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1937 Rocky Mountain News Articles About Receding Glaciers in Rocky Mountain National Park

Rocky Mountain News

sion probably won't be.

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Those Park Glaciers 1/9/37

GLACIER EXPERTS in the National Park Service find the glaciers of Colorado's Rocky Mountain National Park are receding year by year. Each year a little more of the glacier melts that is not replaced by winter's snowfall. In a flash of time on the geological clock, perhaps in from 100 to 1,000 years, the great park will lose one of its most picturesque features.

It is not necessary to conclude that winters or summers are "warmer than in grandpa's day" to explain the recession of the glaciers in this latitude. Since the last ice age, many thousand years ago, which left its hallmark in the park in high-piled ridges and scooped-out valleys, the climate has been slightly too warm for glaciers. Probably they have been receding at somewhat the same steady pace for thousands of years, which is a little too long for grandpa to remember.

Grandpa's remote ancestors had weather averaging a fraction of a degree cooler, perhaps, and grandpa's remote descendants may have weather a fraction of a degree warmer. H. G. Wells, in the Science of Life, says there is some evidence to indicate that the world is emerging from a cold, stormy period into one of warmer and less changeable weather as it has done uncounted times before—and vice versa. But all such changes can be detected only on the scale of a planetary clock, not by one man's lifetime experience.

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WINTER LOSES HIS BLUSTER

South side of Andrews Glacier in Rocky Mountain National Park as it was Sept. 12, 1928.

South side of the same glacier Sept. 28, 1937. The dotted line indicates the shrinkage. In each picture, arrow indicates the same rock.

Receding Glaciers Show Climate Is Growing Milder

Next time the Old Timer tugs at his gray beard and comments sagely that climate is growing milder, sit up and take notice.

If he waxes eloquently reminiscent of "that terrible winter of the blue snow" back yonder and depreciates more recent winters, be less inclined to scoff.

For he now has scientific facts with which he can back his climatic tales.

Measurements taken by the National Park Service in Rocky Mountain National Park this fall reveal that the glaciers there are slowly but inexorably retreating to extinction. Last remnants in Colorado of a great Ice Age back in the dawn of time, these sheets of "eternal" ice, within a few short decades, may be "eternally gone."

ANNUAL STUDY MADE

Long range barometers of weather, the glaciers of the world are recognized by scientists as fertile laboratories for the accurate determination of major climatic changes.

Each year in America the committee on glaciers of the section of hydrology of the American Geophysical Union co-ordinates data on most of the ice sheets of the continent. In Europe, the Commission des Glaciers of the International Union of Geodesy and Geophysics does the same.

Best of all glaciers for this sort of study are the small ones, like those in Colorado's Rocky Mountain Park, watched by Superintendent David H. Canfield.

The effects of a hot summer may not show up for several years on the huge glaciers of Alaska. But new terminal deposits, a retarded snout and abundant flows of water will render relatively quick testimony to rising temperatures in the vicinity of the smaller ice patches.

GLACIERS TELL STORY

As eloquent climate graphs, Andrews and Tyndall Glaciers in Rocky Mountain Park testify winters are not what they used to be in the Never Summer Range.

On the basis of figures obtained by the Park Service in comparative surveys, Andrews Glacier has receded 48 feet 3 inches since 1932, and Tyndall shows a net loss of 171 feet 3 inches for the same period.

Initiated in 1932, annual glacier surveys are made in the park. Parties of rangers and scientists make trips to the towering banks of snow and ice each fall as the melting season ends to take scientific measurements of summer's effect.

Last Sept. 28 a party consisting of Park Naturalist H. R. Gregg, Ranger Naturalist Bert H. Fraser and Louis Quam of the University of Colorado Department of Geology, visited Andrews and Tyndall Glaciers to bring back the figures upon which the above recessions are reported. Photographs also were taken, to compare with earlier pictures for a visual record of the decline of the Ice Age in Colorado.

Triangular measurements were taken by tapeline from marked fixed points used in earlier surveys, and thus determined was the extent of recession. Between 1935 and 1937, Andrews glacier receded 30 feet 10 inches, and Tyndall 163 feet 5 inches.

All measurements were taken at "the snout," or lower extremity, of the ice packs. The figures indicate not only that the sheets have melted back a certain distance, but also that the melting has been fast enough to counteract the downward movement of the ice—estimated in some cases to be about three inches each day during the summer months.

Thus the net recession is much greater than the actual measurements indicate, according to the scientists.

HOW THEY MOVE

Glaciers move downward, not in bulk movement like an avalanche nor yet in a liquid flow like water, but rather, scientists, believe, by a process known as "regalation."

"Glaciers are made up of granules of ice, each an imperfect crystal, which are capable of adjustment among themselves," Mr. Quam writes in his report. "That ice melts under pressure can be demonstrated by placing a weight on a cake of ice on a cold day when the temperature is far below freezing.

"The weight will soon be found to have melted its way into the ice. In this way the ice below the surface (of a glacier) may undergo adjustments due to the weight of the overlying ice. When one grain of ice presses too severely on another, a little liquid water is formed which slips away to a place of less pressure and instantly becomes solid again."