1038-62-87 **Ou Zhao*** (`ouzhao@umich.edu`), 439 West Hall, 1085 South University, Ann Arbor, MI 48109, and **Michael Woodroofe** (`michaelw@umich.edu`), 462 West Hall, 1085 South University, Ann Arbor, MI 48109. *Isotonic regression with applications to global warming.*

In this talk I will consider nonparametric estimation of an increasing trend in time series analysis. The estimation is illustrated by global temperature anomalies, using ideas from isotonic estimation. The asymptotic distribution of estimation error is obtained under nearly minimal conditions. The last value in the series is of particular interest for the temperature anomalies. It is also mathematically challenging, since standard isotonic estimators have to be modified. The derivation of the asymptotic distributions uses some recent advances in studying the conditional central limit question. Time permitting, I will describe some recent progress on this question as well. (Received January 30, 2008)