

# **CLIMATE MONITORING BASED ON RADIO OCCULTATION DATA: FROM CHAMP TO FORMOSAT-3/COSMIC**

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High quality observations of the atmosphere are particularly required for monitoring global climate change. Radio Occultation (RO) data, using Global Positioning System (GPS) signals, are well suited for this challenge. The special climate utility of RO data arises from their accuracy and long-term stability due to self-calibration. The German research satellite CHAMP (CHALLENGING Minisatellite Payload for geoscientific research) provided the first opportunity to create RO based climatologies over more than 5 years. Overlap with data from the Taiwan/U.S. FORMOSAT-3/COSMIC (Formosa Satellite Mission 3/Constellation Observing System for Meteorology, Ionosphere and Climate, F3C) mission allows testing the consistency of climatologies derived from different satellites. We show initial results for monthly and seasonal zonal mean dry temperature climatologies. Our results indicate excellent agreement between RO climatologies from different F3C satellites as well as between data from different RO missions. After subtraction of the estimated respective sampling error, seasonal dry temperature climatologies derived from two different F3C satellites in closely adjacent orbits agree to within  $< 0.1$  K almost everywhere in the considered domain between 8 km and 35 km altitude.