

ELECTRIFIED GASES KNOCK OUT RADIO

Scientists Report Clouds Shot From Sun Into Upper Atmos- phere in Magnetic Storms

WASHINGTON, April 7 (AP)—H. W. Wells, J. W. Watts and D. E. George, of the staff of the Carnegie Institution, reported today the discovery of speeding clouds of electrically charged gases which hurtle from the sun into upper layers of the earth's atmosphere and seriously disturb radio communications.

They studied magnetic storms, intervals when the ionosphere, the electrically charged region of the earth's outer atmosphere, undergoes fluctuations which result in fading or disappearance of radio signals.

Utilizing a new technique for recording phenomena in the upper layers of the atmosphere, the scientists found clouds of charged matter rushing into the ionosphere and out again in intervals of a few minutes.

They said that these clouds were the result of bombardment of the earth's atmosphere by irregular bursts of electrically charged corpuscles from the sun.

Coming into the range of detecting instruments at 500 to 600 miles above the earth, the clouds fuse with the ionized air 180 to 250 miles above the earth and occasionally appear to break away and move away again at the rate of a mile a second.

When the clouds rush in, the ionization of the so-called F-layer above the earth changes suddenly. This layer of electrically charged air normally is steady enough in its charge and height to bounce radio waves downward and thus make long-distance broadcasting possible.

The clouds also cause rapid changes in the layer's height, which changes the distance of a radio wave's "bounce."

The three scientists, who made their discovery during the magnetic-ionospheric storms of March 25 and 26, said that the charged gaseous clouds probably originate in or near sunspots.