Plays Hob

Northern Light Show Visits South

Nature put on one of her most spectacular shows last night when the aurora borealis—northern lights—pierced the sky with white, yellow, green, rose and lavender rays.

It was one of the most brilliant displays of its kind, if not the most brilliant, ever seen as far south as Washington. It was visible throughout most of the United States, even to Florida, which is most unusual.

But the magnetic storm which caused the heavenly fireworks played hob with short-wave radio and telegraphic communications, and the public's reaction was reminiscent of two years ago when Orson Wells panicked the Nation with his radio play of a martian invasion of earth.

Broadcasts Interrupted

Broadcasts from foreign radio correspondents and transatlantic short-wave communications were interrupted during the height of the display, some long-distance telephone lines in the United States were put out of commission temporarily and telegraphic communications through most of this country were affected.

Teletypewriters in newspaper offices showed a disconcerting volume of garbled copy which looked

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something like this: XMRPNSY.

From the public, some curious, some anxious, others panicky, came thousands of telephone calls to newspapers, police stations, observatories and weather bureaus. The weather bureau here reported 600 calls in an hour.

One woman thought the world had come to an end. Another, from nearby Maryland, reported rays emanating from the moon, accompanied by the smell of burning sulphur.

Part of Defense?

Many were certain the display had something to do with national defense. "Is it an antiaircraft searchlight battery?" asked some. One thought Germany was invading the United States.

The lights were most plainly visible here from 6 to 7 p. m., although a faint glow could be discerned as late as 11 p. m.

The multi-colored streamers could be seen best in outlying sections, where there was no competition from city lights, but they were also clearly visible from the streets of Washington.

Observers climbed to the tops of apartment houses and office buildings to view the phenomenon. Along many streets of Washington, pedestrians stopped to gaze at the northern sky.

May Return Tonight

The aurora, which was first observed by some night owls about 2 a. m. yesterday, may return again tonight, scientists said. It is also possible, the National Geographic Society said, that the lights will be visible again in 27 or 28 days.

The last display to compare in brilliance with last night's occurred 10 or 12 years, according to Dr. C. G. Abbot, secretary of the Smithsonian Institution and director of its astrophysical observatory.

The spectacle of shimmering lights, in changing patterns, covered the northern sky almost from east to west. At the beginning, multicolored rays shot up from the horizon and converged at a point high in the heavens. Later the waving rays took a fan-like formation, shooting outward and upward from an arc above the horizon. Then, as the aurora began to disappear clouds of colored lights moved upward from the horizon.

How It Happens

The cause of magnetic storms and auroras has never been definitely determined, but the National Geographic Society, which has directed a study of them for the last three years, last night outlined the most widely accepted theory like this:

Electrically-charged particles continually stream out of the sun, visible in what are known as sun spots, and strike the upper atmosphere of the earth.

The sun particles break up the molecules of the gas in this upper atmosphere and electrify them, rendering the moelcules susceptible to the earth's magnetic field. The molecules are therefore drawn to the earth's poles.

As they near the poles, the particles are agitated by magnetism more vigorously until they begin to glow with heat. This is something like the action of an electric current on the gas inside the tube of a neon or fluorescent light.

The magnetic storm caused by agitation of the molecular particles induces cross currents in land wires, disrupting communications.

Halts Short Waves

And in hitting the earth's upper atmosphere, the particles from the sun interfere with solar radiations which normally maintain an ionized layer in the earth's atmosphere. This layer forms a kind of mirror which reflects radio short waves back to the earth where they are picked up by receiving sets. When it is broken, the short waves go shooting off into space. Regular commercial broadcasting is not affected because long waves travel along the earth's surface and do not have to be bounched back from an ionized layer above.

The particles from the sun either come out of the sun's craters or from nearby points. When the craters face the earth, the magnetic storms result. This is expected to occur again, possibly, in 27 or 28 days, as the sun turns.