

Seasonal Variations in Medium Wave Reception

by Bruce Portzer

It's a well-known fact that medium wave reception varies considerably throughout the year. This fact is even more noticeable in foreign DX than domestic DX. A number of guidelines and rules-of-thumb exist as to when stations in certain parts of the world are best heard in North America. However, there is something to be said for a quantitative measure of the degree of success achievable at a given time of the year.

The best method I've been able to come up with is to count the number of loggings in each of the IRCA foreign logs. While it was a rather time-consuming task, it produced some interesting results, as shown in the graphs in this article. The plots were made for Transpacific (Asian) stations, Transatlantic stations, South Americans south of the equator, and Down Under stations. Subequatorial Africans were not included due to a near lack of loggings. Colombia, Venezuela, the Caribbean, and Central America/Mexico weren't included either, due to their proximity to the U.S. (How many DXers in Florida really want to know when Cuba comes in best?).

For the purpose of this article, a logging is defined as a station being heard at least once on a particular day by at least one DXer. If it was reported on the same day by five DXers, it counts as one logging. But if it was heard by one DXer on five days, it counts as five loggings. I counted up the total number of loggings from IRCA Foreign Logs 1 through 7 on a month-by-month basis. For example, a total of about 550 loggings were made of Transpacific stations during October of those 7 years, or about 80 during each October. I considered making the resolution on these charts a bit finer (like weekly or daily) but it was enough of a grindout as it was and I kinda wanted to maintain my sanity.....

TRANSPACIFIC

Reception of transpacific stations is shown in Figure 1. The results pretty well agree with the subjective impressions of most TP DXers. Reception is almost nil during the late spring and early summer, is best by far in the fall, drops off in January and February, and makes a brief resurgence in March. This figure shows only loggings made before the Nine Kilohertz spacing went into effect in the far east; most of the stations over there operated on the same frequencies as domestics and a few were on splits. I wouldn't expect any major differences in the pattern for "nine kilohertz era" loggings.

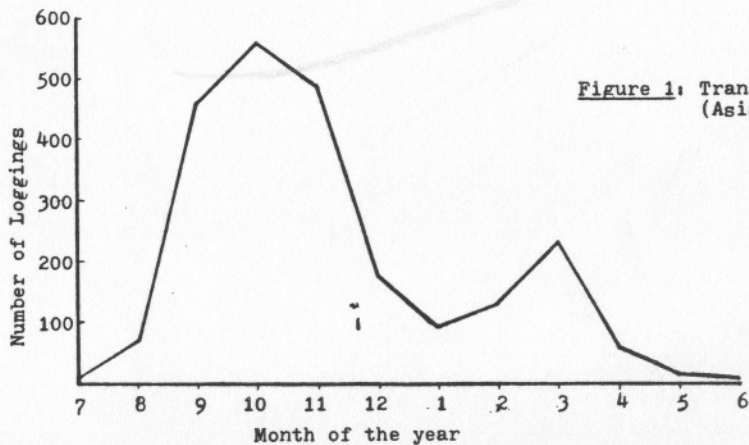


Figure 1: Transpacific (Asia and Alaska)

TRANSATLANTIC

The results here are a little different from the Transpacifics. As shown on Figure 2, reception is very poor during the summer, rises to a peak in October, and then gradually tapers off during the rest of the DX season. The slight dip in November is apparently a statistical anomaly; only ten TAs were reported to DX Worldwide in November 1975, even though a hundred or so are normally reported in November. If 100 loggings were added to November's total, the curve would be a bit smoother and probably more realistic.

There is no mid-winter dip in this curve, like the one in the Transpacific curve. There are any number of explanations for this result. One might center around the reporting habits of eastern versus western DXers. Another is that the distance from Asia to the west coast is greater than from Europe to the east coast --- which suggests that TP signals might fade below an oblivion threshold while TAs are still audible. The best explanation, however, is that the most reliable TA signals are from Iberians and North Africans, which reach a maximum latitude of less than 50 degrees on their way to eastern North America. Asians and North European signals, on the other hand, reach a maximum latitude somewhere between 50 and 60 degrees and are more likely to be attenuated by auroral disturbances than the lower latitude TA signals. Anyone care to do a study of high-latitude versus low-latitude TA paths?

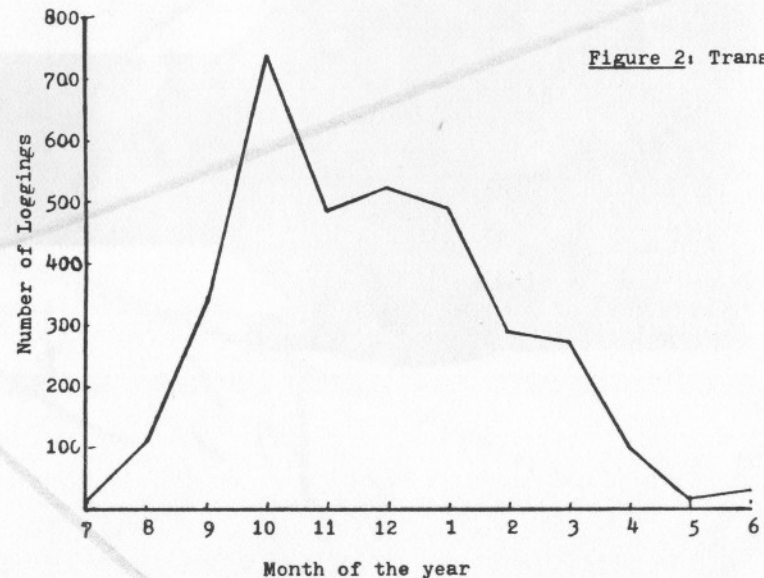


Figure 2: Transatlantic

SOUTHERN SOUTH AMERICA

Figure three shows the reception pattern for stations in Ecuador, Peru, Brazil, Argentina, and other southern South Americans. Since these paths generally cross the equator, one would first expect reception to be best at the spring and autumn equinoxes. In reality, it's a relatively symmetric pattern which peaks in December. The reason is probably that this category is dominated by Ecuadorians, Peruvians, and Brazilians, for whom the path midpoints are far north of the Equator. Of the more southerly countries, Bolivia, Uruguay, and Paraguay are extremely rare, Chile was reported about a dozen times during those seven years, and Argentina only slightly more often. It's worth mentioning that most of the Chilean loggings occurred in Western North America between May and August.

DOWN UNDERS

Figure 4 shows the seasonal variation in receptions of South Pacific stations. Unlike the South Americans, the path midpoints are near the equator (I didn't include Hawaii in these totals). The results show very sharp peaks near the autumn and spring equinoxes. Summer reception was a little more frequent than for the other three categories examined.

It would probably be interesting to compare the results in figure 4 with the loggings which have been made since the nine kilohertz plan went into effect down there. Reception from this part of the world has increased more than any other since the plan went into effect. For example, during a July, 1979, DXpedition to Jordan River, B.C., Nick Hall-Patch and I heard several dozen DU signals --- a bit more than the combined 15 loggings made between 1971 and 1978!

I would also find it interesting to examine reception patterns of Pacific Island stations (Tonga, Fiji, etc.) versus Australian and New Zealand stations. It's been my experience that reception of one does not ensure reception of the other.

