Advances in Geosciences
An Open Access Journal for Refereed Proceedings and Special Publications

Adv. Geosci., 7, 147-151, 2006
www.adv-geosci.net/7/147/2006/

Kinematic characteristics of hailstorms in Northern Greece

D. V. Foris[1], T. S. Karacostas[2], A. A. Flocas[2], and T. I. Makrogiannis[2]
[1]Meteorological Applications Center, Greek Agricultural Insurance Organization (EL.G.A.), "Macedonia" Airport, 551 03 Thessaloniki, Greece
[2]Aristotelian University of Thessaloniki, School of Geology, Department of Meteorology and Climatology, 540 06 Thessaloniki, Greece

Abstract. The purpose of this study is the analysis of radar data, digitally recorded, during an operational hail suppression program in the region of Central Macedonia, Greece, for the warm period of the years 1997–2001. Kinematic characteristics, such as lifetime and distance traveled by hailstorms, as well as direction of motion and speed, have been related to type of storms and season. It has been found that singlecells are short-lived and travel short distances, while multicells are long-lived and travel long distances. On the contrary, their corresponding speed distributions are similar. The deviation of the direction of motion from mean wind is smaller for singlecells than for multicells. September and July exhibit the maximum and minimum average storm speeds as a direct implication of synoptic disturbances passage and convection, prevailing respectively. Finally, storms overcoming orographic barriers decelerate in general on the windward side and accelerate on the lee side of mountains.

Full Article in PDF (PDF, 209 KB)

Citation: Foris, D. V., Karacostas, T. S., Flocas, A. A., and Makrogiannis, T. I.: Kinematic characteristics of hailstorms in Northern Greece, Adv. Geosci., 7, 147-151, 2006. Bibtex EndNote Reference Manager