

1086-62-1423

Nancy Tafolla* (tafolla@rohan.sdsu.edu). *Error Estimation of Global Historical Data Reconstruction.*

This presentation will discuss monthly reconstruction of precipitation over the entire globe at a 2.5 by 2.5 degree resolution from January 1900 to December 2010. This historical data reconstruction uses a method of multivariate linear regression, land station observations of precipitation and empirical orthogonal functions (EOFs) to make the spatial prediction of precipitation over the entire globe. The EOFs are computed using data from the Global Historical Climatology Center (GPCC) with a 2.5 degree resolution. The station data used is from the Global Historical Climatology Network (GHCN). This presentation will specifically detail (1) the mathematical theory of reconstruction and its error estimate (2) global climate changes inferred from the reconstructed data, and (3) the 1930s mega drought of the United States and its relation to the patterns of global precipitation and sea surface temperature. (Received September 21, 2012)