



Black, white and gray form simulated rain pattern on a VIP-assisted radar.

METEOROLOGY

# ESSA Tests Rain Radar

A radar modification that translates the severity of rain and snow storms into six shades of gray is under test by Weather Bureau experts at Washington National Airport.

A box of electronic components about three cubic feet in size, this "VIP" (video integrator and processor) is attached to the station's regular WSR-57 radar. Instead of showing storms in a gradation of tones, it reduces them to arbitrary tones read as no rain, light rain, etc., up to very heavy.

If tests are successful, the device will provide immediate information on storms up to 125 miles distant. Such information could provide pilots with up-to-date information about specific areas of rainfall. This would contribute to aircraft safety, and incidently save fuel as planes search out smoother paths around a storm.

Other possible uses include feeding the signals into a computer which could draw up reports on where, how heavily, and how long rain fell over the area, data of prime interest to hydrologists. It is conceivable that someday a network of such VIP-equipped

radars could be linked together, their information pooled at a central point and transformed into a real-time, constantly changing weather map of the country. Installation of about 40 VIPs is now planned.

Before installation of the pilot model in Washington, laboratory tests using simulated signals were successfully run.

The concept was developed by Dr. Roger M. Lhermitte of the National Severe Storms Laboratory in Norman, Okla., under the Commerce Department's Environmental Science Services Administration. Dr. Lhermitte wanted to use the radar in tornado research.

Additional uses for the system were sought and the equipment was redesigned for field use by Kenneth H. Shreeve of ESSA's Equipment Development Laboratory. On the scale used with the VIP radar very light precipitation ranges from a trace to 0.1 inches per hour, or .01 to .03 inches each six minutes. Medium precipitation scales from 0.11 to 0.30 inches per hour. Heavy rain is rated at 0.8 inches per hour. There are three other gradations in between.

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