



Comparing the ECMWF IFS to middle atmospheric lidar temperature measurements

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On 9 March 2016 the ECMWF cycle 41r2 became operational which introduced a new grid with an enhanced horizontal resolution of 9 km, compared to the previous resolution of 16 km within cycle 41r1. Previous to the upgrade both model configurations ran in parallel which provided the unique opportunity to compare both at the same time to middle atmospheric lidar measurements.

Here lidar temperature measurements conducted above Sodankylä, Finland, during December 2015 are compared to both ECMWF IFS model configurations. The focus of the comparison thereby lies on the thermal mean state of the ECMWF IFS within the middle atmosphere and the middle atmospheric gravity waves resolved by the ECMWF IFS. Additionally, several testruns with different configuration of the ECMWF IFS have been analyzed in order to get more insight into the causes of the differences between the two model cycles.