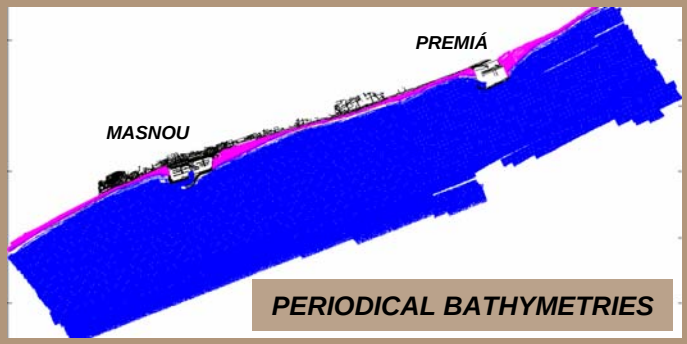
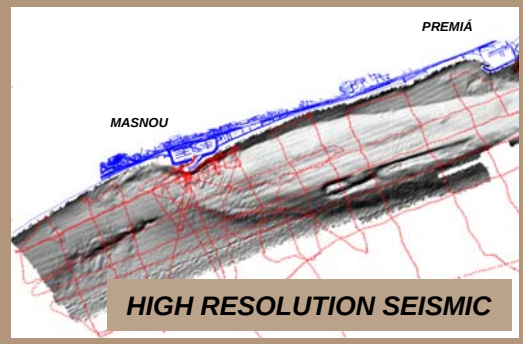
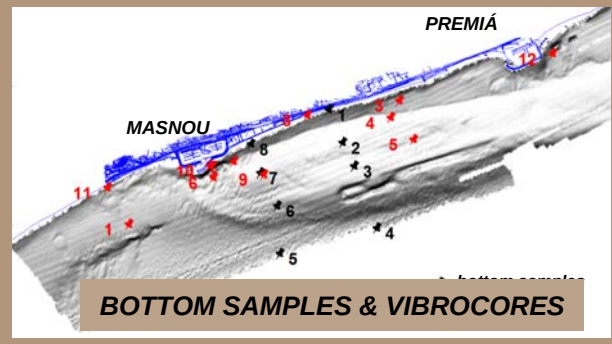
P1 ICM

Phase C. Progress

Montpellier, 29 nov. 07





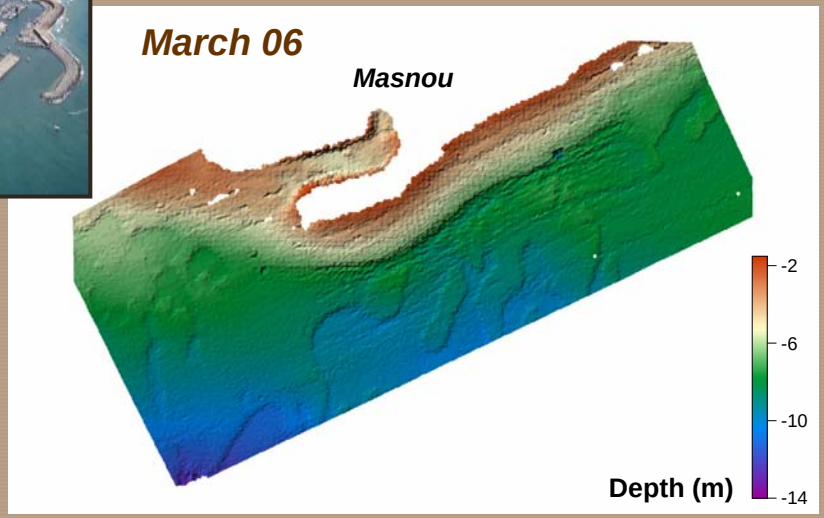


Summary of phase A → Phase B

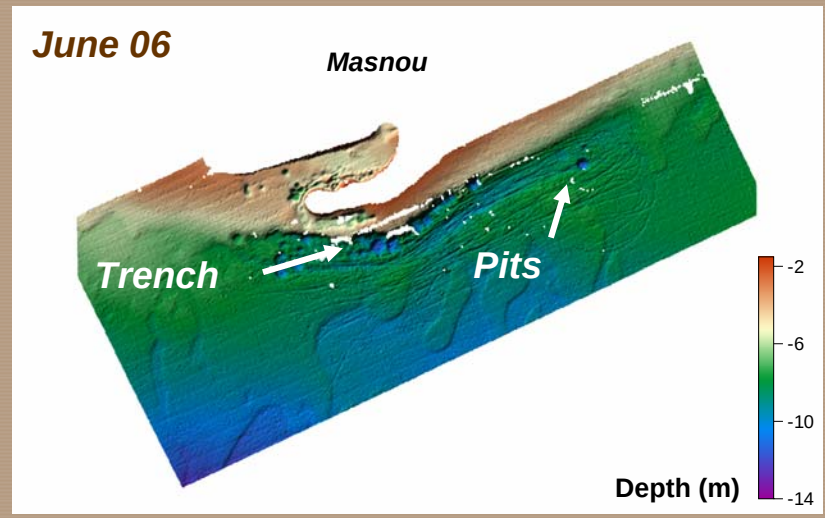
Problems	Main goals	Methodological approach
Infrastructure plays an important role in altering coastal processes Sand usually accumulates on one side of the port and erodes on the other. Periodical dredges Beach nourishment	**Sand stocks availability** (borrow areas) **Morphodynamic evolution**	**Infralittoral wedge** (HRS, bathymetry, vibrocorer) **Sand intercepted by coastal structures** (HRS, bathymetry, vibrocorer) **Sedimentary dynamic** (numerical models)

PHASE C. PROGRESS

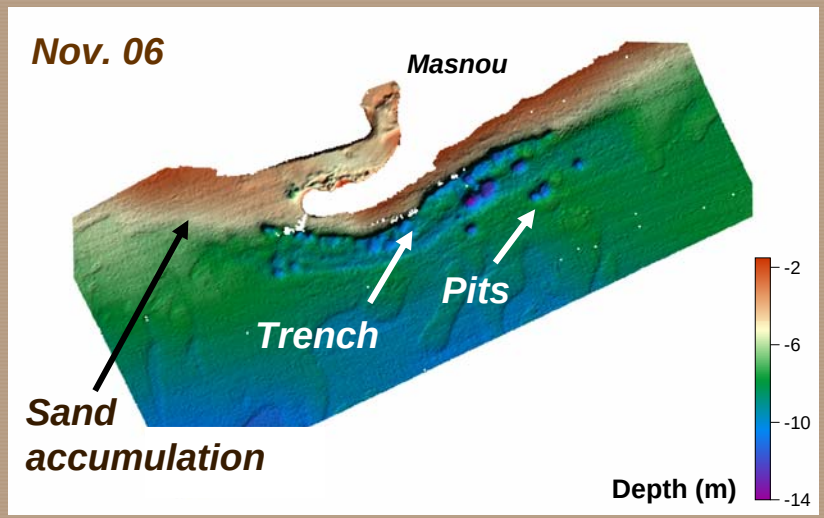
Masnou site. Study area of 1 km²



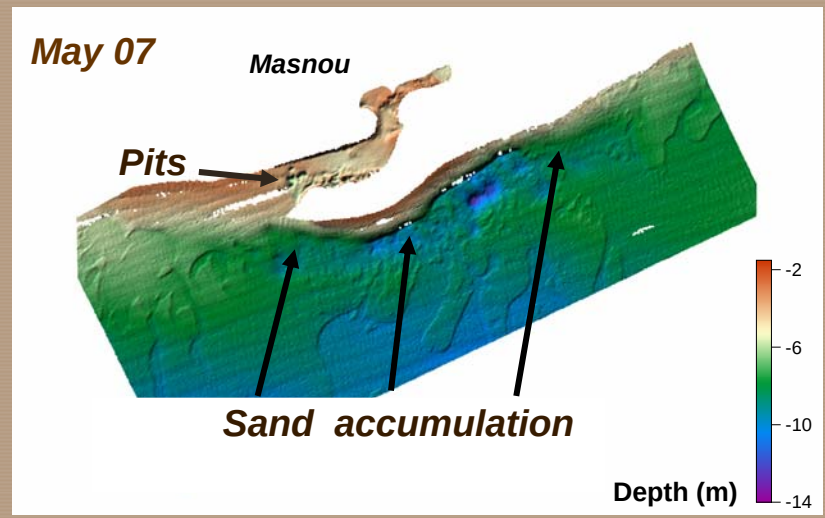
1A. Bathymetry at the begining of dredge activities



1B. Bathymetry at the end of main dredge activities (188.743 m^3 of sand has been removed)

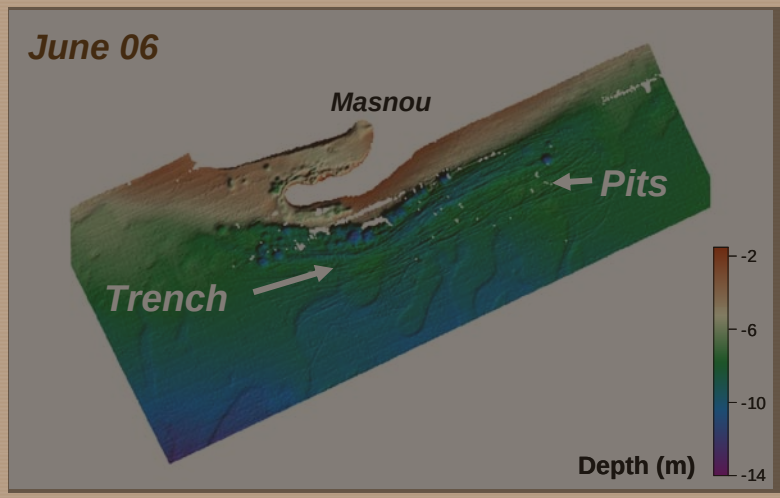


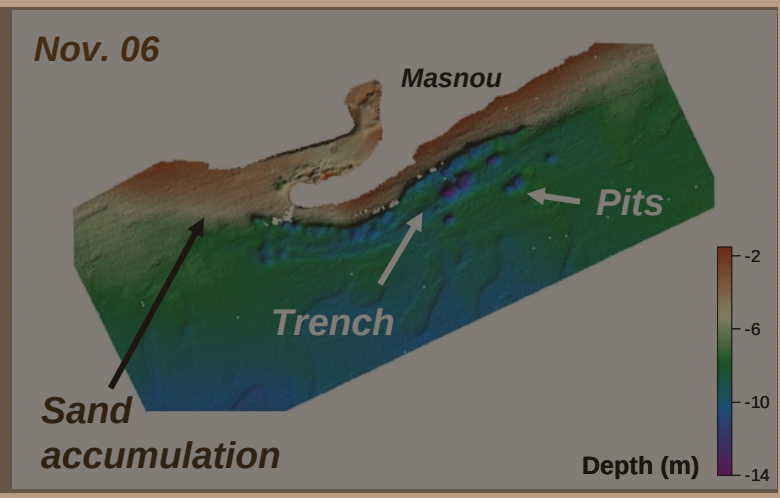
1C. Bathymetry 6 months after main dredge activities (87.923 m^3 of sand has been removed)



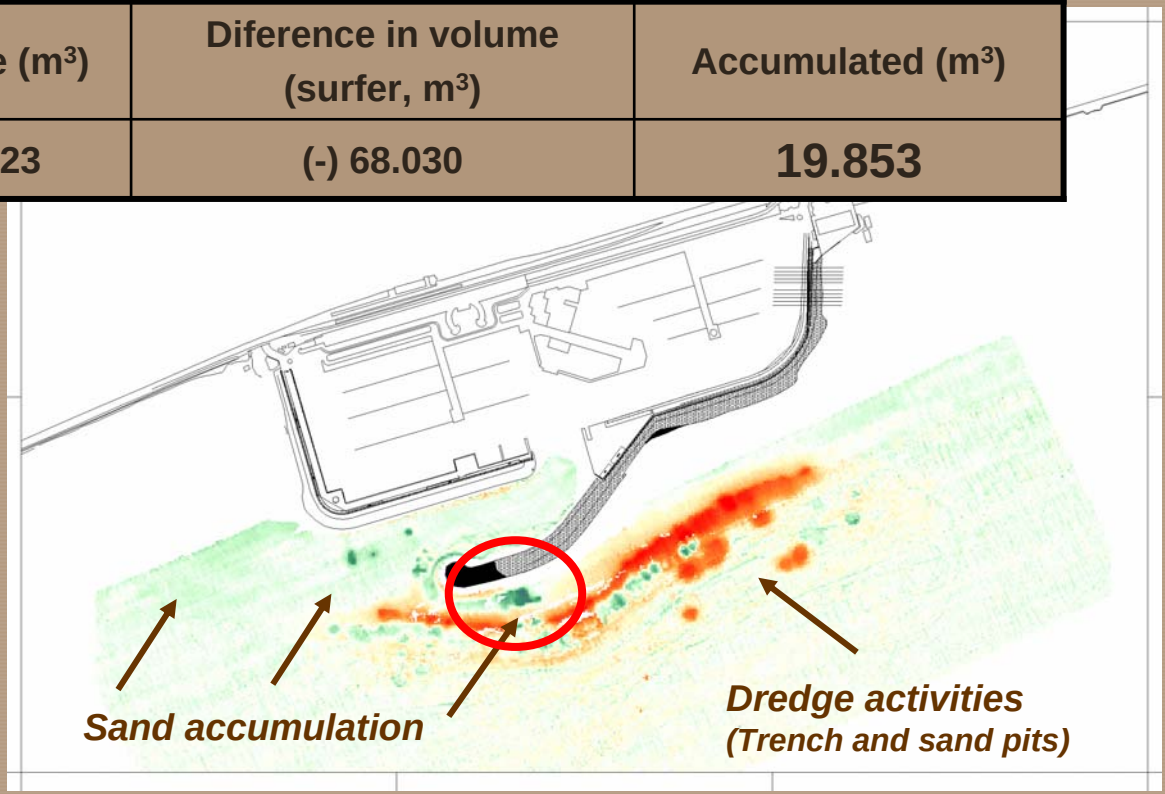
1D. Bathymetry 1 year after main dredge activities (18.000 m^3 of sand has been removed)

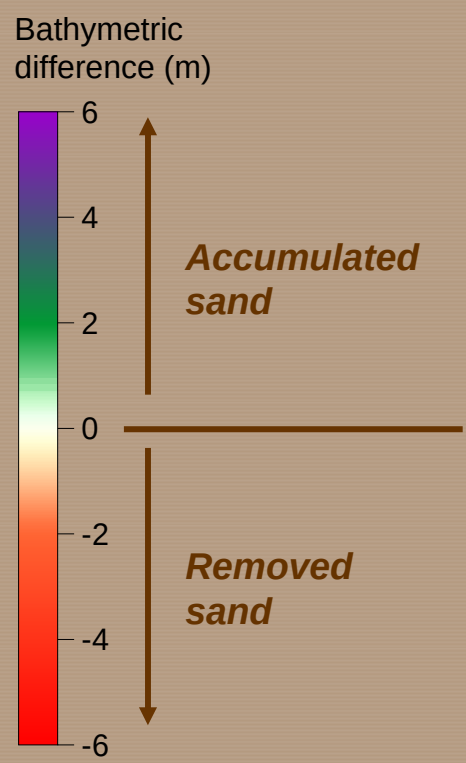
Morphological evolution & volume of accumulated sand - *JUN-NOV 06*





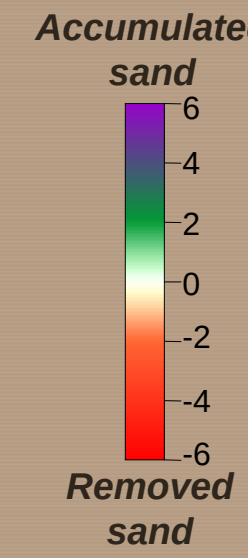
Dredge (m^3)	Diference in volume (surfer, m^3)	Accumulated (m^3)
87.923	(-) 68.030	**19.853**

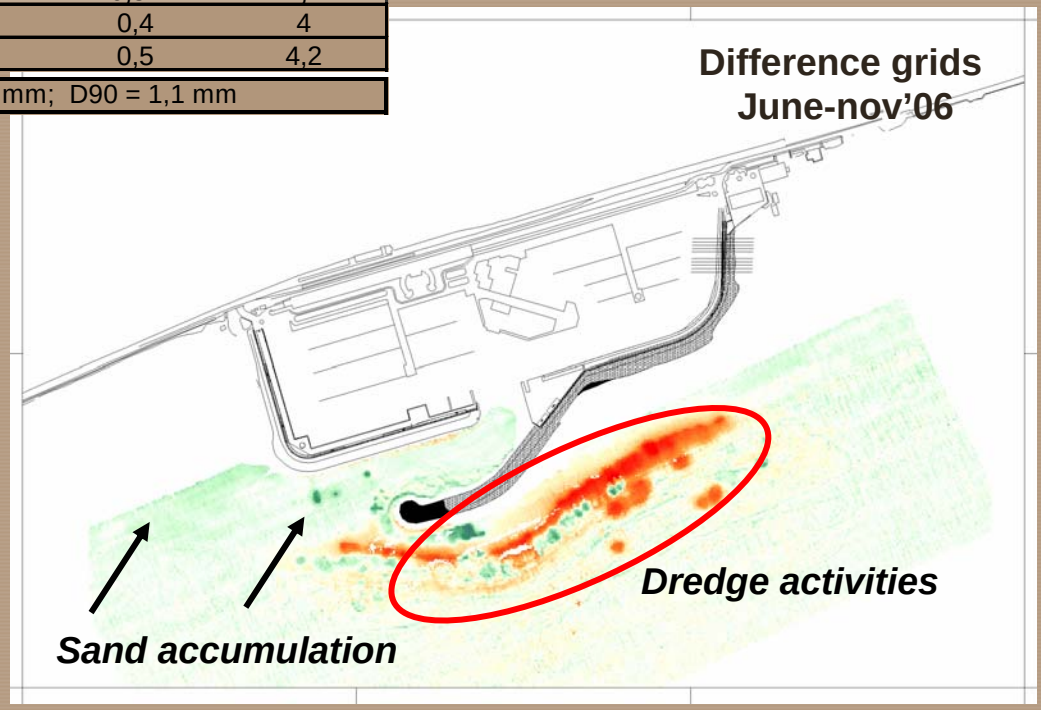


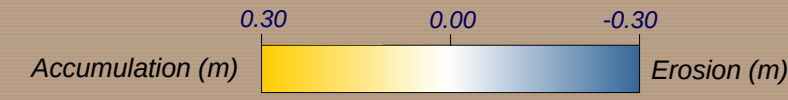


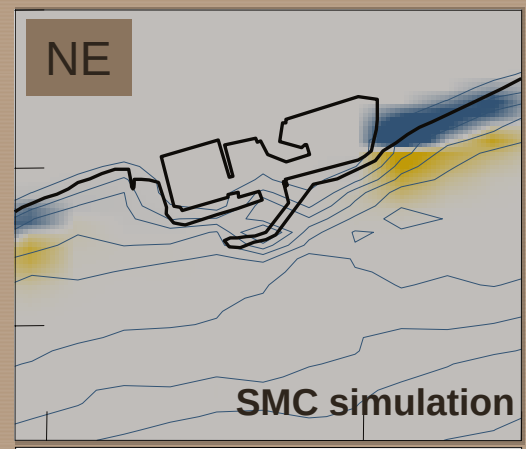
June 2006 - November 2006

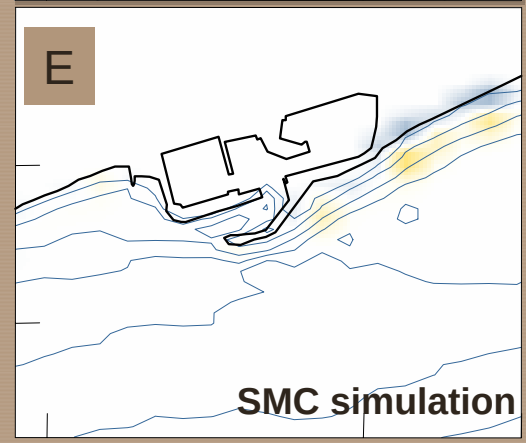
Direction	% occurrence	Hs (m)	Tp (s)
NE	16,02	0,8	6,44
E	**26,93**	**0,52**	**4,7**
SE	**21,24**	**0,52**	**4,7**
S	17,5	0,4	4
SO	17,03	0,5	4,2
D50 = 0,60 mm; D90 = 1,1 mm			

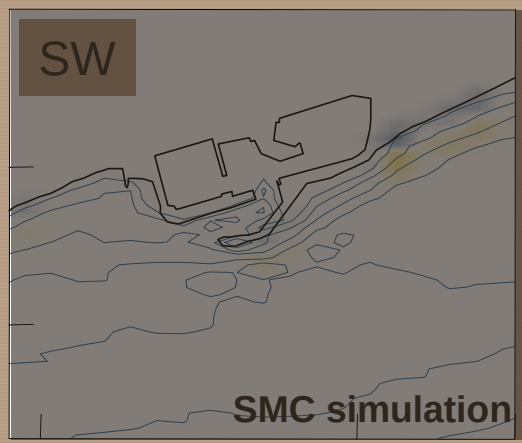


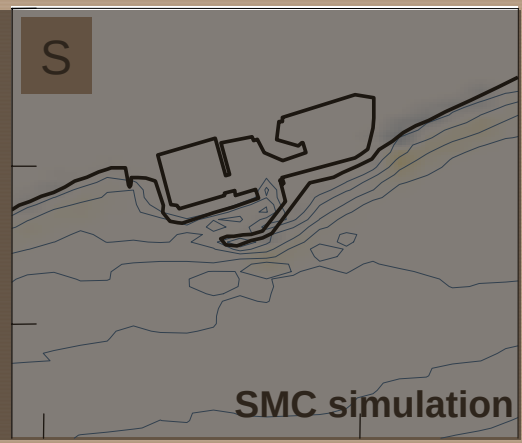


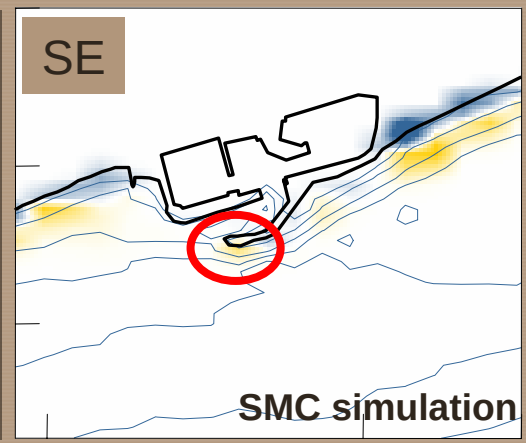




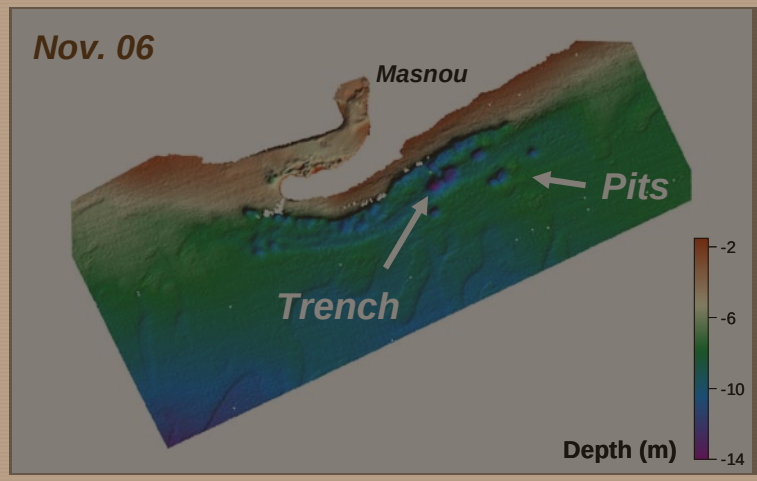


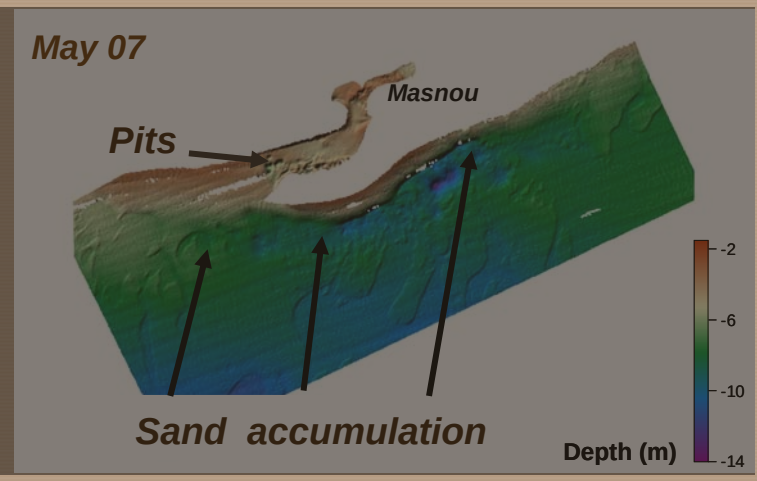






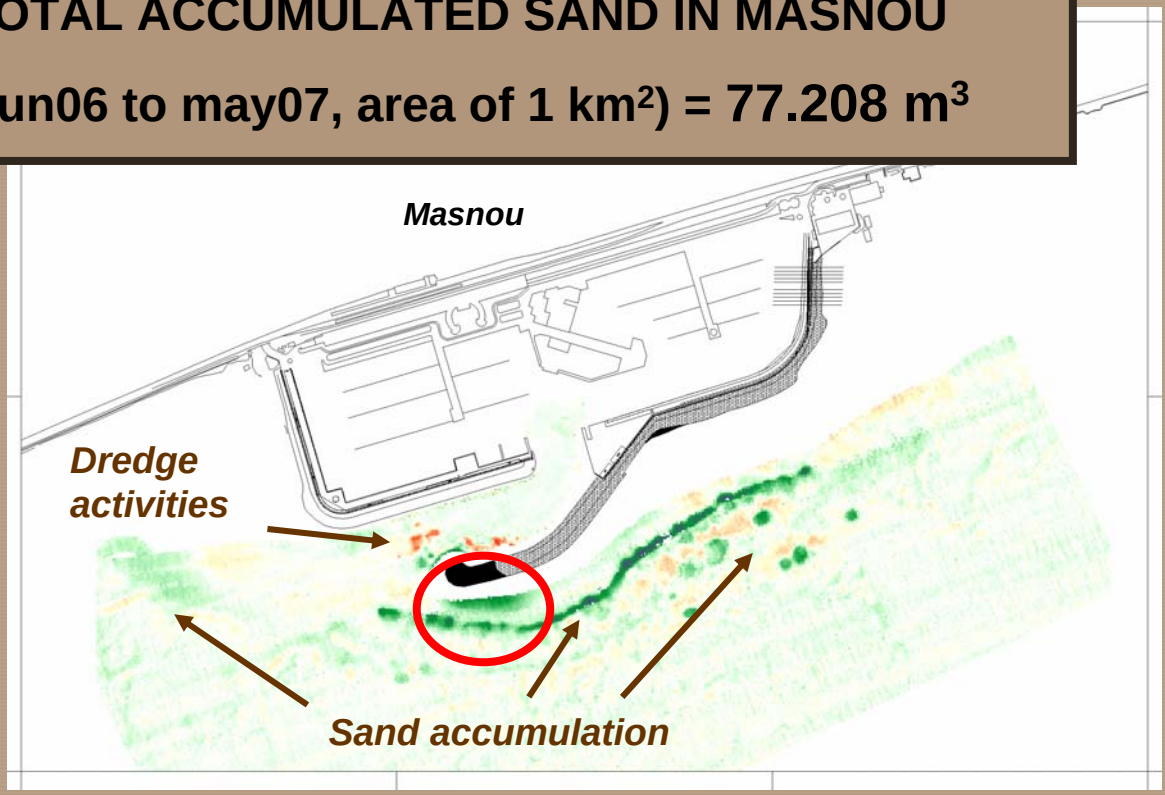
Morphological evolution & volume of accumulated sand - *NOV 06-MAY07* *P1. ICM*

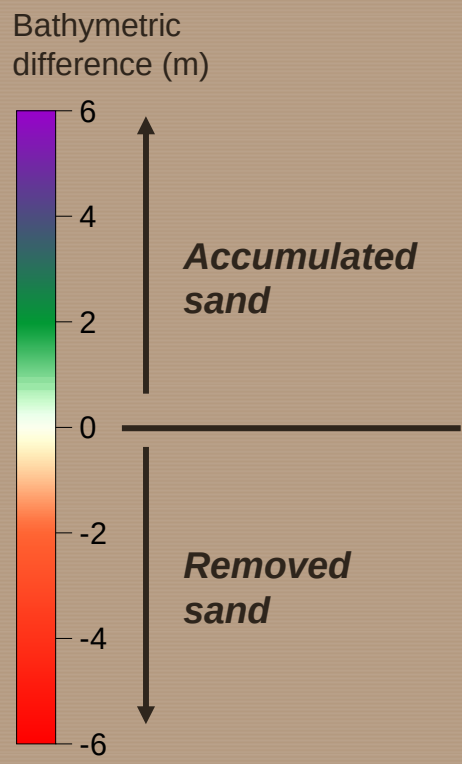




TOTAL ACCUMULATED SAND IN MASNOU

(Jun06 to may07, area of 1 km^2) = 77.208 m^3

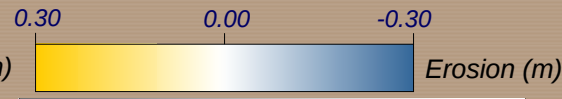


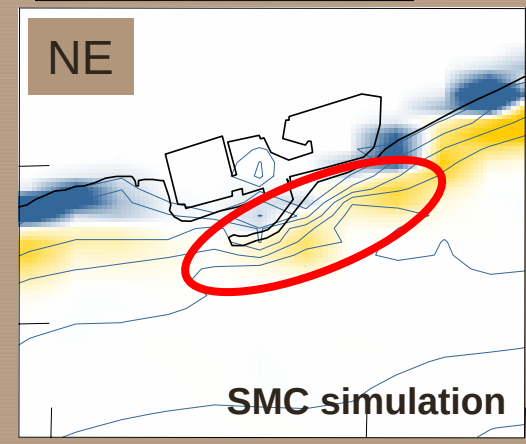


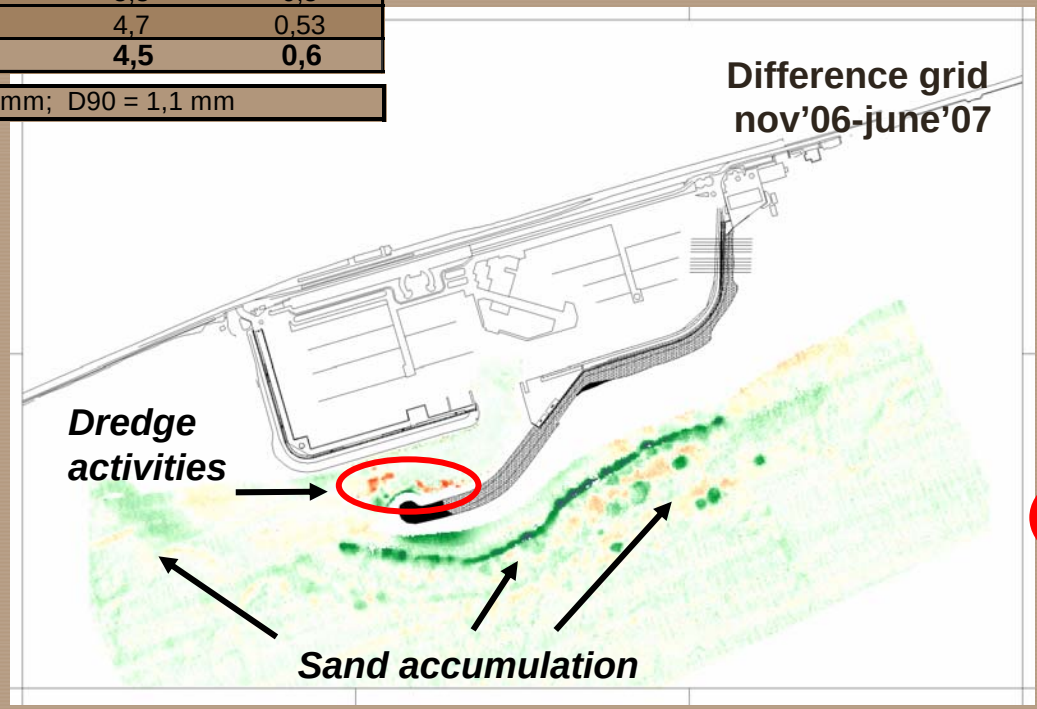
November 2006 - May 2007

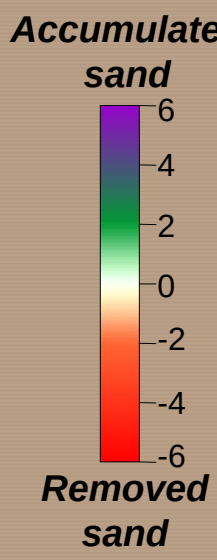
Direction	% occurrence	Tp (s)	Hs (m)
NE	**24,1**	**6,4**	**1**
E	**19,73**	**5,5**	**0,78**
SE	9,1	5,3	0,5
S	12,2	4,7	0,53
SO	**22,8**	**4,5**	**0,6**

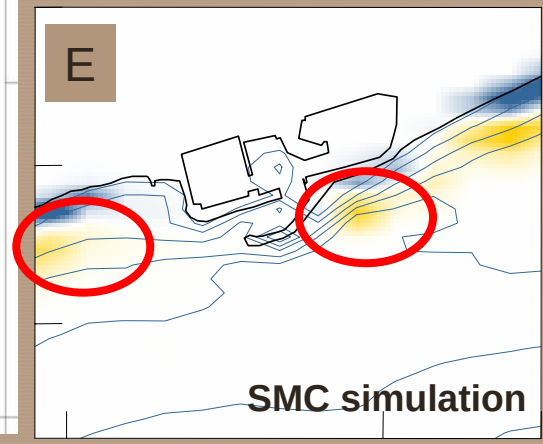
D50 = 0,60 mm; D90 = 1,1 mm

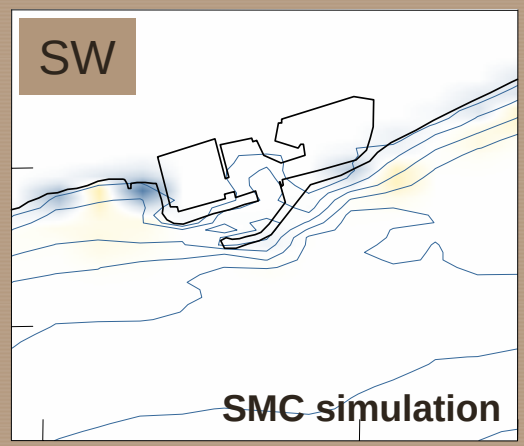


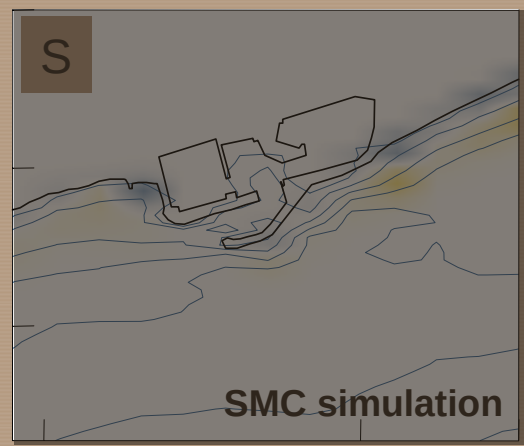


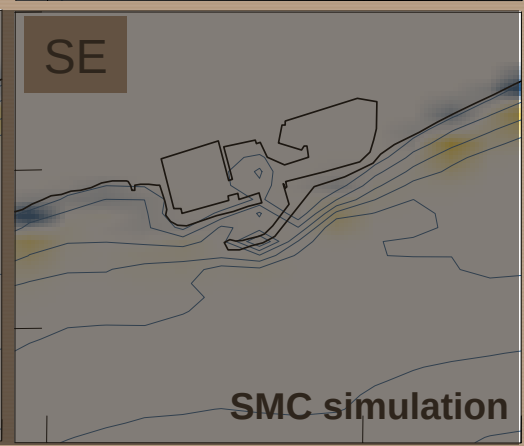


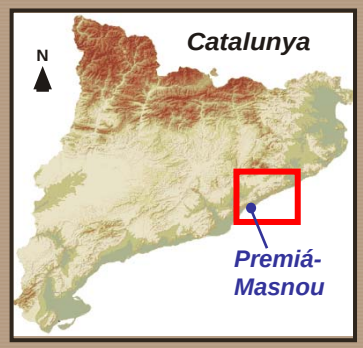






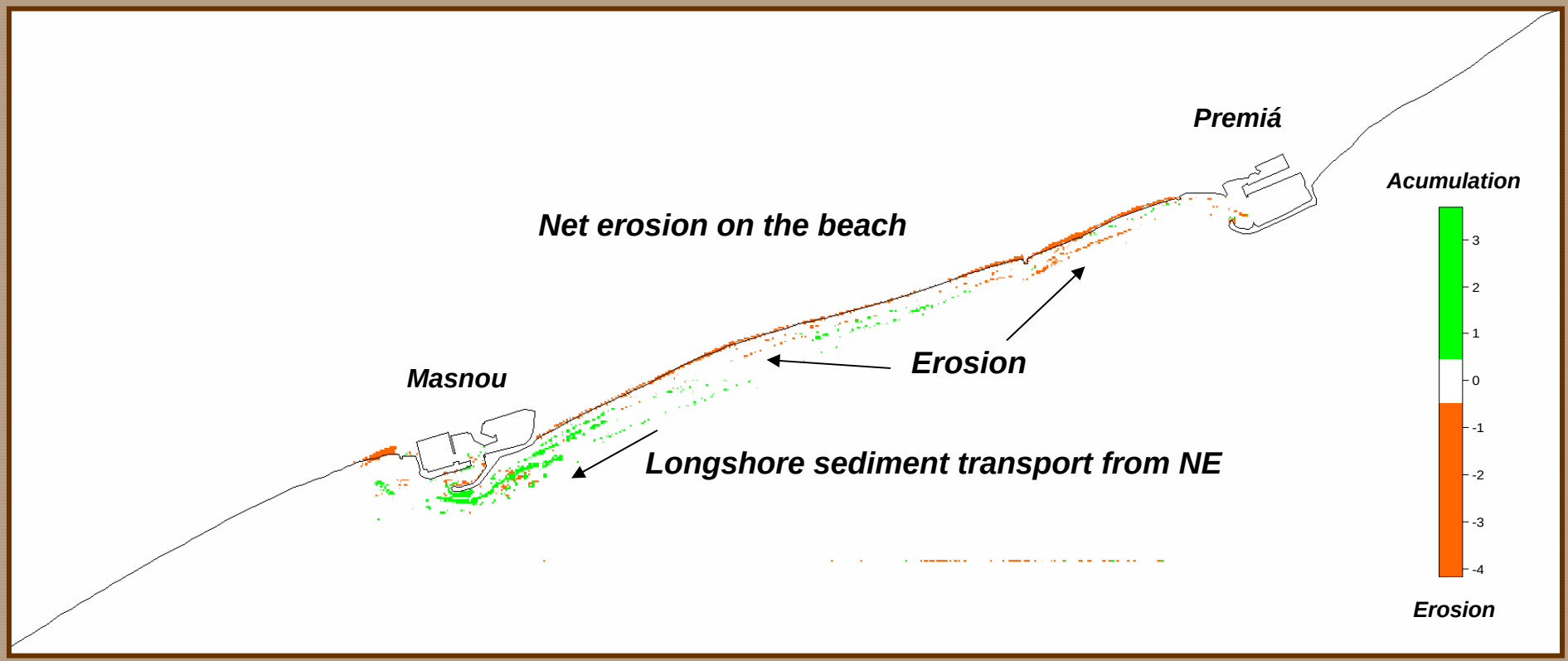




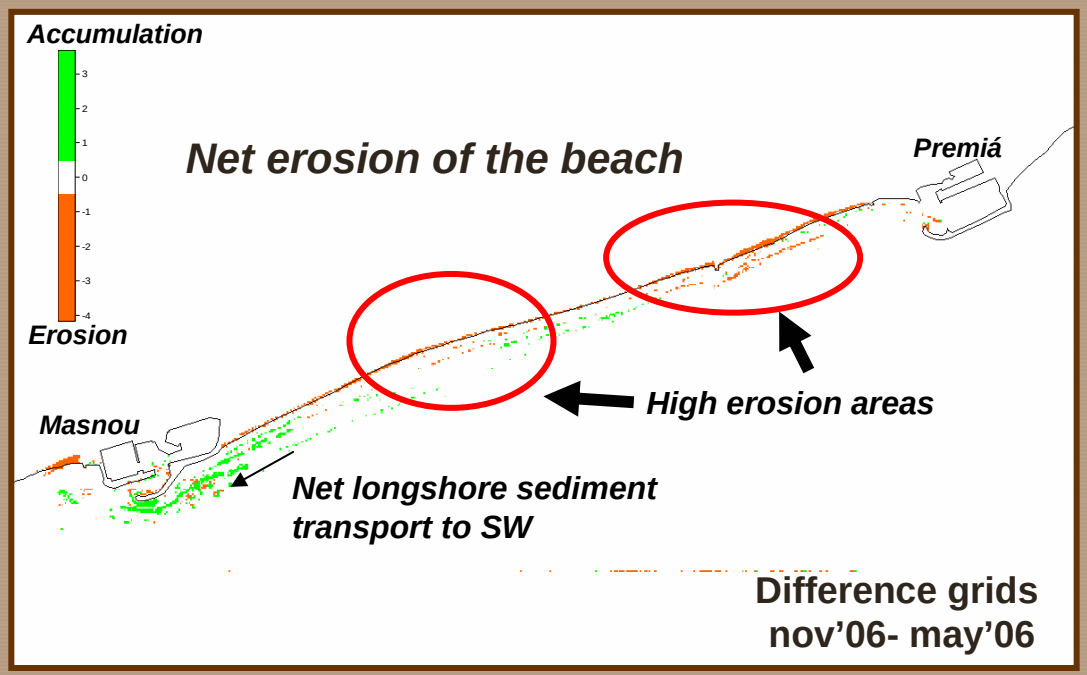


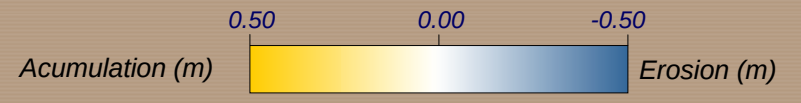
Dredge and nourishment areas

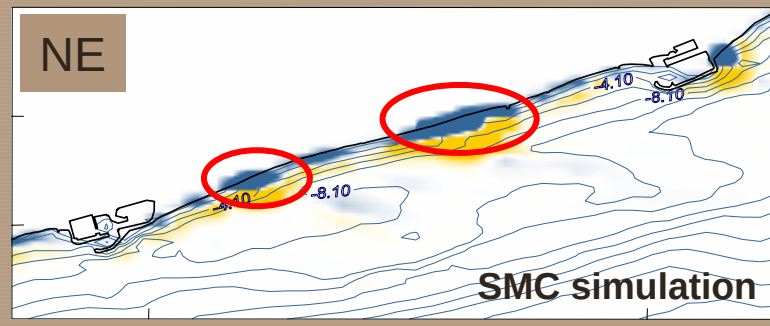
Nov06 to May07

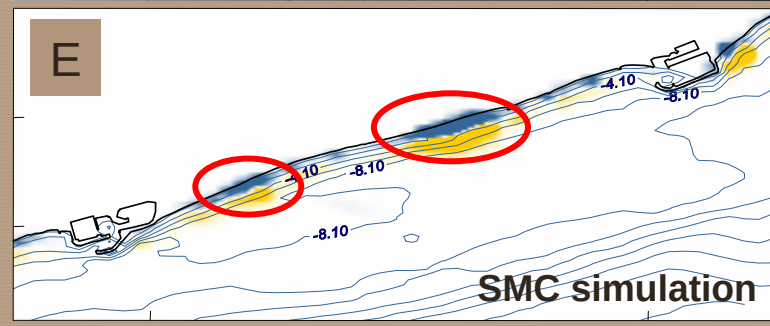


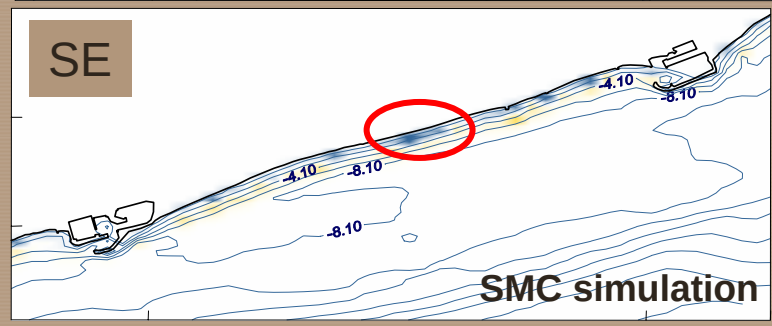
Comparison between bathymetries and results of SMC simulations on the beach (November 2006 – May 2007)

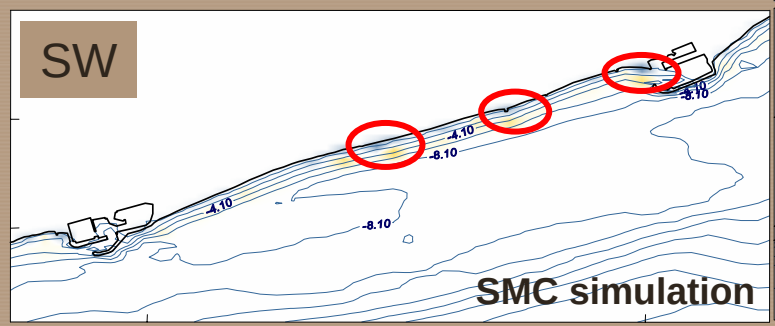


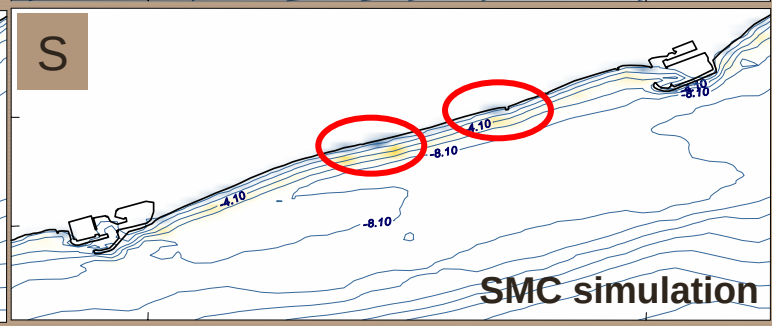


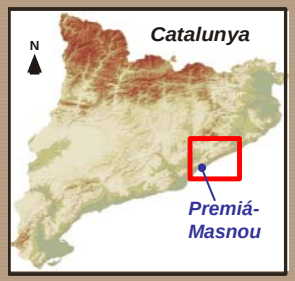






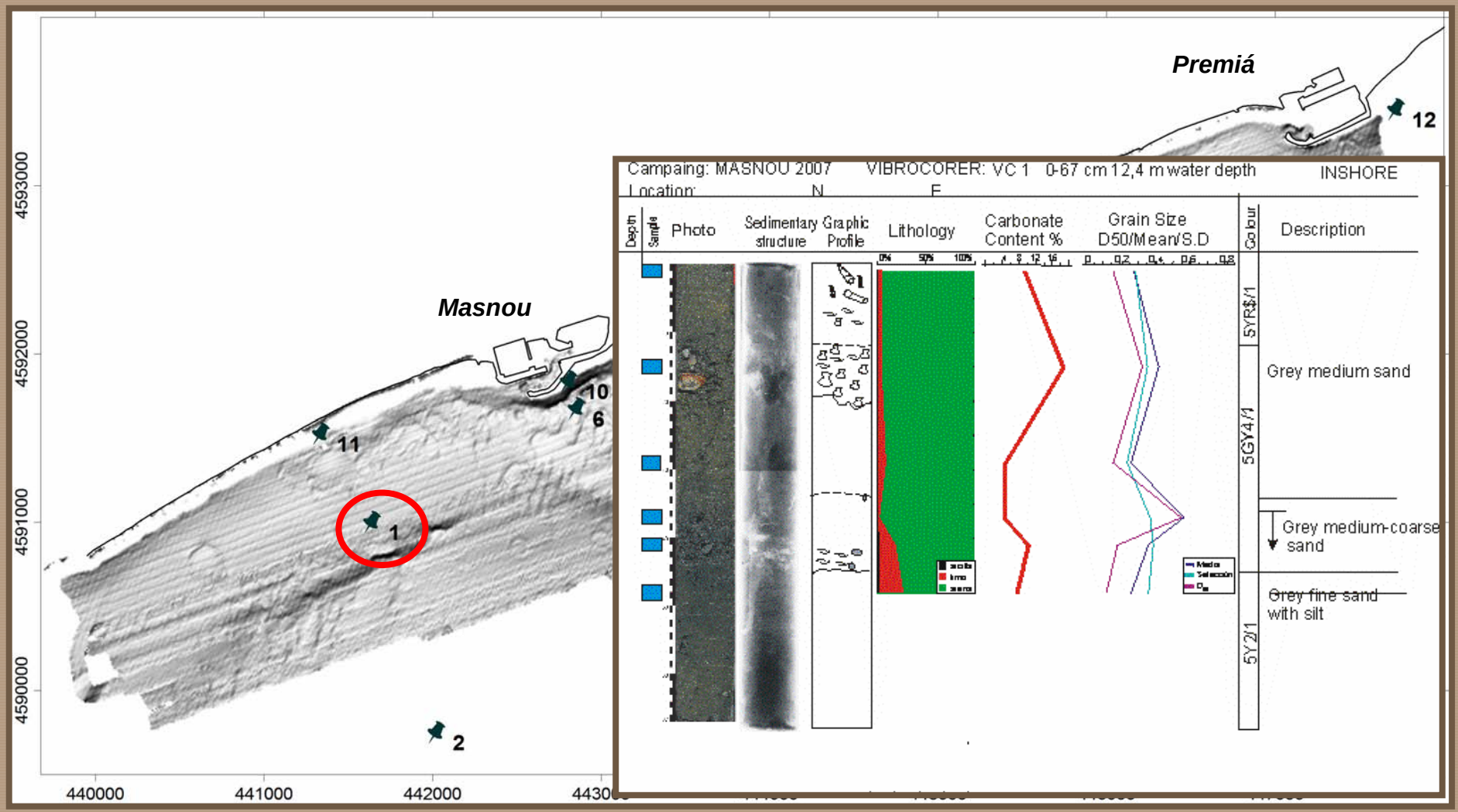


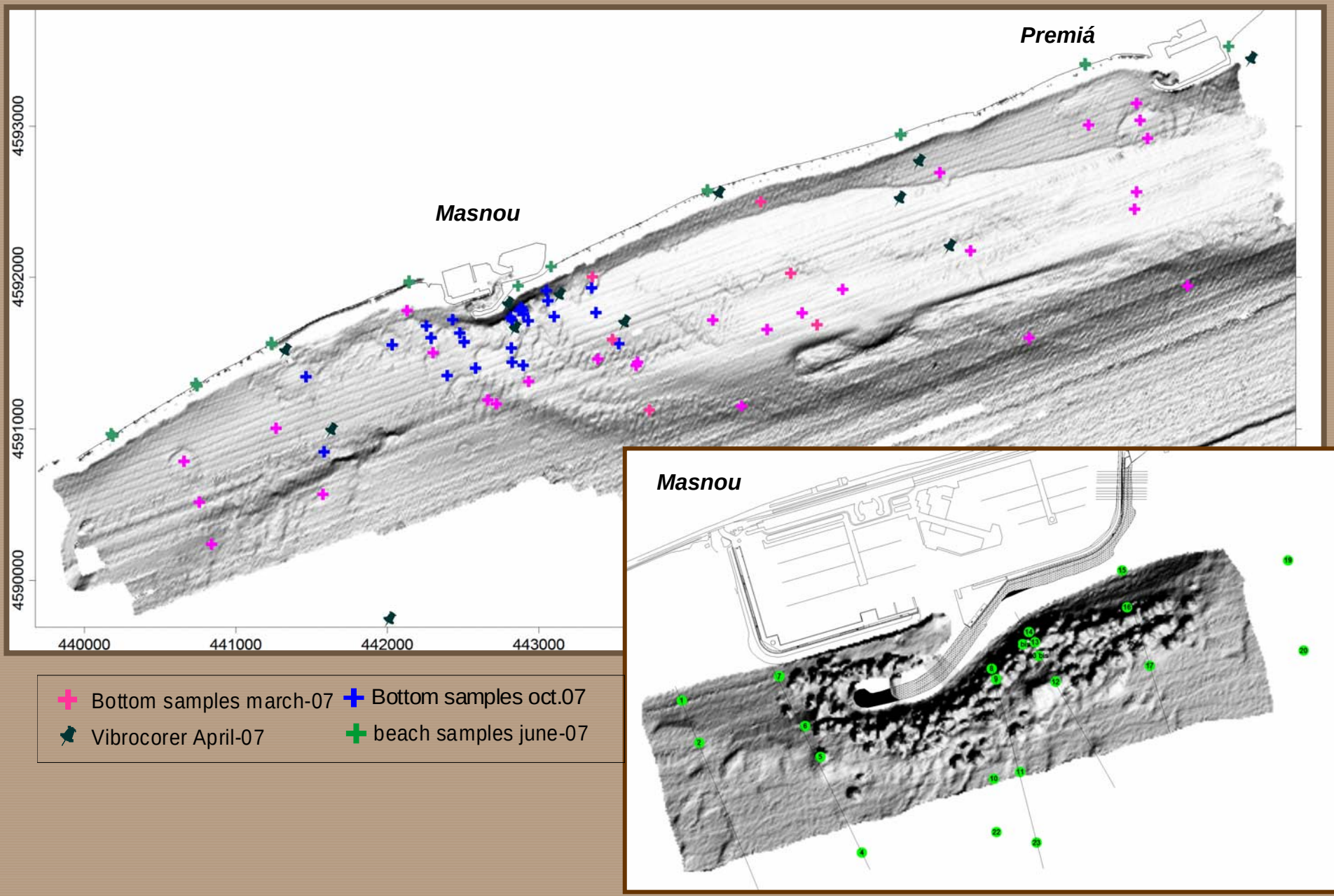




Corer analysis

Current work

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4590000
440000
441000
442000
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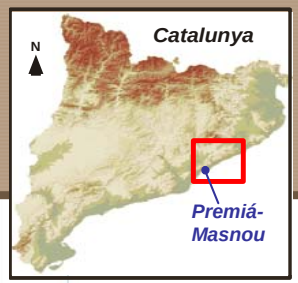
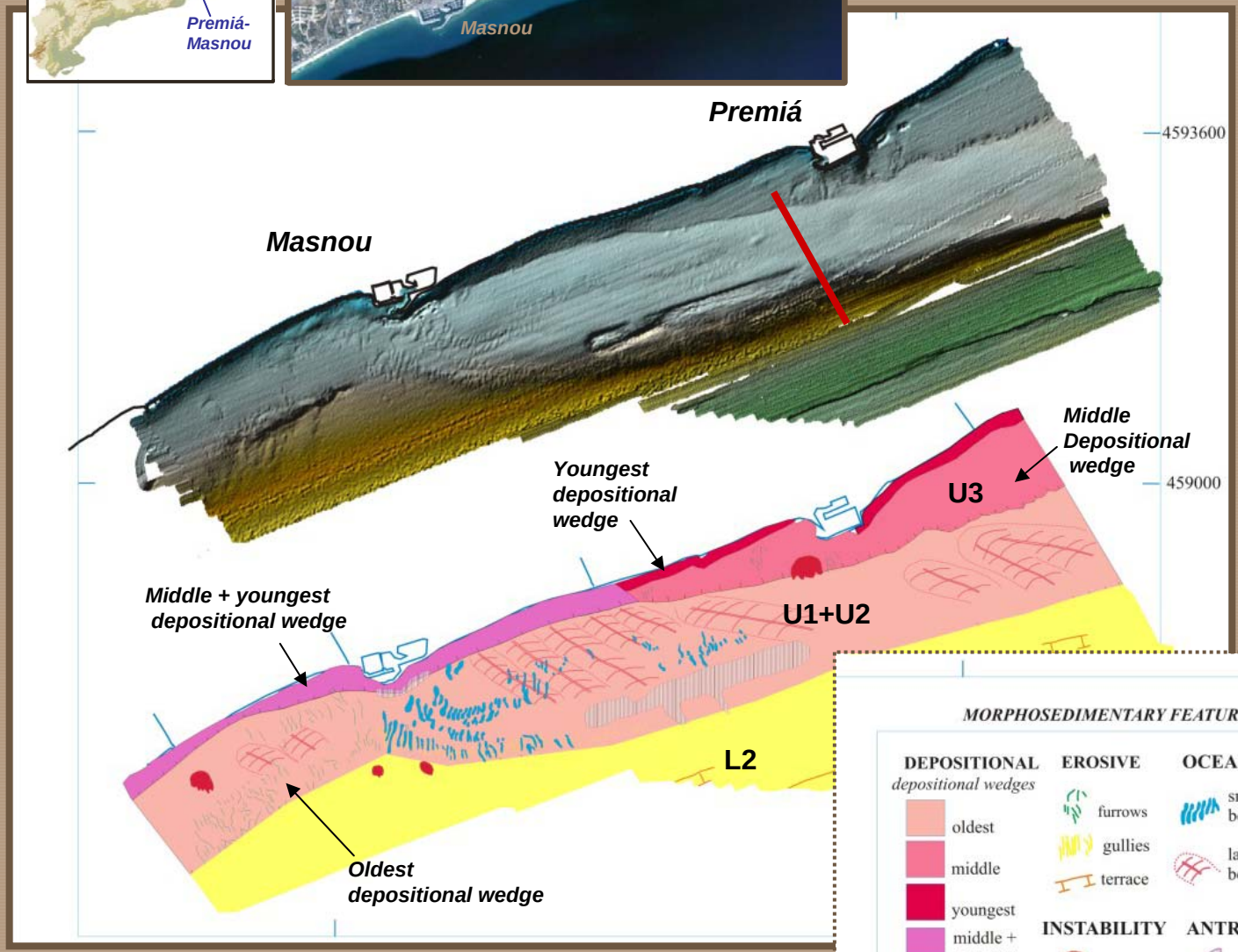
Masnou
Bottom samples march-07
Bottom samples oct.07
Vibrocorer April-07
beach samples june-07

Morphosedimentary interpretation





MORPHOSEDIMENTARY FEATURES

DEPOSITIONAL
depositional wedges
- oldest
- middle
- youngest
- middle + youngest
- bottom wedge

EROSIVE
- furrows
- gullies
- terrace

OCEANOGRAPHIC
- small-scale bedforms
- large-scale bedform

INSTABILITY
- slide

ANTROPHOGENIC
- trench & spit

STRATIGRAPHY

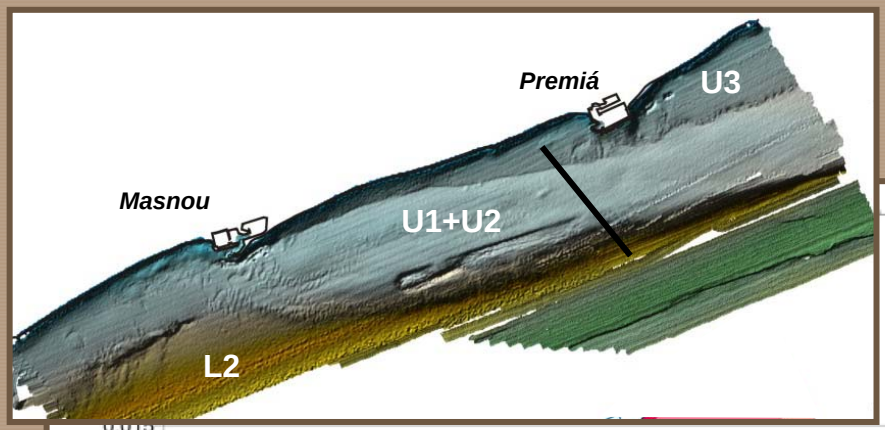
UPPER SEQUENCE
- unit U3
- units U1 +U2

highstand system tract

LOWER SEQUENCE
- unit L2

transgressive system tract

High resolution seismic interpretation



P1 ICM

Phase C. Progress

Thank you