



Initial results from the GRAPE version 2 aerosol and cloud climatology

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The Global Retrieval of ATSR Cloud Parameters and Evaluation (GRAPE) project has produced a global cloud and aerosol data set from the entire ATSR-2 dataset (1995–2001 at present). Version 2 of the dataset has now been produced, with much improved accuracy over version 1, and is accessible (with registration) from the British Atmospheric Data Centre (BADC).

The analysis has been performed using the Oxford/RAL Aerosol and Cloud (ORAC) optimal estimation retrieval scheme. The dataset includes the following parameters on an orbit by orbit basis (at the 3×4 km resolution) and as 3° resolution monthly means (along with error estimates for each value):

Cloud fraction, cloud phase (water or ice), cloud top temperature, Cloud top pressure, Cloud top height, Cloud optical depth (at $0.55 \mu\text{m}$), Cloud effective radius, Cloud liquid water path, Skin temperature, Aerosol optical depth (at $0.55 \mu\text{m}$), Aerosol effective radius, Surface albedo at $0.55 \mu\text{m}$.

An overview of the ORAC retrieval scheme and the dataset will be presented, along with the results of initial analysis of the new version 2 dataset. In particular, the potential for these data to be used in the investigation of aerosol–cloud interaction will be explored.