

CLIMATE CHANGE ACCORDING TO THE PERCEPTION OF BRAZILIAN CITIZENS

Analysis report

Job: 211064

January 26, 2022

METHODOLOGICAL INFORMATION

OBJECT

Survey hired by the Institute for Technology and Society of Rio (ITS-Rio) and conducted by Inteligência em Pesquisa e Consultoria (IPEC), with national coverage and conducted through the telephone. Two rounds of this study were carried out in 2020 (conducted by IBOPE Inteligência) and 2021.

PURPOSE

For the second year in a row, the survey aims to raise data regarding the Brazilian population's perception of issues related to climate and the environment, covering topics such as forest fires in Brazil, global warming, environmental preservation attitudes, and climate change.

METHODOLOGY

Research Type: Quantitative

Data Collection Method: Telephone interviews conducted through a Computer Assisted Telephone Interview (CATI) system, that is, with the support of an electronic questionnaire in which the answers are typed by the interviewer and forwarded directly to a database.

Geographic Coverage: Nationwide

Target audience: Brazilian population aged 18 years or older.

Questionnaire: The questionnaire was developed by ITS, together with IPEC, using the Climate Change in the American Mind (CCAM) project as a theoretical and methodological framework, coordinated by the Yale Program on Climate Change Communication and the Center for Climate Change Communication of the George Mason University Foundation. As ITS-Rio partnered with IPEC in the scope of this project, the questionnaire was also revised and submitted to the evaluation of the research team from the aforementioned research centers.

Pretest Procedures: Ten interviews were conducted before the first round of the survey, during the pre-test stage, to test the fitness and wording of the questions in the questionnaire, as well as its average application time. The questionnaire applied in both editions of the study was revised based on the results of the pre-test stage.

Periods in the field:

- First Round: September 24 to October 26, 2020.
- Second Round: September 28 to November 1, 2021.

This report presents the results of the second round and includes comparisons with the first round.

Number of interviewers in the project:

- First round: 29 interviewers.
- Second round: 20 interviewers.

SAMPLING

Universe: Brazilian population aged 18 years or older.

Coverage: Nationwide

Sample Design: The first round was based on a proportional sample to the distribution of the Brazilian population among the country's regions. In turn, in the second round, a disproportional sample was adopted to allow increasing the sample in regions of interest to the research (North and Central-West), thus ensuring better readings of the results for these regions. Despite the difference in sample design, both rounds are representative of the study's target population and allow the interpretation of the results from each of the five regions of the country, as well as the comparison between distinct editions of the survey.

Sample Selection: Landline and mobile phone numbers were randomly selected for the interviews, and their quantity and distribution were governed by the principle of population quotas, in order to ensure the representativeness of the adult Brazilian population from all regions of the country, with various levels of education and belonging to different gender and age groups. The quotas were established based on the most up-to-date data collected from the IBGE.

Sample Scaling:

Round	Sample Design	Total interviews	Possible readings of the results	Margin of error for the total sample	Confidence level
First round	Proportional	2,600 interviews	Country's total, country's regions, and demographic variables.	2 p.p.	95%
Second round	Disproportional	2,600 interviews	Country's total, country's regions, and demographic variables.	2 p.p.	95%

Procedures and weighting factors: The weighting factors were calculated by IPEC to correct for the disproportionate sampling design of the second round.

STANDARD PROCEDURES OF QUALITY RESEARCH:

IPEC is governed by the ethical standards of the Brazilian Association of Research Companies (ABEP) and the European Society for Opinion and Market Research (ESOMAR).

Furthermore, its procedures comply with the ISO 20.252 international quality standard for Market and Opinion Research and the ISO 9001 international quality management standard.

The following quality procedures were adopted to carry out this project:

- The interviews were conducted by a team of interviewers properly trained and supervised by IPEC;
- At least 20% of the material from each of the interviewers was scrutinized and checked;
- 100% of the questionnaire's answers were submitted to an electronic consistency test.

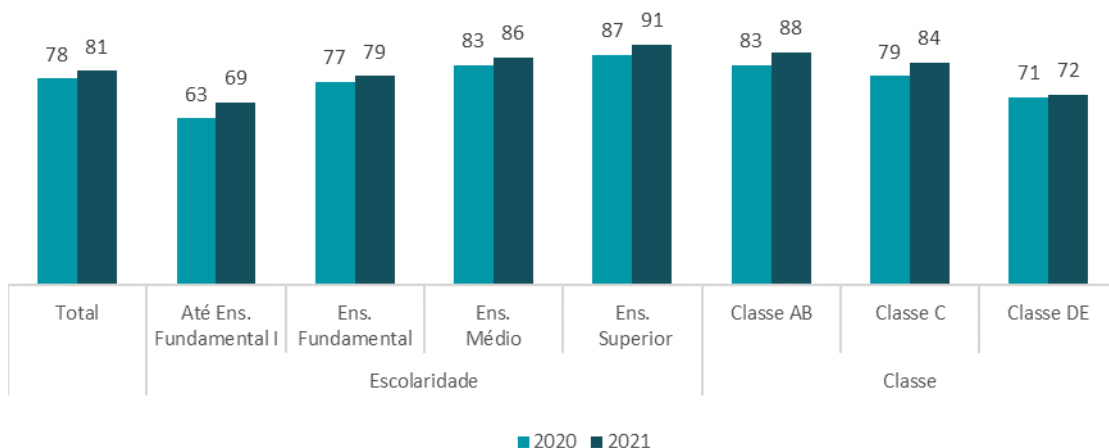
ANALYSIS OF RESULTS

Perception of climate change and global warming among Brazilian citizens

The survey results indicate that the Brazilians attribute a high relevance to the issue of global warming is high: in 2020, 78% claimed to consider the issue very important, whereas in 2021 this proportion reached 81%. In both editions of the study, the percentage of those who found that the issue had no importance at all was only residual (3% and 2%, respectively).

However, even though this index has generally reached elevated levels, the importance given to the subject varies according to socioeconomic profiles and increases along with the level of schooling and social class, as shown in Chart 01. It is also possible to note a generational difference in the importance given to the topic in both editions of the survey: in the age groups up to 44 years old, more than 80% of Brazilians consider the issue of global warming very important, whereas among those aged 55 or more, 74% said so in 2021. However, it is worth noting that compared to 2020 (65%), the perception that global warming is a crucial issue among Brazilians aged 55 years or older increased by nine percentage points, therefore narrowing the gap in their perception compared to the younger age group.

Chart 01: Brazilians who consider the issue of global warming strongly important, by schooling and social class – 2020 and 2021 (%)



Another crucial difference that can be observed in the results concerns the political positioning¹ of Brazilians, which is an important variable to identify differences of opinion on global warming and broader environmental issues. In 2021, 88% of participants leaning to the left and the center of the political spectrum attributed foremost importance to global warming, and in 2020, these rates reached similar percentages (83% and 85%, respectively). Among the Brazilian individuals positioned to the right of the political spectrum, 75% consider the issue very important, a percentage that reached 72% in 2020.

Considering the recent debate around the phenomenon of global warming, access to information also turns out to be a principal element to understanding how Brazilians perceive the issue.

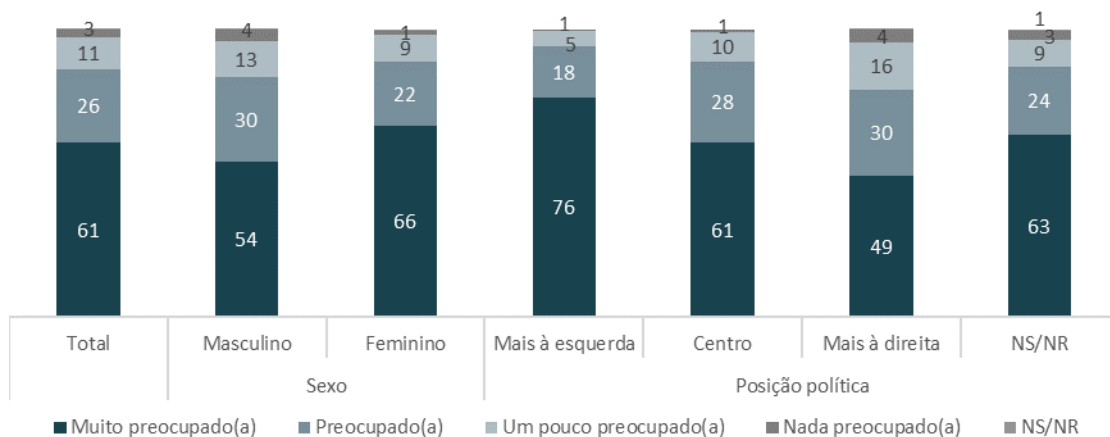
¹ The variable on political positioning is self-reported and was collected from the following question: “In politics, people usually talk about ‘left,’ ‘right,’ and ‘center.’ Do you identify as:”, and the answer choices were: “More to the left?”, “In the center?”, or “More to the right?”.

Therefore, the survey also sought to identify the differences in opinion between Brazilian Internet users and non-users,², revealing a strong relationship between digital inclusion and a greater engagement around the environmental agenda. Regarding the importance attributed to global warming among Internet users, 84% consider it very important, which is 20% higher than that observed among Brazilians who do not use the Internet (64%). However, it must be noted that in 2020 this difference was even greater (81% and 59%, respectively).

The degree of concern with the environment is also high among Brazilians, given that in both 2020 and 2021, 61% of the participants claimed to be strongly concerned about this issue. In 2021, 26% claimed to feel concerned about it, 11% were moderately concerned, and only 3% declared they did not feel any concern at all; indeed, these percentages were similar to those found in 2020 (25%, 10%, and 4%, respectively).

As presented in Chart 02, women and those who are politically positioned to the left stated that they are more concerned about the environment than men and the participants who position themselves to the center or the right on the political spectrum.

Chart 02: Degree of concern for the environment, by gender and political position in 2021 (%)



Although the survey reveals that most Brazilians regard the issue of global warming as strongly important and claim to be deeply concerned about the environment, a challenge in terms of access to information on the subject remains. Most Brazilians believe they have moderate knowledge about global warming and climate change (46%), whereas 21% claim to know a lot about the subject.

The participants’ self-assessment of their level of knowledge on global warming and climate change issues increases significantly as schooling and social class rise (Chart 03). Among Brazilians from class AB (29%) who have completed higher education (39%), the perception that they know a lot about such subjects is more frequent but decreases considerably among participants from class DE (13%), and even among those who completed high school (18%).

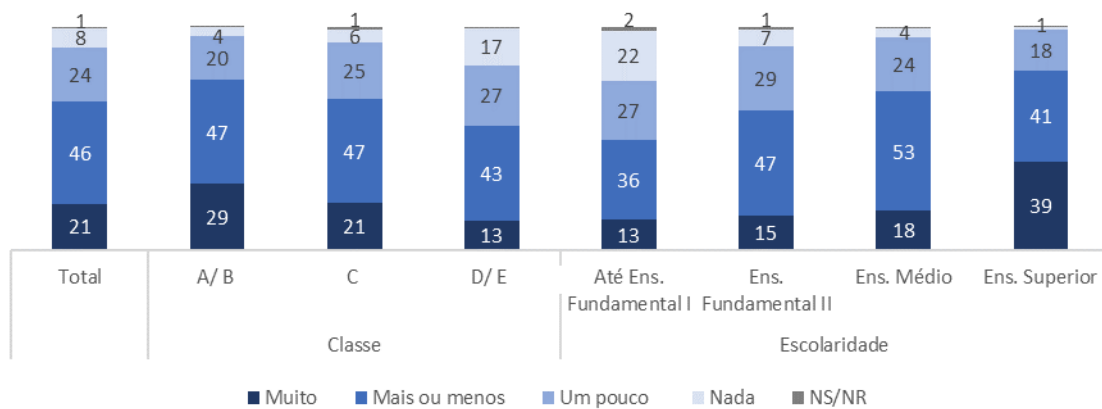
Similarly, among Internet users, the rate of participants who declared that they knew a lot about global warming and climate change (22%) was higher than that of non-users (11%), which reveals

² Internet users are individuals who have accessed the web at least once in the three months prior to the interview, as defined by the International Telecommunication Union (ITU, 2014). International Telecommunications Union (ITU). (2014). Manual for measuring ICT access and use by households and individuals. Retrieved on August 1, 2020, by http://www.itu.int/dms_pub/itu-d/opb/ind/D-IND-ITCMEAS2014-PDF-E.pdf

the relevance of digital media as sources of information on the topic in question. It is also worth noting that the devices used by these Internet users to access the web can also significantly impact the content to which they have access. According to data from the ICT Households survey (CGI.br, 2020),³, Internet users who can connect to the web through several devices and not only through their mobile phone perform more activities online and consume a greater variety of multimedia content, compared to those who can only access the global network through their smartphones. Among these users, Internet access becomes more restricted and somewhat biased, since it is sometimes limited to specific applications and platforms, released for free by cellular operators that offer low-limit data plans (zero-rating⁴). The results of the survey conducted by ITS-Rio show that the share of Brazilians who think they know a lot about global warming and climate change decreases according to the devices they use to access the Internet: in 2021, 24% of those who accessed the network through more than one type of device declared they knew a lot about these themes. However, this rate reaches a meager 17% among Internet users who solely use smartphones and 11% among those who are not Internet users.

Still in terms of knowledge, in both editions of the survey the share of Brazilians positioned to the left and who declared to have a high degree of knowledge about these themes (34% in 2020 and 28% in 2021) is higher than among the right-wing participants (25% in 2020 and 16% in 2021).

Chart 03: Degree of knowledge about global warming and climate change, by schooling and social class, in 2021 (%)



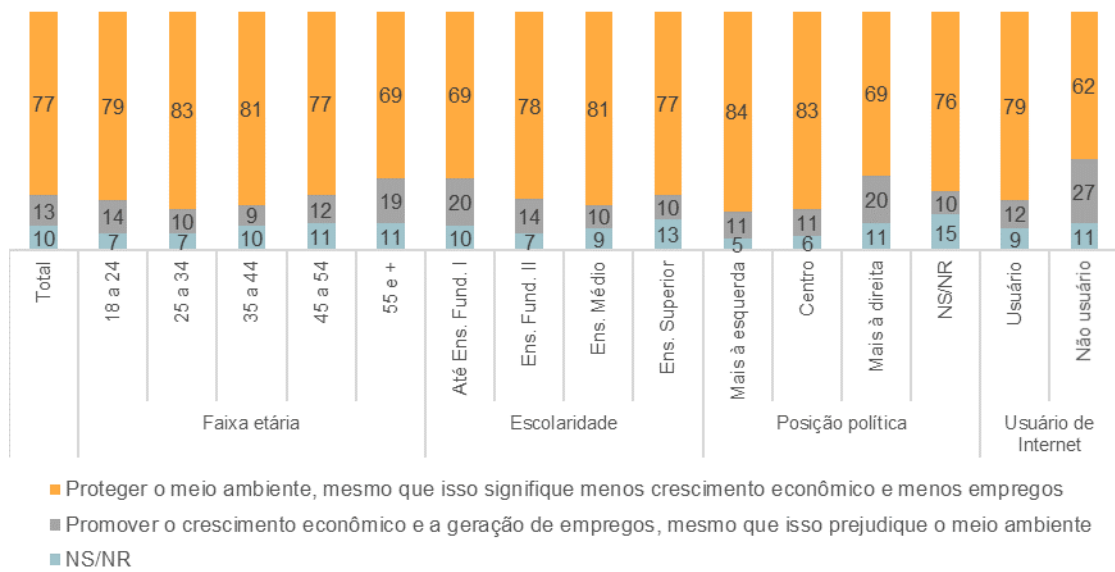
In the environmental debate, sometimes there is a clash between the notions of environmental preservation and economic growth, which are seen as opposing or difficult to reconcile agendas. When faced with this question, a significant share of Brazilians claimed that protecting the environment is more important, even if it leads to decreased economic growth and job creation (77%). On the other hand, in 2021, 13% of the participants regarded the promotion of economic growth and the creation of jobs as more important, even if these would harm the environment.

³ CGI.br/NIC.br, Regional Center for Studies for the Development of the Information Society (Cetic.br), survey on the Use of Information and Communication Technologies in Brazilian Households (ICT Households 2020). Available at: <https://cetic.br/pt/publicacao/resumo-executivo-pesquisa-sobre-o-uso-das-tecnologias-de-informacao-e-comunicacao-nos-domicilios-brasileiros-tic-domicilios-2020/>. Accessed: January 26, 2022.

⁴ According to Garcia and Silva & Marques (2018), zero-rating is a practice performed by ISPs, which consists of offering free access to a given application, service or set of applications, whose consumption is not counted in the monthly data plan of Internet provider contracts. Available at: <https://www.scielo.br/j/tinf/a/MWJsXbW8Z587xYz8ChpJq5N/?format=html&lang=pt#>. Accessed: January 26, 2022.

Although priority to the environment prevails among Brazilians, in some segments of the population the percentage of participants who consider protecting the environment more important is a little lower than the rate observed in the total population (Chart 04). Among Brazilians aged 55 years or older who have completed elementary school and who identify as right-wingers, the percentage of those who believe that protecting the environment is more important than economic growth reached 69% in 2021. Among those who do not use the Internet, this percentage was even lower (62%).

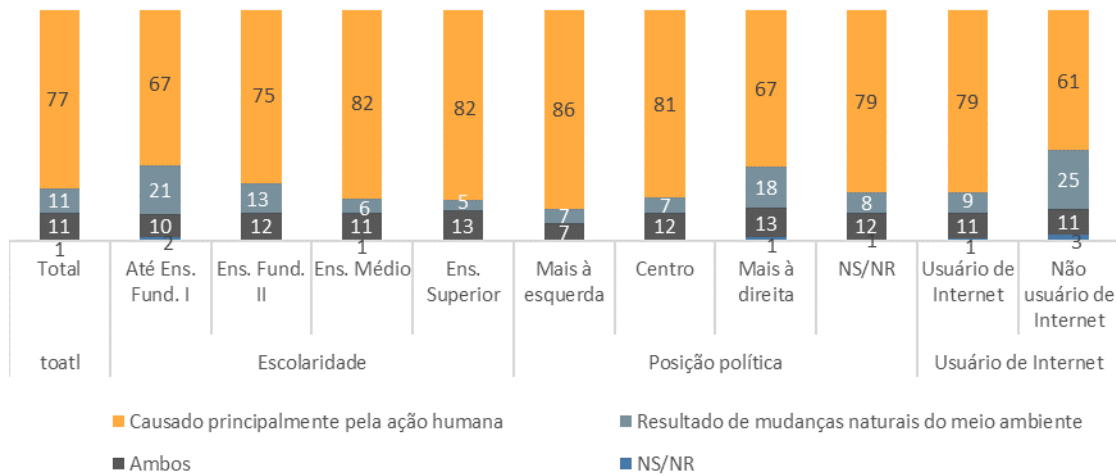
Chart 04: What Brazilians regard as more important: protecting the environment or promoting economic growth and creating jobs, by age group, schooling, political position, and whether or not they are Internet users, in 2021 (%).



Another point that has been debated concerns the occurrence and causes of global warming. According to the survey data, almost all Brazilians believe that global warming is happening – 96% agreed with this statement – and that this phenomenon has been primarily caused by human activity (77%). On the other hand, approximately one out of ten Brazilians believe that global warming results from natural changes in the environment (11%), and the same amount believes that the phenomenon is caused by both things (11%).

Once again, it is possible to observe differences of opinion according to the schooling and political position declared by the participant. According to data in Chart 05, even though the proportion of those who believe that global warming is primarily caused by human activity is the majority among all profiles, this rate is lower as schooling decreases, among right-wingers, and those who are not Internet users.

Chart 05: Perception about the causes of global warming, by schooling, political position, and whether they are Internet users or not, in 2021 (%)

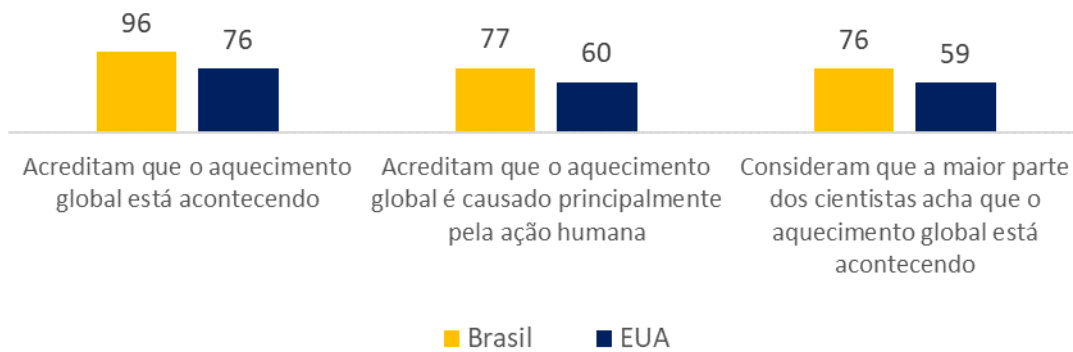


Besides believing that global warming is actually happening, most Brazilians also perceive the existence of a consensus about the phenomenon among scientists. In both editions of the survey, more than 70% of Brazilians claimed that most scientists think that global warming is underway (76% in 2021), while less than a fifth declared that the scientific class disagrees among themselves about the occurrence of global warming (18%). In addition, a small share of the participants considers that in the scientists' point of view, global warming is not taking place at all (5%).

By sharing the same theoretical and methodological framework, the survey conducted by ITS-Rio allows the comparison of its results with those collected among US citizens by the Climate Change in the American Mind (CCAM) project, coordinated by the Yale Program on Climate Change Communication and the Center for Climate Change Communication of the George Mason University Foundation⁵. When comparing the views on climate change among Brazilians and Americans (Chart 06), it is possible to notice that the consensus on this issue among the Brazilian population is greater. In comparison with the views of the American population, the share of Brazilians who believe that global warming is happening and caused primarily by human activity and that most scientists agree on the existence of this phenomenon is higher.

⁵ Yale Program on Climate Change Communication (YPCCC) and Center for Climate Change Communication of the George Mason University Foundation (Mason 4C). Climate Change in the American Mind: National survey data on public opinion (2008-2020). Data disclosed on < [Explore Climate Change in the American Mind - Yale Program on Climate Change Communication](https://climatecommunication.yale.edu/press-releases/2022/01/17/2022-01-17-american-mind-survey-2008-2020/)>, accessed January 17, 2022.

Chart 06: Views on climate change among Brazilians and Americans in 2021 (%)



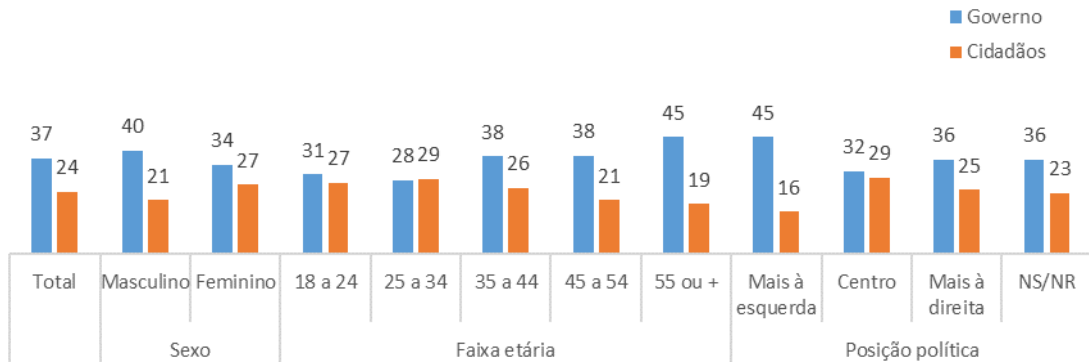
The survey also aimed to identify the perceptions of Brazilians about the possible damage that global warming could cause. In line with their high concern about climate change, nine out of ten Brazilians believe that global warming can severely harm future generations, a rate that has remained virtually unchanged from 2020 (88%). In addition to the future effects, Brazilians often express concern about the consequences that global warming can bring to their own lives. In 2021, 75% of Brazilians said that they think global warming could severely impact themselves and their families.

Concern about the potential harms of climate change is even greater among women and left-wing participants. By 2021, 92% of women believed that global warming could greatly harm the next generations, whereas 80% found that it could harm them and their families. Among male participants, these rates were 88% and 70%, respectively. In turn, among left-wingers, 93% consider that global warming can greatly harm future generations, and 81% think it can impact their families. Among those who position themselves to the right of the political spectrum, 86% and 69% share these views, respectively.

Another important aspect that the survey sought to map were the actors that Brazilians consider to be primarily responsible for solving the problem of climate change. In 2021, 37% considered governments to be primarily responsible, whereas 32% claimed it was business and industry, citizens (24%), and Non-Profit Organizations (4%). All these results remained stable compared to the rates found in 2020.

Regarding the accountability for solving the problem of climate change, it is worth noting the difference between the role attributed to governments and citizens among the different socio-demographic profiles. As Chart 07 shows, the responsibility attributed to governments is greater among men, as we move up along the age spectrum and among left-wing participants. On the other hand, female, young, centrist, and right-wing participants attribute a greater degree of responsibility to citizens, in terms of the contribution they can offer to solve the problem of climate change.

Chart 07: Government vs. citizens' contribution to solving the climate change problem, by gender, age group, and political position in 2021 (%)



The survey looked into some of the activities that citizens can perform to contribute to the preservation of the environment, to map the level of engagement of Brazilians in practical actions associated with the subject. As Chart 08 shows, the activities most referred to by the participants in both editions of the study were sorting garbage for recycling, sharing information or news in defense of the environment, and stopping buying or consuming products that can harm the environment.

Chart 08: Actions concerning the defense of the environment (%)



In 2021, in relation to the total population, waste recycling was less mentioned by Brazilians living in the North (60%) and Northeast (66%) regions. On the other hand, such practice was more frequent in the South region (88%), which may be associated with the greater or lesser offer of recycling services, both by the public authorities and through recycling cooperatives among the country's regions and in the countryside.

As can be observed in other indicators, changes in consumption behavior motivated by environmental issues were also more frequently cited among women, more educated Brazilians, and participants who identify as left-wingers. When asked if they stopped buying or using any product that harms the environment, 61% of women, 65% of participants who completed higher education, and 62% of those who declared to be left-wingers responded affirmatively, whereas among men (54%), Brazilians who completed elementary school (52%), and participants who identify as right-wingers (53%), this opinion was less frequent.

The political engagement of Brazilians in environmental issues was also frequently mentioned: about four out of ten Brazilians declared they had voted for a given politician because of his or her proposals to defend the environment; one out of four made some donation to organizations that defend the environment; and 17% declared they had participated in some demonstration or petition on the subject.

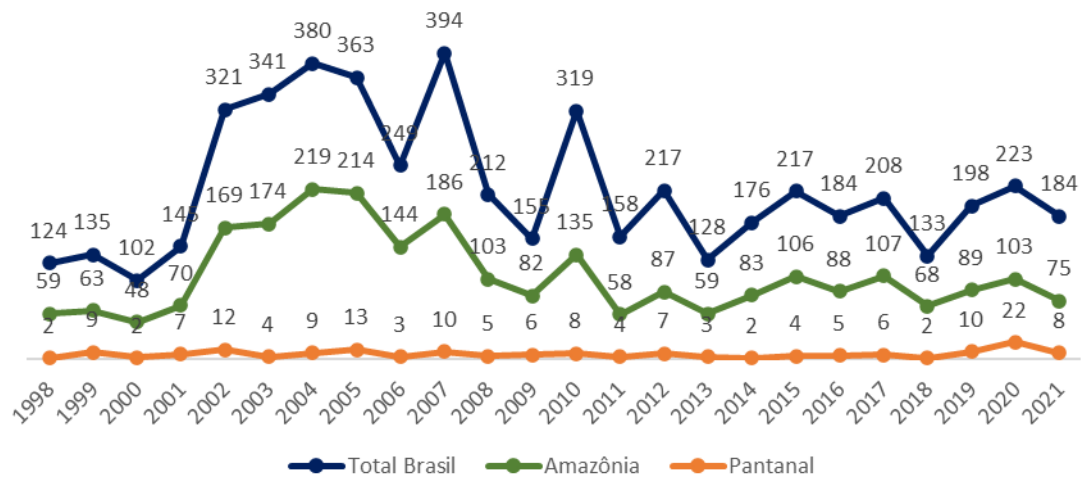
The political engagement of Brazilians with the environmental agenda seems to point to a specific political and socioeconomic profile. While in 2021, 45% of the total population declared having voted for a candidate because of his or her proposals in defense of the environment, this proportion reached 65% among left-wingers, 55% among Brazilians with higher education, 51% among members of classes AB, and 51% among participants in the age group 18 to 24 years old.

Participation in demonstrations or petitions related to the environment was also more frequently mentioned among those who had college education (33%), left-wingers (32%), participants aged 18 to 24 (30%), and members of classes AB (26%), compared to the total population.

The perception of Brazilians about fires in Brazil and the Amazon

Besides investigating the perception of Brazilians about climate change and global warming, the research designed by ITS emerged specifically in the context of the ongoing debate about forest fires in the Amazon. According to data from the National Institute for Space Research (INPE), the years 2019 and 2020 stood out by a high incidence of fire outbreaks in the Pantanal (indeed, in 2020 the total number broke the historical record)⁶, but also an expressive increase in the Amazon fires, compared to those recorded in the year 2018⁷ (INPE Chart).

INPE Chart: Number of fire outbreaks from 1998 to 2021: national total and the Amazon and Pantanal biomes (by thousands of outbreaks)



Source: National Institute for Space Research (INPE). Platform of Monitoring and Warning of Forest Fires

In this context, an entire module of the study was dedicated to mapping the knowledge and opinion of Brazilians about fires and more specifically those that had broken out in the Amazon Rainforest. Concerning the fires occurring annually in Brazil, awareness of their occurrence among Brazilians is widespread: in both editions of the survey, 87% declared to have heard about them often. It is worth noting that, among those who live in the Brazilian states with a higher incidence of fires⁸ and the Central West region, this rate reaches 92%.

When it comes specifically to the Amazon fires, the population’s knowledge on this subject is even greater: in both 2020 and 2021, 98% of the Brazilian participants declared they had heard about the subject before.

⁶ In September 2020, the spread of fires in these particular Brazilian biomes and also in the *cerrado* (savannah) culminated in the filing of a request for the creation of a Parliamentary Committee of Enquiry in the Federal Senate, to look into the environmental crisis. Cf. < <https://www12.senado.leg.br/noticias/audios/2020/09/senado-podera-ter-cpi-para-investigar-desmonte-da-politica-ambiental>>. Accessed January 19, 2022.

⁷ Source: National Institute for Space Research (INPE), 2022. Platform of Monitoring and Warning of Forest Fires. Cf.<<http://www.inpe.br/queimadas>>. Accessed: January 19, 2022.

⁸ The areas with the highest volume of wildfires refer to the ten states (MT, PA, MA, AM, TO, RO, PI, MG, BA, and MS) that concentrate the highest number of fire outbreaks in the period of one year (between September 1, 2020, and September 1, 2021) according to data collected by the National Institute for Space Research (INPE). < <http://www.inpe.br/queimadas> >. Accessed: September 29, 2021.

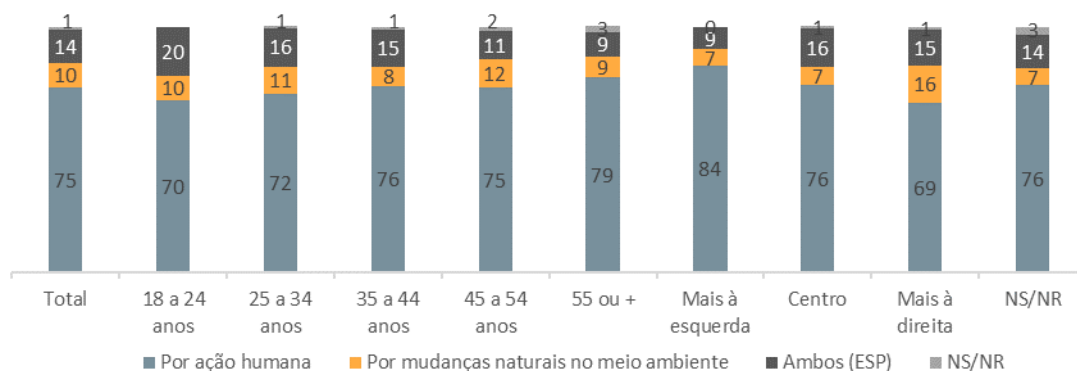
Due to the increase in the number of fire outbreaks between the years 2019 and 2020, the survey sought to map whether Brazilians considered that the fires in the Amazon had increased, remained the same, or had decreased compared to the two years before the survey. In 2020, 83% believed that fires had increased, 10% that they remained the same, and 4% that they had decreased. In 2021, there was a small decrease in the percentage of those who considered that fire outbreaks in the Amazon had increased (79%), whereas 11% believed that it had stayed the same and 7% that it had decreased.

Despite the difference observed between the two editions of the survey, in both rounds Brazilians who position themselves to the left of the political spectrum declared that fires in the Amazon have increased, compared to those who positioned themselves to the center or right. In 2021, nine out of ten left-wing Brazilians believed that the number of fires in this region had increased (91%), whereas 83% of the center and 68% of right-wing participants shared this opinion.

Similarly to what was done concerning climate change and global warming, the survey also evaluated the population’s opinion about the causes of the Amazon fires. Again, most Brazilians believe that human activity is the primary cause of forest fires (in 2021, 75% held this view). On the other hand, in both editions of the survey, about one out of ten Brazilians declared that the fires in the Amazon are caused by natural changes in the environment that make the forest drier at certain times of the year (10% in 2021). Finally, in 2021, 14% declared that they believe that the fires are caused by both human activity and natural changes.

Looking at the results from the political ideology of Brazilians (Chart 09), the perception that human activity is causing the Amazon fires (84%) is more frequent among left-wing participants, when compared to centrists (76%) and right-wingers (69%). Among the latter, the association of fires with natural causes or both factors (human and natural) was more frequent, although in much lower proportions than the participants who mention human activity in this part of the population.

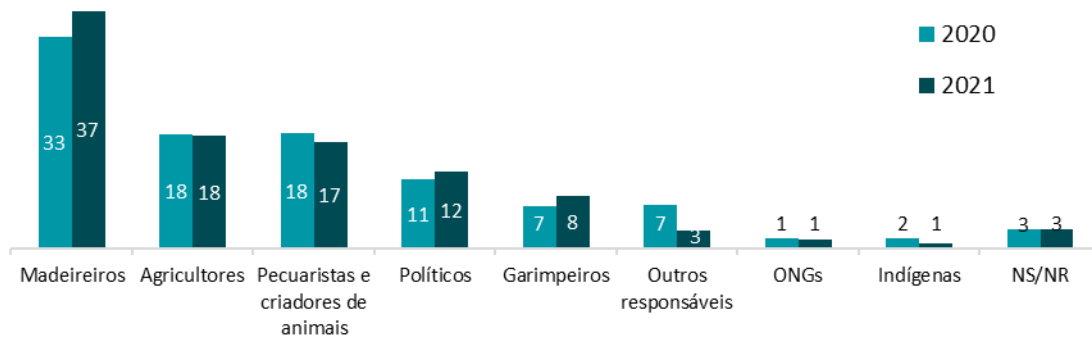
Chart 09: Perception of the causes of fires in the Amazon, by political position (%)



Those who consider that the fires in the Amazon are caused by human activity were asked about who they believe is primarily responsible for them (Chart 10). Considering only those listed first as the main actors and parties responsible for the fires in the Amazon⁹, loggers were the most cited (37% in 2021), followed by farmers (18%) and cattle and livestock farmers (17%).

⁹ In the questionnaire, the respondent is asked to point out who the main responsible for the fires in the Amazon are, ranked in first, second and third place.

Chart 10: Actors and parties primarily responsible for the Amazon fires (1st place) in 2020 and 2021 (%)



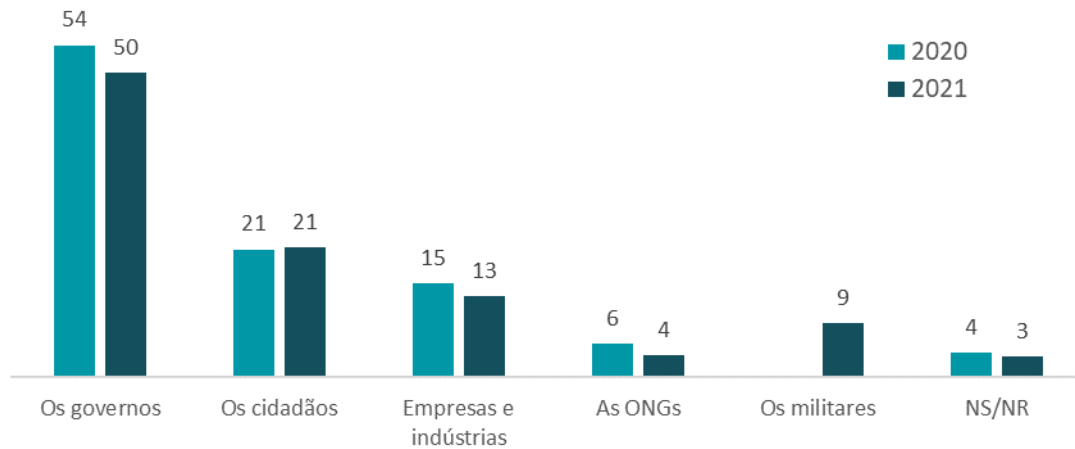
Adding up the first, second, and third place mentions, the actors and parties primarily responsible for the fires in the Amazon, in the view of Brazilians, continue to be the loggers (76%), farmers (50%), and cattle and livestock farmers (49%). In the case of loggers, we can highlight that the higher the level of education, the greater the responsibility attributed to this group: among the participants who finished elementary school, 68% consider loggers to be the primarily responsible for the fires in the Amazon, while this index reaches 82% among those who finished college.

The results also point to differences in perceptions about the responsibility of cattle and livestock farmers. In 2021, cattle and livestock farmers were mentioned in greater proportion among Brazilians living in the Central West (58%), North (58%), and South (53%) regions compared to those living in the Southeast and Northeast regions (46% in both cases). Ranchers were also blamed to a greater extent by those with higher education (61%), members of the AB class (57%), and participants positioned further to the left of the spectrum (59%).

Other actors frequently cited as responsible for fires in the Amazon were miners (43%) and politicians (38%). It is worth noting that among participants aged 18 to 24 years old (51%) and left-wingers (45%), the attribution of responsibility for the fires to politicians was more frequent.

In addition to addressing the causes and the responsible parties, the survey also sought to identify who, in the view of Brazilians, could contribute most to solving the problem of fires in the Amazon (Chart 11). Also, when only the answers about which actor could contribute in the first place are considered, we can observe that, unlike climate change, the responsibility attributed to governments is greater: half of the population (50% in 2021) thinks that governments are the ones who can contribute the most and the percentages were even higher among left-wing participants (63%) and those who completed higher education (59%).

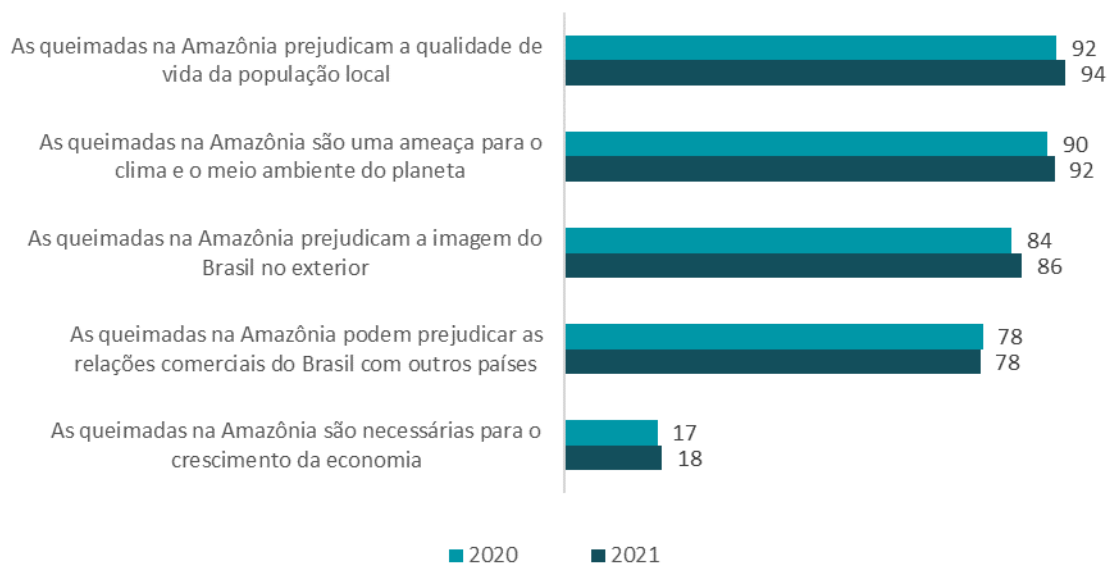
Chart 11: Who can contribute more significantly to solving the problem of Amazon fires (1st place) – 2020 and 2021 (%)



Next, citizens were pointed out by 21% of Brazilians as the actors who could contribute most significantly to solving the problem of fires in the Amazon, followed by companies and industries, and to a lesser extent, Non-Profit Organizations (NGOs). In the 2021 edition, the answer choice “the military” was included in this question, and they were pointed out by 9% of the population as the actors that can contribute most to solving the problem of Amazon fires. Specifically concerning the military, they were mentioned in greater proportion among male participants (12%) than among women (6%).

The survey also sought to investigate the associations and impacts that Amazon fires produce as identified by Brazilians, through how much the population agrees with some statements related to the theme. In both rounds, almost all Brazilians agree that fires in the Amazon can potentially harm the quality of life of the local population and that they are also a threat to the planet’s climate and environment (Chart 12).

Chart 12: Index of agreement of Brazilians with the following statements, 2020 and 2021 (%) (P2.1.2)



Regarding the political and economic impacts of forest fires on Brazil's international relations, most Brazilians also believe that these events impact such relations negatively. In 2021, approximately eight out of ten Brazilians agreed that fires in the Amazon damage the country's reputation abroad (86%) and may harm Brazil's trade relations with other countries (78%). However, differences were observed between participants from distinct positions of the political spectrum, which did not occur in the statements related to the climate and quality of life of the population living in the Amazon: while 95% of left-wing participants agree that fires can damage the image of Brazil abroad, this proportion among right-wingers reached 77%. As for the fact that the fires harm Brazil's trade relations with other countries, 91% of left-wing participants agree with this statement, compared to 69% among right-wingers.

Even with these differences between the different groups of the political spectrum, the results indicate that Brazilians generally cultivate a preference for the preservation of the Amazon even in the face of economic variables. Furthermore, its preservation can also become a political and economic asset in Brazil's relationship with other countries.

FINAL REMARKS

Climate change and global warming

Despite the importance attributed by a large part of the Brazilian population to the issue of global warming and the high degree of concern for the environment among Brazilians, only about a fifth of the population believes they have extensive knowledge about the subject. Younger and more educated participants are those who care about global warming the most, along with women and participants further to the left of the political spectrum. Knowledge on the subject, on the other hand, ends up being greater among the more educated portions and the upper social class, as well as among those who have access to the Internet, a medium that proves to be quite relevant as a source of information and content on the subject in question.

The perception among Brazilians that global warming is happening is close to unanimity, and, in fact, about eight out of ten consider that it is primarily caused by human activity. Comparing this scenario with the view of North Americans, a greater consensus on this topic is present among the Brazilian population.

Most Brazilians find it more important to protect the environment, even if this leads to lower economic growth and decreased job creation. The degree of perception regarding the damages of global warming for themselves, their families, and for the next generations is also high, although the concern for future generations tends to be greater than the concern about its more immediate effects.

Despite this widespread concern, public practices, and behaviors related to environmental protection vary considerably. Although recycling and sharing information or news in defense of the environment are frequently mentioned actions, political engagement on the subject is infrequent, as is participation in demonstrations or petitions regarding climate change. In this context, it is worth noting that the actors primarily identified by Brazilians as responsible for solving the problem of climate change are governments, in the first place, followed by companies and industries.

Amazon fires

Based on the context of the increase in the number of forest fires in Brazil, especially in the years 2019 and 2020, the ITS survey identified that almost all Brazilians had already heard considerably about this phenomenon that occurs annually in the country, and also about those that had been happening in the Amazon specifically.

In addition, the perception of the majority of the population is that fires in the Amazon have increased in recent years and that they are primarily caused by human activity. When asked about who the main actors responsible for the fires were, the most frequently cited parties were loggers, farmers, and cattle and livestock farmers.

the fact that many Brazilians hold politicians responsible for these fires is also noteworthy, especially younger participants and those on the far left of the political spectrum. However, for

half of the population, governments are the actors that should contribute most to solving this problem.

Most of the population agrees that the fires in the Amazon can harm the quality of life of the local population, the climate, and the planet's environment in several ways. In line with the concern that Brazilians have for the environment, the vast majority disagree with the fact that the fires in the Amazon are necessary for the growth of the economy. On the contrary, this phenomenon is considered a problem that greatly harms the country's image abroad, as well as its trade relations with other countries.