

Cala Millor 2013

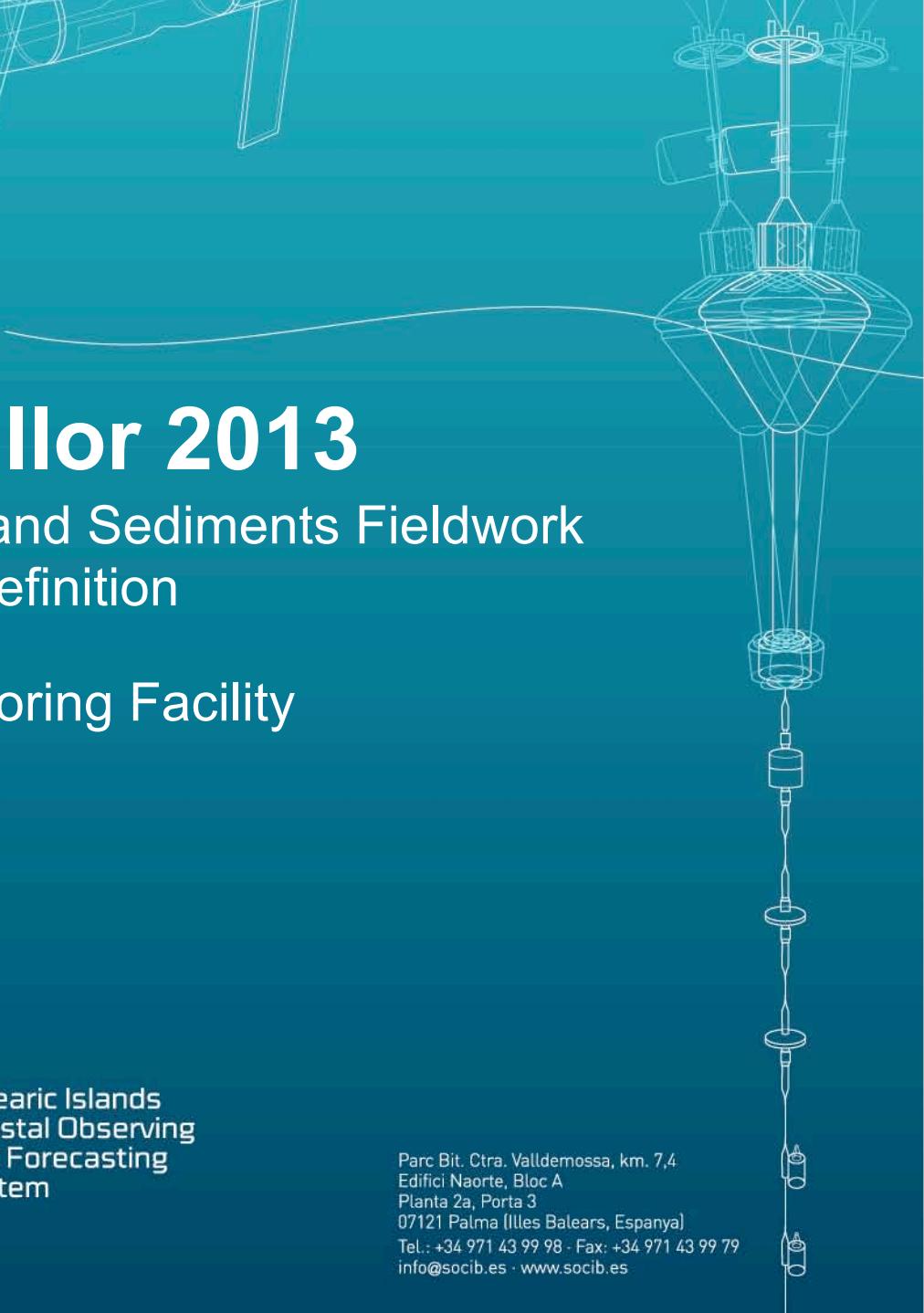
Bathymetry and Sediments Fieldwork
Campaign Definition

Beach Monitoring Facility



Balearic Islands
Coastal Observing
and Forecasting
System

Parc Bit. Ctra. Valldemossa, km. 7,4
Edifici Naorte, Bloc A
Planta 2a, Porta 3
07121 Palma (Illes Balears, Espanya)
Tel.: +34 971 43 99 98 - Fax: +34 971 43 99 79
info@socib.es · www.socib.es



VERSION	DATE	DESCRIPTION	AUTHOR	OBSERVATIONS
1	01.06.2013	Writing	LGP	

Scientific and technological aims

The fieldwork campaign is prepared to address four major scientific-operational issues according to SOCIB implementation plan:

1. to provide a continuous dataset on beach topography-bathymetry evolution and sediment characteristics.
2. AWAC maintenance
3. Weather station maintenance

Participants and logistics

Participants

Name	Division and filiation	Contact details
Álvarez-Ellacuría, A.	BMF, SOCIB	a.alvarez@socib.es 649626383
Gómez-Pujol, L.	BMF, SOCIB	lgomez-pujol@uib.es 661728393
Lizarán Esperilla, I.	ETD, SOCIB	ilizaran@socib.es 652032175
Castilla Álvarez, C.	ETD, SOCIB	ccastilla@socib.es 610883847
Balaguer Huguet, P.	ETD, SOCIB	pablo.balaguer@socib.es 616819878
Font, J.	BMF, SOCIB (BEC. SANTANDER)	

Tasks

	Task	People	Dates	Observations
1	Sea equipment preliminary works	ILE	17.06.13	
2	Beach equipment preliminary works	AAE, LGP	17.06.13	
3	Harbour needs and local contacts	LGP	17.06.13	
4	Boat preliminary works	ILE, PBH	18.06.13	
5	SIRENA maintenance and weather station calibration	AAE, CCA	18.06.13	
6	Dry beach survey	AAE	19.06.13	
7	Shallow water beach survey	LGP, JF	19.06.13	
8	Ecosounding profile	ILE, PBH	19.06.13	
9	Ecosounding transect	ILE, PBH	20.06.13	
10	Calibration RTK vs ecosounding	ILE, PBH LGP	20.06.13	
11	Dry beach sediment survey	LGP, JF	20.06.13	
12	Beach sediment sampling	ILE, PBH, JF, LGP	21.06.13	
13	AWAC maintenance	ILE, PBH, CCA, BCP	17.06.13	
14	RTK pre-process	AAE	24 a 29.06.13	
15	Ecosounding pre-process	ILE	24 a 29.06.13	
16	Beach survey post-process	LGP	01 a 05.07.13	
17	Sediment pre-process	LGP	24 a 29.06.13	
18	Sediment post-process	LGP	01 a 05.07.13	

Logistics

MON	JN17 Harbour needs and local contacts (LGP) Sea preliminary works (ILE) Beach preliminary works (AAE, LGP)	JN24	JN01
TUE	JN18 Boat preliminary works (ILE, CCA) AWAC maintenance (CCA, BCP, ILE)	JN25	JL02
WED	JN19 SIRENA maintenance (AAE) Dry beachsurvey (AAE) Shallow water survey (LGP, JF) Ecosounding profile (ILE, CCA) Calibration RTK vs ecosounding (ILE, CCA, AAE)	JN26	JN03
THU	JN20 Ecosounding transect (ILE, CCA) Dry beach sediment sampling (LGP, JF)	JN27	JN04
FRI	JN21 Sediment sampling (ILE, CCA, LGP, JF)	JN28	JN05
SAT	JN22	JN29	JN06
SUN	J23	JN30	JN07

Harbour needs and navigational warnings

For fieldwork campaign purposes the pneumatic boat should remain and operate few days at Cala Bona Port. Contact details are:

Port Cala Bona
c/ Explanada port s/n
Telf. 971 586 256
Fax. 971 586 256
E-mail: port.calabona@portsib.es

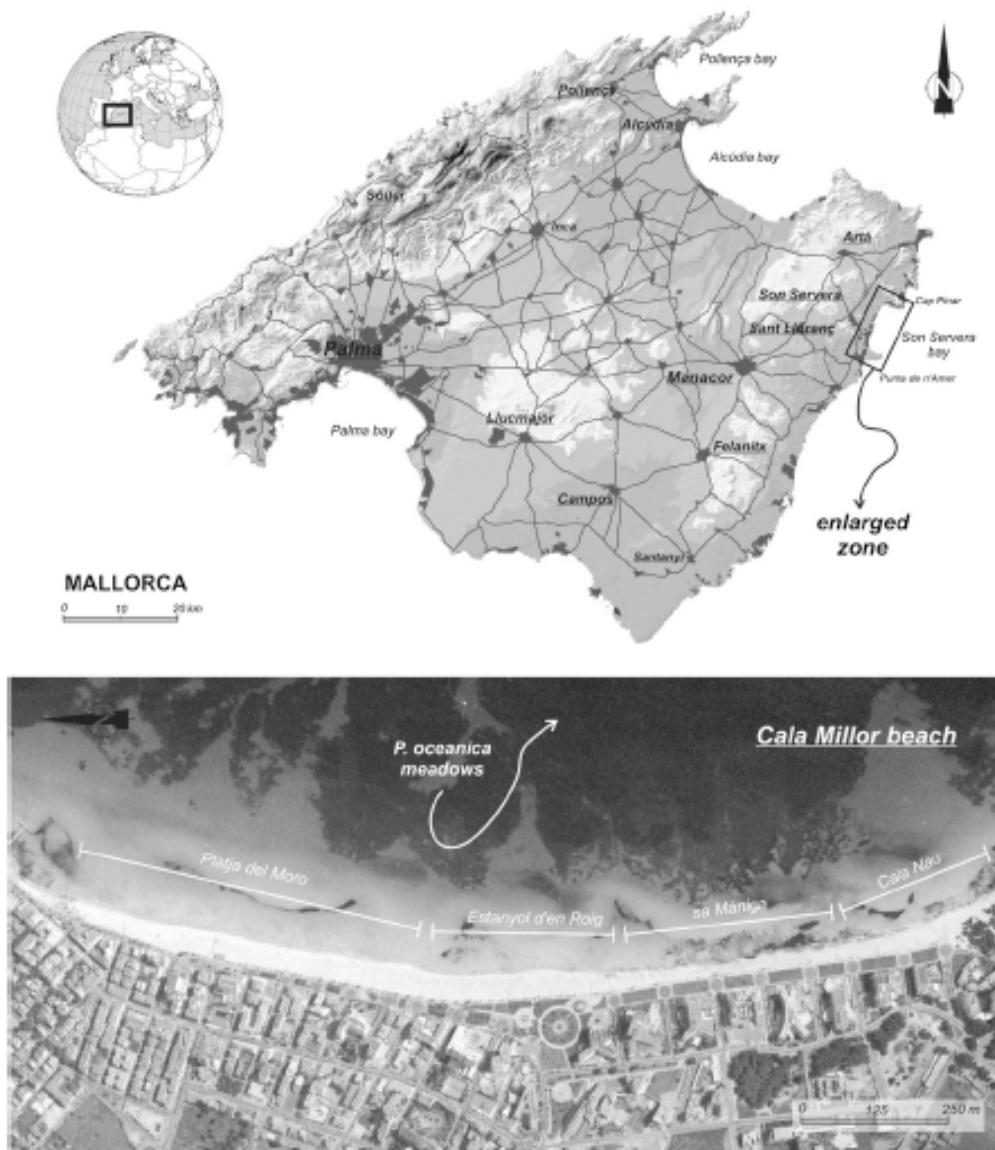
Sea-works authorization application to:

Demarcación de Costas en Islas Baleares
c/ Ciudad de Queretaro s/n
07007 Palma
Telf. 971 774 949

Fieldwork campaign definition

Environmental properties

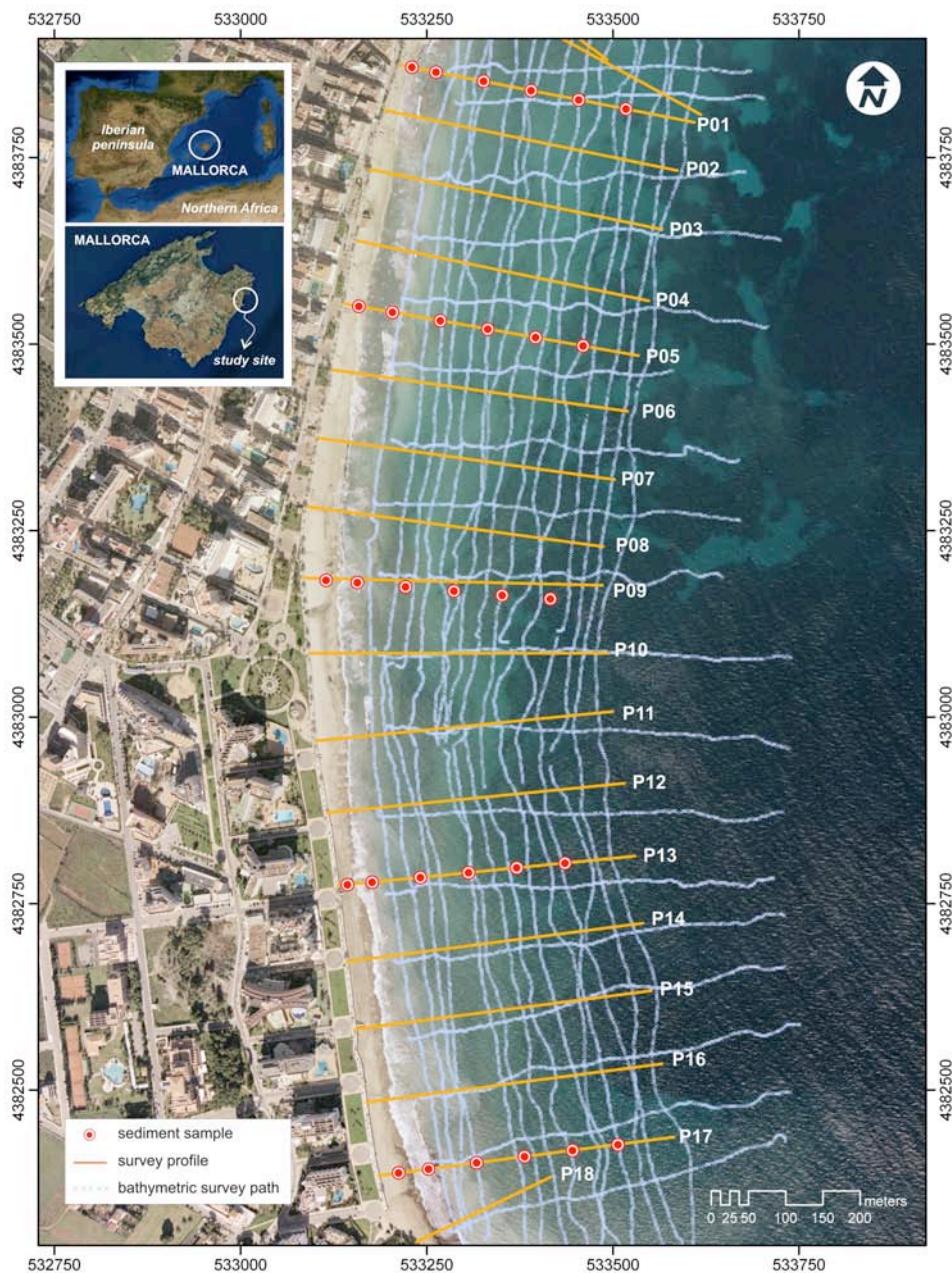
The study area is a seaside tourist resort located in the eastern coast of Mallorca, at the Bay of Son Servera. The Bay is characterized by a maximum depth of around 25 m at 7 km from the coastline which reduces to 8 m at 300 m from the coastline. Water clarity is high around the Balearic ramp because there is virtually no fluvial input from the island and continental sedimentation is minimal. Waves approaching from NE and ESE come into the bay through northern and southern mouths, respectively. Meteorological and wave observations from Puertos del Estado (<http://www.puertos.es>) show that waves with significant height over 1 m act on the beach just during the 2% of the days of a year. Forcing by tides is almost negligible in the Mediterranean with a spring tidal range of less than 0.25 m, although combined changes between tides, atmospheric pressure and wind setup can account for sea level elevations close to 1 m.



Campaign specifications

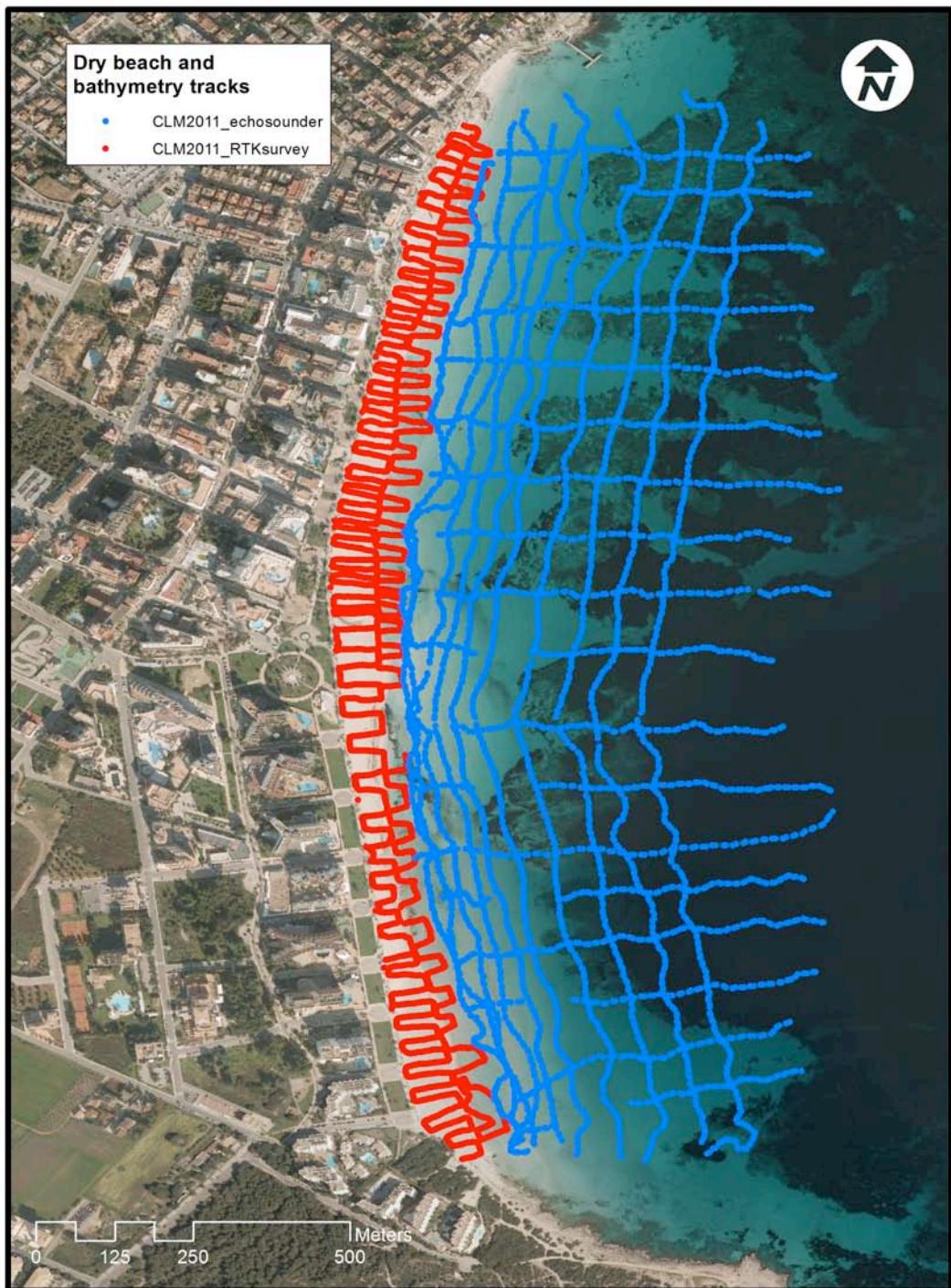
The aim of the fieldwork campaign at Cala Millor consists on providing the annual dataset described at SOCIB - MTB MF implementation plan. Main products would be:

- a high resolution 18 profiles from 0 to 5 m depth and lower resolution bathymetry from 5 to 10 m depth.
- SIRENA station maintenance
- AWAC maintenance



Bathymetric survey

Aprox. 40 km of bathymetric survey path, 18 profiles, 10 transects



Sediment survey

Between the subaerial beach and 10 m water depth 43 sediment samples were collected at Cala Millor beach by means of an Eckman drag or using a plastic bag inserted in an oval metallic frame. The weight of the samples ranged from 200 to 500 g. The location and depth of each sediment samples was surveyed by echosounder, in the case of submerged beach samples, or by a GPS-RTK in the case of subaerial beach. Both sets of coordinates were referred to the *Red Nacional de Nivelación Geométrica de Alta Precisión* from *Instituto Geográfico Nacional* by means of the Active Geodetic Network of the Balearic Islands (XGAIB) within the official framework of the European Geodetic ETRS89.

