



WIND PATTERN RESEARCH

In Sacramento Valley

WIND PATTERNS IN THE SACRAMENTO Valley are being studied under a project of the Department of Agricultural Engineering, University of California, Davis. Data is being accumulated on wind and weather conditions affecting air pollutants damaging to man, animals and plants, as well as on conditions allowing favorable and safe applications of aircraft spray applications.

Utilization of one of the world's tallest structures—the 1,550-ft television transmitting tower (for stations KCRA, KOVR, and KXTV) at Walnut Grove in Sacramento County—for placement of weather-recording instruments has been an essential part of the project. Another key to the practicality of the study has been the availability of compact, portable weather-recording instruments. The California Spot Climate Recorder used in the project was developed by the Department of Agricultural Engineering.

The small size of these portable weather-recording units (shown in photo) allowed them to be placed at any elevation on the tower. Six of the slightly modified units were mounted as shown in the tower diagram. Other spot climate recorders being used in the study were installed at several locations in the general area between Stockton, San Joaquin County, and Biggs, Butte County. Balloons are also being launched periodically for upper wind observations, and airplane cruises are being used for temperature and humidity measurements at specific altitudes over several Valley locations.

This study, now at mid-point in the second year of recording, was made possible by grants from the U.S. Public Health Service, Division of Air Pollution, and is a part of the University of California research program on problems of human environment in California (including smog, pesticide applications, and soil erosion). Members of the Department of Agricultural Engineering involved in this phase of the program include: H. B. Schultz, W. E. Yates and T. V. Crawford. Installation of the weather-recording units at the TV tower was done by Fred Lory, Jr., and C. R. Miller.

Compactness of the California Spot Climate Recorder (right above) as developed by researchers in the Department of Agricultural Engineering, University of California, Davis, allowed wind pattern research study of Sacramento Valley through installations (above and cover) high on TV transmitting tower located near Walnut Grove, Sacramento County. Dizzy view, to right, looking downward from the triangular three-antenna "candelabra" platform, emphasizes 1,550-ft height of tower shown in aerial photo and diagram below. An elevator within the steel mast allows researchers and TV technicians access to any level of the tower.

