

# Son Bou 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](mailto:info@socib.es) · [www.socib.es](http://www.socib.es)

VERSIÓN	FECHA	DESCRIPCIÓN CAMBIOS	AUTOR	SUPERVISIÓN
1	01.05.2013	Redacción	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. to improve georeference points for 1 SIRENA camera
3. to revise power supply to SIRENA station
4. AWAC maintenance
5. Weather station maintenance

# Participants and logistics

## Participants

Name	Division and filiation	Contact details
Álvarez-Ellacuría, A.	BMF, SOCIB	<a href="mailto:a.alvarez@socib.es">a.alvarez@socib.es</a> 649626383
Gómez-Pujol, L.	BMF, SOCIB	<a href="mailto:lgomez-pujol@uib.es">lgomez-pujol@uib.es</a> 661728393
Lizarán Esperilla, I.	ETD, SOCIB	<a href="mailto:ilizaran@socib.es">ilizaran@socib.es</a> 652032175
Castilla Álvarez, C.	ETD, SOCIB	<a href="mailto:ccastilla@socib.es">ccastilla@socib.es</a> 610883847
Balaguer Huguet, P.	ETD, SOCIB	<a href="mailto:pablo.balaguer@socib.es">pablo.balaguer@socib.es</a> 616819878
David Roque	CSIC	971611835

## Tasks

	Task	People	Dates	Observations
1	Sea equipment preliminary works	ILE	03.05.13	
2	Beach equipment preliminary works	AAE, LGP	03.05.13	
3	Harbour needs and local contacts	LGP	02.05.13	
4	SIRENA maintenance	AAE, LGP	06.05.13	
5	Dry beach sediment sampling	AAE, LGP	06.05.13	
6	Camera control point survey	AAE, PBH	06.05.13	
7	Dry beach survey	LGP	06.05.13	
8	Boat preliminary works	CCA, ILE, PBH, DR	06.05.13	
9	Ecosounding: profiles	CCA, ILE, DR	06.05.13	
10	Shallow water beach survey	LGP, PBH	07.05.13	
11	Revision of SIRENA power supply	AAE, CCA	07.05.13	
12	Calibration RTK vs ecosounding	LGP	07.05.13	
13	Ecosounding: profiles	ILE, DR, CCA, PBH	07.05.13	
14	Ecosounding: transects	ILE, DR, CCA, PBH	07.05.13	
15	Sediment sampling	LGP, ILE, CCA, PBH, DR	08.05.13	
16	Ecosounding: transects	ILE, CCA, PBH, DR	08.05.13	
17	AWAC maintenance	ILE, CCA, PBH, DR	09.05.13	
18	Ecosounding data pre-process	ILE	13-17.05.13	
19	RTK data pre-process	AAE	13-17.05.13	
20	Survey data post-process	LGP	20-25.05.13	
21	Sediments analyses	LGP	27-31.05.13	

## Logistics

<b>MON</b>	<b>A29</b>	<b>M06</b> SIRENA maintenance (AAE, LGP) Dry beach sampling (AAE, LGP) Camera control point survey (AAE, PBH) Dry beach survey (LGP) Ecosounding - profiles (ILE, CCA, DR)	<b>M13</b>
<b>TUE</b>	<b>A30</b>	<b>M07</b> Shallow water survey (LGP, PBH) SIRENA power revision (AAE, CCA) Calibration RTK vs ECO (LGP, ILE, DR, PBH) Ecosounding – profiles and transects (ILE, DR, CCA, PBH)	<b>M14</b>
<b>WED</b>	<b>M01</b>	<b>M08</b> Sediment sampling (LGP, ILE, CCA, PBH, DR) Ecosounding – transects (ILE, DR, CCA, PBH)	<b>M15</b>
<b>THU</b>	<b>M02</b>	<b>M09</b> AWAC maintenance (ILE, DR, CCA, PBH)	<b>M16</b>
<b>FRI</b>	<b>M03</b> Sea preliminary works (ILE) Beach preliminary works (AAE, LGP) Harbour needs and local contacts (LGP)	<b>M10</b>	<b>M17</b>
<b>SAT</b>	<b>M04</b>	<b>M11</b>	<b>M18</b>
<b>SUN</b>	<b>M05</b>	<b>M12</b>	<b>M19</b>

## Harbour needs and navigational warnings

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

Xec Riera Pons  
Associació Amics des Riu de Cala Galdana  
Telf. 971 374 231  
E-mail: [xec@ccriera.com](mailto:xec@ccriera.com)

Mariner Cala Galdana: Joan, 650 58 57 37

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

Son Bou is a 2,6 km lineal beach located in the southern coast of Menorca. It's a classical beach-longitudinal barrier that separates a lagoon of from the sea. From a morphodynamic point of view, Son Bou is an intermediate beach with a configuration of transverse and crescentic bars. The sediment consists of medium carbonate bioclastic sands, being the median sediment size ( $D_{50}$ ) on the beach around 0.22 mm. *P. oceanica* meadows appears at 8 m in depth nearly a hundred meters from the shoreline. Beach rocks and other reef structures appear close to the coastline.



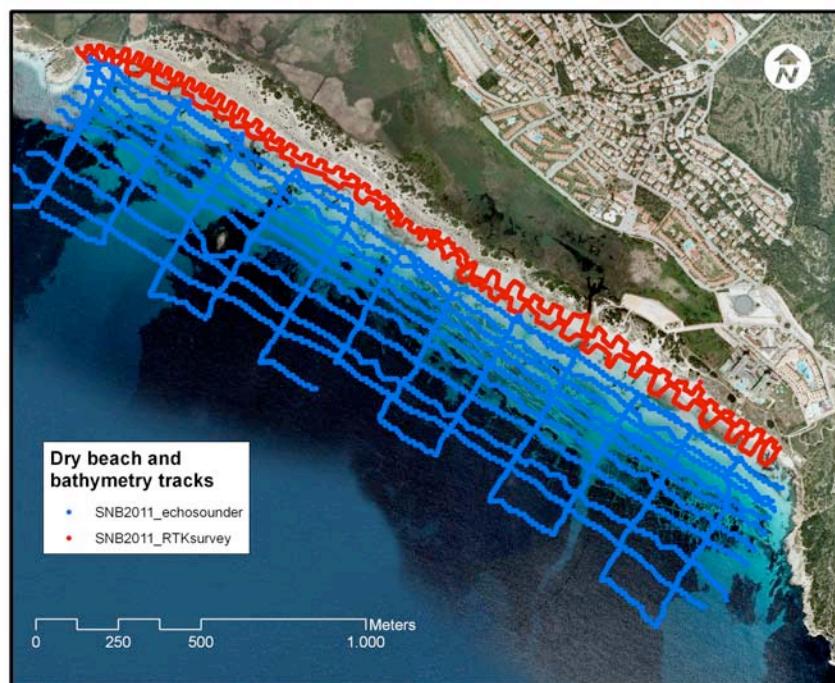
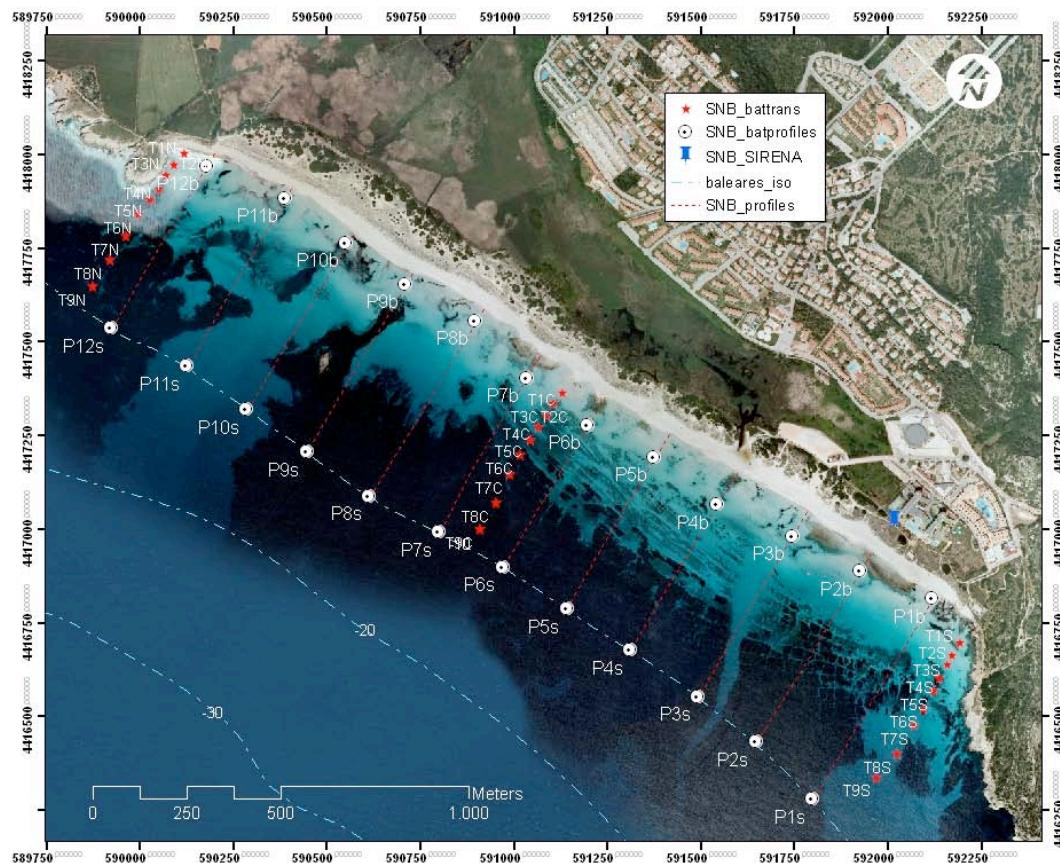
## Campaign specifications

The aim of the fieldwork campaign at Son Bou consists on providing the annual dataset described at SOCIB - MTBFM implementation plan. Main products would be:

- a high resolution 12 profiles from 0 to 5 m depth and lower resolution bathymetry from 5 to 10 m depth.
- Cameras extrinsic geometric correction
- SIRENA station maintenance
- AWAC maintenance
- Weather station calibration

## Bathymetric survey

Aprox. 40 km of bathymetric survey path, 12 profile, 9 transects



## Sediment survey

Between the subaerial beach and 10 m water depth 58 sediment samples were collected at Son Bou 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.

