

# WEATHER MODIFICATION EXPERIMENTS IN BAVARIA

HANS GERHARD MÜLLER  
DEUTSCHE VERSUCHSANSTALT FÜR LUFT- UND RAUMFAHRT,  
MÜNCHEN-RIEM

## 1. Introduction

The region of the Bavarian Plains, situated at the northern slope of the Alps is frequently affected by hail damage. Therefore, the Bayerischer Landtag (Bavarian State Parliament) decided to start an experiment using silver iodide released from rockets, as well as from ground generators, to obtain more information about possibilities of suppressing hail by seeding hail clouds. Silver iodide seeding possibly may cause hail suppression by adding artificial ice nuclei to an air mass in which natural ice nuclei are very few in number, as is known for tropical air masses in Central Europe. If it were possible to generate a large number of small ice particles instead of a small number of big hailstones, damage could be reduced considerably. But there is still some doubt whether the usual seeding action will get a sufficient number of artificial ice nuclei into sensitive parts of the thunderstorm cloud at the right time.

The region of Rosenheim was chosen for the experimental area due to the special interest in this field shown by the Rosenheim local authorities as well as the farmers' association. The main part of the Rosenheim district consists of plains with only small hills and a number of minor lakes. The southern part is on the northern slope of the Alps and extends to the border of Austria (Tyrol). The Rosenheim district covers an area of approximately 320 square miles, extending 21 miles from north to south along the Inn River, and 15 miles west to east. Lake Chiemsee forms part of the eastern border.

The intention was to suppress hail as much as possible in the target area (Rosenheim district). Therefore, at first it was necessary to investigate how often hail damage has been observed and the main features of its occurrence. This investigation was based on official weather reports and the reports of the official hail Insurance Organization.

In our region, hail is an infrequent event and restricted in area. For this reason, the official weather reports give characteristic values for the number of hail observations at the place of each weather station itself but not good information about the number of hail strikes in the whole region. In this respect, the hail insurance reports for the damaged area are more informative.

As can be seen from the weather data as well as from the hail insurance reports,