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YES - THERE IS AN IMPROVEMENT IN FORECASTS

by

Charles H. Pierce, Retired
Weather Service Forecast Office
Boston, Massachusetts

C. S. Ramage in an article in the *Bulletin of the American Meteorological Society*, January 1978, says that "in spite of great strides in better observations, faster communications and greater computer power in the past ten years, forecasts had not improved." He adds that many meteorologists agree with him. The forecasters at WSFO Boston have shown that Ramage's premise is not right.

In the year just ended, the public forecasts at Boston have just made the highest skill score ever in forecasting precipitation. The average for the year was 0.549. The previous high was 0.535 in 1971. What makes the score of 1977 more significant is that it occurred in a year when the frequency of precipitation was 24%. With two exceptions, the highest in 18 years. Never before has the skill score been above 0.500 when the frequency has been so high. If the forecasters at Boston could keep their same proficiency in precipitation forecasting at the 20% frequency level, the score would go to 0.569 and the percent correct to 87%.

It should be explained that the high score this past year was helped considerably by a good showing in the summer months (April - September). It was 0.516 compared to 0.360 in 1973 - an improvement of 43%.

A graph of skill scores for Boston from 1954 through 1977 shows a peak in 1957, a higher peak in 1964, another higher peak in 1968, yet another in 1971 and now this one in 1977. Thus since 1967, we have reached new highs three times. A definite trend in improving forecasts.

The increase in forecast skill at Boston has continued right into the first month of 1978. In January, the skill score was an amazing 0.808 - another record. The number of hits was 92%. The frequency of precipitation for 12 hour periods was 32%. The previous record was 0.751 and 94% in January 1973 when the frequency was only 15%.

In the past ten years, the five year running mean of the skill scores at Boston has increased from 0.468 to 0.508 - a significant improvement of 8.5%. If Ramage needs further proof that the forecasts are improving, he should turn back a few pages in the January 1978 *Bulletin* to Figure 7 in Shuman's article on Numerical Weather Predictions and he will note a sharp upswing in accuracy of forecasts from 1974 to 1976. The greatest impact of numerical weather prediction on the improvement of forecasts so far has been the country east of the Rockies. However, the fact that all 52 forecast offices in Figure 7 showed a larger improvement in the last two years than the three eastern offices would suggest that the models are now giving more help than previously to the western forecasters.

