**Ocean Science
Discussions**

Interactive comment on "Impact of SLA assimilation in the Sicily Channel Regional Model: model skills and mesoscale features" *by* A. Olita et al.

Anonymous Referee #1

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General Comments The ms topic is important for improving the sub-regional ocean forecasts by using the SLA assimilation and the validation with limited in-situ data. However, there is not clear indication what is the effect of the double assimilation of the SLA, taking into account that the parent MyOcean MFS regional model providing the initial and lateral boundaries already assimilated the same data.

Specific comments line 17: replace the given reference with those papers (there are several) from Gasparini el al. , which provide a much better inside of the LIW and of the water masses circulation in the Sicily Strait.

Page 424 Line 20: clarify if indeed the SIM simulations refer to the operational sys-

tem of SCRM. Also clarify the difference between ANO and AN1, respectively those between V0 and V1 MyOcean products, because is not clear at this paragraph.

Page 425 Line 21: please clarify if indeed the SCRM use the 6 hourly ECMWF and not the 24 h averaged.

Page 427 2.3 Data and analysis The MFS data used for initialization and for lateral conditions in the present work already assimilated the same SLA. This mean that here SLA was assimilated twice??? Please clarify and give some explanation about this issue.

Page 427 Propose to use SIM and AN1 experiments, due to the fact that in ANO the time series data is not complete and there are missing data.

Page 429 From line 16: If the reasons for the Vo worse performance caused by the fact that the Vo SLA is of less precision and of less spatial coverage? Then why the need to compare and use these data of less quality??

Page 430 From line 10: please clarify how the assimilation of SLA provide a better definition of the AW path??

in several pages in the entire ms : use capital for Mediterranean

Interactive comment on Ocean Sci. Discuss., 9, 421, 2012.