

1096-Q1-1438 **Bruce Atwood*** (atwoodb@beloit.edu) and **Lingzhi Meng**. *Forecasting with Wavelets Projects*. Preliminary report.

Improving time-series forecasts using wavelets is an attractive idea. By taking "weighted averages" and "weighted differences" the new time series obtained from the wavelet transformation are expected to have a simpler structure than the original data. Thus extrapolation of the transformed data followed by the inverse wavelet transformation should improve on results obtained simply by extrapolating the original time series.

Student projects can be developed around the two major problems that emerge from this approach. First, what is the best way to extrapolate? The new time series obtained after the wavelet transformation should be easier to extrapolate, but it still must be extrapolated. Second, wavelet transformations (except for the Haar) generate their own boundary effects. These must be treated carefully as their extrapolation can seriously affect the results. Both of these challenges have been explored, and results will be presented. (Received September 15, 2013)