

New hailstone study expected

Hail damage in the United States costs nearly \$300 million annually. Hail can range from the size of a pea to as large as a brick.

Because hail can severely damage young, tender vegetation some farmers have turned to cloud seeding in hoping such hail suppression programs will take the sting out of passing storms. The suppression programs are controversial. Dryland farmers think the programs blow the water they need out of the sky. Other farmers want to protect the plants from pelting hail.

Scientists at Texas A&M University suggest that huge mass suppression programs may not be necessary.

What is needed is a basic understanding of what makes the hailstone form in the first place, says John Marrs, a meteorologist at Texas A&M. Marrs is formulating a new study into hailstone formation.

"We still feel there is just not enough information available about the growth of large hailstones," says Marrs. "So, we tend to be cautious in rushing into hail suppression project. It's conceivable you could produce larger hailstones instead of smaller ones."

Most suppression work is done on the theory that there are not enough growth nuclei available to stop the formation of large stones.

The basic idea is to produce large number of nuclei to make many smaller stones, instead of several large stones.

"More than 100,000 quarter-inch

hailstones will usually not do as much damage as 1,000 one inch stones spread over the same area," Marrs says.

Marrs says cloud seeding may be appropriate someday, but more needs to be known about where to seed. Currently the seeding material is spread indiscriminately. It would be better to know exactly where to seed, he says.

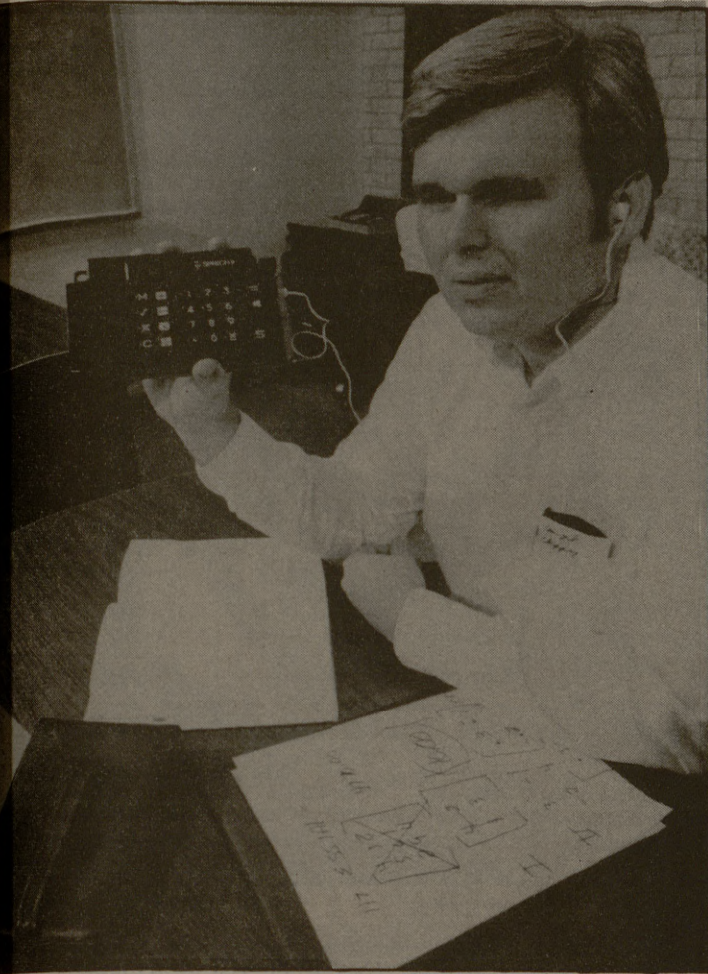
"We want to do an analysis of as many hailstones from as many different storms as possible," Marrs says. "We need to analyze what type of stone is produced by different storms. To do that, we need hailstones from as many sources as possible."

"In a sense I am looking for any variety in the way a hailstone forms, such as the geographic area or meteorological conditions. Probably the most widespread idea is that hail is formed as it moves in large vertical circles in the clouds. The stone is supposed to rise again and again in the cloud until it is too heavy to be supported by fast moving updrafts of air."

There has been a lot of research in the last decade indicating that this does not happen, at least in some storms on the Great Plains, Marrs says.

He suggest most large stones are formed in one ascent up the clouds, not in a repetition of circles. This does not mean they do not form in different ways in other areas of the country.

Hail occurs in almost every state from Colorado to Florida.



Battalion photo by Steve Mayer

Clarence Parks, a Texas A&M student who has less than 5 percent normal vision, is shown with a special calculator which helps him to complete his statistics courses. A simulated human voice tells Parks the answers.

Blind Aggie using talking calculator

A "talking" pocket calculator is helping a visually handicapped student complete course work at Texas A&M University.

For 32-year-old Clarence Parks, who has less than 5 percent normal vision, the graduate statistics courses he needs for graduation seemed impossible to take until Texas A&M officials came to his aid. Parks was taking about 10 times as long as other students to complete classroom problems. He says he did "fously" in his statistics course last semester.

Now, with the calculator and advance copies of lecture notes, the situation has changed from "a nightmare into just another difficult course," says Parks, a doctoral student in sociology from College Station.

After discovery of the talking calculator's existence, it took Texas A&M authorities almost two months to locate and obtain one.

"Bill Parker of the Purchasing Department deserves special recognition and commendation for the

time and effort he expended in locating this equipment," said Dr. William Smith, Institute of Statistics director.

It was purchased with operating funds and a special donation from the Association of Former Students.

The talking calculator is a product of a California firm. It performs the usual operations, but is able through a simulated human voice to tell its operator what information he has just punched in and what the answer is.

It operates at a slower speed than other calculators in order to let the user keep the figures straight in his head, and it comes equipped with an earplug for classroom situations. "No one would want to hear my answers, anyway," Parks says.

Smith said the talking calculator will be kept in the Institute of Statistics and made available to any student or faculty member who might need it.

Parks is one of about a half-dozen blind or visually impaired students on the Texas A&M campus.



Scientists at Texas A&M University are developing a study on how damaging hailstones like this one are formed. John Marrs, a meteorologist says this hailstone probably grew to a three-inch spread in a single ascent up a thunderhead at speeds of 90 miles an hour.

Undergrads to talk on research

Results of year-long research by 51 Texas A&M University seniors will be presented Saturday during the first University Undergraduate Fellows (UUF) Symposium, scheduled for 8:30 a.m. to 12:30 p.m. in Zachry Engineering Center.

For the first time, Texas A&M undergraduates who have done graduate-type research on topics ranging from biology to business

will make formal presentations, said Dr. Mel Friedman, coordinator of the UUF phase of the University Honors Program.

Each 20-minute paper will examine findings compiled by the seniors during six credit hours of research conducted as part of the requirements of the UUF program. They also have to write substantial papers similar to those of their graduate-level

counterparts.

Seven concurrent sessions will include groups in biochemistry; biology; biology and botany;

business, government and history; engineering and math; physical sciences; and psychology, education and English.

Rooms 104 and 105 of Zachry are reserved for the event.

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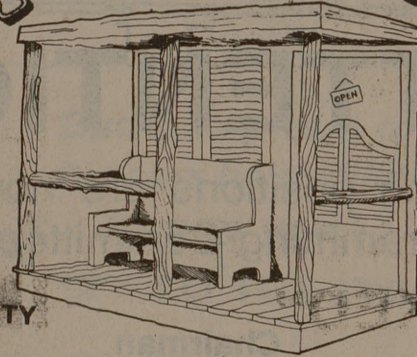
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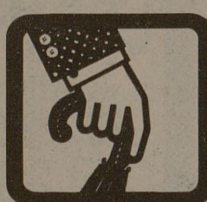
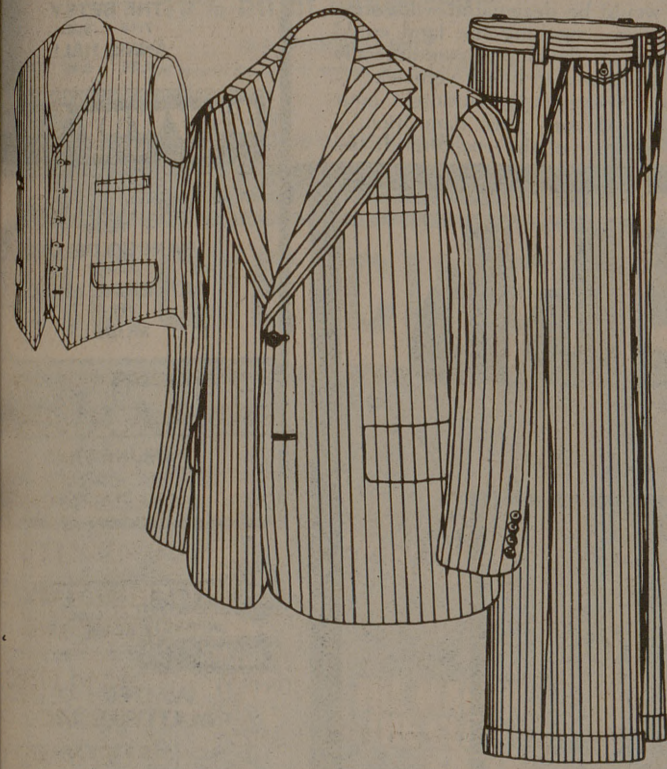
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