



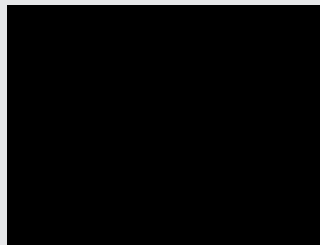
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Application of ClimAdapt.Local to municipality of Vila Franca do Campo (S. Miguel Island - Azores – Portugal)



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The project ClimAdapt.Local in Portugal

- **Integrated** in the program AdaPT;
- **Aims to** develop projects of climate change adaptation in Portugal;
- **Guided** by the memorandum of understanding between Portugal, Norway, Iceland and Liechtenstein;
- **Developed** on the basis of the National Strategy for Climate Change Adaptation (NSCCA);
- **Managed** through the Portuguese Environment Agency (APA)/Portuguese Carbon Fund (FPC);
- **Co-financed** at 85% through EE Grants, and 15% by the FPC.

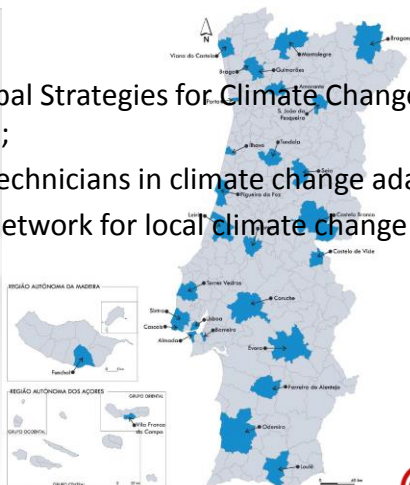


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The project main goals

- Establish 26 Municipal Strategies for Climate Change Adaptation (MSCCA);
- Form 52 municipal technicians in climate change adaptation;
- Create a municipal network for local climate change adaptation;





The Present Climate of the Azores

- Influenced by the latitude of the islands, its position to the Anticiclone of the Azores;
- Rain is a constant presence during the whole year, mainly through the months of October to March, with averages annual between 700 mm and 1600 mm;
- As Winter maximum temperatures range between 11°C and 17°C, and during the Summer maximum temperatures range between 18°C and 25°C;
- The islands are occasionally hit with tropical storms, generally between August and October;
- High humidity rates.



I – THE CURRENT VULNERABILITIES OF THE MUNICIPALITY





II – FUTURE VULNERABILITIES OF THE MUNICIPALITY

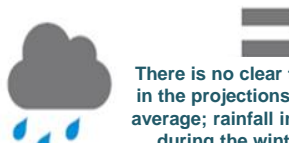





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FUTURE VULNERABILITIES




There is no clear tendency in the projections of annual average; rainfall increasing during the winter and decreasing during the summer



Increase of the frequency and intensity of hurricanes



Rise in average annual temperatures



Rise of the average sea level



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FUTURE VULNERABILITIES

>> *Temperature rise*



Respiratory diseases



Rural and forest fires





FUTURE VULNERABILITIES

>> Increase of the frequency of extreme phenomena



FUTURE VULNERABILITIES

EVENT	RISK LEVEL		
	PRESENT	MEDIUM TERM	LONG TERM
EXCESSIVE RAINFALL/FLASH FLOODING	Yellow	Yellow	Red
EXCESSIVE RAINFALL/DAMAGE	Green	Yellow	Yellow
EXCESSIVE RAINFALL/LANDSLIDES	Yellow	Red	Red
EXCESSIVE RAINFALL/FLOODS	Yellow	Red	Red
STORMS/TORNADOS	Green	Yellow	Yellow





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III – ADAPTATION OPTIONS



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ADAPTATION OPTIONS

EVENTS	RISKS	OPORTUNITIES	OPTIONS
<p>EXCESSIVE RAINFALL</p>	<ul style="list-style-type: none"> ❖ Soil erosion; ❖ Housing damage; ❖ Damage of farm assets; ❖ Destruction of infrastructures. 	<ul style="list-style-type: none"> ➢ Recharge of aquifers; ➢ Economic potencial in the construction sector. 	<ul style="list-style-type: none"> ❖ SLOPES MONITORING; ❖ DRAINAGE NETWORK RESTRUCTURE; ❖ FLASH FLOODING REDUCTION; ❖ COAST WATERS QUALITY IMPROVEMENT; ❖ EDIFICATION AND URBANIZATION
<p>HIGH TEMPERATURES / HEAT WAVES</p>	<ul style="list-style-type: none"> ❖ Respiratory disease increase; ❖ Rural e forest fires; ❖ Degradation of water quality; ❖ Droughts; ❖ Decrease of water reserves; ❖ Damages to farming industry. 	<ul style="list-style-type: none"> ➢ Increase in tourism ➢ Introduction of new crop production (e. g. subtropical fruits) 	<ul style="list-style-type: none"> ❖ LAND-USE RULES FOR EROSION PROTECTION AND PROMOTING RAINWATER INFILTRATION; ❖ DEVELOPMENT OF FARMING PROTECTION METHODS; ❖ DEVELOPMENT OF AQUACULTURE; ❖ TOURISM DEVELOPMENT TO ENHANCE OPORTUNITIES OF CLIMATE CHANGE.





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ADAPTATION OPTIONS

EVENTS	RISKS	OPORTUNITIES	OPTIONS
<p>EXTREME PHENOMENA</p>	<ul style="list-style-type: none"> ❖ Flooding; ❖ Landslides; ❖ Costal erosion; ❖ Rupture of ecological corridors; ❖ Damage to farming sector; ❖ Fishing activity; ❖ Inoperability of shipping and air transportation; ❖ Tourist activities; ❖ Infrastructure integrity; ❖ Building damage; ❖ Damage to lives and property. 	<ul style="list-style-type: none"> ➢ Economic development of construction sector. 	<ul style="list-style-type: none"> ❖ SLOPES MONITORING; ❖ DRAINAGE NETWORK RESTRUCTURE; ❖ FLASH FLOODING REDUCTION; ❖ COAST WATERS QUALITY IMPROVEMENT; ❖ DEVELOPMENT OF FARMING PROTECTION METHODS.



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ADAPTATION OPTIONS

HIERARCHY OF ADAPTATION OPTIONS

1. SLOPES MONITORING;
2. DRAINAGE NETWORK RESTRUCTURE;
3. FLASH FLOODING REDUCTION;
4. LAND-USE RULES FOR EROSION PROTECTION AND PROMOTING RAINWATER INFILTRATION;
5. DEVELOPMENT OF FARMING PROTECTION METHODS;





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ADAPTATION OPTIONS

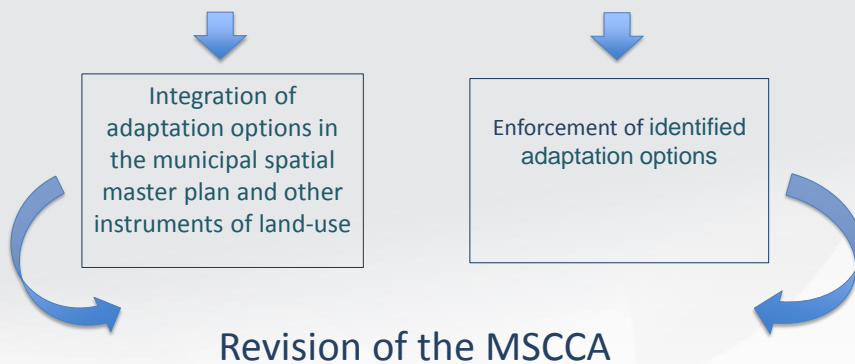
6. TOURISM DEVELOPMENT TO ENHANCE OPORTUNITIES OF CLIMATE CHANGE;
7. COAST WATERS QUALITY IMPROVEMENT;
8. DEVELOPMENT OF AQUACULTURE TO MINIMIZE THE IMPACT OF CLIMATE CHANGE IN THE FISHING SECTOR AND FISH CANNING INDUSTRY;
9. RAISING AWARENESS CONCERNING MSCCA;
10. REVIEW OF MSCCA;
11. EDIFICATION AND URBANIZATION.



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MUNICIPAL STRATEGIES FOR CLIMATE CHANGE ADAPTATION





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Thank you for your time!

