prosecution Service to ensure that these transfers occur quickly, are crucial to reversing the situation described above. Given the predicted increase in disasters, the greater the volume of funds to be transferred to state and municipal entities, on an emergency basis, and with the waiver of a series of legal requirements that would normally be required in public procurement.

It should be noted that the most recent tragedies have been or are currently under audit by the TCU, such as those related to the rains that occurred from November 2021 onwards in the states of Bahia, Minas Gerais, São Paulo, Rio de Janeiro, and Pernambuco²⁹, which were the subject of TC nº 002.043/2022-0.³⁰

With regard to the tragedy experienced by Rio Grande do Sul, the Court of Auditors created the Recupera Rio Grande do Sul Program, a task force to monitor, **in real time**, the state's restructuring actions, with three monitoring processes being filed: 1) to analyze contracts and infrastructure works (Minister Vital do Rêgo); 2) compliance of the measures adopted by the Federal Government with public finance rules and their fiscal impacts (Minister Jhonatan de Jesus); and 3) resources applied to civil defense activities (Minister Augusto Nardes). The developments of these proceedings can be accessed through the "Resources for risk and disaster management" panel.

Of ministerial interest, two audits focusing on disaster risk reduction are also noteworthy: a) International Cooperative Audit on Adaptation to Climate Change with an emphasis on Disaster Risk Reduction – TC No. 006.390/2024-2, Rapporteur Minister Jhonatan de Jesus; b) Operational Audit (ANOP) to assess disaster prevention and mitigation actions under the National Civil Protection and Defense Policy (PNPDEC) – TC No. 008.979/2024-3, Rapporteur Minister Walton Alencar.

²⁹ Available at: <https://portal.tcu.gov.br/imprensa/noticias/tcu-avalia-acoes-de-prevencao-e-resposta-a-desastres-naturais>

³⁰ The information is available in the "Resources for risk and disaster management" panel.

Monitoring the operational audits carried out by the TCU, as well as, to the extent possible, the funds received via S2iD by members with ministerial functions in municipalities where a state of emergency or public calamity has been declared due to climate disasters, is beneficial in ensuring a more efficient allocation of these resources. Closer monitoring of emergency works and their suitability to the new climate scenario is also imperative to ensure that public resources are not misused.

This monitoring can be carried out by accessing the Risk and Disaster Management Resources Panel, where it is possible to search for the amounts transferred to the various municipalities, as well as by consulting S2iD directly at the following links:

- **Access to the TCU Risk and Disaster Management Resources Panel:**
<https://paineis.tcu.gov.br/pub/?workspaceId=8bfbd0cc-f2cd-4e1c-8cde-6abfdffea6a8&reportId=53a386ce-9923-4acc-82a3-f555af438169>

Processo	Tipo	Assunto	Atividade	Ponto crítico	Custo Processado
3.208.01.02000-0	Resposta De Auditoria	010 2019 - Obras de conservação de estruturas em áreas de alto risco de enchentes do Rio de Janeiro - Contrato de Terceira Mão/2019 em São Paulo	%		204
3.208.01.02000-0	Resposta De Auditoria	Auditoria Operativa Internacional sobre o trabalho de Defesa e Defesa de Desastres			204
3.208.01.02000-0	Resposta De Auditoria	TCU 2019 - Mais uma comissão de estudo Floresta em Pé - Comissão RS/2019/0002			204
3.208.01.02000-0	Resposta De Auditoria	Acordo de cooperação que envolve o recurso público para ações de defesa em território do Rio Grande do Sul em decorrência do evento climático	%		204
3.208.01.02000-0	Resposta De Auditoria	ANM em Terceira Mão/2019 - Avaliação dos ações de prevenção e mitigação e resposta no âmbito do Trabalho Técnico de Prevenção e Defesa (TTC) (PDR)			204
3.208.01.02000-0	Monitoramento	ANM em Terceira Mão/2019 - Avaliação dos ações de prevenção e mitigação e resposta no âmbito do Trabalho Técnico de Prevenção e Defesa (TTC) (PDR)			204
3.208.01.02000-0	Resposta De Auditoria	ANM em Terceira Mão/2019 - Avaliação dos ações de prevenção e mitigação e resposta no âmbito do Trabalho Técnico de Prevenção e Defesa (TTC) (PDR)			204
3.208.01.02000-0	Resposta De Auditoria	ANM em Terceira Mão/2019 - Avaliação dos ações de prevenção e mitigação e resposta no âmbito do Trabalho Técnico de Prevenção e Defesa (TTC) (PDR)			204
3.208.01.02000-0	Resposta De Auditoria	ANM em Terceira Mão/2019 - Avaliação dos ações de prevenção e mitigação e resposta no âmbito do Trabalho Técnico de Prevenção e Defesa (TTC) (PDR)			204

- Access to the MIDR's S2iD system: <https://s2id.mi.gov.br/>



To enable all S2iD query features, members must **register** and request access by submitting an application. The application form is available on the Unified System via the link <https://unico.mpf.mp.br/unico/modulo/documento/painel/#/142523158>, or by consulting document PRM-CAX- RS-00010458/2024.

Following the access request, the password is provided to the member via email, enabling consultation of the most varied information, including requests for recognition of a state of emergency and/or public calamity, requested funds, and work plans submitted to the Federal Government.

It is worth noting that the training sessions developed within the scope of the MIDR are open to all system users, not just to members of Civil Defense organizations, and, in many cases, are also quite useful to members and advisors.

9 COMPETENCE OF THE UNION

The Federal Constitution, in its art. 21, item XVIII, defined it as the Federal Government's competence to plan and promote permanent defense against public calamities, especially droughts and floods.

Additionally, Law No. 12.608/2012, a legal framework for the policy of protection and civil defense, established as the duty of the Federal Government, states, the Federal District, and municipalities to employ the necessary measures to reduce disaster risks, instituting a form of **climate federalism**, through which the competencies of each federative entity are made clear.

Art. 6 of [Law No. 12.608/2012](#) provides that it is incumbent upon the **Union**, among other things, to coordinate the National System of Protection and Civil Defense (SINPDEC) (inc. II); to support the States, the Federal District, and the Municipalities in mapping risk areas, in studies for identifying threats, susceptibilities, vulnerabilities, and disaster risk, and in other prevention, mitigation, preparedness, response, and recovery actions (inc. IV); to establish and maintain a system for information and monitoring of disasters (inc. V); to establish and maintain a national registry of municipalities with areas susceptible to the occurrence of large-impact landslides, flash floods, or correlated geological or hydrological processes (inc. VI).

Art. 7 of the same legal framework provides that it is the **states** responsibility to identify and map risk areas and carry out studies for identifying threats, susceptibilities, and vulnerabilities, in articulation with the Federal Government and the Municipalities (inc. IV); to carry out meteorological, hydrological, and geological monitoring of risk areas, in articulation with the Federal Government and the Municipalities (inc. V); to support, whenever necessary, the Municipalities in surveying risk areas, in preparing Protection and Civil Defense Contingency Plans, and in disseminating prevention and alert protocols and emergency actions (inc. VIII).

With regard to **municipalities**, which are responsible for implementing the National Civil Protection and Defense Policy at the local level, Article 8 highlights the duty to identify and map disaster risk areas (inc. IV); promote

the inspection of disaster risk areas and prohibit new occupations in these areas (item V); carry out, in coordination with the Federal Government and the States, real-time monitoring of areas classified as high and very high risk (item V-A); produce, in coordination with the Union and the States, early warnings about the possibility of disasters, including through sirens and cell phone messages, to inform the population and guide them on behavioral patterns to be observed in emergency situations (inc. V-B); inspect buildings and risk areas and promote, where appropriate, preventive intervention and evacuation of the population from high-risk areas or vulnerable buildings (inc. VII); organize and manage temporary shelters to assist the population in disaster situations, under adequate hygiene and safety conditions (inc. VIII); keep the population informed about risk areas and the occurrence of extreme events, as well as about prevention and alert protocols and emergency actions in disaster circumstances (inc. IX); mobilize and train radio amateurs to act in the event of a disaster (inc. X); conduct regular simulation exercises, in accordance with the Civil Protection and Defense Contingency Plan (item XI); promote the collection, distribution, and control of supplies in disaster situations (item XII); promote the training of volunteer associations to work together with the communities they support (item XV); and provide temporary housing solutions for families affected by disasters (inc. XVI).

Furthermore, [Law N° 12.608/2012](#), establishes that it is the responsibility of the Federal Government, states, and municipalities to provide human resources training for civil protection and defense actions (item V) and to provide priority and ongoing assistance for the physical and mental health of people affected by disasters, through the SUS, with periodic clinical and laboratory examinations(inc. VII).

From the above, it can be seen that the civil protection system is primarily focused on municipal action, but the federal government and states play fundamental roles in disasters where the damage and losses exceed local response capacity. They are also responsible for planning actions at the regional and national levels, and the federal government is responsible **for effectively coordinating the entire SNPDC**.

The powers established in [Law No. 12,608/2012](#) qualify the **federal interest** underlying the implementation of preventive and remedial measures in disaster situations, pursuant to Article 109, I, of the CRFB, and legitimize

the Federal Public Prosecutor's Office to protect the rights of affected communities and promote climate justice, as well as to oversee the proper use of federal funds transferred as a result of disasters.

The narrow view that, since the municipal entity is responsible for taking immediate action in matters of civil defense and land use planning, there would be no room to require the Union to take the coordination and planning actions that are its responsibility, therefore, does not hold water.

Similarly, the provisions of art. 2, III, of [Law No. 9.433/97](#), which regulates the National Water Resources Policy, also establish the federal nature necessary for understanding the issue, with regard to **prevention and defense against critical hydrological events**:

Art. 2. The objectives of the National Water Resources Policy are:

(...) **III - prevention and protection against critical hydrological** events of natural origin or resulting from the inappropriate use of natural resources;

The [Law No. 11.445/2007](#), in establishing national guidelines for basic sanitation, expressly provides:

Art. 2 - Basic sanitation public services shall be provided based on the following fundamental principles:

(...) **IV - availability, in urban areas, of drainage and stormwater management services**, treatment, cleaning, and preventive inspection of networks, adequate for public health, environmental protection, and the safety of life and public and private property;

(...) **XIII - reduction and control of water losses, including in the distribution of treated water, encouragement of rational consumption by users, and promotion of energy efficiency, reuse of sanitary effluents, and use of rainwater**;

These issues are intrinsically linked to urban infrastructure that mitigates flooding and facilitates rainwater drainage and the proper use of water, a scarce resource, as a way of reducing the harmful effects of droughts and floods. Similarly, the containment of slope erosion is an issue that challenges federal interest and is directly related to the dynamics of disasters in coastal areas.

Another key issue is Law No. 12.334/2010, which established the National Dam Safety Policy (PNSB) and created the National Dam Safety Information System (SNISB), one of whose objectives is to *ensure compliance with dam safety standards in order to promote prevention and reduce the possibility of accidents or disasters and their consequences* (art. 3, I), is another legal instrument that enables action at the federal level. First, because ANA was defined by law as the institution responsible for overseeing the safety of water storage dams located on rivers under federal jurisdiction for which it issued concessions, with the exception of those used for electricity generation. ANA is also responsible for organizing, implementing, and managing the National Dam Safety Information System (SNISB), as well as promoting coordination between dam oversight agencies and coordinating the preparation of the Dam Safety Report.

In addition, among the dam developers that are public legal entities are federal public agencies such as the National Department of Works Against Drought (DNOCS) and the São Francisco Valley Development Company (Codevasf), an autonomous federal public agency and company, both linked to the Ministry of Integration and Regional Development.

All dam developers must submit the Dam Safety Plan (PSB), Regular Safety Inspections (ISR) and Special Safety Inspections (ISE), the Periodic Dam Safety Review, and the Emergency Action Plan (PAE), in accordance with Law No. 12.334/2010. In the case of dams inspected by ANA, the frequency, technical qualifications, and content are in accordance with ANA Resolution No. 236/2017.

Therefore, it is up to the Federal Government, through the Ministry of Integration and Regional Development, to ensure sufficient budgetary resources when the dam is operated by one of those federal agencies. This will enable the development of Dam Safety and Emergency Action Plans, promote the recovery of dams and hydromechanical equipment, with the aim of protecting the lives of people living in the vicinity of the reservoirs, as well as preventing and reducing the possibility of accidents or disasters and their consequences, especially in situations where increased rainfall may raise the dam's flow rate and cause it to break.

In a context of increasingly frequent extreme weather events in the country, with a history of floods, overflows, and dam collapses, it is imperative that the provisions of Law No. 12.334/2010 and its regulations be complied with, both by entrepreneurs directly and by ANA, in its capacity as the supervisory and managing body of the National Dam Safety Policy, as well as by the Ministry of Integration and Regional Development.

ANA prepares an annual Dam Safety Report based on SNISB data and additional information submitted by regulatory agencies over the past year. The RSB lists dams classified as high risk, distributed geographically, in addition to recording accidents and incidents that have occurred, which is why it can be an important resource for the MPF's preventive actions. The RSB 2023 introduced a new category: "dams considered a priority for safety management," with a focus on risk management for disaster prevention.

The main hydrological control tool is also entrusted to ANA³¹, which controls the HidroWeb Portal, an integral part of the National Water Resources Information System (SNIRH).

³¹ Available at: <https://www.gov.br/ana/pt-br/assuntos/monitoramento-e-eventos-criticos/monitoramento-hidrologico>.

Monitoramento Hidrológico



The [Hidroweb portal](#) provides access to a database containing information collected by the National Hydrometeorological Network (RHN), bringing together data on river levels, flows, rainfall, climatology, water quality, and sediments. The data collected by hydrometeorological stations is essential for water resource management and for various economic sectors, but it also constitutes a substantial tool in preparing for critical events, since upstream flow data allows for fairly accurate predictions of flooding in downstream areas. The data available on the **HidroWeb Portal** refer to conventional hydrometeorological data collection, i.e., daily records made by observers and measurements taken in the field by hydrology technicians and hydrologists. In times of recurring critical events, the functionality of the network, its adequacy, and operability (since extreme events tend to damage stations) are issues that deserve the attention of the Federal Prosecution Service.

The data in question was used to develop the [Flood Vulnerability Map developed by the National Water Agency \(ANA\)](#), constructed in accordance with the following factors: flood occurrence intervals; high risk of damage to human life and significant damage to essential services, facilities, and public and residential infrastructure works; vulnerability of the territory and resulting impacts. The information in question is public and available at electronic portal of the National Water Resources Information System³².

³² Available at: https://metadados.snirh.gov.br/geonetwork/srv/api/records/e5cd6ea2-1ef6-46f9-8ec4-4f0b4bae35e8/attachments/Plotagem_AO_RS_30_01_2014_new.pdf

As the entire design of the National Civil Protection and Defense System presupposes coordination and management by the federal government, a series of issues in the post-disaster phase, as well as in disaster prevention and preparedness actions, involve the direct involvement of the federal government, its agencies, and bodies such as the Brazilian Geological Service, in supporting the mapping of risk areas, CEMADEN, in the preparation of alerts, etc.

10 THE PRECAUTIONARY PRINCIPLE IN RELATION TO CATASTROPHIC DAMAGE AND CIRCULARITY IN RISK MANAGEMENT

The National Civil Protection and Defense Policy (PNPDEC) establishes the duty of public entities to adopt the necessary measures to reduce the risks of accidents or disasters. It also states that uncertainty regarding the risk of disaster does not constitute an obstacle to the adoption of preventive and mitigating measures for the risk situation (Art. 2, § 2, Law No. 12,608/2012), which endorses the so-called *Precautionary Principle for Catastrophic Damage*, from which derives the understanding that, given the probability of a harmful event occurring, the government must act.

PNPDEC adopts “a circular and systemic basis for disaster risk management, combining preventive, mitigation, response, compensation, and recovery strategies, under the logic of circularity in catastrophic risk management.”³³ This logic stems from the provisions of art. 4, II, of Law No. 12.608/2012, and it should be noted that, in the case of extreme weather events, the duty to act precautionarily is not negated by the lack of accuracy regarding the date on which they will occur or doubts as to their magnitude.

Law No. 12,608/2014 expressly establishes, in its Article 3, sole paragraph, that the National Civil Protection and Defense Policy must be integrated with other sectoral policies, including those **related to climate change**, land

³³ CARVALHO, Délton Winter de. Desastres Ambientais e sua regulação jurídica: deveres de prevenção, resposta e compensação ambiental. São Paulo: Editora Revista dos Tribunais, 2015. p. 34.

use planning, urban development, health, the environment, water resource management, geology, infrastructure, education, science, and technology, with a view to promoting sustainable development.

Despite legislative developments in this area, there are still a number of shortcomings that need to be overcome so that Brazil, especially the most vulnerable municipalities and their populations, are prepared for catastrophic climate events, thereby preventing fatalities and limiting damage to what is truly unavoidable.

11 MINISTERIAL PERFORMANCE

The National Council of Public Prosecutors (CNMP), through its Environment Commission (CMA), launched in 2023 the [Action Manual - Socio-Environmental Disasters and Climate Change](#), designed to assist members of the Public Prosecutor's Office in their task of dealing with disasters at three stages: before, during, and after the occurrence of disasters.

It also addresses other issues related to disasters, such as coordination between various agencies of the Public Prosecutor's Office with responsibilities for responding to these events, disasters in the context of Reurb, as well as a glossary of key terms that should be considered by members and employees of the Federal Prosecution Service.

From the point of view of ministerial action, the State Public Prosecutor's Office, especially in the states of Rio de Janeiro and Santa Catarina, has been working on several fronts to demand that the state take action to adopt disaster prevention and preparedness measures that mitigate human and economic losses. These initiatives, many of which are compiled in works published by Abrampa or accessible on the websites of these institutions, have—as is to be expected—local/regional scope. Thus, it is incumbent upon the Federal Public Prosecutor's Office to ensure that the actions initiated are mirrored at the federal level. There is clearly room for coordinated action between state prosecutors and the Federal Public Prosecutor's Office, without prejudice to the integration of other bodies such as the Federal Court of Accounts, state courts of accounts, etc.

The entire design of the National Civil Protection and Defense System presupposes coordination and management by the federal government. Such initiatives are only likely to be successful if the Federal Public Prosecutor's Office also assumes its share of responsibility. A number of issues, both in the aftermath of a disaster and in disaster prevention and preparedness actions, involve the direct involvement of the federal government, its agencies, and bodies such as the Brazilian Geological Service, Cemaden, etc.

Thus, to complement the vast material available on the subject, and merely as a suggestion of actions that may be taken at the federal level, below is a possible flowchart of actions that may be developed by members of the Federal Public Prosecutor's Office who wish to act on the subject.

11.1 DISASTER PREVENTION/PREPAREDNESS

Considering the large number of municipalities that usually make up the area of responsibility of a ministerial office, the first question that arises is how to work on the issue of climate disasters in a preventive manner amid the various ordinary demands and the high number of municipalities served by a single attorney. The filing of a case for each municipality in the jurisdiction may make the office unworkable and is not recommended.

Another point to be highlighted is that, among the objectives of the case file, it will not always be convenient to delve into certain aspects of an eminently local nature, such as the structuring of municipal civil defense, the adequacy of the Contingency Plan, etc. Such issues, although they contribute directly to positive results in terms of civil protection and defense, and are perhaps among the most essential, may be investigated by the State Public Prosecutor's Office, so that it is possible to intersect the two actions without completely juxtaposing them. In this regard, it is important to investigate existing initiatives with the State Public Prosecutor's Office so that, whenever possible, they can be combined. This does not imply mandatory joint action, which is sometimes difficult from the point of view of reconciling schedules and commitments, but rather a certain understanding that there will be issues on which it is essential for both bodies to work in the same direction. Knowing what is being done by the local Public Prosecutor's Office, whether there are

actions on the subject or extra-procedural initiatives, is always fundamental to avoid rework and contradictory actions, which only harm society.

Furthermore, with regard to the selection of municipalities to be monitored—whenever such action is preventive and does not result from a previous climate disaster—it is suggested that priority be given to those that, according to the [Nota Técnica nº 1/2023/SADJ-VI/SAM/CC/PR](#), are among the [1.972 municipalities most susceptible to landslides, flash floods, and flooding](#). The Technical Note and the list in question were prepared in 2023, with contributions from the following entities:

- Secretariat for Coordination and Monitoring of the Civil House of the Presidency of the Republic (SAM/CC/PR);
- Ministry of Integration and Regional Development (MIDR) - National Secretariat for Civil Protection and Defense (Sedec) and National Secretariat for Water Security (SNSH);
- Ministry of Cities (MCID) - National Secretariat for Environmental Sanitation (SNSA) and National Secretariat for Peripheries (SNP);
- Ministry of Science, Technology, and Innovation (MCTI) - National Center for Monitoring and Alerting Natural Disasters (Cemaden);
- Ministry of Mines and Energy (MME) - Secretariat for Geology, Mining, and Mineral Transformation (SNGM) and Geological Service of Brazil (SGB-CPRM);
- Ministry of the Environment and Climate Change (MMA) - National Secretariat for Climate Change (SMC).

Based on this, the National Center for Natural Disaster Monitoring and Alerts (Cemaden/MCTI) also updated the list of municipalities most susceptible to natural disasters, in the subgroups of landslides, flash floods, and floods, so that 1,133 municipalities receive *nowcasting*³⁴ warnings (immediate or very short-term weather forecasts).

If there are several municipalities included in the list under the jurisdiction of a particular Office, it is advisable to establish priorities based on the municipal capacity to manage disaster risk (see ICM). In this vein, although it

³⁴ Available at: <https://www.gov.br/inpe/pt-br/assuntos/ultimas-noticias/secom-apresenta-projeto-nowcasting>.

may seem intuitive to start the work with the most precarious municipalities, it is worth suggesting that those that already have some initiative in this area be strengthened. This is because, once these municipalities have been leveraged, it is easier to introduce the topic and make demands on those less capable, using the facility that is imposed through the advances made by other municipalities in the same region. It should be noted that several issues related to civil protection and defense involve common regional aspects, especially in cases where municipalities are part of the same river basin or have identical relief and vegetation cover characteristics. Thus, the experience gained by a municipality with greater capacity can serve as a catalyst for civil defense policy in another less capable municipality.

Another possibility, given that many municipalities are susceptible under the attribution of a specific Office, is to elect the one with the most vulnerable population, prioritizing the parameter referring to the highest number of inhabitants mapped in the risk area, or, as the case may be, the one with the best technical and financial conditions that enable it to meet the needs for investment in civil protection and defense and effectively advance the agenda in question. Municipalities with tourist appeal, for example, tend to suffer considerable losses due to climate disasters and tend to prioritize the issue in their political and budgetary agendas. When they do not, they are more likely to be convinced that by not investing in prevention, they are taking risks with infrastructure and services that could be seriously compromised by extreme weather events.

Therefore, defining the action strategy depends on several factors and can be aided by the [Municipal Capacity Indicator \(ICM\)](#) in risk and disaster management, a tool developed by MIDR, whose main objective is to reflect the capacity of municipalities to act in risk and disaster management.

The ICM consists of 20 variables subdivided into three dimensions, as shown below, and was established taking into account the risk profile and size of the municipality:

I – Planning and Management Tool:

1. Municipal PPA including Civil Protection and Defense;
2. Master plan approved by Municipal Law including Protection and Civil Defense;
3. Municipal Risk Reduction Plan;
4. Sustainability Letter or equivalent document identifying disaster risks;
5. Geotechnical Suitability for Urbanization Map;
6. Mapping of risk areas;
7. Registration or identification of families in risk areas;
8. Contingency Plan.

II – Intersectoral Coordination and Capacities:

1. Municipal System or Municipal Intersectoral Council for Civil Protection and Defense;
2. Municipal Coordination for Civil Protection and Defense (Compdec);
3. Budget allocation (LOA) for Civil Protection and Defense;
4. Existence of Community Centers for Protection and Civil Defense (Nupdec);
5. Minimum number of people trained in Civil Protection and Defense;
6. Person certified in at least one subject area of the Sedec Continuing Education Plan;
7. User enabled in S2iD.

III – Policies, Programs, and Actions

1. Control and supervision to prevent construction in susceptible areas, inspect buildings and areas at risk;
2. Social housing program for the resettlement of families removed from risk areas or left homeless due to disasters;
3. Urban drainage measures necessary for disaster risk prevention and mitigation;
4. Educational campaigns or activities to raise awareness about disaster risks;
5. Municipal monitoring and early warning system.

The Risk Profile groups municipalities into Priority and Non-Priority categories, in accordance with [Technical Note No.1/2023/SADJ-VI/SAM/CC/PR](#), which makes the selection process even easier. There is also the consideration of municipal size, which refers to the number of inhabitants: small size for municipalities with up to 100,000 inhabitants and medium and large size for those with over 100,000 inhabitants. Thus, based on this combination of factors, a quantitative “x” of variables (among the three dimensions mentioned above) must be met, according to the profile and size of the municipalities:

Quantidade de variáveis para enquadramento dos municípios nas Categorias de Gestão de Riscos e Desastres por porte e perfil de risco

Dimensões da Gestão Municipal de Riscos e Desastres [Total de 3]		Número de Variáveis [Total de 20]	Categorias de Gestão de Riscos e Desastres por Porte e Perfil de Risco											
			Municípios Prioritários (1972 municípios)				Municípios Não Prioritários de Médio e Grande Porte				Municípios Não Prioritários de Pequeno Porte			
			A	B	C	D	A	B	C	D	A	B	C	D
I	Instrumentos de Planejamento e Gestão	8	7	5	3	0	5	3	2	0	3	2	1	0
II	Coordenação Intersetorial e Capacidades	7	6	4	2	0	4	3	1	0	3	2	1	0
III	Políticas, Programas e Ações	5	4	3	1	0	3	2	1	0	2	1	1	0
		Total de Variáveis Requeridas	17	12	6	0	12	8	4	0	8	5	3	0

The ICM is the monitoring metric for Program 2318 - Risk and Disaster Management in the 2024-2027 Multi-Year Plan (PPA), i.e., it will be the parameter that will measure the improvement in municipal capacity for risk and disaster management actions in the country during the period in question. In all ministerial actions, it is advisable to monitor the evolution of the ICM, while bearing in mind that the existence of programs and actions, for example, only indicates the existence of certain variables, but does not guarantee them.

In early 2024, when it was created, the adoption of the ICM revealed that 3,815 municipalities (about 68.49% of Brazilian municipalities) are in the initial embryonic stage(D) and/or initial intermediate stage (C) with regard to risk management. Therefore, it is necessary to establish action priorities that are feasible and can be implemented gradually.

Another useful tool for monitoring municipal progress in civil defense protection matters is the Adapta Brasil platform, managed by INPE. More

recently, the MMA launched the Resilient Green Cities Program, which can also help identify municipalities that should be selected for priority ministerial action³⁵.

Below are some administrative orders that may be useful to those working in this area:

- **[PRM-CAX-RS-00007941/2024](#)**: Establishment of administrative procedures to monitor climate adaptation measures adopted by the municipality of Gramado, Rio Grande do Sul;
- **[PRM-CAX-RS-00004595/2024](#)**: Establishment of administrative procedures to monitor the implementation of Action and Emergency Plans (PAE) for dams owned by Companhia Energética Rio das Antas (CERAN);
- **[PRM-CAX-RS-00004649/2024](#)**: Initiation of administrative proceedings to monitor the situation of the dams at the Bugres and Canastra hydroelectric power plants, due to the floods that occurred in April and May 2024;
- **[PRM-CAX-RS-00008446/2023](#)**: Initiation of a civil inquiry to investigate the possible responsibilities and measures taken by the government and concessionaires in relation to the floods that caused damage to the lives and public property of a significant number of citizens residing in the mountainous and valley cities in the micro-regions of Bento Gonçalves/RS, Caxias do Sul/RS, and Lajeado/RS, especially with regard to measures for the prevention and control of climate disasters.

³⁵ Available at: <https://www.gov.br/mma/pt-br/assuntos/meio-ambiente-urbano-recursos-hidricos-qualidade-ambiental/cidades-verdes-resilientes>

11.2 IN THE EVENT OF A DISASTER - IMMEDIATE RESPONSE PHASE

Ministerial action will not always be preventive in nature.

With regard to the incidents in the mountainous region of Rio de Janeiro, the northern coast of São Paulo, and Rio Grande do Sul, the ministry's actions had to be tailored to the needs of the disaster phase and extended beyond it in order to monitor reconstruction efforts.

In such cases, it is important to investigate whether government protocols were adequate, starting by seeking information from the National Center for Risk and Disaster Management, an agency that works on disaster preparedness and response and plays a central role in the National Civil Protection and Defense System. Cenad is linked to the Ministry of Integration and Regional Development and works directly with the National Institute of Meteorology (InMet) and the National Center for Monitoring and Alerting Natural Disasters (Cemaden), the latter being a key player in civil protection and defense actions involving geohydrological risks³⁶.

Every day, InMet generates weather risk warnings between 12 and 48 hours in advance, and Cenad is responsible for disseminating this information to State Civil Defense agencies via email and WhatsApp, for their knowledge and action, including immediate forwarding to municipalities within the area covered by the warnings. As these are weather warnings, which are generally not very accurate, it is up to Cemaden to analyze and refine them in order to issue geohydrogeological risk alerts to the monitored municipalities, with less advance notice (nowcasting), but in a more detailed manner and focused on local risks. This information is exchanged between Cenad, InMet, and Cemaden through daily briefings, in which Cemaden reports on any concerns it has mapped for that day or the coming days. In cases where the alert indicates a serious scenario, Cenad convenes meetings with the State Civil Defenses, and also municipal Civil Defenses, when there is precision about possible river basins that could be affected, and the scenario is disseminated in order to facilitate the structuring of preparation actions.

³⁶ About CEMADEN and the structural and human deficiencies faced by the agency: <https://www.cnnbrasil.com.br/nacional/noticias/mpf-vai-investigar-precariedade-no-cemaden-orgao-que-mon-itoro-enchantes/>.

By obtaining information about the dynamics that preceded the catastrophic event, it is possible to understand what preparations were made, whether they were satisfactory, or whether, in some way, the necessary measures were not taken to evacuate the areas in order to mitigate deaths.

After the event in Rio Grande do Sul, and following direct action by the Federal Public Prosecutor's Office in a structural public civil action, an alert system, no longer dependent on prior registration, began to operate and has proved decisive in emergencies for disseminating high-risk disaster information to the population. **Civil Defense** flert works by sending an audible warning to cell phones located in a specific coverage area. The warning — in the form of a text message and audible alert — prevents the user from continuing what they are doing, even if the cell phone is in silent mode or does not disturb. Initially, the technology in question could even reach devices that were turned off (as long as they had sufficient battery power), but in the states where it was implemented, this option was abandoned as a way of protecting potential victims of crimes committed in domestic environments. The disclosure of the existence of a cell phone, through the signal it emits, was considered harmful when, for example, it could be hidden in the victim's possession without the knowledge of a potential aggressor.

It should be noted that the *cell broadcast* vinha sendo postulado desde 2012, por diversos procuradores e promotores com atuação na região serrana do Rio de Janeiro, mas só recentemente, após o evento trágico do Rio Grande do Sul, foi finalmente colocado em operação.

had been proposed since 2012 by several prosecutors and attorneys working in the mountainous region of Rio de Janeiro, but only recently, after the tragic event in Rio Grande do Sul, was it finally put into operation.

Another fundamental issue in this emergency response concerns the institutional participation of the MPF in the crisis cabinet. In the case of Rio Grande do Sul, the presence of the chief prosecutor at daily meetings not only included the MPF in discussions related to response actions, but also enabled demands to reach the natural prosecutors in a timely manner. In cases of disasters, telephone, electricity, and internet systems are directly affected, so the Federal Public Prosecutor's Office needs to be present in society through

other means, not just through its official communication channels or the citizen service room.

On the other hand, considering the scope of the disaster, and whenever it exceeds the merely local scope, it is a fact that the prosecutor with jurisdiction will not be able to deal with institutional representation and, at the same time, act in his office, in order to adopt the emergency measures under his responsibility. From the closure of highways and bridges at risk of collapse, to the monitoring of collapsing dams, to the provision of basic health care to the population, all these issues end up, in crisis situations, affecting, to a greater or lesser extent, the work of the ministry, especially those who work on issues of citizenship and the environment.

In this regard, it is advisable to act with the assistance of other prosecutors in the unit, or with the authorization of the Attorney General, with the collaboration of colleagues from other units, so that tasks can be divided among everyone. Whenever possible, it is also important to be aware of the actions being taken by state prosecutors, who are on the front lines in rescuing domestic and wild animals, assisting victims, and other issues that are intrinsically related to the work carried out at the federal level.

Holding daily or weekly meetings also helps to fully understand the current situation, assisting in the dissemination of essential information and preventing members from getting ahead of situations that are being satisfactorily resolved by the Executive Branch, given the exceptional circumstances.

It should be noted that, under these circumstances, it is completely unreasonable to send official letters to Civil Defense agencies and other bodies involved in the response phase, since their staff will be fully focused on meeting the essential needs of the population, including rescue operations, shelter management, restoration of services, and clearing roads. Information that is essential to the investigation of cases handled by the MPF should be requested at a later date, once the immediate response phase has been completed.

Brasília, Federal District, March 15, 2025.

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