



Verified Carbon Standard

REDD+ PROJECT MAGNOLIOS DE YARUMAL



Corporación
SalvaMontes



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1 INTERNAL RISK

Project Management		
Risk Factor	Risk Factor and/or Mitigation Description	Risk Rating
a)	<i>Species planted (where applicable) associated with more than 25% of the stocks on which GHG credits have previously been issued are not native or proven to be adapted to the same or similar agro-ecological zone(s) in which the project is located</i> Not applicable	0
b)	<i>Ongoing enforcement to prevent encroachment by outside actors is required to protect more than 50% of stocks on which GHG credits have previously been issued.</i> The project area is composed of natural reservations administered by three non-for-profit organizations: (i) the Fundación Guanacas , (ii) Fundación Magnolios and (iii) Corporación Salvamontes; these organizations look after the protection and conservation of natural resources in the municipalities of Yarumal, Valdivia and Santa Rosa de Osos. These reservations make up 15.37% of the project's area, while the remaining 84.63% is made up by private states which are not part of the reservations but have been grouped under the Fundación Alto de Ventanas with the aim of implementing activities for the control of deforestation under the implementation framework of this project. Each participant of this project has a strict control of the area under its jurisdiction to avoid the invasion by third parties which may generate losses in the carbon reservoirs which this project aims to conserve. For this purpose, we count with the help of more than 4 rangers who roam the reservations with the aim of controlling and overwatching, contributing to the propagation and planting of species while avoiding the exploitation of flora and fauna. Rangers also attend visitors, which promotes the importance of natural resources' conservation among the public.	0
c)	<i>Management team does not include individuals with significant experience in all skills necessary to successfully undertake all project activities (i.e., any area of required experience is not covered by at least one individual with at least 5 years' experience in the area).</i> Fundación Guanacas, Fundación Magnolios and the Corporación Salvamontes are made up of a team of trained professionals with the experience needed to successfully develop all of the project's activities such as forestry management and conservation, different activities with	0

	the community, environmental education, follow-up of flora and fauna, etc.¹ The Fundación Guanacas began its first conservation actions in 1990, but was registered as a legal person since 2007. Throughout these years, it has undertaken multiple actions towards the conservation and sustainability of the territory in which it has developed activities such as passive and active restoration of species, plant and animal inventories, among other. This is all shown in its website https://www.fundacionguanacas.org/ and its presentation.² The Fundación Magnolios and the Corporación Salvamontes have been developing activities since 2016, focusing their efforts in the conservation of threatened species such as the magnolios (<i>Magnolia</i> spp). These activities are described in each institution's webpage (https://www.salvamontes.org/ - https://fundacionmagnolios.org/) and their presentations.³ South Pole was present throughout the whole process of drafting the project's document (PD) and will continue advising processes of validation, follow-up and verification of the project's benefits to climate, to the community and to biodiversity. South Pole has participated in more than 172 projects under the Verified Carbon Standard (VCS) demonstrating management reliability and is one of the main developers of projects involved in emissions' reductions worldwide. These include projects in silviculture, renewable energies, waste disposal management and access to energy in all five continents, bringing measurable benefits aligned with the UN's Sustainable Development Objectives. More information about the project's developer can be found in its webpage https://www.southpole.com	
d)	<i>Management team does not maintain a presence in the country or is located more than a day of travel from the project site, considering all parcels or polygons in the project area</i> None of the parts of the management team are located outside the country, quite the opposite, they are located less than 5 hours away from the project's area (160km approximately to the farthest municipality, i.e. Valdivia). Fundación Guanacas, Fundación Magnolios and the Corporación Salvamontes help the community through environmental education, offer spaces for spreading the right use of natural resources and count with	0

¹ CVs from all staff showing their experience are available at: Internal Risk\Curriculum vitae\Employees.

² The Fundación Guanacas experience can be evidenced at: Internal Risk\Curriculum vitae\Foundations

³ The Fundación Magnolios and the Corporación Salvamontes' experience can be evidenced at: Internal Risk\Curriculum vitae\Foundations

	rangers within the reservations. The Ranger's CVs are available in the annex Internal Risk\Curriculum vitae\Employees\Fundacion Guanacas. South Pole performs field observations where the project's progress is verified and communicates with the communities to offer technical and social support with the aim of proposing the adequate measures necessary to implement the project promoting the protection of the forests while guaranteeing the community's sustainability.	
e)	Mitigation: Management team includes individuals with significant experience in AFOLU project design and implementation, carbon accounting and reporting (e.g., individuals who have successfully managed projects through validation, verification and issuance of GHG credits) under the VCS Program or other approved GHG programs. As a developer of projects related to the quantification and measurement of carbon, South Pole enjoys a great technical trajectory in the formulation and implementation of AFOLU initiatives, as well as a deep knowledge on the accounting and report of carbon and national/international emissions' trade schemes (ETS). Since 2010, South Pole has successfully managed more than 38 projects within the AFOLU sector, in the validation, verification and emission of GHG credits. More information about the project's sponsor can be found in www.southpole.com.	-2
f)	Mitigation: Adaptive management plan in place The Fundación Guanacas has a Reservation Management Plan with an action period between 2019-2024. This plan directs the research, conservation, restoration and expansion actions of the Reservation with the aim of optimizing the available financial, physical and human resources and manage resources with allied organisms with the purpose of achieving the project's goals. The management plan is made up of a diagnostic general survey about the reservation which includes physical, biotic, and sociocultural descriptions. Furthermore, it presents an environmental zonification and financial management strategies.⁴ Corporación Salvamontes, which works in coordination with Fundación Magnolios, also has a strategic plan for the period 2020 – 2025. This document directs the programs of internal strengthening, conservation, research and environmental education and sustainability.⁵	-2
Total Project Management (PM) [as applicable, (a + b + c + d + e + f)] Total may be less than zero.		-4

⁴ Accessible through: Anexo\ Internal Risk\Environmental planning

⁵ Accessible through in Supports of PDD: Soportes\7_Planes de manejo

Financial Viability		
Risk Factor	Risk Factor and/or Mitigation Description	Risk Rating
a)	<i>Project cash flow breakeven point is greater than 10 years from the current risk assessment</i> Not applicable	0
b)	<i>Project cash flow breakeven point is greater than 7 and up to 10 years from the current risk assessment</i> Not applicable	0
c)	<i>Project cash flow breakeven point greater than 4 and up to 7 years from the current risk assessment</i> Not applicable.	0
d)	<i>Project cash flow breakeven point is 4 years or less from the current risk assessment</i> The project reaches its breakeven point in 2020 (before the 4th year of the current risk assessment), moment in which the implementation cost of the project's activities reaches 1.158.737.514 COP which were projected based on the inflation rate established by the Banco de la República de Colombia. These numbers include expenses related to the elaboration of documentation to certify the reduction of emissions (validation, verification and registration), the work of the project's promoter in this process, and the standard and registry rates within the authorized platforms. Furthermore, it includes revenues derived from the trade of VCS, income from donations and from eco-tourism activities. The reference price for each bond for 2020 is 14.040 COP and the discount rate for the project is 3.1%. The balance point for 2020 is reached from income in the form of donations due to the foundations' ability to promote and manage. One of the most significant projected between 2019 and 2021 for the purchase of states. Other income is produced by the execution of reforestation contracts from companies that need to compensate their environmental impacts⁶ and from transit of servitude. (see annex Internal risk/cash flow/).	0

⁶ An agreement between EPM and the Fundación Guanacas was signed in the framework of the company's environmental obligations to compensate for its environmental impacts, in which the Fundación Guanacas provided the land and EPM

	Due to the lack of resources to develop activities that guarantee the protection of forests in the short and long term, an addition to the project is asked for (See Section 3.5 of the Project's Document)	
e)	Project has secured less than 15% of funding needed to cover the total cash out before the project reaches breakeven Not applicable	0
f)	Project has secured 15% to less than 40% of funding needed to cover the total cash out required before the project reaches breakeven Not applicable	0
g)	Project has secured 40% to less than 80% of funding needed to cover the total cash out required before the project reaches breakeven Not applicable	0
h)	Project has secured 80% or more of funding needed to cover the total cash out before the project reaches breakeven The project count with 82% of the total necessary costs before it reaches breakeven. In other words, with the income generated in 2019 up to 82% of the costs from that year were covered and in 2020, with the expected income perceived by the trade of carbon credits, a full 100% of that year's costs will be covered (see annex internal risk/cash flow)	0
i)	Mitigation: Project has available as callable financial resources at least 50% of total cash out before project reaches breakeven The project's proponent, through received donations and through charging use and transit of servitude, has 82% of the resources needed before the project reaches breakeven. The estimations of cash flow establish the year 2019 as the possible balance point (see annex internal risk/ cash flow)	-2
Total Financial Viability (FV) [as applicable, ((a, b, c or d) + (e, f, g or h) + i)] Total may not be less than zero.		0
Opportunity Cost		
Risk Factor	Risk Factor and/or Mitigation Description	Risk Rating
a)	NPV from the most profitable alternative land use activity is expected to be at least 100% more than that associated with project activities; or where baseline activities are subsistence-	8

covered the associated costs of implementing the project. 21 ha were established for compensation over closed season and 4 ha more for compensation over biodiversity loss. The Fundación Guanacas had to design and implement the project apart from doing all necessary maintenance..

	<i>driven, net positive community impacts are not demonstrated</i> In accordance with what is explained in the section (baseline), cattle raising is the baseline scenario and the main cause of deforestation (see section 4.1.2 of the Project's Document) in the Magnolios' project REDD+ area of expansion, due to its location in one of the biggest dairy production zones of the Antioquia Department (State), considered the most pastoral of the country. The pastoral cashflow for 2018 in the project's expansion area was calculated based on the data presented by FEDEGAN, ICA, DANE (cattle sacrifice survey (ESAG)) and Corantioquia for 2018, considering the production of dairy and meat. Data from bovine census registered by the ICA in 2014 and 2019 allowed an estimation of the amount of cattle in the project REDD+ Magnolio's expansion region, reaching 0.79 pieces per hectare. According to ESAG, the average weight for sacrificed cattle in 2018 was 394.18 kg. Besides, average dairy production per cow in Antioquia reaches 7.73 liters according to the dairy farm survey of Corantioquia (Corantioquia and CNPL, 2016). Taking into account this information, together with the production and market costs provided by FEDEGAN, the calculations concluded that cash flow for cattle raising generates a higher profit than the conservation activities proposed by the initiative REDD+ Magnolios. It was found that pastoral farming reached its balance point the same year when the project's assessment began in 2018, when the costs of developing pastoral activities grew to 43.250.470.327COP. This number includes expenses related to meat and dairy production for the expansion region, taking into account regional and national projections.	
b)	<i>NPV from the most profitable alternative land use activity is expected to be between 50% and up to 100% more than from project activities</i> Not applicable	0
c)	<i>NPV from the most profitable alternative land use activity is expected to be between 20% and up to 50% more than from project activities</i> Not applicable	0
d)	<i>NPV from the most profitable alternative land use activity is expected to be between 20% more than and up to 20% less than from project activities; or where baseline activities are</i>	0

	<i>subsistence-driven, net positive community impacts are demonstrated</i> Not applicable	
e)	<i>NPV from project activities is expected to be between 20% and up to 50% more profitable than the most profitable alternative land use activity</i> Not applicable	0
f)	<i>NPV from project activities is expected to be at least 50% more profitable than the most profitable alternative land use activity</i> Not applicable	0
g)	Mitigation: <i>Project proponent is a non-profit organization</i> The REDD+ Magnolios project includes the Fundación Guanacas, Fundación Magnolios and the Corporación Salvamontes as non-for-profit entities. Non-for-profit organizations (NPO's) are legal persons who's revenues, utilities and surpluses are not reimbursed or distributed under any modality, nor directly or indirectly during their existence or their moment of dissolution and termination due to their pursuit of a social or communitarian goal. The revenues or contributions obtained in an NPO are reinvested in the improvement of their processes or in activities which strengthen the attainment of their social goal. ⁷ In Colombia, these kinds of entities are registered by the Commerce Chamber ⁸ as a legal person under decree 2150 of 1995, and are characterized for performing actions in the pursuit of a common good for the Colombian society.	-2

⁷ DIAN, Dirección de Impuestos y Aduanas Nacionales (National Direction of taxes and tariffs). NPO's Non for-profit organizations. Available at: https://ccmpc.org.co/ccm/contenidos/24/CARTILLA_ESAL.PDF. Retrieved on 25/08/2020

⁸ Fundación Guanacas, Magnolios, Alto de Ventanas and the Corporación Salvamontes.

Fundación Guanacas was registered at the Colombian Trade Chamber on September 21, 2007, through minute July 13, 2006, Book 1st, under number 4041.

Fundación Magnolios was registered on November 15, 2018, through minute number 01, December 27th of 2016, under number 12446, book I.

Fundación Alto de Ventanas was registered on February 19, 2019, by minute No 01 January 19, 2019 under number 376 Book I.

Corporación Salvamontes, was registered on February 9, 2016, through minutes from January 27, 2016, book I, number 296.

These NPO's center their activities in the development of research initiatives and the study and implementation of different aspects related to biodiversity and climate change, REDD+, environmental service charges and the like.

	These NPO's center their activities in the development of research initiatives and the study and implementation of activities such as the conservation and protection of natural resources tied to biodiversity, climate change, REDD+, environmental services and similar. To show that an entity is in fact an NPO (ESAL, for its acronym in Spanish), their RUT⁹ must be registered with responsibility "04-Special Fiscal regime for taxes on wealth and complementary" (See Annex Initial Risk/ESAL)	
h)	Mitigation: <i>Project is protected by legally binding commitment to continue management practices that protect the credited carbon stocks over the length of the project crediting period</i> Not applicable	0
i)	Mitigation: <i>Project is protected by legally binding commitment to continue management practices that protect the credited carbon stocks over at least 100 years</i> Not applicable	0
Total Opportunity Cost (OC) [as applicable, (a, b, c, d, e or f) + (g + h or i)] Total may be less than 0.		6

Project Longevity		
a)	<i>Without legal agreement or requirement to continue the management practice</i> The project's participants expect to continue the conservation activities described in the project for at least the 30 years of the accreditation process.	18
b)	<i>With legal agreement or requirement to continue the management practice</i> Not applicable.	0
Total Project Longevity (PL) May not be less than zero		18

⁹ Registro Único Tributario (Single Fiscal Registry)

Internal Risk	
Total Internal Risk (PM + FV + OC + PL)	20
Total may not be less than zero.	

2 EXTERNAL RISKS

Land Tenure and Resource Access/Impacts		
Risk Factor	Risk Factor and/or Mitigation Description	Risk Rating
a)	Ownership and resource access/use rights are held by same entity(s) Not applicable.	0
b)	Ownership and resource access/use rights are held by different entity(s) (e.g., land is government owned and the project proponent holds a lease or concession) Most of the landowners which are part of the REDD+ Magnolios initiative count with a legal document which certifies their legal titles over the land such as a "Tradition and Liberty Certificate". This document certifies that the natural and legal persons which are part of the initiative are indeed owners of the states, having full rights of use, enjoyment and disposition of their property ¹⁰ (See section 1.7 of the Project's Document). You can find the REDD+ participant's information in Annex I. The area of the project registers 120 properties where 7% are part of the Fundación Guanacas, 4.19% are part of the Corporación Salvamontes and 2.07% are part of both organizations and the Fundación Magnolios. The rest of the landowners (86.75%) are farmers who have signed a statement of purpose to join the Fundación Magnolios and Fundación Alto de Ventanas to be represented during the initiative (see section 1.7 of the Project's Document).	2

¹⁰ According to article 656 of the law 82, 1873, all real state and landed properties are things which cannot be moved such as lands and mines, and those elements which adhere to them, such as buildings and trees. Plants are regarded as landed property as they adhere to the soil through their roots. (Art. 657 of the same law).

c)	<i>In more than 5% of the project area, there exist disputes over land tenure or ownership</i> Not applicable.	0
d)	<i>There exist disputes over access/use rights (or overlapping rights)</i> Currently, three of the 120 properties which make part of the REDD+ Magnolios initiative (7,62% of the projects area, making up 568,1 ha) are registered under the “Single registry of abandoned states and territories” (RUPTA, for its acronym in Spanish). Nevertheless, this registry exclusively addresses the possible existence of applications to inclusion in the RUPTA and does not constitute in any way a certification of forced displacement or land seizure. Only after the administrative process of inclusion to the RUPTA will it be determined who has rights over states allegedly abandoned or seized. This registry has the aim of preventing any kind of illegal transaction in states which have been abandoned by victims of forced displacement. Nevertheless, this inscription can be protected or cancelled according to the assessment and protection measures undertaken by the Land Restitution Unit¹¹ considering rights of ownership, possession and occupation of the alleged displaced victim.	5
e)	<i>WRC projects unable to demonstrate that potential upstream and sea impacts that could undermine issued credits in the next 10 years are irrelevant or expected to be insignificant, or that there is a plan in place for effectively mitigating such impacts</i> Not applicable.	0
f)	Mitigation: <i>Project area is protected by legally binding commitment (e.g., a conservation easement or protected area) to continue management practices that protect carbon stocks over the length of the project crediting period</i> Not applicable.	0
g)	Mitigation: <i>Where disputes over land tenure, ownership or access/use rights exist, documented evidence is provided that projects have implemented activities to resolve the disputes or clarify overlapping claims.</i> The project has undertaken actions to solve controversies and reclamations on overlapping areas. It's the responsibility of the Special Administrative Unit of Management and Restitution of Usurped Lands to administer the Single Registry of	-2

¹¹ According to article 28, decree 2365, 2015, the administration of the registry was assigned to the Land Restitution Unit.

	Abandoned States and Territories (RUPTA), according to what's provided by paragraph 1, article 28 of Decree 2365 of 2015, in which it will put forward all the necessary actions toward the relevant definition of all situations related to this registry.¹² Based on this, the proponents of the REDD+ Magnolios project cannot currently solve any reclamation over states registered in the RUPTA, although they have made periodical consultations to the Land Restitution Unit to know about the decisions taken regarding land ownership. The emission reductions which may be generated by verification in these states will not be sold until the process is clarified. Furthermore, the current situation will be notified before the RENARE to guarantee complete transparency regarding disputes and overlaps.	
Total Land Tenure (LT) [as applicable, ((a or b) + c + d + e + f + g)] Total may not be less than zero.		5

Community Engagement		
Risk Factor	Risk Factor and/or Mitigation Description	Risk Rating
a)	<i>Less than 50 percent of households living within the project area who are reliant on the project area, have been consulted</i> A social engagement workshop was conducted in November 11-14 2019 with the aim of introducing basic concepts of the project and compile information on land ownership. In order to establish the states' borders and demarcations, the project used cartographic information, public land titles and "Certifications of tradition and freedom". Furthermore, seven more socialization spaces were developed to present the progress, clarify doubts and compile suggestions (see section 2.2.1 of the Project's Document for more details). Communities are represented by the Fundación Magnolios and Fundación Alto de Ventanas.	0
b)	<i>Less than 20 percent of households living within 20 km of the project boundary outside the project area, and who are reliant on the project area, have been consulted</i> A Participation, communication and appropriation of knowledge strategy (EPCAC) was developed, taking into account environmental authorities and proponents of the project to socialize the REDD+ Magnolios initiative, which involved more than 20% of households within 20km of	0

¹² Ministry of Agriculture. Chapter 8, Single registry of abandoned states and properties. Available at: <https://www.minagricultura.gov.co/Normatividad/Paginas/Decreto-1071-2015/Capitulo-8-Registro-unico-de-predios-y-territorios-abandonados-RUPTA.aspx>. Retrieved on 25/08/2020

	the project's area, through 8 socialization spaces (see section 2.2.1 of the Project's Document for more details).	
c)	Mitigation: The project generates net positive impacts on the social and economic well-being of the local communities who derive livelihoods from the project area Santa Rosa de Osos is identified as a zone with a high potential for the protection of subterranean and surface hydrological resource supply in the region, allowing the provision of aqueducts and the generation of hydro-electric energy. One of the most important basins which constitute the area of surface hydrological resource protection is the Guanacas stream basin, which supplies Carolina del Príncipe (Alcaldía de Santa Rosa de Osos, 2015). The Guanacas reserve is part of this basin and plays an important role as an area of conservation and protection of hydrological resources. Furthermore, it is a key stakeholder in Santa Rosa de Osos due to its participation in biological studies undertaken in the municipality which serve as a reference for the Local System of Protected Areas (Alcaldía de Santa Rosa de Osos, 2015). Added to this, the staff in charge of the execution of conservation and protection actions was hired in the region and the consumption of raw materials is local.	-5
Total Community Engagement (CE) [where applicable, (a + b + c)] Total may be less than zero.		-5

Political Risk		
Risk Factor	Risk Factor and/or Mitigation Description	Risk Rating
a)	Governance score of less than -0.79 Not applicable.	0
b)	Governance score of -0.79 to less than -0.32 Not applicable.	0
c)	Governance score of -0.32 to less than 0.19 Average (2014-2018) of the punctuation from the World Bank's Governance indicators for Colombia is -0,193. See annex External Risk/ Governance indicators.	-2
d)	Governance score of 0.19 to less than 0.82	0

	Not applicable.	
e)	Governance score of 0.82 or higher Not applicable.	0
f)	Mitigation: Country is implementing REDD+ Readiness or other activities, as set out in this Section 2.3.3. Colombia is a member of the World Bank Forest Carbon Partnership Facility (FCPF) and is an active member of the REDD+ negotiations with the Framework Convention of the United Nations on Climate Change where it supports mechanisms of voluntary market and defends the idea that the REDD+ strategy must display a subnational staged focus, not only in terms of measurement, reporting and verification of emissions, but also with respect to the eligibility for phase 3 of REDD+ (payment for outcomes). This interest in the subnational perspective for REDD+ is evidenced in the fact that Colombia is a member of the assessor committee on Jurisdictional and Nested Requirements (JNR) from the Voluntary Carbon Standards (VCS). Furthermore, Colombia has ratified its participation in the Framework Convention of the United Nations on Climate Change (1995) and the Kyoto Protocol (2005), and has presented 3 national communications to the former organization in 2001, 2010 and 2017.¹³ On the other hand, Colombia became a partner country of the UN-REDD+ in 2013.¹⁴ Colombia approved the Framework Convention of the United Nations on Climate Change through the expedition of law 164 in 1994 with the aim of finding alternatives to further actions in addressing the complex problem of climate change. The Kyoto protocol was approved by the Congress of the Republic of Colombia through the law 629 in 2000. The Ministry of Environment and Sustainable Development was designed as the National Authority for the Mechanism of Clean Development through the consular note of 22 May, 2002, registered as DM/VAM/CAA 19335 of the Ministry of Foreign Affairs, and directed to the Framework Convention of the United Nations on Climate Change.¹⁵	-2

¹³ MADS, 2020. Colombian history towards climate change. Available at:

<https://www.minambiente.gov.co/index.php/convencion-marco-de-naciones-unidas-para-el-cambio-climatico-cmnucc/historia-de-colombia-frente-al-cambio-climatico>. Retrieved on 30 /04/ 2020.

¹⁴ Forest Carbon Partnership Facility – Colombia. Available at: <https://www.forestcarbonpartnership.org/colombia>

<https://www.unredd.net/regions-and-countries/latin-america-and-the-caribbean/colombia.html>

¹⁵ MADS, 2020. Authorized by the Coordinating body for Activity Programmes, opting for the Clean Development Mechanism. Available at: <https://www.minambiente.gov.co/index.php/tramites-minambiente/autorizacion-de-entidad-coordinadora-para-programas-de-actividades-poas-que-optan-al-mecanismo-de-desarrollo-limpio-mdl>. Retrieved on: 30 / 04 / 2020.

Total Political (PC) [as applicable ((a, b, c, d or e) + f)]	0
Total may not be less than zero.	

External Risk	
Total External Risk (LT + CE + PC)	0
Total may not be less than zero.	

3 NATURAL RISKS

Natural Risk (e.g., Fire, Pest and Disease outbreaks, Extreme Weather)	
Significance	Wildfires. In Colombia 95% of all wildfires are produced by anthropic factors (Jiménez, Urrego G, & Toro R, 2015). According to a survey of 21 Regional autonomous corporations¹⁶, it was found that 38% of forest fires have no known cause, 29% happen due to burning for plot preparation, 24% happen due to burning towards grassland preparation, and 24% is intentional. (ITTO & Tropicales, 2013). In Antioquia, between 2002 and 2016, according to results published by IDEAM about the occurrence of wildfires (IDEAM 2002), close to 2307 wildfires contributed to the loss of 21000 hectares of forest (Figure 1). During the period in between 2009 and 2013 the highest number of fires took place, being 2013 the year with the highest number of events, 500 approximately. The highest number of ha of forest lost took place in 2016 with approximately 7000 ha burnt, followed by 2015 with 5000 ha (Figure 1).

¹⁶ Autonomous Regional Corporations are public corporative bodies created by the Colombian law. They constitute the same geographic ecosystem or make up a geopolitical, biogeographic or hydro-geographic unit. They are autonomous in their administration, finance, patrimony and legal representation, and have been legally assigned the responsibility of managing all renewable and non-renewable natural resources within their jurisdiction, fostering sustainable development in agreement with all legal dispositions coming from the Environment and Sustainable Development Ministry. Available at: <https://www.minambiente.gov.co/index.php/noticias/2067#>

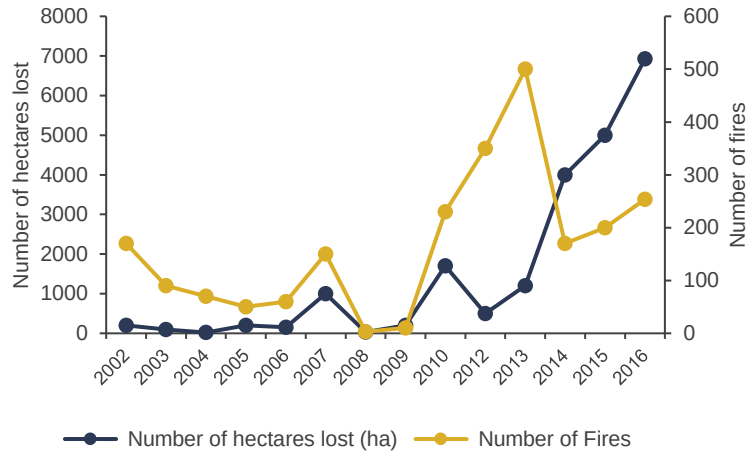


Figure 1. Number of wildfires and Hectares affected in the Antioquia Department.

Source: South Pole based on information available about forest fires by IDEAM 2002-2016.

49.1% of coverage in Northern Antioquia has a total fuel load between low and moderate due to the great amount of grasslands, which present a dominance in a high order of susceptibility (42.5%) and very high (53.9%), and the primary and secondary forests within a low susceptibility category (92.3% and 96.3% respectively) (Jiménez, Urrego G, & Toro R, 2015). For the Project's expansion area, according to IDEAM's Susceptibility of vegetation to fires under the El Niño phenomenon (2009), close to 30.4% lies within the moderate category, 21.1% in the low and 19.8% in the high (Figure 2)

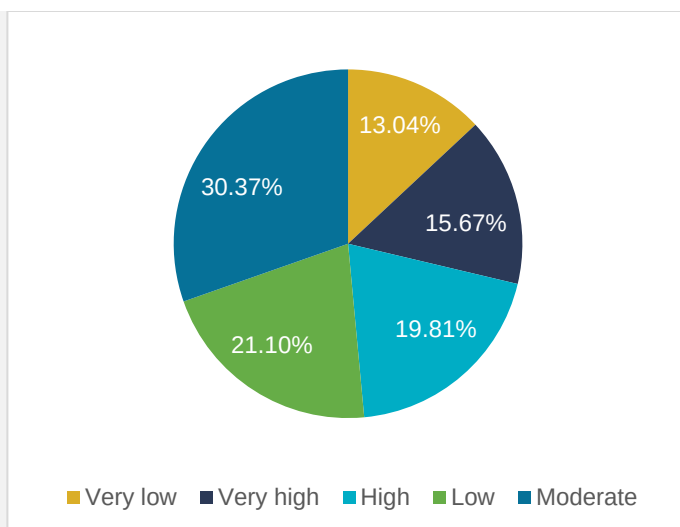


Figure 2. Susceptibility towards wildfires under the El Niño phenomenon in the project's expansion area.

Source: South Pole based on the Susceptibility map (under the EL Niño Phenomenon) of vegetation towards fires in vegetal coverage by IDEAM, (2009)

Figure 2 shows that, although the project's expansion area presents an extension of 19.8% with high susceptibility towards fires during the El Niño phenomenon, according to historical records of the DAPARD¹⁷ (2012-2017), only 2 fires have taken place, one in Yarumal and another one in Briceño, both during 2016. Furthermore, the UNGRD¹⁸ registered one that same year in Santa Rosa de Osos, when farmers were trying to expand a plot for cultivation but ultimately lost control of the burning. Neither DAPARD nor UNGRD documented the size of the affected zone and even though these events happened in the expansion area, they did not affect the project's area. The low number of recorded events, added to the forests' low susceptibility towards fires in more than 92% (Jiménez, Urrego G, & Toro R, 2015), allows us to infer that the fire hazard affecting the carbon reserves is close to none.

Plague and Disease (PD)

Insignificant. Weather is one of the main factors promoting alterations generated by insects and native forest pathogens and the spread of

¹⁷ DAPARD. Departamento Administrativo del Sistema para la Prevención, Atención y Recuperación de Desastres de la Gobernación de Antioquia. (Administrative Department of the System for the Prevention, Attention and Recovery of Natural Disasters from the Antioquia State Government. Available at: <http://dapard.antioquia.gov.co/>

¹⁸ UNGRD. Unidad Nacional para la Gestión del Riesgo de Desastres. (National Unit for the management of hazard risk) Available at: <http://portal.gestiondelriesgo.gov.co/>

plagues. Due to the lack of available information about plagues and disease affecting natural forests, FRA (2010)¹⁹ asked different countries of the world for a correlation showing in order of importance, 10 of the most important plague and disease outbreaks that happened between 1990 and 2005. This information was complemented with a documented worldwide revision. Nevertheless, it was not possible to access enough information due to the low number of countries that participated (FAO, 2010).

It was found that in South America, 0.6% of the forests' area was affected by insect plagues between 1990 and 2005, compared to 1,33% affected by other disease during that same period. South America showed a low trend in percentage of areas affected by malignant forest insects between 1995 and 2005 (FAO, 2010). There have not been any publications of studies related to phytosanitary risks in Colombia, which renders the risk of infestation of the carbon reserves by plagues assumed as **null**.

Extreme weather events (W)

Drought

The absence of rainfall during a long period of time oscillates between 4 and 8 years in the Andean region of Colombia, specially during the first semester of the year. Nevertheless, this region has a lower recurrence and intensity of rainfall compared to the rest of the country. Between 1972 and 2009, the largest part of the project's expansion area (51%) was under the "normal" drought risk, followed by "slight" drought risk (40,8%). Throughout the whole studied period there has not been any event of extreme drought.

¹⁹ FRA, Global Forest Resources Assessment

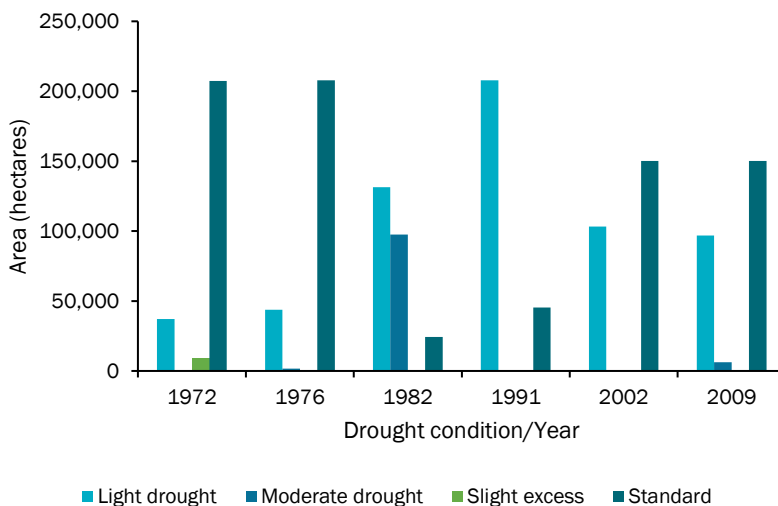


Figure 1. Drought conditions in the project's expansion area (Yarumal, Briceño, Valdivia, Santa Rosa de Osos)

Source: South Pole based on drought maps (1976-2010) by IDEAM²⁰.

Due to these facts, the project's expansion area has been characterized as a zone with a low drought probability. Due to this, the risk that the carbon reserves may be affected by it is **zero**.

Flooding.

According to IDEAM's susceptibility to flooding map (2010) ²¹, the project's area of expansion does not present a flooding risk, hence, the risk of loss of the carbon reserves is assumed as **zero**.

Hurricanes and storms

The expansion area of the initiative REDD+ Magnolios lies within the Andean region, away from the Atlantic Ocean, making the probability of hurricane occurrence very low. Added to this, Colombia's location near the Ecuador makes hurricane occurrence very difficult due to the lack of Coriolis force²². Thereby, the risk of carbon reserve loss due to hurricanes or storms is assumed as **zero**.

Geological risk

Landslides

Between 1900 and 2020 Colombia presented 6765 events of massive movements (landslides), 10,8% of which took place in the Antioquia department. Of this percentage, 16,5% (121 events) took place in the project REDD+ Magnolios' expansion area, classified as landslides (51,2%), falls (19%), flux (17,4%) and reptation (12,4%)²³.

Throughout the 120 years studied, there is evidence of few events and throughout the last 6 years no such event has been recorded in the project's expansion area. Based on figure 5, the year with the largest number of massive movements was 2013 with 17.4% of the events (21), associated mainly with landslides, followed by 2009 with 18 events (14.9%) and then 1999 with 17 events (14%), respectively. These were localized events which did not affect forest areas. Taking these results into account, the risk of carbon reserve loss by mass movements is zero.

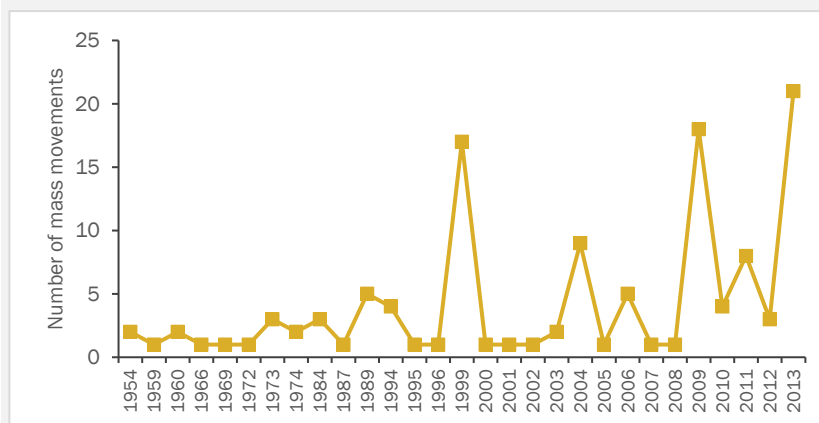


Figure 2. Number of mass movement events in the project's expansion area.

Source: South Pole based on information from the SGC (2020).

Seismicity

According to the Colombian Geological Service (SGC), only for Antioquia, between 1875 and 2016 there have been 294 seismic movements of

²⁰ IDEAM, (1976-2010). Drought through different periods. Available at: <http://www.ideam.gov.co/>. Retrieved on 15 / 04 / 2020.

²¹ IDEAM, 2010. Zones under flooding Hazard risk in the Republic of Colombia. Scale 1: 500000. Available at: <http://www.ideam.gov.co/>. Retrieved on 15 / 04 / 2020.

²² NASA. How are hurricanes formed? Available at: <https://spaceplace.nasa.gov/hurricanes/sp/>. Retrieved on 14 / 04 / 2020.

²³ SGC, Servicio Geológico Colombiano (Colombian Geological Service). Mass movements. Available at: <http://simma.sgc.gov.co/#/public/basic/>. Retrieved on: 15 / 04 / 2020

	which 2% (6 events) took place in the project's expansion area (years 1911, 1938, 1962, 1967 and 1992) ²⁴. All these events were mild, except for that of 1992, which was replicated in Santa Rosa de Osos and Yarumal with a Moment Magnitude (MW) of 7,1 and a depth of 10km. Based on this, the seismic risk is minimal in all the sectors of the expansion area. After a seismic movement, other natural effects are assessed base on the SGC, such as mass movements, surface cracks, hydrologic anomalies, and tree shudder. None of these effects took place in relation with the 6 seismic events mentioned above, hence, it is assumed that the carbon reserves were not affected and that the probability of such loss due to seismic activity is zero.
Likelihood	Fires (F): Less than every 10 years. Plagues and disease (PD): Every 10, but less than 25 years. Extreme weather events (W): This risk is not applicable in the project's area. Geological risk (G): Less than every 10 years.
Score (LS)	2 + 0 + 0 + 0
Mitigation	The project's proponents have not implemented any measure which can be used to mitigate the identified risk factors (M=1 for all risks)

Score for each natural risk applicable to the project (Determined by (LS × M))	
Fire (F)	2
Pest and Disease Outbreaks (PD)	0
Extreme Weather (W)	0
Geological Risk (G)	0
Other natural risk (ON)	0
Total Natural Risk (as applicable, F + PD + W + G + ON)	2

²⁴ SGC, Servicio Geológico Colombiano. Salient geological events. Available at: <https://www.sgc.gov.co/sismos>. Retrieved on 15 / 04 / 2020.

4 OVERALL NON-PERMANENCE RISK RATING AND BUFFER DETERMINATION

4.1 Overall Risk Rating

Risk Category	Rating
Internal Risk	20
External Risk	0
Natural Risk	2
Overall Risk Rating (a + b + c)	22

4.2 Calculation of Total VCUs

The risk discount for the project is 22% that correspond to 7,127 VCUs to the period from February 23, 2016, to February 10, 2020 (Table 1) (see section 6.5 of the Project's Document for more details)

Table 1. Verified Carbon Verifiable Units tradeable

Year project (t)	Calendar year	Net emissions reduction (tCO ₂ e)	Reserving issues for non-permanence risk (tCO ₂ e)	Net emissions reduction (tCO ₂ e)	
		ΔREDD _t	VBC _t	ΔREDD _t	ΔREDD
1	2016	3,592	790	2,801	2,801
2	2017	7,032	1,547	5,484	8,285
3	2018	7,345	1,616	5,729	14,014
4	2019	7,652	1,683	5,968	19,982
5	2020	6,778	1,491	5,287	25,269

Source: South Pole (2021).