

Adaptive targeting OSSEs for planning a space-based Doppler Wind Lidar

G. D. Emmitt, S. A. Wood, S. Greco, M. Masutani, J. Woolen, Z. Toth, and Y. Song

Abstract

The benefits of directly measured winds from an orbiting instrument have yet to be realized. However, planning is underway to design Doppler Wind Lidar (DWL) missions for both NPOESS (833 km) and free flyer (400 km) orbits. In both cases, platform power is a major limiting factor. The mission definition team has adopted the philosophy that it is better to provide very accurate observations over a limited area (targets) than to cover the globe with observations that would compete poorly with model background errors. This paper will describe several strategies for selecting the target areas and the results of Observing System Simulation Experiments (OSSEs) conducted at NCEP to assess the merits of adaptive targeting of DWL profiles. .