

AÇORES  
no rumo da sustentabilidade



# AVALIAÇÃO DE RISCO





## RISK ASSESSMENT

### Elaboration

Azores DMO

### Approval

Secretary Regional From Tourism, Mobility and infrastructure

### Code

EC09\_02RiskAssessment

### Ref. Standard EarthCheck

Criterion 5.2

### Publication

September 2019

### 2nd Update

August 2022

Avaliação de Risco		Elaboração: Açores DMO	Aprovação: Carolina Mendonça	Pag.
Rev: 02	Código: EC09_02RiskAssesment	Elaborado: 15/09/2022	Ref. Norma Earthcheck: 5.2	2



## 1. FRAMEWORK

The certification referential "EarthCheck Destination", presents as one of its requirements the elaboration of a risk analysis, in which: " *The destination must identify the current and/or potential level of risk of situations, planned, accidental or emergency, natural or anthropic, related to the scope of acting of destination* ".

This risk assessment shall contemplate the following areas of performance:

1. Management, conservation and energy efficiency;
2. Greenhouse emissions;
3. Air quality and noise control;
4. Water management and its resources;
5. Wastewater management;
6. Ecosystem's management and conservation;
7. Management and use of the territory;
8. Transports;
9. Solid waste management;
10. Management of dangerous waste;
11. Management of cultural and social aspects;
12. Management of economic aspects.

So, this risk assessment for the Azores destination is presented, by having in account its previous assumptions.

Avaliação de Risco	Elaboração: Açores DMO	Aprovação: Carolina Mendonça	Pag.
Rev: 02	Código: EC09_02RiskAssesment	Elaborado: 15/09/2022	Ref. Norma Earthcheck: 5.2
			3

## 2. METHODOLOGY

At the scope of the report it is considered:

- a) Risk: Effect of the uncertainty resulting from activities developed or with influence at the region in environmental, cultural, social and economic aspects;
- b) Aspect: element whose interaction has potential impact on the environment, social and cultural activities or with the regional economy;
- c) Impact: variation (positive or negative) on the environment resulting, total or partially, from the influence of the aspects.

For the risk assessment was used the following methodology:



The risk assessment was carried out by having in consideration two dimensions:

- The probability;
- The severity.

At tables 1 and 2 is presented various categories of probability and severity that were used in this analysis.

**Table 1 – Definition of the Probability degrees**

Category	Definitio n
1	<b>certain/happens daily</b> : The impact is expected with one frequency daily.
2	<b>likely/happens weekly</b> : The impact is expected at majority of cases.
3	<b>possible/happens monthly</b> : The impact is expected with one monthly frequency.
4	<b>Little likely/happens annually</b> : The Impact can occur, but no It not much expected. It can to occur annually.
5	<b>Rare</b> : Impact only occurs in exceptional situations.



**Table 2 – Definition of the Severity degrees**

Category	Definition
1	<b>Catastrophic</b> : Widespread damage and irreparable in the dimensions, environmental, cultural, Social or economic; loss of human lives or harmful effects and permanent at people’s health; situation of national emergency.
2	<b>Major</b> : Widespread damage, with medium or long term impact; serious damage on people’s health; regional emergency situation; violation of legal requirements, great disturbance in the operations chains; region’s reputation in cause.
3	<b>Medium</b> : Impact in medium or long term in limited area; moderated contribution for global warming; moderate health effects requiring medical care; Reporting from social news and communication channels; violation of legal requirements with application of fines.
4	<b>Minor</b> : Short or medium term impact in limited area; reduced contribution to the global warming; minors and reversible damage on people’s health with first aids ‘need; negative impact at regional social communications; punctual situations of Legal requirements violation.
5	Limited impact of an area determined without long term effects; worry or neighborhood complaints; no impact on people's health; without violating legal requirements, with some situations of no conformity technique.

Given the conjugation of categories above identified It was built one table of double entrance pair for the valorization pf the risk assessment, as it is presented.

		SEVERITY					EVALUATION
		1	2	3	4	5	
PROBABILITY	1	1	2	3	4	5	Severe
	2	2	4	6	8	10	Extreme
	3	3	6	9	12	15	High
	4	4	8	12	16	20	Medium
	5	5	10	15	20	25	Low



### 3. RISK MATRIX

ASPECT	POTENTIAL IMPACT	PROBABILITY	SEVERITY	RISK	MEASUREMENTS IN MITIGATION
<b>Management, conservation and energy efficiency</b>					
Unable to connect to networks international production of energy and consequent dependence on import fuels fossils.	Consumption of fossil fuelsfor energy production with consequent effects on the natural resources and pollution atmospheric.	2	5	<b>10</b>	Strong investment in energy production with origin in renewable sources. Policies for responsible consumption of energy, such as the system tariff in place.
Growth in consumption of energy, resulting from the increase of tourism in the Region.	Consumption of fossil fuels for energy production with consequent effects on the natural resources and atmospheric pollution.	2	5	<b>10</b>	Strong investment in energy production withorigin in renewable sources. Policies for responsible consumption of energy, such as the system tariff in force.
<b>Greenhouse emissions</b>					
Increase in GHG production,as a result of the increase of tourism at the region.	Atmospheric pollution with consequences on the climate change.	3	5	<b>15</b>	Strong investment in energy production withorigin in sources renewable. Policies for responsible consumption of energy, such as the system tariff in force.



ASPECT	POTENTIAL IMPACT	PROBABILITY	SEVERITY	RISK	MEASUREMENTS IN MITIGATION
<b>Greenhouse emissions</b>					
Public transport network insufficient in the face of growth of number of cars in circulation at Region.	atmospheric pollution with consequences on the climate change.	1	5	5	<p>Campaigns for the use of transport public transport (accessible public transport in perimeters urban of bigger cities).</p> <p>Installation of a supply of electrical vehicles network</p> <p>Increase electric vehicles in circulation.</p> <p>Incentive to purchase electric vehicles by rent-a-car gives Region.</p> <p>Bet in bike paths.</p>
Area of land use occupation of sector agricultural	atmospheric pollution with consequences on the changes weather,	two	5	10	<p>Conversion of agricultural land into forested land.</p> <p>Develop a carrying capacity study of the occupation of use ground agricultural ground in the Region.</p> <p>Reconversion of the milk production system for production of meat (grazing extensive).</p> <p>Incentive for header reduction of cattle through production of milk.</p>
<b>Quality of air, noise control and light pollution</b>					
Noise growth in areas of scenic interest, consequent of increase of tourism at Region.	Potential negative image of the Region for residents and tourists	3	5	15	Preparation and implementation of maps noise strategies and municipal plans of action (Municipal Territory Planning).

Avaliação de Risco		Elaboração: Açores DMO		Aprovação: Carolina Mendonça		Pag.	
Rev: 02	Código: EC09_02RiskAssesment	Elaborado: 15/09/2022		Ref. Norma Earthcheck: 5.2		6	



ASPECT	POTENTIAL IMPACT	PROBABILITY	SEVERITY	RISK	MEASUREMENTS IN MITIGATION
<b>Quality of air, noise control and light pollution</b>					
Noise growth in larger urban areas, as a result of the tourism increase.	Negative impacts on the resident's quality of life. Potential negative image of the Region for residents and tourists	2	5	<b>10</b>	Control of noise levels (annoyance). Infrastructure licensing control noisy at urban areas. Preparation and implementation of strategic noise maps and municipal action plans (Municipal Plans for ordering the Territory).
Increase in light pollution from changing light fixtures to LEDs white (of equal intensity or greater than 4000K) on public roads gives Region.	Negative impacts on biodiversity, namely, in the birds marine. The high number of species affected may enhance image negative region for residents and tourists (ex. Campaign SOS Shearwater).	4	5	<b>20</b>	Change of public lighting to the use of lamps with intensity/brightness inferior than 3000K. Awareness and environmental education campaigns on the impacts of luminous pollution on biodiversity and the importance of more efficient and less pollutant street lighting. Implementation of the Mitigation Strategy of Light Pollution and the good practice Pollution Mitigation Practices in Azores (LuMinAves). Implementation of pilot actions and demonstrations of lighting public systems and other sources of lighting with greater energy efficiency and reduced pollution bright. Development of Master Plans for public Lighting of municipalities.





ASPECT	POTENTIAL IMPACT	PROBABILITY	SEVERITY	RISK	MEASUREMENTS IN MITIGATION
<b>Water management and its respective resources</b>					
Area of land use occupied by the agricultural sector.	Pollution of surface and underground water. Potential negative image of the Region for residents and tourists.	4	4	16	Delimitation of areas of protection of aquifers and superficial waters. Implementation of protection perimeters of water abstraction for human consumption. Increase you branches agricultural. Raising awareness of primary producers to negative effects on water resources, of its activity, as well as the respective rules in conduct. Promotion of sustainable practices in the agricultural sector.
Greater pressure on the hydric resources during summer months.	Lack of resource availability on some islands, and for some activities (P. ex: agriculture).	4	4	16	Integrated management of water networks supply. Increase in the ability to storage Water. Reinforcement of hydric balance.
Pollution resulting from the activity of the American base in the Lajes.	Inorganic Pollution in aquifers.	5	two	10	Ongoing negotiations with northern American authorities to trigger the necessary measures to mitigate the problems.



ASPECT	POTENTIAL IMPACT	PROBABILITY	SEVERITY	RISK	MEASUREMENTS IN MITIGATION
<b>Water management and its respective resources</b>					
Any increase in consumption of water and waste in the supply system.	Reduced availability of resource for consumption and possibility to exceed the limits of capacity in renovation from linen \ water sources available for capture.	3	4	<b>12</b>	<p>Frequent inspection of water capture and transportation circuits.</p> <p>Awareness of controlled consumption and reduction of waste in Water.</p> <p>Creation of more water catchment reservoirs waters rainwater for the agricultural sector.</p> <p>Increased financial support for acquisition/improvement of the supply.</p>
Intensification of uses and activities humans on land and marine.	<p>Change in water bathing quality.</p> <p>Change in good environmental status of marine waters according to the descriptor 5 (Eutrophication) of the Directive Painting Strategy navy).</p> <p>Change in ecological status and water chemistry, according to the parameters of Water directive.</p>	4	3	<b>12</b>	<p>Implementation of monitoring programs established for the Descriptor 5, under the Strategy Framework Directive navy.</p> <p>Monitoring of the region's bathing water, in accordance with the legal framework in force.</p> <p>Application of measures inherent to the Plan of Management in Region hydrographic (PGRH).</p>
<b>Management of residual waters</b>					
Lack of connection to the public wastewater existing.	Pollution of surface water and underground (including those of human consumption), with potential pathogenic bacteria, and pollution of the ground.	2	3	<b>6</b>	Promote connection to public systems of sanitation, when possible.



ASPECT	POTENTIAL IMPACT	PROBABILITY	SEVERITY	RISK	MEASUREMENTS IN MITIGATION
<b>Management and conservation of ecosystem</b>					
Increased tourist pressure in natural areas.	Pressure on the ecosystem with possible repercussions on its biodiversity. Potential negative image of the Region for residents and tourists.	3	4	<b>12</b>	Measures provided on the laws and regulations instruments relating to the tourism ordering of the Region. Measures to encourage deconcentration of visitors' experience archipelago and lesser known attractions.
Increase in the number of recreational boats in marinas and harbors in the Region and in cruise ships.	Spills with consequent pollution of the marine ecosystem. Introduction of invasive exotic marine species. Increased noise levels underwater. Impact on marine species, namely cetaceans, turtles and marine birds.	5	3	<b>15</b>	Mechanisms and equipment for control of spills at sea. Risk controlled. Monitoring and access control to areas natural. Avoid the risk of invasions occurring biological, by ballast water (Ports of the Azores), through the implementation of the regulations of the Diploma of biodiversity and the norms of Organization maritime International. Implementation of programs monitoring established undergives directive Painting Strategy navy.
pressure increase agroforestry and urban about you ecosystems natural.	Changes about O ecosystem.	4	4	<b>16</b>	Legislation and instruments for managing the territory.



ASPECT	POTENTIAL IMPACT	PROBABILITY	SEVERITY	RISK	MEASUREMENTS IN MITIGATION
<b>Management and conservation of ecosystem</b>					
Increasing tourist pressure in the practice of the "fishing tourism" (maritime operators-tourism) and "fishing tourism" (vessels in fishing).	Disturbance of species due to human presence. Extraction or mortality/injury of wild species.	4	4	16	Measures provided in the legal instruments and regulations relating to regulation the exercise of fishing and the activity maritime fishing activity in the Region. Implementation of monitoring programs established under the Navy's strategy directive.
fires rural.	Changes on the ecosystem. Destruction of biodiversity. waste. Impact on people's lives (Social and economic).	5	5	25	Surveillance of areas rural areas. Raising awareness about the use of fires to the producers forestry and to the farmers.
<b>Management and use of territory</b>					
Anthropogenic pressures (agriculture, tourism and urbanization) about the territory.	Potential negative image of the Region to residents and tourists. Potential consequences in terms of natural catastrophes. Degradation of the landscape's quality.	3	4	12	Implementation of Territorial Management Instruments (PNOPT, PROTA, POTRAA, Plans sectorial, specials plans of Spatial Planning, PMOT) and Maritime Space Planning (PSOEMA). Licensing regulated and controlled. Conducting economic analyzes of feasibility and environmental impact studies environment for public investments and private.



ASPECT	POTENTIAL IMPACT	PROBABILITY	SEVERITY	RISK	MEASUREMENTS IN MITIGATION
<b>Management and use of territory</b>					
Increase in building works in the coastline, extension of port areas, extraction of inerts.	Physical disturbance of the seafloor (temporary or reversible). Physical loss due to modification permanent of the substrate, of the morphology of the funds or the extraction of seafloor materials. Changes in hydrological conditions. Disturbance of marine fauna due to noise, but essentially during at phases under construction.	4	4	16	Implementation of Territorial Management Instruments (PNOPT, PROTA, POTRAA, Plans sectorial, specials plans of Spatial Planning, PMOT) and Maritime Space Planning (PSOEMA). Licensing regulated and controlled. Conducting economic analyzes of feasibility and environmental impact studies environment for public investments and private. Implementation of monitoring programs established under Navy's strategy directive.
<b>transport</b>					
Increase of number in visitors at region, with a consequent increase the volume of land transport (occasional), in particular with the cruise ship travelers and travel in rent The car.	Atmospheric pollution. Increase noise levels. increment of volume in Traffic.	3	3	9	Land traffic control. ships in cruise in countercycle. Implementation of load capacities defined at the FALLY Tax and financial incentives for the conversion of land tourist fleets for vehicles hybrids\electrics. Encouraging the implementation of actions to decarbonization.



ASPECT	POTENTIAL IMPACT	PROBABILITY	SEVERITY	RISK	MEASUREMENTS IN MITIGATION
<b>transport</b>					
Road accidents, some caused by ignorance of the traffic rules by foreigners' visitors.	Loss in lives human. Waste production (vehicles in the end in life). spills.	3	3	9	control of terrestrial traffic. Traffic prevention awareness actions. Clarification and information to visitors of the traffic rules.
accidents aerial.	Loss of human life. Production in waste. spills.	3	2	6	Safety rules and procedures in airports and aircraft.
Cruise ship accidents, passengers and vessels playground and maritime tourist.	Loss of human life. Production in waste. spills.	4	3	12	Safety rules and procedures in ports. Mandatory ship piloting in ports of the Azores.
<b>Solid waste management</b>					
growth in the number of visitors in the region. Business volume growth.	Increase in solid waste production. Potential negative image of the Region to residents and tourists Increase in the number of recreational vessels and visitors. Increase in marine litter on the coastal shore, water column and funds.	3	4	12	Measures and planned actions on the Strategic Prevention and Management plan of waste. Promotion of coastal and underwater cleaning and, consequently, monitoring and collection of information, within the scope of Action Plan for Marine Litter from Azores (PALM). Implementation of monitoring programs established for the Descriptor 10 (Marine Litter), within the scope of Navys strategy directive. Promote Circular Economy practices in the



					sector of Tourism.
--	--	--	--	--	--------------------



ASPECT	POTENTIAL IMPACT	PROBABILITY	SEVERITY	RISK	MEASUREMENTS IN MITIGATION
<b>Management of dangerous waste</b>					
Misuse of plant protection products.	Workers injury	4	5	<b>20</b>	Continuous training of application of products in plant protection products.
Accident at storage sites in waste and materials dangerous.	Widespread pollution	5	2	<b>10</b>	Municipal and regional emergency plans. Realization of simulacra.
<b>Management of cultural and social aspects</b>					
Low schooling and education.	reduced ability to Skills professionals. Lack in civics. Lack of adequate training in specialized areas (eg. cultural).	two	3	<b>6</b>	Bet at qualification of people. Programs at PO Azores 2020 for The qualification of people Bet on innovation: creation of new jobs.
Low birth rate and negative balanced migration.	Loss of cultural identity. Lack of skilled labor. Aging populational. precariousness work	4	3	<b>12</b>	Support for the settlement of people on the smaller islands. Salary package with positive discrimination tax with respect to the mainland. Bet at innovation: creation of new jobs. Support for active and healthy aging. promotion of immigration.





ASPECT	POTENTIAL IMPACT	PROBABILITY	SEVERITY	RISK	MEASUREMENTS IN MITIGATION
<b>Management of aspects cultural and social aspects</b>					
Tourist pressure on sites, attractions, monuments and built up patrimony.	Degradation of patrimony. Potential negative image of the Region for residents and tourists	3	3	<b>9</b>	<p>Consistent and systematic information about rules and precautions to be taken when visiting sites and monuments.</p> <p>Implementation of Territorial Management Instruments(PNOPT, PROTA, POTRAA, Plans sectorial, specials plans in ordering of Territory, PMOT).</p> <p>Creation of access regulations and definition of carrying capacity for the locations with larger pressure tourist.</p> <p>Greater monitoring and oversight of its use.</p> <p>Creation of support programs for recovery of built patrimony.</p>
“Cloning”\copying local cultural identity.	Reduction of diversity and loss of historical cultural identity of various communities.	3	3	<b>9</b>	<p>Raising awareness of the maintenance of diversity and historical cultural identity characteristic of each community and its appreciation as a potentially distinctive attractive factor.</p>
Limitations on hospital care in all Islands.	Negative impact on the quality of people’s lifes. Potential negative image of the Regionfor residents and tourists	2	3	<b>6</b>	<p>Improve and strengthen conditions for emergency inter-islands transport.</p> <p>Increased responsiveness to situations of medical emergency.</p>



ASPECT	POTENTIAL IMPACT	PROBABILITY	SEVERITY	RISK	MEASUREMENTS IN MITIGATION
<b>Management of economic aspects</b>					
Acquisition of regional companies by large national groups and multinationals.	Loss of identity. Devaluation in regional products Negative image of the region ("noplacement").	4	3	<b>12</b>	Products "Azores Brand". Software to support the local investors
Reduction of competitive capacity of regional companies against multinationals groups	Job losses. Loss of the region's economic valuation (leakage).	5	3	<b>15</b>	incentives to local products consumption. Incentives to create partnerships between local producers, catering and touristic operators. Reinforce requirements at the level of licensing (thirst Supervisor at RAA).
Tourism seasonality	Reduction of business profitability Increase in short duration employment contracts	1	4	<b>4</b>	Reinforcement of promotion during low season. Bet on market segments and products with a greater propensity to generate tourist demand during low season.
Increased risk of emergence of imitations and counterfeits of original regional products with commercial success.	Individuality decrease and loss the identity of regional products genuine identity. Decrease in own quality and economic devaluation of regional products. Negative image of regional products.	3	4	<b>12</b>	Incentives and financial support to the establishment of patents. Protection and incentives for the production of genuine products and establishment in industrial Property rights. More focused economic surveillance. Certification for handmade products



ASPECT	POTENTIAL IMPACT	PROBABILITY	SEVERITY	RISK	MEASUREMENTS IN MITIGATION
<b>Management of economic aspects</b>					
Conditions meteorological adverse.	Lack of essential goods due to lack of transport. Cancellation of flights. Impossibility of carrying out activities. Degradation in infrastructures. Potential negative image of the Region for tourists	4	3	<b>12</b>	Meteorological notices. Encouraging the creation of insurance to be adopted by companies covering the damage caused by adverse atmospheric conditions.
Armed conflicts in/between strategic markets.	Less availability of goods for import from these markets. Inability to export goods for these markets. General rise in the price of raw material. inflation of essential goods prices. Less financial availability of companies and/or of families.	two	4	<b>8</b>	Strategic negotiations with alternative markets to overcome inability to export and/or unavailability of goods or raw materials (even if temporary). Economic support to support families and companies to fight inflation in prices of essential goods and raw materials. Facilitation of access to mechanisms of social protection



ASPECT	POTENTIAL IMPACT	PROBABILITY	SEVERITY	RISK	MEASUREMENTS IN MITIGATION
<b>Climate change</b>					
Storms (hurricanes, cyclones tropical, similar)	<p>Destruction of buildings and equipment and supporting infrastructure</p> <p>Loss of human lives.</p> <p>Destruction of natural habitats and agricultural explorations.</p> <p>Loss of historical, natural heritage and cultural next to coastline areas.</p>	3	3	9	<p>Monitoring the magnitude and intensity and estimated course of storms.</p> <p>Meteorological notices.</p> <p>Community awareness for their own protection in similar moments (eg: simulacra).</p> <p>Implementation of the Instruments of Territorial Management (PNOPT, PROTA, POTRAA, Sectoral Plans, Special Plans in ordering of Territory, PMOT).</p> <p>Implementation of the Regional Plan for Civil Protection Emergency of the Azores and of the Municipal Emergency Plans for Civil protection.</p>
Slope movements, floods and floods resulting from precipitation extreme/intense episodes	<p>Destruction of buildings and equipment and supporting infrastructure.</p> <p>Loss of human lives.</p> <p>Destruction of natural habitats and agricultural explorations</p> <p>Loss of historical, natural heritage and cultural next to coastline areas.</p>	3	3	9	<p>Meteorological notices.</p> <p>Community awareness for adoption of behaviors of security/protection.</p> <p>regular evaluation of stability/security of strands.</p> <p>Capacity building to decrease situations of floods.</p>



ASPECT	POTENTIAL IMPACT	PROBABILITY	SEVERITY	RISK	MEASUREMENTS IN MITIGATION
<b>Climate change</b>					
Droughts	<p>Changes in the forestry and agricultural mosaic landscape and (reduction of the area of agricultural cultivation in situations of dry). Increased risk of fire.</p> <p>Soil erosion.</p> <p>Agricultural/livestock economic losses on the farm.</p> <p>Negative social impacts due to lack of water supply to local populations, in some Islands.</p>	4	3	<b>12</b>	<p>Installation of water storage systems.</p> <p>Implementation of the model for the water storage and management destined to agricultural/livestock exploration.</p> <p>Public awareness of the efficient use of drinkable water.</p> <p>Diversify and adapt agricultural crops considering the climate change scenarios.</p> <p>Promote the implementation of techniques and agricultural practices to protect the soil.</p>
Appearance of exotic species in the waters of Azores	<p>Loss of autochthonous marine biodiversity</p> <p>Changing of the current marine ecosystem profile.</p> <p>Pressure on marine species (cetaceans) due to the high tourism nautical activities (ex. Note, tours).</p>	3	4	<b>12</b>	<p>Monitoring/surveillance and species control/eradication of invasive species within the scope of Monitoring Programs and Navy's strategy directive</p> <p>Adoption of measures that allow to preserve native marine species and their habitats.</p> <p>Adoption of measures to reduce the negative impacts associated with anthropogenic pressures: fisheries, pollution, tourism, noise.</p> <p>Constant regularization of tourist activities.</p>



ASPECT	POTENTIAL IMPACT	PROBABILITY	SEVERITY	RISK	MEASUREMENTS IN MITIGATION
<b>Changes climate</b>					
Rise of the sea's average water level	<p>Increase in the regularity of overtopping and coastal floods.</p> <p>Coastal erosion.</p> <p>Degradation of buildings nearby coastline areas.</p> <p>Loss of historical, natural and cultural heritage next of coastline areas.</p> <p>Loss of nesting coastline areas (ex: marine birds).</p>	3	3	9	<p>Constant monitoring of the medium level</p> <p>Installation of protection barriers for the rise of sea level.</p> <p>Adoption of measures to defense and protection the coast</p> <p>Surveys and mapping of areas with increased susceptibility and vulnerability to occurrence of floods.</p> <p>Implementation of Territorial Management Instruments (PNOPT, PROTA, POTRAA, Plans Sectoral, Special Management Plans for the Territory, PMOT).</p> <p>Implementation of the Regional Plan for Civil Protection Emergency of the Azores and Municipal Emergency Protection Civil Plan.</p>



ASPECT	POTENTIAL IMPACT	PROBABILITY	SEVERITY	RISK	MEASUREMENTS IN MITIGATION
<b>Public health</b>					
COVID-19	<p>Loss of human lives.</p> <p>Public health service overload</p> <p>Restrictions on the free movement of people and assets.</p> <p>Decreased security and trust in travel.</p> <p>Impact on the economic viability of businesses.</p>	1	1	1	<p>Increased responsiveness of public health services.</p> <p>Creation of monitoring and combating services to COVID-19.</p> <p>Community awareness of compliance with the safety rules and integration of the vaccination process.</p> <p>Ensuring compliance with safety rules, punishing rightfully the disrespect.</p> <p>Constant communication of the illness evolution and its impacts</p> <p>Implementation of financial health support systems to companies.</p> <p>Implementation of procedures that ensure the safety of company workers and customers of tourism sector (ex: Clean &amp; Safe Azores Stamp)</p> <p>Establishment of a simple region access criterion, validated, and that guarantees the safety of the community (eg. mandatory tests to enter in the region).</p> <p>Adequacy and adaptation of measures applied in the region, with the applied national and European measurements.</p> <p>Facilitate communication/dissemination of procedures necessary to access the destiny.</p> <p>Encourage the population to adhere to the vaccination process against COVID-19.</p>



ASPECT	POTENTIAL IMPACT	PROBABILITY	SEVERITY	RISK	MEASUREMENTS IN MITIGATION
<b>Public health</b>					
Respiratory transmissible diseases	<p>Loss of human lives.</p> <p>Public health service overload.</p> <p>Limitations to the travel process and/or circulation of people or assets.</p> <p>Impact on the economic viability of businesses.</p>	5	1	5	<p>Monitoring the emergence and evolution of new virus and transmissible respiratory diseases.</p> <p>Creation of commissions to combat the disease.</p> <p>Establishment of legal measures to control the propagation of the disease.</p> <p>Capacitation of health services with equipment and medicines needed.</p> <p>Raising awareness for the adoption of protective measures for the local community.</p> <p>Implementation of a vaccination process to combat these diseases.</p>
transmitted diseases by vectors (Dengue, West Fever Nile, illness in Lyme)	<p>Increase in affected people after propagation.</p> <p>Lower perception of security to travel by the tourists.</p> <p>Limitations to the travel process and/or circulation of people or assets.</p>	5	4	20	<p>Follow-up and monitoring of the presence of pathogens, as well as their density and viral replication.</p> <p>Adoption of measures to mitigate the impact of illnesses.</p>



## 4. ANSWERING THE EMERGENCY SITUATIONS

The Azores Regional Civil Protection and Fire Service (SRPCBA) is the department that depends on the Secretary Regional Health and Sport Secretary that has as assignments guide, coordinate and supervise, on the level of the Autonomous Region of the Azores, the Civil Protection and Fire Department activities, as well as ensure the operation of an emergency medical ground transport system, in order to guarantee, to victims or victims of sudden illness, the prompt and correct provision of health care (<https://www.proci.azores.gov.pt>).

Are agents of civil protection, according to their own assignments :

1. Firefighters;
2. Safety forces;
3. Fleets forces;
4. National Maritime Authority;
5. National Civil Airplane Authority;
6. Public entities that provide healthcare services.

The Portuguese Red Cross exercises, in cooperation with the agents mentioned in the previous number and in harmony with its own statute, civil protection functions in the fields of intervention, support, help and sanitary and civil assistance.

The SRPCBA is organized in four divisions each one of them with the following competencies:

1. **Prevention, Training and Raising Awareness** to whom it is incumbent, among other competences, to promote, ensure and support prevention/awareness in Civil Protection matters among all citizens; ensure the training of fire brigade elements in emergency areas pre-hospital, fire and help, planning and operations.

More information at: <https://www.proci.v.azores.gov.pt/sensibilizacao/>

<https://www.proci.v.azores.gov.pt/formacao/>

2. **Planning, Operations and Risk Assessment**, its mission is to ensure the planning and direction of operations of Service, the coordination of means to use and the adequacy of measurements

Avaliação de Risco	Elaboração: Açores DMO	Aprovação: Carolina Mendonça	Pag.
Rev: 02	Código: EC09_02RiskAssesment	Elaborado: 15/09/2022	25



in exceptional character to adopt at imminence or at occurrence of serious accidents or catastrophes. In this division is also integrated the Emergency Operations Center, the operational structure of the SRPCBA, which includes, among others, the Emergency Service and Management Room where are answered, screened and followed up on all RAA distress calls. It ensures the **European Emergency Number (112)** , **Medical Emergency Line** and other emergency situations that put in risk, direct or indirectly the population.

More information at: <https://www.proci.v.azores.gov.pt/operacoes/>

<https://www.proci.v.azores.gov.pt/emergencia-medica/>

3. **Firefight Inspection**, in addition to the competencies assigned through the organic of the Regional Civil Protection Service and Firefighters from Azores, it has as main objective, to guarantee the technical and operational link between the guardianship of all Firefighters, potentiating maximum public investment and the dedication, professionalism and competence of the Firefighters, ensuring their recognition and safety in an active and permanent way.

More information at: <https://www.proci.v.azores.gov.pt/bombeiros/>

4. **Safety against fires**, this division holds as its main competence to secure the compliance of safety regulations against fires in buildings.

More information at: <https://www.proci.v.azores.gov.pt/seguranca/>

The SRPCBA has a Training Center which is a space for theoretical/practical training, with approximately 5 hectares and which includes a diversified set of infrastructures that allow the practical training of Fire Department operatives, in a wide range of scenarios representative of the reality existing in the Region, allowing also the formation and training of operational staff and employees of other regional entities. This training center has valences of specialized technical training, in terms of pre-hospital emergency, fighting structural fires, combat of industrial fires, intervention in rescue and extrication road, in rescue in height, in rescue in spaces confined and intervention in catastrophe.

Avaliação de Risco	Elaboração: Açores DMO	Aprovação: Carolina Mendonça	Pag.
Rev: 02	Código: EC09_02RiskAssesment	Elaborado: 15/09/2022	26

## 5. Hospital Assistance

In the Autonomous Region of the Azores there are the following hospital assistance equipment/infrastructures:

- Basic Urgency units in all Islands.
- Service SIV – Immediate Life Support - in 4 Islands (São Miguel, Terceira, Faial and Pico).
- Emergency services in the 3 Hospitals of the RAA, on the 3 islands with the highest population density (São Miguel, Terceira and Faial).
- Emergency inter-island and outside transport
- Medical Emergency line.
- Azores Health line.

## 6. Pandemic per COVID-19

The Government of the Azores activated all resources to respond to the public emergency imposed by the evolution of the COVID-19 pandemic. The answers were – and will continue to be – agreed between the Health and Sport Regional Secretary, through the Regional Health Direction, and the guidelines issued by the Health General Direction and The World Health Organization.

All the orienting information referent to the pandemic per COVID-19 (ex: circular normative, informative) - in addition to being published in the Official Journal of the Regional Government of the Azores - are also disseminated through themain regional information channels, as well as through social networks and the website created in platform to gather information on the evolution of the pandemic and the region's responses. The Destination websiteAzores Insurance - <https://destinoseguro.azores.gov.pt/> - aggregates all the information regarding the pandemic, from the evolution of (new) active cases, recoveries, deaths and the vaccination process, as well as its measurements in place (per island) to mitigate the propagation of virus within the community.

O Government From Azores, through the Regional Tourism Direction, promotes a set of measurements with the aim to mitigate, recover and bring back the sector, namely:

- Tourism Reactivation Plan;
- Stamp Clean&Safe Azores (<https://clean-safe.azores.gov.pt/>);
- voucher destiny safe ( <http://voucher.azores.gov.pt/pt-pt/>);

Avaliação de Risco		Elaboração: Açores DMO	Aprovação: Carolina Mendonça	Pag.
Rev: 02	Código: EC09_02RiskAssesment	Elaborado: 15/09/2022	Ref. Norma Earthckeck: 5.2	27



- Air tariff Azores 60€ ( <https://www.azoresailines.pt/pt-pt/informacao/tarifa-azores>);

Avaliação de Risco		Elaboração: Açores DMO	Aprovação: Carolina Mendonça	Pag.
Rev: 02	Código: EC09_02RiskAssesment	Elaborado: 15/09/2022	Ref. Norma Earthcheck: 5.2	28



- measures to support the companies

(<https://portal.azores.gov.pt/web/draic/apoios- Covid-19>).

The Clean&Safe Azores project, which, within its scope, developed specific guidelines for various sectors of activity in the tourism value chain, with the aim of mitigating situations of danger and propagation associated with COVID-19, implement measures and behaviors in prevention more effective and enable agents about which procedures to take in confirmed cases of COVID-19 together with their customers.

This project, created in 2020 and renewed in 2021, aims to recognize the commitment of private tourism agents in comply with the of referred safety measures to combat COVID-19 and, in simultaneous to stimulate confidence in tourists to travel to the Azores, through a validation mechanism for these measures, recognized internationally.

This is a voluntary application process for agents, which requires - for the attribution of the stamp - the participation (mandatory) in a training session dedicated to the specific measures of your sector of activity. After completing the training, all companies send to the Regional Directorate of Tourism their Contingency Plan and Declaration of Commitment of Honor on how to apply the measures of Clean&Safe Azores. The Clean&Safe Azores Stamp is issued with a validity of 1 year, subject to a new renewal. During the validity period of the stamp, validations of compliance with the measures are carried out by the Regional Tourism Inspection: the non-compliance implies the loss of the stamp.

Avaliação de Risco		Elaboração: Açores DMO	Aprovação: Carolina Mendonça	Pag.
Rev: 02	Código: EC09_02RiskAssesment	Elaborado: 15/09/2022	Ref. Norma Earthcheck: 5.2	29



# ATTACHMENT

**Risk analysis taken from the Regional Emergency Plan for Civil Protection of the Azores  
approved by the Government Council Resolution No. 55/2019 of April 16, 2019**

Avaliação de Risco	Elaboração: Açores DMO	Aprovação: Carolina Mendonça	Pag.
Rev: 02	Código: EC09_02RiskAssesment	Elaborado: 15/09/2022	30

### 3. TYPIFICATION FROM SCRATCHS

O gift plan intends to give answer to the risks with potential for to affect The RAA. You risks considered are you following:

<b>Natural Risks</b>	earthquakes
	Volcanic Activity
	floods
	coastal Overtopping
	movements of strands
	cyclones, storms and hurricanes
	Coastal Erosion
	Tsunamis
<b>Technological Risks</b>	Collapse of natural underground cavities
	seafarers' accidents
	aerial accidents
	Transport terrestrial in goods dangerous
	industrial accidents
<b>Mixed Risks</b>	urban fires
	pollution accidents
	forestry fires

The evaluation of risk was carried out considering the probability in occurrence and gravity.

The probability in occurrence is defined with base at the historic of risk in analysis, being able the probability to be high, medium-high, average, medium-low and low.

In relationship in some of the risks, in particular technological, it is not attributed because it is residual.

DEGREE OF PROBABILITY	PROBABILITY YEARLY	PERIOD OF RETURN (YEARS OLD)
<b>High</b>	$\geq 0.2$	$\leq 5$
<b>medium-high</b>	0.05 - 0.2	]5 - 20]
<b>Medium</b>	0.02 - 0.05	]20 - 50]
<b>medium-low</b>	0.005 The 0.02	]50 - 200]
<b>Low</b>	$< 0.005$	$> 200$

To define the grade in gravity it is considered, with base at the historic in occurrences, The event with the highest probability or the most serious occurrence, defining the damages expectations of the same on the population, the environment, the economy and society, severity can be classified as residual, reduced, moderate, severe or criticism.

GRAVITY	IMPACT	DESCRIPTION
<b>RESIDUAL</b>	Population	There is no injured nor victims mortals. There is no withdrawal of people or only of a limited number, for a short period (up to 12 hours). Few RH for necessary support. damage without significance.
	Environment	there is no environmental impact
	Socioeconomic	There is no or low level of constraints at community. No there is loss financial.
<b>REDUCED</b>	Population	Small number in injured, but without mortal victims. Some hospitalizations. withdrawal in people per a period inferior than 24 hours. Some RH in support and reinforcement required. Some damage.
	Environment	Small environmental impact, without effects lasting.
	Socioeconomic	disruption (Less than 24 hours). Little financial loss.
<b>MODERATE</b>	Population	Moderate Number of victims. Medical treatment required, but without Mortals victims.



		Some hospitalizations. withdrawal in people per a period of 24 hours. Some RH technician required.
	Environment	No environmental impact – lasting.
	Socioeconomic	Some disruption at community (Less than 48 hours). Some financial loss.
<b>SHARP</b>	Population	accentuated number of victims. High number of withdrawal in people per a higher period than 24 hours. Mortals victims. External resources required for Support to the staff in support. Significant damage that require external resources.
	Environment	Some environmental impacts with long term effects
	Socioeconomic	Partial operation of community with some services unavailable. Significant loss.
<b>REVIEW</b>	Population	Very high number of victims. withdrawal in great scale in people perone duration long. significant number in mortal victims. Support RH and reinforcement required.
	Environment	Environmental Impact significant with permanent damage
	Socioeconomic	The community fails to work without significant support

is assigned a grade in risk, in function of the degrees in probability and gravity, according with the following headquarters risk:

**DEGREES IN RISK**

REGION AUTONOMOUS FROM AZORES		GRADE IN GRAVITY				
		Residual	Reduced	Moderate	accentuated	Critical
GRADE IN PROBABILITY	High	G1	R1		Accident Air TS	
	Medium-high		G2	R2		H1 H2
	Medium		G3		R3	H3
	Medium-low			G4		H4 R4
	Low				G5	H5 R5



NOTE: although Forest Fires do not have an expression in the RAA, which allow them to be included in the previous table, should be considered as a potential risk to which we must pay special attention, due to the changes climate.

**SUBTITLE:**

<b>cliclones tropical: (Scale in Saffir-Simpson):</b> TS: Storm tropical H1: Category 1 H2: Category two H3: Category 3 H4: Category 4 H5: Category 5	<b>Wind maximum diary (km/h) :</b> G1: 127-145 G2: 146- 161 G3: 162-179 G4: 180-198 G5: >= 199	<b>Precipitation daily (mm):</b> R1: 99-134 R2: 135-165 R3: 166-201 R4: 202-237 R5: >= 238
---	---	---

For the characterization of natural hazards, namely earthquakes, slope, teletsunamis, regional tsunamis, local tsunamis, falling pyroclasts, flows pyroclastics, drained lava, gases volcanic, emanations gaseous permanent and floods, it was chosen to carry out one analysis per island, by having in account

Avaliação de Risco	Elaboração: Açores DMO	Aprovação: Carolina Mendonça	Pag.
Rev: 02	Código: EC09_02RiskAssesment	Elaborado: 15/09/2022	29

different geological, geodynamic and geomorphological contexts, as it is understood too general to carry out this type of analysis on a regional scale. In this sense, it is presented the following matrices in risk:

ILHA DE SANTA MARY		GRADE IN GRAVITY				
		Residual	Reduced	Moderate	accentuated	Critical
DEGREE OF PROBABILITY	High					
	Mediu m-high		movements in strand			
	Medium					
	Mediu m-low				pyroclasts in fall earthquake s	
	Low	Tsunamis regional			teletsunamis	

ISLAND OF ARE MIGUEL		GRADE IN GRAVITY				
		Residual	Reduced	Moderate	accentuated	Critical
GRADE IN PROBABILITY	High				movements in strand	emanations gaseous permanent
	medium-high					
	Medium				floods	earthquake s
	Mediu m-low				gases volcanic	drains lava pyroclasts in fall
	Low	Tsunamis regional			teletsunamis	flows pyroclastics

ISLAND THIRD		GRADE IN GRAVITY				
		Residual	Reduced	Moderate	accentuated	Critical
GRADE OF PROBABILITY	High					emanations gaseous permanent
	medium-high		movements in strand		floods	
	Medium					earthquakes
	Medium-low				gases volcanic	drains lava pyroclasts in fall
	Low	Tsunamis locations			teletsunamis	

ISLAND OF ARE JORGE		GRADE IN GRAVITY				
		Residual	Reduced	Moderate	accentuated	Critical
GRADE OF PROBABILITY	High					
	medium-high				movements in strand	
	Medium					earthquakes
	Medium-low	Tsunamis				
	Low				gases volcanic teletsunamis	drainslava pyroclasts in fall flows pyroclastics

ISLAND GRACEFUL		GRADE IN GRAVITY				
		Residual	Reduced	Moderate	accentuated	Critical
GRADE OF PROBABILITY	High				emanations gaseous permanent	
	medium-high		movements in strand			
	Medium					
	Medium-low				earthquakes	
	Low	Tsunamis locations			gases volcanic teletsunamis	drainslava pyroclasts in fall flows pyroclastics

ISLAND OF PEAK		DEGREE OF GRAVITY				
		Residual	Reduced	Moderate	accentuated	Critical
GRADE IN PROBABILITY	High				emanations gaseous permanent	
	medium-high			movements in strand floods		
	Medium				earthquakes gases volcanic	drains lava pyroclasts in fall
	Medium-low					
	Low				teletsunamis	flows pyroclastics

ISLAND OF FAIAL		DEGREE OF GRAVITY				
		Residual	Reduced	Moderate	accentuated	Critical
GRADE IN PROBABILITY	High				emanations gaseous permanent	
	Medium-high					
	Medium			floods	movements in strand	
	Medium-low				gases volcanic	earthquakes pyroclasts in fall
	Low	Tsunamis locations			teletsunamis	drains lava drains pyroclastic

ISLAND DAS FLORES		DEGREE OF GRAVITY				
		Residual	Reduced	Moderate	accentuated	Critical
GRADE IN PROBABILITY	High					
	medium-high				movements in strand	
	Medium			floods		
	Medium-low				Tsunamis regional	
	Low	earthquakes		teletsunamis	gases volcanic	drains lava pyroclasts in fall flows pyroclastics



ISLAND OF THE CROW		GRADE IN GRAVITY				
		Residual	Reduced	Moderate	accentuated	Critical
DEGREE OF PROBABILITY	High					
	Medium - high					
	Medium		movements in strand			
	Medium-low					
	Low	earthquakes		teletsunamis	gases volcanic Tsunamis regional	drains lava pyroclasts in fall

Avaliação de Risco	Elaboração: Açores DMO	Aprovação: Carolina Mendonça	Pag.
Rev: 02	Código: EC09_02RiskAssesment	Elaborado: 15/09/2022	Ref. Norma Earthckec: 5.2
			29

AÇORES  
no rumo da sustentabilidade



AVALIAÇÃO  
DE RISCO

