
Effects of the Covid-19 on Crime in Sergipe (Brazil) in 2020*

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Abstract

This article aims to descriptively analyze the effects of the Covid-19 pandemic on homicides, domestic violence, robberies and thefts in Sergipe (Brazil), in 2020. It is the smallest unit in the Federation and the only one in the Northeast Region where lethal violence decreased in the period. The number of cases, rates per 100,000 inhabitants and the percentage variation between 2019 and 2020 were compared. The results show that cases of homicide, theft and robbery decreased by 1.4%, 20.6% and 35.3% respectively. On the other hand, domestic violence increased 2.4% in the period. In spatial terms, there was a significant increase in homicides in the Baixo São Francisco region, as well as in homicides and cases of domestic violence in the northwest region of the state.

Keywords: COVID; Crime; Descriptive Analysis; State of Sergipe (Brazil).

JEL Classification: K42, I12

Efeitos da Covid-19 sobre a criminalidade em Sergipe (Brasil) em 2020

Resumo

O presente artigo tem por objetivo analisar de forma descritiva os efeitos da pandemia Covid-19 sobre homicídios dolosos, violência doméstica, roubos e furtos em solo sergipano, no ano de 2020. Trata-se da menor unidade da Federação e a única da Região Nordeste onde a violência letal diminuiu no período. Foram comparados o número de casos, as taxas por cem mil hab. e a variação percentual entre 2019 e 2020. Os resultados mostram que os casos de homicídio, furtos e roubos diminuíram 1,4%, 20,6% e 35,3% respectivamente. Por outro lado, a violência doméstica aumentou 2,4% no período. Em termos espaciais houve crescimento expressivo de homicídios na região do Baixo São Francisco, bem como de homicídios e casos de violência doméstica na região noroeste do estado.

Palavras Chave: COVID; Criminalidade; Análise Descritiva; Sergipe (Brasil).

Classificação JEL: K42, I12

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Introdução

Violence is a very complex phenomenon, resulting from a multiplicity of causes (Jorge, 2018). The occurrence of the COVID-19 pandemic, by affecting the economic conditions of the state (Ribeiro et al., 2020) and causing the social isolation of the population (Martins Filho et al., 2020), has important impacts on crime (UNODC, 2020).

However, the impacts caused in each Unit of the Federation differ according to the dynamics of market disputes between local criminal factions, as well as the capacity of the state government to implement effective measures to combat violence (Manso, 2021). Thus, while murders increased by 81% in Ceará and thirteen other states showed an increase in lethal violence, the North, Southeast and Midwest regions showed a drop in 2020 in a scenario of greater social isolation¹.

In this sense, it is necessary to investigate the effects of the pandemic on crime in the specific context of Sergipe. With this objective in mind, Jorge et al. (2020) dedicated themselves to showing the scenario prior to the outbreak of the first cases² and the decree of quarantine in the state, on March 17 of 2020 (and later to describing the situation of the first five months of the pandemic (March to July) to differentiate its impacts on crime compared to pre-existing trends (Jorge et al, 2021).

This article aims to show the scenario of four types of crime in the state of Sergipe and the city of Aracaju - intentional homicides, domestic violence, robberies and thefts - for the year 2020 and compare it with what happened in the previous year. It also focuses on the national scenario³ for 2020. The choice of the four modalities mentioned stems from their representativeness in the total number of crimes committed in the state.

To this end, data provided by the Coordination of Statistics and Criminal Analysis (CEACrim) - an agency of the state Public Security Secretariat - and, in the case of Brazil, from the Violence Monitor (2021) will be used.

As such, the report is divided into four sections, in addition to this introduction: the first makes some considerations about the probable impacts of the pandemic on various types of crime, followed by a brief methodological section detailing the procedures adopted to process the data. The third section presents and discusses the main results for the state as a whole and, finally, the last section lists the main conclusions of the work.

Pandemic and Crime

As already mentioned, violence is a very complex phenomenon, resulting from a multitude of causes, including the work of organized crime (JORGE, 2018). These organizations are

¹ The information comes from the Violence Monitor, the only source that has closed data for 2020, making it the most up-to-date database available. Violent deaths include homicide, robbery and bodily injury followed by death. See: <https://g1.globo.com/monitor-da-violencia/noticia/2021/02/12/brasil-tem-aumento-de-5percent-nos-assassinatos-em-2020-ano-marcado-pela-pandemia-do-novo-coronavirus-alta-e-puxada-pela-regiao-nordeste.ghtml>.

In this sense, they are not directly comparable with the Sergipe data presented here, which is restricted to homicides.
² The first case of COVID-19 contamination in Aracaju was recorded on March 14, 2020, according to Martins Filho et al. (2020). At the end of that month, the municipality had 18 cases and no deaths

³ Specifically in the case of lethal violence, according to note no. 4, as this is the only data available for the full year 2020.

characterized by being agile and dynamic⁴, having an advantage over governments in changing contexts. In this sense, organized crime has faced problems, but also a range of opportunities in the context of the pandemic. Among these opportunities it can be mentioned (UNODC, 2020):

- i. Detour of public funds, given the need for governments to act quickly to slow down the recession, which creates a trade-off between the speed of intervention and the space that opens up for organized crime to act, since there may not be enough time for institutions to establish adequate public procurement policies and safeguard measures to prevent misappropriation of public funds, which is facilitated in contexts of corruption, as in the Brazilian case;
- ii. Reinforcement of territorial control through the donation of basic food baskets or the imposition of isolation measures, such as curfews, for example. It is curious to note that, unlike criminal factions, which have used such strategies, in Rio de Janeiro the militias have encouraged the opening of businesses in order to collect their "protection" fees;⁵
- iii. An increase in the criminal portfolio, with greater involvement in cyber-crimes such as phishing, credit card fraud and pirate websites, among others;
- iv. Possibility of recruiting new members due to unemployment; and
- v. Greater infiltration into legal activities, particularly in sectors experiencing financial difficulties due to isolation, such as transportation, tourism, bars, restaurants, cultural events, etc. On the other hand, it is also attracted to sectors with prospects of great profitability in the context of the pandemic, such as trade in medical and pharmaceutical products, logistics, e-commerce and food delivery.

However, the pandemic has also brought problems for organized crime

- First. The closure of borders and restrictions on movement, including by air, has made it difficult to traffic drugs, weapons and people, although it has had little effect on the entry of drugs in the Brazilian case due to the length and porosity of its borders, in addition to the sophistication of the actions of organized crime ;⁶;
- Second. Assuming that drugs and weapons are normal goods, as the economic crisis caused by the pandemic reduces income, one can expect a lower demand for them. Thus, Colombia has a stockpile of cocaine;
- Third. The above two factors increase the difficulty of transporting drugs and acquiring chemical inputs

These problems can lead on the one hand, to an upsurge in competition for markets by organized crime, leading to an increase in the number of homicides, given the role played by violence in illicit markets (Jorge, 2019). In fact, the number of intentional homicides increased by 8.3% in Brazil, when comparing the first half of 2020 to the same period in 2019. The number of homicides

⁴ One example is the news that a Japanese gang tried to sell 30,000 masks to China (Wuhan) in December 2019 (UNODC, 2020).

⁵ Statement by Gabriel Feltran on the occasion of the webinar "Criminal Actors in the Pandemic", held by USP's Department of International Relations on July 15, 2020.

⁶ The entry of drugs into the state of São Paulo has practically not changed, with the exception of marijuana in the first fifteen days of social isolation. The same goes for smuggling, according to Gabriel Feltran's testimony in the aforementioned webinar. On the other hand, the difficulty of transportation by air has had an impact on the seizures made by the Federal Highway Police, according to data from the Brazilian Public Security Yearbook (2020).

rose by 10.2% in Sergipe between March and July 2020 compared to the months of March to July 2019.

On the other hand, for a crime to occur, there needs to be a greater availability of potential victims and motivated aggressors converging on a place of little surveillance (Cohen; Felson, 1979). Thus, as a result of the pandemic, it is possible to expect a drop in some types of crime such as robbery and theft, given the lower presence of individuals in public spaces. In fact, in the first half of 2020, robberies of passers-by fell by 34.0% in Brazil, compared to the first half of 2019.

Also, it must be observed that the presence of potential aggressors for longer at home can exacerbate cases of domestic violence. In Brazil and Sergipe, the recording of these cases fell in the five months following the outbreak of the pandemic, but this drop may actually be expressing greater difficulty in reporting under the "gaze" of the aggressor, in addition to the fear of contracting Covid while traveling to the police station.

Methodology and Database

The data used in this work was collected from the Coordination of Statistics and Criminal Analysis (CEACrim) - linked to the Civil Police and the State Secretariat for Public Security - and refers to intentional homicides, cases of domestic violence, robberies and thefts that occurred in the post-pandemic scenario in each of Sergipe's municipalities.

Thus, the time frame of this report covers the year 2020. The analysis will be carried out using the comparative statics technique, comparing the 2020 data with the 2019 data. The fact is that in more populated areas, the number of cases of violence is generally higher, given the greater availability of potential victims and motivated aggressors converging on a place with little surveillance (Cohen; Felson, 1979).

In this sense, as well as looking at the absolute number of cases, it is necessary to check how much they represent in relation to the total population of each location. We therefore used the population estimates provided by the Brazilian Institute of Geography and Statistics (IBGE) for the state as a whole and each of its municipalities.

Once the population had been projected, the rates of the four types of crime were calculated for all the municipalities in the state, using the following equation (Carvalho et al., 2011):

$$Ti = \frac{Yi}{Pi} \times 100.000 \quad (1)$$

Where:

Ti = Crime rate of locality i;

Yi = Number of cases of violence in locality i;

Pi = Estimated population of locality i; and i = 1,2 n, where n = 75 for the state and n = 38 for the capital.

Furthermore, in general, a few localities have a higher number of cases of violence. Therefore, in order to provide a view of the intensity of these changes in the territory of Sergipe, the variations by municipality, in percentage terms, were spatialized using GEODA, free software available on the internet.

Results

Cases of homicide, theft and robbery in the state fell in 2020. The number of homicides fell from 772 to 761 (- 1.4%) while the number of robberies fell from 16,264 to 12,919 (- 20.6%). The number of robberies fell from 18,018 to 11,660 (- 35.3%) in the period. Cases of domestic violence, meanwhile, showed a slight increase in 2020, rising from 1,225 to 1,254 (+2.4%). It is worth noting that Sergipe was the only state in the Northeast to show a decrease in its lethal violence in 2020 (Monitor da Violência, 2021). Let's look at each type of crime in isolation.

Murder with intent

It is worth remembering that homicide cases fell in the state in the pre-pandemic scenario (Jorge et al, 2020), but rose in the months of March to July 2020 compared to the same period in the previous year, to show a fall of 1.4% in the aggregate for 2020 compared to the previous year. This is a different scenario for the state of Sergipe, since according to data from the Violence Monitor there were 43,892 violent deaths in Brazil during the year, compared to 41,730 the previous year, which represents an increase of 5.2%, interrupting the fall seen in 2018 and 2019.

As a result, the state's homicide rate, calculated according to equation (1) and expressed as the number of cases per 100,000 inhabitants, fell from 41.6 to 33.6 and 32.8 between 2018 and 2020, representing a variation of -21.1% over the period (-2.3% in the last year).

However, even though the state is small in terms of size - Sergipe is the smallest unit in the Federation with 21,900 km² - there are significant differences in regional terms. Thus, seven municipalities - Amparo do São Francisco, Arauá, Canhoba, Cumbe, Divina Pastora, Santo Amaro das Brotas and São Miguel do Aleixo - had no homicide cases in the year (there were ten in 2019).

As expected, the most populous municipalities have the highest number of cases, while smaller municipalities appear to be more peaceful. Thus, Aracaju, Nossa Senhora do Socorro, Itabaiana and São Cristóvão accounted for 391 of the 761 homicides (51.4%) committed in the state. However, when the rates are analyzed, the situation changes drastically and small municipalities take the top positions.

Table 1 shows the municipalities with the highest number of absolute cases, the highest rate and the highest percentage variation.

Table 1: Municípios in Sergipe with the highest number of cases, rates and greatest variations in international homicides in 2020

Position	Highest Nº of Casos		Highest Rate		Highest Percentage Change	
	Município	Number	Município	Rate	Município	Variation
1o.	Aracaju	199	Brejo Grande	119,7	Japoatã	200,1
2o.	N. Sra. Socorro	102	Ilha das Flores	105,6	Santa Rosa Lima	199,2
3o.	Itabaiana	51	Santa Rosa Lima	76,5	Frei Paulo	197,4
4o.	São Cristóvão	39	Barra Coqueiros	74,4	Pacatuba	131,5
5o.			Siriri	66,9	Propriá	128,1

Source: CEACrim.

It is worth noting that among the four locations with the most cases, Aracaju and Nossa Senhora do Socorro showed an increase in 2020 compared to the previous year, while Itabaiana saw a drop

from 73 to 51 homicides. In São Cristóvão, on the other hand, the number of cases remained stable (39).

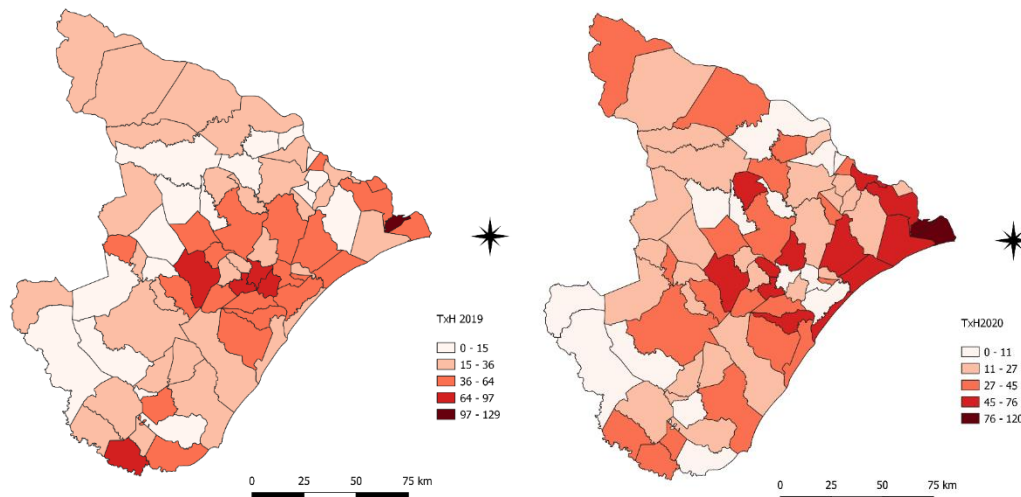
In terms of rates, there was a drop in 41 cities and an increase in 31, while three municipalities showed no variation in the period. In addition to the five municipalities shown in the table (Brejo Grande, Ilha das Flores, Santa Rosa de Lima, Barra dos Coqueiros and Siriri), the city of Pirambu is also noteworthy. All these localities have rates of more than 60 cases per 100,000 inhabitants, bearing in mind that the rate considered acceptable by the United Nations is 10 per 100,000 inhabitants.

At the other extreme, in addition to the seven municipalities that had no homicide cases in the period, the following stand out: Poço Verde, Riachão do Dantas, Tobias Barreto, Gararu and Rosário do Catete, all with rates below 10 per hundred thousand inhabitants.

As the aim of this article is to show the effects of the pandemic on crime in the state, it is important to look at the main changes that occurred in 2020. Thus, in terms of the percentage change in the rate, Japoatã, Santa Rosa de Lima, Frei Paulo, Pacatuba, Propriá and Barra dos Coqueiros more than doubled their homicide rate in the year. In the case of the first three, the rate tripled (+200%).

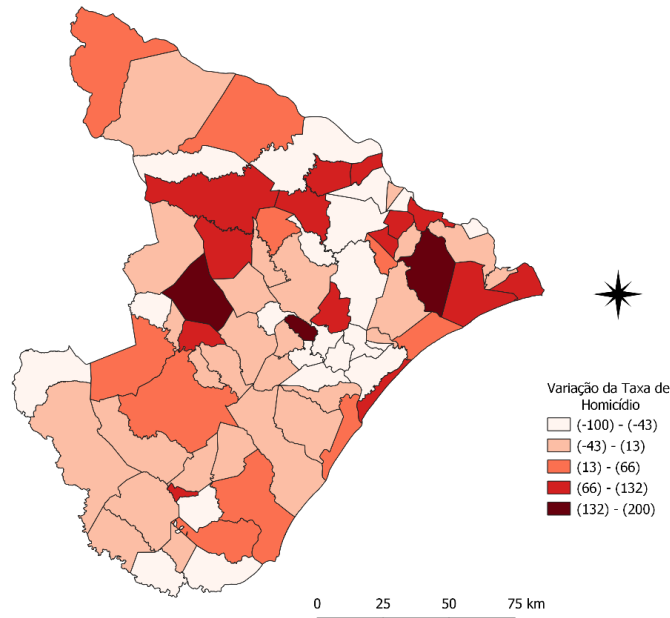
Among the biggest reductions in percentage terms we can mention, in addition to five municipalities that brought their rate to zero compared to the previous year - Arauá, Canhoba, Cumbe, Divina Pastora and Santo Amaro das Brotas - Rosário do Catete, Santana do São Francisco, Maruim, Indiaroba, Poço Verde and Gararu, which reduced their rates by more than 70% in the year. Noteworthy is the city of Divina Pastora, which reduced its homicide rate from over 97 per 100,000 inhabitants in 2018 and 2019 to zero in 2020. The maps below show the homicide rates in 2019 and 2020, as well as their variation in the latter year:

Map 1: Homicide Rate - State of Sergipe - 2019 (left) and 2020 (right)



Source: Own elaboration based on CEACRIM data.

Map 2: Homicide Rate - Variation - State of Sergipe - 2020



Source: Own elaboration based on CEACRIM data.

Map 2 shows a significant increase in homicides in the Lower São Francisco region, with Japoatã, Pacatuba and Propriá standing out as having more than doubled their rates, as well as Brejo Grande with an increase of around 99% in the period. Frei Paulo in Agreste, as well as Santa Rosa de Lima in East Sergipano also witnessed significant increases in this year of the pandemic..

Domestic Violence

According to data from the Brazilian Yearbook of Public Security, in the 1st half of 2020 there were 110,791 cases of domestic violence in Brazil compared to 122,948 in the same period of the previous year, which represented a 9.9% reduction in the period. In Sergipe, cases of domestic violence increased from 1,225 to 1,254 (+2.4%) in the comparison between 2020 and 2019. Thus, there is a reversal of the downward trend seen in the state in 2019 and in the first five months of the pandemic, as shown in Jorge et al (2020; 2021).

This increase is as expected, due to the greater confinement of aggressors and potential victims. The low magnitude of the increase, however, may be due to the lower accessibility of ex-partners to victims, as well as the fact that, due to job loss and the consequent greater economic dependence, many women have stopped leaving their relationships, according to the analysis by Asik and Ozen (2021) for the Turkish case, as well. In addition, there may have been a decrease in registrations in the months of greater social isolation, which would explain the drop between March and July: under the eyes of the aggressor, in addition to the fear of contracting COVID while traveling to the police station, there are fewer registrations. With the relaxation of isolation in the second half of the year, there may have been a reduction in under-reporting⁷.

⁷ For a more detailed analysis of the problem of underreporting, see, among others, Jorge et al. (2008).

The state's rate of domestic violence cases fell from 210.3 to 53.3 cases per 100,000 inhabitants between 2018 and 2019, but rose to 54.1 in 2020, which represents an increase of 1.5% in the latter year.

However, even though the state is small in terms of size, there are significant regional differences. Thus, four municipalities - Pacatuba, Pedra Mole, Santa Rosa de Lima and São Miguel do Aleixo - did not register any cases of domestic violence in the year (there were six in the previous year). There was a drop in the rate in 40 cities, an increase in 34, while one municipality (Pedra Mole) showed no change in the period.

Once again, the larger localities concentrate a large part of the crime, according to the literature (Cohen; Felson, 1979; Oliveira, 2005; Waizelfisz, 1998, among others): five municipalities - Aracaju, Nossa Senhora do Socorro, Lagarto, Itabaiana and São Cristóvão - accounted for 689 of the 1,254 cases of domestic violence registered in the state, i.e. 54.9% of the cases. But again, when you look at the rates, the scenario changes dramatically and small towns appear in the top positions.

Table 2 shows the municipalities with the highest number of absolute cases, the highest rates and the highest percentage variation.

Table 3: Municipalities in Sergipe with the highest number of cases, rates and greatest variations in Domestic Violence Cases in 2020

Highest N° of Casos			Highest Rate		Highest Percentage Change	
Position	Município	Number	Position	Município	Number	Position
1o.	Aracaju	380	Macambira	143,7	Gen. Maynard	(-)
2o.	N. Sra. Socorro	132	Malhador	102,7	Ribeirópolis	446,5
3o.	Lagarto	61	Frei Paulo	96,4	Brejo Grande	198,4
4o.	Itabaiana	60	Canindé S. Fran.	95,4	Riachão Dantas	120,0
5o.	São Cristóvão	56	Gen. Maynard	88,7	Macambira	98,8

(-) variation over zero.

Source: CEACrim.

It is worth noting that among the five locations with the most cases, only Aracaju showed a reduction - from 411 to 380 cases (-7.5%). The others showed an increase in 2020 compared to the previous year, with Lagarto and Itabaiana showing the biggest variations: 60.5% (from 38 to 61 cases) and 71.4% (from 35 to 60), respectively.

In terms of rates, in addition to Macambira, Malhador, Frei Paulo, Canindé do São Francisco and General Maynard (shown in the table), the city of São Domingos is also noteworthy. All of these towns have rates of more than 80 cases per 100,000 inhabitants, with the first two exceeding 100 cases per 100,000 inhabitants.

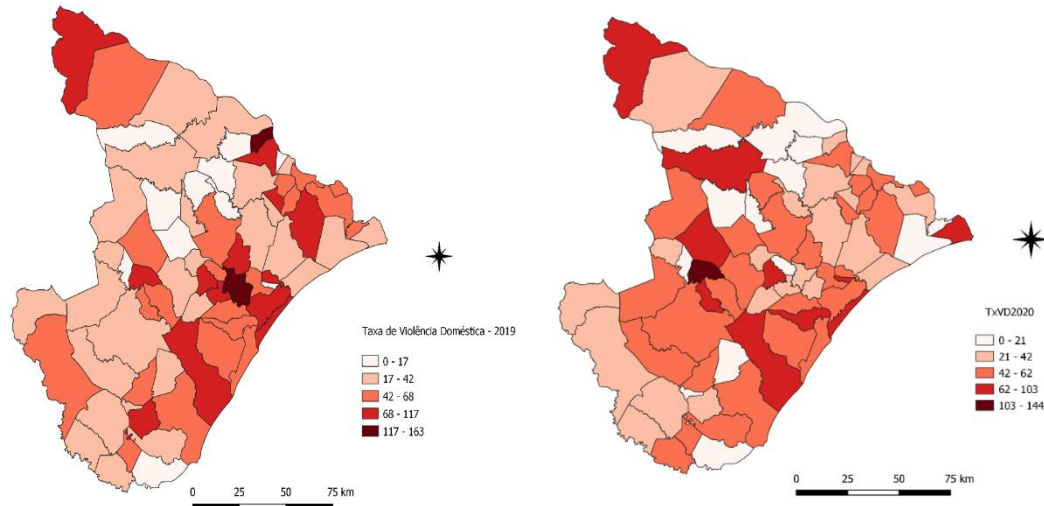
At the other extreme, apart from the four municipalities that had no cases of domestic violence in the period, Indiaroba and Gararu stand out, all with rates below 10 per hundred thousand inhabitants.

In terms of variation, Ribeirópolis shows an increase in the rate of 446.5%. Brejo Grande tripled its rate and Riachão do Dantas more than doubled its rate, while Macambira almost doubled its rate too. General Maynard went from a zero rate in 2019 to 88.7 cases per hundred thousand inhabitants last year.

Among the biggest reductions in percentage terms were three municipalities that had zero cases compared to the previous year: Pacatuba, Santa Rosa de Lima and São Miguel do Aleixo. Also noteworthy are the cities of Nossa Senhora de Lourdes, Maruim, Ilha das Flores and Divina

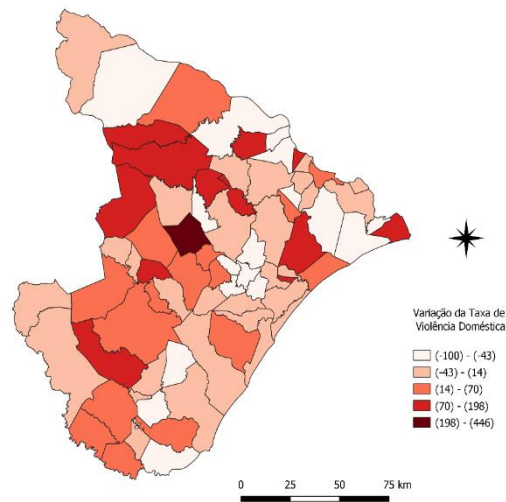
Pastora, which saw their rates fall by more than 70.0% in 2020. The following maps show the rates of domestic violence in 2019 and 2020, as well as their variation in the last year:

Map 3: Rate of Domestic Violence - State of Sergipe - 2019 (left) and 2020 (right)



Source: Own elaboration based on CEACRIM data.

Map 4: Rate of Domestic Violence - Variation - State of Sergipe - 2020



Source: Own elaboration based on CEACRIM data.

According to map 4, there has been a significant increase in cases of domestic violence in the northwest of the state, in a semi-belt that stretches from Monte Alegre to Carira, passing through Feira Nova and Cumbe, with Ribeirópolis standing out as having the greatest variation in the year. Brejo Grande, in the Lower São Francisco, as well as Riachão do Dantas in the Center South also saw their rate more than double in this pandemic year.

Thefts

In general terms, as expected, crimes against property are more numerous than crimes against the person, as well as being more common in the most populous and economically dynamic places. With the decrease in the movement of people and the reduction in economic activity, the number of thefts fell from 16,264 to 12,919 (-20.6%) in 2020. Thus, the downward trend seen in the state between March and July 2020 continues, although thefts increased in 2019 and in the first two months of the year (Jorge et al, 2020; 2021).

The state's theft rate went from 680.3 to 707.5 between 2018 and 2019 and then fell to 557.1 cases per 100,000 inhabitants in 2020, which represents a variation of -21.3% in the latter year.

Once again, the larger towns concentrate a large part of the crime: five municipalities - Aracaju, Nossa Senhora do Socorro, Itabaiana, Lagarto, and Estância - accounted for two out of every three thefts in the state, that is, 66.6% of the cases (8,604 out of 12,919).

Most of Sergipe's cities (71 out of 75) showed a drop, while four municipalities showed an increase in the period. Table 3 shows the municipalities with the highest number of absolute cases, the highest rates and the highest percentage variation in thefts.

Table 3: Municipalities in Sergipe with the highest number of cases, rates and greatest variations in robberies in 2020

Position	Highest N° of Casos		Highest Rate		Highest Percentage Change	
	Município	Number	Município	Rate	Município	Variation
1o.	Aracaju	6226	Aracaju	936,4	Cumbe	132,7
2o.	N. Sra. Socorro	944	Barra Coqueiros	911,7	Ribeirópolis	40,8
3o.	Itabaiana	512	Carmópolis	885,6	Macambira	11,8
4o.	Lagarto	502	Itaporanga	705,9	Amparo S. Fran.	6,9
5o.	Estância	420	Propriá	677,0		

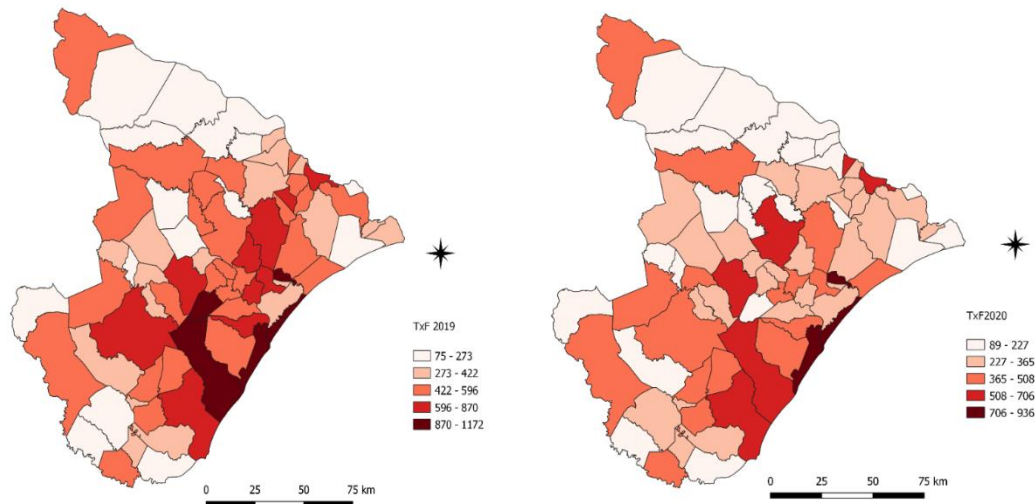
Source: CEACrim.

It is worth noting that all six of the localities with the most cases showed a significant reduction in the number of thefts. Thus, these municipalities together had 1,810 fewer thefts in 2020 compared to the previous year, falling from 10,414 to 8,604 cases.

In terms of rates, in addition to Aracaju, Barra dos Coqueiros, Carmópolis, Itaporanga D'Ajuda and Propriá, the cities of Amparo do São Francisco and Estância are also noteworthy. All these towns have rates of more than 600 cases per 100,000 inhabitants, with the first two exceeding 900 cases per 100,000 inhabitants.

At the other extreme are Santana do São Francisco and Porto da Folha (rates of less than 100 per 100,000 inhabitants), Pinhão, Pacatuba, Gararu and Nossa Senhora de Lourdes, all with rates of less than 140 thefts per 100,000 inhabitants. Table A1 in the appendix and Maps 5 and 6 show the theft rates per hundred thousand inhabitants in 2019 and 2020, as well as the gradient of variations in 2020.

Map 5: Theft Rate - State of Sergipe - 2019 (left) and 2020 (right)

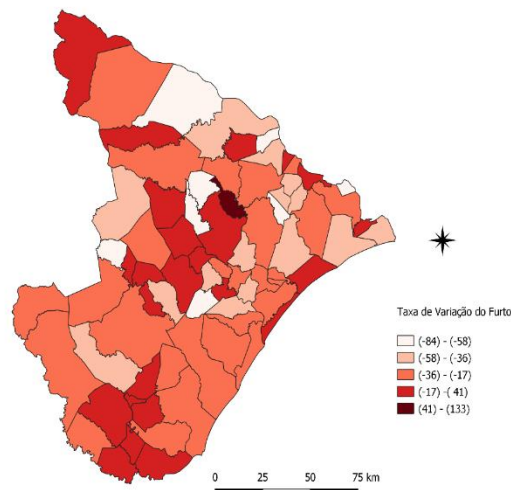


Source: Own elaboration based on CEACRIM data.

In terms of variation, the most significant increase occurred in Cumbe, which went from 3 to 7 cases and whose rate more than doubled (+132.7%). Ribeirópolis (+40.8%), Macambira and Amparo do São Francisco were the other cities where the theft rate increased.

Among the biggest reductions in percentage terms, seven municipalities managed to reduce their rate by more than 60%: Areia Branca (-83.7%), Feira Nova (-72.0%), Muribeca (-71.2%), Nossa Senhora de Lourdes (-66.7%), Santana do São Francisco (-65.3%), Porto da Folha (-62.5%) and Pinhão (-60.3%).

Map 6: Theft Rate - Variation - State of Sergipe - 2020)



Source: Own elaboration based on CEACRIM data.

Map 6 shows a significant increase in thefts in Cumbe in the Médio Sertão region. The other three municipalities that saw an increase in thefts were Ribeirópolis and Macambira in Agreste Central, as well as Amparo do São Francisco, in the Lower São Francisco region.

Robbery

As already mentioned, crimes against property are more numerous than crimes against the person, as well as being more common in the most populous and economically dynamic places. Thus, of the four types of crime examined, robberies and thefts are the most frequent. However, the number of robberies decreased the most, falling from 18,018 to 11,660 (-35.3%) in 2020 and continuing the downward trend seen in the state since 2019, as shown in Jorge et al (2020; 2021).

In the first half of this year, there were 515,523 robberies in Brazil, compared to 680,359 in the same period last year, which represents a reduction of 24.2%, according to data from the Brazilian Public Security Yearbook. Between January and June 2020, there was a significant drop in the number of robberies of homes, commercial establishments and passers-by, both at national and state level: -16.0%, -18.8% and -34.0%, respectively for Brazil; -38.9% and -39.3% for Sergipe⁸ (Jorge et al, 2021).

The reduced circulation of people in public spaces, the closure of several businesses and the fear of contracting COVID while traveling to the police station, may also have contributed to fewer records during the period of greatest isolation. Between March and July, the number of robberies fell by less than half in Sergipe. However, it should be noted that with the resumption of economic activity in the second half of the year, the state saw a decrease in the number of robberies.

Thus, the state's robbery rate, expressed as the number of cases per 100,000 inhabitants, fell from 895.9 to 783.8 and 502.8 between 2018 and 2020, respectively, which represents a variation of - 35.9% in the latter year.

Once again, the larger localities concentrate a large part of crime: five municipalities - Aracaju, Nossa Senhora do Socorro, Itabaiana, Lagarto and São Cristóvão - accounted for 8,772 of the 11,660 robberies committed in the state, i.e. three out of every four robberies committed in Sergipe (75.2%). However, there are significant regional differences. The majority of Sergipe's cities (63) showed a drop, while twelve municipalities showed an increase in the period. Table 4 shows the localities with the highest number of absolute cases, the highest rates and the highest percentage variation in robberies.

Table 4: Municipalities in Sergipe with the highest number of cases,
highest rates and greatest variations in robberies in 2020

Position	Highest N° of Casos		Highest Rate		Highests Percentage Change	
	Município	Number	Município	Rate	Município	Variation
1o.	Aracaju	5576	N. Sra. Socorro	893,9	Cumbe	79,5
2o.	N. Sra. Socorro	1660	Aracaju	838,6	Porto da Folha	59,5
3o.	Itabaiana	709	Cristinápolis	754,3	Feira Nova	56,7
4o.	Lagarto	469	Itabaiana	737,5	Gen. Maynard	55,4
5o.	São Cristóvão	358	Barra Coqueiros	646,6	Pedrinhas	31,1

Source: CEACrim.

In fact, Fukushima (2021) found a greater likelihood of a reduction in thefts and robberies provided by social isolation for the majority of micro-regions in the state of São Paulo. However, the results are not spatially homogeneous and for some micro-regions there is a likelihood of an increase in property crime.

⁸ Information on robberies of passers-by is not available for Sergipe.

It is worth noting that all five of the locations in Sergipe with the highest number of cases showed a reduction, ranging from -14.1% in Itabaiana to -48.6% in São Cristóvão. It is worth noting that these municipalities together recorded almost five thousand fewer robberies (-4,966) in 2020 compared to the previous year, falling from 13,738 to 8,772 cases.

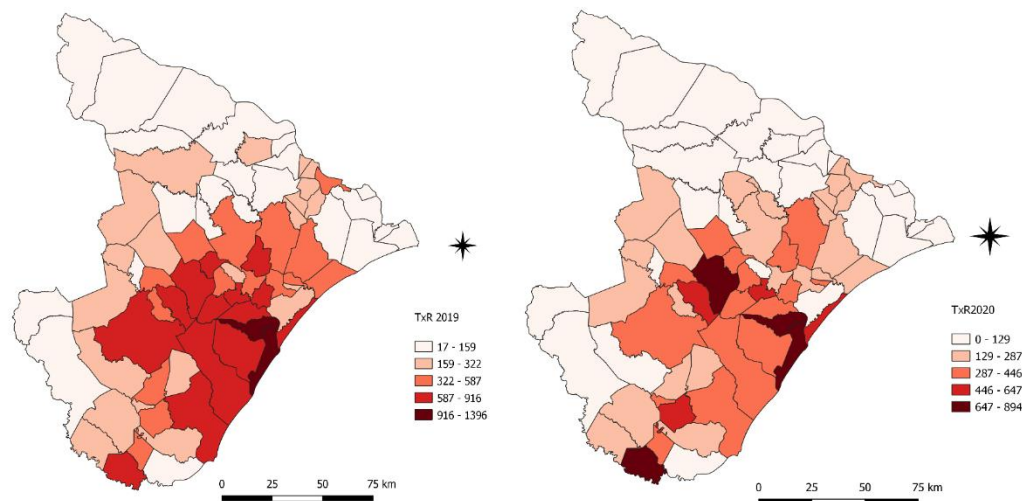
In terms of rates, in addition to the five municipalities shown in the table (Nossa Senhora do Socorro, Aracaju, Cristinápolis, Itabaiana and Barra dos Coqueiros), the cities of Arauá and Riachuelo are also noteworthy. All these locations have rates of over 500 cases per 100,000 inhabitants, with the first two exceeding 800 cases per 100,000.

At the other extreme, Gararu (the only city in the state without a robbery case in 2020), Brejo Grande, Pacatuba, Poço Redondo, Ilha das Flores and Porto da Folha (rates of less than 30 robberies per hundred thousand inhabitants) are noteworthy.

In terms of percentage change, the most significant increase occurred in Cumbe, whose rate rose by around 80%. Porto da Folha, Feira Nova and General Maynard showed increases of more than 50% in their rates). In addition to Pedrinhas, other municipalities whose robbery rate increased in 2020 were: Itabaianinha, Poço Verde, Neópolis, Indiaroba, Telha, Arauá and Frei Paulo.

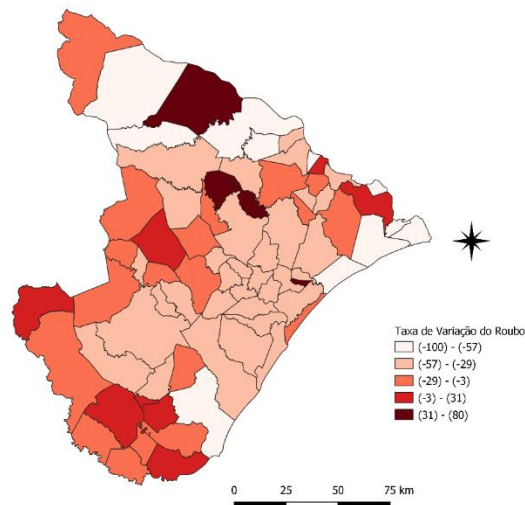
Also, on the other hand, seven municipalities recorded a reduction of 60% or more in their robbery rate in the period: Gararu, which brought its number of cases to zero, Brejo Grande, Pacatuba, Monte Alegre de Sergipe, Santana do São Francisco, Amparo do São Francisco and Ilha das Flores. Brejo Grande stands out as having reduced its rate by 87.6% (from 8 robberies to 1). The following maps illustrate the robbery rates in the last two years and the variations in this rate in 2020:

Map 7: Robbery rate - State of Sergipe - 2019 (left) and 2020 (right)



Source: Own elaboration based on CEACRIM data.

Map 8: Robbery Rate - Variation - State of Sergipe - 2020



Source: Own elaboration based on CEACRIM data.

Map 8 shows a significant increase in robberies in Cumbe and Feira Nova in the Médio Sertão, Porto da Folha in the Alto Sertão and General Maynard in eastern Sergipano. A corridor stretching from Poço Verde to Indiaroba, on the southern border of the state, has seen a slight rise in robberies amid the pandemic.

It is worth remembering that property crimes are characterized by under-reporting and this varies according to several factors, including trust in the police, the amount of money stolen, fear of retaliation and the prioritization of security forces, among others (Jorge et al, 2008). In this sense, part of the reduction may be due to the fear of contracting COVID when traveling to the police station, but the significant decrease in thefts and robberies in the state indicates that, in fact, Sergipe suffered less from these crimes in 2020.

Final considerations

This article presented the scenario for 2020 in the state of Sergipe for four types of crime: intentional homicides, domestic violence, robberies and thefts, seeking to investigate the effects that the pandemic has had on crime in the specific context of Sergipe - the smallest unit of the Federation and the only one in the Northeast Region that boasted a drop in homicides in the year.

The data provided by CEACrim shows that three of the four types of crime fell in 2020. In the opposite direction, the number of domestic violence cases increased, reversing the downward trend shown in 2019 and in the first five months of the pandemic (March to July).

As a result of the pandemic, on the one hand, it was possible to expect a reduction in crimes such as robbery and theft, due to the lower presence of individuals in public spaces, as well as the closure of several businesses. In fact, for the state as a whole, the number of thefts fell by 20.6% and the number of robberies by 35.3% between 2019 and 2020.

On the other hand, the presence of potential aggressors in the home for longer could exacerbate cases of domestic violence and the registration of these cases increased by 2.4% in Sergipe in the period under analysis. The modest increase may in fact be expressing the greater difficulty of ex-partners accessing victims, as well as the fact that, due to the loss of employment

and the consequent greater economic dependence, many women have stopped leaving their relationships. In addition, it becomes more difficult to report the crime in the presence of the aggressor, as well as the fear of contracting COVID when traveling to the police station during the months of greatest social isolation.

With regard to intentional homicides, the number of cases in the state fell by 1.4%, reversing the increase between March and July 2020, making it the only state in the Northeast where this happened. With regard to spatial distribution, the increase in the number of cases in the Lower São Francisco region, as well as in the northwestern region of the state, should be noted.

One limitation of this study is its descriptive nature. Research aimed at establishing correlations between crime, the degree of isolation and other relevant socio-economic variables in order to infer causal relationships that would allow a better understanding of the phenomenon in Sergipe, as well as in other units of the Federation, would be a fruitful suggestion for the continuation of this study.

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Apêndice:

Tabla A1: Modalidades de Crime por Município de Sergipe: taxas (por cem mil hab.) e variação – 2020

Município	TxF 2019	TxF2020	ΔFurto	TxR 2019	TxR2020	ΔRoubo	TxH 2019	TxH2020	ΔHom	TxVD 2019	TxVD2020	ΔViDom
SÃO DOMINGOS	305,29	276,61	-9,39	341,20	205,23	-39,85	17,96	17,85	-0,62	53,87	80,31	-49,06
SÃO FRANCISCO	456,50	264,48	-42,06	322,23	158,69	-50,75	26,85	26,45	-1,51	53,71	52,90	-1,51
SÃO MIGUEL DO ALEIXO	483,46	202,69	-58,08	101,78	76,01	-25,32	0,00	0,00	0,00	25,45	0,00	-100,00
SIMÃO DIAS	545,89	394,03	-27,82	202,55	197,02	-2,73	14,82	24,63	66,17	39,52	61,57	55,78
SIRIRI	730,91	356,74	-51,19	652,20	412,49	-36,75	33,73	66,89	98,28	78,71	44,59	-43,35
TELHA	371,86	307,79	-17,23	247,91	277,01	11,74	61,98	30,78	-50,34	30,99	30,78	-0,68
TOBIAS BARRETO	479,01	373,12	-22,11	126,46	118,03	-6,67	7,66	7,61	-0,65	47,90	39,98	-16,54
TOMAR DO GERU	273,35	184,71	-32,43	302,90	236,42	-21,95	29,55	29,55	0,01	29,55	36,94	25,01
UMBAÚBA	363,72	336,59	-7,46	367,68	352,25	-4,20	31,63	35,23	11,37	43,49	46,97	8,00
TOTAL SERGIPE	707,53	557,14	-21,26	783,84	502,84	-35,85	33,58	32,82	-2,28	53,29	54,08	1,48
Fonte: CEACRIM												
CANINDE DE SÃO FRANCISCO	478,26	430,89	-9,90	127,09	115,12	-9,42	26,76	39,47	47,52	117,06	95,39	-18,51
CAPELA	619,65	425,91	-31,27	537,81	350,58	-34,81	55,53	20,28	-63,48	38,00	37,67	-0,87
CARIRA	557,01	310,27	-44,30	267,19	215,84	-19,22	18,11	13,49	-25,53	31,70	58,46	84,40
CARMÓPOLIS	1172,30	885,64	-24,45	384,75	247,98	-35,55	30,06	23,62	-21,43	72,14	47,23	-34,53
CEDRO DE SÃO JOÃO	474,82	270,59	-43,01	203,49	186,03	-8,58	0,00	16,91	100,00	67,83	50,74	-25,20
CRISTINÁPOLIS	537,09	460,37	-14,28	911,94	754,34	-17,28	83,92	38,83	-53,73	39,16	61,01	55,79
CUMBE	75,24	175,09	132,69	125,41	225,11	79,50	25,08	0,00	-100,00	0,00	25,01	100,00
DIVINA PASTORA	525,50	383,51	-27,02	486,57	249,28	-48,77	97,31	0,00	-100,00	136,24	38,35	-71,85
ESTÂNCIA	870,14	603,83	-30,61	916,40	395,36	-56,86	23,13	31,63	36,76	47,70	50,32	5,49
FEIRA NOVA	573,07	160,69	-71,96	125,36	196,39	56,67	35,82	53,56	49,54	0,00	53,56	100,00
FREI PAULO	402,05	327,85	-18,46	220,48	224,99	2,05	6,48	19,29	197,40	58,36	96,43	65,22
GARAFU	224,06	137,92	-38,45	17,24	0,00	-100,00	34,47	8,62	-74,99	25,85	8,62	-66,66
GENERAL MAYNARD	358,64	295,51	-17,60	209,21	325,06	55,38	59,77	29,55	-50,56	0,00	88,65	100,00
GRACCHO CARDOSO	446,89	343,41	-23,16	120,32	85,85	-28,65	0,00	34,34	100,00	17,19	17,17	-0,10
ILHA DAS FLORES	305,16	258,19	-15,39	58,69	23,47	-60,00	129,11	105,62	-18,19	46,95	11,74	-75,00
INDIAROBA	178,20	159,79	-10,33	111,38	126,73	13,78	44,55	11,02	-75,26	11,14	5,51	-50,53
ITABAIANA	615,13	532,55	-13,43	864,54	737,45	-14,70	76,50	53,05	-30,66	36,68	62,41	70,15
ITABAIANINHA	264,74	258,50	-2,36	231,35	286,96	24,04	26,24	23,72	-9,60	23,85	33,20	39,21
ITABI	224,35	204,67	-8,77	244,75	102,33	-58,19	0,00	40,93	100,00	0,00	20,47	100,00
ITAPORANGA D'AJUDA	925,60	705,87	-23,74	844,10	414,88	-50,85	26,20	20,17	-23,01	75,68	74,91	-1,02
JAPARATUBA	512,19	327,92	-35,98	362,80	200,98	-44,60	53,35	47,60	-10,78	21,34	42,31	98,27
JAPOATÁ	342,41	282,97	-17,36	126,54	96,81	-23,50	7,44	22,34	200,11	81,88	44,68	-45,43
LAGARTO	628,30	477,09	-24,07	646,50	445,73	-31,06	22,99	29,46	28,17	36,40	57,97	59,29
LARANJEIRAS	536,44	322,47	-39,89	694,03	415,56	-40,12	60,35	33,24	-44,91	46,94	49,87	6,24
MACAMBIRA	346,87	387,88	11,82	433,59	387,88	-10,54	0,00	14,37	100,00	72,26	143,66	98,79
MALHADA DOS BOIS	733,30	351,45	-52,07	271,59	189,24	-30,32	0,00	27,03	100,00	81,48	27,03	-66,82
MALHADOR	578,54	316,13	-45,36	562,69	363,55	-35,39	23,78	23,71	-0,28	71,33	102,74	44,04
MARUIM	673,91	364,77	-45,87	790,10	411,09	-47,97	87,14	17,37	-80,07	162,67	34,74	-78,64
MOITA BONITA	361,71	343,67	-4,99	635,20	326,05	-48,67	52,93	17,62	-66,70	26,47	35,25	33,18
MONTE ALEGRE DE SERGIPE	192,93	184,51	-4,36	119,75	46,13	-61,48	33,26	13,18	-60,38	6,65	13,18	98,10
MURIBECA	590,16	170,18	-71,16	196,72	183,27	-6,84	26,23	39,27	49,73	39,34	52,36	33,09
NEÓPOLIS	486,14	347,54	-28,51	74,79	85,55	14,38	48,08	48,12	0,09	53,42	37,43	-29,94
NOSSA SENHORA APARECIDA	216,01	204,34	-5,40	159,16	90,82	-42,94	0,00	11,35	100,00	11,37	11,35	-0,15
NOSSA SENHORA DA GLÓRIA	595,82	404,57	-32,10	181,45	109,85	-39,46	10,83	21,43	97,86	35,21	69,66	97,86
NOSSA SENHORA DAS DORES	582,07	559,81	-3,83	401,82	253,78	-36,84	48,82	44,78	-8,26	63,84	52,25	-18,16
NOSSA SENHORA DE LOURDES	416,47	138,55	-66,73	107,97	76,97	-28,71	0,00	15,39	100,00	154,25	30,79	-80,04
NOSSA SENHORA DO SOCORRO	623,54	508,33	-18,48	1289,02	893,89	-30,65	51,74	54,93	6,17	64,26	71,08	10,61
PACATUBA	263,38	123,80	-53,00	55,45	20,63	-62,79	20,79	48,14	131,54	20,79	0,00	-100,00
PEDRA MOLE	214,66	213,09	-0,73	61,33	30,44	-50,37	30,67	30,44	-0,73	0,00	0,00	0,00
PEDRINHAS	302,02	258,67	-14,36	260,36	341,44	31,14	0,00	20,69	100,00	31,24	20,69	-33,77
PINHÃO	304,14	120,72	-60,31	197,69	165,99	-16,04	45,62	15,09	-66,92	30,41	30,18	-0,77
PIRAMBU	560,34	480,82	-14,19	495,69	203,01	-59,04	53,88	64,11	18,99	21,55	32,05	48,73
POÇO REDONDO	215,67	165,14	-23,43	54,64	22,78	-58,31	20,13	22,78	13,16	54,64	25,62	-53,10
POÇO VERDE	223,36	175,98	-21,22	88,50	108,94	23,09	16,86	4,19	-75,15	29,50	33,52	13,62
PORTO DA FOLHA	241,29	90,61	-62,45	17,48	27,88	59,46	24,48	31,37	28,14	41,96	55,76	32,88
PROPRÍA	789,85	676,95	-14,29	502,94	259,33	-48,44	23,63	53,89	128,06	43,88	60,62	38,15
RIACHÃO DO DANTAS	308,00	196,88	-36,08	181,77	121,16	-33,35	5,05	5,05	-0,02	25,25	55,53	119,96
RIACHUELO	528,74	457,02	-13,56	812,69	563,98	-30,60	88,12	48,62	-44,83	78,33	38,90	-50,35
RIBEIRÓPOLIS	257,35	362,22	40,75	412,82	356,90	-13,55	53,61	37,29	-30,45	10,72	58,59	446,46
ROSÁRIO DO CATETE	681,71	472,38	-30,71	469,83	245,28	-47,79	46,06	9,08	-80,28	64,49	45,42	-29,56
SALGADO	495,05	374,53	-24,34	280,03	229,71	-17,97	20,00	19,98	-0,13	35,00	14,98	-57,20
SANTA LUZIA DO ITANHY	349,13	247,86	-29,01	242,25	191,20	-21,07	14,25	21,24	49,09	35,63	56,65	59,03
SANTANA DO SÃO FRANCISCO	257,07	89,24	-65,29	128,53	50,99	-60,33	64,27	12,75	-80,16	51,41	50,99	-0,82
SANTA ROSA DE LIMA	485,56	331,38	-31,75	230,00	127,45	-44,59	25,56	76,47	199,24	51,11	0,00	-100,00
SANTO AMARO DAS BROTAS	380,10	255,12	-32,88	181,79	106,99	-41,15	57,84	0,00	-100,00	74,37	57,61	-22,54
SÃO CRISTÓVÃO	528,47	401,79	-23,97	772,72	393,00	-49,14	43,30	42,81	-1,12	48,85	61,48	25,85