Abstract

Global climatological fields of the monthly mean air-sea fluxes of heat, momentum and freshwater are presented in this atlas. The fields have been calculated at the Southampton Oceanography Centre from a dataset of marine meteorological reports spanning the period 1980 - 1993 which has been corrected for biases arising from variations in observing procedure. The dataset is a modified version of the Comprehensive Ocean - Atmosphere Dataset 1a onto which we have merged data describing observation method from the International List of Selected, Supplementary and Auxiliary Ships (the WMO Report 47). The primary purpose of this document is to detail the method by which the fluxes were calculated and present an overview of the climatological monthly mean fields. In addition, the impact of the observing procedure corrections on the monthly mean heat flux fields has been quantified and is shown to be up to 15 Wm^{-2} with strong seasonal and regional variations. The climatological fields are freely available to interested users for non-commercial scientific research, for details of how to access the fields see http://www.soc.soton.ac.uk/JRD/MET/fluxclimatology.html.