



Large scale ECMWF radiative surface fluxes assessment, correction and application to 3D-global Ocean simulations.

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Mercator-Ocean developed several operational forecasting system of the 3D-Ocean and produces also oceanic re-analysis. The strategy of atmospheric forcing is essential to improve the oceanic forecasts and analysis skills. Mercator systems uses presently the atmospheric forcing from the European Centre for Medium Range and Weather Forecasts (ECMWF) together with a bulk formulation methodology to calculate all the air-sea fluxes (radiative, turbulent, freshwater and momentum). In order to take into account of the recent progress made by the ECMWF clouds scheme, downward radiative fluxes at the surface is planned to be used by the Mercator systems. In this study, we have estimated the main biases of the ECMWF radiative fluxes at the surface of the global ocean (both in the ERA-interim reanalyses and in the Integrated Forecast System (IFS) products) by comparing them with fluxes obtained from satellite datasets. From these results, a method has been developed to correct the ECMWF radiative flux for hindcasts, nowcasts and forecasts Mercator purposes. The impact of these corrected fluxes applied in interannual oceanic simulations is discussed.