



The use of GPS radio occultation measurements at ECMWF

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ECMWF has assimilated GPS radio occultation (GPS-RO) measurements operationally since December 2006, and they are now considered to be a key component of the global observing system. Importantly, these measurements complement the information provided by satellite radiances, because they have good vertical resolution and they can be assimilated without bias correction to the background model. This talk will review how the assimilation of the GPS-RO data at ECMWF has evolved since 2006, and summarise the current impact of this data in the numerical weather prediction system. Current efforts to improve the forward modelling of the GPS-RO data will be described, and areas which require further improvement, such as improved observation error statistics, will be highlighted. Recent wave optics simulation results estimating the size of both the instrument errors and forward model/retrieval errors in the troposphere will be presented.

The importance of GPS-RO measurements for climate reanalyses will be demonstrated. It will be shown that the consistency of ERA5, JRA55 and MERRA-2 temperature estimates in the lower/middle stratosphere has improved since the active assimilation of COSMIC data in 2006.

***Thursday, 23 August 2018, 3:30PM**

Refreshments 3:15 PM

NCAR-Foothills Laboratory
3450 Mitchell Lane

Please Note Special Location

FL2-1001 Small-Seminar Room

This seminar will be webcast live at:

<http://ucarconnect.ucar.edu/live>

Recorded seminar link can be viewed here:

<https://www.mmm.ucar.edu/events/seminars>

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