



Plano Intermunicipal

Adaptação às Alterações Climáticas do Algarve

Workshop

Criação da visão estratégica e caminhos de adaptação

Universidade do Algarve, Faro
02 de julho de 2018

Cofinanciado por:





Ciências
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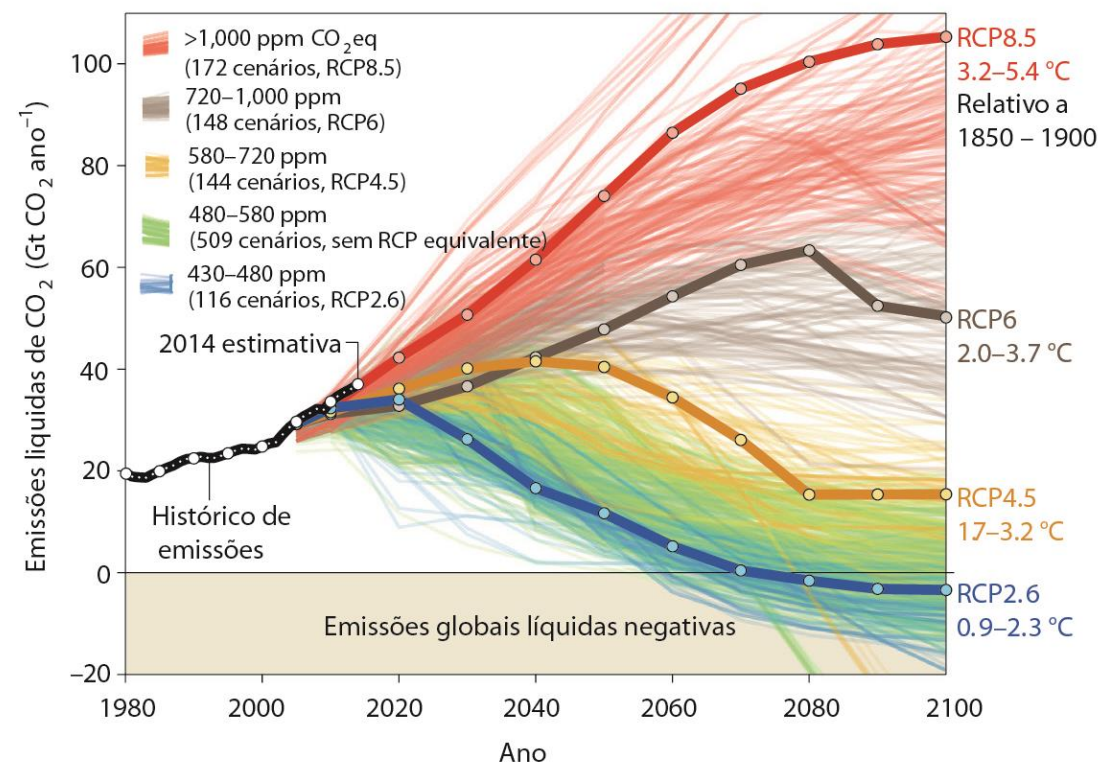
Clima e Segurança de Pessoas e Bens

Luís Filipe Dias

Introdução

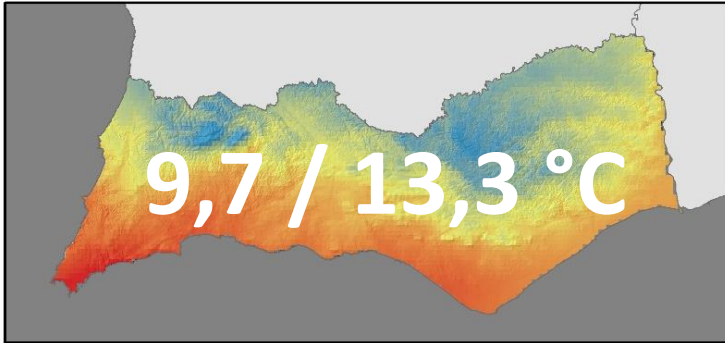
Vulnerabilidades associadas ao clima

- Temperaturas muito elevadas (Saúde humana)
- Ondas de Calor (Energia)
- Precipitação / Secas (Recursos hídricos)
- Cheias e inundações
- Fogos Florestais
- Subida do nível médio do mar (Zonas costeiras e mar)



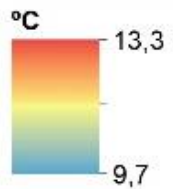
Temperatura mínima

Histórico (IPMA)



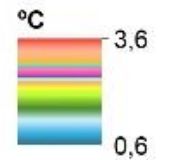
Legenda

Média da temperatura mínima

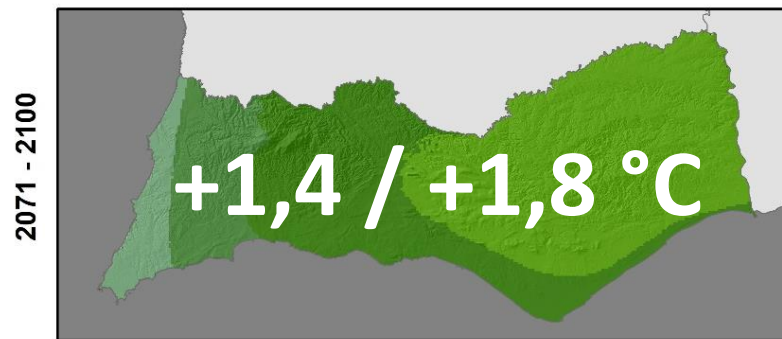
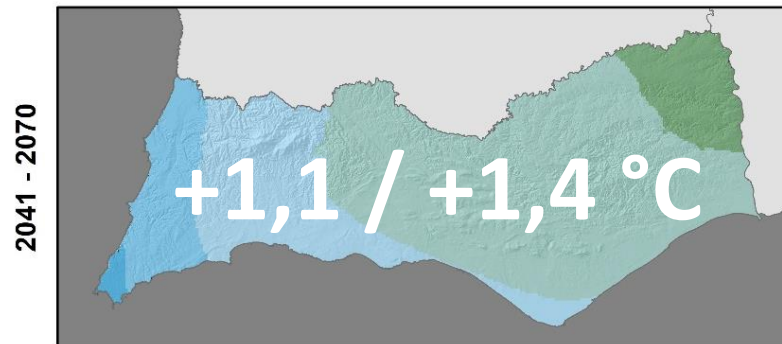
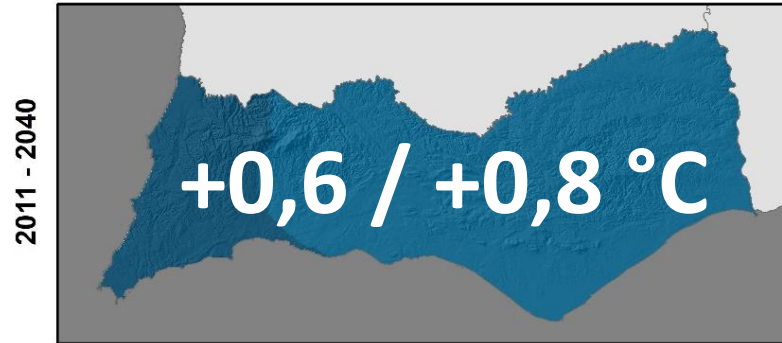


Legenda

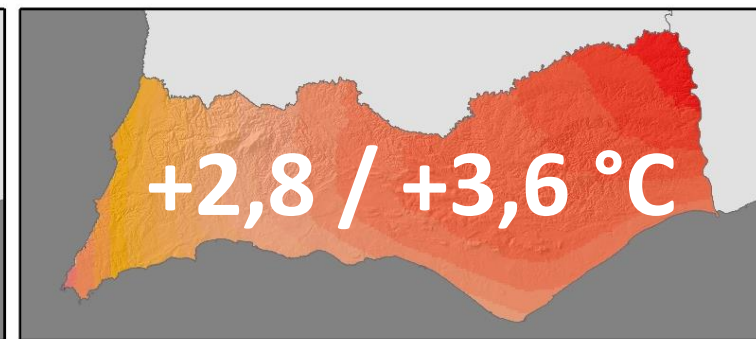
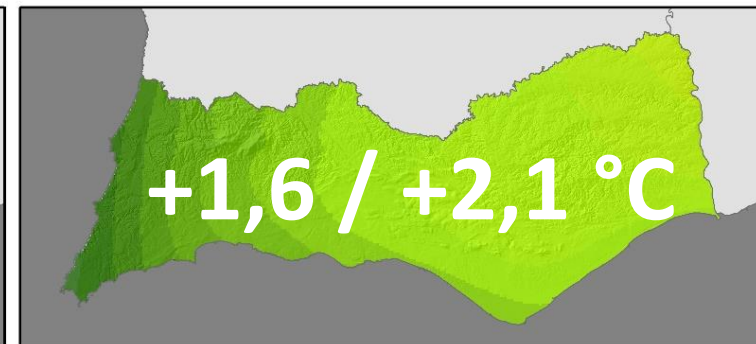
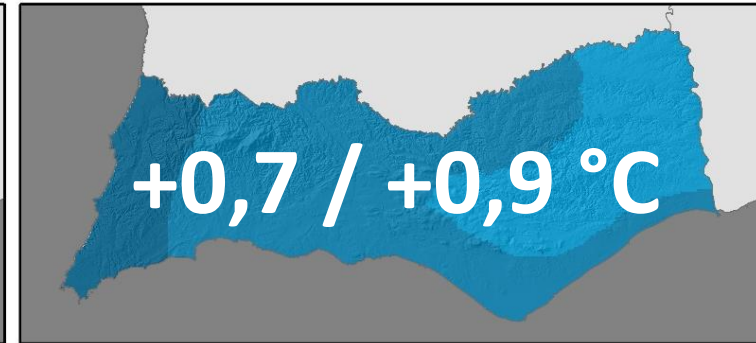
Anomalia da temperatura mínima



RCP4.5



RCP8.5



Cofinanciado por:

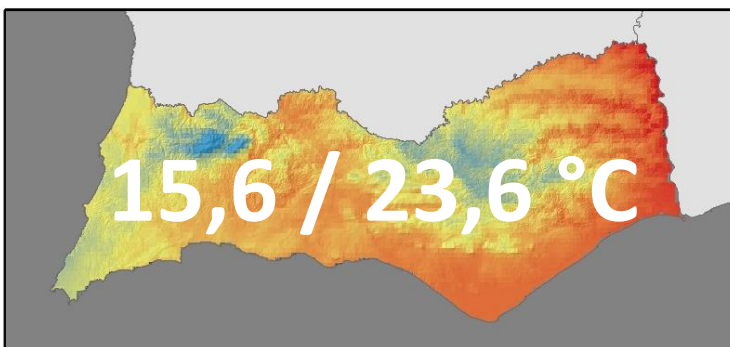


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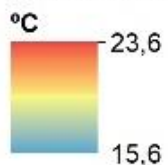
Temperatura máxima

Histórico (IPMA)



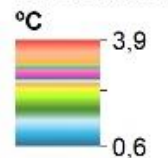
Legenda

Média da temperatura máxima

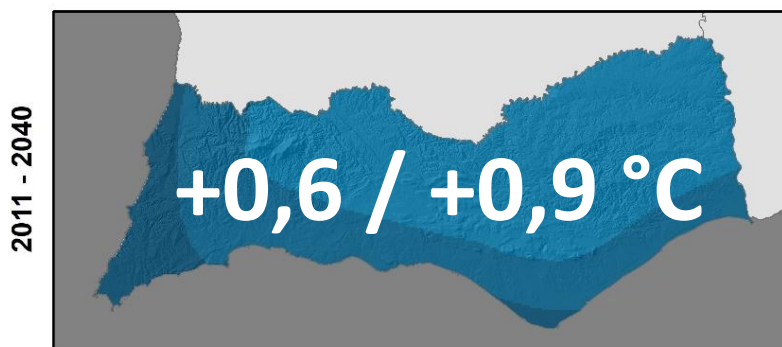


Legenda

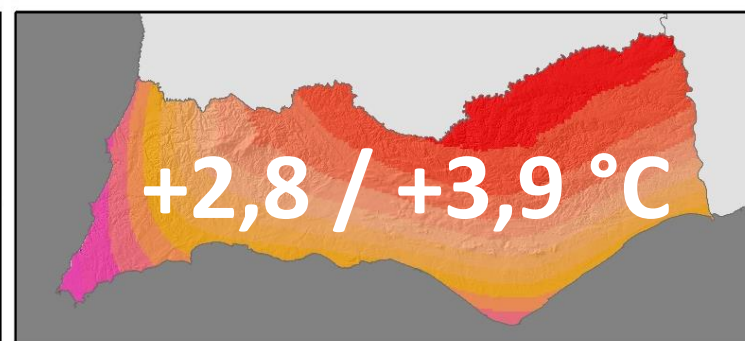
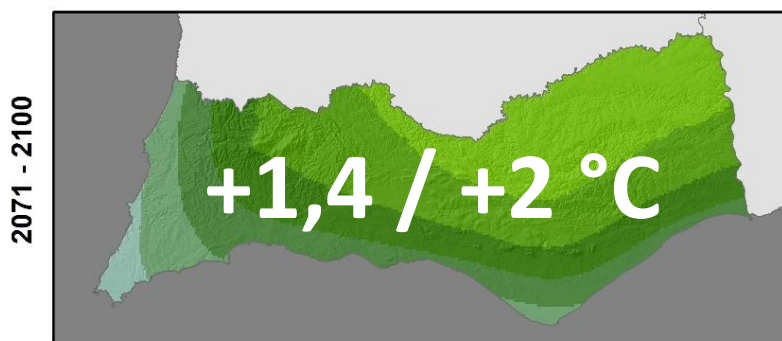
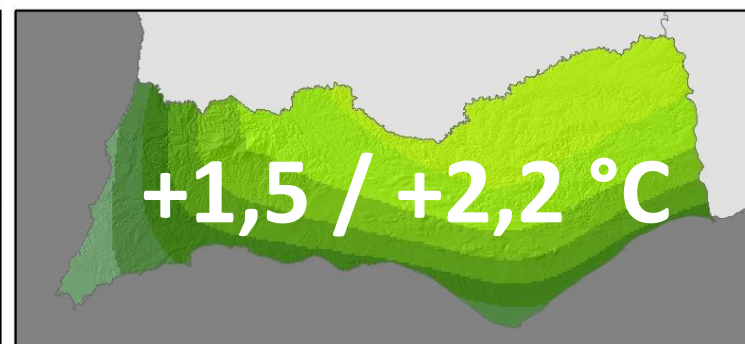
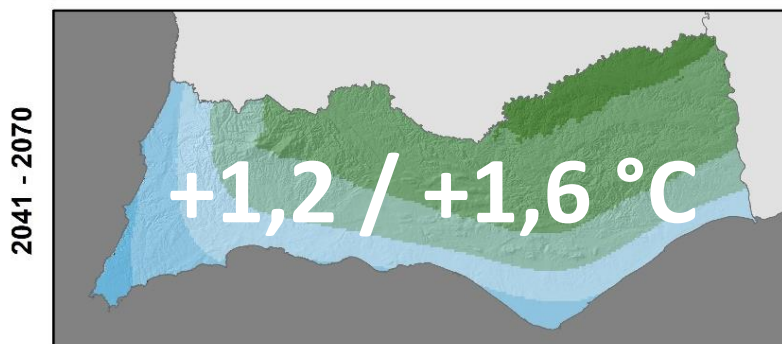
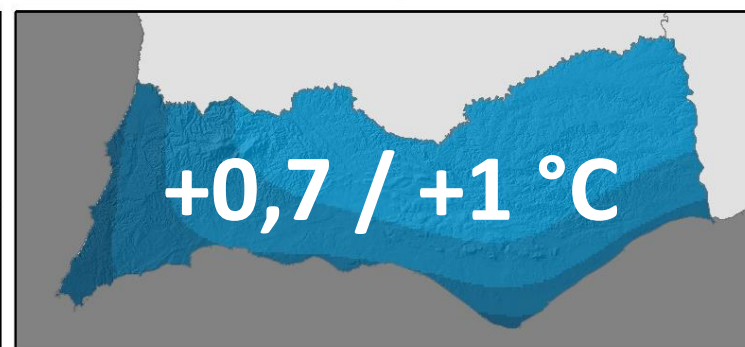
Anomalia da temperatura máxima



RCP4.5



RCP8.5



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Temperaturas muito elevadas e Ondas de Calor



Cofinanciado por:

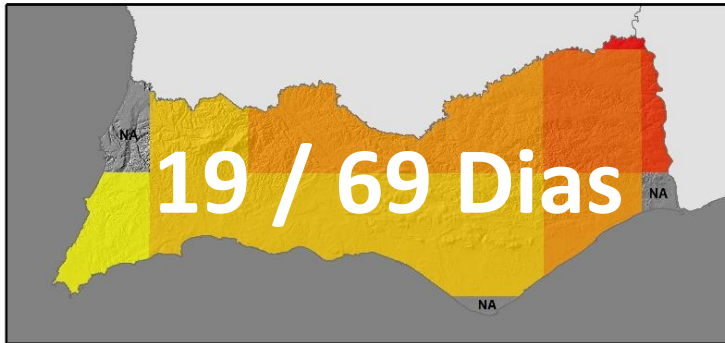


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Temperaturas muito elevadas

Histórico (E-OBS dataset)



Legenda

Média anual de dias com temperatura >30°C



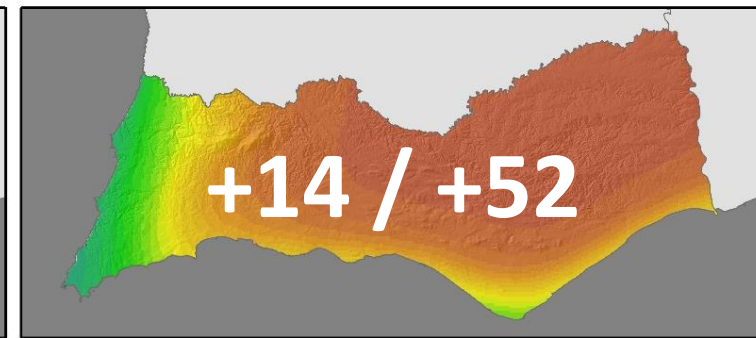
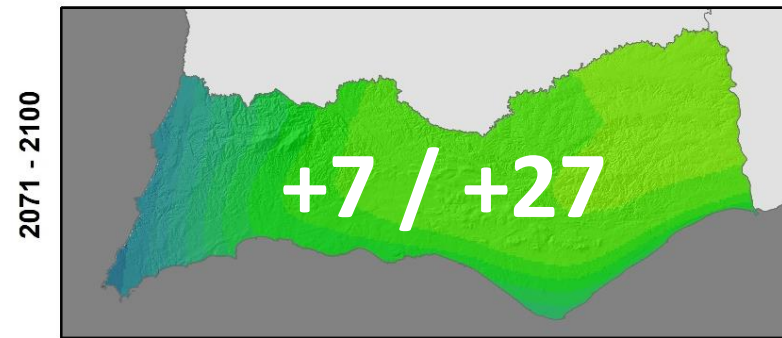
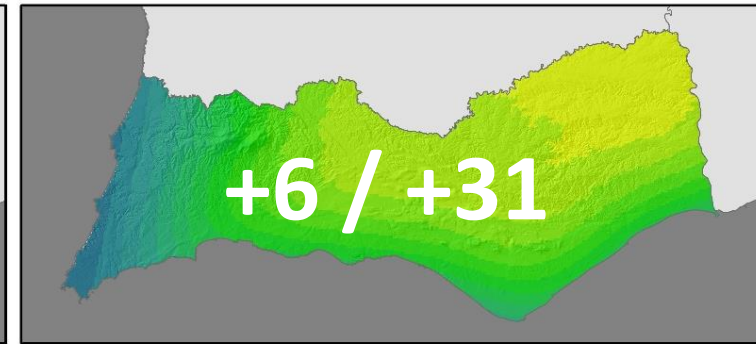
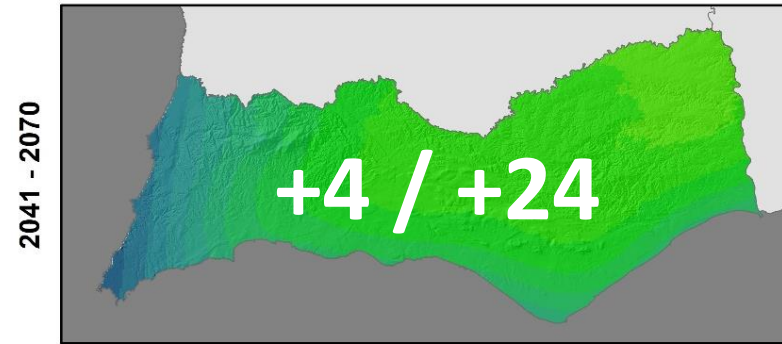
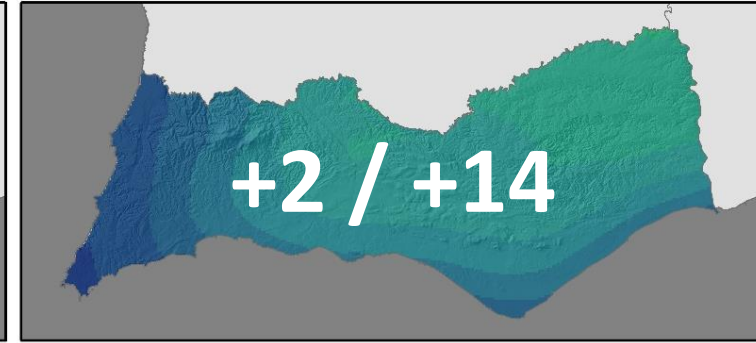
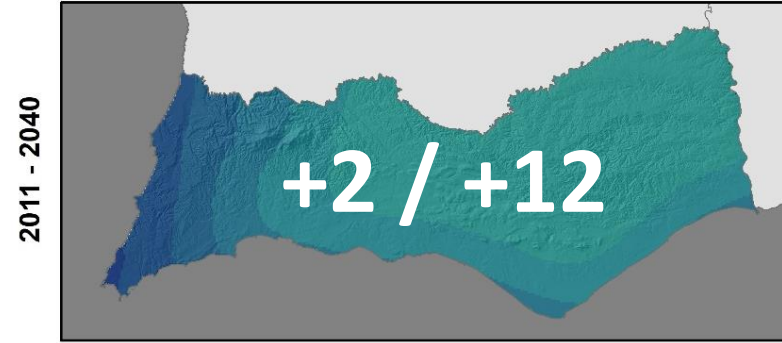
Legenda

Anomalia da média anual de dias com temperatura >30°C



RCP4.5

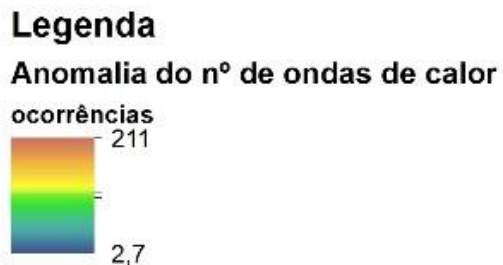
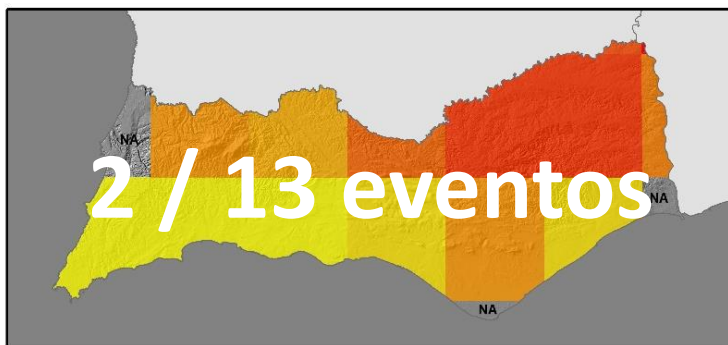
RCP8.5



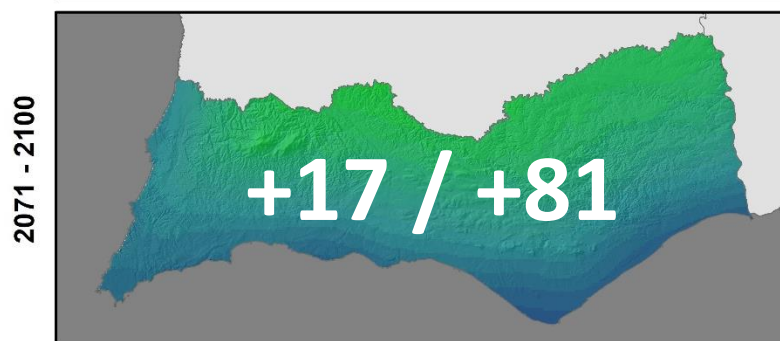
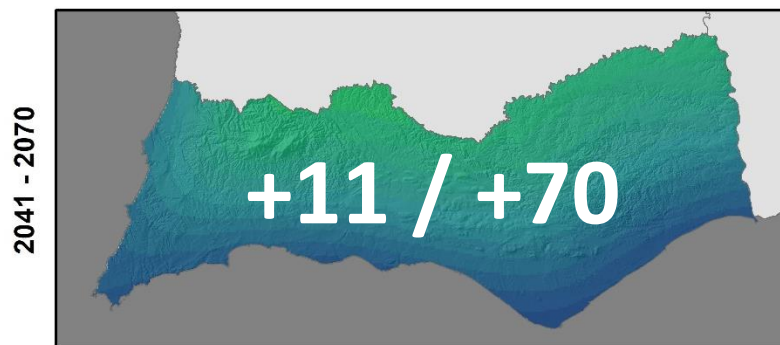
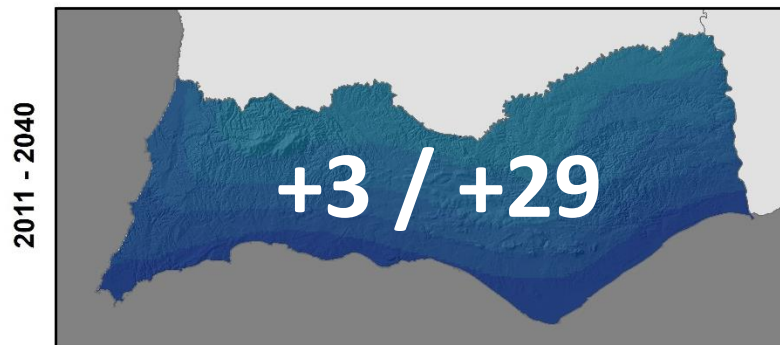
Cofinanciado por:

Número de Ondas de Calor

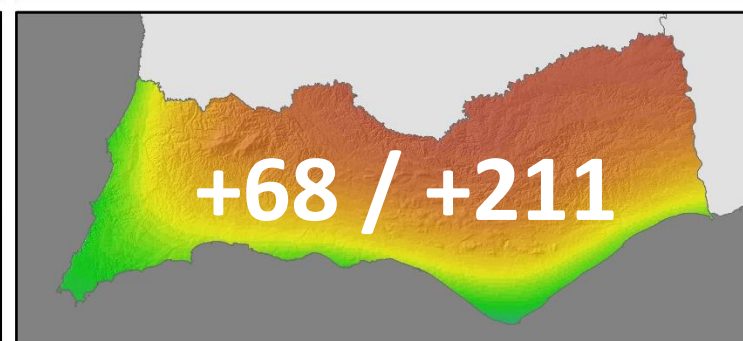
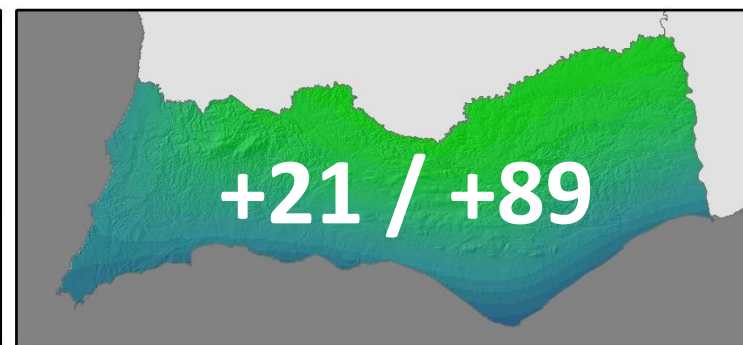
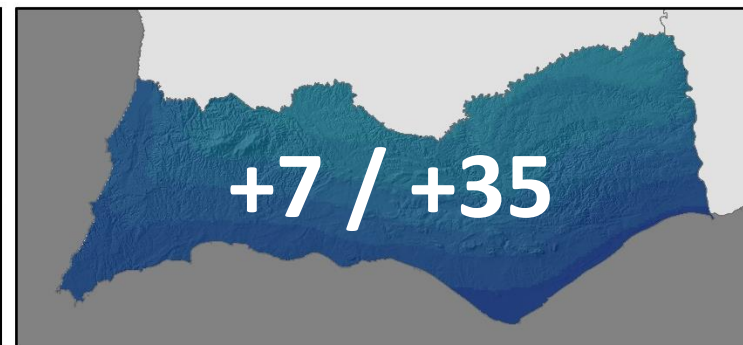
Histórico (E-OBS dataset)



RCP4.5



RCP8.5



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Precipitação



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UAlg CIMA
UNIVERSIDADE DO ALGARVE

CENTRO DE INVESTIGAÇÃO MARINHA E AMBIENTAL

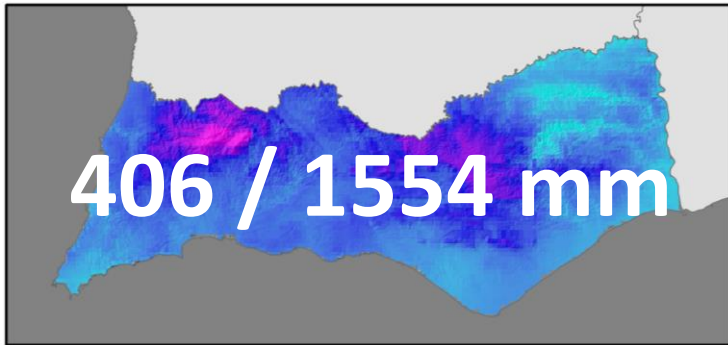


Bentley®
Advancing Infrastructure



Precipitação média anual

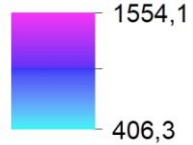
Histórico (IPMA)



Legenda

Precipitação média acumulada

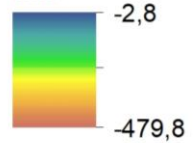
mm



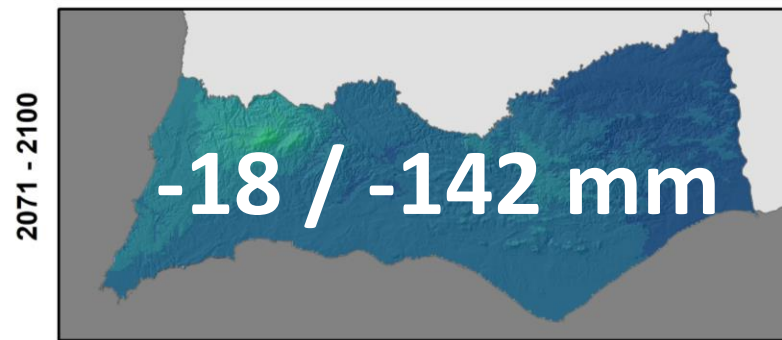
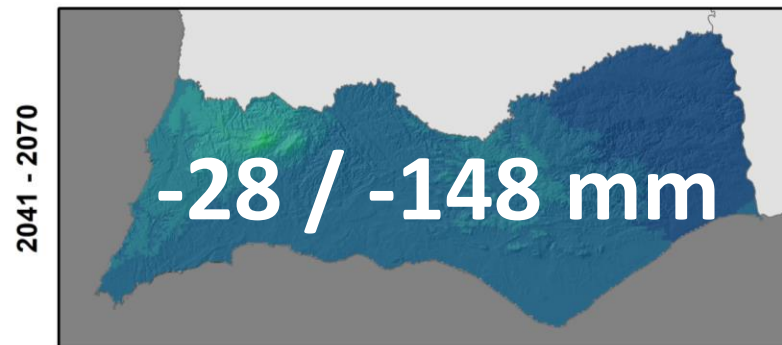
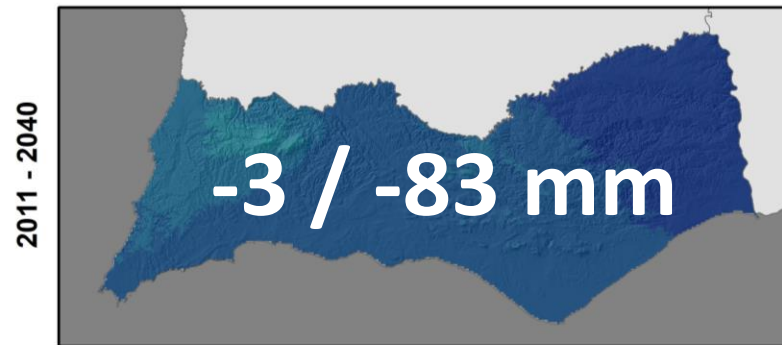
Legenda

Anomalia da precipitação média acumulada

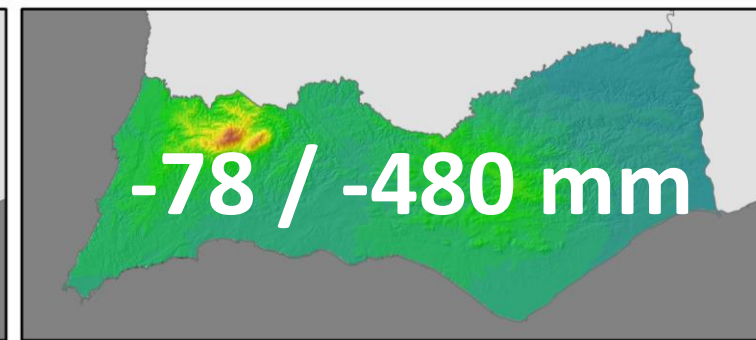
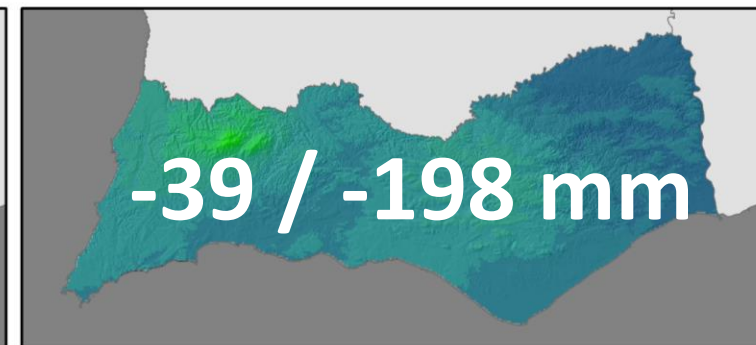
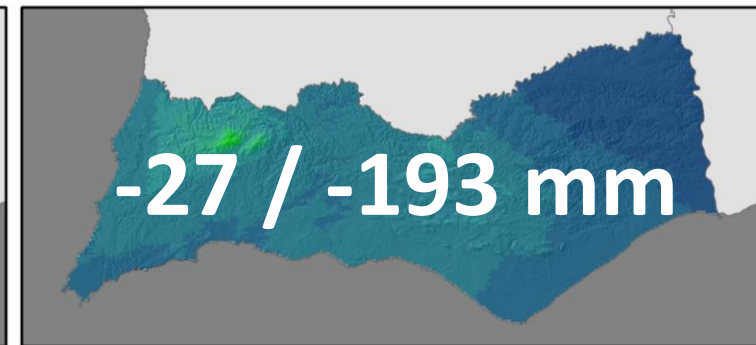
mm



RCP4.5



RCP8.5



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Precipitação média anual

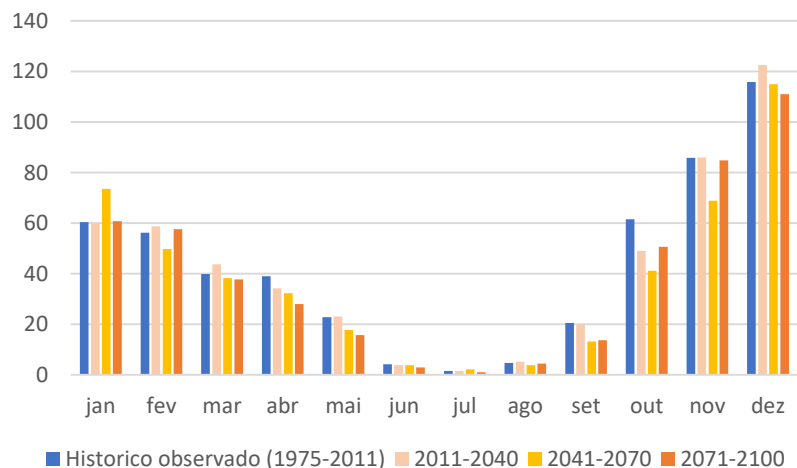
Faro / Aeroporto

Precipitação média acumulada	mm
	Alteração em %

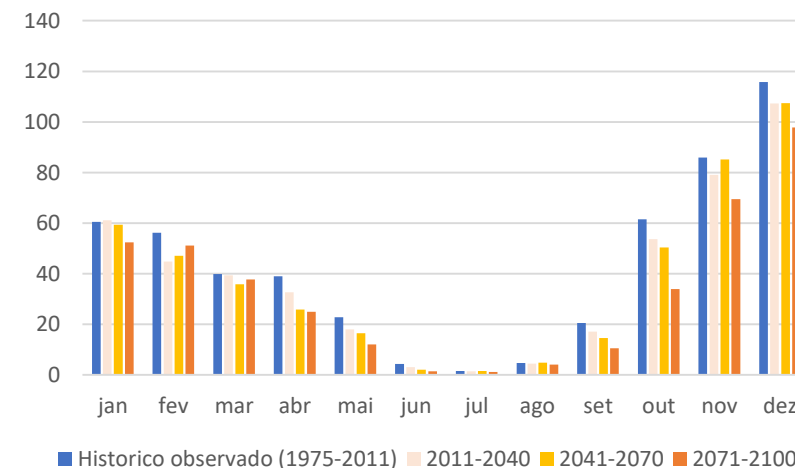
1975-2011
Histórico
512,8
-

2011-2040		2041-2070		2071-2100	
RCP4.5	RCP8.5	RCP4.5	RCP8.5	RCP4.5	RCP8.5
507,5	462,1	459,6	450,7	468,6	396,8
-1,04	-9,87	-10,37	-12,10	-8,62	-22,62

RCP4.5



RCP8.5



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Secas



Cofinanciado por:

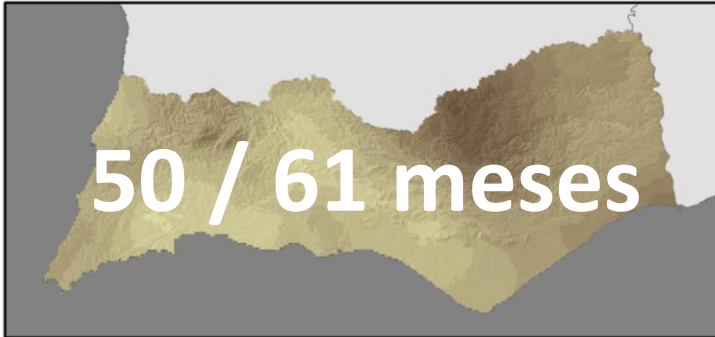


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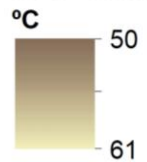
Secas

Histórico modelado



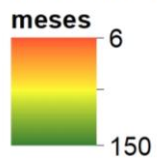
Legenda

SPI - Número de Meses em Seca

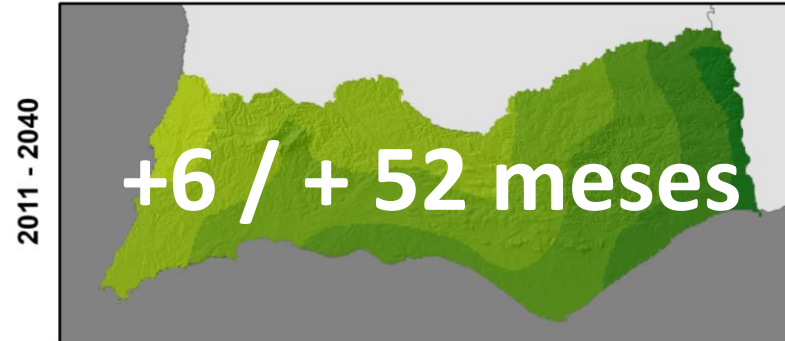


Legenda

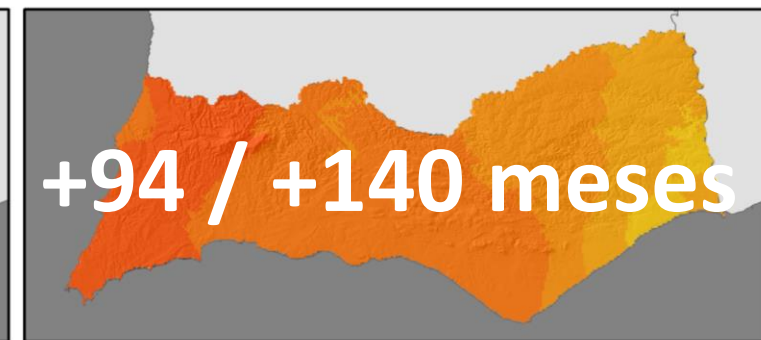
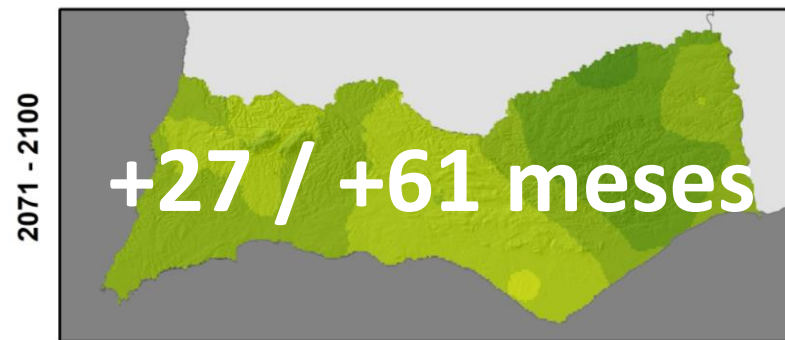
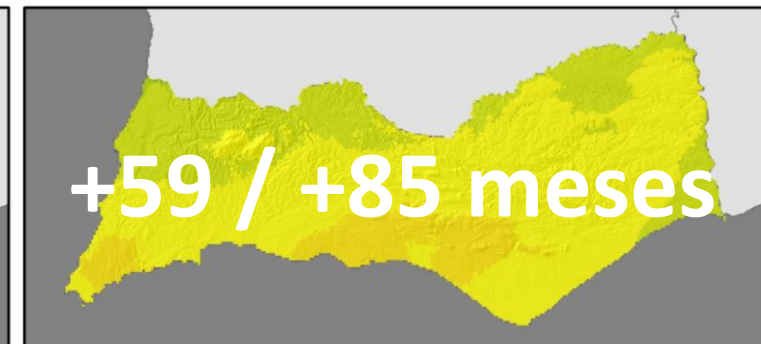
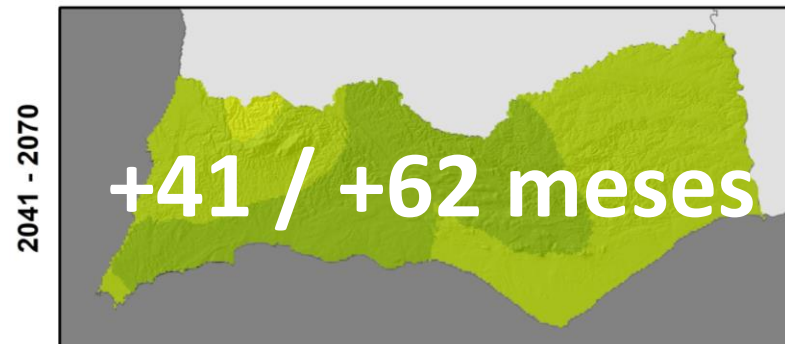
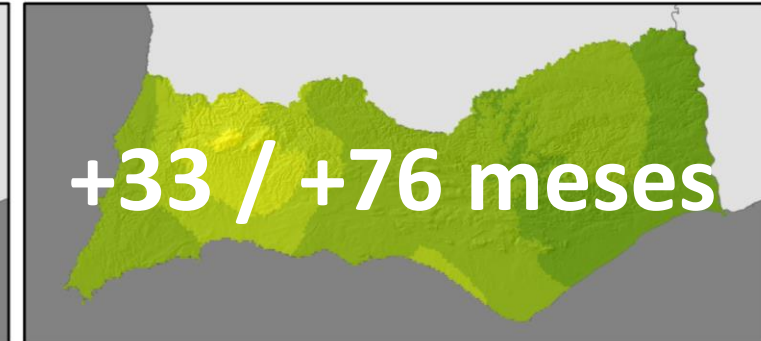
SPI - Anomalia no número de meses em seca



RCP4.5



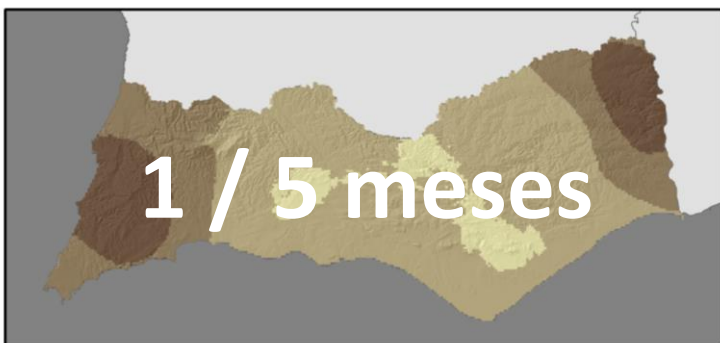
RCP8.5



Cofinanciado por:

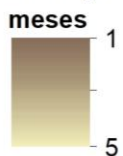
Secas extrema (duração máxima)

Histórico modelado



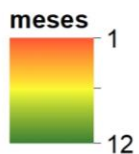
Legenda

Duração máxima em seca extrema

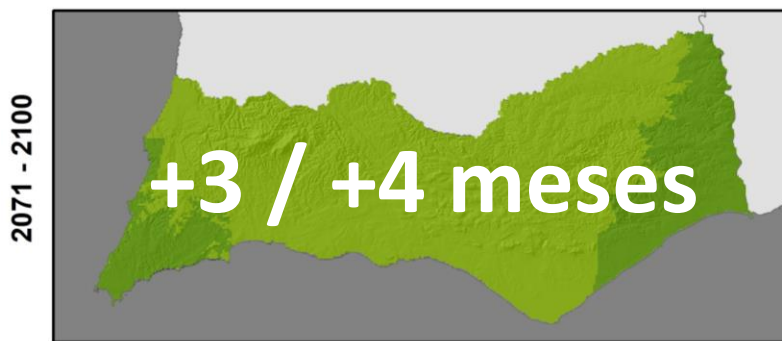
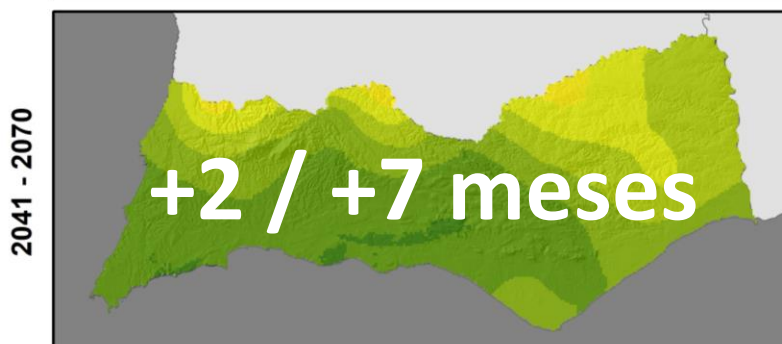
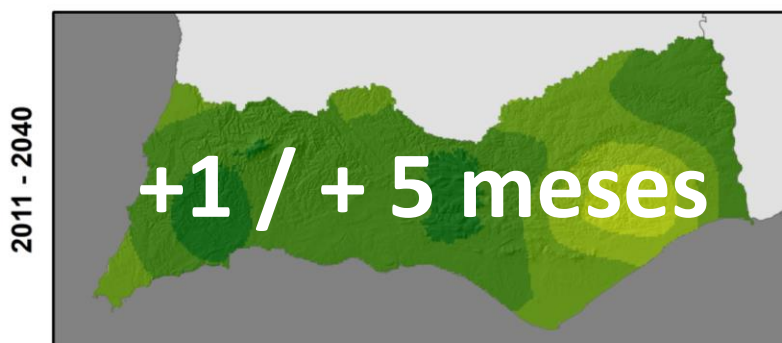


Legenda

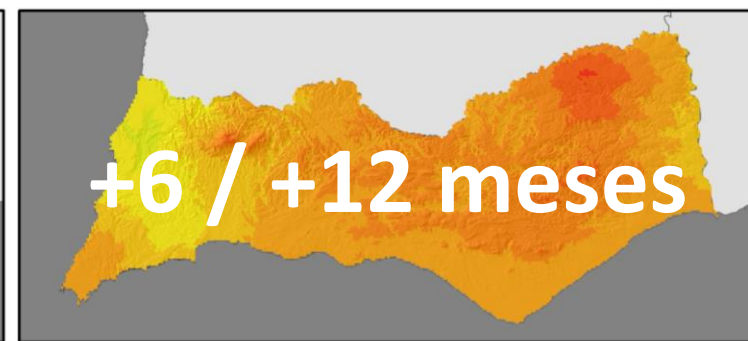
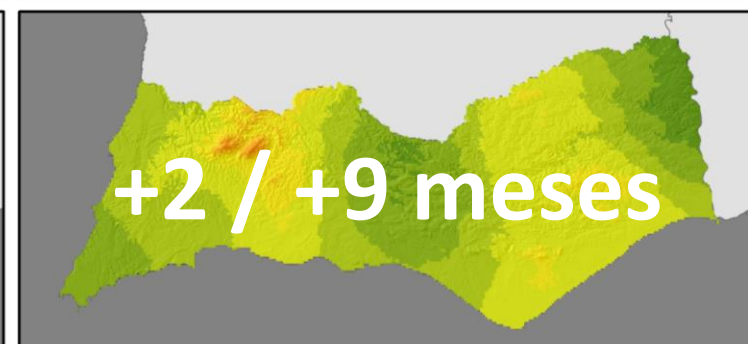
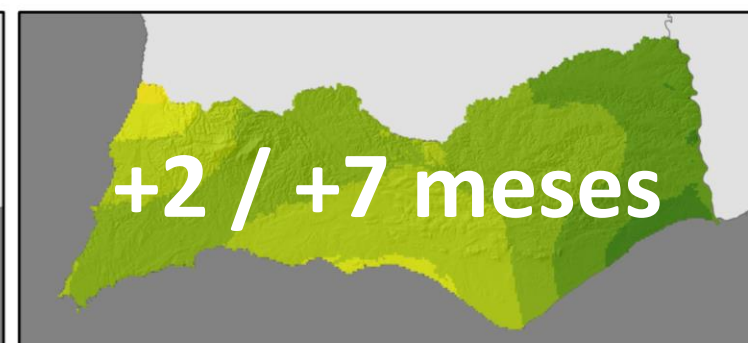
Anomalia na duração máxima em seca extrema



RCP4.5



RCP8.5



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Cheias e inundações



Cofinanciado por:



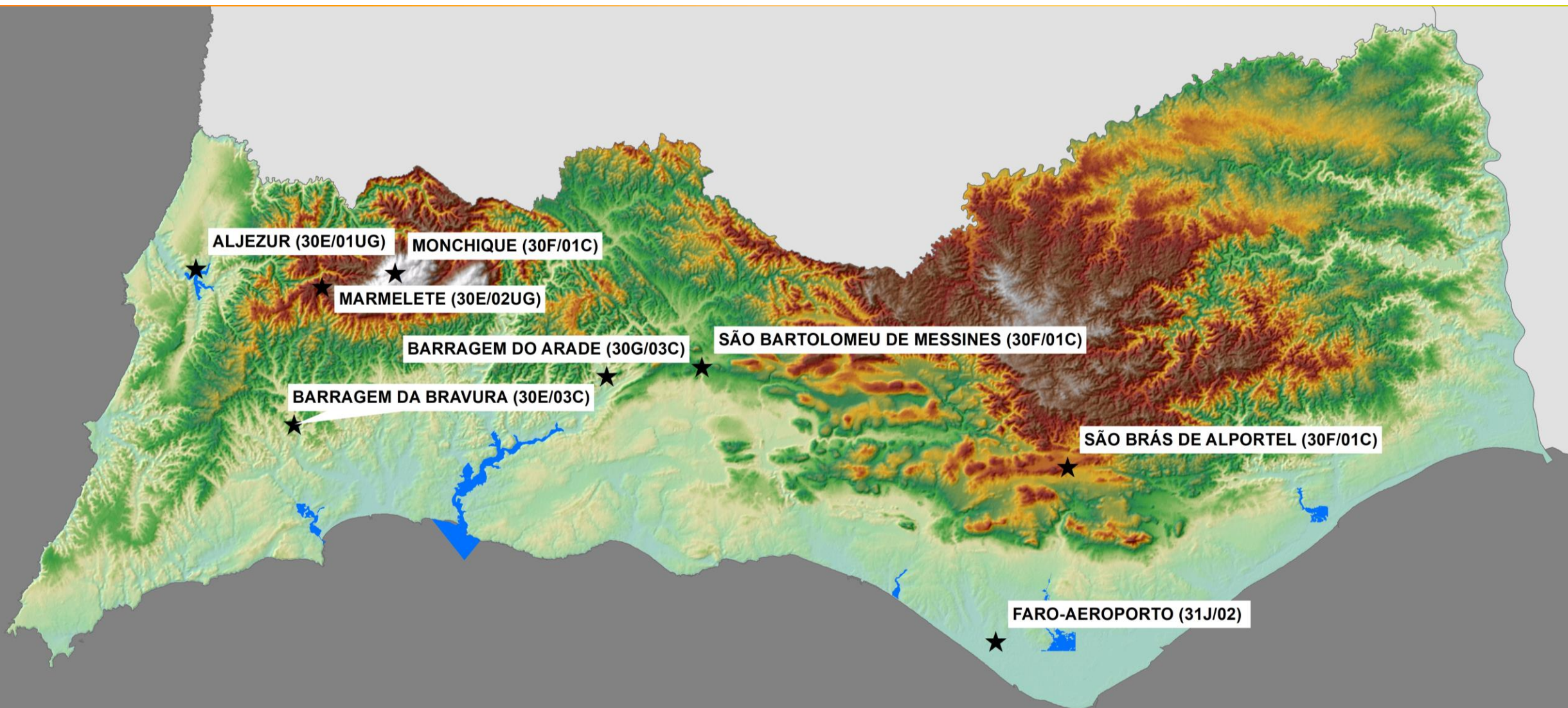
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CCCIAM
Centre for Climate Change Impacts Adaptation & Modelling



Cheias e inundações



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Cheias e inundações

São Brás de Alportel

Período de retorno de 20 anos	mm
	Alteração em %

1955-2002
Histórico
117,9
-

2011-2040		2041-2070		2071-2100	
RCP4.5	RCP8.5	RCP4.5	RCP8.5	RCP4.5	RCP8.5
158,0	138,5	164,9	147,9	154,4	170,1
34,0	17,4	39,8	25,4	31,0	44,2

Período de retorno de 100 anos	mm
	Alteração em %

1955-2002
Histórico
147,8
-

2011-2040		2041-2070		2071-2100	
RCP4.5	RCP8.5	RCP4.5	RCP8.5	RCP4.5	RCP8.5
206,7	178,1	215,4	190,3	200,4	245,9
39,9	20,5	45,7	28,7	35,6	66,4

Faro / Aeroporto

Período de retorno de 20 anos	mm
	Alteração em %

1975-2011
Histórico
106,8
-

2011-2040		2041-2070		2071-2100	
RCP4.5	RCP8.5	RCP4.5	RCP8.5	RCP4.5	RCP8.5
127,2	125,7	131,0	126,0	121,3	135,7
19,2	17,8	22,7	18,0	13,6	27,1

Período de retorno de 100 anos	mm
	Alteração em %

1975-2011
Histórico
142,4
-

2011-2040		2041-2070		2071-2100	
RCP4.5	RCP8.5	RCP4.5	RCP8.5	RCP4.5	RCP8.5
172,9	173,1	184,2	171,3	163,0	211,6
21,4	21,5	29,3	20,3	14,5	48,6



Cofinanciado por:

Cheias e inundações

Presente



2070-2100



Presente



2070-2100



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Considerações finais

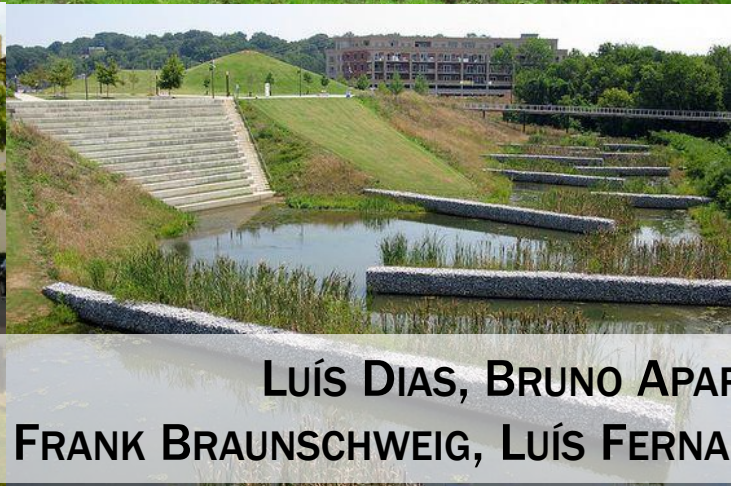
MODELO GLOBAL	MODELO REGIONAL	SETORES ENAAC 2020									
		RH	AGRI	BIODIV	ECON	ENER	FLOR	SH	SPB	TRANS	MAR
CNRM-CERFACS-CNRM-CM5	CLMCOM-CCLM 4-8-17	X	X	X	XX	X	XX	X	X	X	NA
	SMHI-RCA4	X	X	X	XX	X	XX	X	X	X	NA
ICHEC-EC-EARTH	CLMCOM-CCLM 4-8-17	X	X	X	XX	X	XX	X	X	X	NA
	DMI-HIRHAM5	X	X	X	XX	X	XX	X	X	X	NA
	KNMI-RACMO22E	X	X	X	XX	X	XX	X	X	X	NA
	SMHI-RCA4	X	X	X	XX	X	XX	X	X	X	NA
IPSL-CM5A-MR	IPSL-INERIS-WRF 3.3.1	X	X	X	XX	X	XX	X	X	X	NA
	SMHI-RCA4						X				NA
MPI-ESM-LR	CLMCOM-CCLM 4-8-17	X	X	X	XX	X	XX	X	X	X	NA
	SMHI-RCA4	X	X	X	XX	X	XX	X	X	X	NA
MOHC-HadGEM2-ES	SMHI-RCA4						X				NA

Fonte de dados base: EuroCordex

Fonte de dados base: Portal do Clima



OBRIGADO PELA ATENÇÃO



**LUÍS DIAS, BRUNO APARÍCIO, SIDNEY LUCAS (CCIAM)
FRANK BRAUNSCHWEIG, LUÍS FERNANDES, DAVID BRITO (BENTLEY)**



LFDIAS@FC.UL.PT

**PROJETO PIAAC – AMAL
FARO, 2 JULHO DE 2018**

Consórcio:



Cofinanciado por:



Coordenado por:



Elaborado por:



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Comunicado por:



Cofinanciado por:



UNIÃO EUROPEIA

Fundo de Coesão