



Analysis of the Development of Convective Cloud caused by Sea-effect on the Yellow Sea in Winter and the Characteristics of Heavy Snowfall in Jeollabuk-do

Eun-joo Park, Jae-hwan Lim, and Jong-chan Park

Jeonju Branch Office of Meteorology, Republic Of Korea(ejpark@kma.go.kr)

Jeollabuk-do often experiences heavy snowfalls caused by convective cloud. Convective cloud is created by the sea-effect of the Yellow Sea, when the Continental Polar High(Siberian Airmass) expands to the Korean Peninsula in winter. The topography of the western part of Michigan State of the United States is similar to that of Jeollabuk-do. That is why the characteristics of heavy snowfall caused by the lake-effect of the Great Lakes are very similar to those of Jeollabuk-do's heavy snow. This study has compared heavy snowfall cases in the western coast of Jeollabuk-do, South Korea with those in the Great Lakes and verified the characteristics of heavy snow in Jeollabuk-do by applying the lake-effect of the Great Lakes to the analysis. As the results of the analysis, there are differences between the two regions in terms of atmospheric-sea surface temperature difference, wind speed and direction, vertical wind shear and depth of boundary layer and so on. Based on this analysis, we will identify the characteristics of heavy snowfall in Jeollabuk-do caused by the sea-effect and utilize it to forecast heavy snow.