A Science Service Feature

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? WHY THE WEATHER ? Mailed October 9, 1926

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RADIO TRANSMISSION

Signals from Europe, South America, the West Indies and California have been studied by L. W. Austin of the Bureau of Standards. He found that 10 a.m. signals from Europe, which have a daylight path all the way, are best in September and weakest in winter, especially in the case of northern stations, perhaps owing to the approach of sunset or Arctic darkness. But curiously, the 3 p.m. signals are weakest in summer and strongest in winter. The winter maximum is especially marked in the case of long wavelength stations like Bordeaux and opposes the idea that a dark and light path causes signals of low intensity. This may be true, however, for stations with short wave length.

In the case of west to east transmission from California to Washington D.C. and south to north transmission from Porto Rico to Washington, 10 a.m. signals are about equal in winter, though in summer the morning signals are better. Indeed, in summer, signals from almost all stations are weaker in the afternoon than in the morning. Signals from Argentina to the United States show little seasonal variability, as the path is about equally divided between the northern and southern hemispheres.

In long distance communications, as from Europe to America, the signal strength is little influenced by American weather, which affects only a small portion of the path. Weather seems to be a larger factor where the transmission path is shorter. Magnetic storms seem to affect transmission, but no sure relationship between sun spots and signal strength has been discovered.

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