



## **A study on Impact Forecasts in case of heavy snowfall on Jeju island: altitudinal snow distribution and road-control possibility**

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Heavy snowfall in Jeju is caused by convective cloud generated by air-sea temperature difference. Halla mountain(1950m) located on the middle of Jeju island increases the altitudinal snow distribution by topographic effect. Thresholds are calculated to decide road-control possibility in this study. 8 main roads on Jeju island divide into 28 sectors on the basis of level 100m, 200m, 600m. Then road-control cases are divided into 4 cases and analyzed by heavy snowfall and snow distribution on the coast observation sites. The significant meteorological factors for road-control are the temperature difference between surface and atmosphere(925hpa, 850hpa), temperature, wind direction and speed(925hpa, 850hpa), freezing level and 0 [U+2103] isotherm distribution. The result of advanced research(Hagmark and Ivarsson, 1997), when wet-bulb temperature is 1.2 [U+2103], the possibility of heavy snowfall is about 50% to distinguish snow into rain, is applied in this study. On the basis of this result, the threshold to road-control possibility is suggested by divided into 0cm, 2cm, 5cm, 10cm and the snow distribution is on below 0 [U+2103] isotherm.