

## Simulations of Satellite Doppler Wind Observations

Strategy:

This study will involve two objectives: 1) To develop, through computer simulations, optimal satellite-based sensor scanning techniques for direct measurement of tropospheric winds on the meso- and synoptic scales. 2) construct simulations of remotely measured wind fields for assessing impact of such fields on the diagnosis and prognosis of atmospheric phenomena through the use of Observing System Simulation Experiments (OSSE).

Progress:

Using the LAWS Simulation Model (LSM), various global coverage scenarios have been investigated as part of an effort to define the optimal orbit, configuration and sampling strategies for observations of winds for use in global circulation models. Simulated data sets have been provided to GSFC, FSU and several LAWS team members. Particular emphasis has been on providing realistic cloud cover, cirrus backscatter, aerosol distribution and wind variance on scales <600 km. Progress is currently being made to incorporate other remote sensors (AIRS/AMSU, STIKSCAT) into the global OSSEs.

Plans:

OSSEs at FSU, GSFC, Suny and MSFC will continue to be supported in the upcoming year. Additional emphasis will be given to assessing the relative contribution from clouds to LAWS performance, as well as the impacts of modifications to LAWS design parameters.

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