

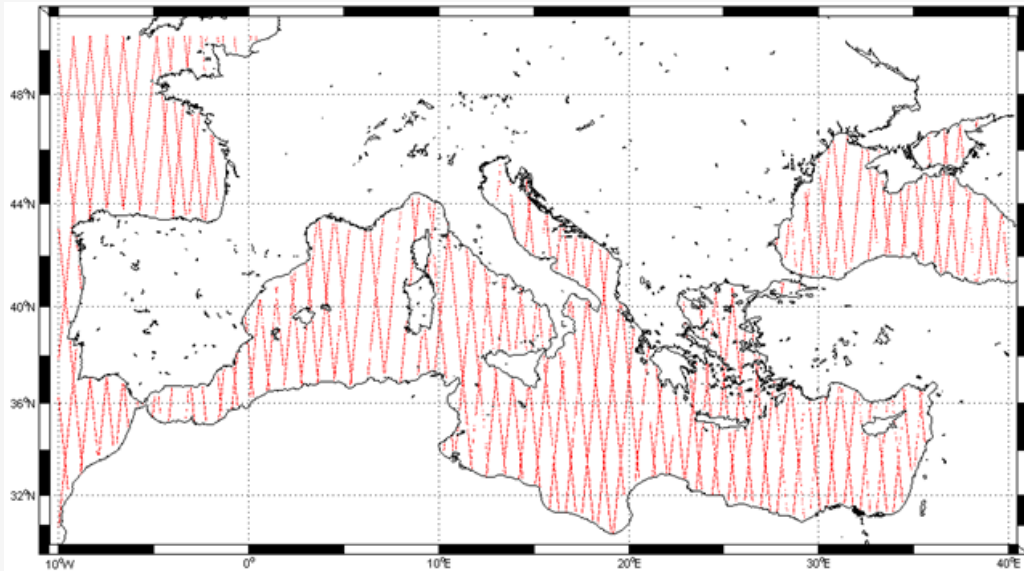
|| GRAVITY, GEOID AND HEIGHT SYSTEMS 2016

SLA determination in coastal areas using Least-Squares Collocation and Cryosat data

O.N. Altiparmaki, D.A. Natsiopoulos, G.S. Vergos

*GravLAB, Department of Geodesy and Surveying, AUTH, Thessaloniki,
Greece*

Objective



Cryosat-2 data distribution

Least-Squares Collocation

input data

error variance
covariance
matrices

analytical
covariance
functions

study area

entire Mediterranean Sea

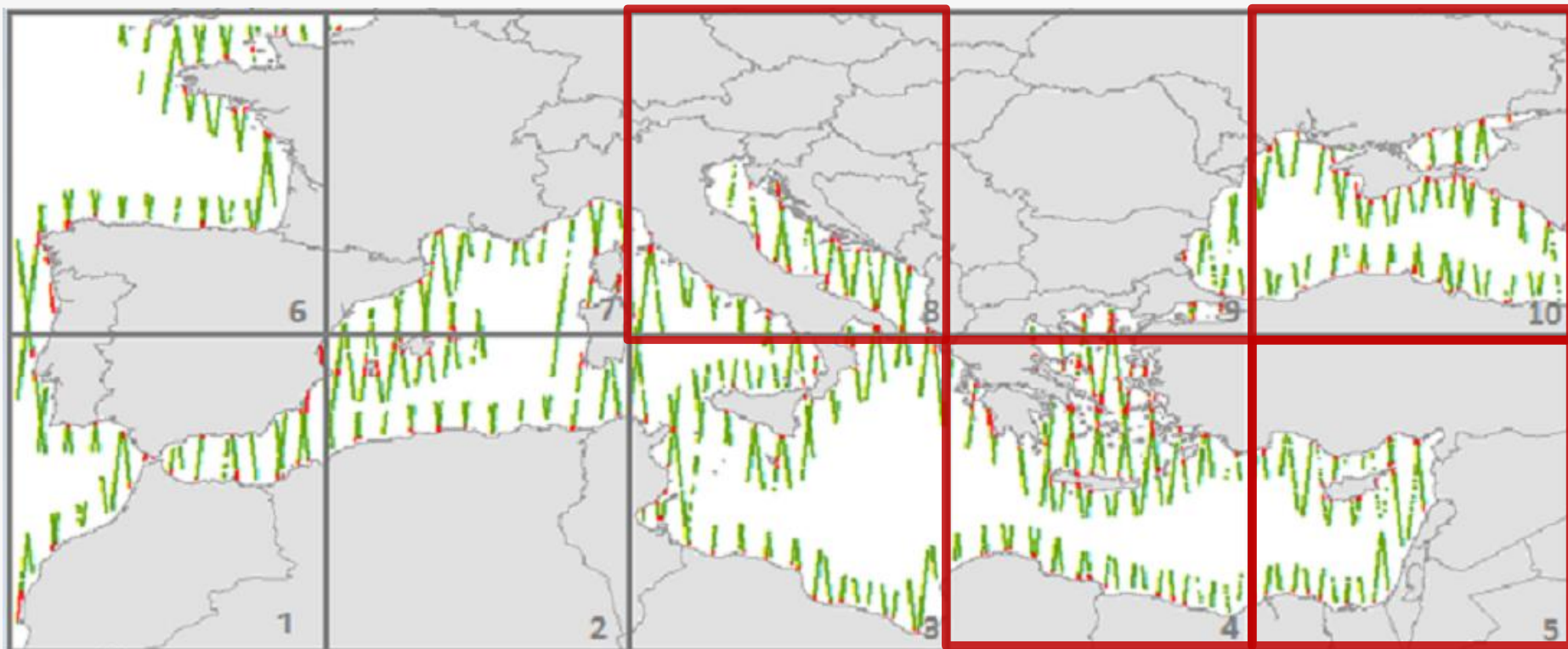
data

one cycle (from 14.03.2011 to 12.04.2011)

goal

SLAs values prediction close to coastline

Prediction close to coastline



Availability of satellite altimetry data at a radius of 100 km from the coastline and separation of windows 10°

windows of 10°

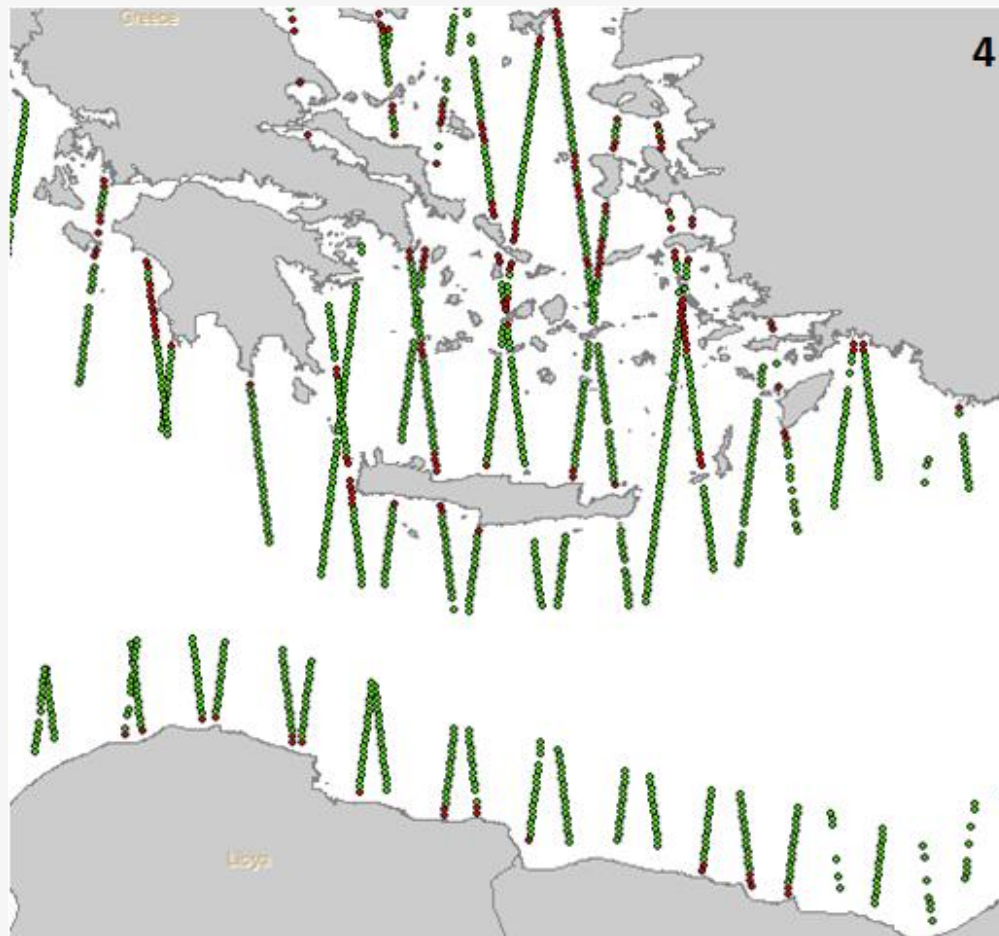
known points (green)

85 km

estimated points (red)

15 km

Test case



Prediction accuracy

	Initial	Model A	Model D	Model E
min	-0.731	-0.403	-0.229	-0.261
max	0.069	0.227	0.349	0.323
mean	-0.208	-0.021	-0.008	-0.009
std	0.127	0.071	0.067	0.071
rms	0.243	0.074	0.067	0.071

Thank you for your attention !!!