

## ***Interactive comment on “Distribution and transport processes of marine particulate matter off Cape Blanc (NW-Africa): results from vertical camera profiles” by N. Nowald et al.***

**N. Nowald et al.**

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Our ms provides particle distribution data acquired with a deep-sea camera system from three campaigns, in total nine profiles. Such data from a coastal upwelling area are rare, useful and interesting to other teams, although the data set may be limited. This is also stated by the referee in the first chapter. These data have been already discussed in a companion paper which is published in J. of Geophys. Res. (Karakas et al., 2006) and have been very valuable in verifying results from a high resolution transport modelling study (chapter 3 of the referees comment). However, in this paper the major focus was on the development and description of a transport model and due to limited space, only the particle distribution data are shown. The above-mentioned ms does not include the interpretation of CTD, biomass or particle size distribution

datasets as shown in our ms. Modelling data and in situ particle data clearly indicate the advection of particles from the coast to the open ocean within a subsurface particle layer. This is not pure speculation and is also known from other measurements and studies (see SEEP I and II, e.g. Biscaye et al. 1994).

Off course, due to problems with our CTD, only a few hydrographic data are available which were provided in the paper but they do not show any coincidence with our particle distributions. Thus, we believe that other factors besides hydrography (e.g. density) may be more important concerning our observed particle distributions.

We admit that our limited data set is not representative for the large interannual variability of absolute particle concentrations in the water column. However, the general pattern of particle distribution appears to be quite consistent and was found repeatedly in the camera profiles in three subsequent years. Thus we believe that more particle profiles taken during spring will not provide any additional information. The referee asked for a quantification between biomass and particle distribution which we avoided because of the limited data set of three years and because of the large natural variability. On the other hand, a qualitative comparison between biomass from satellites and particle distribution from similar seasons provides some relationship. Thus, we do not agree that the biological signature of larger surface particles is highly speculative.

Again, their distribution may be modelled using a combined hydrodynamic-ecosystem model. The particle distribution of marine snow particles and the fluxes, e.g. from sediment traps cannot be compared as suggested. These particles are not preserved in sediment trap collections. In addition sediment traps and vertically profiling camera systems have a different temporal resolution which makes combining both methods very difficult.

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