1963

Total eclipse of the sun: Saturday July 20, 1963, 5:41 to 5:45 P.M. EDT

Maine Department of Economic Development

MAINE

TOTAL ECLIPSE
of the sun
Saturday
July 20, 1963

5:41 to 5:45 P.M. EDT

PATH OF TOTALITY

5:42

5:43

5:44

See inset above

CENTRAL LINE

SOUTHERN LIMIT

The Forks
Pleasant Pond
Caratunk
HQ. Sky & Telescope
Dover-Foxcroft
Guilford
Wyman Lake
Kingsbury Pond
Bingham
King Hill
Wellington
Cambridge
Dexter
Ripley
Indian Pond
Great Moose Lake
Corinna
St. Albans
Hartland
Kennebec River
Lakewood
Skowhegan
Sebasticook Lake
Levant
Orono
Newport
E. Newport
Etna
Carmel
BANGOR
Pittsfield
W. Hampden
Madawaska
Fort Kent
Limestone
Caribou
Fort Fairfield
Presque Isle
Houlton
Millinocket
Jackman
Greenville
The Forks
Milo
Dover-Foxcroft
Stratton
Sugarloaf Mtn. 4237 ft.
Bingham
Cambridge
Dexter
Rangeley
Old Town
Orono
Newport
Bangor
Brewer
Skowhegan
Pittsfield
Farmington
Wilton
Fairfield
Waterville
Winslow
Rumford
Mexico
Winterport
Bucksport
Ellsworth
Belfast
Bar Harbor
Mt. Cadillac
Desert Islands
Stonington
Calais
Eastport
Lubec
Machias
Jonesport
Augusta
Gardiner
South Paris
Auburn
Lewiston
Camden
Rockland
Wiscasset
Bath
Brunswick
Boothbay Harbor
Westbrook
Portland
South Portland
Alfred
Sanford
Saco
Biddeford
Kittery
MAINE TURNPIKE
Quebec
Montreal
Toronto
Buffalo
Albany
Boston
Halifax
500 miles
250 miles
Philadelphia
New York
Washington
INCREASING FOGGINESS

AROOSTOOK
PISCATAQUIS
SOMERSET
FRANKLIN
OXFORD
KENNEBEC
PENOBSCOT
WASHINGTON
HANCOCK
WALDO
KNOX
LINCOLN
ANDROSCOGGIN
SAGADAHOC
CUMBERLAND
YORK

NEW BRUNSWICK
QUEBEC
NEW HAMPSHIRE

N

0 10 20 30
Scale in Miles

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Revised April 15, 1963 to include places mentioned in "Sky and Telescope" magazine

Once about every 360 years . . .

a total eclipse of the sun will occur on the University of Maine campus

On July 20, 1963, nature will present her most startling phenomenon, a total eclipse of the sun, which will not be seen again in New England in this century. For us at the University of Maine in Orono, partial phase will begin at 4:38 p.m. EDT, when a slim notch will be seen in the western edge of the sun, cut out by the black figure of the moon which will be passing in front of the sun from west to east. For the next hour the moon will steadily encroach upon the sun until just a thin crescent remains in sight. By this time everything will have taken on a strange appearance; daylight will dim rapidly; birds will go to roost; the temperature will drop, and the feeble sunlight shining through small interstices among the leaves of foliage will make little crescents on the ground. Presently the dark shadow will be seen rushing towards us and suddenly, at 5:43 p.m. when the sun will be completely eclipsed by the moon, near darkness will descend and the brighter planets and stars will appear, the pearly white corona will burst into view and reddish prominences may be seen reaching out from behind the disc of the moon. For the next 50 seconds this magnificent spectacle will persist and then bright beads of sunlight will be seen along the western edge of the moon becoming a growing crescent as the moon, in its march to the east, uncovers the sun again during the following hour.

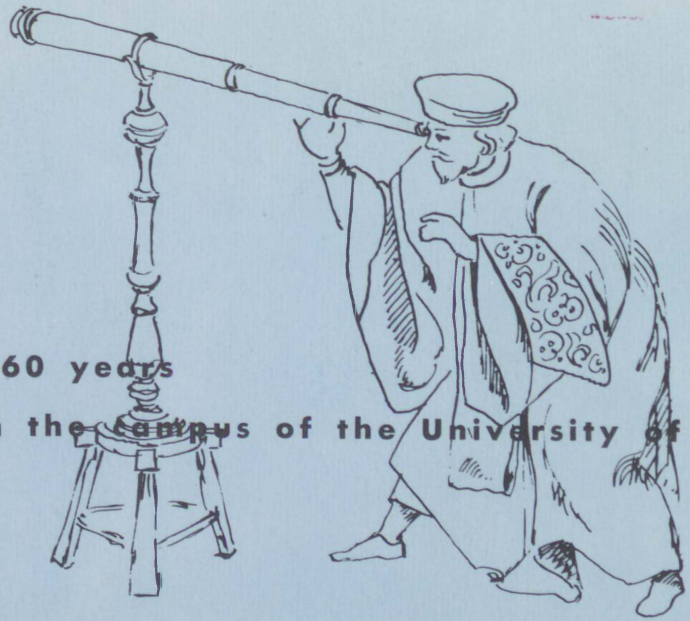
WARNING

Latest recommendation for viewing sun is to use two thicknesses of fully exposed and developed black and white photographic negatives.

During the week of the eclipse the University of Maine will be host to 400 members of the Astronomical League, to astronomers of the nation's observatories, and to scientists of national scientific foundations, planetaria and government research facilities who will observe this impressive phenomenon with all sorts of telescopes and radio telescopes.

CAUTION! During the partial phase do not look directly at the sun except through heavily exposed and developed photographic negatives or some equally dense filter such as very darkly smoked glass. Naked eye viewing could result in serious damage to one's eyes. Don't use binoculars, opera glasses or any sort of a telescope without consulting some authority as to the special precautions which must be taken to protect the eyes. A mere glance at the sun through such an optical instrument could result in permanent impairment of vision.

Line A is the central line of the shadow which is moving in the direction of the arrow. Total eclipse lasts for about a minute on the central line; the area between lines A and B on either side of the central line will have between 50 and 60 seconds of total eclipse; areas from B to C will have 40 to 50 seconds. The eclipse will be total everywhere within the blue area, but the duration of totality will fall off rapidly in areas beyond lines C and C.

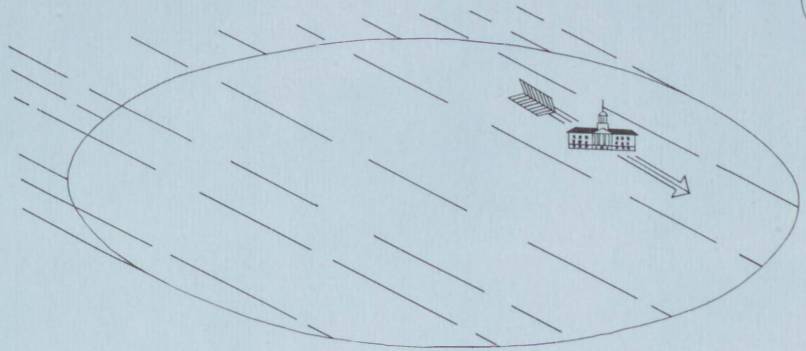


Once, about every 360 years

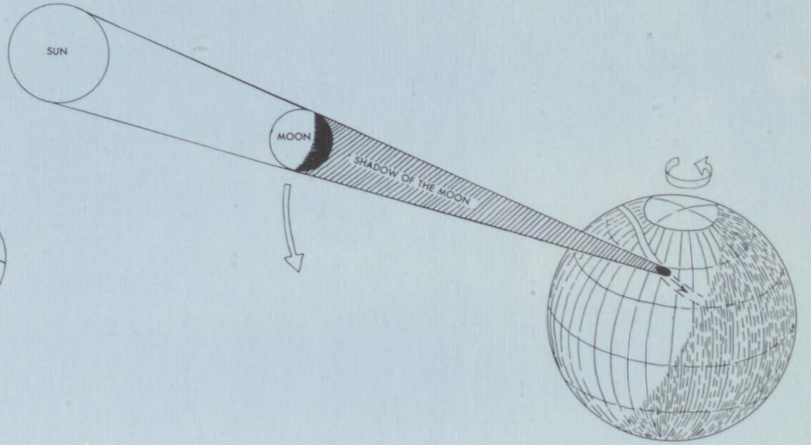
it can happen on the campus of the University of Maine

The moon has a dark conical shadow, called the umbra, pointing directly away from the sun, which becomes visible when it occasionally falls upon the earth. For one within the umbra the sun is obscured, or totally eclipsed, by the moon. We can consider this shadow cone to be a great pencil attached to the moon; the point of this pencil is snapped off where the shadow strikes the earth. The motion of the moon in its orbit around the earth (see diagram) causes this blunt pencil to trace a path across the earth from west to east. When one plots successive positions of the shadow the path is a curve resulting from the curvature and rotation of the earth. The diagram greatly exaggerates the width of this path which will be a mere 53 miles at the University of Maine next July. Hence for any location this phenomenon happens rarely, once in about 360 years. The center of the umbra will cross the state of Maine in less than 3 minutes. The university will be in the umbra for 50 seconds, as compared to about 60 seconds at places on the central line of the path.

DIAGRAM OF THE ECLIPSE



As it sweeps across the state of Maine at some 3,000 miles an hour in a southeasterly direction, the figure of the shadow of the moon on the Maine landscape will be nearly an ellipse with its major axis lying almost east and west.



Relative motion of the shadow of the moon and the surface of the earth (shadow travels from west to east).

UNIVERSITY OF MAINE - CAMPUS AT ORONO AND PORTLAND

The University of Maine will operate a 12-week summer session from June 17 to September 7, 1963. The 3,000 or more students attending the sessions will welcome the opportunity to observe the eclipse along with the many visitors who will come to the Orono campus especially for this purpose. We admit to a selfish motive in inviting visitors to Maine to become visitors to our Orono and Portland campuses: it affords an opportunity to show both institutions at a most beautiful time of the summer, and to show them to many persons who have never visited Maine before. The University of Maine will welcome you.

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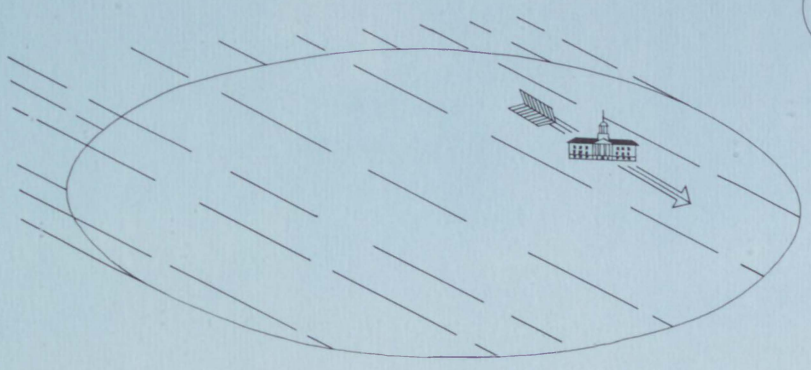

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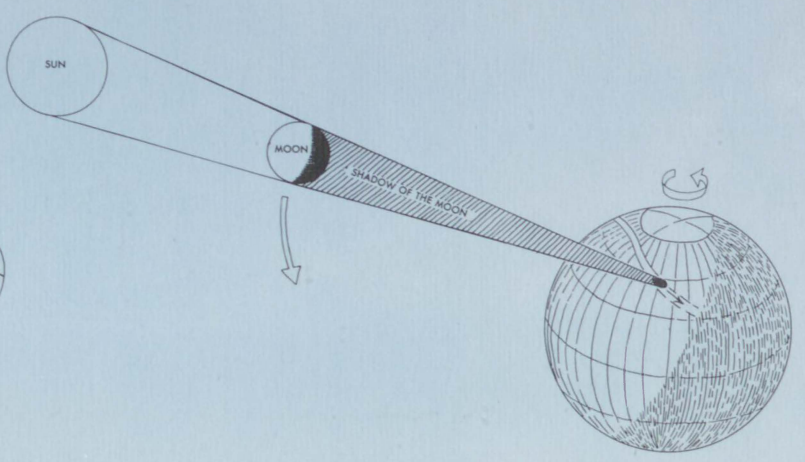

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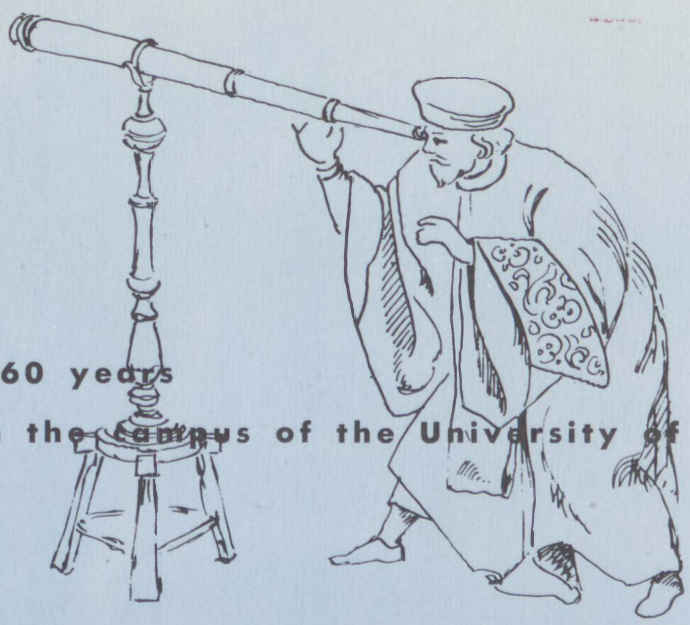

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