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Invited Talk
(Invited Talk)
As we prepare for the first operational GNSS radio occultation (RO) constellation (COSMIC-2/FORMOSAT-7), it is worth reviewing how GNSS RO science has progressed through strong community interactions. As potentially having the most accurate long-term temperature retrieval from space, RO scientists have suggested that other instruments and models be calibrated against its data record. RO was originally part of NASA's CLARREO mission to observe long-term global change, and although the full mission has been postponed, interest in RO by CLARREO scientists has remained. Fulfilling the potential of GNSS RO has led the RO community to perform valuable self-assessment via comparing retrievals from processing centers distributed internationally, revealing strengths and areas of improvement. The RO community has been diligent in creating data sets of value to global modelers via the obs4MIPS project. More recently, the RO community has increased interaction with the GCOS Reference Upper-Air Network (GRUAN) to develop cross-technique understanding of these different sources of SI-traceable atmospheric data. We will describe our research in advancing the accuracy of RO soundings, including work with the CLARREO project. We will present outcomes from a one-day workshop held at JPL (with remote participation) in 2010 to review GNSS RO instrument requirements for climate observing systems such as CLARREO. Finally, we will present a summary of challenges based on recent research to suggest future directions for improving and verifying RO as among the most valuable data sets in Earth science.
OSTS session
Regional and Global CAL/VAL for Assembling a Climate Data Record
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