

P25 Error distributions in the 1.1-km WRF-based RTFDDA simulations over an Israeli domain and sensitivity experiments using different numbers of soundings

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The WRF-based RTFDDA (Real Time Four-Dimensional Data Assimilation) and forecasting system is applied in Israel at 1.1-km resolution to demonstrate the potential benefits of high-resolution simulations over a complex terrain with mountains and land-sea contrasts. In this work, extensive evaluations of the RTFDDA model system at 1.1-km resolution during a five-day field campaign period of September 8 through September 12, 2013 are conducted. During the field campaign, balloon launches were made at a nominally 3-hourly interval at 00Z, 03Z, 06Z, 09Z, 12Z, 15Z, 18Z and 21Z at three sounding stations that are situated approximately 10-20 km away from each other. Both the subjective and objective verifications show that the 1.1-km domain resolves the observed soundings at the three sounding locations quite well. The verifications also show that the RTFDDA model system with just one sounding assimilated performs nearly the same as with two or all three soundings assimilated. Implications of the analysis results for sounding locations and data assimilation will be discussed in this work.