



**REPORT**  
**AUGUST 2022**

# VANISHING FORESTS

DEFORESTATION IN VENEZUELA 2016-2021



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2016-2021

CLIMA21. CARACAS

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Citation: Vanishing Forests

Deforestation in Venezuela 2016-2021.

Caracas Clima21.

<https://clima21.net/>  
August 2022

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# Executive Summary



Forests are ecosystems of enormous ecological, social and economic importance. However, deforestation is growing at a dizzying pace across the world. This destruction is generating devastating effects on human societies by losing the contributions of these ecosystems, including their role in the fight against climate change.

Deforestation in Venezuela is a problem that dates back a long time, resulting in a significant decrease in the forest area of the country. In the last 20 years, the expansion of gold mining, together with the Complex Humanitarian Emergency, seems to have accelerated this process.

The objective of this report is to contribute to the knowledge of the current situation of deforestation in the country and its effects on human rights. To this end, the researchers collected information obtained from Global Forest Watch, which provides deforestation data from remote sensing. Other sources of information were also used to contextualize the situation.

The most relevant findings were: 1. Venezuela has a high rate of deforestation, a trend that has accelerated in the last five years. 2. Deforestation affected natural forests -those with very little intervention- to a greater extent. 3. Venezuela's deforestation rate is relatively low compared to other Amazonian countries, but it is the country that lost the most natural forests in the entire region. 4. The main causes of deforestation are shifting cultivation, Deforestation for obtaining basic resources, and forest fires. The latter seems to be becoming increasingly important. 5. The effects of small-scale mining on forests are not easy to estimate through remote sensing, but local measurements indicate that the country has lost an important forest area due to this activity. 6. Five states of the country concentrate 57% of national deforestation. Two of them are heavily affected by illegal mining.



This situation may be the reflection of four connected situations: The lack of political will on the part of the State to protect the country's forests; the establishment of an economic policy based on looting mining; the loss of the institutional capacities of the State to manage the forest ecosystems of the country, and a serious humanitarian crisis that leads a part of the population to resort to the exploitation of the forests as a form of livelihood.

Under these circumstances, it is very difficult for the Venezuelan State to meet the targets established for SDG15, as well as the Aichi Targets.

**Is very difficult for the Venezuelan State to meet the targets established for SDG15, as well as the Aichi Targets.**

Based on the foregoing, the following recommendations were made to the Venezuelan State:

- Establish a comprehensive national policy for the conservation of forest ecosystems as fundamental components of national development and the overcoming of the current humanitarian crisis.
- Establish a process of re-institutionalization of the country's environmental institutions, including their technical, political and economic strengthening.
- Hasten the design of a new National Strategy for the Conservation of Biological Diversity with a human rights approach under the international obligations assumed by the State.
- Establish a national research funding policy that supports scientific studies on the situation of the country's forest ecosystems.
- Progressively eradicate mining extractivism as a means of financing the State, and facilitate public access to information on forests.
- Guarantee the participation of all stakeholders in decision-making on forest management, and promote education programs on these issues at all levels of instruction.



# Introduction

Forests are ecosystems of enormous ecological, social and economic importance. They are the habitat of 80% of the world's biodiversity of plants and animals. They also maximize the availability of water for human use and mitigate downstream flooding. Forests also regulate the regional and local climate, attenuate the effects of extreme weather events, and generate productive soils.

Likewise, forests are one of the main carbon sinks, absorbing carbon dioxide (CO<sub>2</sub>) from the atmosphere and depositing it in the form of biomass, which makes them essential in the fight against climate change.

On the other hand, more than 1.6 billion people, mainly in the poorest countries of the world, survive thanks to the resources they get from forests. Similarly, forests create direct jobs for 13.4 million people, while a further 41 million have jobs that rely on these areas.



Despite this, these ecosystems are disappearing at a staggering rate.<sup>1 2</sup> This situation is having devastating effects on the biosphere and human societies.

In this sense, deforestation is one of the main causes of the loss of biological diversity and contributes to almost a fifth of the greenhouse gas emissions that cause climate change. Other environmental impacts of deforestation include the loss of access to water, soil erosion, and the increased risk of socio-natural disasters.

On the other hand, the felling of tropical forests creates the conditions for the spread of disease vectors for malaria, dengue and yellow fever, as well as the appearance and dissemination of zoonoses<sup>3</sup> such as Ebola, HIV-AIDS and COVID19, among many others.

All this generates serious violations of the human rights of local populations, mainly among the most vulnerable groups. These violations affect the rights to life and physical integrity, the right to live with dignity, and territorial, cultural, civil and political rights,<sup>4 5</sup> and exacerbate in contexts of conflict over resources.<sup>6</sup>

Deforestation in Venezuela is a problem that dates back a long time,<sup>7 8 9</sup> resulting in a significant reduction in the forest area of the country.<sup>10</sup> This process had its greatest increase between 1960 and 1995.<sup>11</sup> This situation mainly affected the forests located in the north of the country, leaving the Venezuelan Amazon with relatively low deforestation rates, including areas considered to have remained intact.<sup>12 13</sup>

1 Global Forest Watch (2021) Forest Loss Remained Stubbornly High in 2021. <https://www.globalforestwatch.org/blog/data-and-research/global-tree-cover-loss-data-2021/>

2 Idem

3 Rainforest Alliance (2020) Deforestation and Pandemics. <https://www.rainforest-alliance.org/insights/deforestation-and-pandemics/>

4 Forest Peoples Programme (2018) Human rights impacts of deforestation. <https://rightsanddeforestation.org/policy-papers/human-rights-impacts-of-deforestation/>

5 Fern (2010) Realising rights, protecting forests: An alternative vision for reducing deforestation. <https://www.fern.org/publications-insight/realising-rights-protecting-forests-an-alternative-vision-for-reducing-deforestation-657/>

6 Rainforest Foundation Norway (2014) Human rights and resource conflicts in the Amazon. <https://rightsandresources.org/wp-content/exported-pdf/rfnhumanrightsandresourceconflictsintheamazon2014singlepage.pdf>

7 Pacheco, C., Aguado, I., Mollicone, D. (2011) Las causas de la deforestación en Venezuela: un estudio retrospectivo. *BioLlania Edición Esp.* 10:281-292.

8 Huber, O., Oliveira-Miranda, M., Rodríguez, J. P., Rojas-Suárez, F., & Giraldo Hernández, D. (2010). Libro rojo de los ecosistemas terrestres de Venezuela. Provita.

9 Huber, O. & Alarcón, C. (1988.) Mapa Unidades de Vegetación de Venezuela. Ministerio del Ambiente. Caracas.

10 Oliveira-Miranda, M.A., Huber, O., Rodríguez, J.P., Rojas-Suárez, F., De Oliveira Miranda, R., Hernández-Montilla, M. & Zambrano-Martínez, S. 2010. Riesgo de Eliminación de los Ecosistemas Terrestres de Venezuela. p. 108-208. In: J.P. Rodríguez, F. Rojas-Suárez & D. Giraldo Hernández (eds). Libro Rojo de los Ecosistemas Terrestres de Venezuela. Provita, Shell Venezuela, Lenovo (Venezuela). Caracas, Venezuela.

11 Pacheco Angulo, C., Aguado Suárez, I. & Mollicone, D. (2011). Dinámica de la deforestación en Venezuela: análisis de los cambios a partir de mapas históricos. *Interciencia*, 36(8), 578-586.

12 Miranda, M., Hernández, L., Ochoa, J., & Yerena, E. (1998). No todo lo que brilla es oro. Instituto de Recursos Mundiales. Washington.

13 Bevilacqua M, Cárdenas L, Flores A, Hernández L, Lares E, Mansutti A, et al. (2002) The State of Venezuela's Forests: A Case Study of the Guayana Region. Global Forest Watch—World Resources Institute, editor. Washington, D.C.; 2002.



Sierra de Maigualida, border between the Amazonas and Bolívar state, Photography, Alberto Blanco Dávila

In the last 20 years, the accelerated expansion of illegal gold mining and the environmental effects of the Complex Humanitarian emergency have generated new impacts on the forests of Venezuela, mainly in the Guayana region<sup>14 15 16 17</sup> but also in the rest of the country.<sup>18</sup>

Establishing the current situation of forest conservation in Venezuela is a complex task. On the one hand, there are few works aimed at the systematic and sustained assessment of the dynamics of deforestation and its consequences. In most cases, there have been local efforts for a determined period. Additionally, many

14 RAISG (2015). Deforestation in the Amazonia (1970-2013). 48 p. [https://www.amazoniasocioambiental.org/wp-content/uploads/2017/01/Deforestation\\_in\\_the\\_Amazonia1970-2013.pdf](https://www.amazoniasocioambiental.org/wp-content/uploads/2017/01/Deforestation_in_the_Amazonia1970-2013.pdf)

15 SOS Orinoco (2021) Deforestation & Changes in Vegetation & Land Use Cover within the so-called Orinoco Mining Arc between 2000-2020. <https://sosorinoco.org/en/reports/deforestation-changes-in-vegetation-land-use-cover-within-the-so-called-orinoco-mining-arc-between-2000-2020/>

16 Provita (2021) Cobertura y uso de la tierra en la Amazonía venezolana ¿Cuáles son los principales impulsores de cambio? <https://www.provita.org.ve/document?id=13>

17 Asamblea Mundial por la Amazonía (2020) Situación de la Amazonía venezolana en tiempos de pandemia. Informe de diagnóstico y propuestas para la Asamblea Mundial Amazónica. <https://watanibasocioambiental.org/wp-content/uploads/2020/09/Informe-situacion-Amazonia-Venezuela.-AMPA-2020.pdf>

18 Oliveira-Miranda, M.A., Huber, O., Rodríguez, J.P., Rojas-Suárez, F., De Oliveira Miranda, R., Hernández-Montilla, M. & Zambrano-Martínez, S. 2010. Riesgo de Eliminación de los Ecosistemas Terrestres de Venezuela. p. 108-208. In: J.P. Rodríguez, F. Rojas-Suárez y D. Giraldo Hernández (eds.). Libro Rojo de los Ecosistemas Terrestres de Venezuela. Provita, Shell Venezuela, Lenovo (Venezuela). Caracas, Venezuela.



of the existing estimates of deforestation rates are based on outdated information, are numerically inconsistent, and rely on unknown estimation methods.<sup>19</sup> On the other hand, official information on the situation of these vegetable formations does not exist or is not available for consultation due to the policy of information opacity by the national government and the deinstitutionalization of environmental management.

Based on this situation, the objective of this report is to contribute to the recognition and understanding of the current situation of deforestation in the country and its effects on human rights. Finally, the information obtained in this work was articulated with the United Nations Sustainable Development Goals, mainly SDG15 referring to life in land ecosystems,<sup>20</sup> as well as the Aichi Targets.<sup>21</sup>

## Sources of information and analysis methodology

This research made use of information provided by the Global Forest Watch (GFW) initiative, a collaborative online platform by academic institutions, international organizations and non-governmental institutions that provides data and tools for monitoring forests through remote sensing.<sup>22</sup> The GFW constitutes a reliable source of information as it is independent of governments, companies, and possible political or economic interests.

Two periods were considered for analysis: the first 15 years of the current century (2001-2015), and the period from 2016 to 2021.

The data obtained through the GFW was complemented with information from the Amazon Network of Georeferenced Socio-Environmental Information<sup>23</sup> (RAISG) and the website of the MapBiomass initiative,<sup>24</sup> as well as bibliographic references on deforestation in Venezuela and the socio-environmental and political contexts that act as it causes. Likewise, the impacts of deforestation were studied both from an environmental and human point of view. On the other hand, journalistic articles published in the media were collected to support the analysis.

19 Morón Zambrano, V.I.; García-Rangel, S. & Yerena, E. (2015) Deforestación en Venezuela: una comparación de las evaluaciones existentes. Conferencia presentada en el XI Congreso Venezolano de Ecología. Margarita. SVE.

20 United Nations. Life on Land. <https://www.un.org/sustainabledevelopment/biodiversity/>

21 CBD. Strategic plan for biodiversity 2011-2020. Aichi Biodiversity Targets. <https://www.cbd.int/sp/targets/>

22 Global Forest Watch. Venezuela. <https://bit.ly/3aMsdZI>

23 <https://www.raisg.org/en/>

24 <https://amazonia.mapbiomas.org/en>

# RESULTS

## General trends for Venezuela

According to the information available at the GFW, from 2001 to 2015 the total forest cover of Venezuela suffered an average annual decrease of 97,258 hectares, equivalent to twice the Metropolitan Area of Caracas. From 2016 to 2020, this decrease reached 157,307 ha per year on average, more than three times the Metropolitan Area of Caracas. (See figure 1 in Appendix 1).

It is worth noting that the first period in consideration covers 15 years, while the second only five. This indicates that the average annual deforestation in the last five years was 58% greater than the previous period, which lasted three times longer.

Preliminary data for the year 2021 indicate a loss of forest cover of 64,424 ha, which would place it at an annual rate well below the average for previous periods. The causes of this change are not yet clear, but they could be related to factors as diverse as the effects of conflicts between the armed groups that control the mining areas,<sup>25</sup> the impact of Covid19, the local price of gold,<sup>26</sup> among other causes. At this time it is not possible to know if this trend will continue.

For the same period, the deforestation rate of natural forests -those with very little intervention- increased by an average of 198% per year. Natural forests consistently accounted for 19% of all forest loss in the 2001-2015 period, while in 2016-2020 the figure reached 35%. In other words, deforestation in Venezuela in recent years was oriented toward natural forest ecosystems that had not been previously intervened. This means that the natural forest area lost in the five years spanning from 2016 to 2020 was practically the same as in the 15 years that preceded them (see Figure 1).

<sup>25</sup> OEP Venezuela (2021) Reporte situación de la minería en Venezuela en tiempos de COVID-19. 2do semestre 2021. <https://www.ecopoliticavenezuela.org/2021/12/10/reporte-situacion-de-la-mineria-en-venezuela-en-tiempos-de-covid-19-diciembre-2021/>

<sup>26</sup> Valverde, M. & Ebus, B. (2020) La gran barata del oro en el Sur de Venezuela: compre un gramo y el otro le sale gratis. <https://armando.info/la-gran-barata-del-oro-en-el-sur-de-venezuela-compre-un-gramo-y-el-otro-le-sale-gratis/>



Cloudy forest- Cerro del Volcán. Caracas. Miranda, Photography Alberto Blanco Dávila

In this case, the preliminary figures for the year 2021 are not low. On the contrary, they are similar to the trend observed in the period 2016-2020 where natural forests with little intervention accounted for 35% of the estimated total annual deforestation.

When comparing Venezuela with other countries in the Amazon region, it was found that the country suffered a relatively low loss of total forest cover in the period 2001-2021, with 4.1% of existing forests for the year 2000, which is below the regional average (9.9%). Similarly, this loss was 1.5% for natural forests, also below the average of 6.6% for the region.

However, during the 2016-2021 period, Venezuela increased the rate of loss of this type of vegetation, especially natural forests, by almost 170% per year, well ahead of Colombia and Bolivia, which follow behind.

Based on these data, the greatest concern for the country is not the size of the area affected compared to the year 2000, which is still small in contrast with its neighbors, but rather the speed at which this loss has increased.

### **Causes of deforestation**

For the analysis of data obtained through satellite images, Global Forest Watch considered six causes of deforestation:

- Deforestation for obtaining basic resources
- Forestry or forest plantations
- Forest fires
- Shifting cultivation
- Urbanization
- Unknown causes<sup>27</sup>

In the case of Venezuela, the impact of each of these factors on deforestation has not been homogeneous over the last 20 years (See Table 1 in Appendix 2).

The most relevant findings of this analysis are the following:

In the first period under consideration (2001 to 2015), the most important cause of deforestation was shifting cultivation, followed by deforestation for obtaining basic resources.

These causes persisted in the second period (2016-2020) but both showed annual increases of 73% for shifting cultivation and 41% in deforestation for the obtention of basic resources. Likewise, the loss of forests due to forest fires and unknown causes experienced an increase of 38% and 66%, respectively.

In contrast, deforestation due to urban growth showed a decrease of 66% per

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<sup>27</sup> Causes that cannot be determined from data collected through remote sensing



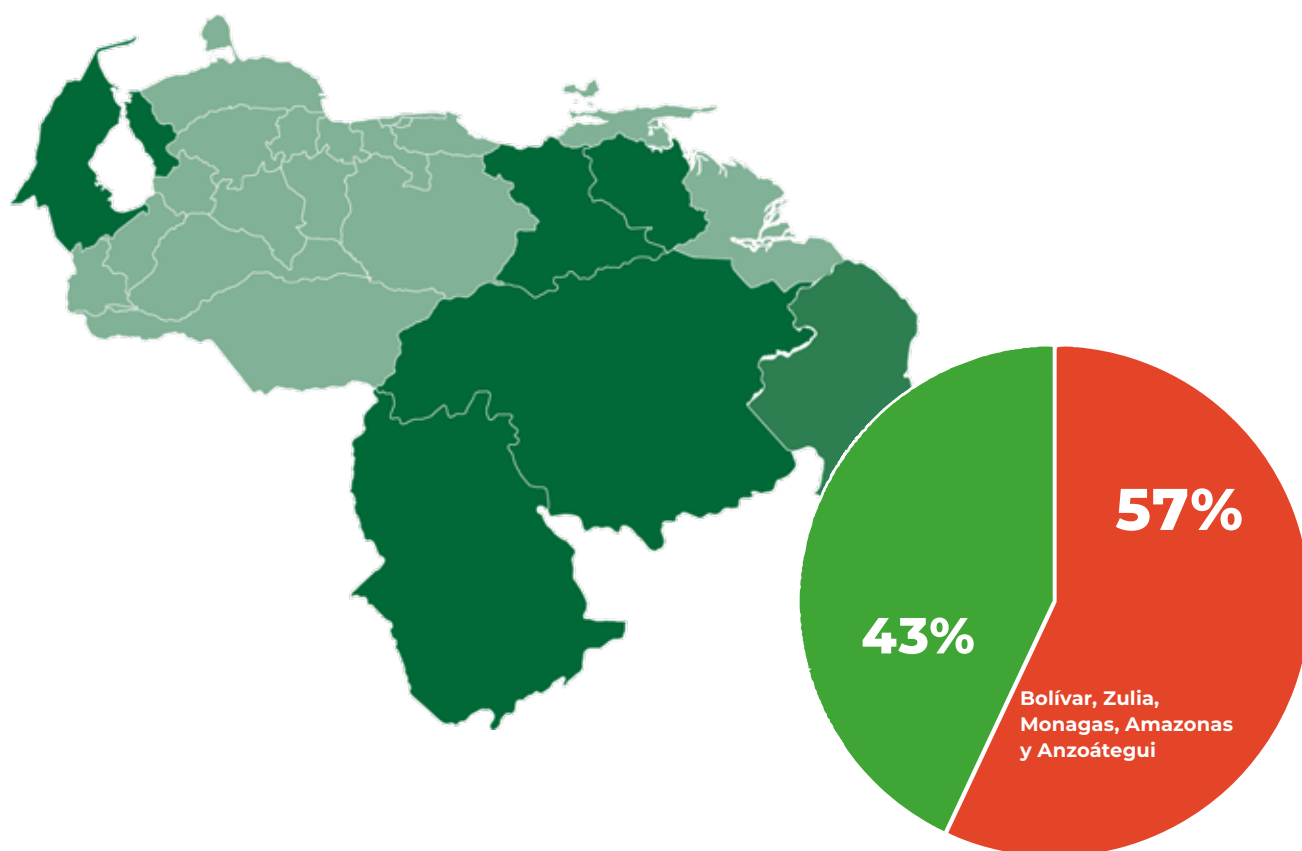


Valle de Yutajé, Amazonas State, Photography Alberto Blanco Dávila

year on average. Likewise, based on the data available to date, a decrease in forest loss associated with all causes was observed in 2021 in comparison to both periods, except for the case of forest fires and unknown causes, which showed values above the annual average for 2001-2015. Another interesting aspect is the notable drop in forestry in 2021, compared to the preceding 20 years. On the other hand, it is important to consider that in 2020 Venezuela was the country in the Amazon region with the highest fire density, measured as the number of heat spots per surface unit.<sup>28</sup>

An element that draws attention in this set of data is the absence of mining as a cause of deforestation in Venezuela, a topic that will be analyzed when discussing deforestation in the different states of the country.

<sup>28</sup> Carpio, E. (2021) Naturaleza en llamas. 20 años de incendios en Áreas Protegidas de Venezuela. <https://prodavinci.com/naturalezaenllamas/index.html?home>



## Deforestation in the different states of the country

Based on the information available on Global Forest Watch, it is possible to establish deforestation trends in the different states of the country.

In the entire period spanning from 2001 to 2021, five states concentrate 57% of the national deforestation: Bolívar, Zulia, Monagas, Amazonas and Anzoátegui (See Table 2 in Appendix 2)

In fact, the state of Bolívar ranks first in forest loss for all periods in consideration, while Zulia and Monagas have occupied different spots in the rankings. In the case of Monagas, the state has always been in the top five, except for 2021 when it was replaced by the state of Apure. For its part, the state

of Amazonas remained among the top five throughout the entire period.

The situation observed for the states of Bolívar and Amazonas contrasts with the fact that, until the end of the 20th century, the Guayana region had maintained relatively moderate levels of deforestation in comparison to the rest of the country. Previous studies had identified only a few areas affected by the advance in mining, agriculture and logging in the region.<sup>29 30 31</sup>

<sup>29</sup> Miranda, M., y colaboradores (1998). Op. cit.

<sup>30</sup> Provita (2010) Libro Rojo de los Ecosistemas Terrestres de Venezuela. Provita, Shell Venezuela, Lenovo. Venezuela.

<sup>31</sup> Bevilacqua M, Medina J. D. & L. Cárdenas. 2007. Situación de los bosques en la Guayana, Venezuela: La Cuenca del Río Caura como caso de estudio. Asociación Venezolana para la Conservación de Áreas Naturales (ACOANA). Caracas Venezuela.





IN A FEW DAYS A  
COMPLEX FOREST OF  
TENS OF YEARS BECOMES  
A SCORCHED EARTH.







North of the Sierra de Imataca, river Yurúan. Bolívar state, Photography Alberto Blanco Dávila

This situation changed in the first decade of the 21st century with the expansion of illegal gold mining across the Guayana region (Bolívar, Amazonas and Delta Amacuro states) as well as with the inauguration of a new national mining policy and the establishment of the Orinoco Mining Arc National Strategic Development Zone (AMO) in 2016. These circumstances gave rise to an accelerated increase in deforestation across the region.<sup>32 33 34 35 36 37</sup> In this sense, according to the website of the MapBiomas initiative, the Venezuelan Amazon lost 1.1 million Ha of native vegetal cover between 1985 and 2020, a surface similar in size to the state of Aragón.<sup>38</sup> Due to this, the Venezuelan Guayana is now considered one of the critical points (hotspots) for deforestation at a global level.<sup>39 40 41</sup>

32 Asamblea Mundial por la Amazonía (2020) Situación de la Amazonía venezolana en tiempos de pandemia. Informe de diagnóstico y propuestas para la Asamblea Mundial Amazónica. <https://watanibasocioambiental.org/wp-content/uploads/2020/09/Informe-situacion-Amazonia-Venezuela.-AMPA-2020.pdf>

33 RAISG (2021) 8.1 Symptoms and Consequences - Deforestation. <https://atlas2020.amazoniasocioambiental.org/en/posts/human-activities-deforestation>

34 RAISG (2020) MapBiomas. <https://plataforma.panamazonia.mapbiomas.org/>

35 SOS Orinoco (2021) Deforestation & Changes in Vegetation & Land Use Cover within the so-called Orinoco Mining Arc between 2000-2020. <https://sosorinoco.org/en/reports/deforestation-changes-in-vegetation-land-use-cover-within-the-so-called-orinoco-mining-arc-between-2000-2020/>

36 Teran Mantovani, E. (2021) Predatory mining in Venezuela: The Orinoco Mining Arc, enclave economies and the National Mining Plan. World Rainforest Movement. <https://www.wrm.org.uy/bulletin-articles/predatory-mining-in-venezuela-the-orinoco-mining-arc-enclave-economies-and-the-national-mining-plan>

37 Ruiz, F.J. (2018) El Arco Minero del Orinoco. Diversificación del extractivismo y nuevos regímenes biopolíticos. NUSO N° 274 / MARZO - ABRIL 2018. <https://nuso.org/articulo/el-arco-minero-del-orinoco/>

38 RAISG (2020) MapBiomas. <https://plataforma.panamazonia.mapbiomas.org/>

39 WWF. Deforestation Fronts Report Factsheets. Venezuela and Guyana. [https://wwfint.awsassets.panda.org/downloads/deforestation\\_fronts\\_factsheet\\_venezuela\\_and\\_guyana.pdf](https://wwfint.awsassets.panda.org/downloads/deforestation_fronts_factsheet_venezuela_and_guyana.pdf)

40 MAAp (2022) Deforestation Hotspots in the Venezuelan Amazon. <https://www.maaproject.org/2022/deforestation-venezuela/>

41 Pacheco, C.E., Aguado, M.I., & Mollicone, D. (2014) Identification and characterization of deforestation hot spots in Venezuela using MODIS satellite images. Acta Amazonica 44: 185-196.





On the other hand, if the average annual deforestation for each state of the country is considered, 71% of the states of the country saw a greater annual loss of forest in the period 2016-2021 than between 2001 and 2015.

Significantly, some states exceeded a 100% increase in the average annual deforestation rate in the last period under consideration (2016-2021). This group includes the states of Sucre, Amazonas, Miranda, Carabobo and Yaracuy.

For their part, deforestation seems to have decreased in the last six years in the states of Guárico, Aragua, Táchira, Barinas, Mérida, and Portuguesa.

It is not easy to identify the specific causes of these variations based on the information available for this work. Deforestation in some regions may be affected by the need of the population to obtain food, firewood and other resources directly from nature in the context of the Complex Humanitarian Emergency, as evidenced in the case of the extraction of wildlife from its habitat.<sup>42</sup>

<sup>42</sup> Clima21 (2022) Wildlife and the humanitarian emergency in Venezuela: A crisis that besieges biodiversity. <https://clima21.net/wp-content/uploads/2022/05/Informe-01-OVDHA-ENG-05-Mayo.pdf>



Sale of firewood. Taken from El Informador (elinformadorve.com)

One of the possible causes, the extraction of firewood for cooking has spread in the country due to the crisis of domestic gas distribution. Situations like these are very difficult to assess from satellite images but could be very important at a local scale.<sup>43 44</sup>

Likewise, no information is available on how the migration of the population, both within the country and abroad, affects the variations in deforestation rates.<sup>45</sup>

In the case of the state of Bolívar, some studies have mentioned cattle farming and agriculture as the main causes of deforestation, while mining would only be responsible for a small percentage of it.<sup>46</sup> More recent works found that agricultural activity seems to have reduced its rate of expansion in the last 10 years.<sup>47</sup>

At the same time, it is important to consider that small and medium-scale mining is the most frequent form of mining in the states of Bolívar and Amazonas. The impact of this type of mining on deforestation may be underestimated in studies carried out through remote sensing, as has been observed in other regions of the Amazon.<sup>48</sup>

Likewise, the state of Amazonas has been seriously affected by mining in recent years.<sup>49</sup> In this sense, 199 mining sites had been georeferenced as of 2020, with significant damage to the Canaima, Yacapana, Duida Marahuaca, Parima Tapirapeco, and Serranía La Neblina National Parks.<sup>50</sup>

On the other hand, deforestation north of the Orinoco river also presents a worrying situation. Especially in the case of the basin of Lake Maracaibo, which has suffered in recent years an accelerated process of deforestation as a result of the conversion of forests for agriculture (including the cultivation of African palm), cattle farming, coal mining, and urban expansion.<sup>51 52</sup>

43 Radwin, M. (2021) Venezuelans hit by cooking gas shortages look to forests for firewood. <https://news.mongabay.com/2021/11/venezuelans-hit-by-cooking-gas-shortages-look-to-forests-for-firewood/>

44 Sequera, V (2019) Venezuela's trees suffer as firewood replaces scarce cooking gas. <https://www.reuters.com/article/us-venezuela-firewood-idUSKCN1VJ1EJ>

45 Carr, D. (2008). Population and deforestation: why rural migration matters. *Progress in Human Geography*, 33(3), 355–378.

46 Lozada, J.R. & Carrero, Y.A. (2017) Estimación de las áreas deforestadas por minería y su relación con la gestión ambiental en la Guayana venezolana. *Revista Forestal Venezolana*. N° 61, Vol. 1: Enero - Diciembre 2017.

47 Provita (2021) Cobertura y uso de la tierra en la Amazonía venezolana ¿Cuáles son los principales impulsores de cambio?. <https://www.provita.org.ve/document?id=13>

48 Kalamandeen, M., Gloor, E., Mitchard, E. et al. (2018) Pervasive Rise of Small-scale Deforestation in Amazonia. *Sci Rep* 8, 1600.

49 RAISG (2021) Op cit.

50 Asamblea Mundial por la Amazonía (2020) Op. cit.

51 Portillo-Quintero, C. A., Sánchez, A. M., Valbuena, C. A., González, Y. Y., & Larreal, J. T. (2012). Forest cover and deforestation patterns in the Northern Andes (Lake Maracaibo Basin): A synoptic assessment using MODIS and Landsat imagery. *Applied Geography*, 35(1-2), 152–163.

52 OEP (2021) Impactos socio-ambientales de las plantaciones de palma aceitera en el Sur del Lago de Maracaibo (Zulia). <https://www.ecopoliticavenezuela.org/georeferencias/impactos-socio-ambientales-de-las-plantaciones-de-palma-aceitera-en-el-sur-del-lago-de-maracaibo-zulia/>



Finally, the decrease in deforestation rates in some states may be the result of migration and a more severe impact of the economic crisis on the local population, although no data is available to corroborate these hypotheses.



# CONCLUSIONS

The data available at GFW and other sources allow drawing the following conclusions:

- Forest loss has been high in Venezuela in the current century, with an acceleration in the last six years. This result contradicts the allegations that the country has reversed deforestation by 47% in the last 20 years.<sup>53</sup> It also seems to indicate that the measures taken by the national government to curb deforestation have so far been ineffective.<sup>54</sup>
- In the last six years, this process has concentrated on natural forests with previous minimal intervention.
- The variation in the annual loss of forest cover in Venezuela during this century is within the regional average, but not in the case of pristine natural forests, where the country ranks first in the region, in addition to having the highest percentage increase in loss of this type of forest.
- The most important causes of deforestation are shifting cultivation, deforestation for the obtention of basic resources, and forest fires. This last cause seems to become more important, but there is not enough information about its long-term impact on the forests of Venezuela.<sup>55 56</sup>
- The effects of small-scale mining, which is the most common form of mining in the Venezuelan Amazon, are not easy to estimate through remote sensing, but local measurements indicate that the country has lost a large forest area due to this activity and its derived damages.
- Five states of the country concentrate 57% of all deforestation. Two of them have been heavily affected by illegal mining. In the periods under study, some states exceeded a 100% increase in the average annual deforestation rate.
- In the states that make up the Venezuelan Amazon, deforestation has severely affected the National Parks and other areas protected by law.

53 Swiss.info (2022) Venezuela revierte la deforestación un 47 % en 20 años, según el Gobierno. [https://www.swissinfo.ch/spa/venezuela-medioambiente\\_venezuela-revierte-la-deforestaci%C3%B3n-un-47---en-20-a%C3%B1os--seg%C3%BAn-el-gobierno/47583330](https://www.swissinfo.ch/spa/venezuela-medioambiente_venezuela-revierte-la-deforestaci%C3%B3n-un-47---en-20-a%C3%B1os--seg%C3%BAn-el-gobierno/47583330)

54 Prensa MINEC (2021) Ministro Josué Lorca participó en diálogo de alto nivel sobre desertificación de la tierra y sequía de la ONU. <http://www.minec.gob.ve/ministro-josue-lorca-participo-en-dialogo-de-alto-nivel-sobre-desertificacion-de-la-tierra-y-sequia-de-la-onu/>

55 Carpio, E. (2021) Op. cit.

56 Carpio, E. (2021) Naturaleza en llamas. 20 años de incendios en Áreas Protegidas de Venezuela. <https://prodavinci.com/naturalezaenllamas/index.html?home>



These trends seem to be reflected in at least three concurrent situations in the context of the Complex Humanitarian Emergency in Venezuela:<sup>57</sup>

A growing lack of political will on the part of the Venezuelan State to protect and preserve Venezuela's forests. This situation seems to be driven by a policy of predatory extractivism and looting.<sup>58 59</sup> This assertion is reinforced by the absence of concrete actions to protect forests other than statements before international organizations.

The loss of the institutional capacities of the Venezuelan State to plan and manage the country's forest ecosystems with a sustainability approach guided by the country's legal and international obligations.

A serious humanitarian crisis in which a part of the population is forced to resort to the extraction of natural resources (hunting, firewood, construction materials) and subsistence agriculture for livelihood. This reality is aggravated in the context of the COVID19 pandemic and the mobility crisis. In contrast, the findings show a drop in deforestation due to urban growth and industrial infrastructure that are characteristic of growing economies.

Likewise, it is clear that such circumstances make it very difficult for the Venezuelan State to reach Objective 15 of the 2030 Agenda for Sustainable Development,<sup>60</sup> nor the targets related to forest conservation, particularly targets 15.1<sup>61</sup> and 15.2.<sup>62</sup>

57 Cartaya Febres, V, Reyna Ganteaume, F. & Ramsay, G. (2020) Report: Venezuela's Complex Humanitarian Crisis, Responses, and Challenges for Civil Society. WOLA /Acción Solidaria. <https://www.wola.org/analysis/venezuelas-complex-humanitarian-crisis/>

58 Terán Mantovani, E. (2019) Venezuela: extractivismo predatorio y política del saqueo. <https://www.ecopoliticavenezuela.org/2019/08/12/venezuela-extractivismo-predatorio-politica-del-saqueo/>

59 Gudynas, E. (2018) Extractivismos: el concepto, sus expresiones y sus múltiples violencias. *Papeles de Relaciones Ecosociales y Cambio Global* N° 143 2018, p. 61-70.

60 United Nations. Op. Cit.

61 15.1: By 2020, ensure the conservation, restoration and sustainable use of terrestrial and inland freshwater ecosystems and their services, in particular forests, wetlands, mountains and drylands, in line with obligations under international agreements.

62 15.2: By 2020, promote the implementation of sustainable management of all types of forests, halt deforestation, restore degraded forests and substantially increase afforestation and reforestation globally.



Likewise, the Venezuelan State is not making any progress toward Target 5 of the Aichi Targets of the Strategic Plan for Biodiversity 2011-2020. Target 5 established that, by 2020, the rate of loss of all natural habitats, including forests, is at least halved and where feasible brought close to zero, and degradation and fragmentation is significantly reduced.<sup>63</sup>

The issues found represent serious obstacles to moving towards a situation that allows the country to get out of the current crises, as well as move towards sustainable development. At the same time, they represent severe threats to the population as they affect the water supply, increase the risks of socio-natural disasters, and stimulate an increase in desertification, as well as hinder the population's access to goods, services and contributions of nature, among other problems.

<sup>63</sup> CBD. Op. cit.

**The issues found represent serious obstacles to moving towards a situation that allows the country to get out of the current crises, as well as move towards sustainable development.**

# RECOMMENDATIONS

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Based on the results obtained and the importance of forests for the well-being and human rights of the population, the Venezuelan State must urgently assume the following recommendations:

- Establish a comprehensive national policy for the conservation and sustainable use of forest ecosystems and their resources as fundamental components of national development and the overcoming of the current humanitarian crisis;
- Establish a process of environmental re-institutionalization of the country, which includes the technical, political and economic strengthening of the institutions tasked with guiding and implementing the environmental policies of the country;
- Hasten the design of a new National Strategy for the Conservation of Biological Diversity with a human rights approach under the international obligations assumed by the State.
- Establish a national research funding policy that supports scientific studies on the state of the country's forest ecosystems and the possible solutions to their problems. Funding must reach all researchers in the country without any kind of discrimination.
- Call the national government to implement effective actions to progressively eradicate mining extractivism as a means of financing the State.
- Establish policies framed in the Escazú Agreement that facilitate public access to all information on forests, conservation and sustainable use, and guarantee the pluralistic and democratic participation of all stakeholders in decision-making on forest management, as well as promote the implementation of education programs on these issues at all levels of instruction.





River Caura, Salto Pará. Bolívar State, Photography Alberto Blanco Dávila



APPENDIX 1 - FIGURE

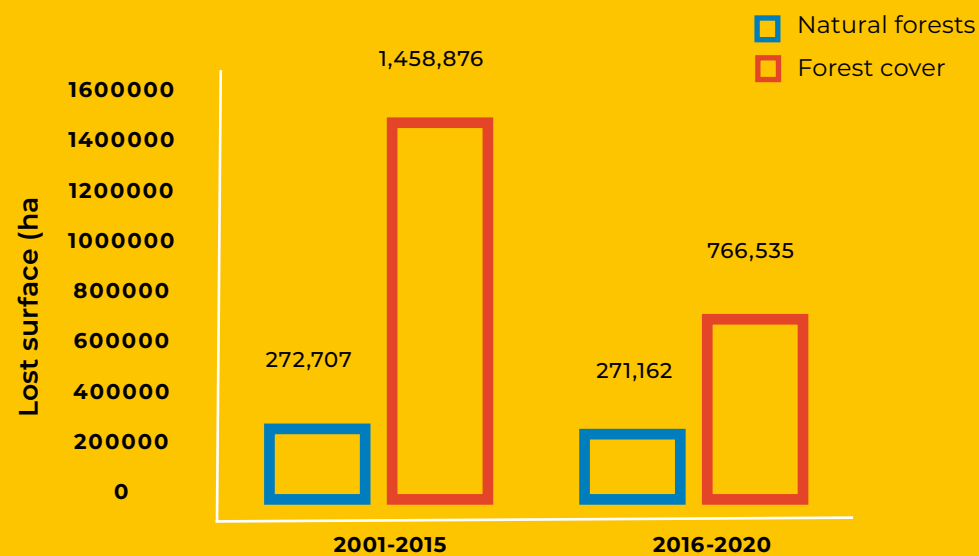


FIGURE 1. LOSS OF NATURAL FOREST AND FOREST COVER IN THE PERIOD 2001-2020

## APPENDIX 2 - TABLES

**TABLE 1. IMPACT OF THE MOST IMPORTANT CAUSES OF FOREST COVER LOSS IN VENEZUELA FOR THE PERIOD 2001-2021**

Forest cover loss in Venezuela for the period 2001-2021 (hectares)						
Deforestation triggers	2001-2015	Annual average 2001-2015	2016-2020	Annual average 2016-2020	2021	Total
Obtention of basic resources	487,735	32,516	229,862	45,972	14,804	732,401
Shifting cultivation	846,924	56,462	488,799	97,760	45,585	1,381,307
Forest fires	10,118	675	4,673	935	710	15,502
Unknown causes	29,455	1,964	16,294	3,259	2,683	48,432
Forestry	82,494	5,500	26,432	5,286	587	109,512
Urbanization	2,149	143	475	95	55	2,679
<b>Total</b>	<b>1,458,876</b>	<b>97,258</b>	<b>766,535</b>	<b>153,307</b>	<b>64,424</b>	<b>2,289,834</b>

Source: Global Forest Watch

**TABLE 2. STATES OF VENEZUELA ACCOUNTING FOR THE HIGHEST SHARE OF FOREST LOSS IN THE PERIOD 2001-2021.**

State	Considered period			
	2001-2015	2016-2020	2021	2001-2021
Bolívar	1	1	1	1
Zulia	3	2	5	2
Monagas	2	3		3
Amazonas		4	2	4
Anzoátegui	4	5		5
Barinas	5		4	
Apure			3	
<b>Aggregate share of nationwide deforestation</b>	<b>57%</b>	<b>63%</b>	<b>55%</b>	<b>57%</b>

Source: Global Forest Watch

