

NEW OLD DATA ON BEACONET^31

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Our article, "Collecting Propagation Data on 10 Meters using BEACONet^ 1" (June 2002 *QST*, pp 37-39) attracted the attention of Robert Gonsett, W6VR. Bob brought to our attention an abstract from the publication "Radio Wave Propagation, Consolidated Summary Technical Report of the Committee on Propagation of the National Defense Research Committee," Charles R. Burrows, Chairman, which was published by Academic Press, Inc, in 1949.

During the early years of World War II, government researchers had set up a station in San Diego (not all that far from the author) and in San Pedro (not all that far from KF6XA whose BEACONet transmission provided the data we submitted in the *QST* paper). Those stations gathered both HF and VHF propagation data. We repeat here some of the findings reported in the Summary Technical Report:

"The meteorological conditions at San Diego during most of the year are characterized by the presence of a high-pressure area and high-level subsidence. In more concrete terms, there is a surface stratum of comparatively cool and moist air on top of which there is a layer of very dry, warm air. The transitions between the two strata are as sharp as can be found anywhere, and, the transitional layer is often no more than a few hundred feet thick. The height of the transition layer above the ground is usually between 1000 and 3000 ft and sometimes as much as 4000 ft.

Summarizing the results of this experiment, it may be said that the phenomenon of reflection from an elevated layer has been well established qualitatively and, in some respects, quantitatively. The meteorological conditions at San Diego are rather singular, and so far such reflection occurring in a systematic fashion has not been described elsewhere though indications of similar effects have occasionally been reported."

Bottom line, it looks as if the propagation effects we reported in our June 2002 *QST* article had been noticed and explained some 60 years ago. Once again, the pioneering work that was done in "radio" and "radar" during World War II turns out to have enduring value.

We now have thousands of KF6XA BEACONet data points at W3NRG, with equipment kept constant. The peaks and valleys in Figure 3 of our article become very muted during the summer months. The sharp layer transition suggested by the WW II data apparently remains distinct and at a height for strong propagation of KF6XA's signal to W3NRG nearly around the clock. The high capture rate experienced at night in the winter months occurs in daylight as well during summer months.