

Atmospheric blocking is a synoptic-scale weather phenomenon, which might have significant economic and social impacts on account of a correlation with severe weather features, such as heat waves, persistent drought periods or floods. Several objective detection methods were developed in order to study blocking events. These methods are described and qualitatively discussed in the review part of the thesis. Chosen detection methods were subsequently used for an analysis of basic blocking characteristics over European region. Time evolution of blocking frequency and blocking duration is the key part of results, focusing on possible correlation of these characteristics with the global temperature rise within climate change.