Relevant Facts about Deforestation, Forest Fires and

Environmental Regularization in Mato Grosso

July 2020

1) DEFORESTATION IN THE AMAZON

The PRODES [1] project of the National Institute for Space Research (INPE) has confirmed deforestation numbers for 2019. PRODES monitors satellite clearing of clear-cut deforestation in the Legal Amazon:

Deforestation Rates by PRODES - 2004 a 2019 (Km^2), in the Amazon:

| Year	Mato Grosso	All legal Amazon states
2004	11814	27772
2005	7145	19014
2006	4333	14286
2007	2678	11651
2008	3258	12911
2009	1049	7464
2010	871	7000
2011	1120	6418
2012	757	4571
2013	1139	5891
2014	1075	5012
2015	1601	6207
2016	1489	7893
2017	1561	6947
2018	1490	7536
2019	1702	10129
Var. 2019-2018*	14%	34%
Var. 2019-2004*	-86%	-64%

(* Updated on June 15th 2019)
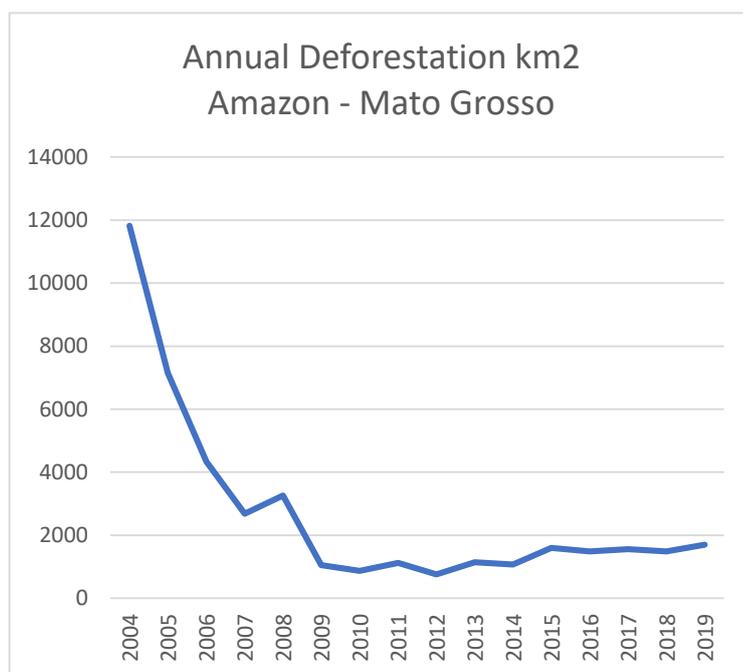
2) DEFORESTATION IN THE CERRADO

PRODES also measures deforestation in the Cerrado.

Deforestation Rates by PRODES - 2004 a 2019 (Km^2), in the Cerrado:

Year	Mato Grosso	All of Cerrado
2004	6.630,41	29.939,19
2005	2.731,76	17.612,97
2006	2.731,76	17.612,97
2007	1.989,48	13.783,88
2008	1.989,48	13.783,88
2009	1.000,37	9.994,05
2010	1.000,37	9.994,05
2011	1.033,23	9.540,05
2012	1.033,23	9.540,05
2013	1.757,40	13.061,17
2014	1.010,43	10.824,85
2015	1.695,50	11.675,02
2016	1.164,54	6.789,57
2017	1.103,91	7.311,84
2018	988,09	6.634,09
2019	930,59	6.483,40
Var. 2019-2018*	-6%	-2%
Var. 2019-2004*	-86%	-78%

Anual Deforestation in km2
Cerrado of Mato Grosso
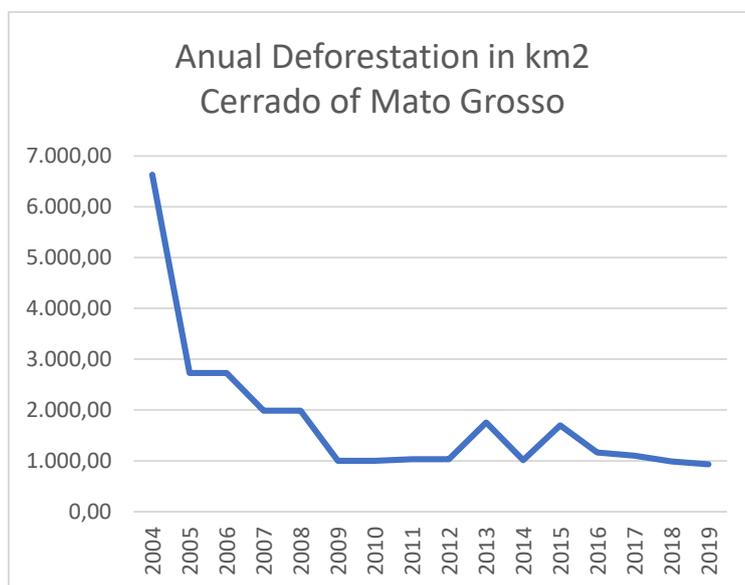
3) DEFORESTATION ALERTS 2019-2020

INPE, through DETER [2], also makes a quick survey of evidence of changes in forest cover in the Amazon and Cerrado. DETER is not used to measure deforestation, it is an alert system to support deforestation control.

Graph below depicts DETER aggregated area of deforestation alerts in Mato Grosso Amazon in 2019 and 2020:
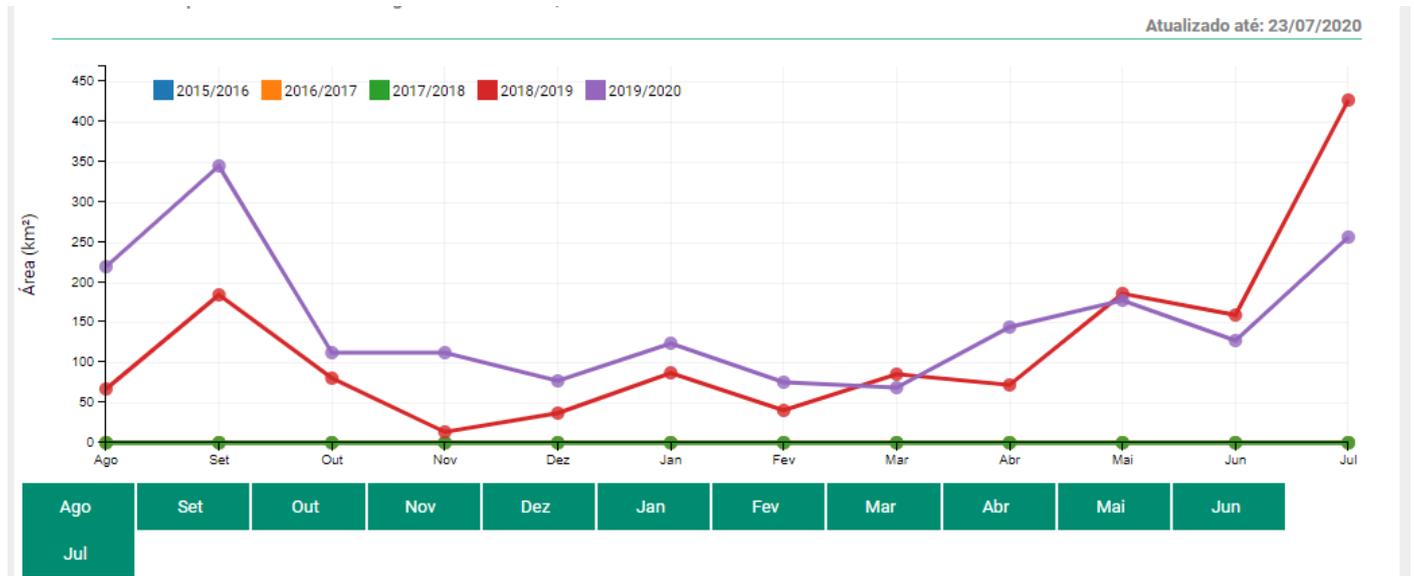
*2020 Alerts are updated until 23th July

Graph below depicts DETER aggregated area of deforestation alerts in Mato Grosso Cerrado in 2019 and 2020:
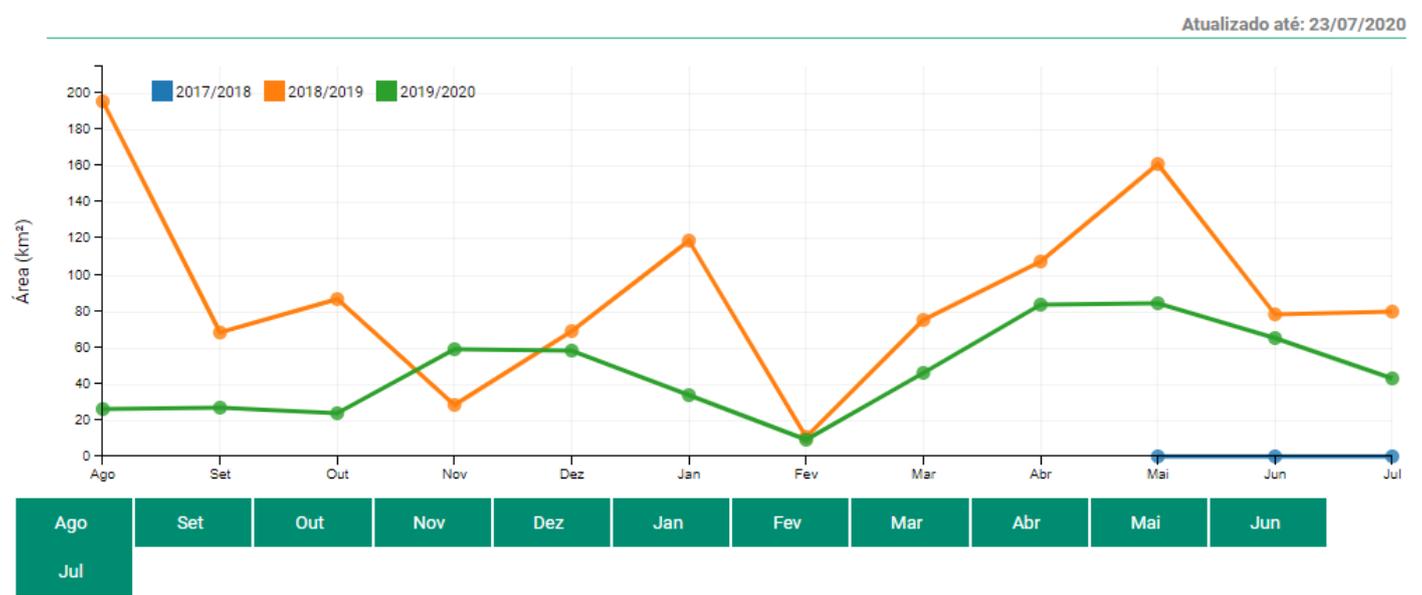
- 2020 Alerts are updated until 23th July

4) SEMA/PLANET DEFORESTATION CONTROL

Since August 2019, Mato Grosso has been using a Planet Satellite Image Monitoring Platform, acquired by the REM program, as a preventive environmental control tool. Featuring high spatial resolution images and alerts generated by daily real-time monitoring, the platform is powered by images from more than 120 Planet satellites, available with 3-meter spatial resolution covering the entire territory of the state. The large number of daily images enables efficient monitoring of critical areas and will serve as the foundation for strategic decision making.

Planet images. Source: SEMA-MT

Quantitative of cleared area deforested monthly in the state of Mato Grosso, verified through the Planet alerts, since the beginning of its application in August 2019 until June 2020

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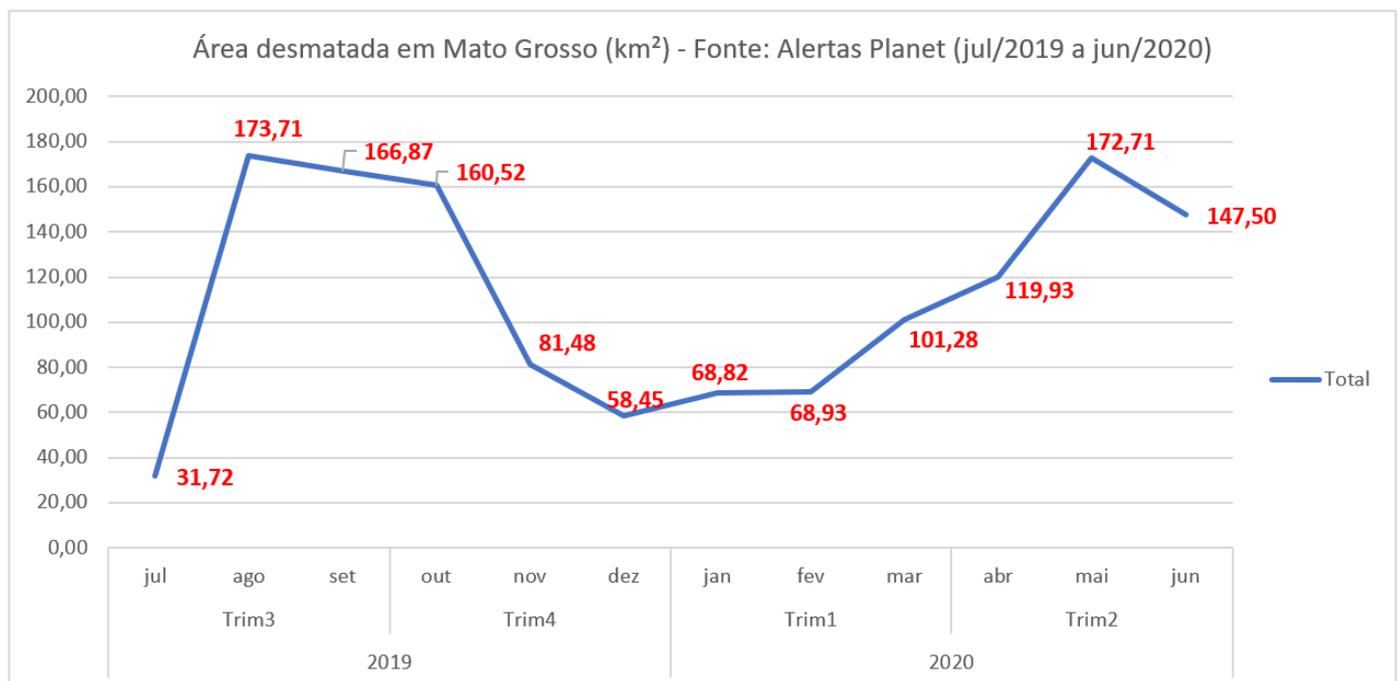
According to the State Secretariat for the Environment (Sema-MT), the Planet Monitoring Platform does not replace the monitoring carried out by the National Institute for Space Research (INPE) and that official deforestation data in Mato Grosso remains the PRODES data, which is made available by INPE.

Planet is used as a preventive tool, with the main objective of reducing deforestation in the state, allowing for quick action by generating daily alerts in the Amazon, Cerrado and Pantanal.

In addition to the daily images, 12 monthly mosaics will be made available to the State using the best images of each month, which integrated with SIMCAR, will bring greater precision and quality to the technical analyzes of the Rural Environmental Registries.

Another product made available in the system will be the monitoring of the recovery of degraded areas under the Environmental Regularization Program (PRA), which will also have reports on the monitoring of restoration and the generation of indicators for the recovery of degraded areas.

All state agencies will be able to access the images to subsidize their work and provide a more accurate scenario of state coverage. Training for the first users started as early as last week with the participation of several State agencies, including the State Prosecutor's Office, which is also part of the REM Program.

5) ACTION PLAN AGAINST DEFORESTATION

According to the data obtained through the Planet alerts, which include the Amazon, Cerrado and Pantanal biomes, it was found that in Mato Grosso, as of September 2019, there was a decline in the monthly quantifications of the total area deforested in shallow cut, and this, throughout the first quarter of 2020, has remained stable at an average of 68.5 km².

The increase in the deforestation alerts on DETER, and deforestation measurements by Planet in April and May are coincident with the rise of COVID-19 cases in Mato Grosso. The pandemic may have triggered a increase in the number os deforestation alerts in Mato Grosso, maybe due to restrictions on transit of people and thus a feeling of "freedom to operate" by environmental offenders.

But on March 5th 2020, the Government of the State of Mato Grosso launched an Action Plan[3] to control illegal deforestation and forest fires in its territory. Mato Grosso has a Plan for the Prevention and Control of Deforestation and Forest Fires - PPCDIF, which defines macro strategies to contain deforestation in the period from 2017 to 2020.

The PPCDIF provides that an Action Plan must be drawn up annually with the purpose of guiding the state's command and control actions.

Formerly under the responsibility of the State Secretariat for the Environment - SEMA, the new Action Plan launched in March is now prepared by a Strategic Committee to Combat Illegal Deforestation, Illegal Forest Exploration and Forest Fires - CEDIF-MT, presided by the Governor of the State.

CEDIF now brings together a number of bodies related to fighting deforestation, including the Civil House, SEMA, the Public Security Secretariat, the Civil and Military Police, the Fire Department, the Agricultural Defense Institute, and eventually others to be invited.

The launched plan foresees investments in six fronts: planning and management, monitoring, inspection, accountability, prevention and combating forest fires, and communication. The funds will come from three sources: Public Prosecutors recovery fund (seized corruption money),the Mato Grosso Government's own budget and resources from the REDD+ Early Movers, REM-MT, Program.

As foreseen in the Plan to Combat Deforestation in Mato Grosso - 2020, several field operations were carried out in partnership between: SEMA, BPMPA, PM, Civil Police, MPE, INDEA, IBAMA and Army

These actions have led the state to achieve record numbers of fines related to environmental infractions such as illegal deforestation or fires in the first 5 months of 2020:

Type of infraction	Fines issued
Ilegal deforestation	R$ 328.069.051,82
Non compliant embargoed areas	R$ 136.416.997,90
Illegal logging	R$ 30.659.490,20
Non licensed activities	R$ 19.583.568,60
Illegally transported or stored timber	R$ 12.080.273,27
Illegal fire	R$ 1.114.172,60
Others	R$ 28.072.822,11
Total	R$ 555.996.376,50

As comparison, in the first half of 2019, R$ 286 million were issued in environmental fines.

As part of the Action Plan, a task force to follow the legal process is being implemented, to make sure the infractions will be judged and collected.

In addition, the removal of seized equipment and machinery of illegally deforested areas is part of the Action Plan, with the objective of preventing further damage. Until 05/30 182 equipments had been removed from the field, including 83 tractors, 33 bulldozers, 27 trucks, 35 chainsaws, 4 fire weapons. In June 2020, a helipcopter was seized after being detected using herbicides to to defoliate vegetation cover.

SEMA believes the impact of those actions can be seen in the reduction of alerts in June and July.

EQUIPAMENTOS APREENDIDOS

83 Tratores de pneu
33 Tratores esteira
27 Caminhões
35 Motosserras
04 Armas de fogo
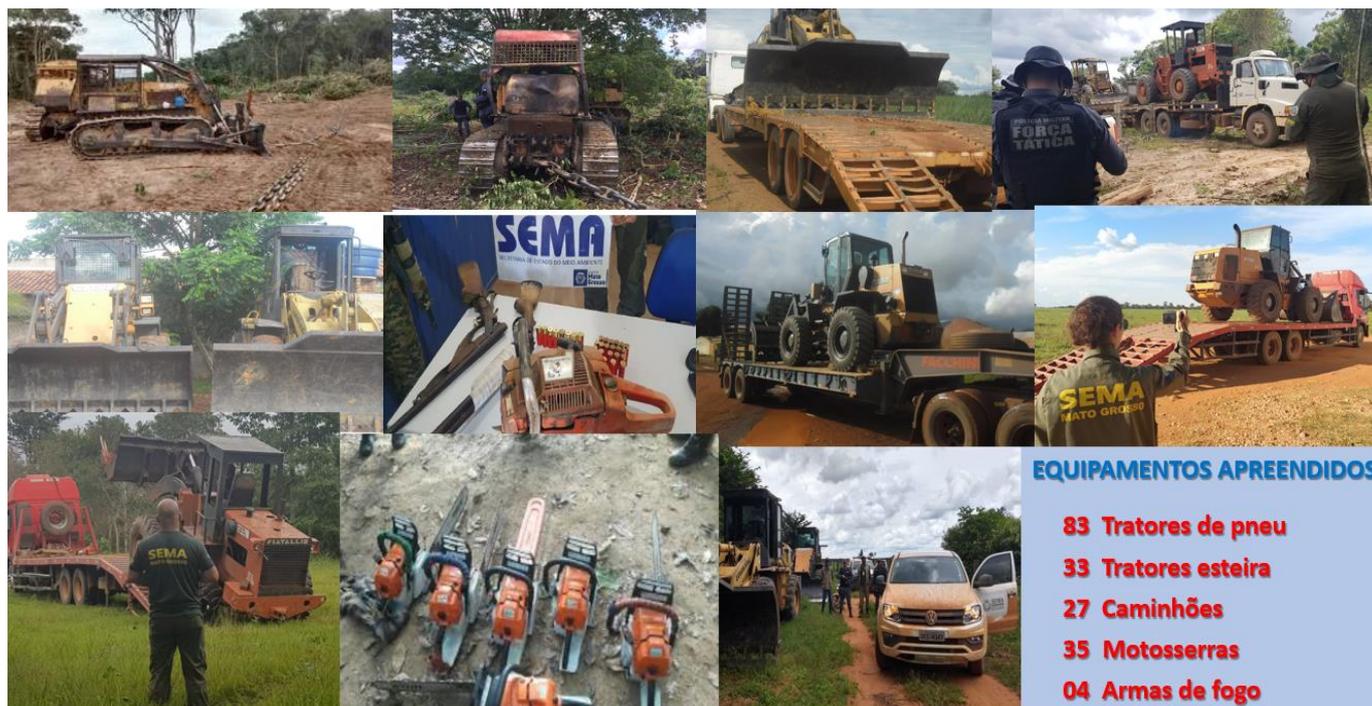
The fight against illegal deforestation is one of the pillars of the Produce, Conserve and Include Strategy of the State of Mato Grosso (PCI), and concrete actions are taking place by the State to maintain its commitments and goals.

6) FOREST FIRES

The graph below depicts the history of fire alerts in Mato Grosso.

Série histórica do estado: **Mato Grosso**
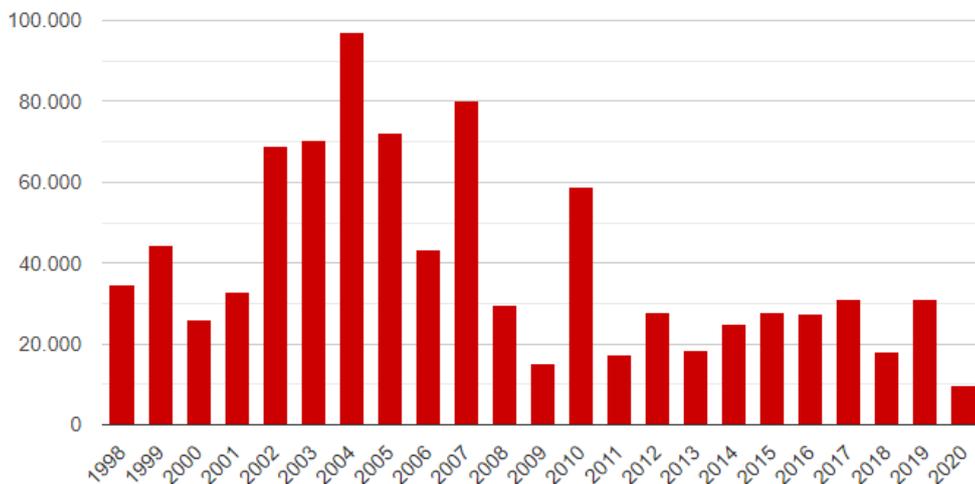
Figura 1 - Série histórica do total de focos ativos detectados pelo satélite de referência, no período de 1998 até 02/08/2020.

*2020 alerts are updated until August 2nd

This graph shows a seasonal comparison between 2019 and historical rates of forest fire alerts:

Comparativo mensal do estado: **Mato Grosso**
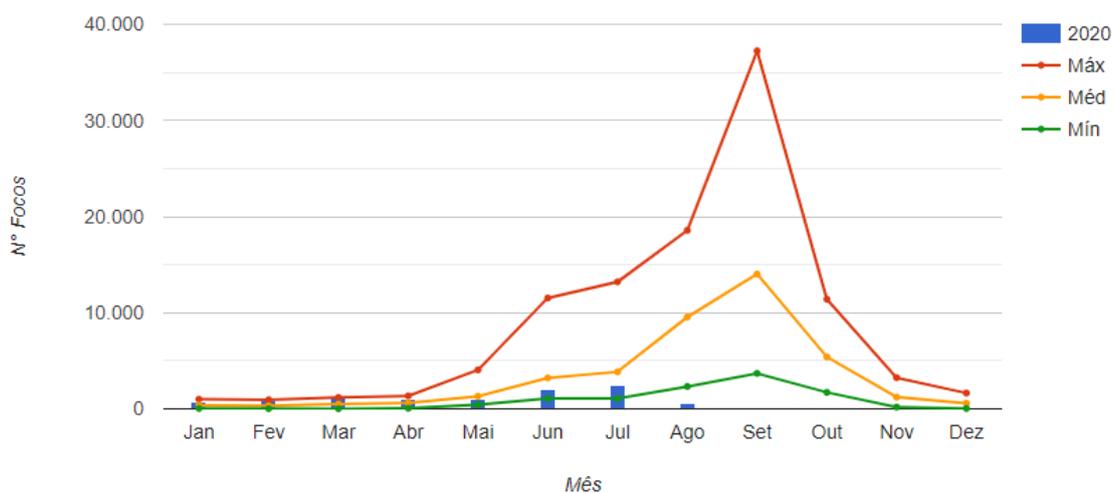
Figura 2 - Comparativo dos dados do ano corrente com os valores máximos, médios e mínimos, no período de 1998 até 02/08/2020.

*2020 alerts are updated until August 2nd

The prohibitive period for the authorized use of fire in rural Mato Grosso areas was advanced to July 1st and will be extended until September 30th. The decision is stated in Decree nr. 535 of June 26th from the State Government.

The decision takes into account climatic factors and risks that air pollution brings to human health, especially at a time when the world is facing the Covid-19 pandemic, which is a respiratory syndrome.

In addition, according to monitoring carried out by INPE, between January 1 and May 28 2020, Mato Grosso registered an increase of 11.83% in the hot spots in relation to the same period last year. Meanwhile, Brazil and the states of the Legal Amazon registered a reduction of 2.84% and 31.26% respectively.

With the decision, landowners are prohibited from carrying out any pasture cleaning activity with the use of fire.

In urban areas, burning is prohibited throughout the year.

It was also found that 44% of the state of Mato Grosso has below average rainfall and 24% of the territory is on average over the last 30 years for the same period.

The decreasing drought dries the thinner vegetation making it more vulnerable to fire.

Mato Grosso has implemented a Integrated multi-agency committee (Ciman-MT) to deal with Forest Fires. Established by Decree No. 174/2019, Ciman brings together the various agencies that work in the forest fire response season, such as the Fire Department of Mato Grosso, Prevfogo / Ibama and ICMBio, with the purpose of strengthening monitoring, prevention, readiness and rapid response to forest fires and burns in an integrated manner with the various levels of government.

7) ENVIRONMENT REGULARIZATION

In 2017, the State also implemented the State Rural Environmental Registry System – SIMCAR [6] and regulated the Environmental Regularization Program provided for in the Forest Code. The Rural Environmental Registry (CAR) is a key instrument for territorial management in the state, for the implementation of the Brazilian Forest Code law and for the regularization of state agricultural production.

In 2019, a task force was set up at the State Secretariat for the Environment to expedite the analysis of CAR registrations so that producers can begin the process of regularization and restoration.

Until 13/06/2020, 94.376 CARs were registered at the SIMCAR database, representing 62,9 % of the total registrable area in the State (area of private holdings and land settlements, excluding indigenous territories and conservation units).

From the total number of registered CARs, 30.795 CAR were analyzed by the Secretary of Environment, representing 22.506.510 ha (30,7%) and 2991 CAR's were approved until 13/06/2020, representing 4.279.709 ha (5,8%). An average of 4900 CARs were analyzed every month (jan/feb/mar/apr/may 2020), compared to 200 CARs analyzed per month in average on the first half of 2019.

The low rate of approved or validated CARs reflects the poor information provided at the registration, at the CAR elaboration on farm level.
In order to improve this information, it is essential to build official state geographic reference bases that reduce errors in the elaboration of the registers and enable an automation of the analyzes by crossing the registered information with the state reference bases. The States Environment Secretariat is seeking to contract the elaboration of geographical databases with mapping of land use and coverage and hydrography, with updated remote sensing data, in the scale of 1: 25,000, detailing to 1: 10,000.
Better reference maps will allow automatic filter in the analysis of CAR, making the process more expedite and eliminating errors. Information on hydrography has been critical for the validation of CAR, since 90% of rejected CARs have presented differences on information on water bodies at farm level.
Projects like KfW CAR (with the federal government) and partnerships with the private sector will allow the State to solve the gap on information and increase the speed of CAR validation in Mato Grosso.

In 2018, Mato Grosso Environmental Secretary launched a Transparency Portal [7], publicizing data on forests, CAR and other important environmental issues. Mato Grosso is the Amazon state best placed in a transparency ranking by the public prosecutors office – MPF in Brazil.

8) REFERENCES

[1] Prodes
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[2] DETER
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[3] Action Plan for deforestation and Planet

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http://www.mt.gov.br/-/13875391-plano-preve-r-64-milhoes-para-zerar-desmatamento-ilegal-a-partir-de-2020

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[4] Equipment removal
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http://sema.mt.gov.br/index.php?option=com_content&view=article&id=4987:orgaos-de-fiscalizacao-apreendem-seis-maquinas-no-noroeste-de-mt&catid=56:sema&Itemid=180

[5] Forest Fires
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[6] Environmental Regularization and CAR

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[7] Transparency

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