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APPLICATIONS OF THE MOS TECHNIQUE: A BIBLIOGRAPHY--No. 1

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1. INTRODUCTION

For more than 10 years, the National Weather Service has provided its field forecasters and various other users of weather information with objective weather guidance based on the Model Output Statistics (MOS) technique. Surface wind (direction and speed) for several stations in the eastern United States was the first weather element for which MOS forecasts were provided on an operational basis. This guidance, first issued in 1968, relied primarily on output from the Techniques Development Laboratory's (TDL's) Subsynoptic Advection Model (SAM). Later, probability of precipitation and precipitation type forecasts were added to the SAM guidance package. In 1972, probability of precipitation guidance based on output from the National Meteorological Center's six-layer coarse mesh Primitive Equation (PE) model was provided for many locations throughout the conterminous United States. Later, as indicated in Table 1, many other elements were added, and the Limited-area Fine Mesh (LFM) model became the main source of input for the MOS prediction equations.

Table 1. Approximate month and year of operational implementation for various types of MOS guidance for locations throughout the United States.

Weather Element	PE-based Guidance	LFM-based Guidance
Probability of Precipitation	January 1972	February 1976
Precipitation Amount	October 1977	October 1977
Precipitation Type	November 1972	February 1976
Snow Amount	--	October 1977
Thunderstorm/Severe Local Storms		
Short-range	--	April 1974
Medium-range	May 1973	April 1978
Maximum/Minimum Temperature	August 1973	February 1976
3-hourly Temperature	--	June 1978
3-hourly Dew Point	--	April 1980
Surface Wind	May 1973	February 1976
Cloud Amount	December 1974	February 1976
Ceiling/Visibility	October 1974	February 1976
Obstructions to Vision	--	April 1980

This bibliography is an attempt to document applications of the MOS technique to weather forecasting. The entries have been arranged by broad categories such as general reference articles and verification reports or according to the type of weather element. No article is referenced more than once. Within each subsection, the entries are arranged in alphabetical order by last name of the (first) author, and for each author, the entries are in chronological order. The double asterisk denotes the most current and comprehensive references in each particular subsection.

The vast majority of the authors are (or were) members of TDL. The listing for TDL authors is nearly exhaustive. The last section is devoted specifically to non-TDL applications.

We plan to revise and update the bibliography on an annual basis.

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