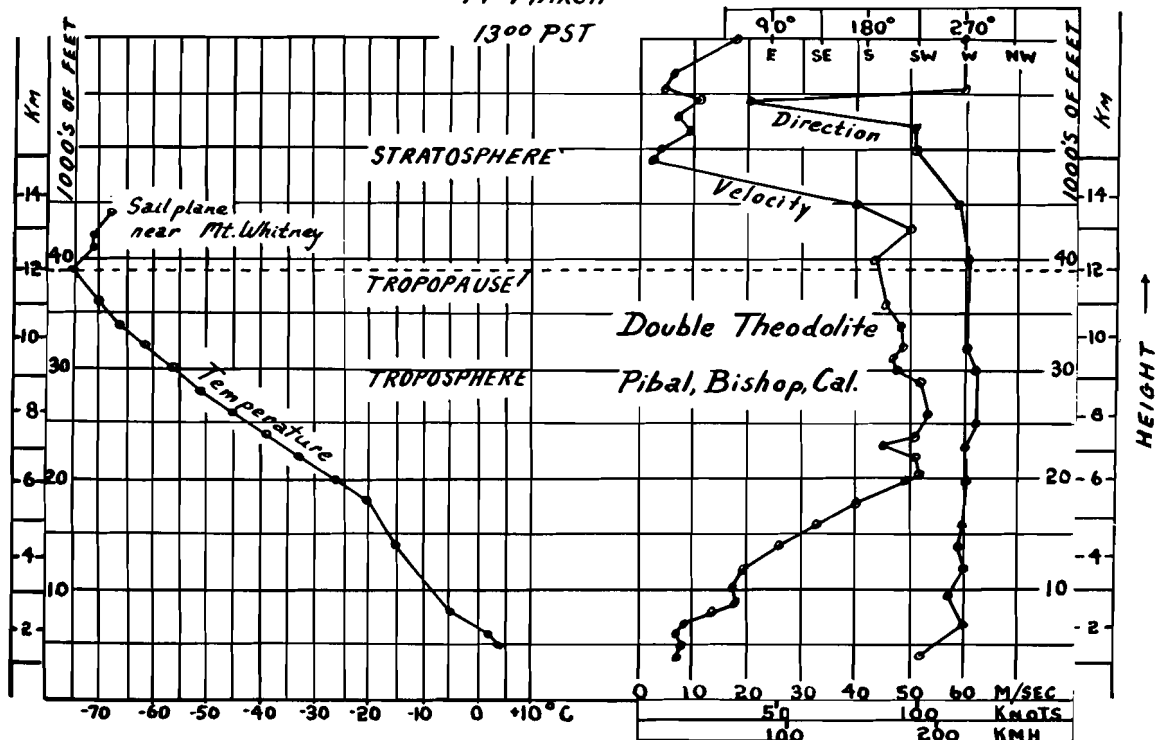


# SIERRA NEVADA

19 MARCH

1300 PST



ABOVE MAP shows the temperature and wind versus height on the day of the flight in the lee of the Sierra Nevada, as measured by the sailplane, (Edgar-Kieforth of the Sierra Wave Project,) and by double theodolite pibal of the Bishop Weather Station.

Figure the minimum heights over the individual mountain ridges were determined and marked on the map. One of the conclusions was that a Wave flight attempt over this rough desert country should not be started below 33,000 ft. (10,000 m) in order to avoid under all circumstances a forced landing in the desert. On both Larry's and my rate of climb indicator a scale was fixed indicating the optimum speed for every rate of descent during the downwind flight. This scale was valid for 40 to 70 mph (indicated) wind at an altitude between 25,000 (7500 m) and 30,000 (9000 m) ft. The altitude correction for rate of climb indicators was considered. This scale was not based on optimum cross-country speed, but on optimum glide ratio with respect to ground. Under the different optimum conditions this one was chosen for safety reasons. The calculated flight speeds are near to the velocity of best glide ratio L/D and appear now compared to optimum thermal flight (e.g. 50 knots for -800 ft/min; 60 knots for -1400 ft/min; 70 knots for -2,200

ft/min). This is due to the strong influence of the tailwind.

Beyond Boulder City the course later was also well prepared according to air maps and to visual inspection during an automobile trip. For many reasons this southerly route seemed more favorable for the beginning of systematic cross-country Wave flights than the Salt Lake City route or that north of the Grand Canyon. The cloud coverage, the highways, the position of the large mountain ridges all appeared to favor the southern route. A change in course was scheduled for the Las Vegas area to avoid the rough desolate terrain north of the Grand Canyon. However, at the moment, I was only concerned with an afternoon flight to Boulder City, which should consist of two big hops from the Sierra to the Panamint and from the Panamint to the Spring Mountains, from where a glide starting at 17,000 ft. should be sufficient to reach the goal. It was hoped to obtain 33,000 ft. (10,000 m) in the Sierra Wave and 30,000 ft. (9,000 m) in the Panamint Wave as starting altitudes.

On changing the course to SW in the Big Pine area at 28,000' (8500 m) I had underestimated the wind. After a while the sailplane had drifted over the center of the roll cloud. On return to the front side a speed of 80 knots was necessary to avoid dropping into the roll cloud or the downdraft of the Wave. 2,000 ft. altitude (600 m) and 15 minutes were wasted by this unnecessary maneuver. (See Figure II). Climbing and drifting southward with 65-70 knots indicated the cloud base of the high Wave 33,000' (10,000 m) I switched the oxygen regulator on to safety. The slight pressure tended to fog my glasses through small leaks. Drifting toward Owens Lake where a beautiful lenticular had developed, I could see huge dust clouds rising from the dry lake with an easterly wind component. Upon crossing Owens Lake the Pacific Ocean appeared far in the west. When I arrived between Olancho and Little Lake at 35,000 (10,500 m) the ride from Big Pine had taken 33 minutes, averaging 118 mph (190 km/h) during the ascent.

(Continued on page 10)