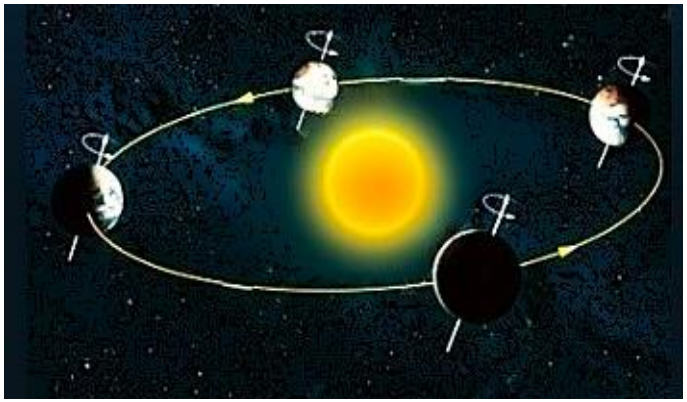
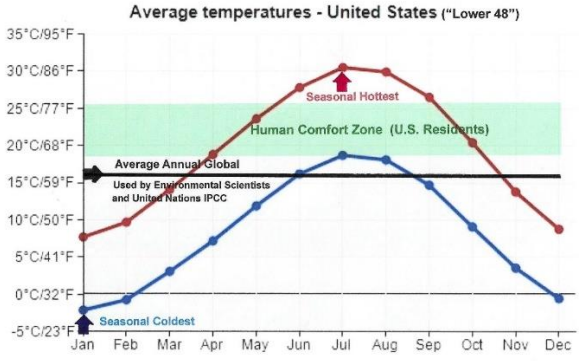
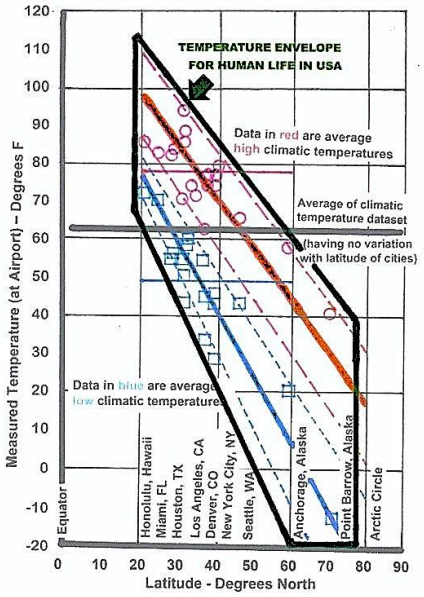
The use of a global average annual temperature by environmental scientists in the tracking of global warming and climate change masks the seasonal effects on temperature and the extremes of hot and cold temperatures to which the human population and the environment will be exposed and must adapt to. The misleading "one-size-fits-all" average global average global temperature (used by the United Nations IPCC) – horizontal black line - is shown in both figures below for reference:

Shown below are the geophysical (the variation in distances from the Sun and obliquity angle) causes for the seasonal effect of the Sun's irradiation on Earth's surface (land and ocean) temperatures.







(Average monthly temperatures – hot and cold - pertinent to the "lower 48" of the United States latitudinal region are from the meteorology database of the National Weather Service (NOAA).

(Average annual temperatures for latitudes within the geophysical boundaries of the temperature envelope are also from the NWS/NOAA database showing latitudinal variation. Some major US cities are shown.)