



COUNTING COSMIC RAYS ON MOUNTAIN TOP

On the summit of New England's highest peak, Mt. Washington, N. H., Dr. T. H. Johnson, left, and Dr. J. C. Street, right, are measuring cosmic radiation with an electrical telescope that automatically counts the rays. The effects of the earth's field on the directional distribution of cosmic rays are being studied, and thus far the scientists seem to be finding a slightly greater intensity of radiation in the magnetic meridian. This party will leave the mountain before the polar year scientists begin their observations for the winter.

GENERAL SCIENCE

Scientific Party to Occupy Mt. Washington During Winter

THE SUMMIT of famous Mount Washington, highest of the White Mountains, will be occupied by a scientific party this fall for the first time since 1887. Weather, aurora, magnetic, radio and other observations will be made at this frigid point, 6,288 feet high, as a part of the second polar year program being participated in by many nations this year and next.

The observing program is being arranged under the direction of Joseph B. Dodge, manager of the Appalachian Mountain Club huts in the White Mountains, with the cooperation of leading scientists, among them Dr. Charles F. Brooks, director of the Blue Hill Observatory of Harvard University; Prof. J. W. Goldthwait of Dartmouth College and Dr. Norman E. Gilbert, president of the New Hampshire Academy of Science.

Three observers will live on the summit from Oct. 15 to June 15 of next year. In recent winter seasons the mountain has been abandoned to the wind and cold and a few intrepid mountaineers, although during the summer months hundreds of tourists visit the

summit by cog railroad, auto road or trail. A hotel is operated at the summit during the summer, but the rigors of arctic winter weather close the peak to casual visitors about October 15.

59 Degrees Below Zero

Although geographically in the temperate zone, the summit of Mount Washington is climatologically in the arctic. It is above the timber line and temperatures as low as 59 degrees zero Fahrenheit and wind velocities up to 186 miles per hour were recorded there during the 17 years, 1871-1887, that government weather bureau observations were made there winter and summer. The observations this winter, made with the most modern instruments, will be an important part of the extensive probing of the inconstants of nature provided by the polar year plans.

At the Pinkham Notch headquarters camp of the Appalachian Mountain Club, weather and other observations will be made regularly during the winter to provide a basis of comparison for the observations made on the Mount Washington summit, two and one-half

miles air line distance, but 4,281 feet higher in altitude. Mr. Dodge has spent eleven years, summer and winter, in the White Mountains, living with his family at Pinkham Notch. He will manage the expedition and serve as relief on the summit for the regular observers, as well as operate the comparison station at Pinkham Notch. In earlier winter observations nearby comparison stations were lacking.

To Have Radio Station

A complete radio station with call letters WIOB will be installed on the summit to allow the observers to communicate with polar year expeditions in the far north and other points in the outside world. Constant communication will be maintained with Mr. Dodge's radio station, WIUN, at Pinkham Notch. There will also be regular schedules with Boston and other cities for the transmission of daily weather and magnetic observations. The transmitters will use the amateur frequency bands of 3,500 to 4,000, 7,000 to 7,300, and 14,000 to 14,400 kilocycles. Considerable work is planned in ultra high frequency bands at 56 megacycles or above. A special power plant will feed the tubes with an output of 250 watts.

The observers on the summit will be: Robert Scott Monahan of Pawtucket, R. I., Salvatore Pagliuca, a native of Milan and now with the General Electric Company, Lynn, Mass., and either Albert Wise of Brookline, Mass., or Alexander McKenzie of Albany, N. Y. Monahan is a graduate of Dartmouth and Yale Forestry School and this summer is a member of the expedition to Mount Fairweather, 15,300-foot Alaskan peak. All are experienced and well equipped.

Although not as high as western mountain peaks, such as Pike's Peak, Mount Washington has temperatures and winds that are not equalled on higher mountains on the continent. The expedition during the coming winter will recall the hardships suffered during the winters of the 70's and the 80's by the observers that occupied the signal station of those days and made the first continuous weather records from any American mountain top.

Mount Washington has taken its toll of human life. William Stevens died in the weather service at the summit in 1872 and hikers have died of exposure on several occasions attempting summer ascents. Two youths died in a storm last January near the summit, the first winter casualty from exposure.

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