The Aegean Sea has a complex tectonic structure and it is known as the deforming regions and rapidly extending provinces. The Hellenic trench located on the Aegean Sea is the most prominent tectonic structure. The intensity seismic activity and low heat flow are observed in the trench. In this study, we investigated the correlation between properties of seismicity and distribution of heat flow in the Aegean Sea. For this study; i) the heat flow values were calculated from magnetic data and distribution map of heat flow was drawn for the Aegean Sea, ii) properties of seismicity map of the study area were constituted of earthquakes occurred the period 1964-2016 for different depths. Properties of seismicity and heat flow values were correlated with each other and the earthquakes data were drawn on the distribution of heat flow map for the study area. In conclusion, we observed that the trench area is represented low heat flow, high seismicity. Also, the back-arc region where shows low seismicity is characterized with the higher heat flow (70-80 mWm-2) and the area exhibits relatively low seismicity and high b value except for the eastern part of the Aegean volcanic arc.