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APPLICATIONS OF THE MOS TECHNIQUE:  
A BIBLIOGRAPHY--No. 3

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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) Subsynchronous 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 conterminous 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         |
| Solar Energy                     | --                | October 1981       |
| Sunshine                         | --                | October 1983       |

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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### 3. ACKNOWLEDGEMENTS

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