For Details, Contact:

Michalis V. Sioutas

ELGA - Weather Modification Center,
International Airport Macedonia
55103 Thessaloniki
Greece
E-mail: sioutas@mail.com

Conference on European Tornadoes and Severe Storms

Hail patterns and variability at areal and temporal scales in Northern Greece

Michalis V. Sioutas, ELGA - Weather Modification Center, International Airport, Macedonia, 55103 Thessaloniki, Greece

Hail is commonplace in northern Greece during the warm season, while occasionally hailstorms produce large hail causing significant levels of damage to crop. The areal and temporal distribution of hailfalls is primarily characterized by the extreme variability of the hail processes and the limited availability of conventional meteorological station records or hailpad network data.

Certain aspects of hail distributional characteristics and variability detected on a series of hail events for the area of central Macedonia, northern Greece, within the period of 1984-99 and the warm season of each year (1 April-30 September). Hail day frequency and monthly and seasonal distribution have been determined using the national crop insurance hail data. Surface hail patterns have been designated by a hailpad network operated within the context of the Greek national hail suppression program.

The areal distribution of hail occurrence and various typical characteristics of hailswath patterns have been identified. Variations in several hail parameters and localized hailcores within more extensive hailstreaks were revealed by the hailpad network, with a mean linear spacing of 1.5 and 4.5 km for the dense and the regular hailpad sites. Various hail parameters obtained by the hailpad network data, including total hailstone concentration, hailstone size distribution and maximum hail size, the percentage of hailpad area covered and total hail kinetic energy, have been studied for examining physical characteristics and variability of hailfall.