



## **CHAMP Climatologies retrieved with high-Altitude Initialization by ECMWF Forecasts for the Creation of a continuous Climate Record**

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In recent years radio occultation (RO) data have become an integral part of monitoring the atmosphere because of their high vertical resolution, long-term stability ( $< 0.1$  K per decade expected), and inter-comparability between different satellite missions. Data from the CHALLENGING Minisatellite Payload (CHAMP) satellite are now available for more than six years providing the first opportunity to create RO based multi-year climatologies. At the WegCenter, temperature climatologies have been built from these data using operational analysis fields from the European Centre for Medium-Range Weather Forecasts (ECMWF) as initialization and reference data. Due to the assimilation of RO data into the ECMWF analyses since December 2006, the analyses are not independent of RO data any longer. Therefore, at the WegCenter very recently a re-processing of the complete CHAMP data set has been performed utilizing ECMWF 24 hrs / 36 hrs forecast fields for the initialization process instead of the analyses. By doing so, a continuous climate record is guaranteed from the beginning beyond December 2006. Here we present the newly processed climate record from September 2001 to August 2007 (6 complete years) and compare it to the previous record initialized with the analyses. Differences amount to  $\sim 0.1$  K or less at heights from 4 km through 30 km for the complete latitude range, increasing steadily above due to known insufficiencies mainly within the analysis fields.