

Interactive comment on “Daily oceanographic analyses by the Mediterranean basin scale assimilation system” by S. Dobricic et al.

Anonymous Referee #1

Received and published: 8 December 2006

General comments:

The paper describes the main changes to the Mediterranean Forecasting System. In addition to a change to a new higher-resolution model version, 4 additional changes of technical nature were made: daily instead of weekly analyses, balanced velocity and sea surface elevation updates, assimilation of ARGO floats, and filtering of velocity updates. The paper attempts to validate the new system by showing that each change has a positive impact on the quality of the analyses.

The methods are described clearly and concisely. The validation approach is appropriate although a weak point is perhaps that the testing period is rather short and that independent data are hardly available. This could be the reason that rms differences

Full Screen / Esc

Printer-friendly Version

Interactive Discussion

Discussion Paper

between the full system and 'stripped' versions of the system are not very large.

Specific comments:

Can the authors could expand on their suggestion that updating the error covariances (I suppose this means the EOFs?) with a higher frequency could improve the representation of salinity. Are there indications in model runs that this might help?

Figure 3 shows the rms misfits based on SLA data during the TOP. It shows that during the final third of the TOP the daily cycle produces smaller misfits. Is this comparison based on all FGAT misfits gathered during the forecast runs? One would expect especially the misfits in the weekly scheme to increase during the forecast. Is this indeed what is found?

It would be useful to plot a typical distribution of SLA observations for one day. This would also give an impression of the number of observations that are assimilated each day. Also, is the crossing of satellite tracks really important, i.e. do crossovers provide more information than non-crossing tracks?

p.1988 A reference is made to a salinity error in Fig. 5 in January 2005. Please also mention the depth, so that it is easier for the reader to identify this feature in the figure.

Technical corrections:

For some reason figure 7 is very small. It should be larger.

Interactive comment on Ocean Sci. Discuss., 3, 1977, 2006.

[Full Screen / Esc](#)[Printer-friendly Version](#)[Interactive Discussion](#)[Discussion Paper](#)