Climate variation generally occurs at local scale, regional scale, national scale and global scale. Having established that the global climate has varies slowly over the past millennia, centuries, and decades it is expected to continue to vary in future. Like the climate change, variability may be due to, national internal processes within the climate (internal variability), or variations in natural or anthropogenic external forces (external variability). Evidence of climate variations is now well documented, and the implications are becoming increasingly clear as data accumulates and data and climate models become increasingly sophisticated. The fluctuations in Rainfall and Temperature regimes are basically the atmospheric driving forces that are responsible for the climate variations over the south eastern Nigeria including Imo State as the case in other parts of the world. It is on this premise that this study examined the evidence of climate variability in Imo State of the southeastern Nigeria. The study employed the holistic use of real meteorological data from Nigerian Meteorological Department on two weather parameters (temperature and rainfall), for 30 years (1980-2009). Results indicated fluctuations in temperature and rainfall regimes within the period under study, which were the reasons for the variations in climate of the region. Apparently, evidence of climate variability are indicated by increasing surface air temperature, increasing heat waves which enhances disease vectors, communicable diseases and epidemics, sea level rise and associated coastal erosion, flooding, increased evaporation that dry up streams and rivers etc.