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Natural Hazards and Earth System Sciences
Discussions

Interactive comment on "Implementation and validation of a new operational wave forecasting system of the Mediterranean Monitoring and Forecasting Centre in the framework of the Copernicus Marine Environment Monitoring Service" *by* Michalis Ravdas et al.

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Not much to say, the paper explains well what was done to validate this new operational wave forecasting system, now part of CMEMS. So it will be a good reference. Bur there is not much to get excited about as the paper confirms what is already known about the different components of the system.

Specific comments: p5, line 14: 24 directions is a bit low for 1/24 degree

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Discussion paper

p5, line 18: as mentioned in the ECMWF documentation: https://www.ecmwf.int/en/elibrary/17739-part-vii-ecmwf-wave-model The value now used by ECWAM are Cdis=1.33 and delta=0.5, changes that were made as part of CY38R1, but it is also combined with a change in wind input source term, where ZALP was reduced from 0.011 to 0.008 (see (3.5 and the following discussion). This change had the desire impact of reducing low frequency energy. In the paper, it is mentioned that the North Atlantic model has too much swell. So I wonder if the change to Cdis and delta was or not accompanied with the related change to ZALP. Incidentally, as far as I can see, these CY38R1 changes were also made in WAM 4.6.2

p6, line 3: is 6-hourly forecast still the case after day 3. ECMWF outputs forecast every 3 hours up to day 6 (Actually hourly up to t+90 hours, but the data are not available to CMEMS.ECMWF should be convinced hourly forcing data would be extremely beneficial, in particular for areas such as the Mediterranean Sea. The present study highlights the difficulty of getting good wind fields for the area, and mentions a need for higher spatial resolution but it should be mentioned that temporal resolution is also essential. Note that as far as the spatial resolution, ECMWF high resolution forecasts have now since spring 2016, a $\sim$9 km resolution (from $\sim$ 16km used in this study

p6, line 33 ans section 4.2: Tm: are you sure you use the same spectral definition for both the model and the buoy mean wave period. WAM usually add a high frequency tail for the calculation of the all integrated parameters and hence extend all calculation of infinity, whereas buoy parameters are usually only computed to the cut-off frequency ($\sim$ 0.5 Hz). For mean wave period, such as the T02, it can results in bias (model-buoy) $\sim$ -0.5 s So what as done?

p9, line 1: I notice that the positions for buoy 61218 and 61220 in Figure 1, do not seems to be what I have from the GTS data we have received: I have the following 61218: 43.83N, 13.72E 61220 45.33N, 12.52E

Noting the lack of agreement for 61218, even though it appears to be one of the most

exposed buoys is still surprising, so I just wonder if there is simply and position error

p11, line 23: why are there not altimeter below $\sim$ 2m/s ?

Minor corrections: p2, line 18: Forecast -> Forecasts mid-range -> medium-range p3, line 29: Holthuijsen p6, line 21: Stokes p8, line 21, Figure 7 -> 8 (?) p8, line 23: what is said in the text about Figure 4 is not very visible. Could you add a plot of just the QQ plot p8, line 26: there are only a few outliers, out of $\sim$67000 collocations, it will only have a very minor impact. p9, line 9: well reproducing -> reproducing well p11, line 17: well approximate -> approximate well

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