LIFE ADAPT CALA MILLOR

Diagnòstic del sistema platja i escenaris de futur per a Cala Millor

Cofinanciado por la Unión Europea

11.06.2026 – Taller de capacitació administracions locals i entitats socioeconòmiques

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Cofinanciado por la Unión Europea

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Equipo de trabajo D.3.4

0.1 Dimensión física

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02. Dimensión ambiental

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03. Dimensión socio-económica

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Elena Sánchez-García
Lluís Gómez-Pujol

04. Dimensión urbana

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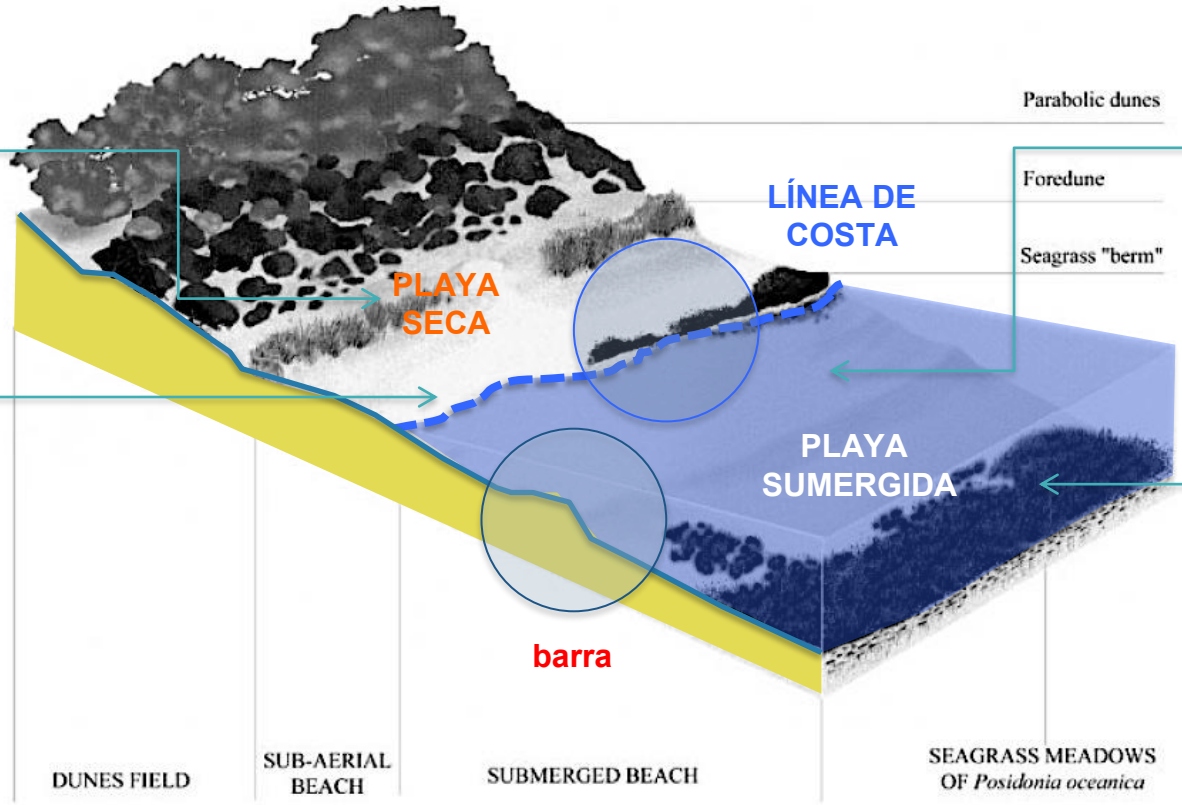
Elena Sánchez-García

05. Cartografía impactos

Elena Sánchez-García *
Daniel García Veira

Concepte de platja

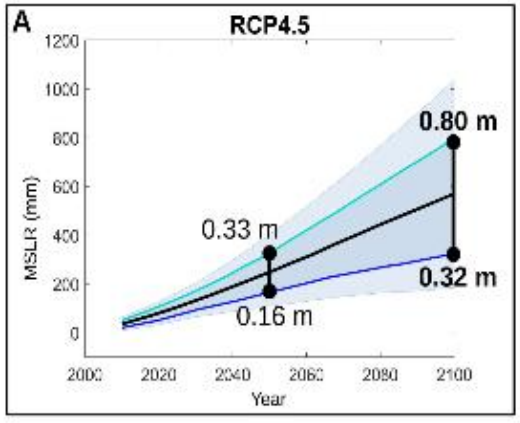


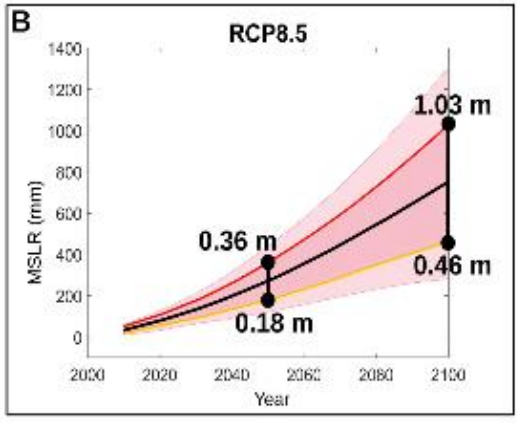
Bloc diagrama de Garcia i Servera (2003)

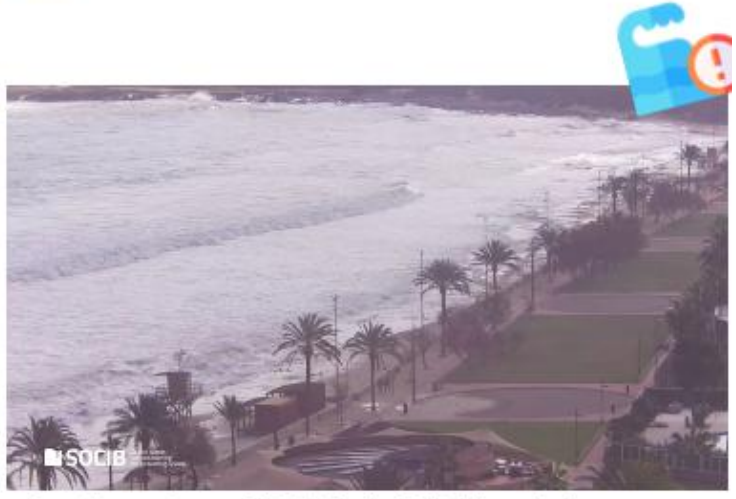
Perill, exposició, vulnerabilitat i risc

Cómo evaluamos el riesgo para el CLM actual?

Perill, exposició, vulnerabilitat i risc



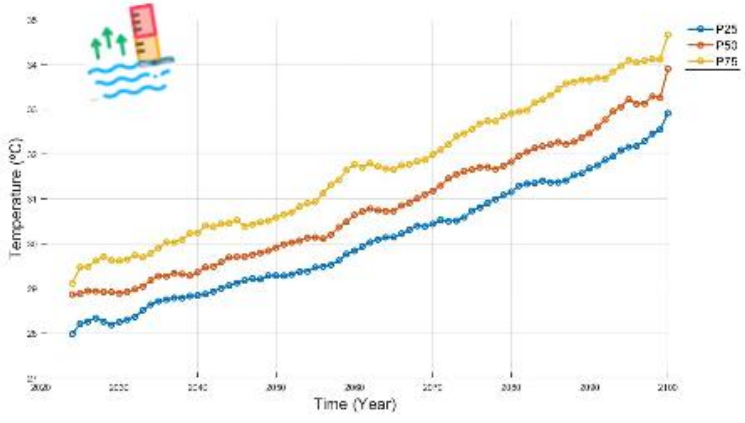




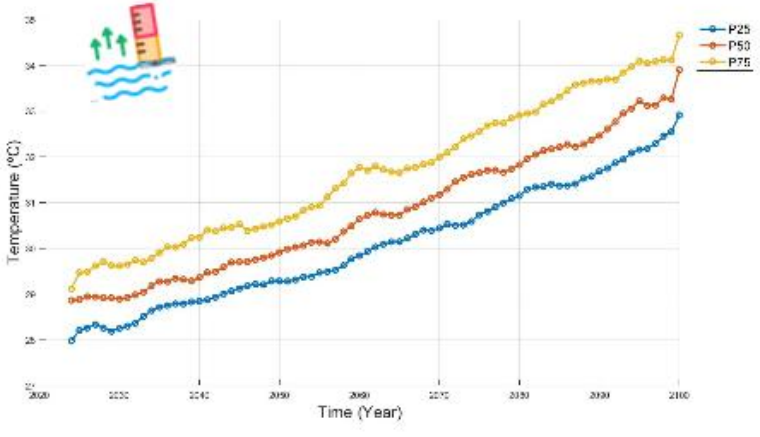
Storm Harry on January 21, 2026, by the SOCIB videomonitoring system

Perill, exposició, vulnerabilitat i risc

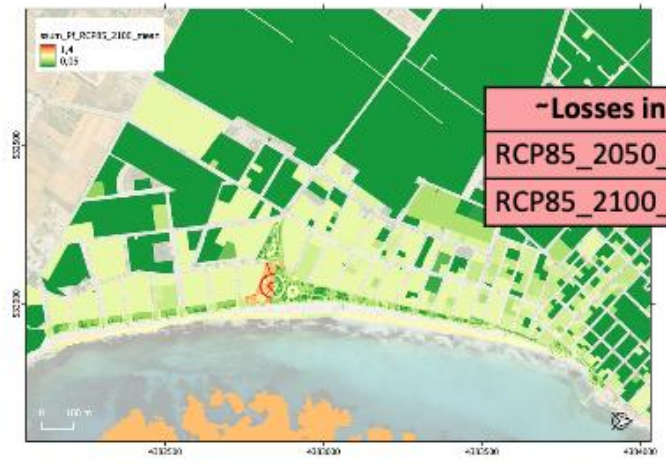
Daily values in ºC (Average of June, July and August)			
RCP 8.5			
YEAR	P25	P50	P75
2024	24.04	**24.77**	25.20
2030	23.41	25.01	25.83
2050	24.87	**26.06**	26.62
2100	28.62	29.41	29.91



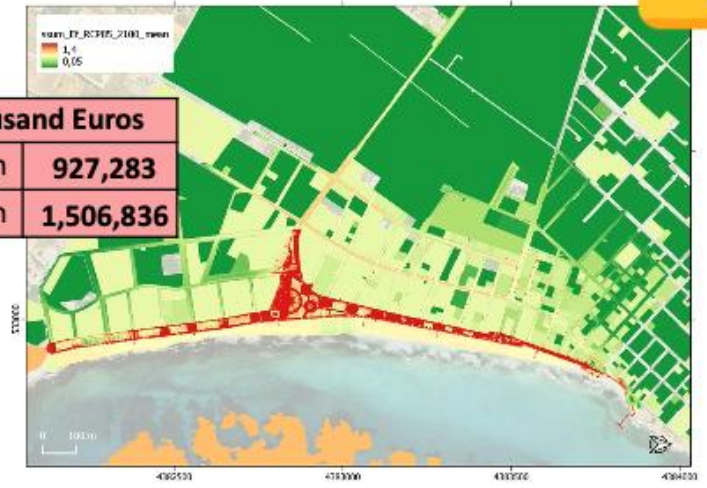
Perill, exposició, vulnerabilitat i risc



Perill, exposició, vulnerabilitat i risc



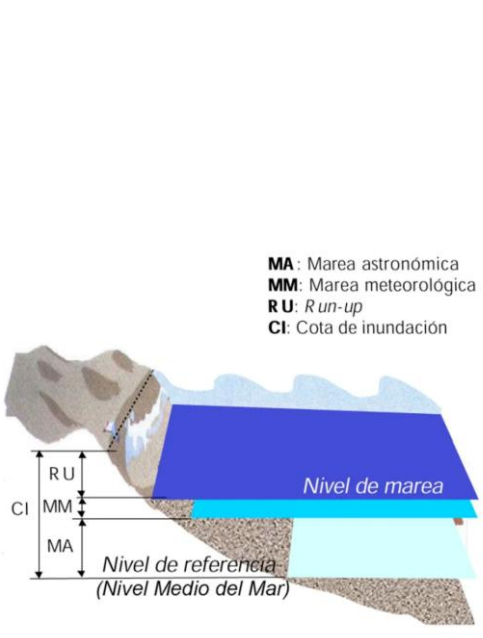
~Losses in Thousand Euros	
RCP85_2050_mean	927,283
RCP85_2100_mean	1,506,836

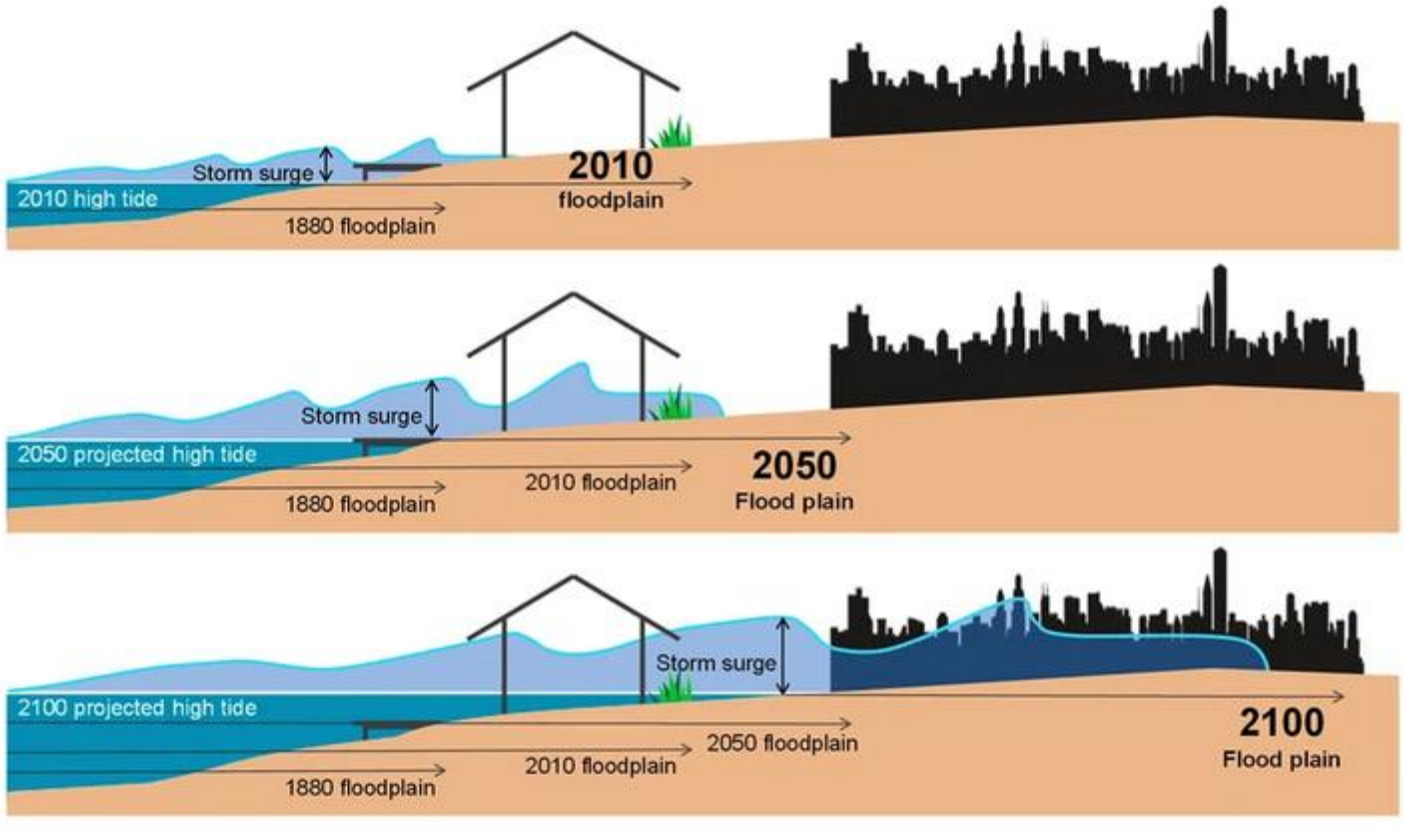


Cumulative MRA values -per cell map- for Pf- RCP8.5 2100

Cumulative MRA values -per cell map- for Ef- RCP8.5 2100

Perill, exposició, vulnerabilitat i risc



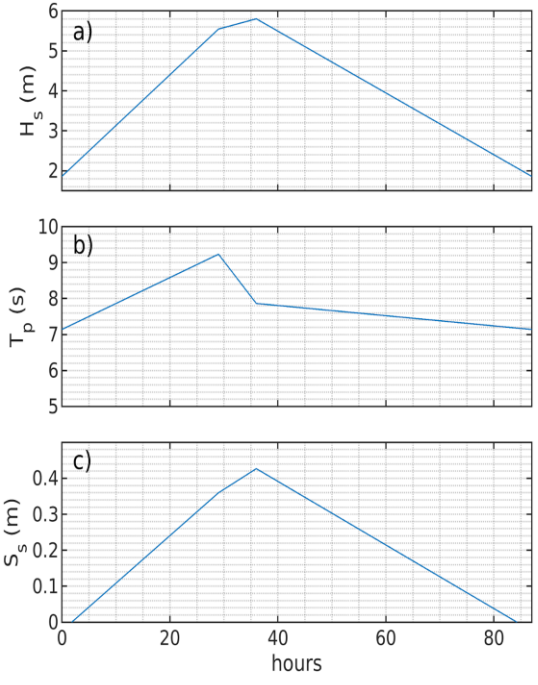


Schematic illustrating the risk of coastal flooding under the present and future climates (Andersen and Shepherd, 2013; Kriebel and Geiman, 2014; Moftakhari et al., 2017a; Schindelegger et al., 2018).

Propagacions per simular l'impacte sobre els elements exposats

IPCC Sc	Forcing	Current (2023)	2030	2050	2100
RCP-4.5	Sea level		PERMANENT (Pf)	PERMANENT (Pf)	PERMANENT (Pf)
	Sea level + wave and storm surge T100	EXTREME (Ef_P0)	EXTREME (Ef_P0)	EXTREME (Ef_P0)	EXTREME (Ef_P0)
	Sea level + wave and storm surge T100 Corresponding *P. oceanica* meadow		EXTREME (Ef_Pt)	EXTREME (Ef_Pt)	EXTREME (Ef_Pt)
RCP-8.5	Sea-level		PERMANENT (Pf)	PERMANENT (Pf)	PERMANENT (Pf)
	Sealevel + wave and storm surge T100		EXTREME (Ef_P0)	EXTREME (Ef_P0)	EXTREME (Ef_P0)
	Sea level + wave and storm surge T100 Corresponding *P. oceanica* meadow		EXTREME (Ef_Pt)	EXTREME (Ef_Pt)	EXTREME (Ef_Pt)

Summary of simulations and resulting flooding events for Cala Millor.



Synthetic reference storm of T100 for Cala Millor: a) Significant wave height; b) Peak period and c) Storm surge.

El problema important a mig termini (2050 o 2030): SLR

RCP scenario	Time-horizon	Pf (m^2)	Ef (Po) (m^2)	Ef (Pt) (m^2)	Beach width (m)
-	2024	-	71,400	-	32.75
RCP4.5	2030	4,900 (2,800; 8,075)	78,500 (74,500; 83,500)	75,100 (72,000; 79,600)	26.1 (24,08; 27.6)
	2050	8,375 (4,025; 14,700)	83,700 (78,500; 91,800)	87,400 (78,200; 101,900)	23.91 (19.78; 26.71)
	2100	19,300 (8,975; 31,700)	112,500 (86,800; 205,100)	117,200 (101,500; 240,500)	16.84 (9.16; 23.51)
RCP8.5	2030	4,900 (2,925; 8,075)	78,200 (71,400; 82,400)	74,700 (69,800; 77,400)	26.1 (24.08; 27.49)
	2050	8,975 (4,550; 15,750)	82,600 (79,400; 94,300)	91,500 (81,000; 98,400)	23.51 (19.10; 26.33)
	2100	24,425 (15,750; 43,900)	145,700 (100,800; 723,600)	155,100 (101,200; 190,850)	13.61 (1.69; 19.1)

Flooded surface in m^2 from 2024's emerged part in the different climatic scenarios and for the three confidence intervals (min, mean, max). The flooded maps considered are "Permanent flooding (Pf)"; "Extreme flooding with Posidonia oceanica of current state (Ef-Po)"; "Extreme flooding with Posidonia oceanica dependent on the scenario (Ef-Pt)". Finally the average value of the beach width in m.

El problema important a mig termini (2050 o 2030): **SLR**

PERMANENT FLOODING

RCP-4.5

RCP-8.5

2030 *2050* *2100*

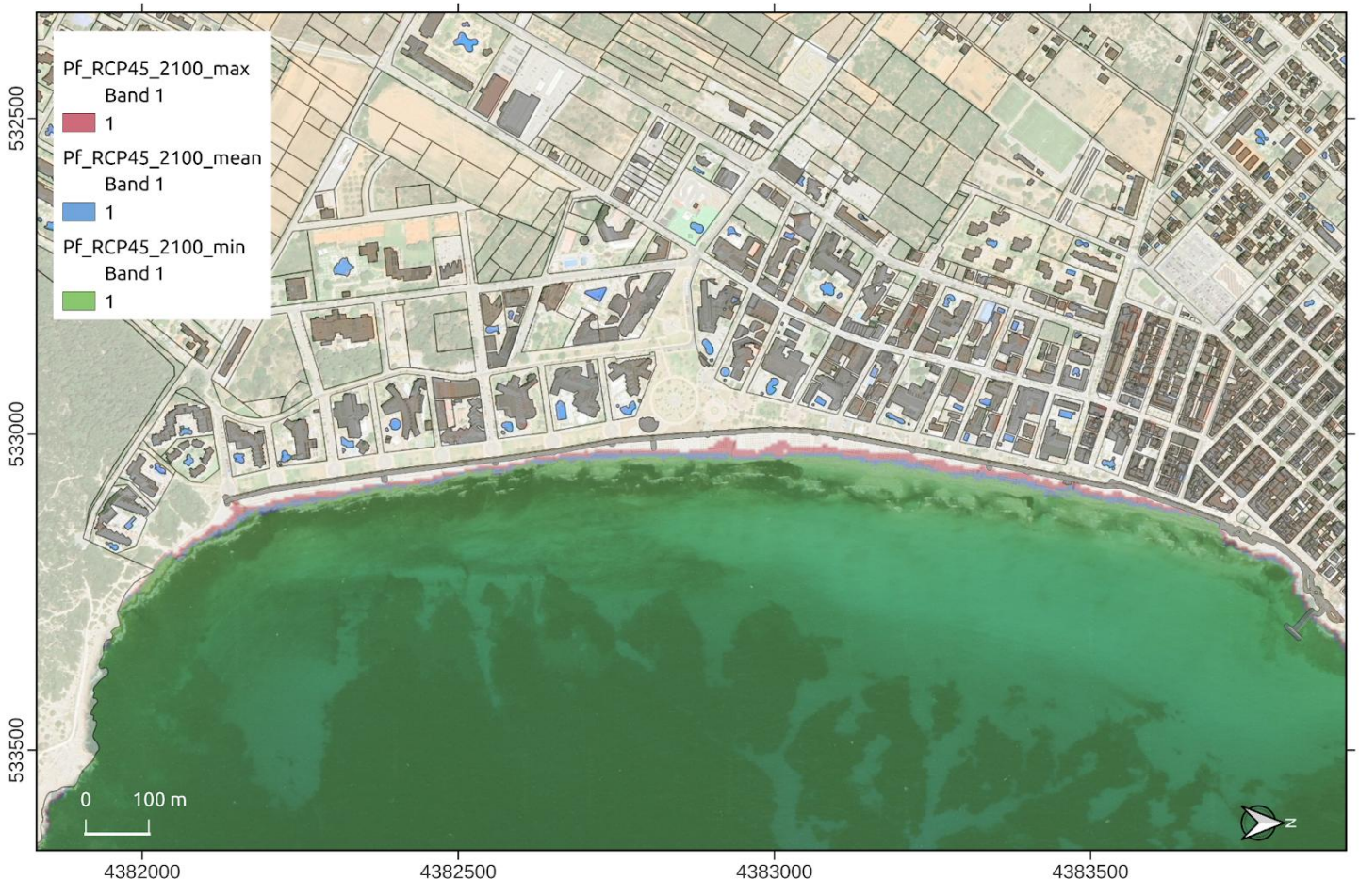
El problema important a mig termini (2050 o 2030): SLR

PERMANENT FLOODING
2050 RCP 4.5

El problema important a mig termini (2050 o 2030): SLR

PERMANENT FLOODING
2050 RCP 8.5

El problema important a mig termini (2050 o 2030): **SLR**



PERMANENT FLOODING
2100 RCP 4.5

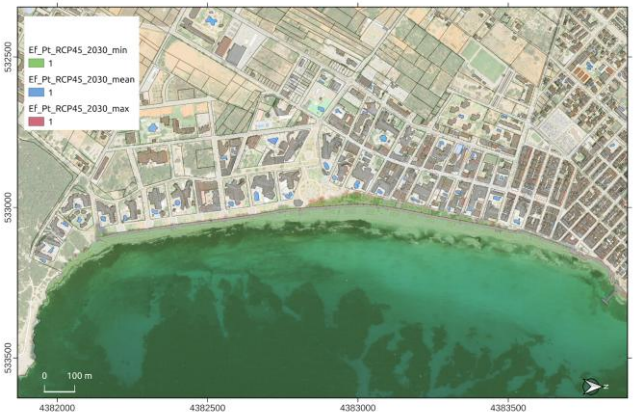
El problema important a mig termini (2050 o 2030): SLR

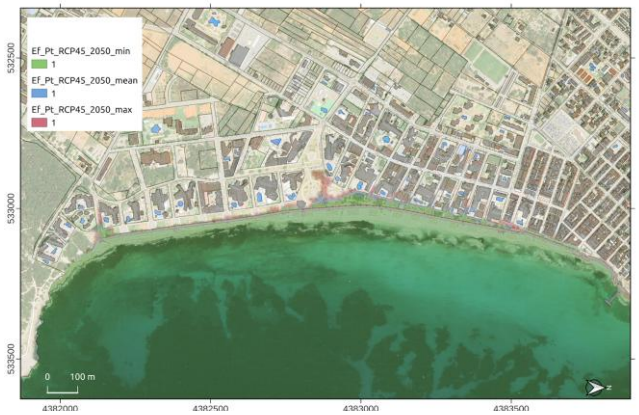
PERMANENT FLOODING
2100 RCP 8.5

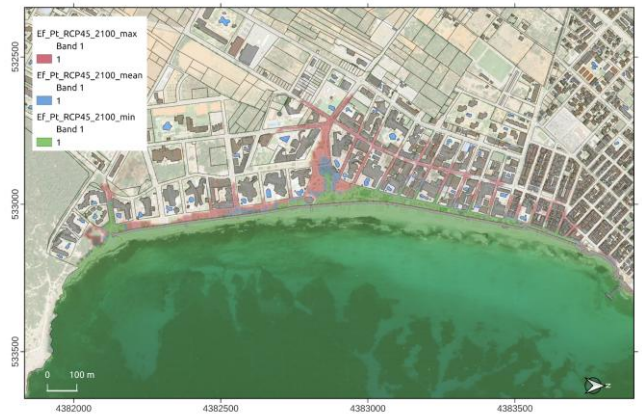
El problema important a mig termini (2050 o 2030): **SLR**

EXTREME FLOODING (including changes on seagrass meadow dissipation)

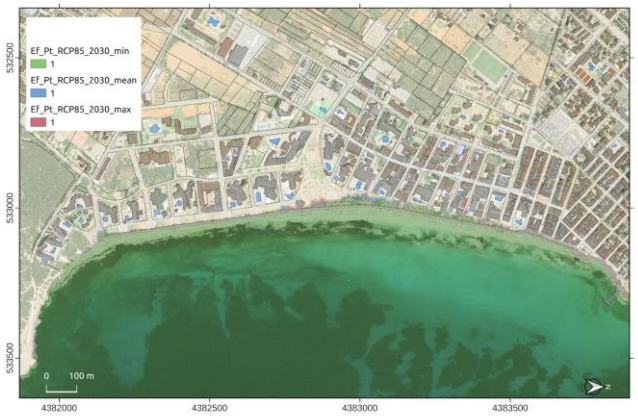
RCP-4.5

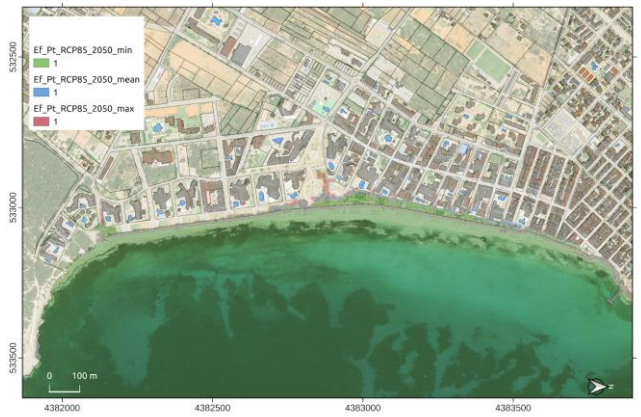






RCP-8.5





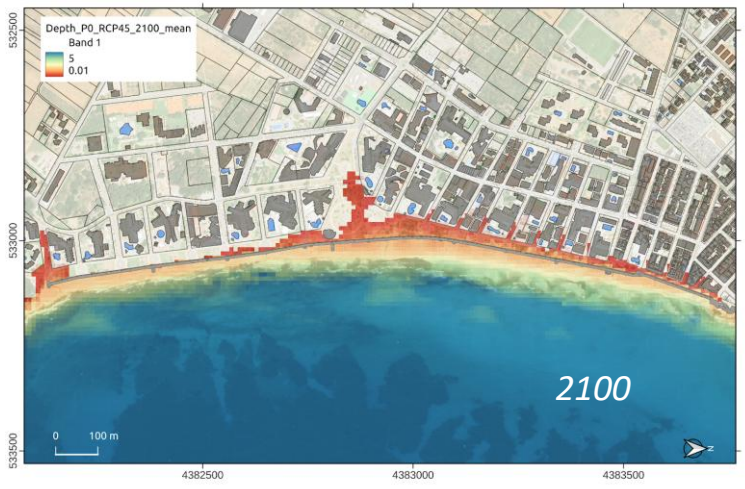
2030 *2050* *2100*

El problema important a mig termini (2050 o 2030): **SLR**

Extreme Mean flooding water depth (m) for invariant seagrass meadow

RCP-4.5

RCP-8.5



Mean flooding water depth (m) for dependent seagrass meadow

El problema important a mig termini (2050 o 2030): **SLR**

		Lost Value in thousand euros (in percentage)		
		Min/P25	Mean/P50	Max/P75
RCP4.5	2030	672,280 (25.1%)	765,009 (28.6%)	880,919 (33.0%)
	2050	741,826 (27.7%)	904,101 (33.8%)	1,135,922 (42.5%)
	2100	927,283 (34.7%)	1,321,379 (49.4%)	1,785,021 (66.8%)
RCP8.5	2030	695,462 (26.0%)	765,009 (28.6%)	1,112,740 (41.6%)
	2050	765,009 (28.6%)	927,283 (34.7%)	1,275,015 (47.7%)
	2100	1,182,287 (44.2%)	1,506,836 (56.4%)	2,225,481 (83.2%)

Table 17. *Projected Lost economic value in thousand euros and in percentage during the period 2024-2100 under scenarios RCP4.5 and RCP8.5*

The total economic value of the Cala Millor area has been estimated at 2.673 billion euros. Rising temperatures, but especially the loss of beach surface area due to climate change, will lead to a loss in value of the area of between 25% and 83% depending on the scenario considered.