



## **ECMWF MACC-II evaluation of performances with MPLNET Lidar network at NASA Goddard Flight Center**

Simone Lolli (1), Ellsworth J. Welton (2), Angela Benedetti (3), and Jasper Lewis (1)

(1) NASA-JCET, Code 612, Greenbelt, MD, USA (simone.lolli@nasa.gov), (2) NASA, Code 612, Greenbelt, MD, USA , (3) ECMWF, Exter, UK

Aerosol vertical distribution is a critical parameter for most of the common aerosol forecast models. In this study are evaluated the performances of the MACC-II ECMWF aerosol model in forecasting aerosol extinction profiles and planetary boundary layer height versus the new V3 measured MPLNET Lidar extinction retrievals taken as reference at continuous operational site Goddard Space Flight Center, MD, USA. The model is evaluated at different assimilation stages: no assimilation, MODIS Aerosol Optical Depth (AOD) assimilation and MODIS AOD plus lidar CALIPSO assimilation. The sensitivity study of the model is also investigated respect to the assimilation process..Assessing the model performances it is the first step for future near-real time lidar data assimilation into MACC-II aerosol model forecast.