The present thesis deals with the influence of moisture flux and variables, it is derived from, on rainfall in Europe. Sources of this thesis are the NCAR/NCEP and the ERA-40 reanalysis and the GPCC and the ECA&D rainfall databases. A western moisture flux prevails on studied 850 hPa isobaric level, it reaches the highest intensities over the Atlantic around 55th parallel of latitude. There is the highest correlation between moisture flux magnitude and monthly rainfall in winter on the western coast of Europe and it decreases in summer and eastwards. The correlation is very weak or none in some parts of Europe, especially in the eastern Mediterranean. Extremely wet months are related with different intensive moisture flux directions in different parts of Europe, for example there is the highest correlation of monthly rainfall with the northern moisture flux in the Czech Republic. Several selected heavy precipitation episodes in Europe are presented in this thesis – during them the moisture flux anomaly is observed, but it differs in orientation and intensity. A high wind speed causes this anomaly more frequently than a humidity. This does not apply to every event, further research is needed to draw general patterns of moisture flux during high precipitation events.