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Samuel S Shen* (shen@math.sdsu.edu), Department of Mathematics and Statistics, San Diego State University, San Diego, CA 92182. *Trends, hottest and coldest years, climate regimes, decadal variations, and uncertainties of the United States temperature and precipitation since 1895.*

This lecture discusses six different climate regimes of the contiguous United States (US) according to the US Historical Climatology Network Version 2 (USHCN V2) data (Tmax, Tmin, Tmean, and precipitation) from 1895-current: 1895-1930 (cold), 1931-1960 (warm), 1961-1985 (cold), 1986-2010 (warm), 1895-1970 (dry), and 1971-2010 (wet). The temperature and precipitation data also imply different causes and consequences between the 1930s Dust Bowl warming and the latest warming in the last three decades. The roles of the Pacific and Atlantic sea surface temperature distributions are analyzed for the three major drought events since 1895: the 1930s mega drought, the 1950s severe drought, and the 1998-2002 major drought. The lecture will also discuss the sampling error variances of gridded monthly (USHCN V2). Our analysis assesses uncertainties, trends, and the rankings of the hottest and coldest years for the contiguous United States since 1895. From 1895-current, every month from January to December has a positive linear trend. February has the largest trend of 0.162 deg C per decade, and September has the smallest at 0.020 deg C per decade. The three hottest (coldest) years measured by Tmax over the US were ranked as 1934, 2006, and 1999 (1912, 1917, and 1903). (Received August 25, 2012)