

# Chowan In Good Position To View Solar Eclipse Saturday

GREENVILLE — One good look at a spectacular solar eclipse can be a blinding experience—literally!

Scientists at East Carolina University hope their warning won't scare off potential visitors to the campus on March 7 when one of nature's rare spectacles takes place; but they agree that the risk involved in viewing or photographing the eclipse warrants careful precautions.

ECU is in the center of the path of totality and preparations for the university's role as the hub of scientific activity are being made. A vital aspect of these preparations is the issuance of information regarding the steps toward safe viewing.

The sun, for all its life-sustaining beneficence is no respecter of retinas. It can blind you, partially or totally, in one eye or both, depending on how and for how long you look directly at it. Although they may steal a quick glance in the sky

To see how the sun shines, people just aren't in the habit of staring at it. Any strong light can hurt the eyes and it just seems instinctive to avoid that contact. A five-second stare, for example, could be sufficient to do permanent damage.

On impulse, folks will be tempted to slip on their sunglasses to watch, thinking themselves safe. Don't try it with sunglasses. They fail to filter those rays of the sun which can cause permanent damage. The same thing applies with cameras. Even with the proper neutral density or dark red filters mounted on the lenses of reflex cameras, don't chance looking through the viewfinder. No camera viewfinder is safe to look through when aimed at the sun.

There are, of course, several alternatives, although some are chancier than others. For example, a piece of heavily smoked

glass has sufficient filtration to permit relatively safe viewing for short periods of time. Simply take any piece of window glass and move it slowly over the flame of a burning candle until it is evenly and heavily smoked on one side. One word of caution: just a tiny smudge of the surface can undo your work, ruin its effectiveness and possible result in damage.

Another idea, safer but more involved, is to build a small viewer using sheets of aluminized plastic and evenly exposed film. Sandwich the film between two pieces of the plastic and, presto, a viewer. Tape the edges together or mount your sandwich in a cardboard slide mount (it doesn't have to be very big) and you remove the chance of losing a piece. Aluminized plastic is available inexpensively from any scientific supply house and anyone who owns a camera can expose film.

Dr. R. M. Helms and Dr. Floyd Matthes,

two ECU scientists heading up the eclipse preparations, agree that neither of these ideas should be recommended for children. Their natural curiosity and their lack of experience in following instructions could cause them to remove any visual barriers between them and the sun.

For everyone, but children especially, the safest way to watch the eclipse is to do so with the back to the sun. This can be accomplished easily by constructing a pinhole camera out of ordinary cardboard or a discarded linoleum tube. Form a rectangular box three or four feet long, or cut a tube of that length. Close both ends. Poke a hole approximately one-eighth of an inch in diameter in the center of one end. Attach a piece of white paper inside at the base, cut a hole above it for pur-

poses of viewing, and you are in business. Simply aim the pinhole at the sun, stand back to it, and view through the opening. A "camera" made with a yard-long tube or box will produce a solar image about a half-inch in diameter and will be perfectly safe.

Drs. Helms and Matthes recommend that anyone with doubts or questions about the safety of any suggested method of viewing contact a local physician, scientist, optician or anyone whose credentials lend authority on the subject, for advice on safe viewing.

If proper precautions are observed, and they are relatively simple to achieve with proper information, then there is no reason why thousands of North Carolinians, including school children, cannot witness and enjoy one of the true wonders of nature.

## Experts Agree Unanimously:

### TV Is Safest Method To View Phenomena



# DANGER

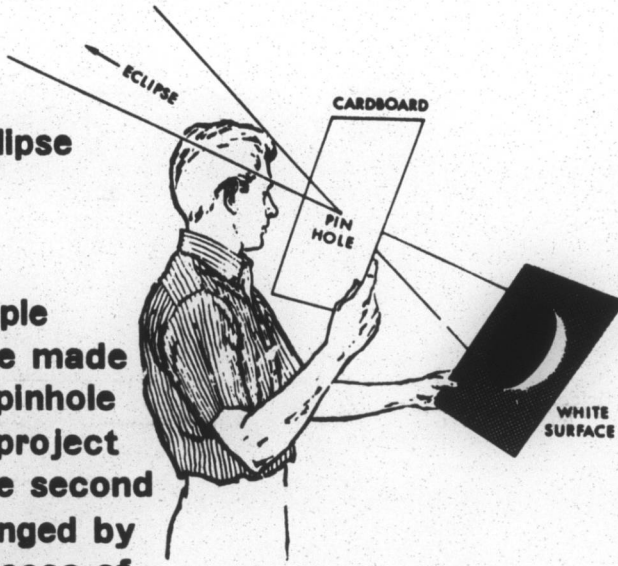
## SOLAR ECLIPSE MARCH 7, 1970

**Sunglasses, smoked glass, exposed photographic film, and welder's goggles ARE NOT SAFE for watching the eclipse. Only by indirect methods, such as television or simple projection devices, can this phenomenon be observed without risking damage to the eyes, warns the National Society for the Prevention of Blindness, Inc.**

### USE ONLY INDIRECT METHODS:

**1. Watch television.** Without question, the safest method for viewing a solar eclipse is by watching it on television.

**2. Use the indirect pinhole method.** A simple projector for observing the eclipse can be made with two pieces of white cardboard. A pinhole or pencil hole in the top piece serves to project and focus the image of the eclipse on the second piece. The size of the image can be changed by altering the distance between the two pieces of cardboard. **DO NOT LOOK AT THE SUN THROUGH THE PINHOLE.**



### EYE DAMAGE DURING ECLIPSES:

In 1959, 170 people, mostly school children suffered permanent damage to the sight of one or both eyes.

In 1963, one-half of the country's ophthalmologists reported 247 cases of visual damage.

### ACCORDING TO MEDICAL AUTHORITIES:

The danger of the retinal burn comes from the invisible infrared rays which penetrate light filters and instantaneously damage eyes. The retina is not sensitive to pain, henceforth the victim might not immediately be aware of eye damage. Retinal burns are incurable and destroy the field of fine vision. The victim's ability to read is lost forever.

The March 7 eclipse will be total in the eastern part of North Carolina. The next total eclipse in the continental United States will occur in 1979 in the northwest corner of the United States. The path of totality will be about 80 miles wide and will follow a line from Elizabethtown to Greenville before striking eastern Virginia and moving out into the Atlantic Ocean. Raleigh and Wilmington will be just out of the path of totality. All parts of North America, except Alaska, will experience the partial eclipse.

RALEIGH—The safest way to watch the solar eclipse on March 7 is by viewing the phenomenon on television, State School Superintendent Craig Phillips advised school children this week.

Paul Taylor, director of the Division of Science Education for the Department of Public Instruction, said, "Sunglasses, smoked glass, exposed photographic film and welder's goggles are not safe for watching the eclipse. Only by indirect methods, such as television or by the indirect pinhole method can the eclipse be observed without damage to the eyes."

Thousands of handbills were mailed to each school system last week to advise children and their parents of possible eye damage while watching the eclipse direct. The National Society for the Prevention of Blindness, Inc., and other agencies are cooperating in advising the general public.

Taylor said the danger of the retinal burn comes from the invisible infrared rays which penetrate light filters and instantaneously damage eyes. The retina is not sensitive to pain, henceforth, the victim might not immediately be aware of eye damage. Retinal burns are incurable and destroy the field of fine vision. The victim's ability to read is lost forever.

In 1959, 170 people (mostly school children), suffered permanent damage to the sight of one or both eyes. In 1963, one-half of the country's ophthalmologists reported 247 cases of permanent damage.

"Teachers and parents should caution children as to the possible dangers. Without question the safest method for viewing the solar eclipse is by watching it on television," Phillips said.

RALEIGH—The executive director of the N. C. State Commission for the Blind, Grady R. Galloway, urged today that the public refrain from any type of direct viewing of Saturday's eclipse, regardless of whether they have protective devices which supposedly screen solar rays.

Galloway said the state agency has issued memoranda to all its professional staff citing the dangers of direct viewing of the sun and asking the staff to "pass the word" to everyone they know.

The agency stand is based on medical research, reported through the National Association for Prevention of Blindness as well as information reported to the Commission from North Carolina ophthalmologists and residents, that reveals thousands of persons suffer retinal burn each time an

eclipse occurs.

Galloway said ophthalmologists associated with the Commission say retinal burn is not immediately detected because it is not felt in the insensitive retina. Such burns cause later complications in "fine" vision. An example of "fine seeing" is reading.

Medical and other evidence presented to the Commission reveals that many misconceptions prevail about viewing the sun during eclipse conditions, Galloway said.

"Most people realize, because of the discomfort involved, that it is unsafe to look at the sun under everyday conditions," he said. "What they do not realize is that the burning rays are not blocked during an eclipse."

"There is a popular, widespread but inaccurate belief that use of protective devices such as smoked glass and exposed film will filter out the sun's rays," Galloway continued. "Our evidence is that such protective devices, except in the hands of highly trained experts, actually increase the danger by prolonging the exposure."

The Commission for the Blind has cooperated with other state and private agencies to distribute material across the state warning against direct viewing during the eclipse, Galloway said. "We have recommended that people, particularly families with small children, watch the eclipse on television or use an indirect method of viewing."

One simple method of indirect viewing utilizes two pieces of cardboard. The person observing places a pin hole in one piece of board, holds it toward the sun but with his back to the sun, and catches the reflection on the other board. The image can be altered by increasing or decreasing the distance between the two pieces of cardboard.

Danger during Saturday's eclipse is increased in North Carolina, Galloway said, because totality will be reached in the area. "We have placed emphasis on circulation of warning materials in the state, particularly in the east, where 100 per cent totality will occur."

"But we still hear people talking about watching the eclipse through smoked glass and exposed film. We feel it is our duty to warn again that this is unsafe. We know here at the Commission that the kind of injury to the retina which occurs during an eclipse is sneaky. Once the damage occurs, it's too late. Retinal burn is incurable. The ability to read is worth more than a peak at the sun."



**POSTER CONTEST IN SCIENCE CLASS**—One of the many activities in Edenton-Chowan Schools to draw attention to Saturday's eclipse was a poster contest in the eighth grade science class at D. F. Walker Junior High School. Mrs. Cora Sharp, right, poses with students who were named winners in the contest. Front row, left to right, are: Nancy Travis, Wendy Crawford, Celia Sanford, Connie Evans and Mrs. Sharp. Second row: Wilber Gilliam, Carl Watson, Nello Manning and Dick Adams.



**LECTURE ON ECLIPSE**—Elementary grade students at D. F. Walker School recently were given answers to the what's and why's involving the eclipse by Mrs. Dolores Stone, librarian. Mrs. Stone is shown here with a group of third graders.