There is no doubt about existence of interrelation between climate alteration and solar activity. The Sun is a prominent figure among the candidates for causing climatic change. Much of this energy evaporates water and causes atmospheric convection. Solar radiation, general circulation of atmosphere, geographical location of continents and oceans and the largest forms of a relief are the primary factors influencing on climate of lands. Helioclimatological database can help to climatology in theoretical identification of kinematical components of climate and to develop theoretical basis of climate prediction. It is evident that not every part of Earth receives the same amount of solar radiation. For understanding the climate change process it is necessary to classify earth surface in accordance with radiative forcing of Sun. Influence of solar activity on hydrometeorological components was considered on example of a helioclimatological province of the Rhine river basin.

Air temperature in dependence from solar activity over the period 1755-1964 in Basel (Switzerland), can be described by following equation:

\[ T^\circ = 0.142W + 8.32; \quad r = 0.71 \]

Air temperature in dependence from solar activity over the period 1779-2008 in Karlsruhe (Germany), can be described by following equation:

\[ T^\circ = 0.017W + 9.25; \quad r = 0.72 \]

\( T^\circ \) - temperature of air in Celsius
\( W \) - Wolf's numbers
\( r \) - coefficient of correlation

Discharge of Rhine river from solar activity in different averaged cycles of solar activity is calculated as following:

\[ Q_1 = 0.16W + 44.083; \quad r = 0.92; \]
\[ Q_2 = -0.17W + 58.57; \quad r = 0.89; \]

\( Q_1/Q_2 \) - discharge of the river in cu.km/year
\( W \) - sunspots number,
\( r \) - coefficient of correlation.