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The Observing System Simulation Experiment framework at the Global Modeling and Assimilation Office is used to explore the question of possible saturation of information from large quantities of GPS-RO bending angle observations. Varying quantities of simulated GPS-RO soundings, up to 100,000 soundings per day, are ingested using the Gridpoint Statistical Interpolation (GSI) data assimilation system and Goddard Earth Observing System (GEOS) forecast model. The goal of these experiments is to determine if there is a threshold beyond which increased numbers of GPS-RO observations no longer contribute to improvements in analysis quality or forecast skill. These experiments with large quantities of GPS-RO observations can also illuminate deficiencies in the current treatment of observations by the data assimilation system.

Presentation file

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